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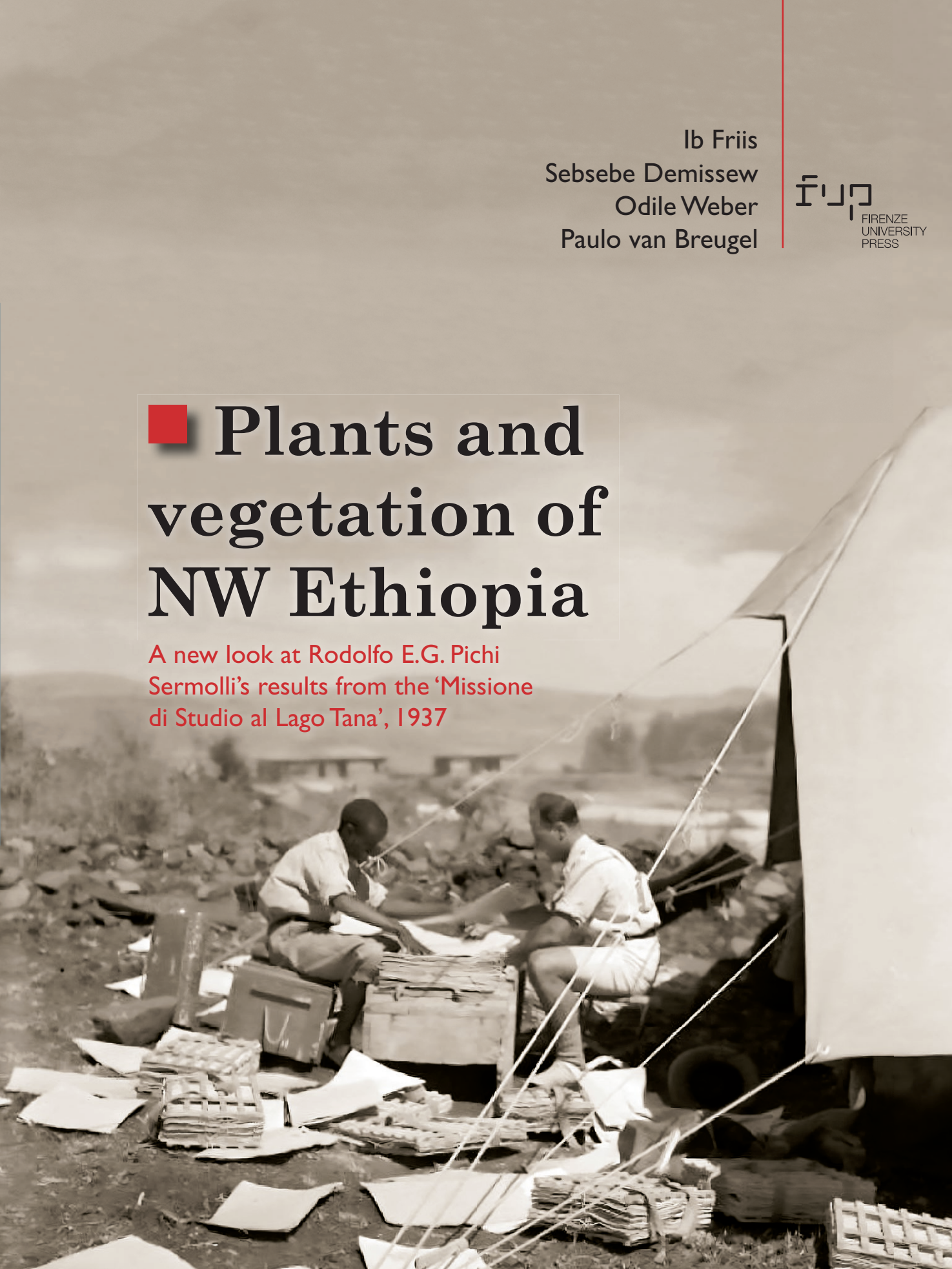

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Front cover: Pichi Sermolli and assistant pressing plants and drying pressing material, presumably at Ifag. Anonymous photographer. Original image in Fondo Dainelli 501 991 in *Società Geografica Italiana* in Rome.

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Foreword by Prof. Shibru Tedla, Addis Ababa

The research carried out by the Italian botanist Rodolfo Emilio Giuseppe Pichi Sermolli (1912-2005), during his participation in the Italian *Missione di Studio al Lago Tana* [Mission to the study of Lake Tana] in the months from January to April in 1937, is not widely known, neither in Ethiopia, nor in the botanical domain worldwide. The main reason is undoubtedly that the results from that fieldwork were all published in Italian and appeared just before, during and just after World War II in publications with limited circulations. The fieldwork of the *Missione di Studio al Lago Tana* began only seven months after Italy had announced its annexation of Ethiopia. Hence from the general statements in the publications about the mission, there is no doubt that the leaders of the entire project saw it as part of the Italian colonisation of the Horn of Africa. However, there are no hints of colonialist ideas in the writings of Pichi Sermolli. He celebrated his 25th birthday collecting and pressing specimens of plants on the shores of Lake Tana, recording names of places and plants in Amharic (the local language) with the help of his local supporters. After he returned from Ethiopia, Pichi Sermolli joined the resistance against the fascist forces. During his later life, Pichi Sermolli maintained, even expanded, his interest in the flora and vegetation of the Horn of Africa, producing a vegetation map of the Horn of Africa in 1957. He also wrote and edited family accounts of plants from the Horn of Africa in the *Adumbratio Florae Aethiopicae* (1953-1978) and produced his last publications on Ethiopia in 1977. He gave permission to use information from his work for the enrichment of the publications of the Ethiopian Flora Project. In 1966, he was awarded the Haile Selassie I Prize for his important contributions to knowledge of the flora and vegetation of Ethiopia (Martelli 2011).

The observations which Pichi Sermolli made in 1937 on the flora and vegetation of Ethiopia represent detailed studies of the complex flora and vegetation around Lake Tana. They comprise some of the earliest scientific observations of the vegetation on the western escarpment of the Ethiopian highlands between the present-day towns of Humera and Gondar, and he made valuable supplementary observations on the Semien Mountains. Pichi Sermolli collected plants and made observations, not least in the surrounding area of Bahar Dar, which today is completely urbanized. I believe that

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modern botanists, geographers as well as historians, especially in Ethiopian and Italian academic institutions and museums, will find this contribution by Ib Friis, Sebsebe Demissew, Odile Weber and Paulo van Breugel important and useful indeed. This publication is an outcome of extracting the observations made by Pichi Sermolli more than 80 years ago. The information and data therein have been reorganised and interpretations made on them, allowing all the knowledge to be seen not only as an image of the past, but also as data that can be used in a contemporary context and thereby provide a knowledge base for comparison with modern studies.

Shibru Tedla
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Founding Fellow of the Ethiopian Academy of Sciences,
and a prime promoter for the 'Rehabilitation of the
Choke Mountain Range' – a major watershed of the
Abay River (Blue Nile) and the Lake Tana Basin.

Foreword by FT herbarium, Università degli Studi di Firenze

As the Editor-in-Chief of *Webbia*, Journal of Plant Taxonomy and Geography, it is an honour for me to introduce this book on the early studies in Eritrea and Ethiopia by Prof. Rodolfo Emilio Giuseppe Pichi Sermolli (1912-2005), "Fofo" to his family, close friends and colleagues. We see him here as a highly competent scholar and an important student of tropical botany, both on the Italian and the international scene.

Since my first personal acquaintance with Pichi Sermolli towards the end of the nineteen eighties, I was fascinated by his personality both as a man and as a botany scholar. He was a tenacious, authoritative, and at the same time sensitive character, and in discussions with him one was often faced with serious and certainly not ambiguous arguments. But he could also accept findings of others if convincing. This rigor and respect which he manifested in human relationships are also to be found in his works and in his meticulous research methods that have been employed in every one of his scientific contributions. Although Pichi Sermolli travelled mostly to countries further away from Italy than the Horn of Africa, his early studies in Eritrea and Ethiopia marked a milestone in his academic and cultural training as a naturalist. Because of the opportunities that the Italian Academy had on the Horn of Africa in the period prior to the Second World War, Pichi Sermolli became involved in the study of that immense territory. This first involvement with East Tropical Africa, which is the subject of this book, was also the basis for his further studies on the flora and vegetation of the Horn of Africa. These culminated in 1957 with the publication in *Webbia* of the first Map of the Vegetation of East Africa [see *Una carta geobotanica dell'Africa Orientale (Eritrea, Etiopia, Somalia)* [A geobotanical map of East Africa (Eritrea, Ethiopia, Somalia] in Webbia 13(1). 1957], the result of his personal experiences and his work on a previous report on the plant-ecology of the arid and semi-arid zones of East Africa prepared for UNESCO in 1952.

Thanks to the revisional work and interpretations of Prof. Ib Friis and his co-workers, we can now see all the well thought-out methods used by Pichi Ser-

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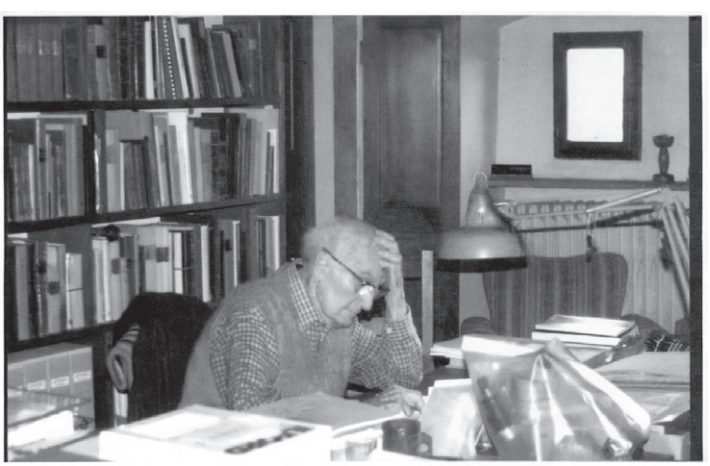
molli that emerge in his accurate field observations of a territory practically still unknown to science at the time of his first visit.

For the first time in English, and therefore far more suitable for a wider international public than in Italian, the data collected and presented by Pichi Sermolli in his original work is here re-interpreted and carefully analysed by the authors of this book. In the future, the interpretation of Pichi Sermolli's observations may represent a point of reference for comparative analyses of the Flora and Vegetation of Ethiopia, which may be of great cultural and scientific significance. This editorial product also evokes pride in the Center for Tropical Herbarium Studies – CSET, formerly Regio Erbario Coloniale Italiano, currently part of the Department of Biology of the University of Florence which supports its realization with the Firenze University Press. It is also worth mentioning that the first set of all the plant specimens presented here are housed at FT herbarium at the CSET and constitute the true historical documentation of Pichi Sermolli's scientific work during the 1937 expedition.

The last image I keep in mind of R.E.G. Pichi Sermolli is from April 2005, while he was working in his country house in Montagnana Val di Pesa (Firenze) shortly before his death. Lying on his desk were taxonomic accounts of the Pteridophyta of Eritrea and Ethiopia. He was by then almost completely deprived of eyesight, but struggled to complete his contribution to the last volume of the Flora of Ethiopia and Eritrea, evidence of his dedication to the flora of the Horn of Africa. This editorial initiative by the FUP is thus also intended to be a reminder of his formidable tenacity and vital force with which he faced every challenge in life. With these words, I leave it to the reader to discover how much has been produced by R.E.G. Pichi Sermolli and how it has been masterfully studied and presented here.

A heartfelt thanks goes to the authors of this book, which will allow us to remember a great and prominent figure on the Italian and international botanical scene with the hope that future tropical botany scholars will treasure his work.

Riccardo Maria Baldini
Editor on Chief of *Webbia*,
Journal of Plant Taxonomy and Geography



Rodolfo Emilio Giuseppe Pichi Sermolli (April 2005).

Introduction

Apart from the works by Pichi Sermolli, only a few recent scholarly publications have dealt with the vegetation of the Lake Tana basin. Results of field work in church forests from the Lake Tana basin[1] were analysed by Alemayehu Wassie et al. (2005), a paper by Alemnew Alelign et al. (2007) describes the forest on the Zegie Peninsula at the south-western corner of the lake, and a paper with observations from the Lake Tana Basin combined with observations from further afield resulted in the definition of 'Intermediate evergreen Afromontane forest (IAF),' a vegetation type intermediate between the 'Dry' and 'Moist Afromontane Forest' and including forests on the shores and islands in Lake Tana (Abiyot Berhanu et al. 2018). Less attention has been given to the open vegetation types, the woodlands, but they are included in a general analysis of the natural vegetation in the Lake Tana basin, or what remains of it (Chuangye Song et al. 2018), and are dealt with in a general work on the western woodlands of Ethiopia (Friis et al. 2022). Two papers by the botanist Oskar Sebald from Stuttgart in Germany, and written in German, report on a few localities at the southern shores of Lake Tana and the Semien (Sebald 1968, 1972), and the works by Sileshi Nemomissa & Puff (2001) and Puff & Sileshi Nemomissa (2001, 2005) have dealt with the flora of the Semien. A recent study has attempted to analyse the Afroalpine vegetation of the Semien (Getahun Tassew Melese et al. 2018). The publications are discussed in more detail in chapter 7, "Later studies…".

1 In central and northern Ethiopia the churches are mostly built on high ground and surrounded by trees that also occur in the remaining natural forests of the region; Pichi Sermolli also studied such church forests.

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Fig. 1. Group photograph of the members of the Lake Tana expedition. The leader, professor of geology and geography at the University of Florence, Giotto Dainelli, is seated in the middle. Pichi Sermolli is standing in the upper right corner. Next to him is the geologist Enzo Minucci, who accompanied him on the field work in the Semien Mountains and on other field trips.

Surprisingly, none of these works, with the exception of Sebald (1968, 1972) and Friis et al. (2022), draws on the large plant material and field observations from the Lake Tana Basin collected by Pichi Sermolli in 1937, and the only work resulting from the Lake Tana expedition mentioned in the standard work *Taxonomic Literature* (Stafleu & Cowan 1983: 252–253) is the reprint of a preliminary account of the botanical results of the Lake Tana expedition (Pichi Sermolli 1938a), while the largest work on the botanical studies from 1937, Pichi Sermolli (1951), is not cited.

Virtually unknown among botanists are Pichi Sermolli's large collections of photographs of the vegetation on the western escarpment of the Ethiopian highlands, the Lake Tana Basin and the Semien. Together with photographs taken by other members of the Lake Tana expedition (Fig. 1) they are deposited at the *Società Geografico Italiana* in Rome and are now made available on the home page of the society[2]. A portrait photograph of Pichi Sermolli on the expedition is reproduced here as Fig. 2. Born on

2 http://www.archiviofotografico.societageografica.it/

the 24th of February, 1912, Pichi Sermolli celebrated his 25th birthday at the small town of Quonzela [Consuela, Consela] on the south-western shore of Lake Tana, collecting plants at the lake shore. Due to the fact that Pichi Sermolli's research on the Lake Tana expedition is so relatively unknown, it is appropriate to make known both the history of the botanical collections, the collections of photographs and the publications dealing with the field work, as well as to attempt a modern analysis of the botanical collections and what they may tell us about the vegetation.

It is also unfortunate that Pichi Sermolli's valuable scientific results have not been used more in the development of science, particularly in Ethiopia, because the Italian language in which they are published is not more widely read. These results should be more widely known, and the present authors hope that this publication will help to remedy that problem. We provide commented translations of the papers that present the field observations and we analyse the updated lists of the herbarium collections. In contrast, Pichi Sermolli's many later publications in English, mainly his work on ferns, are widely read.

By reconstructing the sequence of Pichi Sermolli's 1937 collections and databasing the species, we have localised his collecting localities as precisely as possible. By reconstructing and updating the identification of the collections made at each site, it has been possible to draw conclusions about the vegetation of the localities and compare these with both of the recent reconstructions of the natural habitats of Ethiopia, Friis et al. (2010) and Friis et al. (2022), opening up hitherto unused information. We have also connected our interpretations of the modern vegetation with Pichi Sermolli's many photographs of landscapes, which are preserved as negatives and kept in photographic archive "Fondo Missione Dainelli al Lago Tana, lotto 501" at the *Società Geografica Italiana* in Rome.[3]

The analysis in this paper is a much extended successor to work made for a paper by Friis (2015), where initial observations were made on the importance of Pichi Sermolli's 1937 collections. That paper was written to celebrate, on the 3rd of October, 2014, the centenary of the Tropical Herbarium in Florence (*Centro Studi Erbario Tropicale*), the institution which holds the most complete set of Pichi Sermolli's collections from the Lake Tana expedition. The Tropical Herbarium in Florence was originally initiated in 1904 by Pietro Romualdo Pirotta as the *Erbario Coloniale* at the "La Sapienza" University in Rome, intended to house material coming from the Italian colonies of Eritrea and Somalia. But when, in 1913, a National Herbarium in Florence was planned, Pirotta, convinced of the usefulness of this initiative, accepted to move the *Erbario Coloniale* to Florence in 1914, in the same building as and next to the National Herbarium. The *Erbario Coloniale* was later renamed as *Erbario Tropicale* (FT), and incorporated as a centre for research, the *Centro Studi Erbario Tropicale* (CSET), at the University of Florence. The paper by Friis (2015) on Pichi Sermolli's 1937 collections had three main purposes: firstly to approximately localize Pichi Sermolli's collecting localities, secondly to evaluate the importance of the floristic discoveries of the Lake Tana expedition by comparing the new taxa described by Pichi Sermolli (1951) with the modern taxonomic concepts in the *Flora of Ethiopia and Eritrea* (Hedberg et al. 1989, 1995, 2003, 2004, 2006, 2009a, 2009b; Edwards et al. 1995, 1997, 2000), and thirdly to trace the ways in which the material had been collected, identified and then integrated in the *Erbario Tropicale* and duplicates distributed. In Florence, Pichi Sermolli's work on the 1937 expedition initiated a more systematic and regular treatment

3 http://www.archiviofotografico.societageografica.it/index.php?it/152/archivio-fotografie

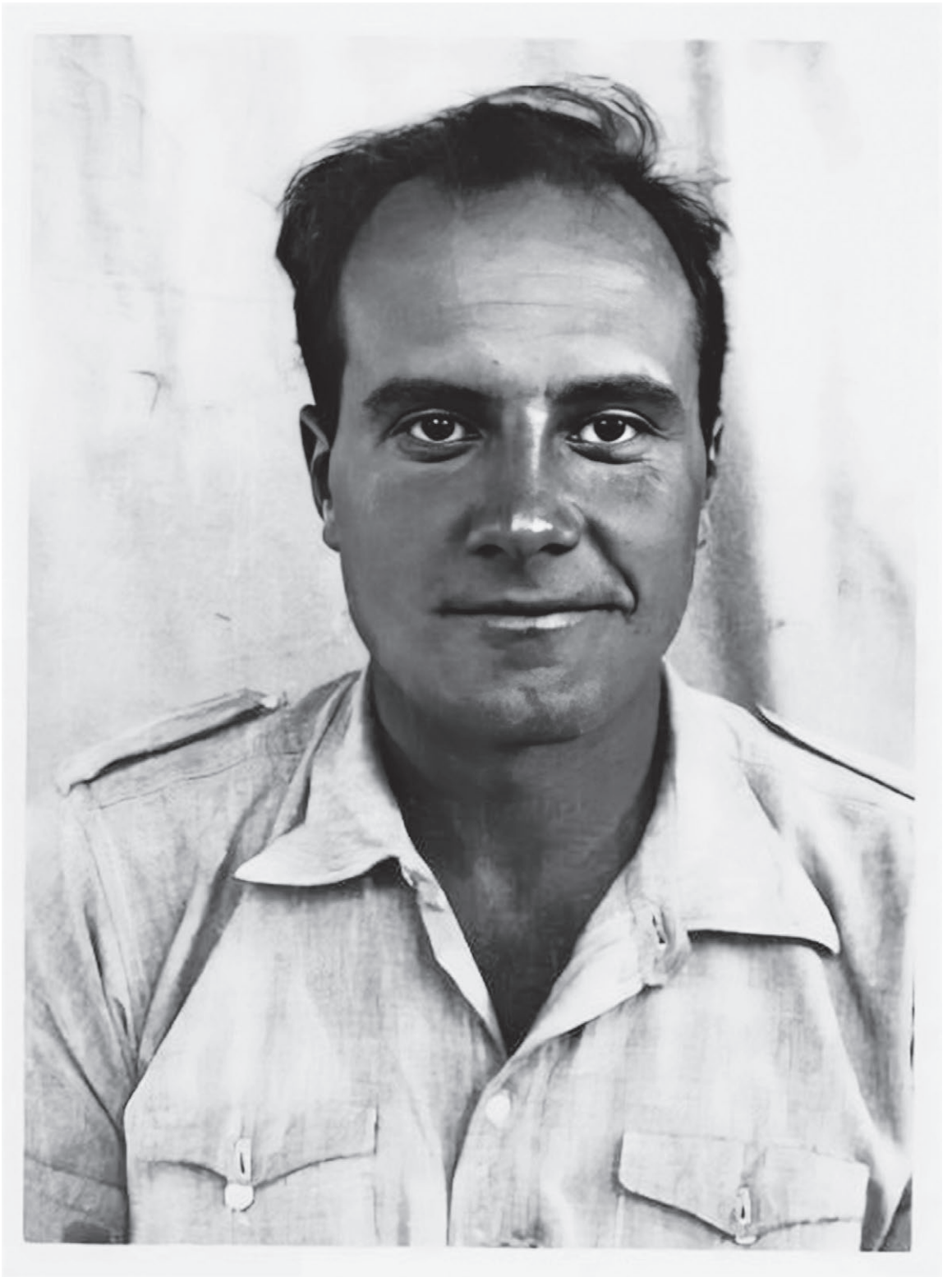

Fig. 2. Official portrait of R.E.G. Pichi Sermolli on the Lake Tana Expedition in 1937.

of collections than had previously been the case and, most of all, Pichi Sermolli's work meant an internationalisation of Italian tropical botany by international collaboration and exchange of specimens. In the paper from 2015, a publication with a more complete analysis was promised, and this is what we present here.

The main purposes of the present work is to give a modern interpretation of Pichi Sermolli's botanical collections and observations from the 1937 expedition, hopefully making them easier for modern botanists to utilise, both abroad and in Eritrea and Ethiopia, not least in the new universities in the Amhara Region, where Pichi Sermolli made his studies: the Bahar Dar University, the University of Gondar, the Debre Markos University and the Debre Tabor University, and possibly also some of the universities in Tigray. The documentation of Pichi Sermolli's observations from the Semien will also benefit the staff and researchers at the Semien National Park.

Materials and Methods

In this section we will not only deal with materials and methods used in our research for this publication, but also take a look back to 1937 and describe some of the methods that were used by Pichi Sermolli on the expedition to Lake Tana.

Fieldwork

As described by Dainelli (1938), the fieldwork was mainly carried out from base camps, from which individual scientists or small groups made excursions with the staff brought from Eritrea and with local helpers.[1] The accommodation in the base camps was typically in tented camps, even within major towns such as Gondar, where a camp was established inside the compound of the ruined royal palaces from the 17th and 18th centuries. Other base camps were in the then very small town of Bahar Dar, at the Zegie peninsula, at the small town of Quonzela [Consuela], on the plain near the northern lakeshores at Gorgora and Ifag, and at a hill with the church of Zara Enda Michael. Base camps and camps with smaller tents used during excursions can be seen on a sequence of images in the archive of *Società Geografica Italiana*; the majority of these photographs show camps of small tents used during the journey in the Semien.[2]

Excursions from the base camps was mainly made on foot or on mule. In the Semien, Pichi Sermolli and Minucci hired a caravan with mules and muleteers in the small

1 The major stops on the journey to and from the Lake Tana basin are discussed in detail in Friis (2015) and a simplified map is shown in Fig. 9.

2 See archival font Dainelli (501), image 1000, in the *Archivio fotografico* of the *Società geografica italiana*.

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Fig. 3. Mule caravan carrying equipment near Nori in the lower Ericaceous zone of the Semien Mountains. Photograph by Pichi Sermolli in Fondo Dainelli 501 1074.

town of Dabarek, Fig. 3, together with a few assistants from Eritrea that might also have acted as interpreters; the caravan was organised with a leader of the caravan team, Fig. 4. Enzo Minucci was photographed riding on a mule in grasslands near Nori and in the *Carex* bogs at Arcuasie, Fig. 5.[3] Collections seem largely to have been made with the same tools as used today. Epiphytes and branches of trees and lianas and were cut down with a tree pruner on a pole (pole cutter), Fig. 6. Bulbs and roots were dug up with a hoe, Fig. 3. Accommodation and work-space was provided by tents brought from Italy; what must have been a typical scene of plant pressing was photographed near Ifag, Fig. 7.[4]

Herbarium specimens

The botanical material from the mission to Lake Tana was collected and preserved according to the traditions for botanical fieldwork, as seen on photographs taken near

3 See archival font Dainelli (501), images 1074, 1075, 1089, in the *Archivio fotografico* of the *Società geografica italiana*. Other scenes from camps can be seen on: archival font Dainelli (501), images 862, 922, 1022, 1028, 1046, 1047, 1070, 1071, 1102, 1103, 1104, 1119, 1120, 1130, 1131, 1132, 1143, 1144.

4 See archival font Dainelli (501), images 883, 884, 922, in the *Archivio fotografico* of the *Società geografica italiana*.

Fig. 4. The "negadras" (literally "head of merchants") of the caravan hired by Pichi Sermolli and Minucci at Debarch for their field trip in the Semien Mountains. Photograph by Pichi Sermolli in Fondo Dainelli 501 1045.

Ifag north east of Lake Tana. It shows Pichi Sermolli pressing plants with a local helper, and drying material is left to dry in the sun to let all moisture evaporate, Fig. 7.[5] Collecting tools used during the journey into the Semien have been mentioned above and are also seen in some of Pichi Sermolli's other photographs.[6]

The basic material for the systematic account of the botanical results from the mission, and also for this study, is the first set of Pichi Sermolli's 1937 collections from Eritrea and Ethiopia which are kept at the *Centro Studi Erbario Tropicale* (FT), *Università degli Studi di Firenze*. These collections are now incorporated in the herbarium, which is organised taxonomically by family, genus and species.[7] The *Centro Studi Erbario Tropicale* (FT) has now a holding of ca. 230,000 specimens, and sheets are moved when new identifications have been made, so it has not been possible to retrieve and reidentify all Pichi Sermolli's specimens for which an update of the identifications would seem de-

5 See archival font Dainelli (501), images 883, 991, in the *Archivio fotografico* of the *Società geografica italiana*. Image 991 is reproduced here as Fig. 7.

6 For example in the archival font Dainelli (501), image 1145, in the *Archivio fotografico* of the *Società geografica italiana*.

7 Note that ca. 102 fern collections are nor present at FT. For what we know of the fern collections, see further in chapter 6.

Fig. 5. Individual transport by mule in the Semien Mountains. Cushions of *Carex monostachya* in a valley near Arcuasie; scattered giant *Lobelia* in the grasslands in the background. The mule rider is Enzo Minucci. Photograph by Pichi Sermolli in Fondo Dainelli 501 1089.

sirable. For such collections, we have updated Pichi Sermolli's nomenclature in agreement with the *Flora of Ethiopia and Eritrea*.

The labels on these specimens are either printed, typed or handwritten. The type of label may change from locality to locality or even between collections from the same locality or between specimens of the same collection. Pichi Sermolli used a numbering system for the localities, and it has in many cases been possible to reconstruct the locality numbers, which are generally indicated on labels with typeset text (see below). The locality numbers that have been identified are cited in the chapter entitled "6. Chronological list…". Examples of the different types of labels are shown and further discussed in chapter "4. Results".

Texts

In spite of Pichi Sermolli's remarks about his numerous notes taken during the fieldwork (Pichi Sermolli 1938a: 103), it has not been possible at the *Centro Studi Erbario Tropicale* (FT) in Florence to trace any notebooks from the field, or indeed any other archival material from fieldwork. The staff at the *Centro Studi Erbario Tropicale* has suggested that much original material, including field notes, might have been lost in Pichi

Fig. 6. Field assistant with collecting tool for trees, lianas and epiphytes in the vegetation on the shore of Lake Tana near Zegie. Photograph by Pichi Sermolli in Fondo Dainelli 501 779.

Sermolli's home when it was destroyed during World War II, but, notwithstanding theories about lost notes, information about his work in Ethiopia in 1937 must now be derived from the literature: Motyka & Pichi Sermolli (1952), Pichi Sermolli (1938a; 1939; 1940b; 1940c; 1950b; 1951) or from the labels on the specimens. Additional notes from Dainelli (1938) have been used where cited.

For our work, all information about the collections in Pichi Sermolli (1951) has been entered in a spreadsheet (Excel). The primary source of this was the information in the final monograph (Pichi Sermolli 1951), supplemented with information from specimen labels, where most of the collecting localities have been given numbers in chronological order. The labels of the herbarium specimens were mostly printed with loose metal type set by hand, see example in Fig. 39, and there are rarely disagreement between the label data and what is cited in Pichi Sermolli (1951). The numbering of the collections was done at a very late stage, probably after most of the collections had been identified. The numbers and identifications are usually handwritten even on the labels with printed or typed localities and dates. Our spreadsheet was provided with a column of updated identifications, either due to taxonomic changes in the *Flora of Ethiopia and Eritrea,* or due to reidentifications. The localities cited from Pichi Sermolli (1951) and the herbarium labels have been georeferenced as stated in the chapter "5. Chronological list…" and also this information was entered in the spreadsheet. Both

Fig. 7. Pichi Sermolli and assistant pressing plants and drying pressing material, presumably at Ifag. Anonymous photographer. Fondo Dainelli 501 991.

the identifications and the georeferencing were used for quality control of the data and extracting information for chapter 5. Ferns and fern allies were not included in Pichi Sermolli (1951), and we have only been able to trace 35 collections out of 102. These are listed separately under each locality in chapter 5 and dealt with in numerical order in chapter 6.

Photographs

Pichi Sermolli's collecting localities are documented with photographs in the *Archivio Fotografico* of the *Società Geografica Italiana*, where they can be found on the home pages of the society.

The archival numbers of the approximately 500 photographs taken by Pichi Sermolli range from number 501/696 to 501/1172. Mostly the dates on which the photographs are said to have been taken agree with information derived from the literature and the herbarium labels, but there may be discrepancies of one or a few days. The geologist Enzo Minucci sometimes travelled with Pichi Sermolli, for example on the Gogora Peninsula, in the area north-west of Lake Tana near Celga, and most notably on the journey in the Semien from 6.4. to 16.4.1937. Minucci also collected specimens for Pichi Sermolli on a journey to Amba Libo on the 19.3.1937. For such localities, reference in

the chronological list of collecting localities has sometimes been made to photographs taken by him. The archival numbers of the photographs taken by Minucci range from number 501/492 to 501/2531.

In the archival database of the *Società Geografica Italiana* it may be difficult to search for a photograph from a specific place on the name of the locality, as the indication of the place names is not always consistent. It is preferable to try locating specific photographs with the information in the chapter entitled "6. Chronological list…" or, if necessary to look for more photographs, then to search through images taken on or around the relevant dates. See a list of archival numbers of images and the dates on which they were taken in Index 4 at the end of this publication.

Some photographs are reproduced in Pichi Sermolli's publications (Pichi Sermolli 1938a, 1939, 1940); in the overviews in the footnotes, the relevant photographs in the archives of the *Società Geografica Italiana* are referred to by their archival numbers, while the illustrations in the published papers are referred to by page or plate numbers and reproduced here wherever relevant. In the legends to the images from the archives of the *Società Geografica Italiana* and reproduced in this text only the archival numbers are cited.

Maps and other topographical sources

The primary source of maps for the georeferencing of Pichi Sermolli's collecting localities and places where he made other observations are the maps in the publications related to the expedition *Missione di Studio al Lago Tana*, particularly the maps at the title page of Pichi Sermolli (1951), showing the Lake Tana basin. This is based on a map drawn by Enzo Minucci (and shows his travels, not those of Pichi Sermolli). Other important sources are two maps of the High Semien, one drawn by Minucci (1938), another drawn by Pichi Sermolli (1940c); both are reproduced in chapter 3. Pichi Sermolli often related his collecting locality to the name of a nearby Ethiopian Orthodox church. An undated tourist map, Demelle Arega: *Tourist Map. Lake Tana and its environments. 1: 200,000*, without publisher or place of publication, has names of nearly all churches around Lake Tana, but often several churches in the same area are dedicated to the same saint, even when they are near to each other, which sometimes makes identification of Pichi Sermolli's localities by means of the names of churches ambiguous.

Other sources are the topographical maps issued by the Italian *Istituto Geografico Militare* available at the time of the expedition (IGM 1934-1936a & b) and names listed in Guida (1938: 30-32). Several times referred to in Pichi Sermolli's publications is the set of maps named *Carta dimostrativa della Colonia Eritréa e delle regioni adiascenti 400,000*, consisting of 12 full sheets and two half sheets and issued from 1934 and onwards (IGM 1934-1936a); these maps cover all of Eritrea, Tigray and Amhara as far south as 12° N, which means that the southern half of Lake Tana is not covered. Localities near Bahar Dar, as the small town it was in 1937, were searched for on the sheet F2 of the map 1:100,000 by the *Ufficio Topografico del R. Governo Amara* (ca. 1938: Sheet F2, "Bahar Dar"), but not always found. For this study, we have occasionally also used the *Carta dell'A.O. al milione*, issued on 14 sheets in 1934-1936 (IGM 1934-1936b).

The old British maps of the Anglo-Egyptian Sudan in 1:250,000 by the Egyptian-Sudanese mapping Authority have an overlap with western Eritrea and Ethiopia as far east as most of Lake Tana. The sheets Umbrega 56-E (1940), Nogara 56-I (1949) and Gallabat 56-M (1940) were searched in order possibly to identify the many small rivers in the north-western lowlands of Ethiopia, which Pichi Sermolli (1938a, 1940) mentioned, but no rivers not already identified from the Italian maps were found. For the

area south west of Lake Tana, localities were searched for on a sheet in the same series, Dangila 67A (1940), and some localities not on Italian maps were traced.

Sometimes it has been possible to identify and georeference localities with the help of the *Gvida d'Italia della consociazione tvristica Italiana - Africa Orientale Italiana* (Guida 1938), and the modern guide to Gondar and Lake Tana by Chiari (2012).

The Semien Mountains are included in the *Carta dimostrativa della Colonia Eritréa e delle regioni adiascenti 400.000* (IGM 1934-1936a), but information is rather incomplete, as pointed out by Pichi Sermolli (1940c) in a separate publication on Semien topography and place names. There are maps relevant to collecting localities in the Semien in Pichi Sermolli (1940c; 1951), and another map of the Semien, showing the combined route of Pichi Sermolli and Minucci (1938: 39), but the spelling of the names is not consistent with modern spelling, for example the modern spelling on the maps by Hurni (1981 [as "1980"]; 2003). Where there has been doubt about georeferencing of localities, this is discussed in the section headed 'Georeferencing' at each locality in chapter 5.

Ethiopian place-names are always difficult to render, particularly in non-Ethiopian languages and with non-Ethiopian alphabets, and the way such names have been transcribed in Italian and English vary significantly. Moreover, although he was aware of the problem due to his interest in cartography, Pichi Sermolli was not consistent in his spelling, which may vary from publication to publication. We have tried to follow his original spelling as far as possible and cite more standardised place names in square brackets.

Occasional sources for the localization of place names are other maps in various publications from the *Missione di Studio al Lago Tana*, which are referred to where necessary. Finally, to check and sometimes further localise the topography of places where Pichi Sermolli collected we have made extensive use of the images of Google Earth via a desktop-version of the browser.[8]

8 https://www.google.com/earth/versions/#earth-pro

CHAPTER 1

Background: The Royal Academy of Italy and the Mission to the Study of Lake Tana in 1937

A brief review of the background of Pichi Sermolli's botanical work during the *Missione di Studio al Lago Tana* was given in Friis (2015). Here that account is supplemented with information about the mission's institutional background, explaining the organization and some of the work by the other participants in the mission to Lake Tana. Also included are some biographical details relating to the geographer and geologist Giotto Dainelli, who conceived the idea of the mission and lead it (Dainelli 1938; Dainelli in Pichi Sermolli 1951). This provides background to the forewords which Dainelli wrote, first for the preliminary account of the mission (Anonymous 1938), and later to the main account of the botanical results by Pichi Sermolli (1951).

The establishment and role of the Royal Academy of Italy

Due to Italy having been divided into many small states until its unification in 1871, small scientific academies continued to exist after the *Accademia dei Lincei* in Rome became the academy for both sciences and humanities of united Italy. However, after the Italian Fascist Party came to power in 1922, the new government felt the need for a more coordinated approach to science, integrating scientific and cultural activities as valuable elements in the corporate state that should be under strict control of the government (Volpe & Carussi, 1938; Noether, 1982; Vedovato, 2009), and ideas developed about heading Italian science and arts with an academy, the members of which were appointed directly by the government. In 1926, a decree by the King of Italy ordered the establishment of the *Reale Accademia d' Italia* [Royal Academy of Italy] with the purpose "to promote and coordinate Italian intellectual activity in the sciences, the humanities, and the arts." In 1929 the government confirmed the statutes of this Academy, and it was formally inaugurated. The new academy had its seat in Rome, sited in front

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of the *Accademia dei Lincei,* with which it first co-existed; it should have 60 members, with equal numbers from the physical sciences (including both the mathematical and natural sciences), the moral sciences (including history), the arts, and the letters. The academy should have no foreign members, but encourage travel in and exploration of remote countries, particularly the Italian colonies. New academicians were chosen by the government from lists proposed by the existing members; however, the first members were proposed by the selected future president of the new academy, the diplomat and politician Thomasso Tittoni, who was already member of the *Accademia dei Lincei*. The academicians received a monthly stipend directly from the government, comparable to a professorial salary, and the academicians were to be addressed as "Your Excellency", as can be seen in some of the quotations in this paper.

Membership of the Royal Academy of Italy was not only a recognition by the state of the members' intellectual achievement, but members were also selected to support the government's policies. The list of academicians included Italy's most eminent names in the arts, humanities, and sciences, people whose reputation owed little to political support. Among the members were well known physicists such as Guglielmo Marconi and Enrico Fermi. In 1939 members of the *Accademia dei Lincei*, which the government abolished in that year, became members of the Royal Academy of Italy, a situation which lasted until the Royal Academy was dissolved in 1944 and the *Accademia dei Lincei* was re-established.

Giotto Dainelli, the Royal Academy of Italy and the Study Centre for Italian East Africa

Giotto Dainelli (1878–1968) was a highly influential Italian geographer and geologist who from 1924 had held the position of professor of geology and palaeontology in Florence. Already in 1919 he had become a member of the *Accademia dei Lincei*, and was a member of the Royal Academy of Italy from its beginning in 1929, having taken part in an expedition to Eritrea in 1905-1906 and in an expedition to the Karakorum Mountains in the Himalayas in 1913-1914. Dainelli has been characterised as a strongly dedicated and competent scientist, an Italian nationalist and a strong supporter of colonialism, especially with regard to ideas about improving agriculture and mining in the Italian tropical colonies, but he was not otherwise involved in party politics (Ricci, 2005; Settesoldi et al., 2005; Vedovato, 2009). In June 1936, after the Italian occupation of Ethiopia and the establishment of an Italian colony, *Africa Orientale Italiana,* which covered the Horn of Africa except British Somaliland and French Djibouti (Calchi Novati 2003, 2007), Dainelli was appointed head of a newly established *Centro Studi per l'Africa Orientale Italiana.* [Study Center for Italian East Africa]. This was a government-financed institution under the *Reale Accademia d'Italia*, set up on the initiative of Alberto De Stefani (1879–1969), a liberal economist, one time Italian minister of finances and later professor of political economy in Rome, and Giotto Dainelli himself.

The *Missione di Studio al Lago Tana* in 1937 was the first of a series of planned missions of research to be organized by the *Centro Studi per l'Africa Orientale Italiana*, and that with the largest output of publications, a total of seven volumes appearing from this mission during the years from 1938 to 1951. Two more large expeditions in Ethiopia were organised by the *Centro Studi per l'Africa Orientale Italiana*. The first was the *Missione Biologica nel Paese dei Borana* [Biological mission to the land of the Borana], which went to the Sidamo region of southern Ethiopia in 1937 with Georg Cufodontis as the botanist. The second was the *Missione Biologica Sagan-Omo* [Biological mission to the Sagan and Omo Rivers], which went to the basins of the Sagan and Omo Rivers in southwestern Ethiopia in 1939, with Rinaldo Corradi as the botanist (Friis 2009);

Pichi Sermolli (1947a) published an account of the ferns of the Sagan-Omo mission and named a new species of fern after Corradi (Pichi Sermolli 1947b).

The following is a review of the events as they developed after the Lake Tana expedition, which will explain the delay of the publications by Pichi Sermolli, and why the main botanical work from the Lake Tana expedition (Pichi Sermolli 1951) was published by the *Accademia dei Lincei*. This account follows information provided by Vedovato (2009), who knew Dainelli personally. After June 1940 when Italy entered World War II on the side of Germany, several years passed without armed hostilities on Italian ground, although in Africa Ethiopia had regained its independence in 1941 after a long guerrilla war supported by forces mainly from the British colonies. From July 1943, Allied invasions on Sicily and in southern Italy brought the war to the Italian mainland, and the *Gran Consiglio* [the Grand Council], a body which controlled the Italian government, almost immediately withdrew its confidence in Mussolini's administration, after which he was dismissed as prime minister by the King.

A period with sharply divided opinions within the Italian Academy followed, not least because its president, Luigi Federzoni, at one time minister for the colonies, had voted for non-confidence in Mussolini's government, while other academicians had continued to support it. The internal conflicts in the *Reale Accademia d'Italia* increased after the formation of a new Italian government in September 1943 and the swift German occupation of northern Italy. The opinions diverged even more with the establishment of the *Repubblica Sociale Italiana* with its capital at Salò at Lake Garda. In January 1944, this and the northward advancing Allied forces led to the relocation of the *Reale Accademia d'Italia* from Rome to Florence, where it was housed in Palazzo Serristori on the south bank of the Arno River. Dainelli had up to that time been occupied preparing a work in four volumes, *Geologia dell'Africa Orientale* (Dainelli 1943), one of the last publications of the *Centro Studi per l'Africa Orientale Italiana,* by then still named after a colony that no longer existed. Due to financial problems within the Academy, it was published with support from the *Consiglio Nazionale delle Ricerche* [National Research Council], building also on various other expeditions undertaken by Dainelli in Eritrea, Ethiopia and Somalia. Another late work from the *Centro Studi per l'Africa Orientale Italiana*, and the very last work from the *Missione di Studi al Lago Tana,* was an ethnological work by Grottanelli and Massari (1943).

From 1943 the president of the *Reale Accademia d'Italia* was the philosopher Giovanni Gentile, but he was killed in Florence by partisans in April 1944, and Dainelli was appointed the next president. He accepted the task of moving the *Reale Accademia d'Italia* away from the northwards advance of the Allied forces, which eventually reached Florence in August 1944. During the night between the 6th and 7th of July, Dainelli left Florence with a convoy of vehicles carrying the combined archives and other property of the *Accademia d'Italia* and the *Accademia dei Lincei*, on the 30th of July ending in a villa at Lake Como. Formally, the *Accademia dei Lincei* was re-established by a decree from the king and government in Rome in September 1944, but most of its property was still at Lake Como in the *Repubblica Sociale Italiana*. On the 26th of April, 1945, Dainelli wrote to the new president of the *Accademia dei Lincei*, sending an inventory of all that was due to be handed back to the *Accademia dei Lincei* and stating that he had deposited the Academy's valuables at the Como branch of the *Credito Italiana*. The following day, 27th of April, Dainelli left Lake Como and started wandering incognito to avoid possible arrest and summary execution. In fact, on the same day, Mussolini was arrested by partisans on the shore of Lake Como together with his mistress, Claretta Petacci, and the next day he was shot, along with a number of ministers and officials of the Italian Social Republic and Petacci.

With the final collapse of Fascism in 1945, the *Reale Accademia d'Italia* ceased to exist, and Dainelli was declared unworthy of again becoming a member of the re-erected *Accademia dei Lincei*. He was also not permitted to regain his chair of geology in Florence, but was acquitted of any Nazi or fascist activity and any support of the invading German forces. He donated his collection of photographic negatives from his expeditions in Asia and Africa to the *Società Geografica Italiana*, including all the photographs taken by Pichi Sermolli and other members of the Lake Tana mission. The *Società Geografica Italiana* honoured him in 1954 with its gold medal.

Dainelli's vision of the expeditions of the *Centro Studi per l'Africa Orientale Italiana* is expressed in a foreword to the preliminary 1938 report of the expedition to Lake Tana (Dainelli 1938). The aim was field work carried out by groups of specialised scholars with well-defined fields of research, but all able to work together and to consult each other. The ultimate aim was to obtain both basic research and knowledge that would be useful for the development of the regions studied. The economic and political interests of the Italian government in the Lake Tana basin as a major natural resource in *Africa Orientale Italiana* were obvious, not least because of the significance of the lake as the source of the Abay (Blue Nile) River, which provides water to the Sudan and Egypt. Lake Tana has always represented a huge natural resource and been politically important for relations between Ethiopia, Sudan and Egypt (Erlich 2003; Lachal & Gascon 2010).

The preliminary volume, published after a symposium with participation of the members of the expedition (Anonymous 1938), contained the following articles that are listed here with their Italian titles, enough to give an idea of the range of the subjects of the mission: G. Dainelli: *La missione di studio al lago Tana* [Mission to study Lake Tana; a translation is given in the following part of this chapter]; E. Minucci: *Ricerche geologiche nella regione del Tana* [Geological research in the Tana region]; E. Minucci: *Ricerche geologiche nella regione del Semién* [Geological research in the Semien]; G. Bini: *Ricerche sulle condizioni chimiche del lago Tana* [Research on the chemical condition of Lake Tana]; G. Morandini: *Ricerche fisiche sul lago Tana* [Physical research on Lake Tana]; R.E.G. Pichi Sermolli: *Ricerche botaniche nella regione del lago Tana e nel Semien* [Botanical research in the region of Lake Tana and the Semien; a translation reproduced in the following of this chapter]; G. Bini: *Notizie sulle raccolte zoologiche eseguite dalla Missione Dainelli nel bacino del lago Tana* [Notes on the zoological collections made on the Dainelli mission in the Lake Tana Basin]; L. Cipriani: *Ricerche antropologiche sulle popolazioni del lago Tana* [Anthropological research on the population of Lake Tana]; V.L. Grottanelli: *Ricerche antropogeografiche nella regione del lago Tana* [Research on the anthropological geography of the region of Lake Tana]; P.F. Nistri: *Itinerari e studi agrari nella regione del lago Tana* [Itineraries and agronomic studies in the region of Lake Tana].

A number of subsequently published volumes were comprehensive monographs of the subjects indicated: geography and economy (Grottanelli 1939); anthropology (Cipriani 1940); ornithology (Moltoni 1940); topographic aspects of limnology (Morandini 1940a). The following volume contained articles by different authors on associated subjects: chemical and biological aspects of limnology (Morandini 1940b; with articles by G. Bini, S. Loffredo, G. Brunetti & G. Cannicci, G. Brunelli, and C. Piersanti. Three years later another volume about anthropological studies appeared, dealing with ethnic groups in western Eritrea (Grotanelli and Massari 1943). Only the monograph by Pichi Sermolli (1951) appeared after the war and with the re-established Accademia dei Lincei as publisher.

Giotto Dainelli's review of the ideas behind the mission to the study of Lake Tana and a general report on the mission

In the introduction to the first publication from the *Missione di Studio al Lago Tana* Dainelli (1938: 5-17) gave a general account of the progress and achievements of the mission. The paragraphs of the original texts have been maintained in the following translation, which is printed in italics. Numbers in square brackets [like this: "p. XX"] refer to the original pagination in order to facilitate references to the original Italian texts. The same rule has been applied to the translations in the following translations. This foreword states both the scientific and the political purposes of the mission as seen by Dainelli, and it has historical interest by describing the organisation and spirit of the fieldwork. The account is illustrated with four photographs from the mission, but none of them are of particular relevance for the work by Pichi Sermolli, and they are therefore not reproduced here.

[P. 5; Title:] **Mission to study Lake Tana.**

The Centro Studi A. O. I. ['Africa Orientale Italiana']*, set up on the initiative of Academician De Stefani at a time when the conquest of the Empire was not yet complete, sought immediately after the victory to carry out one of those 'missions', which represented the main task for the development of the programme it had chosen for its activity: that is to contribute to the scientific knowledge of the territories of the Empire, in order that they might become useful elements for the economic development of the new Italian lands beyond the sea.*[1]

The general programme of the Centro Studi A. O. I. *was to study, year after year, that region of the Empire that was designated or advised by the Minister of Italian Africa to be in need of research, based on precedence or opportunities of the moment, and the Minister would be the best judge of what to choose. The* Centro Studi *intended to affirm, also in this way, that its purpose is to promote research of pure science, directly and solely at the service of the Government and the State. It also proposed not to limit the types of research it would promote, but within its 'missions' try to achieve the most complete knowledge possible of the regions, expanded by repeated visits, and with the idea that any validation of observation must be based on a total knowledge of the natural and human conditions.* [P. 6] *It should also take into consideration economy of time, energy and even money, compared to the greater expenditure represented by partial 'missions', sent successively and each with particular objectives. These procedures would also have the advantage - scientific, but with obvious impacts on the practical applications that were to follow - of work by close communities of collaborating scholars, each having a well-defined field of research, but all of whom able to consult one another, because of the intimate mutual relationships that link the various natural conditions of a country and those of its people.*

In full agreement with the Minister of Italian Africa, the hydrographic basin of Lake Tana was chosen as the first field of activity for a 'mission' of the A. O. I. Study Centre. *The decision was made, by necessity of events, only in the late autumn of 1936. There was no time in between decision and realisation if the project was to be implemented, so that research on the sites could certainly be completed before the next rainy season.*

In fact, in twenty days, the organisation was complete, and everything was prepared for the journey of 12 people, a journey which would last five months. In other words: the camp

1 Dainelli's use of the term 'empire' refers to the *Impero italiano*, the African colonies, protectorates and dependencies elsewhere, an empire dependent on the Italian Kingdom in Europe, but not including it. In 1936 the Italian King was declared *Imperatore d'Etiopia*, not emperor of Italy.

equipment was ready, even for high mountain areas; the food was ready, distributed in boxes, each of which was equipped with everything necessary, according to carefully considered proportions; all the scientific and collecting equipment was ready to be used by scholars of the most varied disciplines; all other equipment was ready, and the necessary instructions for the tasks entrusted to each person and for the duties common to all were given to the participants. Let me say that it would have been impossible in less time to complete this organisation, which is not easily organized anyway.

The choice of participants was also quickly made. Giuseppe Morandini had the task of studying the physical characteristics of the lake and Giorgio Bini was to study the chemical and faunistic aspects; [P. 7] *to these two was added Giovanni Penzo, a technician for limnological and fishing research. The study of the geology of the region was entrusted to Eng. Enzo Minucci, the botanical collections and the recognition of the phytogeographical character of the landscape to Dr. Rodolfo Pichi-Sermolli. For the collection and preparation of the fauna two technicians were invited, Mr. Bruno Castelli and Mr. Enrico Broilo; all the anthropological researches were entrusted to Professor Lidio Cipriani, and Dr. Vinigi Lorenzo Grottanelli was in charge of anthropogeographical research. Dr. Pier Francesco Nistri was to study current agricultural conditions and future possibilities. The Head of the Mission had to be in charge of the general organisation, command and coordination of the work of everyone, a task that was not expected to be easy, given the particular needs of so many scholars from different disciplines and the certain logistical difficulties that the very heavy caravan would be expected to encounter.* [P. 8] *He had as his assistant Capt. Carlo Busi, who had almost ten years' experience in the colonies, and who especially would have to deal with relations with the military authorities and eventually take over the military command of the column in case it was needed or at least seemed to be needed.*

The Mission - even though it had already been prepared beforehand - was only able to leave on 4 January of this year [1937]. *A stop in Asmara was necessary in order to reorganise all the materials and recruit local personnel, who were all non-commissioned officers and ascaris of the Eritrean troops, with the function of cooks, attendants and interpreters. During the course of the Mission, the column was then joined by ascaris or group leaders, in varying numbers according to the needs imposed by our work or the conditions of the country. On the 18th of January, the column left Asmara, heading, via the western lowlands, for Gondar and Lake Tana, of which it reached the southern end at Bahar Dar, where it set up its first base camp. The Mission immediately began the intense and varied work of scientific exploration of the great lake and its region. The very different tasks and requirements determined - as had been foreseen - a different degree of mobility of the different participants in the Mission. The two limnologists, together with the additional technician, had to navigate Lake Tana intensively, but they had to have a fixed base where they could set up a functional chemical laboratory. They based this in Bahar Dar until around the 10th of March, then they moved it to Gorgora, at the opposite, northern end of the Lake, where they remained until the eve of their return to Italy. The Head of the Mission, together with the other participants - who were entrusted with the study of the entire region - subsequently changed their base camps: in Bahar Dar, in Zeghie, in Quonzela* [Consuela], *in Gorgora, in Ifag, in Zara* [Zara Enda Michael], *so as to complete the entire circumnavigation of the Tana.* [P. 9] *But from each of these base camps the participants radiated out, with a gradually increasing radius and with journeys of varying size according to the tasks of each. The greatest mobility was of the geologist and the agronomist, who almost always moved in independent caravans. However, points more or less distant from the temporary base-camps were also reached by the botanist, the anthropologist and the anthropogeographer. One last stop was at Gondar, for the study of the surrounding area and its various peoples, while the Chief of Mission personally directed the preparation of the loads of the abundant collections made and the pre-arrangement for the return. And*

since other duties of the same order would have obliged him to stop in Asmara, he decided to direct the geologist and botanist, and, with an independent caravan, also the agronomist, through the Uoghera[2] *and the Semien, so that a contribution could be made to the knowledge of these regions too, and to leave the anthropologist and anthropogeographer in the western Eritrean lowlands to study the interesting and little-known ethnic groups in that area. At the end of April everyone was gathered again and ready for immediate departure. On the 3rd of May, the Mission returned to Italy with all its collections.*

The results achieved by the Mission can already be glimpsed from the preliminary reports gathered here [in the symposium report of 1938]*; they will become clear from the series of monographic volumes, the publication of which will begin soon. However, it is only right to give an overview of the results now.*

The Tana - of which so much is spoken and discussed, but so far so little known - has on this mission been the subject of numerous studies and methodical research, observations and collections, from which we can say that our knowledge will be complete, except for its seasonal variations, for which it would have been necessary for us to stay in the area for an entire year. A regular series of soundings, numbering several hundred, has definitively established the conditions of depth and the morphology of the bottom of the lake. A hydrometer made it possible to follow the variations in level during the months the Mission spent at the Lake. Stations were observed at numerous points in the large lake, in order to ascertain the conditions of colour, transparency, temperature and currents, and to collect water samples at various depths and bottom sediments, as well as to carry out regular plankton surveys. [P. 10] *Water and sediments were subjected to analysis and showed very peculiar characters. All means known to modern fishing technology were used to collect the fish fauna of the Tana, which was perhaps more abundant in terms of individuals than in species, and the invertebrate fauna of the banks and the bottom was also researched and collected.*

The two limnologists in particular, who had more uniform activities than the rest, made valuable contributions to the zoological collections. Relatively speaking, the zoological collections were not very rich, since the dry season is not the most propitious for reptiles, amphibians, worms and insects. The most interesting collection was certainly that of birds, all of which were prepared on site, and of which the Mission brought back several hundred specimens. [P. 11] *Insects, however, were equally numerous; the other animal groups were less so. Skeletons of mammals were also prepared.*

The geologist, almost always on the move with a light caravan of his own, surveyed the entire hydrographic basin of the Tana, trespassing its boundary southwards in the direction of Goggiam, westwards down the valleys descending to the western lowlands, eastwards on the plateau of Beghemeder[3]*, and northwards - as I have already mentioned - through the Semien. In spite of the overall uniformity of the geological structures, he was able to distinguish the young lava effusions that had formed Lake Tana, and in the powerful series of older trap lavas he was able to establish new and interesting facts for their dating and for reconstructing the history of the uplift of the great Ethiopian plateau. Documentation can be found in the rich collection of geological specimens and – an observation new to science - in the discovery of two fossil floras.*

The botanist had less need than the geologist to move away from what were the successive base-camps of the Mission: he generally moved within a day's walk from them. However, he

2 Wogera or Wegera, the highly dissected landscape between the Semien Mountains and the Tacazze River.

3 Begemder was the former name of the province in north-western Ethiopia, later renamed Gondar region after its capital and largest town.

also made longer excursions to the western edge of the Tana plateau, then to the margins of the upper Beghemeder plateau; and finally, because of the interest that would originate from the study of the altimetrical zones of the vegetation, he was sent with the geologist to the Semien, where the major peaks were climbed. A collection of about 25,000 specimens of plants will make a valuable contribution to the floristic knowledge of the region, documenting the phytogeographical picture of the region that it will certainly be possible to draw.

The anthropologist, aided by his long experience in Africa, has also brought back a rich material of observations and measurements: about 900 anthropometric cards will be used to establish the somatic characteristics of the people encountered. They are, especially the people of Tana basin, mainly the Amhara, but perhaps even more interesting were the ethnic minorities, [P. 12] *i.e. the various Muslim* [or Jewish] *nuclei, including the Uoito,*[4] *or the fishermen of the Lake, the Falascia*[5] *or Jews of Ethiopia, the Chemanti*[6] *- but they are also the populations of the western Eritrean lowlands, i.e. Baria*[7]*, Cunama*[8] *and Beni Amer*[9]*. The anthropometric sheets were completed by a series of 63 masks cast from living people, and by the varied observations and notations.*

In the ethnographic field, collections were made - which can be judged as being complete - of all the objects of the material life of the populations around Lake Tana, including the Cunama. This was largely the particular task of the Head of Mission, so as not to distract the anthropologist too much from his more special work.

The anthropogeographer proceeded to methodically study all the manifestations of indigenous life, from the types of dwellings - around which he surveyed numerous domestic plants - to the bargaining in the characteristic markets, in each of which samples were methodically purchased, whether it was local produce or was brought there and offered for sale or exchange.

Finally, the agronomist, who had a great deal of freedom of movement, and increased, on his own account, the collections of agricultural goods and added collections of land and soil, and proceeded to a meticulous investigation, spatially very extensive, into agricultural methods, cultivated plants, their yields, their altimetrical limits, as well as indigenous breeding and breeding-methods, and also the breeds of cattle or sheep, and even horses, but always with an eye to the possibilities of new cultivation and the improvement of the traditional methods.

All the participants in the Mission, without distinction, were equipped with photographic equipment and abundant amount of light-sensitive material: a collection of about 6,500 negative prints documents the intense and multiform activity of the Mission and illustrates in full the region visited in its wide orographic and hydrographic characteristics, in its natural

4 Woito, also spelt Weyto, Wäyto or Watta, an ethnic group at Lake Tana. In historical texts they were referred to as hippopotamus hunters and had once their own language belonging to the Cushitic family. By the time of the Lake Tana expedition, thieir main occupation was fishing.

5 Falasha, a religious community in Ethiopia, also known as Beta Israel or Ethiopian Jews, which appear to have been isolated from mainstream Jewish communities for at least a millennium. Most of this community emigrated to Israel in the late 20th century.

6 The name sometimes spelt Qemant, a small ethnic group, related to the larger ethnic group, the Agaw, traditionally Jews and like the Agaw speaking their own language belonging to the Cushitic family, mainly farmers living north and north-west of Lake Tana.

7 Now generally referred to as the Nara, a Nilo-Saharan speaking people who live in Gash Barka region of Eritrea around north and east of Barentu.

8 A small ethnic group that live in the area between the Gash and Setit rivers, also speaking a Nilo-Saharan language.

9 A large traditionally nomadic Muslim group, living in the Barka valley and adjacent parts of the Sudan; now mostly Arabic speakers.

landscapes, in its varied vegetation, in its people and in all the forms of activity they manifest and in all the anthropological types they represent.

[P. 13] *We can state it as a fact rather than as a judgement when we say that East Africa had never known such a complete and such an intensely active study mission. And we should not believe that the new political conditions, so soon after the Italian occupation, could have changed the natural and human environment to such an extent that an enterprise of scientific exploration as complex as ours would have been easy, being burdened as it was by the number of participants and by the complication of the necessary instruments and equipment.* [P. 14] *On the contrary, it could almost be said that some of the consequences of the recent war had made the movements of a heavy caravan more difficult, with the unthinkably complicated loading of saddles and pack animals, so that any movement, even with light caravans and not very far from the base camps, always represented a real and sometimes an unsurmountable difficulty. Nor were the movements of the bulk of the Mission in the area west of Tana, where there is still no track, easy. A motorboat of the Royal Navy, which had been placed at the disposal of the Mission for hydrographic work, largely provided the necessary support, but it was also necessary to resort to indigenous means, almost of fortune, and to move between Zeghie and Conselà* [Quonzela, Consuela] *it was necessary to build a "tanqua",*[10] *capable of carrying 60 quintals*[11]*, certainly the largest "tanqua" that has ever sailed the Tana.*

Communications and transport by road and track were all carried out with cars that were almost exclusively provided by the Amhara Government, which welcomed and helped the Mission with unstinting goodwill and with the breadth allowed by local possibilities.[12] *Let it be said, however, that the Head of the Mission was aware, not least from past experience, of what a truly indigenous country it [Ethiopia, especially the Amhara region] is, not yet shaped by modern civilization, and of the difficulties in which the Government of Amhara already found itself. Due to the distance from the base of its supplies and to the necessary large quantities of these, the Mission had proposed to be as independent as possible and to weigh as little as possible on the local authorities and their resources. The Mission asked and obtained indigenous soldiers for the service of the caravan from the Command of the Eritrean Troops; it had national escorts, ascaris or band-members, according to the opportunities as judged by the responsible authorities. Above all, it asked and obtained transport by road and by track: but, even in this, it limited its requests to a minimum in such a way as not to disturb the logistical movements, military or civilian, of the Amhara Government.* [P. 15] *For all the rest, the Mission - in the base camps, on the small excursions, on the longer ones by means of mule caravans - has had a completely autonomous and independent life: the breadth of its organisation has even allowed it to exercise that hospitality which is so acceptable among men who, in one way or another, recognise themselves as pioneers and vanguards of similar ideas and similar passions.*

This affirmation - of the breadth with which the Mission had been organised - should not cast doubt on the fact that the entire administration was conducted with absolute rigour.

The total cost of preparing and carrying out our mission was 259,743 lire. [P. 16] *This includes personal equipment and insurance for the participants; salaries of the three technicians; costs of complete field equipment; food supplies; personal travel and transport of materials; instrumental and photographic equipment; caravan expenses; and purchases of ethnographic collections. It should be noted that the scientific instruments and equipment*

10 Traditional reed-boats made of stems of papyrus tied together; see an example of a small tanqua for one person in Fig. 47.

11 One quintal is 100 kg.

12 See the convoy moving from the Eritrean border towards Gondar in Fig. 28 and 30.

- all put back in perfect order and ready for new Missions - represent a value of 49,044 lire, and that the scientific collections represented a total purchase cost of 21,125 lire, even by simple commercial calculations, although they represent a much higher scientific value. If these two 'items' are removed, the pure cost of the whole trip is reduced to 189,574 lire for 4 months work of 12 people. It is permissible to assume that, even from this specific point of view, one has fulfilled one's duty.

I must say that all participants have fulfilled their duty, for which I must thank them here for their spirit of collaboration and enthusiasm for the joint venture. Because of this spirit of collaboration and this enthusiasm - which also seemed to be instilled by example in the national, military or civilian staff members, in the ascaris and officers in our direct retinue, in the ascaris and the band-members of the escorts, and in the local people themselves who were very often welcoming and willing to help us in our multiple tasks - I think that the Mission left good memories in the regions it travelled in and studied. Also for the seriousness and methodical approach of its research and for the usefulness that their results and applications may have: it is not for nothing that His Excellency, General Pirzio Biroli, Governor of the Amhara, took occasion - during our stay in the Tana area - from one of his reports to the Minister of Italian Africa, to close as follows: Blessed be the Research Commission, which the Royal Academy of Italy has entrusted to His Excellency Dainelli for the surveys of the Tana area, to which are connected infinite problems, some of which are already evident and others that will not fail to arise as knowledge of that very important geographical region increases.

[P. 17] *Thanking His Excellency Pirzio Biroli and Commander Armando Felzani, Secretary General of the Government of the Amhara - who welcomed us and helped us, I repeat without reserve, to facilitate the tasks we had proposed, I would also like to thank all those - officials and officers, soldiers and workers, men in authority and humble men - who showed their sympathy for our enterprise, considering us almost comrades in the greatest enterprise that Italy has struggled with and will still struggle with in East Africa for its power and civilization.*

When, at the head of our long and heavy column - which sometimes may have had something warlike about it, with men with rifles on top of the loaded vehicles and the roaring noise from the escorting armoured vehicles - we advanced, struggling along unimproved tracks in the middle of the bush or over the boundless expanses of tall grasses, I felt that this our work was indeed fighting for science at the service of the country. This was as I have always believed it should be, and how I have also always tried to exercise it.

With this preliminary exposition, my task is over: to Academician [Alberto] *De Stefani, creator and president of the A. O. I. Study Centre, I convey the expression of my friendly gratitude for the confidence he has shown in entrusting me with the direction of an enterprise, to which I have given all my experience and enthusiasm.*

G. Dainelli, September 1937-XV.

CHAPTER 2

Pichi Sermolli: career before, during and after the mission to Lake Tana

The botanist of the Lake Tana expedition, Rodolfo Emilio Giuseppe Pichi Sermolli (1912–2005, born in Florence, died in Montagnana Val di Pesa near Montespertoli south-west of Florence) was only 24 years old when he went with the expedition to Ethiopia, celebrating his 25th birthday on the shores of Lake Tana. His interest in natural history went back to the time when he was a high school student, making long excursions to the hills and mountains of Toscana, collecting first minerals, then lepidoptera and finally plants. His interests were supported by the Professor of comparative anatomy at the University of Florence, Nello Beccari (1883–1957), son of the famous naturalist, Odoardo Beccari, who had visited Eritrea (1869–1870, collections published in Martelli 1886), but was more famous for his travels in what is now Indonesia, both before and after the African trip. Nello Beccari, who had also briefly visited Eritrea, was a close friend of the Pichi Sermolli-family and encouraged young Rodolfo to study nature. Rodolfo enrolled at the University of Florence in 1931, and from the beginning he attended the teaching and research at the Institute of Botany, where professor Giovanni Negri (1877–1960, professor of botany from 1925 to 1948), professor Albina Messeri (1904–1972) and Eleonora Francini (1904–1984) soon involved him in research projects, particularly on serpentine plants. In 1934, as a third year student, he took part in the second mission for agronomical studies of Cyrenaica in Libya as an assistant to Professor Renato Pampanini (1875–1949; formerly employed at Florence, but by then appointed to a Chair of botany at the University of Cagliari). This experience gave Pichi Sermolli his first contact with the flora and vegetation of hot and dry zones, a subject which he was to cultivate later. He also worked on the connection between the parasitic plant *Rafflesia tuan-mudae* and its host, based on material collected by Odoardo Beccari in Malaysia, and began his first works on pteridophytes, another very important subject of his later studies. Around the time of the Lake Tana mission,

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Pichi Sermolli spelt his surname with a hyphen, "Pichi-Sermolli", but gave up the idea later. The later spelling has been used in this work.

Pichi Sermolli graduated in 1935 and became an assistant at the Institute of Botany in the University of Florence and at the Erbario Tropicale. Probably late in 1936, the *Reale Accademia d'Italia,* most likely due to the initiative of Giotto Dainelli, asked him to take part as a botanist in the expedition to Lake Tana. His observations from this expedition and his collections of 2649 angiosperms and gymnosperms[1] from Eritrea and Ethiopia will be analysed later in this paper.

Producing the best possible georeferencing of Pichi Sermolli's 115 collecting localities and 20 base camps was one of the important subjects in Friis (2015). Here, the base camps and major stops have been shown in Fig. 9. The identification of the collecting localities has been significantly refined in the present paper. Here, all georeferenced collecting localities have been mapped and projected onto maps showing the potential natural vegetation of Ethiopia, as analysed by Friis et al. (2010) and Friis et al. (2022).

The following biographic overview is based on Bizzarri (1993), Brummitt (2007) and Moggi (2007). Back in Florence from the expedition to Ethiopia, Pichi Sermolli returned to his work at the Institute of Botany and the *Erbario Coloniale* [Colonial Herbarium, now *Centro Studi Erbario Tropicale*]. In the first years after his return, 1938-1939, Pichi Sermolli was assistant lecturer at the Institute of Geography and published a study of rural buildings in Tuscany (Pichi Sermolli 1938b). The employment at the Institute of Geography and the architectural and geographical studies were almost certainly encouraged by Giotto Dainelli, but Pichi Sermolli kept his main interest in plants and his connection with the Institute of Botany. During the war he was twice called up for military service, first to the Greek-Albanian front, presumably mainly for mapping and surveying, and later as an officer in the reproduction and printing department of the *Istituto Geografico Militare* [Military Geographical Institute] in Florence, during which service he contributed to a map in 1:25,000 of the municipality of Chitignano near Arezzo. For the journal of the *Istituto Geografico Militare,* he also prepared a review of his own and previous travellers' geographical observations regarding altitudes and place-names in the Semien Mountains (Pichi Sermolli 1940c).

As mentioned, the collapse of the Fascist Italian regime and the fall of Mussolini in 1943 meant that the new Italian government signed an armistice with the Allied forces, and in consequence of the German forces in northern Italy, a Fascist puppet state, the Italian Social Republic (RSI), was formed in the part of the country occupied by Germany. From its capital in the town of Saló on Lake Garda, the Italian Social Republic administered the German-occupied territories. During this period Pichi Sermolli aided the Allied forces on their continued advance towards Florence and northern Italy. This meant that he was away from Florence, with the result that he was not only distanced from his research, but also that he was deprived of a substantial part of his belongings, including his books and manuscripts. An unknown part of these was lost in the destruction of buildings in Florence located on the bank of the river Arno near Ponte Vecchio, the place where Pichi Sermolli lived. Unlike the other bridges on the Arno, Ponte Vecchio was not destroyed by the retreat of the Nazi German forces, but crossing of the river was instead blocked by the destruction of buildings at either end of the bridge.

1 This number is according to the introduction to Pichi Sermolli 1951: 16); including ferns and fern allies, his collections counted from a numerical list Pichi Sermolli (1951: 277-306) includes 2742 collections.

In 1945, Pichi Sermolli could resume his job at the Institute of Botany in Florence and as curator of the Colonial Herbarium. He completed some research-projects which he had started earlier, including a work describing a new family and a new genus of ferns, Negripteridaceae and *Negripteris*, based on material from Ethiopia and dedicated to his teacher, Prof. Giovanni Negri (Pichi Sermolli 1947c ['1945'], 1950a). He continued his employment at the University of Florence up to 1958 and was simultaneously assistant professor in Siena from 1951 to 1958.

In 1947, Pichi Sermolli was granted a scholarship from the British Council, thanks to which he was able to carry out research in the libraries and herbaria of Kew and the British Museum, devoting himself for months to the study of his Ethiopian collections in collaboration with a number of botanists at Kew. The results of this work were included in a monograph published about three years later by the *Accademia dei Lincei*. The "academy of the lynxes", as has been described above, was re-established in 1944 in connection with the suppression of the *Accademia d'Italia*. The months in England improved the values of the botanical results of the Lake Tana expeditions and they fundamentally influenced Pichi Sermolli's scientific views, not least his request for thorough investigation of both classical and newer herbarium material before drawing taxonomic conclusions, but also his interest in botanical nomenclature. His subsequent and extensive scientific works and publications on the flora of Italy, nomenclature, pteridology, the Pandanaceae of Madagascar and the history and taxonomy of the Beccari collections from Indonesia are listed by Bizzarri (1993), Moggi (1993, 2007) and Brummitt (2007). However, in the following, only the line of African botany will be followed.

In 1958 Pichi Sermolli left Florence and was appointed full professor in the University of Sassari in Sardinia, but a year later he moved to a chair in botany at the University of Genova where he was professor until 1972. From that year to 1987, he held a chair of botany in Perugia, and he was given the title of Professor Emeritus at Perugia on his retirement in 1987 (Brummitt 2007).

With the publication in 1951 of the systematic account of the gymnosperms and angiosperms collected on the Lake Tana Mission, those of Pichi Sermolli's works that were directly related to that mission came to an end. A promised volume on the vegetation around Lake Tana was never published, and it seems that no account of the ferns and fern allies of the Lake Tana Mission was ever completed, but the observations on the vegetation of western Ethiopia were included in the monographic account of the vegetation on the Horn of Africa that accompanied Pichi Sermolli's vegetation map of the Horn in 1:1000,000 (Pichi Sermolli 1957b). Around 1951, Pichi Sermolli was invited by UNESCO to draw up a report on the arid and semi-arid areas of East Africa (Ethiopia, Somalia, Kenya and Tanzania), with subsequent reports (Pichi Sermolli 1955). In 1954 this earned him a position as a botanist in the 9-member UNESCO Advisory Committee for Research on Arid Zones, a position he held until the end of 1956. Already from the foundation in 1950 of the *Association pour l'étude taxonomique de la flore d'Afrique tropicale* [AETFAT, Association for the Taxonomic Study of the Flora of Tropical Africa], Pichi Sermolli was a member of this organisation and joined various committees, including one for the preparation of a vegetation map of tropical Africa (Aubréville et al. 1959), and later a committee for a map of the whole of Africa and Madagascar (White 1983). As a precursor of this work, he compiled all then existing observations of the vegetation of the Horn of Africa, including his own from 1937, and published the above mentioned monograph *Una carta geobotanica dell'Africa Orientale (Eritrea, Etiopia, Somalia)* [A geobotanical map of Eritrea, Ethiopia, Djibouti and Somalia] with the sources of his classification of the vegetation and description of the types he recognised in that part of Africa (Pichi Sermolli 1957b).

Fig.8. Pichi Sermolli at Kew. The photograph may possibly have been taken during a visit later than the one in 1947, when he identified his collections from the Lake Tana expedition. Anonymous photographer. Photograph at the *Centro Studi Erbario Tropicale*, Florence.

In spite of the dramatic events in 1943-1945, which had estranged Giotto Dainelli from parts of the academic circles at the University of Florence, it was decided that Dainelli should write a foreword to Pichi Sermolli's main botanical account from the Lake Tana mission (Dainelli in Pichi Sermolli 1951: 7-9). It is interesting to compare this with the foreword from the publication of the preliminary results of the Lake Tana Mission (Dainelli 1938). Although some colonialist ideas are maintained in this later foreword, there is more emphasis on what benefit science might bring to the local, indigenous people of Ethiopia. Less clearly expressed is the playing down of Dainelli's original scheme of cooperative research and more emphasis is given to the individual achievements of the scientists, producing results "if not for other purposes I have proposed, at least for the universal advancement of knowledge." Pichi Sermolli, in particular, is praised for tenaciously continuing his research on the material from the mission after the war, "the great storm that hit Italy". Although the results of Pichi Sermolli's research "should have been even more extensive than what is presented in this volume, they are, for the times we live in, already excellent and the author has been able to overcome, with his tenacious enthusiasm, even the serious difficulties that he has encountered along the way."

Giotto Dainelli's views in retrospect of the mission to the study of Lake Tana and on Pichi Sermolli's results (Dainelli in Pichi Sermolli 1951).

As mentioned above, Dainelli's foreword to Pichi Sermolli's monograph of the botanical collections from the Lake Tana expedition, published in 1951, should be seen in continuation of his foreword to the symposium proceedings from 1938. This foreword shows his continued enthusiasm for the expedition, but also some disappointment. The following is a translation of Dainelli in Pichi Sermolli (1951: 7-9).

[P. 7; title:] **Foreword.**

[P. 7] *When, in the autumn of 1936, I went to Addis Ababa to make arrangements with the Governor General of the new territories occupied by Italy in East Africa - arrangements relating to scientific research, which was the essential aim of the* Centro Studi per l'A.O.I." [Study Centre for the Italian East Africa]*, set up at the* Reale Accademia d'Italia *on the initiative of Alberto De Stefani and myself - I immediately drew up a general programme which indicated the direction that this action of ours should take.*

The direction was clearly indicated by the goals that should not be lost sight of in our activity as scholars and, at the same time, as men who know that the world is not only enclosed within the limited circle of their studies. For this reason the first and fundamental aim would have to be the diligent observation and wise evaluation of all the natural conditions - physical, biological, even strictly human - with the unwavering intent of increasing our knowledge of all the elements that make up and animate the various natural landscapes that this Earth offers to our eager curiosity for knowledge. But a second aim, directly consequent to the first, - and for which we, pure scholars, would have essentially offered the richness and variety of our diligent observations to men capable of appreciating and using them for the greater good of both themselves and all - had to be to offer, precisely, the necessary elements for the ever greater valuation of the natural forces and resources that the climate, the geological constitution, the surface soil, the waters, the vegetation cover, even the indigenous peoples with their various physical characteristics and with their varied distribution, with their varied customs in the field of agriculture or animal husbandry or small and primitive local industries, could have brought about an ever greater formation and wider distribution of wealth, to raise the level of human material life. [P. 8] *But a third purpose had still to be derived from it, for it is*

unthinkable to raise the level of human material life without a concomitant rising of its cultural level. This purpose, and it is appropriate to state this, would essentially be important among the indigenous peoples, and to their prevailing benefit, with the spread and intensification of a culture that it is the human duty to instruct in those who do not already possess it.

In consequence of the direction that I had thought should be given to the activity of the Centro Studi per l'A.O.I.*, I certainly did not exclude the organisation of study missions conducted by individual scholars and for special subjects of observation, whenever scientific interest or the wish of the Government advised it. But I had to give preference to the organisation of collective study missions, which, in the chosen region, should bring back all the elements of observation necessary for a truly complete and total knowledge of it. And I wanted to apply this guideline immediately, following, as a good old mountain climber, the aphorism that "the mountaineer must have long legs and a short tongue": an aphorism that should be applied always and by everyone.*

And I chose, for what should have been the first of a long series of collective study missions, the region of Lake Tana, which because of its altitude, its hydrography and its many indigenous ethnic groups presented particular interest. It is not important for me to recall here the names of the young scholars, who constituted a well-prepared and enthusiastic "team" that would leave no gaps in the complete knowledge of the chosen region. It is not important here, because at the time I already had the opportunity to name them all and recall their fields of activity.

Of these activities, the six volumes published between 1938 and 1943 are certain testimonies. Then the great storm hit Italy, several of my young companions were dispersed around the world, and the series of volumes containing the scientific results of the mission to Lake Tana seemed to have been suspended without further hope of continuation. But one of my young men remained on the front line, virtually attached to his own scientific collections, tenaciously resolved to bring the study of them to completion and to offer them, if not for the other purposes I have proposed, at least for the universal advancement of knowledge. [P. 9] *And here is, in this volume and for the most part the result achieved by this tenacious will, the description by Rodolfo Pichi-Sermolli of the rich phanerogamic flora*[2]*, collected during the months of our wanderings around Lake Tana. The study, according to the plan originally made by the author and fully approved by me, should have been even more extensive than that presented in this volume, but, for the times we live in, it is already excellent that the author has been able to overcome, with his tenacious enthusiasm, even the serious difficulties that he has encountered along the way. And I hope that he will also be able to overcome the inevitable difficulties for the publication of a second volume, destined for the characterisation of the various plant formations and associations and therefore for the botanical characterisation of the different types of landscape. As a geographer, even if no longer active and pugnacious, I await this volume with particular interest, also because of the visual memory that I have of those landscapes.*

But while this first volume is being published, I must warmly thank my old pupil and young friend, Rodolfo Pichi-Sermolli, for the heartfelt satisfaction this gives me.

Giotto Dainelli.

Pichi Sermolli continued to be interested in the botany of the Horn of Africa

In 1940, Pichi Sermolli published a study of Cei's collections of ferns from south-western Ethiopia (Pichi Sermolli 1940a), and a few years after the publication of the last

2 Pichi Sermolli (1951) in fact also contained important information about gymnosperms (*Juniperus* and *Podocarpus*), but not ferns and fern allies.

monograph on the Lake Tana collections (Pichi Sermolli 1951), he initiated in 1953 in full agreement with the then director of the Botanical Institute of Florence, Prof. Alberto Chiarugi, the publication of the series of monographic treatments of plant families on the Horn of Africa in the *Adumbratio Florae Aethiopicae* ['A foreshadow of the flora of Ethiopia'], published under his direction. This series was intended for taxonomic revision at the monographic level of vascular plants of north-eastern tropical Africa ('Ethiopia' in the wide sense, Ethiopia, Eritrea, Somalia and Socotra), of which 32 parts were published. Pichi Sermolli is the author of the 12 of these dealing with ferns, and one on Ericaceae in collaboration with H. Heiniger (Pichi Sermolli & Heiniger 1953).

Pichi Sermolli also widened his interests in the African flora and was General Secretary of AETFAT [Association pour l'Etude Taxonomique de la Flore d'Afrique Tropicale, 'The Association for the Taxonomic Study of the Flora of Tropical Africa'] from 1960 to 1963, organizing the 5th Plenary Meeting of the Association at his then current university in Genova, but also with part of the meeting held at his old university of Florence. He also edited the proceedings of the 5th Plenary Meeting of AETFAT (Pichi Sermolli 1965).

In 1966, Pichi Sermolli was awarded the Haile Selassie I Prize for his work on the plant world of the Horn of Africa, a prize which he received in person in Addis Ababa from the hand of Emperor Haile Selassie I. This trip involved also field work in Ethiopia, from which he brought back pteridological collections. In December 1966-January 1967 he undertook another trip to Africa, collecting in Burundi, Kenya and southwestern Ethiopia. The results of the study of these collections, which he studied by comparison of his material with collections in various foreign herbaria are published in a series of papers begun in 1968 and named *Fragmenta Pteridologiae*. This series consisted of 8 contributions, the last of which appeared in 1983. More new fern species from Ethiopia were published in *Novitates Pteridologicae Aethiopicae*, where 3 new species are described.

It was Pichi Sermolli's idea that the monographic contributions to *Adumbratio Florae Aethiopicae* should form the basis for one or several floras of the Horn of Africa. This did indeed happen with the *Flora of Ethiopia and Eritrea* and the *Flora of Somalia,* as far as the appropriate fascicles in the *Adumbratio* were published. However, the progress with the *Adumbratio* was much slower than the progress with the publication of the *Flora of Ethiopia and Eritrea* (published 1989-2009) and with the *Flora of Somalia* (1993-2006). For the *Flora of Ethiopia and Eritrea*, Pichi Sermolli produced a typed check-list of all ferns recorded from those two countries; the actual accounts of all the pteridophyte families were written after Pichi Sermolli's death in 2005 by J.P. Roux, Sebsebe Demissew, Ensermu Kelbessa and Ib Friis, with consultation of own Pichi Sermolli's fern herbarium by Ib Friis, after it had been given to the Natural History Museum of Florence in 2007 to be kept as a 'closed historical herbarium' (Moggi 2009), to be referred to as FI-PS. When the ferns were published in the *Flora of Ethiopia and Eritrea*, Vol. 1 (Hedberg et al. 2009a), the family concept followed that of Pichi Sermolli in the paper *Tentamen Pteridophytorum genera in taxonomicum ordinem redigendi* (Webbia 31: 313-572. 1977) in appreciation of his outstanding work on the pteridophytes in general and on Ethiopian ferns in particular.

CHAPTER 3

Pichi Sermolli's field observations of Ethiopian vegetation

Pichi Sermolli's field observations on the Lake Tana expedition, including detailed descriptions of the entire or various parts of the journey, are published in four articles or book chapters that appeared between 1938 and 1951 (Pichi Sermolli 1938a; 1939; 1940b; 1951), all written in Italian. In the following these are presented in chronological order with a general introduction, and each has been translated into English by the present authors, who have also provided the text in the footnotes or the notes in square brackets. Because the four texts deal either with the entire journey or parts of it, there is of necessity some overlap between them, but often they do complement each other when describing the same part of the journey. The texts in the first three publications specifically discuss published photographs of landscapes and vegetation, and the original illustrations are therefore reproduced here. Pichi Sermolli's text is mostly in the present tense, but has everywhere here been translated to the past tense. Footnotes in the Italian text are indicated as such, and quoted in square brackets near the place in the text which they refer to. Throughout these texts, the term "consorzio" has been translated as "plant community", and the term "formazione" as "plant formation". The term "pascolo", literally meaning 'pasture', has been translated as 'grassland', independent of whether it was grazed by domestic animals or not.

Note also that the altitudes given here are always those of Pichi Sermolli's publications, unless differently specified. The altitudes indicated by Pichi Sermolli may be different from the presently accepted altitudes and usually they are 100 to 200 m. too high. One example is the fluctuating water level of Lake Tana now indicated to be on average at 1,788 m. above sea level[1] (a figure indicated in Google Earth), or as much

1 The words "above sea level" or "a.s.l." are omitted in the translation unless necessary as part of a direct quote.

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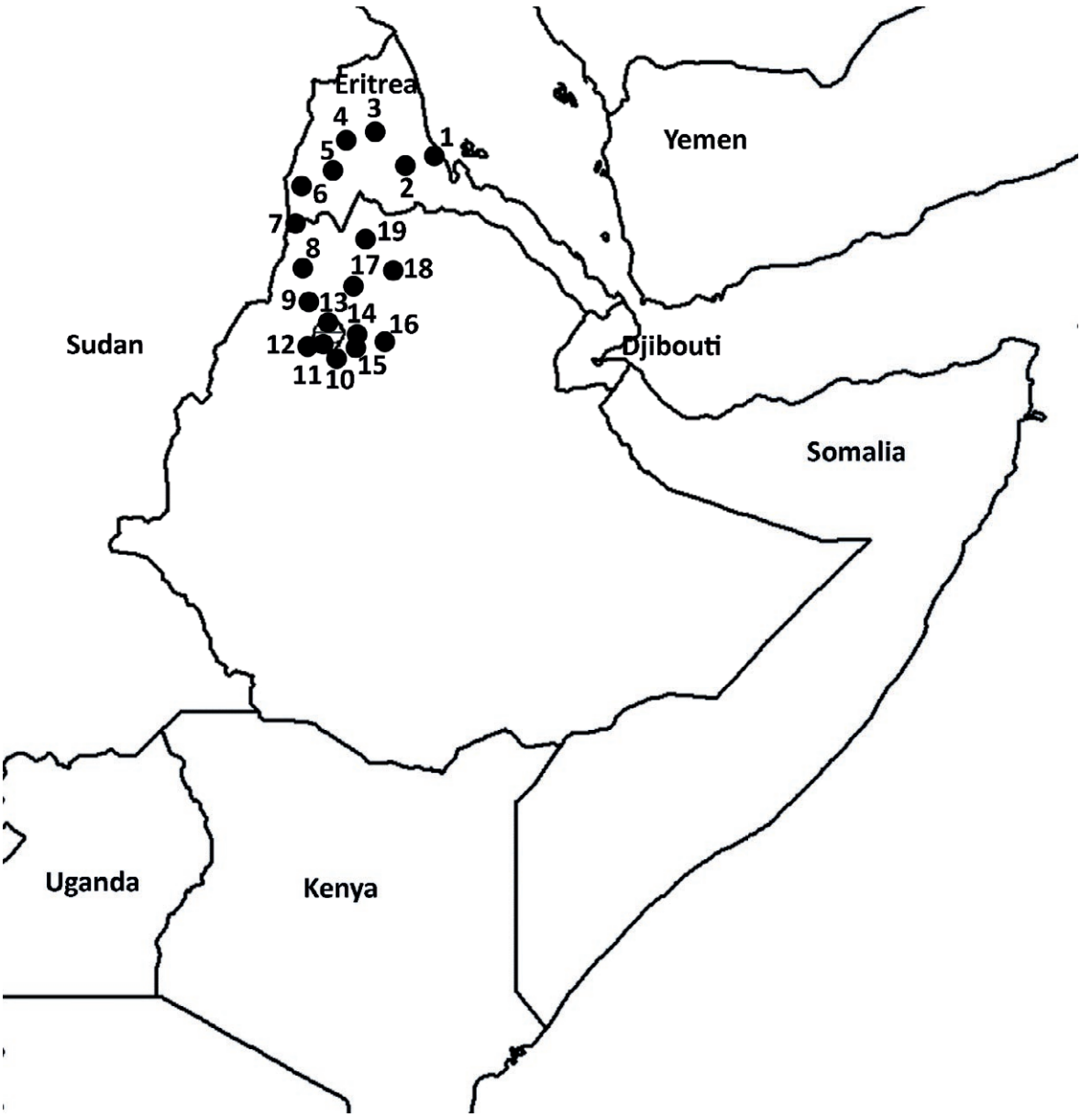

Fig. 9. Base camps, major stops and other major sites of the Lake Tana expedition (in the Semien Mountains only Enzo Minucci and Pichi Sermolli). 1. Massawa. 2. Asmara and Daharo Kaulos. 3. Keren. 4. Agordat. 5. Barentu. 6. Tessenei. 7. Om Ager / Humera. 8. Sengià River. 9. Tucur Dinghia, adjacent localities northwest of Gondar and Gondar. 10. Bahar Dar. 11. Zegie peninsula, Furie. 12. Quonzela [Consuela] and Alefa. 13. Gorgora. 14. Ifag. 15. Zara Enda Michael Church. 16. Debra Tabor. 17. Debarech [Debark]. 18. Semien Mountains. 19. Addi Arcai [Addi Arkay or Adi Arkay]. Detailed maps are shown at the end of the text as Map 1-9.

as 1,830 m. according to Lamb et al. (2007), but in Pichi Sermolli's publications the altitude is indicated as 1,820 m. Pichi Sermolli's altitudes of peaks in the Semien also deviate from what is now accepted; the highest peak, Ras Dejen, is now measured to

be 4,550 m. above sea level, but in Pichi Sermolli's publications the altitude is indicated as 4,620 m., the peak of Mount Buahit is now measured to be at 4,430 m. above sea level, but in Pichi Sermolli's publications the altitude is indicated as 4,510 m. In chapter "10. Pichi Sermolli's localities…" the altitudes indicated by Pichi Sermolli for his collecting sites have been compared with a modern digital elevation model and the deviations specified.

In the following, the first account covers the entire journey and is one of the *relazioni preliminary* [preliminary accounts], published by the members of the Lake Tana Mission after having been presented at a symposium held at the *Reale Accademia d'Italia* in Rome on the 29.5.1938. It is a broad overview, and it is introduced with quick and sketchy notes on the vegetation across the Eritrean highlands to the western lowlands. A later publication (Pichi Sermolli 1940b) provided a more detailed account of the journey from western Eritrean lowlands and up the western escarpment to the watershed around the Lake Tana basin north-west of Gondar.

Having landed at the port of Massawa on the coast of the Red Sea, the party went to Asmara, capital of Eritrea. From there Pichi Sermolli made a number of day-trips, the longest to the hill at the settlement of Daharo Kaulos. The party left Asmara in a convoy of lorries on 18 January, progressing to Tessenei in western Eritrea via Keren, Agordat and Barentu. Across the Eritrean highlands, the vegetation was dominated by secondary evergreen bushland with *Rumex nervosus*, *Merendera bengalensis* and *Ocimum filamentosum*, with species of *Aloe* and *Echinops*. In protected places, there were remnants of a taller woody vegetation with *Olea chrysophylla* [*Olea europaea* L. subsp. *cuspidata* (Wall. & G. Don.) Cif.], the candelabra-shaped succulent *Euphorbia abyssinica* and the liana *Pterolobium exosum* [*Pterolobium stellatum*]. *Ficus sycomorus* occurred in riparian vegetation. In the river valleys and in the landscape in western Eritrea towards the Sudan *Adansonia digitata* and *Sterculia tomentosa* [*Sterculia setigera*] occurred, and also species characteristic of deciduous woodland (*Boswellia papyrifera* and species of *Commiphora*, *Combretum*, *Terminalia*, etc.).

On the plains in the western lowlands the vegetation was different from the dry bushland of the Eritrean highlands, consisting of dry, deciduous scrub with species of *Acacia*. The major rivers running to the north (in Eritrea) and west had riverine vegetation up to one kilometre wide, with an upper stratum of dum palms. Where the flat plains of the Nile Valley extended into Eritrea and north-western Ethiopia, there were vast plains of black soil [black cotton soil; vertisol], with tall grassland and trees of *Acacia seyal* or *Balanites aegyptiaca*. This vegetation, Pichi Sermolli termed "savannah".

The convoy crossed the border between Eritrea and Ethiopia at the towns of Om Ager [in Eritrea] / Humera [in Ethiopia]. There, the party entered the *Combretum-Terminalia* woodland of the western Ethiopian lowlands. Once the Lake Tana mission had crossed the border between Eritrea and Ethiopia, they met a network of small rivers, mostly temporary steams, running westwards from the Ethiopian highlands towards the Sudan, and with a mosaic of narrow belts of riparian vegetation and *Combretum-Terminalia* woodland. Pichi Sermolli referred to many of these streams by name, the major ones being Sua, Soroca and Sengia, but it is mostly not possible for us to identify the exact places where the mission crossed them and to locate the exact route which the mission followed. However, Pichi Sermolli's observations of the plant communities agree with what has been described by Friis et al. (2022) from near the border between Ethiopia and Eritrea. On sloping stony ground the vegetation changed from the wooded grasslands on black cotton soil with *Balanites aegyptiaca* and *Acacia seyal* to deciduous woodland formed mainly by 5-6 m. tall trees of *Boswellia papyrifera*, *Terminalia brownii* and species of *Combretum*, with an undergrowth of high grasses. In other

places *Anogeissus leiocarpa* was the dominant tree. Although Pichi Sermolli noted that *Boswellia* woodland and *Combretum-Terminalia* woodland seemed to replace each other, he did not note any well-defined change in the environmental parameters between the two, nor at the transition to the *Anogeissus* woodland, at which he only pointing out the floristic variation. Because the journey was made in a convoy, it was generally not possible to stop for collecting before a halt at Tucùr-Dinghia near the upper limit of the western escarpment.

Having reached the stream of Soroca, Pichi Sermolli noted that areas with less steep slopes and less rocks were dominated by dense thickets of *Oxytenanthera abyssinica*, often covering large areas on the lower slopes of valleys, but alternating with *Boswellia* woodland and *Combretum-Terminalia* woodland, as the mission ascended to higher altitudes around between 900 and 1,300 m. above sea level in the higher parts of this landscape, near the stream of Avellana [not found on the IGM map in 1:400,000 (IGM 1934-1936a)], there was deciduous woodland with *Terminalia* sp., *Combretum collinum*, *Anogeissus leiocarpa*, *Gardenia lutea* [*Gardenia ternifolia*] and *Bauhinia thonningii* [*Piliostigma thonningii*]. This vegetation gradually changed into semi-evergreen bushland and at an altitude of about 1,700 m. to forest with a dense upper stratum of *Mimusops kummel*, *Ficus riparia* [*F. sur*], *Strychnos unguacha* [*S. innochua*] and *Phoenix reclinata*. Presumably this vegetation required streams or underground water.

Higher up, near the small town of Tucur Dinghia and at around 2,300 m., the vegetation was dominated by a dense canopy of *Acacia abyssinica* with undergrowth, and still higher, at about 2,400 m., by *Olea chrysophylla* [*Olea europaea* subsp. *cuspidata*], *Apodytes acutifolia* [*Apodytes dimidiata*], changing into scrub and montane grassland near the watershed at about 2,600 m. This mosaic of vegetation types that can now be identified as referrable to *Dry evergreen Afromontane forest and grassland complex* (DAF), with Afromontane wooded grassland, secondary semi-evergreen bushland and dry Afromontane forest, is mostly dominated by *Acacia abyssinica*, but in some places, particularly nearer Gondar, also by *Olea europaea* subsp. *cuspidata*. Pichi Sermolli noted that the vegetation on the western side of the watershed of the Lake Tana basin was more dominated by woody plants than the grasslands on the Lake Tana side; he did not comment further, but our own observations confirm this, and we think it likely that the reduced number of woody plants towards Lake Tana is caused by more intense human influence and grazing.

The convoy moved on from Tucur Dinghia to the town of Gondar, where the studies of the Lake Tana Basin began on 26 January. During 3 days in Gondar, Pichi Sermolli collected plants from localities between the town and the watershed to the north. From Gondar the mission moved headquarters to Bahar Dar at the southernmost point of Lake Tana. At that time, Bahar Dar consisted only of houses stretching along one road, running near to and parallel with the lake shore.

From the 30 January to 11 February, the group was located at Bahar Dar. From this base camp Pichi Sermolli collected in many places along the shores of Lake Tana. Pichi Sermolli's main observation from localities around Bahar Dar was that there were four major categories of vegetation, which could be distinguished thus:

(1) A narrow strip of bushland with trees and lianas and little undergrowth of herbaceous vegetation on the lake shore; trees were often growing in shallow water.
(2) A wider strip of bushland om the lake shore with trees interrupted here and there by almost pure communities of *Cyperus papyrus* or swamps with *Polygonum* and various grasses.
(3) Immediately on the inland side of (1) and (2), there was grassland, almost completely devoid of trees.

(4) Further inland, where the lake shore plains ended and low hills or generally rising ground began, there was bushland or wooded grassland, only rarely forest, and then mostly along the Abay River or along the smaller streams.

After having moved the base camp west of Bahar Dar to the village of Furie and the Zegie peninsula, Pichi Sermolli noted differences in the shore vegetation and began a study of the forests on the peninsula. Its canopy was found to consist of the same species of trees as growing on the island of Kebra Uddus Gabriel near Bahar Dar, while the shrub layer was completely replaced with cultivated coffee. In some parts of the peninsula the coffee-forest had been cleared and woodland species such as *Stereospermum kunthianum* had invaded the grassland and scrub. Around the churches on the Zegie peninsula there were patches of woody vegetation with *Podocarpus, Juniperus*, *Mimusops kummel, Millettia ferruginea*, etc., partly remains of the natural forest, but according to Pichi Sermolli the tall trees of *Juniperus* and *Podocarpus* would seem to have been planted by the priests of the churches.

Moving from the Zegie peninsula to the small town of Consela [Quonzela, Consuela] on the western side of Lake Tana, Pichi Sermolli observed further changes in the lake-shore vegetation, with no trees or papyrus swamps, but gentle slopes from the lake shore with gravel, often with clumps of *Kanahia laniflora* towards higher ground. Inside the shores there was a narrow zone with grassland and further inside that zone, there was a zone with shrubs and scattered trees. Even further inland, this vegetation was replaced by wooded grassland or woodland, which seemed no longer to be dependent on the water in the lake. The type of woodland was not easy to classify, but it seemed to contain the same species of deciduous *Combretum-Terminalia* woodland as on the lower altitudes of the western escarpment of the highlands. Along the streams there were *Mimusops kummel* and *Syzygium guineense*. At higher altitudes the wooded grassland and woodland was replaced by dry forest or dense woodland with *Olea chrysophylla* [*Olea europaea* subsp. *cuspidata*] and *Acacia abyssinica*. An excursion across the watershed to a hot spring lower on the western side of it was reflected in the labels of the specimens collected, but no description was published in any of Pichi Sermolli's texts.

Based on observations made on an excursion by boat to the island of Dech [Dek], Pichi Sermolli described the highly cultivated island as having a natural rim of forest with *Syzygium guineense* along the lake shore as in the vegetation type (1) around Bahar Dar. The island of Daga was hilly and covered with forest similar to that on Kebra Uddus Gabriel.

On the 1st of March the base-camp was relocated to the Gorgora peninsula at the northern shore of the lake, where the group stayed until 8 March.

After moving to the northern shore of Lake Tana at Gorgora, Pichi Sermolli noted that the lake shore was rocky and steep, only occasionally with lake shore forests or papyrus swamps. The top of the highest hill of the Gorgora peninsula, Zefen terara, he noted, had a splendid view and had by the Italians been renamed *Cima Mussolini* [Mussolini peak]. The vegetation of that hill was a mixture of deciduous woodland with species of Combretaceae, species of *Acacia* and bushland. On a boat trip to the small island of Birghida Mariam with a church and a monastery, Pichi Sermolli observed that the natural vegetation was mainly replaced with cultivations, but that there were remnants of low forest. An excursion along the southern shore of the peninsula with Enzo Minucci neither resulted in a published record of the vegetation, nor in collections of recent plants, but comprised a visit to a site rich in plant fossils and ruins from the time of Emperor Susenyos (1606-1632), including a church, Maryam Gimp, built by Portuguese missionaries during the rule of that emperor.

On the 9 March the group moved to the small town of Ifag at the northeastern shore of Lake Tana. From there Pichi Sermolli made various excursions near the lake, on the small hills further inland, and on the low mountains that form the eastern border of the Lake Tana basin. Pichi Sermolli studied the landscape further east of the lake on two journeys, one on 12 March on a trip from Ifag to Debra Tabor along a road or track that no longer exists. When moving eastwards from Gorgora towards Ifag on the north-eastern side of the lake, Pichi Sermolli first progressed through the low plains of Guramba on which there were extensive grasslands sometimes flooded at high water levels. North-east of Lake Tana the journey went across hilly areas with bushland and descended to the extensive plains around the small river of Arno, again sometimes flooded at high water levels and with black cotton soil, a very monotonous vegetation with short grass, clumps of *Acacia seyal* and scattered cultivation. The plains extended 20-40 km. from the lake to the rather steep mountains to the east. As the mission visited the area in the dry season, the soil was stone hard and cracked, and very few observations of vegetation and collections of plants were made before the group reached the small town of Ifag. Along that part of the lake near Ifag, Pichi Sermolli observed three zones of vegetation, somewhat similar to those he had noted around Bahar Dar, but without the rim of trees at or on the lake shore:

(1) A strip on the lake-shore with swamps or grassland going right down to the lake, usually narrower than at Bahar Dar.
(2) Above that extensive grasslands as north of Ifag, a vegetation which was often flooded during the rainy season.
(3) Wooded grasslands similar to those seen along the Arno River with short grass and scattered trees, mainly species of *Acacia*; this vegetation extended to the foothills of the mountains east of the Lake Tana basin.

The last base camp was at the forested hill of the church of Zara Enda Michael, the point of departure for Pichi Sermolli's excursions from the 14 to the 19 March, reaching the river Gueldo and localities between Zara Enda Michael and Lake Tana. Zara Enda Michael was situated on a hill to the south-east of the lake, and the forest around the church consisted mainly of *Mimusops kummel*, with two strata of smaller trees and shrubs below. Similar vegetation was found to surround the hill and stretching to the lake shore, but it had in many places been replaced with cultivation. On an short excursion towards Bahar Dar, Pichi Sermolli observed woodland and wooded grassland with *Stereospermum kunthianum* and patches of evergreen trees. A second trip to Debra Tabor was made on the 20–24 March. On the mountains towards Debra Tabor there was moisture-loving bushland and mostly evergreen species of trees, which became dense above 2,500 m. *Acacia abyssinica* was very common and formed a woodland as dense as forest. At the highest points, towards the upper limit of the dense, woody vegetation, the *Acacia abyssinica* was replaced by specimens of *Juniperus procera*. Above 2,700-2,800 m. there was grassland and low bushland, mainly consisting of *Hypericum lanceolatum* [*Hypericum revolutum* Vahl] and *Rosa abyssinica*. Near Debre Tabor and on Mt. Jesus Tabor just south of the town there was scrub of *Erica arborea* on the mountain slopes, and scattered trees of *Hagenia abyssinica* were observed.

On 24 March the group returned to Gondar, where Pichi Sermolli studied the flora around the old castles and churches of Gondar and recorded around these monuments *Olea chrysophylla* [*Olea europaea* subsp. *cuspidata*] and *Juniperus procera*. He thought that the latter were planted, rather than representing direct remains of the original vegetation. Also from Gondar, Pichi Sermolli made an excursion with Enzo Minucci to the area north-west of Lake Tana, more specifically the Celga area, to study the geological stratification of the rocks and lignite with plant fossils.

From Gondar Pichi Sermolli and Enzo Minucci also started their excursion to the Semien Mountains with a caravan of local helpers organised from Debarech. Pichi Sermolli published different accounts of that journey (Pichi Sermolli 1938a, 1939, 1940c, 1951) and in these accounts he sometimes mention different localities. The following is an attempt to fit the various versions of the travel together. Collections were not made at all the sites that are mentioned in the travel accounts referred to above, and it will not always be possible to find the sites in chapter "6. Chronological list …" in this paper. Initially, after having left Debarech, the excursion followed the stream of Addeschie, running in a westward direction from the Semien. There the vegetation was grassland in a zone below the *Erica arborea* bushland, called by Pichi Sermolli "grasslands of the Dega", which extended up to 2,800-3,000 m., past the village of Micciubbi. This grassland had scattered groves of *Acacia abyssinica, Olea chrysophylla* (*Olea europaea subsp. cuspidata*), *Pygeum africanum* [*Prunus a.*], a few specimens of *Hagenia abyssinica*, many shrubs of *Gymnosporia* [*Maytenus spp.*] and scattered patches of scrub of *Hypericum lanceolatum* [*Hypericum revolutum* Vahl] and *Rosa abyssinica*. From Micciubbi, they followed the right side of the deep valley of Mai Beleghes, where today there is the modern road into the mountains towards Cennech [Cennek, 3,714 m] and Mount Buahit [Bwahit, peak at 4,510 m]. This road runs high above the bottom of the valley and the village of Ambaras (3,610 m), and probably Pichi Sermolli and Minucci followed a similar route. In his first detailed paper on the vegetation of the Semien Mountains, Pichi Sermolli (1939) reviewed the zonation of plant communities, although not in a diagrammatic form. Interrupting the review of travelogues, the review is summarised here, from the *Erica* bushland up to the Alpine vegetation on the highest peaks. The giant lobelia, *Lobelia rhynchopetalum,* which Pichi Sermolli considered an indicator of the alpine vegetation, began to appear at ca. 3,200 m., the lowermost ones seen at the village of Micciubbi. At the lowermost altitudes *Lobelia rhynchopetalum* was mixed with *Erica* scrub, which was seen at its lowest altitude at ca. 2,500 m. at the Uolchefit pass [Wolkefit pass to the north of Debark]. At higher altitudes the giant lobelias occurred in short grassland, called by Pichi Sermolli "Upper grassland with *Lobelia rhynchopetalum*." In the valley of Adeschie they observed tree-sized specimens of *Erica arborea*, up to 3 m. tall (in other places, for example near Uolchefit, the tree-like specimens of *Erica* were observed to be 5-6 m. tall) and trunks with a diameter of up to 40 cm. On the slopes of the Beleghes valley, Pichi Sermolli observed a mosaic of scrub and grassland, with *Erica arborea*, *Rosa abyssinica*, *Hypericum lanceolatum* [*Hypericum revolutum* Vahl] and large species of *Echinops*, *E. steudneri* and *E. hoffmannianus* [*E. longisetus*]. *Hagenia abyssinica* was rare. On the slopes of Mount Buahit short grassland was the dominant vegetation. The species changed with altitude and the vegetation thinned out at about 4,250 m., being at this and higher altitudes restricted to sheltered places. Pichi Sermolli also described the way in which the *Erica* bushland was converted to farmland with the cultivation of cereals.

From these observations, Pichi Sermolli concluded that the zone with *Erica arborea* would mostly extend from 2,800-3,000 m. at the lower edge up to 3,000-3,300 m. (but elsewhere, in unspecified localities, the range could be 3,000-3,300 to 3,300-3,700 m., with a vertical transition zone of 200-400 mm in height (Pichi Sermolli 1939: CXIX)). He therefore concluded that at 3,800-4,000 m. the transition from the highest samples of *Erica arborea* bushland to the upper grassland with *Lobelia rhynchopetalum* was complete, and from there the zone of upper grassland with *Lobelia rhynchopetalum* extended upwards to 4,300-4,350 m. Apart from grasses, this zone contained species of *Carex*, herbaceous species of other families and some subshrubs (*Helichrysum citrispinum, H. abyssinicum*, [*Helichrysum splendidum* (Thunb.) Less.], *Thymus* sp., *Blaeria spicata*, etc.).

Where the soil was very stony, *Helichrysum citrispinum* might replace the *Lobelia*. Here, in moist places there were also swamps with large tussocks of *Carex monostachya*, surrounded by species of slender herbs such as *Ranunculus* spp., *Saxifraga hederifolia*, etc.

Above 4,300-4,350 m. to all the peaks in the Semien Mountains there was Alpine vegetation on stony ground, consisting of subshrubs (*Helichrysum citrispinum, H. abyssinicum* [*Helichrysum splendidum* (Thunb.) Less.], etc.), small herbs (*Ranunculus* spp., *Saxifraga hederifolia*, Cruciferae [for example *Oreophyton falcatum*], and various Compositae [for example *Haplocarpha rueppellii*, *H. schimperi*, *Dianthoseris schimperi*]) growing on gravel and among small rocks. Lichens covered the rocks, but also crusted lichens that were detached from their substrates and curled up in globular forms, that might be accumulated like balls in places protected from the wind.

After this review of Pichi Sermolli's observations of altitudinal zonation in the Semien this summary will return to reviewing the travelogues. From Mount Buahit Pichi Sermolli and Minucci descended to the village of Nori (3,560 m.) via the Arcuasie pass (3,740m), along the slopes above Arcuasie Uenz [Arkwasie River] and the western and eastern side of the valley of Mesciaha [bottom of valley 2,480 m; Mescia, Mai Shasha, a stream in the deep valley running to the south out of the Semien], forming the western flank of the Ras Dascian [Ras Degien, Ras Dejen, 4,620 m] massif. This area was covered with short grassland, while the area around Nori was covered with bushland of stunted *Erica arborea*. Photographs from the journey show that this area was sometimes burnt, which was probably the reason why the *Erica* was reduced to low shrubs.

From the area around Nori, Pichi Sermolli and Minucci climbed Mount Beroc Uaha [no height indicated] and descended to the village of Atgeheba and continued to the village of Mecanha [2,840 m.; Mercana], above the Mecana Uenz or Mecanha Uenz, a tributary from the east to the river Mesciaha [Mescia, Mai Shasha]. Three types of vegetation were noted in this area: *Erica* bushland, grassland with *Lobelia rhynchopetalum* and discontinuous Alpine vegetation on stony ground with numerous lichens, called by Pichi Sermolli "stone fields with Alpine type vegetation." In the valleys around these mountains (Mount Beroc Uaha and towards the north Mount Selchi [Silki]), the slopes had almost pure grassland, while the damper valley bottoms had swamps with large tufts of *Carex monostachya*.

To cross the valley of the stream of Mesciaha [Mai Shasha] from Atgeheba to Mecanha [2,840 m.; Mecana], it was necessary to descend to the stream, which was flanked by shrubs of *Salix subserrata* and *Rosa abyssinica*, and also to pass a minor tributary, a stream named Ambiquo. On the slopes was bushland of *Ocymum* [*Ocimum* sp.] and *Rumex* [*Rumex* sp.], with *Aloe* on stony soil and at low altitude scrub formed of low specimens of *Euphorbia abyssinica*. From there, Pichi Sermolli and Minucci ascended Mount Ualta and Mount Ancua [no altitudes indicated, part of the mountain complex around Ras Dascian, and it is now difficult to identify the individual peaks], where the valleys had grassland with *Lobelia rhynchopetalum* and more *Carex* in the herbaceous stratum than seen in the previous sites.

Having continued to Ras Dascian [4,620 m.; Ras Dejen] and Mt. Lagata [location and altitude not traced], Pichi Sermolli and Minucci went northwards past the Metelal pass (3,860 m), Mount Chiddis Arit (4,532 m), and towards Mount Abba Jared [4,520 m] and Mount Selchi (4,475 m.) [Silki], in order to end up again at Nori. From Nori, they descended along a ridge below the Suana [Sauima, Suonha] peak and from there to Addi Arcai. Along the descent they met the plant communities of the ascent in reverse order: *Erica* bushland, scrub with *Rosa abyssinica*, *Hypericum lanceolatum* [*Hypericum revolutum* Vahl] and *Echinops steudneri*. Further down, they met open scrub and wooded grassland with species as around Lake Tana, such as *Gardenia*, *Stereospermum*

kunthianum, *Ficus vasta*, *Croton macrostachyus* and species of *Acacia*. At Addi Arcai a vehicle was awaiting for them and in two days transported them to Asmara and Massawa, from where they embarked for Italy.

The following texts are the translations of the original texts. As mentioned above, the papers do to some extent overlap each other and the place names are sometimes spelt differently in the different papers, but the full texts are useful to illustrate as many aspects of Pichi Sermolli's observations as possible.

Botanical research in the Lake Tana region and in the Semien (Pichi Sermolli 1938a).

The following is a translation from Italian of the text of Pichi Sermolli's contribution to a conference held about a year after the members of the Lake Tana mission had returned to Italy. The text is translated from the printed proceedings (Pichi Sermolli 1938a). It gives a first account of field observations made on the entire journey and a summary of the material and data collected. In the text for this paper, there are no references from the text to the illustrations; we have connected text and illustrations by footnotes. The rules followed in these four translations of Pichi Sermolli's descriptions of vegetation are the same as the ones followed in the previous reviews of more general text.

[P. 77; title] **Botanical research in the Lake Tana region and in the Semien.**

The Mission of the Royal Academy of Italy, directed by His Excellency Giotto Dainelli, followed an itinerary in East Africa that was very interesting for the botanical research entrusted to me.

We landed in Massawa during the first ten days of January, and we soon reached Asmara, where we stayed for a week for the last preparations. During these days, I had the opportunity to make three trips in the surroundings of the city. From this summary look at the vegetation on this part of the Eritrean plateau, documented by a small collection of plants, I drew useful comparisons with the vegetation of the Ethiopian plateau, which I had to study more particularly.

Leaving finally from Asmara in order to reach Lake Tana, the destination of our research, we followed the route through the western lowland, starting from Asmara to Agordat [15° 33′ N, 37° 53′ E] *in order to descend from the highland, then from Agordat to Tessenei* [ca. 45 km. from the Sudan border; 15° 06′ N, 36°39′ E]*, then to Om Ager*[2] *and then to the Baker River*[3] *in the western lowland, finally in the region that extended from the Baker to the watershed of the Tana River basin; in these regions there were many types of vegetation, and the area was very interesting for the study of their altitudinal succession.*

The first section, which went from the arid shrubby vegetation of the Eritrean plateau around Asmara to the plant communities with Acacia-species around Agordat, made it possible to observe a complex succession [p. 78] *of the altitudinal limits of the main plant formations. Near Asmara, the arid vegetation of the plateau is formed by various species of shrubs, among which* Rumex nervosus *and* Meriandra bengalensis [Meriandra dianthera] *dominate, interspersed with a low herbaceous vegetation. Descending from the edge of the plateau towards Agordat* Olea chrysophylla [Olea europaea subsp. cuspidata] *appears; this species is always represented by isolated specimens that occur in the middle of the shrubby vegetation*

2 Om Ager is a small town on the present border Eritrea and Ethiopia, close to the Sudan border, opposite the now much bigger town of Humera on the Ethiopian side of the border; 14° 20' N, 36° 38' E.

3 The name of this river is spelt "Bacher" on the map IGM (1938: Sheet 9); according to this map, a road towards Gondar crossed the river at ca. 14° 00' N, 36° 58' E.

characteristic of the plateau. Lower down, this sparse vegetation with Olea chrysophylla *was replaced by a vegetation with* Euphorbia abyssinica*, which continued to the Anseba River, near Elaberet.*[4] *Here, the first specimens of Baobab* (Adansonia digitata) *appeared, majestically overhanging a stratum of deciduous species dominated by species of* Acacia.

This landscape and vegetation accompanied us to the base of the edge of the Eritrean Plateau, where it meets the plain of Agordat that was crossed by the Barka River.[5] *A spiny shrubby vegetation with various species of Acacia and a very scarce herbaceous layer characterized this alluvial plain, which extended almost as far as Tessenei.*

Rare chains of low hills, especially near Barentu [15° 07′ N, 37° 36′ E], have a completely different vegetation.[6] *They were covered by a thick bush of deciduous plants, with a few species and specimens of* Acacia*, while the river of Gasc*[7] *and Barka, which furrowed this plain, flowed between beautiful groves of Dum palms* (Hyphaene nodularia [H. thebaica (L.) Mart.]) *that extended along the streams, where they formed a plant community one kilometre wide or even wider. The wonderful luxuriance of these palm groves offered us an example of what constant and abundant presence of water in such a hot climate means. Under the palms, the foliage of which form a continuous cover, there was an undergrowth of shrubs and shade-loving grasses, which here enjoyed the relatively humid and cool environment suited to their ecological needs.*

From Tessenei to Om Ager and up to the base of the Ethiopian plateau, the vegetation was markedly xerophilous. Extensive grasslands [p. 79] *with tall grasses (1.5–2 metres) were interspersed with stretches of typical savannah* [wooded grasslands]. *The widely spread trees above the high grass communities were mainly represented by* Acacia seyal *or* Balanites aegyptiaca *or sometimes by the two species together.*[8]

From the Baker to the Sengia River,[9] *that was up to the altitude where we began to reach the edge of the Ethiopian plateau, the territory was covered by two predominant plant formations. The first of these, which occupies the territory from the Baker to the Soroca River*[10] *and from the Bascura to Sengia River, was a rather thick scrub, formed mainly by* Boswellia papyrifera, Terminalia brownii *and species of* Combretum*, interspersed with various shrubs, with an undergrowth of high grasses sparse on rather stony ground; this scrub was rarely interrupted by short stretches of savannah* [wooded grassland]. *The second, which extended from the Soroca to the Bascura River, was a very dense thicket of* Oxytenanthera abyssinica [the lowland bamboo] *with infrequent trees belonging to the family Combretaceae.*[11] *The region covered by this plant community* [p. 80] *had more gentle slopes than the one described above, and occurred on less rocky terrain, but with more marked characteristics of aridity. In this*

4 Anseba River is a tributary of the Barka River, rising near Asmara and merging with the Barka River near Agordat. Elaberet is a small town on the road between Asmara and Keren at 15° 42′ N, 38° 38′ E].

5 The Barka rises just outside Asmara and flows in a north-western direction through Agordat, merging with the Anseba River near the border with Sudan.

6 Pichi Sermolli took a photograph of the vegetation at Barentu (see archival font Dainelli (501), image 696, in the *Archivio fotografico* of the *Società geografica italiana*).

7 The Gasc rises near Asmara and flows south and westward and for some distance forming the border between Eritrea and Ethiopia. There it is known as the Mareb.

8 Pichi Sermolli took a photograph of the wooded grassland with *Balanites aegyptiaca* on black cotton soil near Om Ager. See archival font Dainelli (501), image 697, in the *Archivio fotografico* of the *Società geografica italiana*.

9 Sengia River rises north-west of Gondar and runs in a mainly northern direction to merge with the Angareb River that crosses the border into Sudan, where it is an important tributary of the Nile.

10 Soroca River rises in the Tsegede Hills, flowing westwards to join the Angareb River.

11 Fig. 10 (Fig. 1 in Pichi Sermolli (1938a)) illustrated this vegetation.

Fig. 10 (Fig. 1 in Pichi Sermolli 1938a). *Oxytenanthera* thicket in the lowland.

district the vegetation was extraordinarily homogeneous, in fact the Oxytenanthera *thicket was never interrupted by stretches of savannah or other types of scrub, as happened in the territory between the Baker and the Sengia Rivers.*

From the Sengia River up the edge of the Ethiopian Plateau, in fact up to the Chercher Pass, which represented the watershed delimiting the Lake Tana Basin, there were a range of landscapes with characteristic vegetation that can be classified into four main types:

1. A basal strip of thick woodland, Arduina edulis [Carissa spinarum L.], Gardenia, Anogeissus, *etc.;*

2. A strip of very dense forest, very humid, furrowed by frequent streams, with evergreen woody plants, lianas, epiphytes, etc., reminiscent of the tropical forest;

3. A strip of thicket of a drier type, very sparse, with a predominance of Acacia abyssinica;

4. A kind of grassland with scattered groups of shrubs and some rare trees (Acacia abyssinica, Olea, *etc.).*

These, broadly speaking, were the main landscapes and vegetation types in the territory that the mission crossed to reach the watershed of the catchment area of Lake Tana.

Throughout the trip from the Eritrean border to the highlands, the speed with which we moved from place to place did not allow me to collect specimens of plants, other than in small numbers, and only in Tucur Dinghia, where we stopped for one day, could I make a small excursion that yielded a handful of plants whose study will allow me to outline briefly the flora of this place.

We arrived at Gondar towards the end of January and stayed there for three days because of the need to organize the various functions and services. During this short period, I made three excursions to the hill of Chercher to visit the northernmost sector of the highest part of the Lake Tana *Basin; this side had a slightly different vegetation from that of the northern side of* [p. 81] *Chercher towards Tucur Dinghia. It consisted mainly of grasslands with sporadic trees in the highest part and widely spaced shrubs and trees in the lower part.*

Above Gondar, the slopes were very stony, barren and with very little tree vegetation, represented mainly by Olea chrysophylla [*Olea europaea* subsp. *cuspidata*] *with the trees very distant from each other. The dominant type of vegetation in this region, however, was represented by bushes of rare shrubs more or less scattered and interspersed with stretches of low herbaceous or suffruticose vegetation. Two other excursions made at the end of the expedition, during the days when we stopped in Gondar for the preparations of the return, allowed me to see the region along the road to Debarech. The flora of this part of the basin of Lake Tana did not differ substantially from that of the region described above; the only new element worth mentioning here was* Erica arborea*, which I never found in the other places I visited north of Gondar.*

From Gondar we moved through the territories of the eastern shore of the lake, to Bahar Dar where we systematically began our research. During the time we spent here I made several excursions on routes that radiated from Bahar Dar in different directions. So I travelled the shore of the lake to the east and west of Bahar Dar and I also made excursions in the hinterland to the south and west, on the banks of the Blue Nile and adjacent territories.

Although, for reasons beyond my control, I could not get far from the shore of the lake, I was able to get a good idea of the vegetation of this part of the basin and collected abundant material thanks to these excursions. In this vegetation, we could schematically distinguish three main aspects. The first aspect was represented by a narrow strip on the lake shore, which had the appearance of bushland with trees, composed of various species, [p. 82] *mostly trees and lianas, and with little herbaceous vegetation. This lakeside plant community was interrupted here and there, particularly in the inlets, by pure plant communities of Cyperus papyrus or by swamps with* Polygonum *and various grasses. Immediately outside the wooded strip there were strictly lakeside, uninterrupted stretches of grassland, almost completely without trees, and interrupted only by frequent cultures. A third type of vegetation was found further away from the lake, where the plain ended and systems of low hills began to rise. The vegetation of this area was formed by a more or less dense scrub, here and there frequently thinned, until it passed gradually into a kind of savannah* [wooded grassland]*. Both in the bush and in the savannah, tall grasses and various abundant shrubs formed the typical vegetation. The trees were mostly represented by Combretaceae, of* Gardenia*, and several species of* Ficus *and* Acacia*, etc.*

For each of these types of vegetation I examined the floral composition, the distribution and the main statistical-ecological characteristics.

Even on the banks of the [Blue] *Nile, bordered by lush papyrus, there were discontinuous stretches of forest. Here, contrary to what happens in water-poor districts, the vegetation was mostly composed of evergreen plants with a lush habit. Lianas and epiphytes abounded, while grasses were very scarce. The soil was impregnated with water and covered with a layer of abundant plant debris.*

Immediately outside this strip of forest, where the influence of water was no longer felt with such intensity, there was a kind of savannah with high grasses and rare small trees.

Fig. 11 (Fig. 2 in Pichi Sermolli 1938a). Forest vegetation on the island of Kebra [Chebra] Uddus Gabriel.

From Bahar Dar I also made two excursions with a motorboat to the islands of Abba Cherima and Kebra Uddus Gabriel, [p. 83] *the largest of the islands located near Zeghie.*[12] *On the latter, I was able to collect an abundance of material and make many observations and notes. This small island, which rises from the water in the shape of a cone, is covered by a very impressive vegetation. The crowns of very tall trees,* Mimusops kummel, Millettia, Albizia, *etc., intersect each other, forming a dense and shady forest under which many shrubs and a large number of lianas and epiphytes occur. Here and there where the forest was interrupted the ground was occupied by crops: coffee, corn and teff, but the forest tended to invade abandoned plots fast, especially with shrubs that invaded more quickly.*

From Bahar Dar we went to Furie, near Zeghie, where we established a new base, from which I made a series of excursions. I made a trip along the lake shore to the south, [p. 84] *an excursion to the west, one to Mount Woghelsa* [Monte Vuoghelsa], *located in the south-west, and finally three excursions to the Zeghie peninsula proper. The landscape here was very similar to that of the surroundings of Bahar Dar and we could distinguish the types of vegetation already described. Communities of papyrus were rarer because the lakeside was, on this side, formed by blocks of compact stone and the inlets were less marshy. The other types of vegetation were basically the same.*

The Zeghie peninsula was of particular interest and was mostly occupied by areas with cultivation of coffee. The peninsula was covered by dense forest of a rather dry type with very

12 Fig. 11 (Fig. 2 in Pichi Sermolli (1938a)) illustrated this vegetation seen from Lake Tana.

tall trees of luxuriant growth. The undergrowth was generally missing, because it had been removed by the local people in order to grow coffee. The only representatives of the undergrowth were the trees that the local people had left to limit the various fields in which the coffee was grown. Coffee was cultivated exclusively in the shade of the trees of the forest, which reached a height of 15-25 metres and formed, with their umbrella-like crowns, a relatively continuous but thin canopy layer. Under this canopy, coffee was cultivated; the plants were rather scattered and little cared for, mainly because they were rarely renewed. The soil under them was occasionally freed from weeds, but even this operation was not performed often enough.

*Where the forest was left in its original state, one could observe how its physiognomy and floral composition was very similar to that described for the island of Kebra Uddus Gabriel. It was dominated more or less by the usual species (*Millettia, Albizia, Mimusops, *etc.), often represented by tall specimens, and an undergrowth of saplings with low or scarce herbaceous layer. Lianas and epiphytes climbed on and adhered to the large branches of the trees.*

Where coffee was grown, there were isolated houses or groups of three or four huts; these were connected by a real labyrinth of small tracks that crossed the coffee fields in every direction. [P. 85] *The most important fields were limited by hedges formed by trees and shrubs that probably represented the original species in the forest. In every part, one could see the radical transformation that the vegetation has undergone over time due to the action of man, both as destructor of the species in the undergrowth, which were harmful to the cultivation of coffee, and as conservator of the species of tall trees that with their crowns provided the shade necessary for the good development of this crop.*

*On the peninsula, however, there were some stretches in which the forest had been completely destroyed. These spaces were occupied by grassland with very tall grasses (1.50-2 metres), and only here and there a few rare trees (*Cordia, Stereospermum, *etc.).*

Another example of profound anthropic modification was the vegetation that occurred around the Coptic churches; they were surrounded by magnificent and long-living examples of Juniperus *and* Podocarpus*, planted by priests and religiously respected. In general, the surroundings of the churches offered aspects of particular beauty; besides the presence of these majestic trees, also because parts of the original forest were for religious reasons very often respected in the original state. High and robust red-fruited* Mimusops kummel*, gigantic specimens of* Millettia ferruginea *with large pods showed us what the vegetation of this area must have looked like in the past. Given its peninsula shape, which protrudes for a considerable distance into the lake, the Zeghie was much influenced by the beneficial proximity of water.*

Another place I visited during this time was the Abba Cherima Island, formed by a bank of large stones emerging from the water and covered almost exclusively by papyrus. I could not reach the small central part of the island because of the exceptional density of papyrus along the shore, but I could see it from a tall rocky outcrop near the bank of the lake; it seemed to consist of a swamp of grasses and Polygonum.

[P. 86] *Around the 20th of February, we moved again along the western shore of the lake and relocated at Consela* [Quonzela, Consuela].

The shores around the mouth of the Piccolo Abbai [Little Abay River] *were significantly different from that of the south-western part of the lake. The Piccolo Abbai flowed into Lake Tana with a large estuary, swamping a very large area. In this area papyrus formed an almost pure and extensive plant community that stretched far into the lake. The abundant silt that covered the bottom of these shallow marshes offered an environment well adapted to this species, which here was growing with a lushness and density rarely seen anywhere else. Here and there, where the water was shallower and the silt emerged, the marshes were home to various grasses and species of* Polygonum.

From the Piccolo Abbai [Abai, Little Abay] *and further to the north, the lakeside had a completely different appearance. In fact, while to the south it was formed by a slope of*

Fig. 12 (Fig. 3 in Pichi Sermolli 1938a). Savanna [wooded grassland] vegetation in the surroundings of Consela [Quonzela, Consuela].

uniform height and smoothed by the cleaning action of the waves, interrupted by small coves where clumps of papyrus developed, here the lake shore descended with a very gently slope to the lake. This kind of beach was mostly formed by large pebbles and stones mixed with small patches of gravel.

This different shaping of the ground greatly influenced the vegetation of the shore, which was particularly scarce here. A few specimens of Kanahia laniflora *and another Asclepiadaceae were the only plants present and they never formed dense communities.*

Immediately above these narrow, almost deserted beaches began a plant community of shrubs with scarce trees and a very discontinuous herbaceous ground cover. The poverty of this vegetation was due to the nature of the substrate, with large stony blocks, and a scarcity of soil.

At some points where alluvial deposits had formed, mostly where some small streams flowed, and where an abundant layer of soil had accumulated, there was grassland with tall species, [p. 87] *which, however, in many places was devoid of trees, in others had trees such as* Acacia abyssinica, *various other species of* Acacia, Cordia, *etc.*

Even further away from the lakeshore, where the slope began, the landscape consisted of a succession of steps and hills towards the watershed, which in this part of the shore was rather close to the lake; here, the vegetation began to take the appearance of savannah[13]

13 Here "savannah" probably means both wooded grassland and *Combretum-Terminalia* woodland.

[wooded grassland] *or bush or a series of intermediate physiognomies between these two plant formations. Here and there, where the slope was interrupted by shelves, which might even extend for 2-3 km, one would find grassland that was largely cultivated by the local people residing there.*[14] *For the most part, these flat steps were crossed by streams, clearly visible even from afar due to the bands of evergreen tree vegetation (*Mimusops, Syzygium guineense, Arduina edulis [Carissa spinarum L.]*, etc.) that occurred along them.*

Even further up, towards the watershed, Olea chrysophylla [Olea europaea subsp. cuspidata] *began to appear, accompanied by* Protea [p. 88] *and large specimens of* Acacia abyssinica. *Often this vegetation thickened to form real forests, where in the shade of the large umbrella-like crowns in the canopy a quantity of shrubs, lianas and various other plants developed a lower stratum.*

Also from Consela [Quonzela, Consuela]*, as from the other bases, I made some excursions along the lakeside and one up to the watershed, which I crossed to go to Alefa and from there up to Full-uaha-Muhat (Amharic name, meaning the Muhat hot spring).*

Before moving to Gorgora I also made an excursion to Deck Island and the nearby Daga Island.

The island of Deck is completely flat. The vegetation that covers it is very much affected by the intense cultivation of the land which is practiced there. Here and there, in the middle of the fields of teff and dagussa, one could notice patches of natural vegetation, represented by a rather arid type of bush, the most important components of which were Ficus vasta and other very large species of Ficus, Cordia abyssinica [Cordia africana], Cassia, *lianas and shrubs in large quantities, mostly found around the trees.*

There is also on this island a strip of lakeside vegetation, not very wide, but very well marked, which recalled that of the lakeside near Bahar Dar. Very dense communities of papyrus occupy the inlets, and between these stretches of cliff that rose a few meters out of the water were covered with a magnificent wooded vegetation with a dominance of Syzygium guineense. *Inside the zone at the inlets suitable for papyrus the soil was less impregnated with water and small swampy meadows with grass formed the transition to the bush. In these meadows there were specimens of* Salix.

Daga Island differed greatly from Deck Island. Unlike Deck Island, it was mountainous and rose about fifty meters above the water level; it was also much smaller. Its vegetation was very similar to that of the island Kebra Uddus Gabriel, both physiognomically [p. 89] *and floristically. Here, too, on the highest point of the island, there was a church, surrounded by magnificent examples of* Podocarpus *and* Juniperus *and by small fields cultivated with coffee, teff, dagussa, etc.*

We arrived in Gorgora at the beginning of March and stayed for a few days, which we spent exploring the surroundings of the village. I made several excursions, visiting the mountains south of the village, the plain of Quami, and I made an excursion along the lake shore to Sesbana; I also visited the island of Birghida Mariam. A truly lakeside vegetation was represented here only in some places; in fact, for the most part, this stretch of lakeside was mountainous with steep cliffs bordering the lake. Only a few trees of Syzygium guineense *seemed to represent the lakeside vegetation, so easily seen in many other parts of the lake shores. This fact was particularly evident on the southern side of the highest peak [of the peninsula], the so-called* Cima Mussolini. *In other points, such as north and west of Gorgora, there were very large and extensive plains along the lake shore, occupied by vast grasslands (the plain of Guramba). At the edge of these grasslands towards the lake there were some shrubs in places*

14 Fig. 12 (Fig. 3 in Pichi Sermolli (1938a)) illustrated the wooded grassland near Quonzela [Consuela Consela].

where there would elsewhere be a wooded lakeside strip. Sometimes these grasslands without trees made the transition to the vegetation of the low hills, which were covered by a kind of savannah [wooded grassland], where the trees consisted of several species of Acacia. *In some places these grasslands [near the lake shore] were interrupted by stretches with sporadic trees.*

The vegetation on the slopes of the Gorgora hills differed considerably, both in appearance and in floral composition, from that of the other areas visited. These slopes held an intermediate type of vegetation between bushland and savannah, but more like the latter. High grasses and various shrubs occupied the space between the trees. The main components of these plant communities were Euphorbia abyssinica, Odina [Ozoroa] *sp., various species of Combretaceae, various species of* Acacia, *etc. At the points where the steep slopes were interrupted by a shelf, this would be occupied by a* [p. 90] *formation with the physiognomy of savannah* [wooded grassland], *with a ground cover of grasses (50-70 cm high) and trees, mainly* Acacia seyal, Acacia *sp., and, much rarer,* Gardenia.

The islet of Birghida Mariam, although mostly cultivated, preserved some original patches of forest, which was low, but very interesting because of its floristic components. Here, in a cove, there was a beautiful community of papyrus, within which there was the usual swamp with grasses and Polygonum. *The grass* Arundo *was particularly abundant on this island (and even more so on a nearby islet).*

The excursion I made to the lake shore south [and west] *of Gorgora was very instructive to give an overview of the landscape and the plant communities, and particularly because of a collection that the geologist of the Mission, engineer Minucci and I made of abundant, but unfortunately not very well preserved phytopalaeontological material, consisting of imprints of fossil leaves. The fossiliferous deposit was located along the lake shore near the village of Sesbana, in an old stone quarry from the time of the Portuguese occupation.*[15] *The imprints consisted largely of leaves of Angiosperms.*

From Gorgora, we went on to Ifag on the east shore of Lake Tana, crossing the Guramba plain and almost reaching Gondar; from there we took the road towards Bahar Dar, which we had already covered at the beginning of the expedition.

The plain of Guramba consisted of an immense grassland absolutely devoid of trees.[16] *Only here and there, at a distance of 10-12 kilometres from each other, there were groups of huts and a few churches surrounded by* Eucalyptus.

As we gradually got closer to Gondar and began to climb the very slight slope towards the mountains that close the basin to the north, the vegetation was enriched more and more with species of trees, until it became a real bush, here and there interrupted by areas of grassland and crops.

[P. 91] *The vegetation along the road from Gondar towards the south was truly bush-like with different components.*

15 No village of the name Sesbana has been seen on any map; Chiari (2012: 136) locates the stone quarry from where the Portuguese Jesuits extracted the white tuff of which their church Maryam Gimp and parts of Emperor Susenyos' palace were built at a promontory on the western shore of the Gorgora Peninsula at 12° 15' N, 37° 10' E. Near the old quarry there are ruins of an old church named Selassie, a modern church and, slightly further inland, a village of which we have been unable to ascertain the name. On his joint trip with Pichi Sermolli to the quarry, Enzo Minucci took a number of photographs of the ruined Portuguese church and Emperor Susenyos' palace. See archival font Dainelli (501), images 582, 583, 584, 585, 586, 587, in the *Archivio fotografico* of the *Società geografica italiana*.

16 According to IGM (1934: sheet 9), Guramba is a market town at ca. 12° 22' N, 37° 22' E.

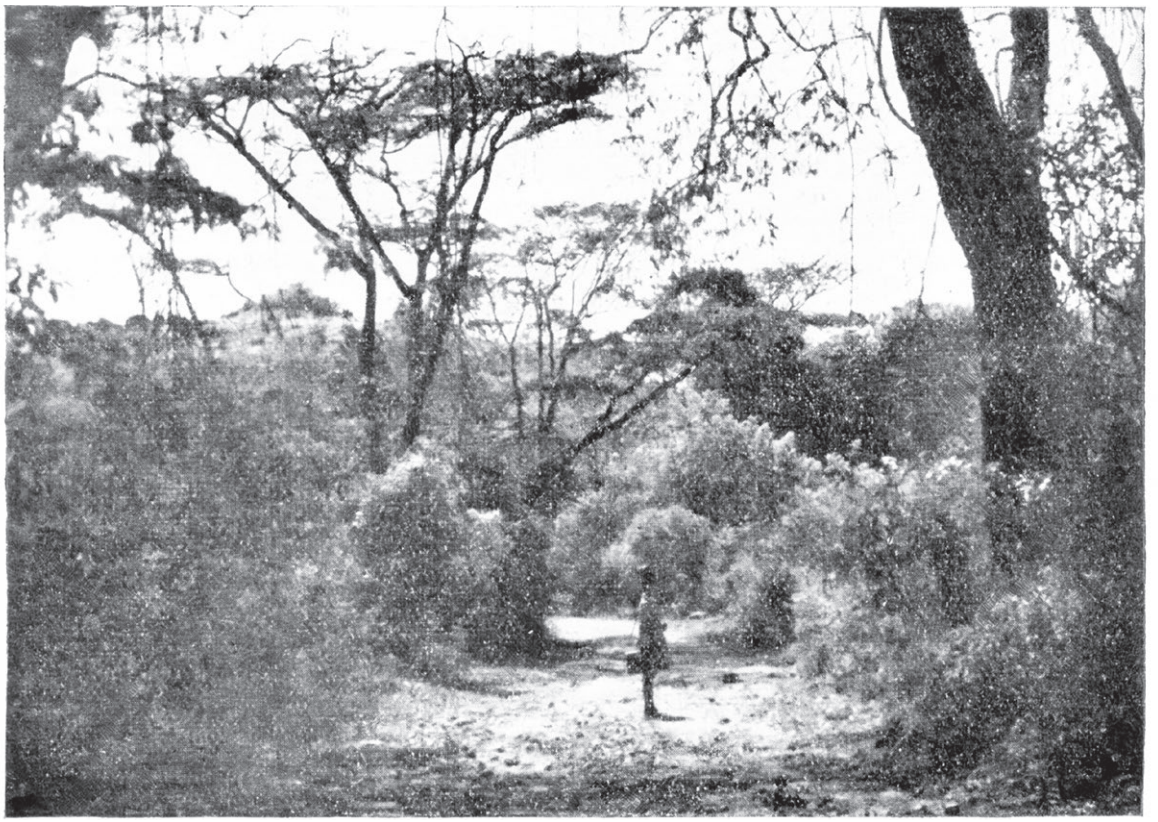

Fig. 13 (Fig. 4 in Pichi Sermolli 1938a). Evergreen scrub with trees (*Acacia*) in the low mountains between Ifag and Debre Tabor.

> *However, we soon descended to the plains of the Arno River,*[17] *where the vegetation took on an extremely monotonous appearance. The soil was black or dark, very compact, in clumps of an almost stony hardness, with numerous wide and deep cracks, often even 1.50 m. deep. The vegetation of these plains looked like a savannah [wooded grassland] with not very high grasses (50-70 cm) and occasionally dense trees, mostly represented by* Acacia seyal *and other species of* Acacia. *Part of the land, however, was exploited by the local people, who cultivated teff, dagussa, etc. The crops were mostly limited to a few hectares of land around the groups of huts. In this area there was a very notable scarcity of water; there were only few streams that crossed this plain, and these streams were often dry.* [P. 92] *The area was located between the grassland behind the strip of lakeshore vegetation and the base of the mountains that delimit the basin of Lake Tana to the east. The type of savannah with* Acacia seyal, *which was restricted to flat land, was not found on the western shore of the lake, where the land more rapidly, but gently, would rise to the slopes of the surrounding mountains. On the eastern shore, however, the mountains would rise abruptly from the plain, but this was very wide (up to 20-40 km). This plain, as I could see during the time we stayed south of Ifag, was the home of three basic types of vegetation.*

17 According to IGM (1934-1936: sheet 9), Arno is a small river crossed by the route of the expedition at ca. 12° 07' N, 37° 39' E.

(1) A strip at the lake shore with grassy swamps, Cyperus *sp.,* Polygonum *sp. and grasslands interrupted by groves of trees, which were mostly evergreen.*

(2) A large grassy meadow [moist grassland] further inland, very deep, completely without trees and flooded during the rainy season, and

(3) finally a savannah of the type described for the plain of the Arno River. This savannah reached to the base of the mountains.

The slopes of these eastern mountains, which I visited on two excursions from Ifag to Debra Tabor (March 12; March 22-24), were covered by a dense, rather moisture-loving bush, mostly formed by evergreen species, lianas, some epiphytes, shrubs and abundant herbs. At about 2,500 meters above sea level this bush-like vegetation became very dense, with clear predominance of evergreen plants, and with a great frequency of Acacia abyssinica. *Many new constituents, missing at the bottom of the mountains, appeared at this altitude and the vegetation became greener, denser and more forest-like. The main species that dominated this vegetation were* Nuxia, Buddleja [Buddleia], Osyris, Myrsine, *etc.*[18]

Towards the top, almost at the upper limit of the bush and forest, I also noted specimens of Juniperus procera*, which were not very abundant, but appearing very robust.*[19]

Above this vegetation of bush, woodland and forest, the tree species thinned out more and more up to about 2,700-2,800 m. in the area near Debra Tabor, where grasslands and plant communities of bushes of low shrubs and subshrubs dominated, almost always without trees.

[P. 93] *The grasslands had a particularly interesting appearance. They were generally extensive, interrupted here and there by also extensive plant communities of low shrubs, almost exclusively consisting of* Hypericum lanceolatum [Hypericum revolutum Vahl] *with some sporadic herbaceous plants and some specimens of* Rosa *sp.*

These grasslands covered all the gentle slopes that extended as far as the eye could see towards Mt. Guna [peak at ca. 11° 43' N, 38° 14' E] and generally all around Debra Tabor.

However, the steep slopes of the hills that rose near the city and elsewhere in many parts of the plateau had a different vegetation, consisting of dense communities of bushes of many species, which hosted many lichens, while herbs and ferns densely covered the ground, which was large grained and mixed with abundant stones and boulders. Here I found, on Mt. Jesus Tabor, Erica arborea*, represented by specimens only 30-60 cm high and rarely flowering. Here as elsewhere around the churches there were specimens of* Juniperus procera *and various species of* Eucalyptus. *I also noted* Hagenia abyssinica *in the surroundings of the city.*

From Ifag we went south and camped at Zara Enda Michael, near the forest surrounding the Coptic church of that name. The time spent here was not only used for the study of the forest adjacent to the church, but also on an excursion to the shore of the lake, which was not covered by the usual woody vegetation of saplings, shrubs and tall grasses. The forest, instead, consisted of a consortium of tall and leafy specimens of Mimusops *that formed a green canopy under which trees and shrubs could grow. Grasses were completely or almost completely missing, perhaps because of the poor light that penetrated through these three layers of dark and dense foliage. These three layers, however, were very lush and the density of the species that composed them was very large. The soil was very thick (1-1.50 m), fine-grained, cool and moist. I took various measurements of soil and air temperature in this environment, which I compared* [p. 94] *with equivalent readings taken outside the forest, to gather some elements on the microclimate of this forest.*

18 Fig. 13 (Fig. 4 in Pichi Sermolli (1938a)) illustrated this vegetation.

19 As mentioned earlier, the altitudes recorded in Pichi Sermolli's text may be too high, possibly up to 200 m above the figures now considered correct.

Towards the end of this stay, I also took a two-day hike to the south, to the banks of the Nile and could thus see the park-like vegetation covering the ground to the east of the entrance to the Blue Nile. It consisted of grasslands with species that varied in height and density, in the midst of which one could see small and large groups of Phoenix, Cassia, Cordia, Stereospermum, Gardenia, Croton*, etc., interspersed with shrubs, grasses and lianas; finally, here and there, the grasslands were crossed by streams flanked by lines of mostly evergreen tree vegetation.*

After this short hike, I returned to Zara Enda Michael and from there to Ifag, from where I continued to Gondar.

I used the stay in the capital of Amhara to rearrange the collections and prepare them finally for the shipment to Italy. During this stay, however, I also visited the castles of Gondar, taking note of the vegetation around them. In their vicinity there are specimens of Juniperus procera *and* Olea chrysophylla [Olea europaea subsp. cuspidata]*, both species represented by very tall and sometimes old specimens. The presence of* Juniperus*, some very old, which is so scarce elsewhere in the region of Lake Tana, may suggest that the species had here found a refuge during the frequent deforestation and fires, and that it thus represents remains of an original vegetation. However, for other reasons I believe that this species has been planted near the castles, and I reserve the right to report later on the observations which form the base of my opinion.*[20]

It was during this period spent in Gondar that I also made two excursions to Celga, advised by Eng. Minucci that some impressions of fossil plants had been found there. So I was able to make a rich collection of phytopalaeontological consisting of numerous impressions of ferns and phanerogams. Engineer Minucci and I collected all these impressions at the Kernat Uensi ("The river that smells") where the stream has [p. 95] *dug its bed into the rocks and stripped the layers of lignite, which are abundant in the Celga basin. The fossiliferous layer was placed above the lignite and almost in immediate contact with them. Even today, it is very difficult to say anything about the age of these impressions, but probably they only date back to a fairly recent period.*

Because Eng. Minucci and I had finished the exploration of the Tana basin before the others, it was decided that we should go for a 15-day excursion in the Semien, to explore that mountain massif from both a geological and a botanical point of view. This excursion was interesting not only for the study of the characteristic flora, but also because I was able to study the altitudinal limits of the main plant communities of the highest mountains now under Italian administration.[21]

We set off from Gondar and went in a single stage by car to Debarech, where we organized the caravan for the Semien. Our researches had to focus in particular on the upper part of the Semien and to reach this area we managed in two stages to cover the whole territory between Debarech and Ambaras, following first the valley of the stream of Addeschie and then following the right slope of the valley of the Mai Beleghes River, finally reaching the head of this valley, the ridge above the village of Ambaras (3,609 m). From Ambaras, we climbed Mount Buahit (4,510 m.) and descended the same evening to the village of Nori (3,560 m). From there we climbed to Mt. Beroc Uaha (4,505 m.) and descended to the village of Atgheba (3,325 m), leaving the next day for Mecanha (3,410 m). We then climbed the northern slope of Monte

20 These observations are referred to in Pichi Sermolli (1951: 20), where Pichi Sermolli mentioned the possibility that some of the old specimens outside the towns and the church forests might be part of the natural vegetation.

21 As mentioned earlier, the altitudes indicated from the Semien are almost always too high, possibly up to 200 m above the currently accepted altitudes.

Fig. 14 (Fig. 5 in Pichi Sermolli 1938a). Ericaceous bushland in the Addeschie valley of the western Semien Mountains.

Ualta and the day after Monte Ancua (4,620 m.). In order to reach Nori again, we decided to follow the north ridge, and since there is no mule track to follow on this route, [p. 96] *we sent the caravan along the route we had already travelled and continued with only two porters. Following the ridge, we climbed Mount Lagata (4,532 m), where we bivouacked (the tents had been left by the caravan) under this mountain at 3,925 m. The next day we continued along the ridge and climbed Mount Abba Jared (4,483 m.), from where we reached Nori. To descend from this village to Addi Arcai, where we would find the vehicles for the return to Asmara, we descended to the Sauana peak and followed the valley of the stream Anzia [Anzia] until Auasa River; from there we descended along the ridge to Addi Arcai.*

Without wanting to go into details, I think it is useful to give a brief description of the vegetation of this area, which is among the most interesting of our colony.

At Debarech, which lies at the edge of the vast plain that extends over the plateau, the grasslands were of a type like that [p. 97] *which I already found at Debra Tabor, but here very well developed. Low grasses formed a continuous sward, interrupted only by stretches covered with dense bushes of* Hypericum*, with rare specimens of* Rosa *and* Erica.

Climbing towards the ridges that lead to Ambaras, we observed that the stony slopes were covered by a plant formation, where herbs, subshrubs and shrubs dominated among the grasses, Thymus*, etc., an* Echinops *with very large heads and 2 to 3 meters high,* Rosa *sp.,* Erica *and* Hypericum. *While grasslands here occupied the ridges, the local people used*

the floors of the valleys and the slopes above to grow barley, which was the most abundant crop here.

While we were in the valley of Addeschie, we noted that the plant community of Erica arborea *was very well developed, formed by specimens of a truly exceptional robustness and lustre. Used to seeing* Erica arborea *in the Mediterranean region, where it reached at most a height of 2-3 meters and had a shrubby habit, one was amazed by these specimens, very tall, sometimes with trunks of 40 centimetres in diameter and with a height of more than 5-6 meters, with hemispherical crown and real appearance as trees.*[22] *A few other species would grow in the middle of this* Erica *bushland, and there were very well developed specimens of* Rosa *sp.,* Hypericum *sp., etc. Many lichens hang from the branches (*Usnea, Parmelia*). The* Erica *bushland was left intact only on the very steep slopes, while on the ridges and slopes below them, slightly undulating, there were large cultivations, predominantly of barley.*

These cultivations covered the territory up to just above the village of Ambaras. We can state that the upper limit of the trees does not reach this altitude; I noticed in fact only one or two specimens of Hagenia abyssinica *near Ambaras. Around the church of this village there were some cultivated specimens of* Hagenia *and* Juniperus.

To reach Mt. Buahit, we walked along the right edge of the Beleghes, which is covered at the bottom by a more or less dense Erica *bushland* [p. 98] *and at the top by a discontinuous grassland and stretches of Erica bushland that occurred along the streams and in the more sheltered valleys above the normal limit reached on the slopes. Among the heathers there were* Lobelia rhynchopetalum*, which began to appear as rare specimens at about 3,200 m. near Micciubbi. The* Erica *bushland disappeared only at the top of the valley of the Beleghes River.*

Above the Erica *bushland, the vegetation was short grassland, looking like the grassland with* Lobelia*, which was characteristic of all the highest areas of the high Semien. The ground cover of this grassland was formed by short grasses, in which there were robust specimens of* Lobelia*, many in bloom in April and reaching a height of 5-6 m. The continuous stratum of grasses and species of* Carex *was also home to many other species, including species of* Thymus, Erica*, a species of* Helichrysum *with beautiful golden yellow flowers, etc.*

This grassland remained unchanged for much of the northern slope that we climbed in order to reach Mt. Buahit.[23] [P. 99] *Up to about 4,250 m., the grassland, though changing its appearance due to the advent of some new species, remained continuous, as well as the* Lobelia*, which occurred there with the same density. Above this altitude the grassland was thinning out and replaced by a sporadic vegetation of an alpine type, sheltered in the recesses of the rocks and between the boulders that were found along the slopes.* Lobelia *also joined this vegetation above the herbaceous sward. On the summit of Mt. Buahit, vegetation was still present, but sheltered in the cracks of the rocks.*

The south-eastern slope of Mt. Buahit fell sheer, and here the plants only grew in the cracks. To reach Nori, we decided to follow the ridge that led to the Arcuasie Pass (3,740 m.) just below the crest. This slope, which represents the western side of the valley of Mesciaha [valley of Mai Shasha], and the eastern side, formed by the slopes of the Ras Dascian [Ras Dejen]*, was covered by the usual grassland with* Lobelia*. Not so, however, on the north-west slope, on which Norì is located; that part was covered almost to the crest by the* Erica *bush, which at the top consisted of small specimens, while at lower altitude it was formed by increasingly taller and lusher specimens. This difference in height of the Erica bushland at various altitudes could also be noticed along the slope below Mt. Beroc Uaha.*

22 Fig. 14 (Fig. 5 in Pichi Sermolli (1938a)) illustrated the Erica bushland at Addeschie.

23 Fig. 15 (Fig. 6 in Pichi Sermolli (1938a)) illustrated this grassland with Lobelia on Mt. Buahit.

Fig. 15 (Fig. 6 in Pichi Sermolli 1938a). Meadows [grassland] with *Lobelia* on the slope of Mount Buahit.

From Nori, while climbing this mountain, it was possible to distinguish three main aspects of the vegetation. The Erica *bushland, the grasslands with* Lobelia *and the discontinuous vegetation of the alpine type stone grove, with abundant lichens.*

The south-east side of the mountain, along which we descended, was covered by a continuous sward of grassland, but lacking Lobelia. *Only at the bottom of the valley, below the pass of Arcuasie, the vegetation was more varied; the ground was swampy and occupied by large tufts of* Carex *sp., with their leaves raised above the ground where there was flowing water; these tufts were often growing so close together that they formed an almost continuous stratum.*

[P. 100] *Near Atgheba the spontaneous vegetation had been completely destroyed by the indigenous people in order to grow barley, which was growing there very well.*

To reach to Mecanha from Atgheba, i.e. to the village on the other side of the valley, we had to go very low (2,840 m.) to cross the stream of Mesciaha [Mai Shasha]. *The bed of this stream had carved a deep, narrow gap whose vegetation was formed by two plant communities; one higher up consisting of* Aloe *and* Ocymum [Ocimum] *and lower down, a type of scrub with* Euphorbia abyssinica *and other species, which were also present in the upper community.*

The stream of Mesciaha [Mai Shasha] *was flanked by saplings of* Salix *and* Rosa, Myrsine *etc.*

We climbed the opposite slope through a small valley where a tributary of the Mesciaha [Mai Shasha] *flows, the Ambiquo. This valley was home to vegetation very similar to that*

below Atgheba and there we found Aloe, Ocymum [Ocimum] *and* Rumex *growing in the very stony soil. At the top of the valley, barley fields began again, covering the slope up to Mecanha and reaching an altitude of about 3,750-3,800 m.*

Above the crops we again found the grasslands with Lobelia, *which continued up to the area with the stony vegetation. There was not much variety of landscape on this side, and one could identify the three areas of vegetation mentioned above, the lowest of which, the* Erica *bushland, as above Mecanha, was in some places replaced by crops. As on Mt. Buahit, the vegetation here continued up to the highest peaks, and also on the top of Mt. Ancua (m. 4,620), which is the highest of all in the Semien, I could collect specimens of plants in full flower.*

To the south of Mt. Ancua, between that peak and Mt. Ualta, there was a very wide and flat valley, occupied by a vast grassland with Lobelia with a continuous herbaceous layer. This grassland differed from the previously described samples of this vegetation by the high percentage of specimens of Carex *among the grass.*

[P. 101] *From Ras Dascian* [Ras Dejen], *in order to reach Nori again, we crossed the ridge that passes through Mt. Lagata. This mountain did not differ from the others already described, and there were the usual three main zones of vegetation. Below Mt. Lagata, in some rocks bathed in dripping water, I made an abundant collection of plants that I think may be interesting, given their particular station.*

We reached Nori, crossing again the Selchi pass under Mt. Beroc Uaha. The descent from Nori to Addi Arcai, along the ridge of Sauima, was of great interest and allowed me to take numerous notes, especially on the succession of the various plant formations, to which I will refer very briefly.

Descending from Nori we found first the Erica *bushland that accompanied us further downwards, becoming more and more luxuriant and mixed with other species (*Rosa, Hypericum, *species of* Echinops *with large heads etc.) as we descended. At the lower end of the ridge, however, this vegetation finished abruptly and developed first into sparse bush of shrubs with some species of trees, then into bush with trees and high grasses and abundant shrubs. This thicket, which varied in its flora as one descended towards the valley, accompanied us to the base of the slope where the Anzia river* [Ansia] *flowed, flanked by magnificent evergreen vegetation.*[24]

We crossed the river, and halfway up the side of the valley we followed the left slope, which at this altitude began to open into a wide basin. We were at a height of about 2,000 m., and the landscape and vegetation were very similar to those in the basin of Lake Tana, with open scrub[25] *of* Gardenia, Stereospermum, Ficus vasta, Croton *and species of* Acacia, *rich in shrubs and high grasses, which alternated with crops of teff and dagussa.*

Descending further, the landscape and the vegetation changed again to open woodland of Combretum *and* Terminalia. *Further down, above Addi Arcai,* [p. 102] Boswellia

24 Sileshi Nemomissa & Puff (2001) and Puff & Sileshi Nemomissa (2005) describe moist and Afromontane forest below the Ericacous belt on the Semien Mountains, the moist forests being almost destroyed apart from the Adarmaz forest below the northern escarpment west of the Sankaber camp and the Muchila-Neznazit forest; of the latter there are scattered patches in gullies on the north-western escarpment below the Gich camp. The dry Afromontane forests are dominated by *Olea europaea* subsp. *cuspidata,* but usually not *Juniperus procera,* and this type of forest is mainly preserved as 'graveyard forrests' near villages. These localities were not on Pichi Sermolli and Minucci's route, and what they saw along the Sauima ridge and the Ansia River must have been degraded bushland derived from moist Afromontane forest. Also Sileshi Nemomissa & Puff place the upper altitudinal limit of the woodlands around 2,000 m.

25 Probably wooded grassland would be a more appropriate term.

papyrifera *began to occur, accompanied by species of Combretaceae, and* Strychnos unguacha [Strychnos innocua] was rather abundant.

From Addi Arcai we reached Asmara in two stages, where the journey ended.

The material collected during the Mission was very abundant.

The collection of dry materials that documented the vegetation of most of the places visited allowed me to report not only on a very rich sampling of the species present, but also to produce a fair number of duplicates in order to allow a systematic study that was as accurate as possible.

I collected both phanerogams and cryptogams, and I think it is true to state that the exsiccata exceed 25,000.

In addition to the dry material, I also fixed material in alcohol, formalin and liquid Karpetschenko for special studies of anatomy, embryology and karyology.

I took a certain quantity of soil samples for the pedological study of the most characteristic stations, which hosted the main plant formations described; at each of them, I measured with a pH-meter the pH on the spot, as orientation value.

I was also able to make a fair collection of seeds and bulbs; which I have already sown and seen develop.

I also took care, as far as I could, to transcribe the indigenous names of the plants and the information on their uses.

I collected samples of wood of various tree and shrub species.

I also took some measurements of air and ground temperature; and on the Semien, for the measurement of the heights, [p. 103] *I used an altimeter. The heights almost always agreed with those reported in the map to 400,000 of the IGM.*

I also took the most copious and detailed possible notes of everything I could observe about the individual plants and the plant communities in which they lived, and documented my observations with about 600 photographs of the most characteristic aspects of the landscapes and vegetation.

The various collections and observations made by me during this Mission were placed in order to provide me with the material necessary to draw up a floristic list as abundant as possible of the plants present in the regions visited and providing for a phytogeographic study of their vegetation.

My various collections and observations were made with the greatest interest and with the utmost care, I hope that they will constitute a satisfactory basis for further elaboration, which I hope will respond to the trust of those who entrusted me with these researches.

Aspects of the landscape and vegetation in the High Semien (1939)

This is a translation of the text of Pichi Sermolli's article about results from field observation of vegetation made during the journey in the Semien (Pichi Sermolli 1939). Much information in this work supports the information about the Semien in the previous general article (Pichi Sermolli 1938a), but here there is also supplementary information added. The paper is illustrated with two sets of illustrations; two figures (photographs) in the text ("Fig. 1; Fig. 2"), one map and four full-page plates (also photographs) ["Tavola 1-4"]. Pichi Sermolli documented his description of the vegetation of the Semien mountains with two not completely identically drawn maps; for this 1939 paper he reproduced a map ("Il Semien in 1:150,000") drawn by Minucci (1938: 39), and for later publications, including Pichi Sermolli (1951), he preferred to reproduce a map he has drawn himself (Alto Semien in 1:150.000; Pichi Sermolli 1940c: 4).

[P. CXV: Title.] **Aspects of the landscape and vegetation in the High Semien (Italian East Africa) (with plate 1-4 and three figures in the text) (From the Royal Colonial Herbarium of Florence, directed by Prof. Giovanni Negri) Pichi Sermolli (1939)].**

[P. CXV] *In presenting here some photographs that I took in the Semien during my trip to Italian East Africa as the botanist of the expedition of the Royal Italian Academy to Lake Tana, directed by His excellency Dainelli (Jan.-May 1937), I think it is appropriate to present a few notes on the vegetation of this interesting mountain range that includes the highest altitude (4,620 m.) of the Abyssinian Highlands.*

Having completed the botanical exploration of the Lake Tana basin, and at a time when there were only a few days before departure, His excellency Dainelli decided to send the Geologist of the expedition, Ing. Minucci, and me to the Semien with the intention of carrying out a study, albeit a brief one, of the upper part of the massif.

Having left Gondar in the first week of April, we went in a single stage to Debarech, where we organized a caravan of mules and muleteers that would accompany us on our trip. In two stages we reached the village of Ambaras (3,610 m), going up through the valley of the stream of Addeschie and following the right edge of the Mai Beleghes valley. From there, we climbed up the western side of Mount Buahit (4,510 m), from which, along the ridge to the pass of Arcuasie (3,740 m), we descended to the village of Nori (3,560 m). The following day we climbed to the top of Monte Selchi (4,475 m.) and from here, passing under the peak of Monte Beroc Uaha, we reached the village of Atgheba (3,325 m). From this locality, going down the edge of the valley to the ford of the stream of Mescia [Mai Shasha] *(2,840 m.) and going up the opposite side, we went to the village of Mecana (3,410 m.), which on the next day served as a base to visit the northern tip of Monte Ualta and then to climb Monte Degien* [Ras Dejen] *(4,620 m), which is the highest point of the whole massif.*[26] [P. CXVI] *From here, in two stages, we travelled along the entire northern ridge as far as Mt Selchi, touching the Metelal pass (3,860 m), Mt Chiddis Arit (4,532 m.) and Mt Abba Jared (4,520 m). We then returned to Nori, from where, descending along the ridge of Suohna, we reached the stream of Anzia, which we followed until Auasa. From there, continuing to Addi Arcai, we ended our excursion, which had lasted 15 days.*

Without wanting to go into much detail, which would also be premature at this point, when the study of the material I have collected is not finished, I will here give some new information about the vegetation of this area.

The Semien, which was well known from the floristic point of view from the classic collections made there by various scholars, among which those of Schimper should be particularly remembered, was little known from the ecological point of view, and the same applied to the relation between the landscape, the vegetation and the altitudinal succession of the plant communities that cover it. The photographs that I have added to this paper show some of the most characteristic aspects of this vegetation that can be compared with the types

26 Pichi Sermolli's footnote: "I have not used here the place names of the IGM Map in 1:400,000 [IGM 1934-2936a] because they do not correspond to the names used by the local people. So instead of using the name Mt Ras Dascian on the map, I have used the name of M. Degien, which is name of the local people, and similarly I have done with regard to Mt. Lagata, Mt Chiddis Arit, Mt Beroc Uaha, Mt Selchi etc., names which were in fact already adopted by Minucci (in Missione di studio al Lago Tana - Relazioni preliminari - edited by His excellency Dainelli, Rome, R. Accademia d'Italia, 1938), and the meaning of which is clear when comparing the Map of the IGM at 1:400,000 with the topographical sketch from the above work."

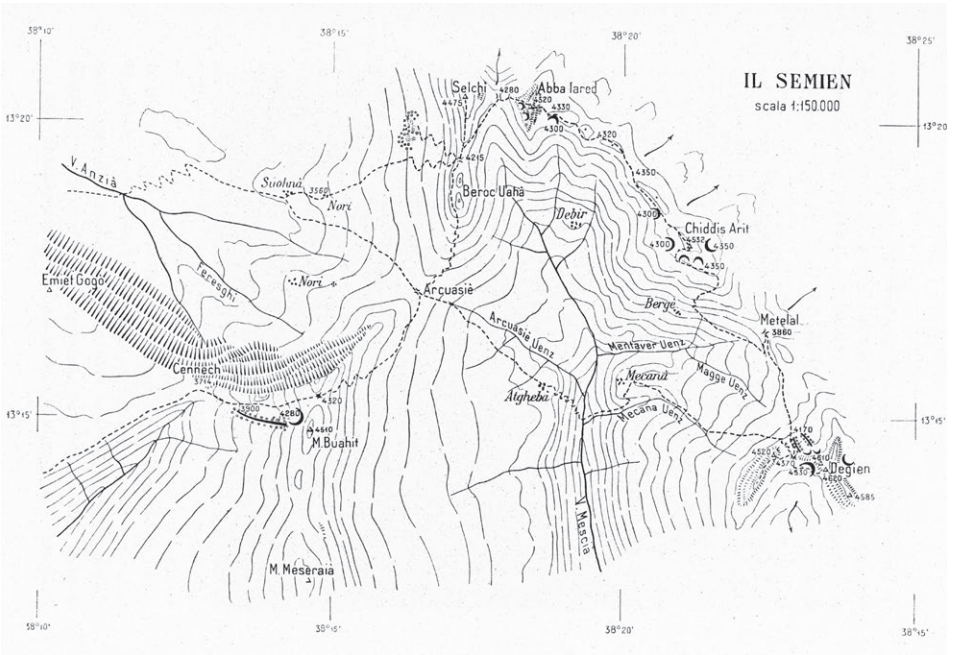

Fig. 16. The first map resulting from Pichi Sermolli and Minucci's field trip in the highest part of the Semien Mountains, drawn and published by Minucci (1938).

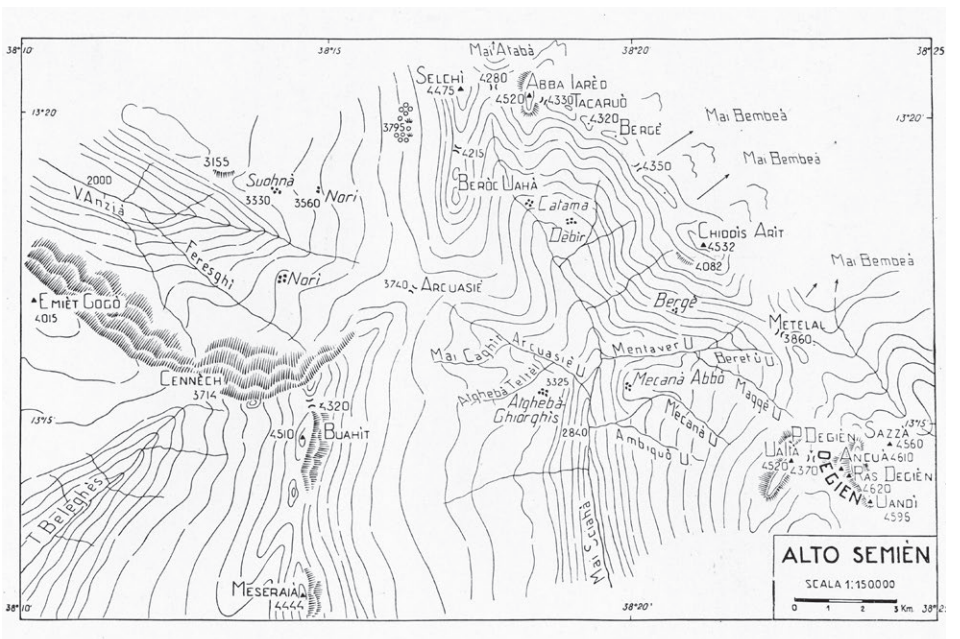

Fig. 17. The second map of Pichi Sermolli and Minucci's field trip in the highest part of the Semien Mountains, drawn and published by Pichi Sermolli (1940c).

of vegetation which Hauman has called Afro-Alpine;[27] *although they represent a particular aspect of this vegetation.*

If we depart from the grasslands of the "Dega",[28] *which extend as far as the eye can see south of Debarech (2,865 m), and move upwards to the highest peak of the Semien (4,620 m), then we find four horizons that follow each other in an altitudinal sequence, and these horizons can be identified like this:*

(1) Grasslands of the Dega;

(2) Erica *bushland;*

(3) Upper grasslands with Lobelia rhynchopetalum*;*

(4) Stone fields with alpine type vegetation.

Let us see what the plant communities of these four horizons look like.

The area of the Dega grasslands to the south-west of Debarech extends over a plain consistently having an average altitude of 2,800-3,000 m., interrupted only by a few rare streams and small, isolated mountains. These were grasslands with continuous sward of low grasses, in which here and there were patches of vegetation with Hypericum lanceolatum [Hypericum revolutum Vahl] *and sporadic specimens of* Erica arborea *(not very tall,* [p. CXVIII (p. CXVII is a map of the Semien)] *usually only 0.50-1 m),* Rosa abyssinica*, etc. These grasslands were mostly without trees; only in particular places, and then mostly along watercourses, around villages, near churches, and close to springs, we noticed, at great distances from each other, groves of* Acacia abyssinica*, with* Olea chrysophylla [Olea europaea subsp. cuspidata], Hagenia abyssinica, Pygeum africanum [Prunus africanus]*, several species of* Gymnosporia [Maytenus]*, etc.*[29] *In these groves, some specimens of* Juniperus procera *were found, well developed and with branches starting almost from the ground. Occasionally, on the slopes of the small mountains which rose some hundred metres above the plain, the grassland with patches of* Hypericum lanceolatum [Hypericum revolutum Vahl] *was replaced by plant communities of low grasses with discontinuous sward, interrupted here and there by some bushes of* Hypericum lanceolatum [Hypericum revolutum Vahl], Rosa abyssinica, Echinops steudneri*, or* Echinops hoffmannianus*, both with big heads and 2-3 metres tall, etc.*

Plate 1 [Fig. 18] *shows in the foreground a mountain slope with low grassland where one can see examples of* Echinops *and shrubs of* Hypericum *and* Rosa*. In the background, in the lower right corner, one can see* [flat areas of] *grasslands that here and there are interrupted by very extensive stretches of dense bushland with* Hypericum lanceolatum [Hypericum revolutum *Vahl*].

In this altitudinal zone there was very extensive cultivation, mostly of cereals.

The Erica bushland that we found above these grasslands, and which in the north went down to 2,500 m. on the ridge of Uolchefit,[30] *was seen in its most typical aspect above a transition zone with mixed characteristics of that and the* [Dega] *grassland. The transition zone was a grassland very rich in bushes of* Erica arborea *that were never very high (0.50-1 m.),* Hypericum lanceolatum [Hypericum revolutum Vahl] *and other species, and it occupied a zone extending from 2,800-3,000 up to 3,000-3,300 m.*

27 See Hauman (1933).

28 Pichi Sermolli's footnote: "In this nomenclature I intend to limit the name of "Dega" to the grasslands above the "Woina-Dega" and below the *Erica* bushland."

29 These agree with the patches of dry Afromontane forests dominated by *Olea europaea* subsp. *cuspidata,* but usually not *Juniperus procera,* which Sileshi Nemomissa & Puff (2001) mention as preserved mainly as 'graveyard forests' near villages.

30 The ridge of Uolchefit or Wolkefit is a westward extension of the Semien Mountains, the road from the north to Debarech crosses the ridge at 13° 12' N, 37° 53' E.

Fig. 18. (Plate ["Table"] 1 in Pichi Sermolli 1939). Grasslands of the "Dega" near Debarech. In the foreground a mountainside with *Echinops Steudneri*, *Hypericum lanceolatum* [*Hypericum revolutum* Vahl] and *Rosa abyssinica*.

Still observing Plate 1 [Fig. 18]*, one can see on the ridge of the mountain in the horizon a weakening of the bushland that represents precisely this transition area between the grasslands with patches of bushes and the thick* Erica *bushland.*

In the zone of the fully developed Erica *bushland there were almost pure plant communities that covered entire mountain sides with dense and high specimens of* Erica. *Sporadically in the middle of the bushland of* Erica arborea*, which here reached a height of 5-6 m. and was exceptionally lushly developed (I noticed stems of 40 cm in diameter at 50 cm from the ground), one could see specimens of* Hypericum lanceolatum [Hypericum revolutum Vahl] *and* Rosa abyssinica*, each not exceeding 3-4% of the cover of the* Erica. *The undergrowth, given the density of the tree and shrub layers, was almost missing and only here and there, where there was some opening in the canopy,* [p. CXIX] *specimens of* Helichrysum schimperi*, some Composite and various grasses could be found. In the thick* Erica *bushland the branches of the heathers were abundantly covered by crusted lichens and sometimes magnificent specimens of* Usnea *hang from the branches. The altitudinal range of the zone of heather does not exceed 200-400 m., with limits ranging from 3,000-3,300 to 3,300-3,700 m.*

In this horizon we could observe the most extensive areas of crops (generally cereals), and some slopes had been completely cleared in order to plant crops. This was the case on the slope below the ridge of Arcuasie above Atgheba, where only crops were left and the Erica bushland represented by rare specimens of heather in places where the steepness of the slope

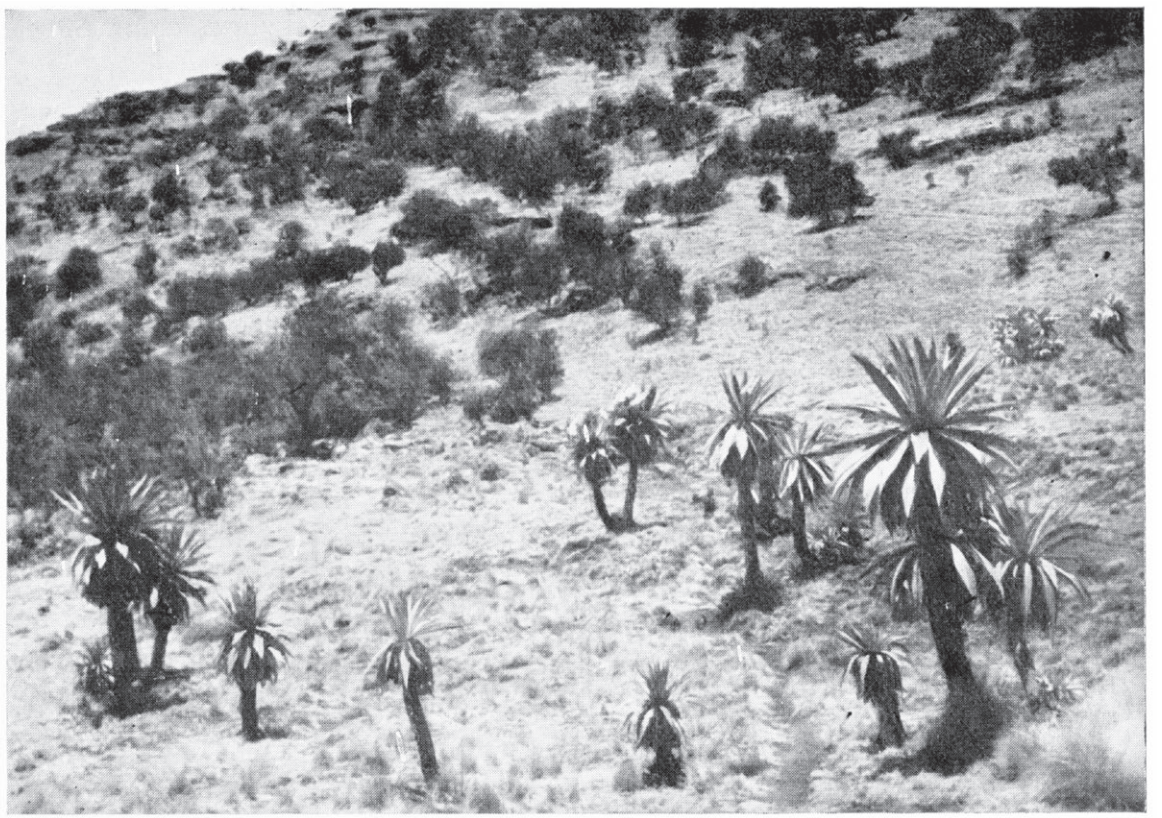

Fig. 19 (Fig. 1 in Pichi Sermolli 1939). Transition zone between the *Erica* bushland and the upper grasslands with *Lobelia rhynchopetalum* near the pass of Cennech.

was such that it did not allow the local people to cultivate cereals. I saw many places where deforestation had been carried out recently and others, as at Micciubbi, where the cutting of the bushland was still in progress. Indigenous practices to reduce bushland to cultivation consisted in first cutting the Erica bushes, then removing the shoots of heather and finally ploughing the soil, which, being quite deep, allowed an excellent growth of cereals at least for a certain time after the destruction of the Erica.

[P. CXX] *Plate 2* [Fig. 20] *shows a rather steep crest covered by a dense bushland of* Erica. *The figure also shows the very irregular and precipitous aspect of the northern slope of the Semien.*

Above altitudes of 3,200-3,600 m., specimens of Lobelia rhynchopetalum *would appear, indicating a transition zone between the pure* Erica *bushland and the upper grasslands with* Lobelia, *which was the plant community that characterised the next altitudinal horizon. This transition zone, like the lower one, had an altitudinal extension of about 200-400 meters.*

The characteristics of this area with mixed plant communities of Erica *and* Lobelia *could be poorly defined, because the vegetation varied greatly in composition and density depending on whether we were closer to the lower horizon or to the upper horizon. We could say in principle that from the bottom we saw the* Erica *bushland permeated more or less abundantly by specimens of* Lobelia *which were more often found in the valleys where the soil was cooler. With the appearance of* Lobelia rhynchopetalum, *the* Erica *bushland became less dense and the more we rose, the more the bushes thinned out and the vegetation was enriched with*

Fig. 20 (Plate ["Table"] 2 in Pichi Sermolli 1939). Appearance of the northern slope of the Semien under the Cennech pass [and the profile of Emiet Gogo]. At the edge [of the plateau] you can see the *Erica* bushland.

herbs, until it took on the appearance of a continuous herbaceous grassland with scattered Erica *and* Lobelia *mixed in. An example of this plant community is represented in Figure 1* [here Fig. 19]*, which in the foreground shows some examples of Lobelia growing along the stream at which the photograph was taken and where the heathers are missing; in the background you can see the grassland with* Erica *and* Lobelia.

This altitudinal horizon included the lower ridges of the highest mountains, whose vegetation was physiognomically distinct. These ridges, which were very beaten by the wind, were covered with stony grasslands rich in low shrubs (40-60 cm) and abundantly invaded by subshrubs and herbaceous plants. Among the plants of these plant communities, I recorded besides Rosa, Hypericum *and* Erica, *also* Helichrysum horridum, H. schimperi, Dipsacus pinnatifidus, Pterocephalus frutescens, *species of* Asparagus, *etc.*

At altitudes towards 3,800-4,000 metres we could fix the lower limit of the upper grasslands with Lobelia, *of which I report a good example in Plate 3* [Fig. 21]. *These grasslands are essentially formed by true grasses, in addition to which there were species of* Carex *and herbaceous plants of other families and some subshrubs (*Helichrysum citrispinum, H. abyssinicum, Thymus sp., Blaeria spicata, *etc.). Where the soil is very stony,* Helichrysum citrispinum *may even replace the* Lobelia, *giving these stony areas, which interrupt the grasslands, a particular appearance which recalled the impression of flowerbeds in a garden. This unique physiognomy was* [p. CXXI; on the following pages Plate ["Table"] 1-4 were reproduced] *above all due to the contrast between the thick bushes of* Helichrysum

Fig. 21 (Plate ["Table"] 3 in Pichi Sermolli 1939). Western slope of Mount Buahit. Upper grasslands with *Lobelia rhynchopetalum*. In the foreground three specimens of *Lobelia* in bloom.

citrispinum *with white-sericeous capitula and the lower bushes of* Helichrysum abyssinicum [Helichrysum splendidum (Thunb.) Less.] *with its sulphur-yellow capitula, among which one could see the stones covered with lichens of the most varied colours.*

Another aspect of this horizon and the transition zone below was presented by the marshy community of species of Carex. *These plant communities were found scattered at various points throughout the massif, chiefly in places where the ground or valley bottom was flat or slightly concave so that water would flow there from the surrounding slopes and impregnate the ground until it was completely soaked and sometimes completely swamped.*

These plant communities were formed by tall tufts of Carex monostachya *(or related species), which were raised about 40-70 cm above the swampy ground due to a sort of cylindrical pedestal formed by accumulation of dead leaves between densely tangled roots. From the top of these columnar tufts, which are 40 cm to a few metres apart, long, green leaves spread out and bend or fall downwards. Where these columnar tufts are very close together, they would form carpets which, seen from above, had the appearance of grassland; whilst, as I have already said, under the living leaves, there were accumulations of dead leaves which elevated the top of the plants above the swamp. These big tufts were often burned, at other times cut by the local people, so that they developed young leaves, which were the only ones that were eaten by animals. The periphery of the bases of these tufts, when they were few and rather spread out, was covered by a flora composed of various phanerogams (species of* Ranunculus, Saxifraga hederifolia, etc.) *and by abundant mosses. The soil on which these tufts grow was, as I have said, abundantly soaked with water and sometimes even submerged for a few centimetres.*

Plate 4 [Fig. 22] *shows one of these* Carex *swamps and in the foreground one can see the large tufts with the droopy leaves; in the background one can see the columns formed by accumulation of dead leaves, but missing the living apical part that had been burnt. In the midst of these associations one could also see* Lobelia rhynchopetalum*, which often, when the soil was not extremely swampy, could be seen growing in these habitats.*

The grasslands with Lobelia *entirely covered the sides of the mountains up to the upper limit of the continuous herbaceous sward, which was observed at around 4,300-4,350 m. Already at this altitude the grasslands began to be a little sparser, and the first specimens of the alpine flora of the uppermost altitudinal horizon began to appear. But as one can easily understand, the transition zone between the grasslands with* Lobelia *and the stony areas with* [p. CXXII] *alpine vegetation is very difficult to identify because the alpine flora is represented by inconspicuous plants and sheltered between the rocks where the plants of the upper grasslands do not grow.* Lobelia *was also seen growing above the continuous herbaceous sward into the zone with the stony ground.*

*The alpine vegetation on stony ground, which constitutes the horizon above the upper grasslands with Lobelia, reached everywhere in the Semien to the peaks of the mountains. The cover was sparse and consisted of some subshrubs (*Helichrysum citrispinum, H. abyssinicum [*Helichrysum splendidum* (Thunb.) Less.]*, several species of* Senecio*, etc.) and perennial herbaceous plants (several species of* Ranunculus, Saxifraga hederifolia*, Cruciferae and various Composites, etc.) that were growing between the rocks and in the cracks in the rocks. The most abundant plants were undoubtedly the lichens that literally covered every stone with a wealth of species. On the flat ridges of the mountains where the very dry soil was continuously exposed to the wind and did not allow the growth of vegetation* [of vascular plants]*, the fine, clayey and grey soil only hosted crusted "wandering" lichens, that is lichens that are curled up in the shape of a sphere and completely without attachment to the substrate. Here and there these spheres of lichens were accumulated by the wind;* [p. CXXIII] *sometimes the lichens formed continuous layers, which were a few inches thick and covered very large surfaces. The surface of these layers did not appear homogeneous, but*

Fig. 22 (Plate ["Table"] 4 in Pichi Sermolli 1939). Swampy plant community with *Carex monostachya* (or related species) in the valley bottom of Arquasie [Arcuasie] Uenz. Note in the background the specimens of *Carex* burned by the local people and the specimens of *Lobelia* growing in the middle of the association.

was divided into stripes forming a net-like structure, where the ground remained uncovered inside the meshes. The lichens that composed them were of two species, each forming a pure community; one species never joined the other to produce a mixed community. Figure 2 [here Fig. 23] *shows a community of this type and at the bottom one can see an area of open ground and higher a darker area representing precisely the community of loose spheres of lichens; higher still there are more areas of bare ground and rocks.*

These lichens were the only plants that could grow in places where the rock could not give shelter to vascular plants, probably due to the strong wind, the aridity of the soil and the shallow layer (2-3 cm) of fine, powdery soil that covered them.

From these brief notes on the vertical distribution of the various plant communities in the upper part of the Semien, it appears that it is justified to refer this vegetation to the Afro-Alpine type of vegetation described by Hauman. In fact, apart from the species of plants that are in common with the high mountains of Equatorial Africa, many plant communities are found both in the Semien and in the Ruwenzori. We see for example on both these massifs the Erica *bushland, the* Carex *community in the wetlands and the alpine stony areas. Differences between Semien and the high mountain massifs of Equatorial Africa (Kilimanjaro, Kenya, Ruwenzori, etc.) certainly exist, and can be understood when we take into account the great*

Fig. 23 (Fig. 2 in Pichi Sermolli 1939). "Wandering" lichens on the flat ridges of the highest peaks of the Semien.

distance between them, the climatic differences, and also the lower altitude of the peaks of the Semien. In fact, in our mountains the arborescent species of Senecio *are missing and so is the carpets of sphagnum, mosses and lichens that can be seen in the high equatorial mountains, where the humidity is much higher. In fact, everywhere in the Semien there was unmistakable evidence of greater aridity of the vegetation due to lower precipitation and higher temperature, which are consequences of lower altitude and higher latitude, for which reasons there is also lack of perpetual snow in the Semien.*

It is not the case here to insist on these affinities and differences, to which I will return later in a more definitive work, and to which I have referred here only as justification of the attribution of the vegetation of the Semien to the Afro-Alpine type of Hauman.

At the end of this brief note I feel the duty to express my most sincere feelings of gratitude to His excellency Dainelli who, as head of the Mission of the Reale Accademia d'Italia, [p. CXXIV] *gave me the opportunity to carry out these researches and who granted me the authorization to communicate to the Italian Botanical Society these brief notes on my journey.*

Observations on the vegetation of the western slope of the Ethiopian Highland (published in 1940; here as Pichi Sermolli 1940b).

This is the text of Pichi Sermolli's second separate article about results from the field observations made during the journey. This paper covers brief notes about the journey across the Eritrean highlands to the western lowlands of Eritrea, then through

the western Ethiopian lowlands and up the western escarpment to the highlands to Gondar (Pichi Sermolli 1940b). It is illustrated with ten photographs in the text; Fig. 3-4 each cover a full page.

[P. 609; title:] **Observations on the vegetation of the western slope of the Ethiopian Highland** *(from the Royal Colonial Herbarium of Florence (Pichi Sermolli 1940b).*

[P. 609] *These brief notes on the vegetation of the western slope of the Ethiopian plateau are based on notes taken during the trip I made to Gondar when, in 1937, I took part in the Mission of the Reale Accademia d'Italia to Lake Tana, directed by His Excellency Giotto Dainelli.*

The itinerary followed during this journey proceeded from Asmara through Keren, Agordat, Barentu, Tessenei, to Om Ager on the shores of the Setit River; from there we followed the road to Gondar, crossing first all the areas located in the western base of the plateau and then through the mountains via the Sengia valley to Tucur Dinghia, located not far from the watershed of the hydrographic basin of Lake Tana.

The part of the Eritrean territory crossed during our journey was sufficiently well known with regard to its vegetation, and a description of it here appears only for the sole purpose of highlighting the differences between that landscape and vegetation and those forming part of the Abyssinian [Ethiopian] *territory crossed by me, particularly with regard to the vegetation, of which we had only little information.*

The sector of the Eritrean plateau where Asmara is located was characterized by a notable aridity; the land used for grazing consisted of a low shrub layer formed for the most part by Rumex nervosus, Meriandra bengalensis [Meriandra dianthera] *and* Ocimum filamentosum*, and by a discontinuous layer of herbaceous plants that covered this part of the Eritrean plateau at the altitudes of 2,200-2,400 m. Here and there the monotony of this plant community was interrupted by the red-orange inflorescences of* Aloe eru *and the large flower heads of* Echinops spinosus [Echinops pappii]. *In the direction of Keren this is the characteristic plant community right to the edge of the Eritrean plateau. At the beginning* [p. 610] *of the descent to lower altitudes, widely spaced specimens of* Olea chrysophylla [Olea europaea subsp. cuspidata] *began to appear in the grasslands as trees with hemispherical crowns and modest proportions.*

At the top of the ridge from which we descended to reach Keren, the first candelabra-shaped Euphorbias (Euphorbia abyssinica) *appeared, at first mixed with* Olea *and then in increasingly pure communities, so much so that they were the only component of the tree layer, supporting lianas mostly represented by* Pterolobium exosum [Pterolobium stellatum]. *The Anseba River ran at the bottom of this mountain ridge, flanked by magnificent sycamores (*Ficus sycomorus) *which, with their wide foliage, offered shade and coolness to the flocks of animals that gathered here for quenching their thirst.*

Near Elaberet Adansonia digitata *appeared in the midst of a plant community that had the physiognomy of deciduous bushland, predominantly consisting of species of* Acacia*, which covered the entire valley; this clearly marked the lower limit of the community of* Euphorbia abyssinica and also the lower limit of the occurrence of this species as isolated individuals.

The whole valley of Elaberet was covered by this type of bush with prevalence of species of Acacia*, while the basin at which Keren was located had a slightly different vegetation, because there the predominant tree species did not belong to the genus* Acacia*, but were species belonging to various other families (*Commiphora, Combretum, Terminalia, *etc.).*

From Keren, through the Dongola pass, we descended to the plains of the Western Lowland where numerous mountain massifs, mainly consisting of granite, emerged as large

inselbergs. *The landscape and the vegetation had here two main aspects: on the slopes of the hills and mountains, there was a very dense deciduous woodland, where the predominant species, belonging to the Combretaceae, were almost always interspersed with giant specimens of baobab (*Adansonia digitata*) (Fig. 1* [here Fig. 24]*),* Sterculia tomentosa [Sterculia setigera] *with trunks on which large brick-red plates of parchment-like older bark remained,* Boswellia papyrifera *and many other species. In the more or less extended plains that were located at the base of and in between this sort of island-like mountain, we noticed plant communities that could be called thorny bushland, fundamentally constituted of a more or less dense complex stratum of species of* Acacia *with an umbrella-like appearance and covering a much interrupted herbaceous layer mainly consisting of low grasses (Fig. 3* [here Fig. 26]*). In some places this layer was even made up of small isolated plants growing in a sandy substratum very rich in pebbles, while in others with less arid soil one could also see evergreen plants, such as* Balanites aegyptiaca*, species of* Ficus*, etc.*

Along the watercourses that cross the plain, one could observe landscapes and vegetation that were considerably different from those described above; the most severe aridity was replaced by a more [p. 611] *luxuriant and dense vegetation. Basically two plant communities made up these riparian forests or woodlands. The first type, which we found along the larger watercourses, the Barka and Gasc Rivers, were almost pure forests or woodlands of Dum Palms* (Hyphaene nodularia) [Hyphaene thebaica]*, which extended along the river beds in two strips of vegetation sometimes up to one kilometre wide (Fig. 2* [here Fig. 25]*). In the immediate proximity of the river, which carried no water in the dry season, but where sufficient to dig two metres into the ground to find plenty of water, the canopy of the forest consisted of Dum Palms alone. However, as we moved away from the banks of the rivers these pure communities were penetrated by species of the surrounding arid vegetation, so the riparian vegetation faded gradually into it. The undergrowth was made up of sparse shrubs and shade-loving grasses that enjoyed the cool and shady environment.*

The other vegetation type was represented by the communities found along the smaller watercourses, where the amount of moisture in the substrate was considerably lower. Here we never found the Dum palm, and the forest, which was sometimes very dense, but not as fresh and green as the previous one, was made up of various species, mostly of Ficus, Tamarindus, Tamarix*, etc., which did not extend far from the river banks.*

[P. 612] *In the vicinity of Tessenei, the thorny bushland described above became thinner and thinner, until it gave way to plant communities formed exclusively of tall grasses (Andropogoneae), and the tree stratum consisted only of trees very far apart. At Tessenei, the largest colonial agricultural farm in Eritrea was founded by the African Companies Society, and extensive crops, mostly cotton and durra, covered about 3000 hectares occupying the part of the area closest to the Gasc River.*

To reach the Baker River from Tessenei the road crossed an extensive plain at an altitude of 500-600 m., furrowed by scarce watercourses, of which the main ones were the Setit River and a stream that pours into it, which took various names along its course (Royan, Selassil, Scie and Baker). This plain was covered by a homogeneous vegetation that consisted of a typical savannah [wooded grassland]*, of which* Balanites aegyptiaca *(Fig. 4* [here Fig. 27]*) or* Acacia seyal *or sometimes both species together were the main tree components. The herbaceous layer, on average about 1.50 m. high, was mainly made up of* Andropogon [p. 615; *Figures* 3 and 4, here Fig. 26 and 27, occupy all of pp. 613 and 614] *and some other rarer species of grasses (*Setaria *sp.) and also some rare shrubs (*Cadaba rotundifolia, etc.*). At some points, but very limited in extension, I noticed stretches where the savannah thinned out, until the vegetation resembled a thorn bushland of the type observed in the plains between Keren and Tessenei.*

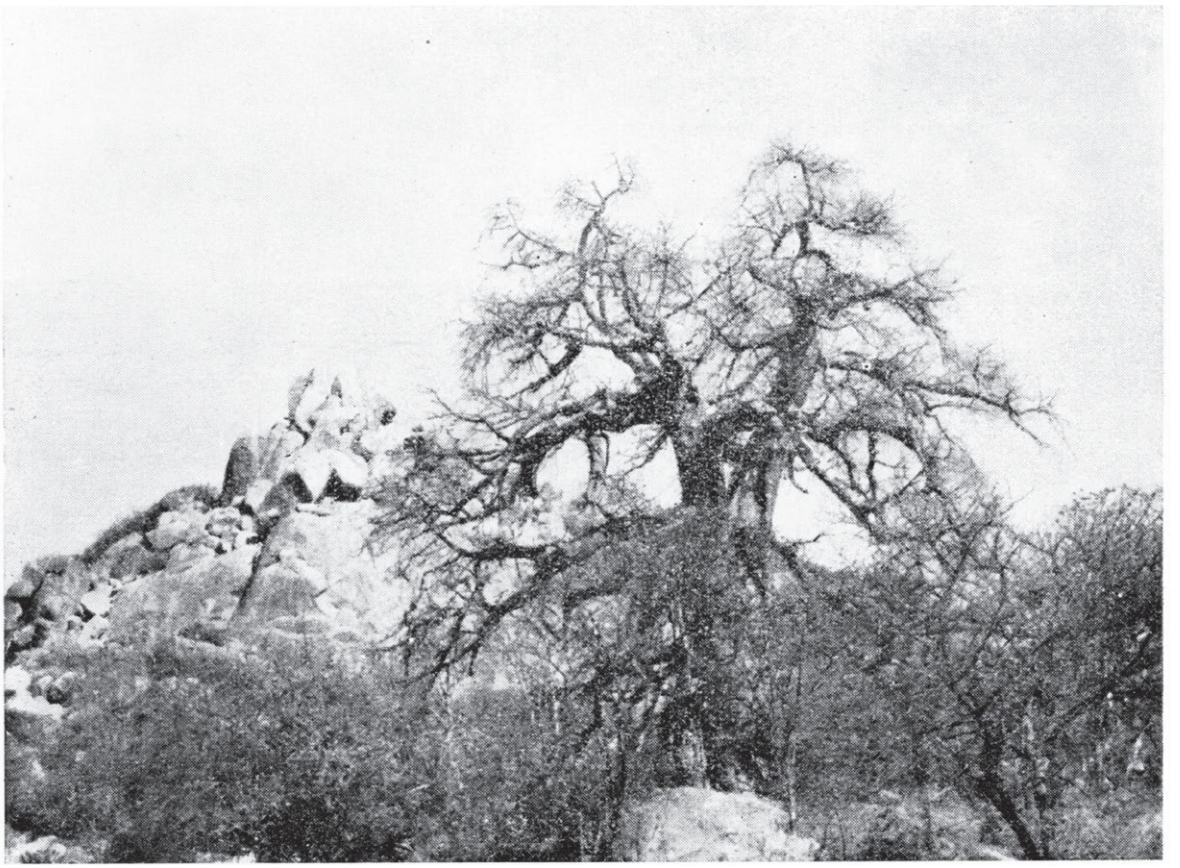

Fig. 24 (Fig. 1 in Pichi Sermolli 1940b). Baobab (*Adansonia digitata*) near Barentu.

In places where the plane was crossed by watercourses, the vegetation became denser and formed two strips flanking the river, the appearance of which, however, was no longer that of a forest, as we had found along the Barka and Gasc Rivers, but rather that of very dense bush with evergreen leaves, mostly consisting of saplings and shrubs (Balanites, Zizyphus, Tamarix, *etc.).*

Just beyond the confluence between the streams of Scie[31] *and Barek*[32]*, the plain ceased and the first hills or mountains appeared, representing the base of the western ramparts of the Abyssinian plateau. The road that we followed to go to Gondar ran for a long stretch through this landscape, always maintaining an altitude ranging from 800 to 900 m.*

As the morphology of the terrain changed, so did the appearance of the vegetation, and from the savannah we moved on to deciduous woodland formed by a plant community of sparse trees not very high (5-6 m), among which Boswellia papyrifera *dominated, and with an underlying layer of tall grasses and shrubs that were rather scattered (Fig. 5* [here Fig. 28]*). Plant communities of this type occupied the entire basal part of the western escarpment of the Abyssinian Plateau between the Baker and Sua Rivers; being more dense or open according*

31 The old Italian road crosses the Scie River at ca. 14° 05' N, but the longitude is uncertain.

32 On the IGM (1934-1936: sheet 9) there is a stream called Barek just south of Scie River.

Fig. 25 (Fig. 2 in Pichi Sermolli 1940b). - Forest of Dum Palm (*Hyphaene nodularia* [*Hyphaene thebaica*]) along the Barka River.

to the greater or lesser fertility of the substrate, while also the percentages of its components changed. Apart from the above mentioned species, the vegetation consisted of various species of Combretaceae. In some places I did see areas where Combretum hartmannianum *was completely dominant. Near Mai Agam,*[33] *as we got closer to Sua River* [crossing at c. 13° 50' N, 36 N, 36° 58' E], *I noticed some clumps of* Oxytenanthera abyssinica*; a species which we shall see later on became very important in the landscape and vegetation.*

In the vicinity of the Sua River, which carried water and ran through this territory, the vegetation became denser and greener. Boswellia *disappeared as the main component of the woodland, and Combretaceae became more abundant, first of all* Terminalia schimperiana. *In this stretch of the woodland, although made up of deciduous species, was very fresh and green and almost all the trees had leaves.*

Along the banks of the Sua River I noted a luxuriant and dense tree vegetation, while the stony bed of the stream was sprinkled with bush-like plants of [p. 616] Kanahia laniflora. *In the immediate vicinity of this, the local people practiced agriculture with various crops including cotton and durra.*

33 The old Italian road crosses the Mai Agam at c. 13° 45' N, 36 N, 36° 58' E.

Fig. 26 (Fig. 3 in Pichi Sermolli 1940b). Thorny bushland, mainly consisting of species of *Acacia*, between Barentu and Tessenei.

Continuing from the Sua River, the vegetation was formed for a very long stretch by Combretaceous woodland with very scarce presence of Boswellia *while we were in the valley of this stream. Despite the dry season (January) the trees all had leaves, but when we passed on to the mountainous ridges the trees of the woodland were completely bare, although the floristic composition of the plant community was the same. I noted, however, that generally the woodland was denser where the hills were higher and cooler, and there the Combretaceae were more abundant and* Boswellia *was scarcer.*

All in all, the physiognomy of the landscape varied little along this chain of small mountains, which the deciduous woodland covered uninterruptedly. In some places, and especially in the valleys, one could also notice thickets of Oxytenanthera abyssinica.

Thus we reached the stream of Soroca,[34] *which, as is also the case with the large rivers in Eritrea, is bordered by two wide bands of fresh and dense shore vegetation. Beyond this stream the road, which until now had continued at an altitude of about 800-850 m., tended to climb. The* Oxytenanthera abyssinica *thickets became thicker and thicker and penetrated more and more deeply into the deciduous woodland dominated by* Terminalia*; thus we passed to the extensive* Oxytenanthera *thicket (Fig. 6* [here Fig. 29]*), which covered the whole*

34 The old Italian road crossed the Soroca at ca. 13° 20' N, but the exact longitude of the crossing is uncertain.

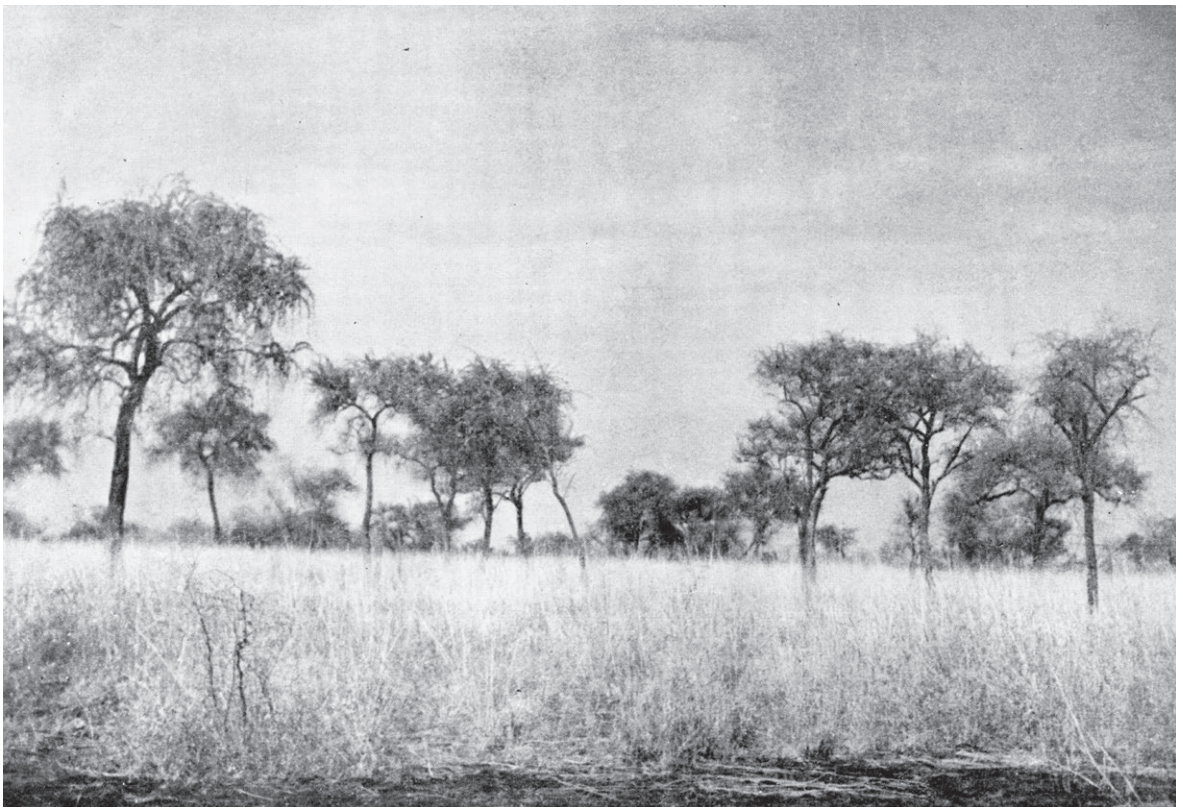

Fig. 27 (Fig. 4 in Pichi Sermolli 1940b). --Savana with *Balanites aegyptiaca* in the region of Om Ager.

territory between the stream of Soroca and the confluence between the streams of Sengia and Tznate Feterat.[35] *This vegetation was very dense and in some places even impenetrable; trees were poorly represented in the* Oxytenanthera *thickets, being frequently very sporadic. This species of bamboo rose to 6 or 8 m. above the ground and formed a layer under which almost nothing but a few herbaceous species could grow. In the territory I travelled through, vast thickets of pure* Oxytenanthera *bushland alternated with places where, together with this species, there were also trees, mostly represented by Terminalia. In the stretch between the streams of Bascura* and Zagba *the bamboo did not descend to the bottom of the narrow valley where the Sangia was, flanked by lush vegetation, but was restricted to the upper slopes of the valley. The lower parts of these slopes were covered by deciduous woodland, the main components of which were* Terminalia, Anogeissus leiocarpus, Gardenia lutea [Gardenia ternifolia] *and* Boswellia papyrifera.

After the confluence of the stream of Tznate Feterat with the Sengia River, we went up to slightly higher altitudes and found ourselves in an area of flat ground that we crossed through its greatest length. Here the appearance of the vegetation was that of a wooded savannah [wooded grassland]*, the tree stratum of which was dominated by* [p. 619; Fig. 5 to 8, here

35 The Tznate Feterat River has not been traced on any map; it might be another name for the Angareb River, although Angareb is a name widely used even on early maps. Sengia joins with Angareb at ca. 13° 05' N, 37° 23' E; the mission crossed the Angareb River at ca. 13° 45' N, 36° 57' E (13.75° N, 36.95° E in decimal degrees).

Fig. 28 (Fig. 5 in Pichi Sermolli 1940b). Convoy of vehicles travelling through deciduous and burnt *Combretum-Terminalia* woodland near Casa Jesus.

Fig. 28-31, occupy all of pp. 617 and 618] Bauhinia thonningii [Piliostigma thonningii], Gardenia lutea [Gardenia ternifolia], *species of* Acacia *and* Combretum *and a herbaceous layer of which was made up of high grasses, mostly species of Andropogoneae (Hyparrhenia), but not forming a very dense ground cover (Fig. 9).*

This stretch of vegetation was of limited extension, and soon the road began to climb again, bringing us to a slightly higher altitude (1,100-1,300 m.) than that of the territories we had crossed so far (900-1,100 m). The vegetation of this area up to the stream of Avellana had the appearance of a slightly denser woodland than the one we had previously crossed, with a richer shrub layer and trees of different height among which I noticed the usual Terminalia, Combretum collinum, Anogeissus leiocarpus, Gardenia lutea [Gardenia ternifolia] *and* Bauhinia thonningii. *Along some very small streams that crossed this territory I noticed some magnificent examples of* Albizia.

The vegetation along the stream of Avellana was dense and green woodland consisting of Anogeissus leiocarpa, *which was the species almost exclusively represented in the upper tree layer, and of* Gardenia lutea [Gardenia ternifolia], *which was abundant in the lower woody layer, slightly exceeding the tall grasses and shrubs that covered the ground.*

Fig. 29 (Fig. 6 in Pichi Sermolli 1940b). *Oxytenanthera abyssinica* thicket in the region of the stream of Soroca.

From this region we descended slightly and crossed again the Sengia River, the banks of which were wonderfully covered by a green [p. 620] *and dense vegetation (Fig. 7* [here Fig. 30]*); the presence of water also made its beneficial action felt here.*

The slope of the valley that we ascended after the Sengia was furrowed in many places by torrents that carried water most of the year. The presence of these streams had a great influence on the vegetation, which here no longer appeared dry and scattered, but green and dense. The density of the vegetation and the richness of the undergrowth already suggested an altitudinal limit that would mark the composition of the vegetation. There were still species of Anogeissus, Combretum, Gardenia, *etc., but in the undergrowth there were evergreen species such as* Carissa edulis [Carissa spinarum L.].

In the region of Checc, at an altitude of about 1,700 m,[36] *the vegetation changed completely and the bushland was replaced by evergreen tropical forest (Fig. 8* [here Fig. 31]*). The appearance of this vegetation was so lush and dense that one almost had the impression of being in a rainforest. A small collection that I managed to make during a very short stop allowed me to document some plants, among them the most abundant were* Mimusops kummel, Ficus riparia [F. sur], Gymnosporia schimperi [Maytenus serrata (A. Rich.)

36 Exact locality not traced, possibly just to the west of the area of Tucur Dinghia and below the watershed with the Lake Tana Basin.

Fig. 30 (Fig. 7 in Pichi Sermolli 1940b). - Bank vegetation along the Sengia River.

R. Wilczek var. schimperi (A. Rich.) Fiori], Strychnos unguacha [Strychnos innocua], Phoenix reclinata, *etc. Here the soil was fertile and permanently moist thanks to the presence of numerous small torrents that crossed this narrow valley. The dense forest that covered the whole slope up to Tucur Dinghia, also embraced the basal part of the two steep and rocky mountains above this village. In some places the forest had been destroyed by the local people to be replaced with crops of cereals and edible plants.*

Higher up, around 2,300 m., the vegetation was sparser and Acacia abyssinica, *with its umbrella-like crowns, made the landscape particularly beautiful and characteristic (Fig. 10* [here Fig. 33]*).*

Just above Tucur Dinghia, around 2,400 m., uninterrupted grasslands began to cover the whole slope up to the crest of the Chercher Hill (ca. 2,730 m), which is located on the watershed of the Tana basin. Throughout these grasslands, as in other regions of the Ethiopian plateau in the lower part of the "dega", there were sporadic trees, such as Olea chrysophylla [Olea europaea *subsp.* cuspidata], Acacia abyssinica, Gymnosporia sp., Apodytes acutifolia [Apodytes dimidiata], Lachnopylis congesta [Nuxia congesta], *etc. Going higher up, the trees became more and more sparse, but in this part of the plateau we did not reach grasslands completely without trees, as I have seen in other parts of Abyssinia, as the place was not high enough. The vegetation consisted here as a more or less continuous grass stratum, 30-60 cm high on average, with scattered shrubs and subshrubs. Among*

Fig. 31 (Fig. 8 in Pichi Sermolli 1940b). Tropical evergreen forest in the region of Checc below Tucur Dinghia.

the species growing in this vegetation I [p. 621] *noted:* Rosa abyssinica, Carissa edulis [Carissa spinarum L.], Pterocephalus frutescens, Echinops macrochaetus, Helichrysum schimperi, Helichrysum hochstetteri, Hyparrhenia pseudocymbaria, Hyparrhenia hirta, Pennisetum schimperi, *etc.*

At the end of these brief notes on the vegetation of the western slope of the Ethiopian Plateau I want to address my thanks to the Royal Academy of Italy and to his excellency Giotto Dainelli for having entrusted me with this research and for having supported the publication of it.

List of species collected during the trip.[37]

Checc region, evergreen tropical forest at the base of Mt. Gunidubba, about 1,800 m., 23.1.1937: *Dryopteris schimperiana* (Hochst.) C. Chr., *Hyparrhenia cymbaria* Stapf,

37 The names in this list are generally represented as originally presented by Pichi Sermolli; only minor edits have been made. Generally, the text is not a verbatim translation and is therefor not in Italics. The flowering plants can usually be found in chapter "5. Chronological list …", and the modern synonyms for the outdated names can be found in "Indexes and Synonymy: (3) List of identifications of names used by Pichi Sermolli…" The specimens of ferns mentioned in this list have not been found at the herbarium FT, but some are mentioned by Friis (2015: Appendix 2, Ferns from the Lake Tana expedition in the historical collection of Pichi Sermolli's pteridophytes (FI-PS), p. 13-14).

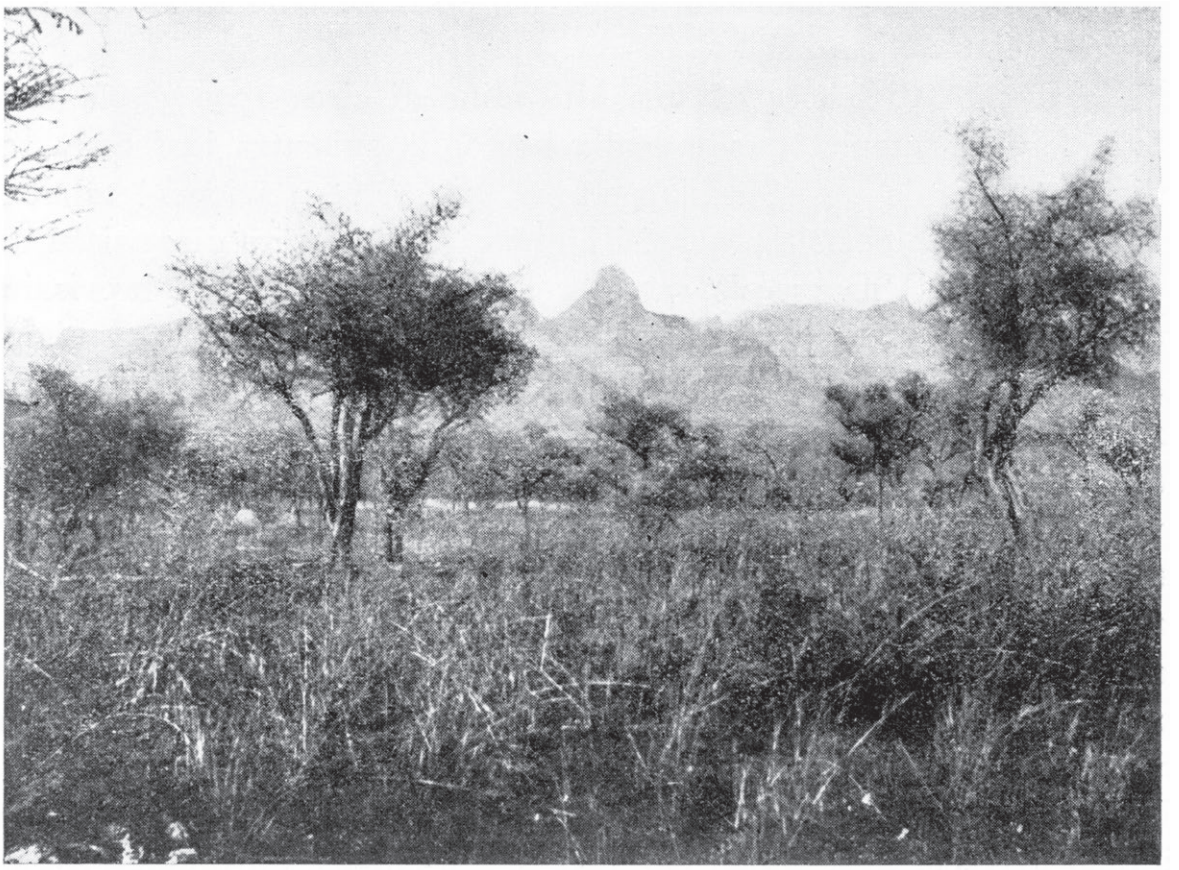

Fig. 32 (Fig. 9 in Pichi Sermolli 1940b). Savannah [wooded grassland] in the flat stretches of the ridge along the Sengia River after its confluence with the stream of Tznate Feterat.

Hyparrhenia variabilis Stapf, *Ficus riparia* A. Rich., *Gymnosporia serrata* (Hochst.) Loes. var. *schimperi* Fiori, *Osyris abyssinica* Hochst., *Pterolobium exosum* (J. F. Gmel.) Baker, *Hyparrhenia variabilis* Stapf var. *typica* Fiori, *Gymnosporia serrata* (Hochst.) Loes. var. *schimperi* (Hochst.) Fiori, *Hypericum quartinianum* A. Rich., *Combretum collinum* Fresen., *Strychnos unguacha* A. Rich. var. *typica* Gilg., *Lachnopylis congesta* (R. Br.) C. A. Smith. [*Nuxia congesta*], *Carissa edulis* Vahl, *Barleria ventricosa* Nees, *Hypoestes forskalei* R. Br., *Phaylopsis longifolia* T. Thoms. in Speke [*Phaulopsis imbricata* (Forssk.) Sweet], *Phaylopsis parviflora* Willd. [probably *Phaulopsis imbricata* (Forssk.) Sweet], , *Vernonia hochstetteri* Walp.

The Checc region, with dense woodland or almost forest of *Acacia abyssinica* on the slopes of Mt. Gunidubba, at ca. 2,000 m., 23.1.1937: *Hyparrhenia cymbaria* (L.) Stapf, *Hyparrhenia rufa* (Nees) Stapf x *Hyparrhenia umbrosa* (Hochst.) Anderss., *Dioscorea abyssinica* Kunth, *Maesa lanceolata* Forssk., *Tephrosia interrupta* Engl., *Astragalus abyssinicus* Steud., *Hypericum quartinianum* A. Rich., *Mimusops kummel* A. DC., *Lachnopylis congesta* (R. Br.) C. A. Smith [*Nuxia congesta*], *Guizotia scabra* (Vis.) Chiov.

Tucur Dinghia, wooded grassland, at ca. 2,300 m., 24.1.1937: *Dodonaea viscosa* (L.) Jacq. var. *vulgaris* Benth. forma *burmanniana* (DC.) Radlk., *Otostegia integrifolia* Benth. in DC., *Stereospermum kunthianum* Cham.

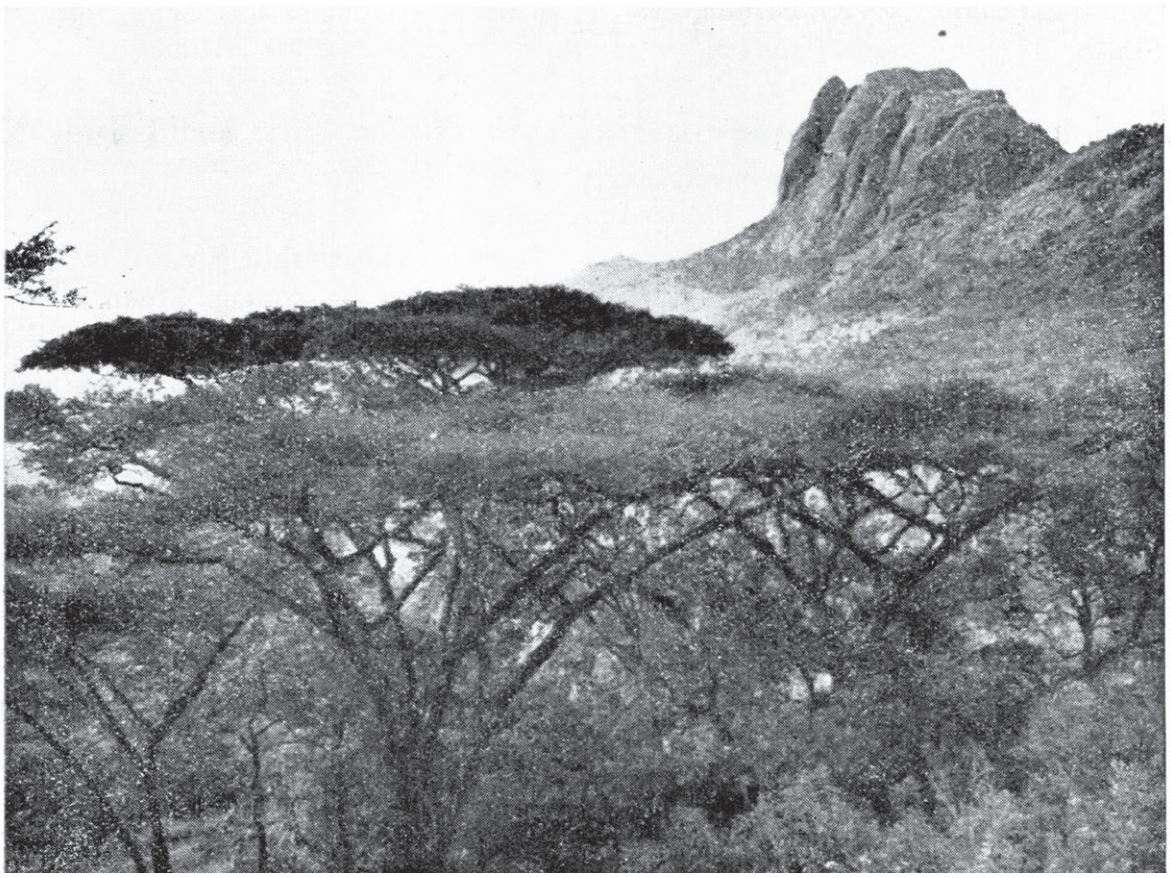

Fig. 33 (Fig. 10 in Pichi Sermolli 1940b). Forest of *Acacia abyssinica* near Tucur Dinghia.

Surroundings of Tucur Dinghia in the tropical evergreen forest, at ca. 2,300 m., 24.1.1937: *Dryopteris schimperiana* (Hochst.) C. Chr., *Asplenium protensum* Schrad., *Asplenium aethiopicum* (Burm. f.) Bech. , *Loxoscaphe theciferum* (HBK.) Moore subsp. *concinnum* (Schrad.) Pich. Serm. var. *schimperi* (Hook.) Pich. Serm., comb. nova, *Adiantum poiretii* Wikstr., *Pteris quadriaurita* Retz. var. *abyssinica* (Hieron.) Pich. Serm., *Loxogramme lanceolata* (Sw.) Presl, *Rhamnus prinoides* L'Hérit.[38]

Near the village of Bachiana (Tucur Dinghia), in wooded grassland, at ca. 2,400 m., 24.1.1937: *Osyris abyssinica* Hochst., *Viscum nervosum* A. Rich. var. *angustifolium* Sprague, *Rumex nervosus* Vahl, *Phytolacca dodecandra* L'Hérit., *Stephania abyssinica* (A. Rich.) Walp., *Rosa abyssinica* R. Br., *Acacia abyssinica* Benth., *Albizia schimperiana* Oliv., *Cicer arietinum* L., *Ricinus communis* L. var. *africanus* (Willd.) Mull. Arg. in DC. form. *subviridis* Mull. Arg. in DC., *Apodytes acutifolia* A. Rich. [as "Hochst."] Hochst., *Rham-*

38 Note by Pichi Sermolli: "Some authors consider *Davallia concinna* Schrad., Gött. gel. Anz., 918 (1818) as an independent species, but I think that it may be regarded as a subspecies of *Davallia thecifera* HBK., Nov. Gen. et Sp., I, 23 (1815). *Davallia schimperi* Hook., Sp. fil, I, 193, tav. 50 *A* (1846) is then to be considered as a variety of the subspecies *D. concinna*. When these taxa are transferred at the same ranks to the genus *Loxoscaphe,* they require the new combinations mentioned above."

nus prinoides L'Hérit., *Syzygium guineense* (Willd.) DC., *Buddleja polystachya* Fresen., *Carissa edulis* Vahl, *Ipomoea tenuirostris* Choisy in DC., *Micromeria biflora* Benth. var. *punctata* (R. Br.) Fiori, *Leonotis velutina* Fenzl. var. *rugosa* (Benth.) Baker, *Achyranthes argentea* Lam., *Phaylopsis parviflora* Willd. [probably *Phaulopsis imbricata* (Forssk.) Sweet], *Gymnosporia serrata* (Hochst.) Loes. var. *schimperi* (Hochst.) Fiori, *Vernonia quartiniana* A. Rich., *Vernonia hochstetteri* Sch. Bip., *Phagnalon hypoleucum* Walp.

Northern slopes of the Chercher Hills, at ca. 2,600 m., 25-1-1937: *Cheilanthes farinosa* (Forssk.) Kaulf. forma *sulphurea* (Moore) Pich. Serm., comb, nova (Basionym: *Cheilanthes farinosa* (Forssk.) Kaulf. var. *sulphurea* Moore, Ind. Fil.: 235 (1861), *Hyparrhenia hirta* (L.) Stapf, *Hyparrhenia pseudocymbaria* (Steud.) Anderss., *Pennisetum schimperi* A. Rich., *Carissa edulis* Vahl var. *cornifolia* (Jaub. et Spach) Fiori. [erroneous for *Carissa edulis* Vahl var. *cornifolia* (Jaub. et Spach) Martelli, the combination that antedates both the publication by Fiori and Pichi Sermolli; a synonym of *Carissa spinarum* L.], *Plantago lanceolata* L. var. *dubia* (L.) Wahlenb. subvar. *eudubia* Pilger, *Phagnalon hypoleucum* Sch. Bip., *Pterocephalus frutescens* A. Rich., *Conyza stricta* Willd., *Echinops macrochaetus* Fresen., *Gnaphalium unionis* Oliv. & Hiern, *Helichrysum hochstetteri* (A. Rich.) Hook. f., *Helichrysum schimperi* (A. Rich.) Moeser.

"Introduction" to the publication "Mission to the study of Lake Tana. Vol. 7. Botanical researches. Part 1. Fanerogame …" (Pichi Sermolli 1951).

This chapter contains a translation of Pichi Sermolli's introduction to the systematically arranged account of the collections of vascular plants made during the entire mission for the study of Lake Tana, including collections made in Eritrea, in the western lowlands, on the western escarpment and in the Semien Mountains (Pichi Sermolli 1951: 11-18). The illustrations in this volume show photographs of individual species, not landscapes studied during the field work, and none of the photographs are therefore reproduced here. Fig. 4, showing *Acacia abyssinica* near Tucur Dinghia, is identical with Fig. 10 in Pichi Sermolli (1940b). Grasslands of the "Dega" near Debarech. In the foreground a mountainside with *Echinops steudneri*, *Hypericum lanceolatum* [*Hypericum revolutum* Vahl] and *Rosa abyssinica*.

[P. 11; title:] **Introduction.**

[P. 11] *This first part of volume VII of the "Mission of study to the Lago Tana" is intended to illustrate the results of the study of the Phanerogams collected by me during the time during which I took part as a botanist in the expedition to Lake Tana, organized by the Centro Studi A. O. I.*[39] *of the Royal Academy of Italy, under the direction of Giotto Dainelli.*

As is already known from the first volume of this series of studies,[40] *the expedition to Lake Tana landed at Massawa on January 9 and stayed in Africa until 27 April 1937. During this time, despite the main goal of the expedition being the scientific exploration of the hydrographic basin of Lake Tana, I had the opportunity on the way out and on the way back, to collect plants also in Eritrea, in the western lowland plain of the region of Tucur Dinghia and in the highest parts of the Semien Mountains. The number of collections, including vascular plants and lower plants, amounted to several thousand, which, when studied, will doubtlessly represent one of the most conspicuous contributions to illustrate the territories I have visited.*

39 The Study Center for Italian East Africa [Eritrea, Ethiopia, Somalia].

40 This is "Missione di Studio al Lago Tana. Volume Primo. Relazioni preliminari." See translation of Pichi Sermolli's contribution (Pichi Sermolli 1938a), "Botanical research" in chapter "3. Pichi Sermolli's field observations…

Furthermore, the numerous photographs and the notes made during the travels will provide sufficient material to illustrate the main aspects of the vegetation and landscape of those regions that were the object of my botanical research.

After we had landed at Massawa on January 9 [1937]*, we immediately moved to Asmara, where we stayed for a week for preparation of the mission. During these days, I had the opportunity to make three excursions in the surroundings of Asmara, two in the immediate vicinity of the city and one to Daharo Kaulos. Given the knowledge that we already had of this region, these excursions were not very interesting from the floristic point of view and yielded only few specimens, which are listed at the end of this volume; but they* [p. 12] *provided a useful element for comparison with regard to the vegetation and landscape.*

Departing from Asmara on January 18, we descended the western slope of the Eritrean Plateau through Keren, Agordat and Barentu to Tessenei. From there, we followed the road to Om Ager, and then travelled first through the plain of the western lowland and then obliquely uphill on the slope of the Ethiopian Plateau, crossing the valleys of the streams of Baker, Sua, Soroca, Bascura, Avellana and Sengia, in order to get to the region of Checc and then to Tucur Dinghia.

During this part of the journey, which was covered by motor vehicles without stops, it was only possible for me to collect few plants, but I took numerous notes which allowed me to get an idea of the vegetation and landscape and the succession of plant communities at the various levels. In a preliminary note[41] *I have already illustrated the characteristic aspects of the vegetation and landscape of these regions.*

During the three days that we stayed in Tucur Dinghia I made some excursions in the surroundings, and I could collect plants in the forest and in the woodlands at the base of Mt. Gunidubba (1,800-2,000 m), in the forest of Tucur Dinghia (2,300-2,400 m.) and in the wooded grasslands near the village of Bachiana (2,400 m.). The number of these collections was not very high, but they have provided several interesting plants. In fact they do include three new species, one of which belongs to a genus not hitherto reported from Abyssinia, and one species not previously listed in Ethiopian flora.

From Tucur Dinghia, located only a few kilometres from the watershed of the basin of Lake Tana, we moved in a single day to Gondar, where the research began for the botanical study of the region of the Lake Tana, studies which lasted from 26 January to 5 April.

We stayed in Gondar only for a short time, during which I botanized intensely on the slopes between the city and the watershed of the Lake Tana hydrographic basin, more specifically on Mt. Jabec, Mt. Coco and Mt. Guranghe. We then moved to the southern shore of the Lake to the town of Bahar Dar, where we stayed from January 30 to February 11 [1937]. These days were used to collect plants along the shores of the southern part of the lake, in the forest and in the bushlands and woodlands along the shores of the Blue Nile immediately downstream from the point where it originates from Lake Tana, [p. 13; see Fig 34 here] *as well as in the surrounding plains, which for many kilometres stretched to the south of the lake. I also did an interesting botanical study of the island of Kebra Uddus Gabriel, covered by a dense and luxuriant forest, and another excursion to the islets and small peninsulas covered with papyrus and bordering the lake west of Bahar Dar.*[42]

41 Pichi Sermolli (1940b).

42 Pichi Sermolli's footnote: "The island Kebra Uddus Gabriel is not marked in the attached map of E. Minucci, but is reported on various other maps of Lake Tana (e.g. by Monandini (1940)). In some maps, the name of this small island is found in a place about half the distance between Bahar Dar and the tip of the Zeghie peninsula. It rises, in the form of a broad, cupula-shaped volcanic cone, about hundred metres above the level of the lake and is completely covered with a lush and dense forest. Not far from Kebra Uddus Gabriel there are two small islands (Kebra Jesus and Kain)."

Fig. 34. The Blue Nile with wooded banks showing the river in the upstream direction at the ferry at Bahar Dar. Photograph by Dainelli in Fondo Dainelli 501 0067.

The expedition then moved to Furie, i.e. the bay to the south of the Zeghie peninsula at the place where the Zeghie market, the most important market in the entire region of Lake Tana, is held weekly. From this place, where I stayed from the 12 to the 19 February, my first concern was to explore the Zeghie Peninsula, both the part covered by dense forest under which coffee was grown, and in the part where the forest had been cleared. I also made some excursions along the shore of the lake and in the plains and hills behind. A very interesting excursion was the one to the streams of Baimo and Umfras (in the map marked as Unfrasz), which allowed me to study the vegetation of the watercourses of the plains near the lake, which were partly bordered by a narrow strip of gallery forest and partly by plant communities dominated by papyrus.

The next base of the expedition was Quonzela (on the map marked as Conzela)[43] *just north of the mouth of the Little Abbai* ["Piccolo Abbai" [Abai] in Italian, in Amharic "Gilgel Abay"]*, is the largest river that flows into Lake Tana, rising at 10° 58', 37° 12' E, at ca. 2,750 m., and entering the lake through a large estuary, shaped like a peninsula, at 11° 52' N, 37° 07' E.] We stayed there from the 20th to the 28th of February. After I had explored the shores of the lake, I pushed inland to study the flora of the plains behind the lake shore.*

43 On the lake shore at 11° 53' N, 57° 02' E.

Fig. 35. The deep valley west of the town of Alefa, now known as Shawira or Shahura. This locality is to the west of the western watershed of the Lake Tana Basin. The streams in the valley run directly to the Nile Valley, rather than to Lake Tana. Photograph by Pichi Sermolli in Fondo Dainelli 501 834.

From Quonzela I also took a three-day hike to the western watershed of the Lake Tana basin by visiting Alefa [historic region to the southwest of Lake Tana; the name has sometimes been used for the small town of Shawira or Shahura at 11° 56' N, 36° 52' E, at ca. 2,250 m] *and descending beyond the limit of the watershed to the hot spring of Fulluaha-Muhat.*[44] *This excursion was very interesting because it allowed me to collect some species that were absent from the rest of the region of the lake. Two other very fruitful botanical collections were made to the Deck Island* [middle part of the island at ca. 11° 54' N, 37° 16' E] *and Daga Island* [highest point of the island at ca. 11° 54' N, 37° 18' E, ca. 1,875 m]*, the first island is flat and covered with bushland, the second mountainous and covered with dense forest: two very interesting examples of vegetation on the islands in Lake Tana.*

[P. 14] *From Quonzela I moved on the 1st of March to Gorgora, where I stayed until the 8th of March, spending this time on the study of the very characteristic flora of the plain*

44 According to Survey Office Khartoum (1940; the sheet Dangila, 67A) at 11° 58' N, 36° 39' E, at ca. 2,100 m. "Muhat" is the name of the spring; "fulluaha", usually transcribed "filwoha", is Amharic for "hot spring".

a little away from the lake, of the rocky hills ("Zefen tarara") south of Gorgora,[45] *of the lake shore and on the small island of Birghida Mariam* [12° 12' N, 37° 17' E] *located south-east of the peninsula of Gorgora at a short distance from the shore.*

Another base for the Mission was Ifag, where we stopped from the 9th to 13th of March. From there I made several excursions to study the vegetation of the plains with grasslands and on the hills between the immediate hinterland of the lake and the base of the mountains to the east that delimit the basin of Lake Tana; more precisely, I studied the plains, which were visited to the northeast and east of Ifag, and a small, rocky mountain (Mt. Abba Bailu) covered by vegetation, which was very interesting and characteristic. An excursion to Mt. Quatele (2,200 m.) and another later (20-23 March), lasting 4 days, to Debra Tabor allowed me to botanically explore the eastern slope of the Lake Tana basin. Although very short, and despite I could not, for reasons beyond my control, reach the actual watershed in this part of the Lake Tana Basin, this excursion was very interesting because it offered me the possibility to make a comparison between the vegetation that covers this area and that on the slopes to the north and west of the basin, which had already previously been studied, and which were both so different with regard to the landscape, the vegetation and the floristic composition.

A last base camp at the church of Zara Enda Michael in Deroa [Fig. 36], *was the point of departure for various excursions between the 14th and the 19th March, which allowed me to botanize in the area of the stream of Gueldo and in the hills of the hinterland, collecting not a few interesting plants in the forest and in the bushland of this part of the Lake Tana basin.*

On the 24th of March we arrived at Gondar, where I alternated between working with the arrangement of my collections and some botanizing in the vicinity of the city.

The collections made during my stay in the Lake Tana Region, although made during a time of the year which corresponded to the dry season, were abundant and interesting. In fact, in the collection I made, it turned out that there were 16 new species, some new varieties, and many species that had not yet been reported from Abyssinia. Maybe the number of new taxonomic entities, so high in relation to the time in which I stayed in the region, may be due to the fact that the research was carried out during a season in which Lake Tana had not previously been visited by the few travellers that had botanised in the region; [p. 15] *however, the flora of the Lake Tana Basin remains with the parts of the country that are insufficiently explored, and I am certain that it is considerably richer than my research proves. Miscellaneous other new species await those who, luckier than me, will be able to explore the magnificent flora that covers the region more in depth and during every season of the year.*

At the beginning of April, having completed the work with making new collections, having arranged all the previously collected material, and waiting for the other members of the Mission to finalize their work, the Director of the Mission found it appropriate to send the geologist, Eng. Minucci, and me to the Semien in order to make a brief exploration of the upper part of this massif, which reaches the highest altitudes of the Ethiopian Plateau.

Coming from Gondar, we arrived in Debarech on the 6th of April, and from here we went in two stages up the valley of the stream of Addeschie, touching the village of Micciubbi [Fig. 37], *where we stopped, and following the right side of the valley of Mai Beleghes River, after which we arrived at the village of Ambaras (3,610 m), where we spent the second night of our hike. Leaving from Ambaras, we touched the Cennech pass and climbed the western slope of Mt. Buahit (4,510 m), and then descending along the northern ridge and the high part of the eastern side of the mountain up to the pass of Arcuasie (3,740 m). From there we went to*

45 In the indications of the localities on Pichi Sermolli's labels and in the main text of Pichi Sermolli (1951) "Zefen tarara" is said to be the the highest hill west or south-west of Gorgora, towards the central part of the peninsula. "Tarara" is Amharic for "hill".

Fig. 36. Forest surrounding the church of Zara Michael. Photograph by Pichi Sermolli in Fondo Dainelli 501 947.

the village of Nori (3,560 m). During the following day, we climbed the summit of Mt. Selchi (4,475 m.) from the western side and then crossed at middle height to Mt. Beroc Uaha and, touching the pass of Arcuasie, and descended to the village of Atgheba Ghiorghis, (3,325 m), where we stopped for the night. The day after, we descended the crest from this place to the ford of Mai Schiaha (2,840 m; [Fig. 38]*) and climbed up again the other side, which led us to the village of Mecana Abbo (3,410 m). Here we left the bulk of the caravan and continued with only two mules, climbing up to the Degien Pass (4,370 m.) where we pitched our tent. The same day we visited Mt. Ualta (4,520 m.), and the following day we climbed Mt. Ancua (4,610 m.) and also Mt. Degien (4,620 m. a.s.l), which is the highest of all the mountain peaks in the Semien mountains, and of the entire Ethiopian Highlands. Afterwards, leaving also the two mules, we covered in two stages the entire north-eastern ridge of the Semien, touching the Metelal pass (3,860 m), Mt. Chiddis Arit (4,532 m), on the slopes of which we bivouacked, Mt. Berge and Mt. Tacaruo (4,330 m.) and climbed to the summit of M. Abba Jared (4,520 m. a.s.l). From there, we touched the pass below at an altitude of 4,280 m. and crossed between Mt. Selchi and Mt. Beroc Uaha (4,215 m), reaching on the same day the plain (3,795 m.)* [p. 16] *along the road to Ataba from the mountains of Nori, where we found our caravan that had reached there by another route. From this place, in only one stage, touching first the village of Nori and then the village of Suohna, we followed the crest below and reached Maccarebia, from where we continued along the valley of the river Anzia*

Fig. 37. The first specimens of *Lobelia rhynchopetalum* in Ericaceous bushland at the village of Micciubbi. Photograph by Pichi Sermolli in Fondo Dainelli 501 1026.

> [Ansia] *to the Auasa. From there we continued on the same day to the town of Addi Arcai, where we ended our journey.*
>
> *This brief excursion was a very important supplement to the botanical research. Apart from the interest to the study of the vegetation of which I have already spoken in a previous note,*[46] *it will, together with an account of the plants of the Tana Basin, be the object of the second part of this volume,*[47] *the botanical collections, although not very many, were very interesting. In fact, 9 new species were collected and some species were only known from a single specimen collected by Rüppel and Schimper.*
>
> *Everything considered, hundreds of specimens of Phanerogams were collected by me; of these a first series of 2649* [in fact 2742 including pteridophytes] *specimens is kept in the Herbarium Coloniale Florentinum [now Erbario Tropicale, ET] at the "Instituto Botanico" of the University of Florence and various other duplicate series, which will be distributed to major herbaria.*

46 Pichi Sermolli (1939).

47 The second part never appeared.

Fig. 38. The valley of Mai Schiaha, seen from Atgheba. This deep valley divides the Semien in a western and an eastern massif. Photograph by Pichi Sermolli in Fondo Dainelli 501 1101.

These specimens belong to 520 species collected in the hydrographic basin of Lake Tana, 133 species collected in the Semien and 143 brought back from Eritrea, the "Tucur Dinghia Region" and the western lowland plains. These include a total of 28 species new to science.

The following pages [of Pichi Sermolli 1951] *are arranged in a systematic order by family and represent all the Phanerogams I have collected. A first list enumerates the species from the Lake Tana basin, then follows a list of those from the Semien, then those of the region of "Tucur Dinghia", and last those of Eritrea and the western lowlands. I have found it appropriate to divide the account of my collections according to the regions from where they come because they belong to floras that are different from each other.*

For each species I have indicated the name, the author, the bibliographers and the bibliography, the altitude, the date and the number of the collection (in brackets), the geographical distribution, the indigenous names [p. 17] *and the uses of the plants. For each new species described here, I have added a description, indication of the type, the origin of the name and some observations in order to establish the systematic position in relation to the other known species of the genus. In many cases, I have found it opportune to add critical observations, especially for those entities that were imperfectly known or had been misinterpreted. In addition, I have made some new combinations and proposed new names in those cases in which the current international rules of botanical nomenclature has demanded it. For these entities I have added the necessary synonymy. For those species from the Semien, the region of Tucur Dinghia and Eritrea that had already been enumerated among the plants of the Lake Tana Basin, I found it unnecessary to report bibliographic data and geographical distribution.*

Numerous figures, partly reproduced from herbarium specimens, but also partially illustrating the habit in nature of the species and the environment in which it occurred, complement the descriptions and the critical observations in the text.[48]

A map of the basin of Lake Tana and another of the High Semien, this latter one drawn by me[49] *accompany this work and facilitate the identification of the localities of the individual species.*

I have found it unnecessary to present a description of the vegetation, even a brief one, first of all because it has been done in my previous notes already referred to above, and secondarily because the description of the plants in the landscape will be the subject of study in the second part of this volume.[50]

In closing this first part of my work, I would like to address my affectionate and grateful greetings to Giotto Dainelli, Head of the expedition to Lake Tana, who made me part of the expedition, [p. 18] *and to all the companions with whom I shared the joys and exhaustions of the study of the region of Lake Tana and the Semien Mountains.*

I also send sincere and deep thanks to the British Council, a grant from which allowed me to complete my research in the English herbaria, to the directors and conservators of the Kew Herbarium, the herbarium of the British Museum, and to the herbaria of Paris and Geneva, which all offered me cordial hospitality during my study stay at the said herbaria, to A.H.G. Alston, S. Ballé, C.E.B. Bremekamp, B.L. Burtt, E.J. Dandy, A.W. Exell, L. Hauman, C.E. Hubbard, E.D. Merrill, E. Milne-Redhead, E. Nelmes, W.R. Philipson, W. Rothmaler, N.Y.

48 Pichi Sermolli's footnote: "The figures that illustrate this volume are all derived from photographs or drawings I have personally made in the laboratory or in the time when I was in Africa with the Lake Tana expedition. The illustrations reproduced of the new species are always of the holotype. In the explanations of the illustrations showing plants in nature, I have always indicated in parenthesis the number of the collection of the plant illustrated."

49 Pichi Sermolli's footnote: "Published in Pichi Sermolli 1940 [1940b]."

50 The second part never appeared.

Sandwith, V.S. Summerhayes, and G. Taylor, to whom I owe the revisions or the primary study of some samples of my collections, to all the botanists of the herbaria of Kew, British Museum, Paris and Geneva, who have facilitated my research with advice and suggestions and also to the Directors and personnel of the whole Botanical Institute and of the Erbario Coloniale of the University of Florence that daily have been working hard to help.

Allow me at last to pass my heartfelt gratitude to the Accademia dei Lincei*, which took on the not-so-small burden of publication of this account, which is the fruits of many months of assiduous work.*

Rodolfo Pichi-Sermolli,
The Botanical Institute and Erbario Coloniale, of the University of Florence.

CHAPTER 4

Results: collections, new species, infraspecific taxa, combinations, replacement names and their type material

The collections: incorporation in Erbario Tropicale (Centro Studi Erbario Tropicale) and distribution of duplicates

As mentioned by Pichi Sermolli (1938a), the number of specimens brought to Florence was probably more than 25,000, which according to the introduction to Pichi Sermolli (1951) represented 2649 collections of angiosperms and gymnosperms and, according to the numerical list in Pichi Sermolli (1951: 277-306), 2742 collections of angiosperms, gymnosperms, ferns and fern allies. Because of the very restricted or completely missing archival material relating to the botanica collections arriving from the Lake Tana mission, little is known about what happened to the collections in the ten years between the time when they arrived in Italy in 1937 and the time in 1947, when Pichi Sermolli prepared to study his material at the Royal Botanic Gardens, Kew, and the British Museum (Natural History) in London (Friis 2009; Baldini 2011; Friis 2015). It seems probable that the material was stored in Florence, and Pichi Sermolli presumably had access to it when in town. As mentioned in chapter "2. Pichi Sermolli: before, on and after the mission …", he was frequently away from Florence for long periods during the war, and lost his personal belongings and notes in 1943, but returned in 1945 to his position at the *Erbario Coloniale* in Florence. Until the closing down of the *Centro Studi per l'Africa Orientale Italiana*, the botanical collection from the mission to Lake Tana still formally belonged to that institution, but because of the suppression of the *Reale Accademia d'Italia* in 1944 and the transfer of all its property to the *Accademia Nazionale dei Lincei*, the ownership of the collections must have been somewhat complicated. On the specimens from the Lake Tana expedition, as they now appear in the *Centro studi Erbario Tropicale* (FT), and the duplicates elsewhere, there are large labels marked with the ownership as *Reale Accademia d'Italia* and smaller as-

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Fig. 39. Label without printed locality number, but with typed locality on type material of *Diphasia dainellii*. The forest around the church Zara Enda Michael was given locality number 101 (here T101). The current name of this species is *Vepris dainellii*.

sociated labels which state the ownership as *Herbarium Coloniale Florentinum*. Both the larger and the smaller labels are also found on the duplicates that have been given to other herbaria. According to Laura Settesoldi's archival search, it seems possible to state that the formal transfer of ownership of the collections took place only in 1951. Probably shortly after the collections had formally become the property of the *Herbarium Coloniale Florentinum* [*Centro Studi Erbario Tropicale*], Pichi Sermolli started distributing duplicates to other major herbaria with important East African collections. Nothing has been traced about how much of the entire material from the Lake Tana expedition Pichi Sermolli brought with him on his visit to Kew and the British Museum (Natural History) in 1947.

As mentioned, there are surprisingly few references to ferns and fern allies in the publications. The monograph of the majority of the collections of vascular plants, Pichi Sermolli (1951), is dedicated to gymnosperms and angiosperms, and "Pteropsida" is only mentioned in the numerical list of collections, from which it appears that numbers for 102 collections of ferns and fern allies were set aside. There are also no collections of ferns from the *Missione di Studio al Lago Tana* in the *Centro Studi Erbario Tropicale* (FT), where the collections of gymnosperms and angiosperms are almost fully represented and preserved (see further about the ferns and fern allies in chapter 6. No ferns listed in the floristic account of the vegetation at Tucur Dinghia (Pichi Sermolli 1940b; see list at the end of "Observations …" in chapter "3. Pichi Sermolli's field observations …") are in fact found in the *Centro Studi Erbario Tropicale* (FT). It is not known what happened to the specimens of ferns and fern-allies, except that 28 collections from the Lake Tana expedition have been found in the Pteridophyte herbarium of Pichi Sermolli in FI-PS.

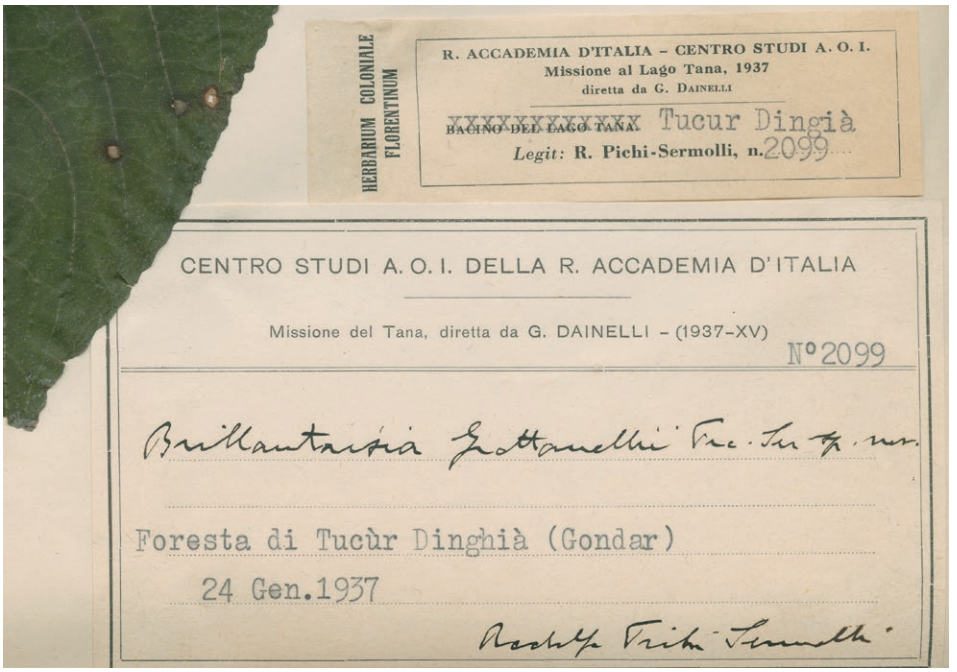

Fig. 40. Typed label on type material of *Brillantaisia grottanellii*. The localities outside the Lake Tana Basin were not given locality numbers, as can be seen here on a collection from west of the watershed. Note that the localities outside the Lake Tana Basin have been corrected on the additional labels. "Bacino del Lago Tana" has been corrected to "Tucur Dinghia." The additional label states that the specimen had been handed over to the *Herbarium Coloniale Florentinum* (now *Centro Studi Erbario Tropicale,* FT), but not when this happened.

This overview compiles data about new taxa, combinations and names from both Pichi Sermolli (1950b) and Pichi Sermolli (1951), both relating to the collections made by Pichi Sermolli in Eritrea and Ethiopia on the Mission to Lake Tana (and the Semien) in 1937. The results in Pichi Sermolli (1950b) relate mainly to taxonomic changes relating to previously described taxa; for these conclusions we have tried to trace as much information about type material as possible from the literature and via Global Plants in JSTOR.

Our search has shown that there are many duplicates of Pichi Sermolli's collections from the Lake Tana mission at the Royal Botanic Gardens, Kew (K), but these do not appear in public databases or lists. Smaller numbers of duplicates are found at BR, L (some of these from WAG), MO, and W. The databased duplicates from BR, L (WAG), MO, and W do not include ferns or fern allies from the Lake Tana expedition; no specimen collected by Pichi Sermolli on the Lake Tana expedition has been seen in the database of P. The databased collections at G include a few collections from Pichi Sermolli's field work in Libya in 1934, but no material from the Lake Tana expedition.

The new taxa, their types and other nomenclatural changes

The taxonomic and nomenclatural novelties in Pichi Sermolli (1951) are new taxa described based on material collected by him on the Lake Tana expedition to Eritrea

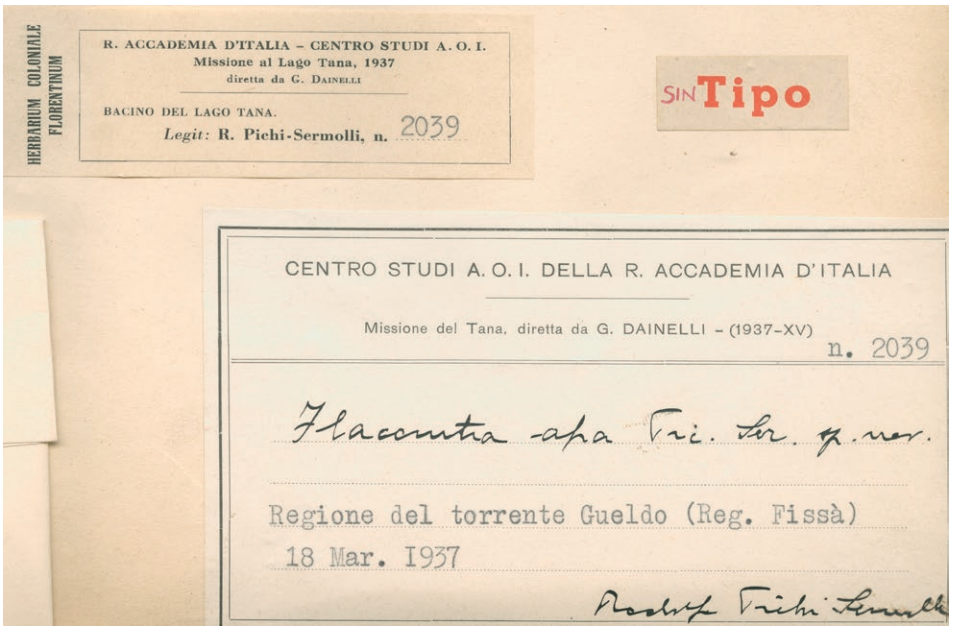

Fig. 41. Typed label on type material of *Flacourtia afra*. "Regione del Torrente Gueldo (Reg. Fissa)" is inside the Lake Tana Basin and was given locality number 102, but not all duplicates were provided with printed labels. Typed labels are normally not provided with locality number.

and Ethiopia in 1937, and for these we have tried to trace as much about duplicates as possible via Global Plants (https://plants.jstor.org/) and GBIF (https://www.gbif.org/). For both, we have added the name accepted for the *Flora of Ethiopia and Eritrea* in the right-hand column. A few taxa discussed by Pichi Sermolli (1950b), such as *Cardamine trichopoda* [error for *trichocarpa*] A. Rich. var. *elegans* Engl. (1892) and *Vernonia thomsoniana* Oliv. & Hiern var. *livingstoniana* (Oliv. & Hiern) Pic. Serm. (1950) are included here although they are not among the identifications dealt with in Pichi Sermolli (1951). Pichi Sermolli seems nowhere to mention that he had collected *Aspidotis schimperi* (Kunze) Pic. Serm. (accepted name in FEE) on the Lake Tana expedition, but it is not possible to be certain because of the loss of fern material.

Family	Name in Pichi Sermolli (1951)	Type material - herbaria where specimens are kept	Name in *Flora of Ethiopia and Eritrea*
Acanthaceae	*Blepharis maderaspatensis* (L.) Heyne var. *abyssinica* (Hochst.) Pic. Serm., comb. et stat. nov. – Pichi Sermolli (1951: 257).[1]	Type of basionym: Ethiopia, *Schimper* III 1492 (BR, BR0000008356772; G, G00008580, G00008581, G00008582; HAL, HAL0113929; K, K000394271; M, M0109776; TUB, TUB004341; W, W0006725, all iso).	**Blepharis maderaspatensis** *(L.) Roth*
Acanthaceae	*Brillantaisia grottanellii* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 254, Tav. LVIII).	Type: Tucùr-Dinghià, *Pichi Sermolli* 2099 (FT, FT003140, holo; FT003141, iso)-	**Brillantaisia grottanellii** *Pic. Serm.*
Acanthaceae	*Dyschoriste broiloi* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 256, Tav. LIX).	Type: Near the village Bachianà, *Pichi Sermolli* 2126 (FT, FT003145, holo).	**Dyschoriste multicaulis** *(A. Rich.) O. Kuntze*
Acanthaceae	*Hypoestes busii* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 142, Tav. XXVI).	Type: Ifag, *Pichi Sermolli* 2097 (FT, FT003247, holo; K, K000379091, iso).	**Hypoestes triflora** *(Forssk.) Roem. & Schult.*
Acanthaceae	*Phaulopsis inaequalis* Pic. Serm., nom. nov. – Pichi Sermolli (1950b: 339). – Based on: *Phaylopsis longifolia* C.B. Cl. (1900), nom. Illeg., non Sims (1823).	Type of basionym: C.B. Clarke cited specimens from all over Africa with his validating description in 1900; Pichi Sermolli cited Schimper I 367 as the specimen from which he had taken his replacement epithet, but did not select it as lectotype. This was done by Cufodontis (1964) when citing as the only type: Mt. Scholoda, *Schimper* I 367 (K, lecto; FI, FI009967; TUB, TUB004282, TUB004283).	**Phaulopsis imbricata** *(Forssk.) Sweet* subsp. **imbricata**
Amaranthaceae	*Cyathula uncinulata* (Schrad.) Schinz var. *abyssinica* (Moquin) Pic. Serm., comb. nov. – Pichi Sermolli (1951: 37). – Basionym: *Cyathula globulifera* Moquin var. *abyssinica* Moquin (1849).	Type of basionym: Adua, *Schimper* I 392 (P, P00482807, holo; BR, BR0000008357144; ETH, ETH000000004, ETH000000005; HBG, HBG502330; HOH, HOH009250; K, K000243623; L, WAG0102639, WAG0000064; M, M0107339, M0107340; S, S07-12226, iso).	**Cyathula uncinulata** (Schrad.) Schinz
Anacardiaceae	*Rhus amharica* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 81, Tav. XIV).	Type: East of Mt. Guranghè, north of Gondar, *Pichi Sermolli* 2337 (FT, FT002091, holo).	**Rhus glutinosa** *A. Rich.* subsp. **glutinosa** var. **glutinosa**

1 The basionym of Pichi Sermolli's combination, *Blepharis abyssinica* Hochst., is validated by a printed description on the label distributed with duplicates of the type collection. The combination *Blepharis maderaspatensis* (L.) Heyne var. *abyssinica* (Hochst.) Fiori was validly published in *Boschi e Piante Legnosae Eritrea* (Fiori 1912: 346), earlier than by Pichi Sermolli (1951).

Family	Name in Pichi Sermolli (1951)	Type material - herbaria where specimens are kept	Name in *Flora of Ethiopia and Eritrea*
Anacardiaceae	*Rhus huillensis* Engl. var. *erythraea* (Fiori) Pic. Serm., comb. nov. – Pichi Sermolli (1950b: 336). – Basionym: *Rhus piroides* [error for *pyroides*] Burch. var. *erythraea* Fiori (1911).	Type of basionym: Eritrea, Acchelè Guzai: Mareb a Chenafenà, *Fiori* 186 (FT, FT002096, FT002097).	**Rhus quartiniana** *A. Rich.* var. **quartiniana**
Apiaceae	*Gymnosciadium pusillum* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 212, Tav. XLV [left specimen]).	Type: Semien, SE slope of Mt. Ualtà, *Pichi Sermolli* 2738 (FT, FT002498, holo).	**Pimpinella pimpinelloides** *(Hochst.) Wollf*
Apocynaceae	*Carissa edulis* Vahl var. *cornifolia* (Jaub. et Spach) Pic. Serm., comb. et stat. nov. – Pichi Sermolli (1951: 253). – Basionym: *Carissa cornifolia* Jaub. et Spach (1857).[2]	Type of basionym: Semien, Sanfetch Mt., *Schimper* 1068 (BR, BR0000008359001; G, G00008994; K, K000233563; L, WAG0003944; P, P00413313, P00413314, isolecto).	**Carissa spinarum** *L.*
Asparagaceae	*Asparagus asiaticus* L. var. *amharicus* Pic. Serm. var. nov. – Pichi Sermolli (1951: 194, Tav. XLI).	Type: Zeghie peninsula, *Pichi Sermolli* 2027 (FT, FT000809, holo; K, K000255647, iso).	**Asparagus africanus** *Lam.*
Araceae	*Amorphophallus gomboczianus* Pic. Serm., nom. nov. – Pichi Sermolli (1951: 189). – Based on: *Amorphophallus abyssinicus* Gombocz (1936); non *Amorphophallus abyssinicus* (A. Rich.) N.E. Brown (1901).[3]	Type of basionym: Ethiopia, Sidamo, in old, open meadows in forest, *Sáska* s.n. (inflorescences in December 1934, leaves June 1935 (BP, syn., not seen).	**Amorphophallus gomboczianus** Pic. Serm.
Asteraceae	*Anthemis semiensis* Pic. Serm., nom. nov. – Pichi Sermolli (1950b: 346). – Pichi Sermolli (1951: 230). – Based on: *Anthemis pygmaea* Oliv. & Hiern (1877), nom. Illeg., non Bertol. (1843).	Type of Basionym: Semien, Mt. Dedschen, *Schimper* 220 (P, P00092444, P00092445; S, S08-1520, iso).	**Anthemis tigreensis** *A. Rich.*
Asteraceae	*Artemisia rehan* Chiov. (1912) – Pichi Sermolli (1950b: 346) – Pichi Sermolli (1951: 163).[4]	Type: Entotto, 1896, *Traversi* s.n. (FT, FT003793).	**Artemisia absinthium** *L.*
Asteraceae	*Carduus semiensis* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 234, Tav. LVI).	Type: Semien, Mt. Chiddis Arit, *Pichi Sermolli* 2625 (FT, FT003858, FT003859, holo not indicated).	**Carduus leptacanthus** *Fresen.*
Asteraceae	*Conyza messerii* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 226, Tav. LII).	Type: Semien, Mt. Ualta, *Pichi Sermolli* 2636 (FT, FT003676, holo; K000273897, iso).	**Conyza messeri** *Pic. Serm.*
Asteraceae	*Echinops francinianus* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 165, Tav. XXXIV).	Type: Bahar Dar, *Pichi Sermolli* 2175 (FT, FT003846, holo).	**Echinops giganteus** *A. Rich.*

2 When making this new combination, Pichi Sermolli had overlooked that the combination *Carissa edulis* var. *cornifolia* had already been made by Martelli (1886: 53).

3 May be identical with *Amorphophallus gallensis* (Engl.) N.E. Br.

4 In both Pichi Sermolli (1950b) and Pichi Sermolli (1951, this species was considered distinct from *Artemisia absinthium* L.

Family	Name in Pichi Sermolli (1951)	Type material - herbaria where specimens are kept	Name in *Flora of Ethiopia and Eritrea*
Asteraceae	*Echinops nistrii* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 167, Tav. XXXV).	Type: Zeghie, *Pichi Sermolli* 2174 (FT, FT003845, holo).	**Echinops giganteus** *A. Rich.*
Asteraceae	*Senecio degiensis* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 231, Tav. LIII).	Type: Semien, Mt. Degien, *Pichi Sermolli* 2602 (FT, FT003820, holo).	**Senecio farinaceus** *A. Rich.*
Asteraceae	*Tolpis virgata* Bertol. (1803) – Pichi Sermolli (1950b: 347) pointed out that *Tolpis virgata* Bertol. is an earlier name for this species.[5]	Type: Tunisia, *Desfontaines* s.n. (FI, FI006649, holo?).	**Tolpis virgata** *(Desf.) Bertol.*
Asteraceae	*Vernonia chiarugii* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 155, Tav. XXX).[6]	Type: Amba Covitta, near Bahar Dar, *Pichi Sermolli* 2426 (FT, FT003656, holo).	**Vernonia myriantha** *Hook. f.*
Asteraceae	*Vernonia francavillana* Oliv. & Hiern (1877). – Pichi Sermolli (1950b: 342). – Pichi Sermolli (1951: 154, Tav. XXIX).[7]	Type: Gondar, *Rochet d'Hericourt* s.n. (P, P024120, holo; K, photo).	**Vernonia rueppellii** *Walp.*
Asteraceae	*Vernonia oliveriana* Pic. Serm., nom. nov. – Pichi Sermolli (1950b: 345). – Syn.: *Vernonia podocoma* Oliv. & Hiern (1877), not Schweinfurth (1867).	Type of *Vernonia podocoma*: Ethiopia, Choa and Oudgerate, *Petit* (K, lecto, P, isolecto, not found).	**Vernonia myriantha** *Hook. f.*
Asteraceae	*Vernonia richardiana* (O. Kuntze) Pic. Serm., "nom. nov." (in fact comb. nov). – Pichi Sermolli (1950b: 340) – Pichi Sermolli (1951: 154, Tav. XXVII). – Based on: *Vernonia myriocephala* A. Rich. (1848), nom. Illeg., non DC. (1836).[8]	Type of basionym: Gondar, *Quartin Dillon* s.n. (P, P024577, holo).	**Vernonia theophrastifolia** *Oliv. & Hiern*
Asteraceae	*Vernonia rueppellii* Walp. – Pichi Sermolli (1950b: 341) – Pichi Sermolli (1951: 154, Tav. XXVIII). – Syn.: *Vernonia podocoma* Vatke var. *glabrata* Fiori (1940).[9]	Type of *Vernonia rueppellii:* Between Halei and Tembien, June 1832, *Rüppel* s.n. (P, holo, not seen; K, photo; FR, FR0030117, FR0030118). Type of *Vernonia podocoma* var. *glabrata:* Between Uondo and Agere Salaam, Dec. 1937, *Saccardo* s.n.(FT, FT003650, holo).	**Vernonia rueppellii** *Walp.*

5 Pichi Sermolli (1950b) also pointed out that the epithet had first been used in the combination *Crepis virgata* Desf. (1792); yet, in Pichi Sermolli (1951: 169) the authority is only indicated as Bertol.

6 According to Pichi Sermolli (1951) near to, but distinct from *Vernonia oliveriana* Pic. Serm.

7 The discussion in Pichi Sermolli's two publications in fact make up a typification of the name by Oliv. & Hiern.

8 In fact, O. Kuntze had earlier renamed *Vernonia myriocephala* A. Rich. as *Cacalia richardiana* O. Kuntze (1891), and Pichi Sermolli's *Vernonia richardiana* is therefore a new combination.

9 Pichi Sermolli's discussion is in fact a typification of the name by Walp., although the specimen at P does not appear to have been reidentified and scanned as type. The correct authority of *Vernonia podocoma* is still debated.

Family	Name in Pichi Sermolli (1951)	Type material - herbaria where specimens are kept	Name in *Flora of Ethiopia and Eritrea*
Asteraceae	*Vernonia thomsoniana* Oliv. & Hiern var. *genuina* Pic. Serm., nom. nov. – Pichi Sermolli (1950b: 340).[10]	Type of *Vernonia thomsoniana* Oliv. & Hiern var. *thomsoniana:* Uganda, Madi, *Grant* s.n. (K, K000272975, holo).	**Vernonia thomsoniana** *Oliv. & Hiern*
Brassicaceae	*Arabis alpina* L. var. *meruensis* (Engl.) Pic. Serm., comb. et stat. nov. – Pichi Sermolli (1950b: 330). – Pichi Sermolli (1951: 203). – Basionym: *Arabis cuneifolia* Hochst. forma *meruensis* Engl. ex O.E. Schulz (1927).	Pichi Sermolli did not see type material of *Arabis cuneifolia* forma *meruensis,* but based his conclusion on specimens at K identified by O.E. Schulz.	**Arabis alpina** *L.*
Brassicaceae	*Cardamine trichopoda* [error for *trichocarpa*] A. Rich. var. *elegans* Engl. (1892). – Pichi Sermolli (1950b: 330). Syn.: *Cardamine talamontiana* Chiov. (1911).[11]	Type of *Cardamine trichocarpa* var. *elegans*: Debra Tabor, *Schimper* 1162 (B, holo?, B100154805; BM, iso, BM000583644, K, Z). Type of *Cardamine talamontana*: Debarek, *Chiovenda* 884, holo, FT001107).	**Cardamine trichocarpa** *A. Rich.*
Celastraceae	*Gymnosporia castellii* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 84, Tav. XV).	Type: Zeghie, *Pichi Sermolli* 2316 (FT, FT002103, holo).	**Maytenus gracilipes** *(Oliv.) Exell* subsp. **arguta** *(Loes.) Sebsebe*
Celastraceae	*Gymnosporia cortii* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 209, Tav. XLIV).	Type: Semien, Beleghes, west of Ambaras, *Pichi Sermolli* 2599 (FT, FT002102, holo); 2598 (K, K000035843, paratype).	**Maytenus cortii** *(Pic. Serm.) Cufod.*
Commelinaceae	*Commelina pyrrhoblepharis* Forssk. form. *glabra* Pic. Serm., form. nov. – Pichi Sermolli (1951: 192).	Type: Along the stream of Alemsaga near the road between Ifag and Debra Tabor, *Pichi Sermolli* 2005 (FT, FT002900, holo).	**Commelina benhalensis** *L.* Infraspecific taxa not specifically mentioned in the *Flora of Ethiopia and Eritrea*.
Cucurbitaceae	*Melothria ciprianii* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 259, Tav. LX).	Type: Tucùr-Dinghià, *Pichi Sermolli* 2221 (FT, FT003514, FT003515, which is holo?; BR, BR0000008888754; K, K000313425, MO, MO2267564; iso).	**Zehneria scabra** *(L. f.) Sond.*

10 In Pichi Sermolli (1951: 154) this taxon is simply named *Vernonia thomsoniana* Oliv. & Hiern var. *thomsoniana*. Another new combination is made in connection with these discussions in Pichi Sermolli (1950b: 340), *Vernonia thomsoniana* Oliv. & Hiern var. *livingstoniana* (Oliv. & Hiern) Pic. Serm., comb nov. *Vernonia thomsoniana* var. *livingstoniana* does not occur in Ethiopia and the combination was made to redefine the delimitation of *Vernonia thomsoniana* Oliv. & *Hiern* var. *thomsoniana*.

11 No collection seems to have been made by Pichi Sermolli in 1937; this is simpli a taxonomic note pointing out that *Cardamine talamontiana* Chiov. is a new synonym.

Family	Name in Pichi Sermolli (1951)	Type material - herbaria where specimens are kept	Name in *Flora of Ethiopia and Eritrea*
Cyperaceae	*Coleochloa abyssinica* (A. Rich.) Gilly var. *typica* Pic. Serm. – Pichi Sermolli (1950b: 347).	Type: Mt. Semaiata, *Schimper* 233 (P, P00461989, P00461990, P00461991, holo?, BM, BM000574871; BR, BR0000008249852; E, E00200233; FT, HOH, HOH009121; K, K000363544, K000363545; L, WAG0003661; LG, LG0000090029530; MO, MO-1515520; S, S06-4057, S06-4058; STU, STU000363, iso).	**Coleochloa abyssinica** *(A. Rich.) Gilly*
Cyperaceae	*Coleochloa abyssinica* var. *castanea* (C.B. Cl.) Pic. Serm., comb. nov. – Pichi Sermolli (1950b: 347). – Basionym: *Eriospora abyssinica* A. Rich. var. *castanea* C.B. Cl. (1902).	Type of basionym: Chire border du Haccayi, Shireh Province, Aug. 1840, *Quartin-Dillon & Petit* s.n. (K, holo, P, iso).	**Coleochloa abyssinica** *(A. Rich.) Gilly*
Cyperaceae	*Cyperus morandinii* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 185, Tav. XXXVIII).	Type: Blue Nile at Bahar Dar ferry crossing, *Pichi Sermolli* 1982 (FT, FT000646, holo; K, K000321340; MO, MO1626387; P, P00569081, iso).	**Cyperus penzoanus** *Pic. Serm.*
Cyperaceae	*Cyperus penzoanus* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 183, Tav. XXXVII).	Type: Shore of Lake Tana near Scimbit (Bahar Dar), *Pichi Sermolli* 1986 (FT, FT000647, holo).	**Cyperus penzoanus** *Pic. Serm.*
Dipsacaceae	*Dipsacus eremocephalus* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 223, Tav. XLIX).	Type: Semien, Mt. Buahit, *Pichi Sermolli* 2619 (FT, FT003505, holo).	**Dipsacus pinnatifidus** *A. Rich.*
Dracaenaceae	*Dracaena steudneri* Engl. (1895). Syn.: *Dracaena papahu* Engl. (1895).[12]	Type of *Dracaena steudneri*: Gondar, *Steudner* 477 (B, holo, destroyed; BR, BR0000009888289, K, photographs). No type indicated for *Dracaena papahu*, but seems to refer to a specimen from Tanzania, Holst 3260 (K, K000255936; BR, BR0000009887664, BR0000009888005 & BR0000009887336 [photographs of specimens at B]).	**Dracaena steudneri** Engl.
Flacourtiaceae	*Flacourtia afra* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 97, Tav. XVII & XVIII).	Type: Fissa, Gueldo river, *Pichi Sermolli* 2039 (FT, FT002395, syntype; BR, BR0000006244019; K, K000231255; L, L0010835; MO, MO-357781; P017222, iso) & 2064 (FT, FT002396, syntype; A 00066697, iso).	**Flacourtia indica** *(Burm. f.) Merr.*

12 The two names were published contemporarily, but Pichi Sermolli (1950b) decided to sink *D. papahu* into synonymy of *D. steudneri*.

Family	Name in Pichi Sermolli (1951)	Type material - herbaria where specimens are kept	Name in *Flora of Ethiopia and Eritrea*
Iridaceae	*Moraea schimperi* (Hochst.) Pic. Serm., comb. nov. – Pichi Sermolli (1950b: 349). – Pichi Sermolli (1951: 242). – Basionym: *Hymenostigma schimperi* Hochst. (1844).	Type of basionym: Semien, Enschedcap, *Schimper* 1173 (B, holo; BM; BR, BR0000008365040; F, K, K000365919, K000365920; M, M0107646; MO, M0107646; P, S, S06-15599, iso).	**Moraea schimperi** (Hochst.) Pic. Serm.
Lamiaceae	*Becium grandiflorum* (Lam.) Pic. Serm., comb. nov. – Pichi Sermolli (1950b: 337). – Basionym: *Ocimum grandiflorum* Lam. (1785)	Type of basionym cultivated in Paris from seed collected by Bruce in Ethiopia, specimen in Herb. Lamarck (P, holo, not scanned).	**Becium grandiflorum** (Lam.) Pic. Serm.
Lamiaceae	*Otostegia minuccii* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 122, Tav. XXII).	Type: Mt. Delbangi near Bahar Dar, *Pichi Sermolli* 2514 (FT, FT002936, holo; K, K000193182, iso).	**Otostegia tomentosa** A. Rich. subsp. **ambigens** *(Chiov.) Sebald*
Lamiaceae	*Satureja contardoi* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 218, Tav. XLVII & XLVIII).	Type: Semien, slopes NW of Mt. Buahit, *Pichi Sermolli* 2689 (FT, FT002943, holo).	**Satureja imbricata** *(Forssk.) Briq.*
Lamiaceae	*Satureja ovata* (Benth.) Pic. Serm., comb. nov. – Pichi Sermolli (1951: 124). – Basionym: *Micromeria ovata* Benth. (1832-36).	Type: Abyssinia, *Salt* s.n. (BM, BM000797490, holo).	**Satureja punctata** *(Benth.) Briq.* subsp. **ovata** *(Benth.) Seybold*
Lamiaceae	*Satureja ovata* (Benth.) Pic. Serm. var. *cinereo-tomentosa* (A. Rich.) Pic. Serm., comb. nov. – Pichi Sermolli (1951: 124). – Basionym: *Micromeria ovata* Benth. var. *cinereo-tomentosa* A. Rich. (1851).	Type of basionym: Memsah, *Quartin Dillon* s.n., Upper rocky part of northern side of Mt. Selleuda near Adua, *Schimper* I, 12 (P, holo, not seen; BM, BM000910219; TUB, TUB003871, TUB003872, iso).	**Satureja punctata** *(Benth.) Briq.* subsp. **ovata** *(Benth.) Seybold*
Lamiaceae	*Satureja punctata* (Benth.) Briq. var. *rigida* Pic. Serm., var. nov. – Pichi Sermolli (1951: 125, Tav. XXIII [right-hand specimen]).	Type: Mt. Scholoda near Adua, *Schimper* I 45 (FI-WEBB, holo, see Pichi Sermolli (1951: Tav. XXIII [right-hand specimen]; FI, FI000231; BR, BR0000008364982; HBG, HBG504943, iso).	**Satureja punctata** *(Benth.) Briq.* var. **rigida** *Pic. Serm.*
Leguminosae subfam. Mimosoideae	*Acacia bavazzanoi* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 54, Tav. VII & VIII).	Type: Plain of Quami near Gorgora, *Pichi Sermolli* 2253 (FT, FT001278, holo; A; K, K000244248; MO, MO-954173; W, iso); 2255 (W, W1961-0018994, paratype).	**Acacia bavazzanoi** *Pic. Serm.*
Leguminosae subfam. Mimosoideae	*Acacia negrii* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 55, Tav. IX & X).	Type: Entoto, *Negri* 335 (FT, FT001312, syn.); Addis Abeba, *Senni* 383 (FT, not scanned?, syn., K000244257, isosyn), 1589 (FT, FT001314, syn.; K, K000244257, isosyn).	**Acacia negrii** *Pic. Serm.*
Leguminosae subfam. Mimosoideae	*Acacia pilispina* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 205, Tav. XLIII).	Type: Semien, valley near the village Atgheba Giorghis, *Pichi Sermolli* 2696 (FT, FT001324, FT001325, holo not indicated).	**Acacia pilispina** *Pic. Serm.*

Family	Name in Pichi Sermolli (1951)	Type material - herbaria where specimens are kept	Name in *Flora of Ethiopia and Eritrea*
Leguminosae subfam. Papilionoideae	*Indigofera secundiflora* Poir. var. *gondarensis* Pic. Serm. var. nov. – Pichi Sermolli (1951: 64, Tav. XI).	Type: Between Mt. Jabec and Mt. Cocò (north of Gondar), *Pichi Sermolli* 2265 (FT, FT001505, holo, K, K000392730, iso).	**Indigofera secundiflora** *Poir.* var. **rubripilosa** *De Wild.*
Leguminosae subfam. Papilionoideae	*Lotononis platycarpa* (Viv.) Pic. Serm., comb. nov. – Pichi Sermolli (1950b: 331). – Basionym: *Lotus platycarpos* Viv. (1830).	Type of basionym was collected in Egypt.	**Lotononis platycarpos** *(Viv.) Pic. Serm.*
Leguminosae subfam. Papilionoideae	*Lotononis platycarpa* (Viv.) Pic. Serm. var. *abyssinica* (Hochst. ex A. Rich.) Pic. Serm. comb. et stat. nov. – Pichi Sermolli (1950b: 332). – (Pichi Sermolli (1951: 268) – Basionym: *Leobordea abyssinica A.* Rich. (1847).	Type of basionym: On dry hills near Arna, Schimper III 1493 (P, syn., P00373852, P373853, P373854; BM, BR, BR000008376442; AAL, HAL0120432; HEID, HEID701656; K; MEL, MEL306525; MPU, MPU021238, UPS, iso).	**Lotononis platycarpos** *(Viv.) Pic. Serm.*
Leguminosae subfam. Papilionoideae	*Lotus mearnsii* De Wild. (1925), nom. Illeg., non *Lotus mearnsii* (Britton) Greene (1890). – Pichi Sermolli (1950b: 332) did not notice the earlier homonym for an American species by Greene; Pichi Sermolli (1951: 63). The next available name is *Lotus schoelleri* Schweinf. (1896). Sym.: *Lotus corniculatus* L. var. *eremanthus* Chiov. (1935).	Type of *Lotus schoelleri*: Eritrea, Kohaito, *Schweinfurth* 322 (B holo, destroyed; K, K000226745, iso). Type of *Lotus corniculatus* L. var. *eremanthus* Chiov.: Kenya, Lake Naivasha, Mearns 811 (BR, BR0000006254285; BM, BM000843178).	**Lotus schoelleri** *Schweinf.*
Loranthaceae	*Loranthus scassellatii* Chiov. var. *glabrescens* Balle, var. nov. – Pichi Sermolli (1951: 29).	Type: Gorgora, *Pichi Sermolli* 2492 (FT, FT000947, holo). In FEE the type of this taxon is indicated as "2491", and an isotype is indicated to be at K, but "2491" is according to Pichi Sermolli (1951: 28) a typical specimen of *Loranthus globiferus,* also from near Gorgora.	**Tapinanthus heteromorphus** *(A. Rich.) Danser*
Malvaceae	*Abutilon smenospermum Pic.* Serm., sp. nov. – Pichi Sermolli (1951: 92, Tav. XVI).	Type: Gumbat Uddus Michael, *Pichi Sermolli* 2323 (FT, FT002058, holo).	**Abutilon cecilii** *N.E. Br.*
Meliaceae	*Trichilia volkensii* Gürke var. *buchanani* (C. DC.) Pic. Serm., comb. et stat. nov. – Pichi Sermolli (1950b: 333). – Basionym: *Trichilia buchanani* C. DC. (Sept. 1894).	Type of *basionym*: Malawi, *Buchanan* 155 (G, holo, G00014640).	**Lepidotrichilia volkensii** *(Gürke) Leroy*
Poaceae	*Digitaria abyssinica* (Hochst.) Stapf var. *velutina* (Chiov.) Pic. Serm., comb. nov. – Pichi Sermolli (1951: 176).[13]	Type: Eritrea, *Pappi* [numerous syntypes, none seem to have been scanned].	**Digitaria pearsonii** *Stapf*

13 Ascribed to Henr. (1950) in *Flora of Ethiopia and Eritrea*, which reference thus antedates the publication by Pichi Sermolli (1951).

Family	Name in Pichi Sermolli (1951)	Type material - herbaria where specimens are kept	Name in *Flora of Ethiopia and Eritrea*
Poaceae	*Hyparrhenia hirta* (L.) Stapf var. *podotricha* (Hochst.) Pic. Serm., comb. et stat. nov. – Pichi Sermolli (1951: 174). – Basionym: *Andropogon podotrichus* Hochst. [diagnosis printed on label]	Type of basionym: Ethiopia, *Schimper* II 1056 (FI, FI000941, lecto; BM, BM000923522; BR, BR0000008252357; E, E00200272; G, G00022259, G00022260; GH, GH00056581; GOET, GOET006579; HAL, HAL0107250; HEID, HEID701872, HEID701873, HEID701874; JE, JE00019261, JE00019262; K, K000280320, K000280321; L, L0044577, L0044578, WAG0360211; M, M0103801, M0103802; MPU, MPU024299; REG, REG000364; TUB, TUB006328, TUB006329; LG, LG0000090035364, S, S14-10468; W, W0028487, W0028488, W18890263704, W19160027502; WU, WU0029443, WU0029444; all isolecto).	**Hyparrhenia hirta** *(L.) Stapf*
Poaceae	*Loudetia arundinacea* (Hochst.) Steud. var. *hensii* (De Wild.) C.E. Hubbard, comb. nov. – Pichi Sermolli (1951: 180). – Basionym: *Trichopteryx elegans* Hack. var. *hensii* De Wild. (1920).	Type of basionym: Congo, Kinshasa, *Hens* 281 (BR, BR0000008758576, holo; P, P00374340, iso).	**Loudetia arundinacea** *(Hochst.) Steud.*
Proteaceae	*Faurea rochetiana* (A. Rich.) Pic. Serm., comb. nov. – Pichi Sermolli (1950b: 327). – Pichi Sermolli (1951: 26). – Basionym: *Leucospermum rochetianum* A. Rich. (1850).	Type of basionym: Abyssinie, au bas de Lamalmon a Debbevar, M. *Rochet d'Hericourt* s.n. 1850 (P, holo, P00734033).	**Faurea speciosa** *Welw.* – The acceptance of this name in the FEE is an error; the publication of *Leucospermum rochetianum* A. Rich. (1850) antedates the publication of *Faurea speciosa* Welw. (1869)]
Proteaceae	*Protea gaguedi* Gmel. (1796), antedates *Protea abyssinica* Willd. (1798). The latter is an illegitimate name because it is based on the same type as Gmelin's name. – Pichi Sermolli (1950b: 327).	Type: Plate in Bruce (1790: opposite p. 52).	**Protea gaguedi** *Gmel.*
Rosaceae	*Rosa abyssinica* Lindl. forma *microphylla* (Crepin) Pic. Serm., comb. nov. – Pichi Sermolli (1951: 48) – Basionym: *Rosa abyssinica* Lindl. var. *microphylla* Crepin (1879).[14]	Type of *Rosa abyssinica* Lindl. var. *microphylla* Crepin: Yemen, *Botta* s.n (P, (P03204275, holo). Type of *Rosa abyssinica* Lindl. var. *microphylla* Almagia (1903), nom Illeg.: Eritrea, Asmara, Terracciano & Pappi 173 (FT, FT001269, syn.), 322 (FT, FT001270), 2569 (FT, FT001271), Pappi 3928 (FT, FT001272), Schweinfurth & Riva 2104 (FT, FT001273, syn).	**Rosa abyssinica** *Lindl.* – This identification is according to the FEE; however, the type seems to differ considerably from *Rosa abyssinica* and has been named *Rosa bottaiana* Bouleng. (1933).The small leaved form of the Ethiopian species has been named *Rosa abyssinica* Lindl. forma or var. *microphylla*.

14 The type of *Rosa abyssinica* Lindl. var. *microphylla* Crepin (1879) seems to differ considerably from *Rosa abyssinica* and has been named *Rosa bottaiana* Bouleng. (1933). The small leaved form of the Ethiopian species has been named *Rosa abyssi-*

Family	Name in Pichi Sermolli (1951)	Type material - herbaria where specimens are kept	Name in *Flora of Ethiopia and Eritrea*
Rubiaceae	*Galium hochstetteri* Pic. Serm., nom. nov. – Pichi Sermolli (1950b: 339). – Pichi Sermolli (1951: 223). . – Based on: *Galium simense* A. Rich. (1848), nom. Illeg., non Fresen. (1837).	Type of basionym: Semien, Mt. Bachit, *Schimper* 548 (P, holo; BM; BR, BR0000008359513, BR0000008847072; HAL, HAL0113517; K, K000422936, K000422937, K000422938; LG, LG0000090029714; M, M0106197; MO, MO391262, M0106198; iso).	**Galium acrophyum** *Chiov.*
Rubiaceae	*Pavetta bremekampiana* Pic. Serm., nom. nov. – Pichi Sermolli (1951: 148). Based on: *Pavetta cinerascens* Bremekamp (1934), non Chiov. (1911)	Type of basionym: Ethiopia, *Quartin Dillon & Petit* s.n. (P, P00553413, holo).	**Pavetta abyssinica** *Fresen.* var. **bremekampiana** *(Pic. Serm.) Bridson*
Rutaceae	*Citrus limonia* Osbeck var. *abyssinica* (Riccobono) Pic. Serm., comb. nov. – Pichi Sermolli (1951: 72). – Basionym: *Citrus limonum* var. *abyssinica* Riccobono (1905).	The type of the basionym was sent [to PAL] by Col. *Ameglio*.	**Citrus aurantifolia** *(Christm.) Swingle*
Rutaceae	*Diphasia dainellii* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 70, Tav. 12).	Type: Zara Enda Michael, *Pichi Sermolli* 2350 (FT, FT001770, holo; BR, BR0000006276164; FT, FT001771, FT001772; K, K000199448; MO, MO260348; P, P01044966, iso).	**Vepris dainellii** *(Pic. Serm.) Kokwaro*
Scrophulariaceae	*Limosella semiensis* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 221, Tab. XLV [right specimen]).	Type: Semien, Mt. Degien, *Pichi Sermolli* 2651 (FT, FT003088, holo).	**?Limosella capensis** *Thunb.*
Sinopteridaceae	*Aspidotis schimperi* (Kunze) Pic. Serm., comb. nov. – Pichi Sermolli (1950b: 326). Basionym: *Cheilanthes schimperi* Kunze (1840).	Type: The holotype at LZ is destroyed. Tigray, Gafta, *Schimper* II 1207, collected 14.9.1838 (K, K000435548; S, S-P-748; WAG, WAG0247458, almost certainly isotypes.[15]	**Aspidotis schimperi** *(Kunze) Pic. Serm.*
Solanaceae	*Solanum mesodolichum* (Bitter) Pic. Serm., comb. et stat. nov. – Pichi Sermolli (1951: 133) – Basionym: *Solanum indicum* L. subsp. *mesodolichum* Bitter (1923).	Type of basionym: Gerra Abuna Tekle Haimanot, *Schimper* 1129 (B, holo, possibly destroyed; K, K000414021; US, US00027621, iso).	**Solanum anguivi** *Lam.*
Solanaceae	*Solanum orthocarpum* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 129, Tav. XXIV).	Type: Furie near Zeghie, *Pichi Sermolli* 2575 (FT, FT003032, FT003033, not stated which of these is the holo?).	**Solanum anguivi** *Lam.*

nica Lindl. var. *microphylla* Almagia (1903). Pichi Sermolli maintained that the "var. *microphylla* Almagia" is that very same form.

15 The other specimen collected by Schimper, from Djeladjerane in Tigray, Schimper II 1651, collected 1.8.1840 (K, K000435546; S, S-P-749) was collected too late to be part of the original material.

Family	Name in Pichi Sermolli (1951)	Type material - herbaria where specimens are kept	Name in *Flora of Ethiopia and Eritrea*
Solanaceae	*Solanum uollense* (Chiov.) Pic. Serm., comb. et stat. nov. – Pichi Sermolli (1951: 131). – Basionym: *Solanum indicum* L. subsp. *mesodolichum* Bitter var. *uollense* Chiov. (1939).	Type of basionym: Dessie, *Gortani* II 83 (FT, FT003034, holo).	**Solanum anguivi** *Lam.*
Verbenaceae	*Premna viburnoides* A. Rich. var. *schimperi* (Engl.) Pic. Serm., comb. et stat. nov. – Pichi Sermolli (1950b: 336). – *Premna schimperi* Engl. (1892).	Type of basionym: River Reb, Genna [Dschenna]-Abuna-Tekla-Haimamot, *Schimper* 1131 (B, B100165139, B100165140; K, K000192730; EA), EA000001115; A, A00387897, A00387898; NY, NY00137930; RSA, RSA0006402; P, P00439996; PRE, PRE0590360-0).	**Premna schimperi** *Engl.*
Viscaceae	*Korthalsella binii* Pic. Serm., sp. nov. – Pichi Sermolli (1951: 31, Fig. 1, Tav. II).	Type: Gorgora, *Pichi Sermolli* 2487 (FT, FT000953, holo).	**Korthalsella japonica** *(Thunb.) Engl.*

CHAPTER 5

Chronological list of collecting localities with update of identification of species collected

Pichi Sermolli's printed labels from the Lake Tana basin have normally a locality number before the label texts indicating locality and habitat; these are always written in Italian. However, collections also exist with typed or hand-written labels, where locality-numbers have not been used. Locality-numbers were not used for collections from Eritrea, the western escarpment of Ethiopia up to Gondar or for the collections made in the Semien Mountains. Not all localities the Lake Tana basin were given locality numbers, and locality numbers are usually missing if only a few collections with typed or hand-written labels were necessary for the collection. The locality numbers were not cited in Pichi Sermolli's final publication of the collections (Pichi Sermolli 1951), where the collections are named, sorted into systematic order and renumbered according to a systematic sequence.

The locality numbers have been reconstructed here from the inspection of a large number of labels in the collections in *Centro Studi Erbario Tropicale* (FT), where the first set of the collections of angiosperms and gymnosperms is kept. The locality numbers are used to sort localities into sequence if several locality-numbers are recorded from the same date. In the following chronological list we have attempted to arrange localities without original locality-numbers into a complete sequence by arranging originally unnumbered localities and marking them with the appropriate original locality-number followed by "a", "b", "c", etc. Collections from the part of the journey without original locality-numbers have been given new locality-numbers marked with a prefix, "E" for localities in Eritrea, "NW" for localities on the western escarpment up to Gondar, "T" for the Lake Tana Basin and "S" for the Semien Mountains. The same numbering is used on the Maps no. 1 - 9. The Italian indications of the collecting localities are quoted, English translations are provided and variants of the Italian indications that appear on the labels and in Pichi Sermolli (1951) are quoted. Some of the

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Ib Friis, Sebsebe Demissew, Odile Weber, Paulo van Breugel, *Plants and vegetation of NW Ethiopia. A new look at Rodolfo E.G. Pichi Sermolli's results from the 'Missione di Studio al Lago Tana', 1937*, © 2022 Author(s), CC BY 4.0, published by Firenze University Press, ISBN 978-88-5518-634-6 , DOI 10.36253/978-88-5518-634-6

localities are not readily identifiable on modern maps, but we have attempted the georeferencing of all place names using historical sources. The georeferencing has always been discussed where it is not obvious.

The altitudes indicated as "(m. X,XXX; …)" or "(m. X,XXX circa or ca.)", are quoted directly from Pichi Sermolli (1951) except for the comma inserted for altitudes above 999 m. The collections were sometimes made at different altitudes on the same locality; altitudes are therefore indicated at the individual collections, not at the locality. Note that the altitudes indicated by Pichi Sermolli are frequently 100 – 200 m. too high in relation the altitudes indicated nowadays.

The collections recorded in Pichi Sermolli (1951) are listed first, as they are used to characterise the habitats of the localities. The numbers of the collections are indicated as "(…; n. YYYY)", without a comma for all numbers, which makes it easier immediately to differentiate between altitudes and collection numbers. The names of the identified collections in this chronological list are those used in the *Flora of Ethiopia and Eritrea*. Because the numbers of all the collections are quoted, it is possible to find Pichi Sermolli's original identification (without authority) in the left-hand column in the numerical list in chapter 6 and the current names in the right-hand column. Everywhere, an asterisk, "*", identifies a collection that Pichi Sermolli could either not identify or only identify with some uncertainty, and which it has not been possible to identify subsequently. If we have managed to trace fern collections from the localities, the identification and number of these ferns are indicated at the end of the list of collections.

Near the end of the text about each locality we have attempted to summarise our impression of the locality, based on topography, in some cases also Pichi Sermolli's cited photographs, the list of species collected and our own impression of the localities, which we have almost all visited since 2010. At the end of the text about each locality we have quoted the photographs taken by Pichi Sermolli which can with reasonable degree of certainty be referred to the localities.

11.-12.1.1937

Around Asmara.

Locality E1 – Presso Asmara
No locality-number on printed labels with this locality. Marked as E1 on Map 1.
English translation of Italian indication of locality: Near Asmara.
Georeferencing: Around Asmara there are areas indicated on IGM (1934-1936a: sheet 6, 1934-1926b) with altitudes above 2,400 m., the altitude at which these collections are all stated to have been made. Areas with altitudes around or above 2,400 m. are to the east of the town, approximately at 15.345293° N, 38.959430° E.
Collections cited in Pichi Sermolli (1951):
Acacia etbaica Schweinf. subsp. *etbaica* (m. 2,400 circa; n. 601).
Acacia saligna (Labil.) Wendl. (m. 2,400 circa; n. 605, n. 606).
Aloe sp. cfr. A. abyssinica Lam.* (m. 2,400 circa; n. 2024).
Andrachne aspera Spreng. (m. 2,400 circa; n. 1697).
Argemone mexicana L. (m. 2,400 circa; n. 176).
Becium grandiflorum (Lam.) Pic. Serm. (m. 2,400 circa; n. 1411).
Carthamus lanatus L. (m. 2,400 circa; n. 856).
Clutia lanceolata Forssk. (m. 2,400 circa; n. 2469).
Commicarpus grandiflorus (A. Rich.) Standl. (m. 2,400 circa; n. 2055).

Cotula anthemoides L. (m. 2,400 circa; n. 1066).
Cynoglossum lanceolatum Forssk. (m. 2,400 circa; n. 1275).
Dodonaea angustifolia L. f. (m. 2,400 circa; n. 488).
Echinops pappii Chiov. (m. 2,400 circa; n. 845).
Eucalyptus camaldulensis Dehnh. (m. 2,400 circa; n. 807).
Heliotropium cinerascens DC. & A. DC. (m. 2,400 circa; n. 1274).
Hyparrhenia hirta (L.) Stapf (m. 2,400 circa; n. 80).
Hypoestes forskaolii (Vahl) R. Br. (m. 2,400 circa; n. 1486, n. 1488).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 2,400 circa; n. 1163).
Kalanchoe marmorata Baker (m. 2,400 circa; n. 802).
Launaea pseudoabyssinica (Chiov.) N. Kilian (m. 2,400 circa; n. 2156).
Lotononis platycarpos (Viv.) Pic. Serm. (m. 2,400 circa; n. 543).
Lotus quinatus (Forssk.) Gillett var. *brachycarpus* (A. Rich.) Gillett (m. 2,400 circa; n. 541, n. 577).
Meriandra dianthera (Roem. & Schult.) Briq. (m. 2,400 circa; n. 1404).
Monechma debile (Forssk.) Nees (m. 2,400 circa; n. 1513).
Oxalis corniculata L. (m. 2,400 circa; n. 2205).
Plectranthus ornatus Codd (m. 2,400 circa; n. 1408).
Polygonum plebeium R. Br. (m. 2,400 circa; n. 1563).
Psiadia punctulata (DC.) Vatke (m. 2,400 circa; n. 918).
Raphanus raphanistrum L. (m. 2,400 circa; n. 173).
Rumex nervosus Vahl (m. 2,400 circa; n. 1546).
Satureja punctata (Benth.) Briq. (m. 2,400 circa; n. 1405).
Schinus molle L. (m. 2,400 circa; n. 470).
Solanum marginatum L. f. (m. 2,400 circa; n. 2544).
Themeda triandra Forssk. (m. 2,400 circa; n. 61).
Verbascum sinaiticum Benth. (m. 2,400 circa; n. 1289).
Vernonia schimperi DC. (m. 2,400 circa; n. 965).
Withania somnifera (L.) Dunal (m. 2,400 circa; n. 1305).
Xanthium spinosum L. (m. 2,400 circa; n. 940).
Vegetation; characteristic species: The species in the list contains one indigenous species of *Acacia*, *A. etbaica*, which is characteristic of the dry Afromontane bushland of Eritrea and northern Ethiopia (IF pers. obs.). Other trees are introduced (*Acacia saligna*, *Schinus molle*). The vegetation would appear to have been secondary open bushland with ruderal species, derived from montane deciduous open bushland and grassland with *Acacia etbaica* as the most prominent tree.

17.1.1937

Locality E2 – Daharo Kaulos presso Asmara
No locality number on printed labels with this locality. Marked as E2 on Map 1.
English translation of Italian indication of locality: Daharo Kaulos near Asmara.
Georeferencing: A place named "Dahro Caulos" south west of Asmara is marked on IGM (1934-1935a: sheet 6, 1934-1936b) and can also be found on a map in Guida (1938: between p. 192 and p. 193). The area is now at the western edge of Asmara airport and partly built up because of the expansion of Asmara. The locality is approximately at 15.282629° N, 38.850430° E.

Collections cited in Pichi Sermolli (1951):
Achyranthes aspera L. var. *sicula* L. (m. 2,300 circa; n. 1441).
Caylusea abyssinica (Fresen.) Fisch. & Mey. (m. 2,300 circa; n. 147).
Centaurea melitensis L. (m. 2,300 circa; n. 2138).
Chrysanthemum coronarium L. (m. 2,300 circa; n. 1007).
Clematis simensis Fresen. (m. 2,300 circa; n. 135).
Cyathula uncinulata (Schrad.) Schinz (m. 2,300 circa; n. 1446).
Cynodon dactylon (L.) Pers. (m. 2,300 circa; n. 1887).
Echidnopsis sp.* (m. 2,300 circa; n. 1235).
Echinops pappii Chiov. (m. 2,300 circa; n. 844).
Echium plantagineum L. (m. 2,300 circa; n. 2129).
Galinsoga parviflora Cav. (m. 2,300 circa; n. 1009).
Gnaphalium unionis Oliv. & Hiern (m. 2,300 circa; n. 1023).
Hibiscus crassinervius A. Rich. (m. 2,300 circa; n. 216).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 2,300 circa; n. 1154).
Juncus bufonius L. (m. 2,300 circa; n. 1936).
Monechma debile (Forssk.) Nees (m. 2,300 circa; n. 1514).
Nicandra physaloides (L.) Gaertn. (m. 2,300 circa; n. 1303).
Osteospermum vaillantii (Decne.) T. Norl. (m. 2,300 circa; n. 1018).
Otostegia fruticosa (Forssk.) Schweinf. (m. 2,300 circa; n. 1401).
Otostegia integrifolia Benth. (m. 2,300 circa; n. 1471).
Pavonia burchellii (DC.) Dyer (m. 2,300 circa; n. 201).
Plantago coronopus L. (m. 2,300 circa; n. 2505).
Plantago lanceolata L. (m. 2,300 circa; n. 1455).
Pulicaria incisa (Lam.) DC. (m. 2,300 circa; n. 2070; n. 939).
Scleranthus annuus L. (m. 2,300 circa; n. 1565).
Solanum adoense A. Rich. (m. 2,300 circa; n. 2549).
Vernonia leopoldii (Walp.) Vatke (m. 2,300 circa; n. 949).
Fern cited in Pichi Sermolli (1957a):
Adiantum capillus-veneris L. (no alt.; n. 1805, not seen, cited as recorded from FI in Pichi Sermolli (1957a: 680).
Vegetation; characteristic species: There are no trees in the list of species from this locality. The woody shrubs include two species of *Otostegia,* and a range of small woody-based subshrubs. The vegetation would appear to be secondary open bushland with ruderal species, derived from montane deciduous open bushland and grassland.[1]

Western lowlands of Eritrea.

20.1.1937

Locality E3 – Bassipiano occidentale: Tessenei
No locality number on printed labels with this locality. Marked as E3 on Map 1.
English translation of Italian indication of locality: Western lowland plain: Tessenei.

1 Photographic documentation: A photograph taken at Barentu, half way between Keren and Tessenei, on 19.1.1937 shows a large *Adansonia digitata* (not collected). See archival font Dainelli (501), image 696, in the *Archivio fotografico* of the *Società geografica italiana*.

Georeferencing: The western lowland plains in Eritrea, with altitudes below ca. 600 m., are north-west of Tessenei, which is a small town in the western part of Eritrea at the river Gash. On IGM 1934-1936a: sheet 5, a likely collecting locality is marked as "Stretta di Tessenei". It is approximately at 15.139246° N, 36.655256° E.
Collections cited in Pichi Sermolli (1951):
Cissus quadrangularis L. (m. 585; n. 438).
Striga hermonthica (Del.) Benth. (m. 585; n. 1295).
Vegetation; characteristic species: From only two collections, it is difficult to suggest any vegetation, but *Cissus quadrangularis* is according to FEE 3: 407 (Hedberg et al. 1989) recorded from dry *Acacia* woodland and bushland, [dry] riverine forest and scrub and semi-desert scrub, often on rocky slopes. *Striga hermonthica* is a semi-parasitic herb on crops in dry farmland in northern Ethiopia and Eritrea (IF personal observation). Pichi Sermolli (1938a) described the landscape as: "A spinose shrubby vegetation with various species of *Acacia* and a very scarce herbaceous layer characterized this alluvial plain, which extended almost as far as Tessenei."

Photographic documentation of localities and habitat where no collections were made: On the same day, Pichi Sermolli took a photograph of black cotton soil with *Balanites aegyptiaca* wooded grassland at Om Ager, near present day Humera. No collections were made at this locality.[2]

North-western lowlands of Ethiopia.

21.1.1937

Locality NW1 – Bassipiano occidentale: Nel letto di torrente Sua
No locality number on printed labels with this locality. Marked as NW1 on Map 1 & 2.
English translation of Italian indication of locality: Western lowland plain: in the river bed of Sua.
Georeferencing: The river Sua is a small north-eastern tributary to the Angareb River (via the river Casa). It is marked on IGM (1934-1936a: Sheet 9); according to this map the road used by the Lake Tana expedition crossed the river at ca. 13° 45' N, 36° 57' E (13.75° N, 36.95° E). The correctly localised crossing of the modern road is 1' to the north and 1' to the west of this; there is no evidence in the images of Google Earth to suggest that the road has been relocated, so the coordinates from where the modern road crosses the river have been used: 13.769868° N, 36.934994° E.
Collections cited in Pichi Sermolli (1951):
Kanahia laniflora (Forssk.) R. Br. (m. 850; n. 1248).
Vegetation; characteristic species: In northern Ethiopia, *Kanahia laniflora* is common in the beds of temporary streams and along permanent streams. Pichi Sermolli (1940b) mentioned *Kanahia laniflora* in the bed of the Sua River: "Along the banks of the Sua River, I noted a luxuriant and dense arboreal vegetation, while the stony bed of the stream was sprinkled with bush like plants of [p. 616] *Kanahia laniflora*."
Photographic documentation of habitat where no collection was made: On the following day, 22.1.1937, Pichi Sermolli recorded the lowland bamboo (*Oxytenanthera*

2 See archival font Dainelli (501), image 697, in the *Archivio fotografico* of the *Società geografica italiana*. It is reproduced in Pichi Sermolli (1940: Fig. 4).

abyssinica) thicket at the stream, Torrente Arema Anzi; no collections were made at this place.[3]

Towards Gondar, north-west of the watershed.

23.1.1937

Locality NW2 – Regione di Alsei (Sengia)
No locality number on printed labels with this locality. Marked as NW2 on Map 2 & 3.
English translation of Italian indication of locality: Western lowland plain: the area of Alsei (Sengia).
Georeferencing: There is no indication of a locality or area named "Alsei" on IGM (1934-1936a: Sheet 9) or in Guida (1938). On IGM (1934-1936a: Sheet 9), a "Torrente Sengia" is marked as a tributary to the Angareb River, coming from higher ground further south, and crossed by the road used by the Lake Tana expedition twice. The southernmost crossing, at ca. 1,200 m. according to Google Earth, agrees best with the altitude indicated by Pichi Sermolli for this locality. The crossing is therefore recorded at approximately 12.845624° N, 37.366665° E.
Collections cited in Pichi Sermolli (1951):
Boswellia papyrifera (Del.) Hochst. (m. 1,200; n. 245).
Vegetation; characteristic species: The presence of *Boswellia papyrifera* indicates that this locality must have been dry *Combretum-Terminalia* woodland (CTW). Pichi Sermolli (1940b) mentioned the presence of *Boswellia papyrifera* near this locality: "The lower parts of these slopes [leading down to the narrow valley of the Sangia River] were covered by deciduous woodland, the main components of which were *Terminalia*, *Anogeissus leiocarpa*, *Gardenia lutea* and *Boswellia papyrifera*."

Locality T1 – Base di M.[onte] Ametria
Locality number 1 on printed labels with this locality. Marked as T1 on Map 3.
English translation of Italian indication of locality: Basal slopes of Mt. Ametria.
Variant indication of locality:
Base di M.[onte] Ametra (n. 2114).
Georeferencing: The name "M[onte] Ametria", on one collection spelt "M[onte] Ametra", is not seen on any map. This and the following localities towards Gondar are difficult to georeference exactly because of the number of relatively small mountain peaks in this area that may have local names not indicated on IGM (1934-1936a: Sheet 9) or not widely known now.[4] Assuming that "Mt. Ametria" is the first of the mountains encountered after crossing the Sengia River, Pichi Sermolli's locality could be at 12.819888° N, 37.374330° E, on the slope of a mountain reaching a height of ca. 1610 m.
Collections cited in Pichi Sermolli (1951):
Acanthus polystachius Del. (m. 1,600; n. 2114).

3 See archival font Dainelli (501), images 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, in the *Archivio fotografico* of the *Società geografica italiana*. They are similar to, but not identical with the photograph reproduced in Pichi Sermolli (1938a: Fig. 1). The last photograph in this sequence (501/707) shows leafless trees in *Combretum-Terminalia* woodland.

4 An inquiry in 2021 at the Biology Department of the University of Gondar about Pichi Sermolli's locality names around Tucur Dinghia gave not result, except for Tucur Dinghia now being known as the town called Tekeldengy (or other similar modern spellings).

Carissa spinarum L. (m. 1,600; n. 1222).
Vernonia theophrastifolia Oliv. & Hiern (m. 1,600; n. 2419).
Vegetation; characteristic species: The species collected at this locality suggests that the vegetation was secondary bushland, part of the complex referred to as DAF. Pichi Sermolli (1951) indicated erroneously that the date of collection was "23.3." for n. 2114, collected at this locality.

Locality T2 – Base di M.[onte] Gunidubba
Locality number 2 on printed labels with this locality; label on one collection with this locality, but no locality number. Marked as T2 on Map 3.
English translation of Italian indication of locality: At the base of Mt. Gunidubba.
Variant indication of locality:
Base di M.[onte] Gunidubba presso Tucur Dinghia (n. 1724, n. 2051).
Georeferencing: The name "Mt. Gunidubba" has not been seen on any map. There is a 2,400 m. tall mountain just west of the present town of "Tekeldengy", Pichi Sermolli's Tucur Dinghia (see locality number 5); according to Google Earth this mountain still has forest on its slopes. If this is "Mt. Gunidubba", the slope is rather steep and localities at the different altitudes at the base and on the slope of "Mt. Gunidubba" (1,800 and 2,000 m.) are close to each other; Pichi Sermolli's locality is quite likely at approximately 12.772005° N, 37.413083° E.
Collections cited in Pichi Sermolli (1951):
Barleria ventricosa Nees (m. 1,800; n. 1518).
Blepharis maderaspatensis (L.) Roth (m. 1,800; n. 2124).
Carissa spinarum L. (m. 1,800; n. 1221).
Clematis hirsuta Guill. & Perr. (m. 1,800; n. 2358).
Combretum collinum Fresen. (m. 1,800; n. 741).
Ficus sur Forssk. (m. 2,000; n. 1724).
Hyparrhenia cymbaria (L.) Stapf (m. 1,800; n. 1223).
Hyparrhenia variabilis Stapf (m. 1,800; n. 119).
Hypericum quartinianum A. Rich. (m. 1,800; n. 196).
Hypoestes forskaolii (Vahl) R. Br. (m. 1,800; n. 1481).
Maytenus serrata (A. Rich.) Wilczek (m. 1,800; n. 381, n. 385).
Nuxia congesta Fresen. (m. 1,800; n. 1228).
Osyris quadripartita Decn. (m. 1,800; n. 1616).
Pavetta sp.* (m. 1,800; n. 2051).
Phaulopsis imbricata (Forssk.) Sweet (m. 1,800; n. 1347, n. 1350).
Pterolobium stellatum (Forssk.) Brenan (m. 1,800; n. 642).
Strychnos innocua Del. (m. 1,800; n. 1280).
Vernonia hochstetteri Walp. (m. 1,800; n. 955).
Vegetation; characteristic species: The majority of the species collected at this locality suggests that the vegetation was secondary bushland, part of the complex referred to as DAF, but the records of *Combretum collinum* and *Strychnos innocua* indicate that as high as at 1,800 m. there was an admixture of species from the *Combretum-Terminalia* woodland (CTW). The collection of *Ficus sur* (n. 1724) from ca. 2,000 m), has probably been made in riparian vegetation, and might, because of the altitude, have been from the following locality.

Photographic documentation: Pichi Sermolli took a photograph showing Monte Gunidubba from a distance.[5]

Locality T3 – Pendici di M.[onte] Gunidubba
Locality number 3 on printed labels; locality name both on printed and typed labels, the latter without locality number. Marked as T3 on Map 3.
English translation of Italian indication of locality: Slopes of Mt. Gunidubba.
Georeferencing: As for the previous locality, recorded at approximately 12.772005° N, 37.413083° E.
Collections cited in Pichi Sermolli (1951):
Astragalus atropilosus (Hochst.) Bunge (m. 2,000; n. 529).
Clematis hirsuta Guill. & Perr. (m. 2,000; n. 2357).
Dioscorea abyssinica Kunth (m. 2,000; n. 1774).
Gnidia glauca (Fresen.) Gilg (m. 2,000; n. 2500).
Guizotia scabra (Vis.) Chiov. (m. 2,000; n. 999).
Hyparrhenia cymbaria (L.) Stapf (m. 2,000; n. 118).
Hyparrhenia rufa × umbrosa* (m. 2,000; n. 322).
Hypericum quartinianum A. Rich. (m. 2,000; n. 191).
Maesa lanceolata Forssk. (m. 2,000; n. 1097).
Mimusops kummel A. DC. (m. 2,000; n. 1075).
Nuxia congesta Fresen. (m. 2,000; n. 1227).
Pentas lanceolata (Forssk.) Deflers (m. 2,000; n. 2218).
Tephrosia interrupta Engl. (m. 2,000; n. 532).
Zehneria scabra (L. f.) Sond. (m. 2,000 circa; n. 2221 (FT, holotype of *Melothria ciprianii* Pic. Serm.).
Vegetation; characteristic species: Again, the majority of the species collected at this locality suggests that the vegetation was secondary bushland, part of the complex referred to as DAF, but the presence of *Mimusops kummel*, one of the indicator species of IAF (Intermediate evergreen Afromontane forest; Abiyot Berhanu et al. 2018) could indicate that the original vegetation had similarity with IAF.
Photographic documentation: Pichi Sermolli took a photographs of Monte Gunidubba in the distance.[6]

No specimen from a locality number 4 has been traced.

24.1.1937

Locality T5 – Tucur Dinghia
Locality number 5 on printed labels with this locality. Marked as T5 on Map 3.
English translation of Italian indication of locality: [At the village of] Tucur Dinghia.
Georeferencing: "Tucur Dinghia" is Pichi Sermolli's rendering of Amharic words which mean "black rock". It is now a large village or small town. On IGM (1934-1936a: Sheet 9), in the position of the present town of Tucur Dinghia, there is an area marked as "R.[egione] Tucul Dinghia." This variety of the name, which is also used in the Gui-

5 See archival font Dainelli (501), image 708, in the *Archivio fotografico* of the *Società geografica italiana*.

6 The same as the previous photograph.

da (1938), means "round hut [of] stone." Google Earth uses the form "Tekeldengy" for the modern town, which is approximately at 12.741234° N, 37.418276° E.
Collections cited in Pichi Sermolli (1951):
Dodonaea angustifolia L. f. (m. 2,300; n. 491).
Otostegia integrifolia Benth. (m. 2,300; n. 1476).
Stereospermum kunthianum Cham. (m. 2,300; n. 1366, n. 1367).
Fern collections in FI-PS:
Adiantum poiretii Wikstr. (No alt.; n. 1802, FI-PS 13945).
Asplenium aethiopicum (Burm. f.) Bech. (No alt., no. 1779, FI-PS 10651).
Asplenium protensum Schrad. (No alt.; n. 1828, FI-PS 10648).
Vegetation; characteristic species: Two of the three species collected at this locality suggests that the vegetation was secondary bushland, part of the complex referred to as DAF, but the record of *Stereospermum kunthianum* indicates that as high as at 2,300 m. there was an admixture of species from the *Combretum-Terminalia* woodland (CTW).
Photographic documentation: Pichi Sermolli took a number of photographs showing unspecified localities near Tucul Dinghia,[7] but it is not possible to correlate these photographs exactly with collecting localities.

No specimen from a locality number 6 has been traced.

24.1.1937

Locality T7 – Foresta di Tucur Dinghia
Locality number 7 on printed labels; locality name both on printed and typed labels, the latter without locality number. Marked as T7 on Map 3.
English translation of Italian indication of locality: Forest at Tucur Dinghia.
Georeferencing: As for "Tucur Dinghia", see locality number 5. It is now difficult to say where exactly the most forested area near "Tucur Dinghia" was in 1937, but today there is a rather densely forested slope at 2,200 m. and upwards, which can easily be reached from the modern small town of "Tekeldengy"; this locality is approximately at 12.744099° N, 37.418948° E.
Collections cited in Pichi Sermolli (1951):
Brillantaisia grottanellii Pic. Serm. (m. 2,400; n. 2098, n. 2099 (FT, holotype of the current name)).
Ficus sur Forssk. (m. 2,400; n. 2382).
Rhamnus prinoides L'Hérit. (m. 2,400; n. 418).
Ferns cited in Pichi Sermolli (1957a):
Adiantum poiretii Wikstr. (No alt.; n. 1802; not seen, cited in Pichi Sermolli 1957a: 688).
Vegetation; characteristic species: The fact that only three species are recorded from this locality makes it difficult to classify the vegetation on a floristic basis, but all three species are associated with forests and combined with the fact that Pichi Sermolli used the word "Foresta" [Forest] for the locality makes it reasonable to classify the vegetation as DAF or IAF.

7 See archival font Dainelli (501), images 709, 710, 711, 712, in the *Archivio fotografico* of the *Società geografica italiana*.

Locality T8 & 9 – Presso il villaggio di Bachiana (Tucur Dinghia – Gondar)
Locality number 8 & 9 on printed labels; locality name both on printed and typed labels, the latter without locality number. Marked as T8 & 9 on Map 3.
English translation of Italian indication of locality: Near the village Bachiana [in the vicinity of Tucur Dinghia and Gondar].
Georeferencing: The name "Bachiana" has not been traced on any map. Apart from the peak west of "Tucur Dinghia" (Tekeldengy), there are very few localities higher than 2,000 m., and hardly any at 2,400 m. "Bachiana" is therefore presumably near locality number 7, and probably approximately at 12.744099° N, 37.418948° E.
Collections cited in Pichi Sermolli (1951):
Acacia abyssinica Benth. (m. 2,400; n. 589).
Acanthus polystachius Del. (m. 2,400; n. 2113).
Achyranthes aspera L. var. *sicula* L. (m. 2,400; n. 1440).
Albizia schimperiana Oliv. (m. 2,400; n. 1118).
Apodytes dimidiata Arn. var. *acutifolia* (A. Rich.) Boutique (m. 2,400; n. 348).
Buddleja polystachya Fresen. (m. 2,400; n. 1288).
Carissa spinarum L. (m. 2,400; n. 1220).
Cicer arietinum L. (m. 2,400; n. 523).
Clutia lanceolata Forssk. (m. 2,400; n. 2466).
Crotalaria lachnocarpoides Engl. (m. 2,400; n. 2228).
Dyschoriste multicaulis (A. Rich.) O. Kuntze (m. 2,400; n. 2125, n. 2126 (FT, holotype of *Dyschoriste broiloi* Pic. Serm.), n. 2127).
Gnidia glauca (Fresen.) Gilg (m. 2,400; n. 2499).
Inula paniculata (Klatt) Burtt Davy (m. 2,400; n. 2412).
Ipomoea tenuirostris Choisy (m. 2,400; n. 1333, n. 1334. n. 1335).
Laggera alata (D. Don) Oliv. (m. 2,400; n. 869).
Leonotis ocymifolia (Burm. f.) Iwarsson var. *raineriana* (Vis.) Iwarsson (m. 2,400; n. 1386, n. 1387).
Maytenus serrata (A. Rich.) Wilczek (m. 2,400; n. 379).
Osyris quadripartita Decn. (m. 2,400; n. 1617).
Phagnalon abyssinicum A. Rich. (m. 2,400; n. 933).
Phaulopsis imbricata (Forssk.) Sweet (m. 2,400; n. 1344).
Phytolacca dodecandra L'Hérit. (m. 2,400; n. 1571, n. 1572).
Rhamnus prinoides L'Hérit. (m. 2,400; n. 417).
Ricinus communis L. (m. 2,400; n. 1702).
Rosa abyssinica Lindl. (m. 2,400; n. 663).
Rumex nervosus Vahl (m. 2,400; n. 1547).
Satureja punctata (Benth.) Briq. (m. 2,400; n. 1464, n. 1468).
Solanum anguivi Lam. (m. 2,400; n. 2573).
Stephania abyssinica (A. Rich.) Walp. (m. 2,400; n. 130).
Syzygium guineense (Willd.) DC. (m. 2,400; n. 815).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 2,400; n. 889).
Vernonia filigera Oliv. & Hiern (m. 2,400; n. 2447).
Vernonia hochstetteri Walp. (m. 2,400; n. 956).
Vernonia rueppellii Walp. (m. 2,400; n. 2427).
Viscum triflorum DC. subsp. *nervosum* (A. Rich.) M.G. Gilbert (m. 2,400; n. 1580).
Vegetation; characteristic species: The presence of the trees *Acacia abyssinica, Albizia schimperiana, Apodytes dimidiata* var. *acutifolia* and *Syzygium guineense* suggests that the vegetation must have been some type of forest, due to the altitude and the promi-

nence of *Acacia abyssinica* probably DAF. A photograph of the locality is reproduced in Pichi Sermolli (1940b: Map 4). The variety of shrubs and herbaceous and basally woody species suggests also the presence of secondary bushland.
Photographic documentation: Pichi Sermolli photographed the *Acacia abyssinica* woodland at Bachiana.[8]

Base camp established in Gondar, collections from the mountains north of the town.

25.1.1937

Locality T10 – Versante settentrionale del colle Chercher (Gondar)
Locality number 10 on printed labels with this locality. Marked as T10 on Map 3.
English translation of Italian indication of locality: Northern slopes of the Chercher hills, in the vicinity of Gondar.
Georeferencing: On IGM (1934-1936a: Sheet 9), "Colle Cherecher" is marked with this name and indicated with an altitude 2,738 m., forming the watershed between the system of rivers running directly westwards to the Nile and the rivers running towards Lake Tana and the Blue Nile. Google Earth indicates that the highest point on the watershed is at 2,720 m., and the locality is therefore assumed to be approximately at 12.706899° N, 37.453691° E.
Collections cited in Pichi Sermolli (1951):
Carissa spinarum L. (m. 2,500; n. 1196).
Conyza stricta Willd. (m. 2,500; n. 870).
Echinops macrochaetus Fresen. (m. 2,500; n. 846).
Gnaphalium unionis Oliv. & Hiern (m. 2,500; n. 1020; n. 1022).
Helichrysum schimperi (A. Rich.) Moeser (m. 2,500; n. 988).
Helichrysum stenopterum DC. (m. 2,500; n. 984).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 2,500; n. 98).
Hyparrhenia hirta (L.) Stapf (m. 2,500; n. 68).
Hyparrhenia sp. aff. H. papillipes* (m. 2,500; n. 63).
Pennisetum sphacelatum (Nees) Th. Dur. & Schinz (m. 2,500; n. 36).
Plantago lanceolata L. (m. 2,500; n. 1454).
Pterocephalus frutescens A. Rich. (m. 2,500; n. 910).
Vegetation; characteristic species: The variety of shrubs and herbaceous and basally woody species suggests the presence of secondary bushland, presumably derived from DAF.
Photographic documentation: Pichi Sermolli photographed the north-western slopes of the Chercher hills.[9]

Locality T11 – Versante meridionale del colle Chercher (Gondar)
Locality number 11 on printed labels with this locality. Marked as T11 – Map 3.
English translation of Italian indication of locality: Southern slope of the Chercher hills, in the vicinity of Gondar.

8 See archival font Dainelli (501), image 713, in the *Archivio fotografico* of the *Società geografica italiana*.

9 See archival font Dainelli (501), image 714, in the *Archivio fotografico* of the *Società geografica italiana*.

Georeferencing: See the general remarks about locality number 10. Areas at the indicated height on the southern slope of the Chercher hills are located at 12.704897° N, 37.446800° E.
Collections cited in Pichi Sermolli (1951):
Acacia abyssinica Benth. (m. 2,400; n. 590).
Dodonaea angustifolia L. f. (m. 2,400; n. 490).
Otostegia integrifolia Benth. (m. 2,400; n. 1477).
Pterocephalus frutescens A. Rich. (m. 2,400; n. 913).
Vegetation; characteristic species: The presence of *Acacia abyssinica* and the evergreen shrubs suggests montane woodland and secondary bushland, presumably derived from DAF.

Still based in Gondar, Pichi Sermolli moved to collect within the drainage area of Lake Tana.

26.1.1937

Locality T12 – Valle tra M.[onte] Iabec e M.[onte] Coco (nord di Gondar)
Locality number 12 on printed labels with this locality. Marked as T12 on Map 3.
English translation of Italian indication of locality: Valley between Mt. Jabec [Iabec] and Mt. Coco, north of Gondar.
Variant indication of locality:
Valle tra Iabec e M.[onte] Coco (nord di Gondar) (n. 2265).
Georeferencing: The place names "Iabec" or "Jabec" and "Coco" have not been seen on any map. The altitude suggests that the locality is near the watershed north of Gondar; if Pichi Sermolli's locality is near the pass now used for the road between Gondar and Humera, then it is approximately at 12.710368° N, 37.445694° E.
Collections cited in Pichi Sermolli (1951):
Acacia venosa Benth. (m. 2,400; n. 597).
Anthospermum pachyrrhizum Hiern (m. 2,400; n. 761).
Bidens camporum (Hutch.) Mesfin (m. 2,400; n. 2140).
Carissa spinarum L. (m. 2,400; n. 1219).
Clematis hirsuta Guill. & Perr. (m. 2,400; n. 2372).
Conyza schimperi A. Rich. (m. 2,400; n. 871).
Crotalaria lachnocarpoides Engl. (m. 2,400; n. 2229).
Croton macrostachyus Del. (m. 2,400; n. 1641).
Dodonaea angustifolia L. f. (m. 2,400; n. 489, n. 493).
Helichrysum forsskahlii (J.F. Gmel.) Hilliard & B.L. Burtt (m. 2,400; n. 980).
Helichrysum stenopterum DC. (m. 2,400; n. 987).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 2,400; n. 100).
Hyparrhenia sp. cfr. H. papillipes* (m. 2,400; n. 62).
Hyparrhenia hirta (L.) Stapf (m. 2,400; n. 67).
Hypericum quartinianum A. Rich. (m. 2,400; n. 192).
Indigofera secundiflora Poir. (m. 2,400; n. 2265 (FT, holotype of *Indigofera secundiflora* var. *gondarensis* Pic. Serm.).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 2,400; n. 1162).
Lactuca inermis Forssk. (m. 2,400; n. 2147).
Maesa lanceolata Forssk. (m. 2,400; n. 1096).
Myrica salicifolia A. Rich. (m. 2,400; n. 1676).

Myrsine africana L. (m. 2,400; n. 1101).
Olea europaea L. subsp. *cuspidata* (G. Don) Cif. (m. 1,400 [error for 2,400 m?]; n. 1179).
Osyris quadripartita Decn. (m. 2,400; n. 1618).
Otostegia integrifolia Benth. (m. 2,400; n. 1478).
Pennisetum sphacelatum (Nees) Th. Dur. & Schinz (m. 2,400; n. 32).
Protea gaguedi J.F. Gmel. (m. 2,400; n. 1593).
Pterocephalus frutescens A. Rich. (m. 2,400; n. 914).
Rhus vulgaris Meikle (m. 2,400; n. 456, n. 462).
Rosa abyssinica Lindl. (m. 2,400; n. 662).
Satureja punctata (Benth.) Briq. (m. 2,400; n. 1459).
Tolpis virgata (Desf.) Bertol. (m. 2,400; n. 863).
Wahlenbergia abyssinica (A. Rich.) Thulin (m. 2,400; n. 1051).
Vegetation; characteristic species: The presence of the trees *Croton macrostachyus* and *Olea europaea* L. subsp. *cuspidata* suggests that the vegetation is DAF, but *Acacia venosa* is a species that is mainly distributed in *Combretum-Terminalia* woodland at lower altitudes (IF personal observation), and this locality is the highest record of the species. The many species of evergreen shrubs and herbs suggests that the vegetation can best be characterised as montane woodland and secondary bushland derived from DAF.
Photographic documentation: Pichi Sermolli's photographs of *Otostegia integrifolia* near Gondar probably belong to this locality.[10]

No specimen from a locality number 13 has been traced.

27.1.1937

Locality T14, 15 & 16 – Pendici orientali di M.[onte] Guranghe (nord di Gondar)
Locality number 14, 15 & 16 on printed labels, including the variants mentioned below; locality name both on printed and typed labels, the latter without locality number. Marked as T14, T15 & T16 on Map 3.
English translation of Italian indication of locality: Eastern slopes of Mt. Guranghe, north of Gondar.
Variant indication of locality:
Pendici orient. di monte Guranghe (nord di Gondar) (n. 2112).
Pendici orientali di Guranghe (nord di Gondar) (n. 1181).
Georeferencing: The place name "Guranghe" has not been seen on any map. All collections were made at m. 2,400, except *Salix subserrata*, n. 1740, which was made at m. 2,500; it is unclear why three locality numbers have been recorded for this place; the localities are very close together and must all approximately be georeferenced at 12.721863° N, 37.508489° E.
Collections cited in Pichi Sermolli (1951):
Acacia abyssinica Benth. (m. 2,400; n. 586).
Acanthus polystachius Del. (m. 2,400; n. 2112).
Alysicarpus ferrugineus A. Rich. (m. 2,400; n. 525).
Bidens setigera (Walp.) Sherff (m. 2,400; n. 2141).
Calpurnia aurea (Ait.) Benth. (m. 2,400; n. 629).

10 See archival font Dainelli (501), images 715, 716, in the *Archivio fotografico* of the *Società geografica italiana*.

Carissa spinarum L. (m. 2,400; n. 1217, n. 1218).
Clutia lanceolata Forssk. (m. 2,400; n. 2470).
Croton macrostachyus Del. (m. 2,400; n. 1642).
Daucus carota L. (m. 2,400; n. 675).
Dodonaea angustifolia L. f. (m. 2,400; n. 498).
Echinops macrochaetus Fresen. (m. 2,400; n. 849).
Ficus sur Forssk. (m. 2,400; n. 2383).
Helichrysum schimperi (A. Rich.) Moeser (m. 2,400; n. 990).
Heteromorpha arborescens (Spreng.) Cham. & Schltdl. var. *abyssinica* (A. Rich.) Wolff (m. 2,400; n. 700).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 2,400; n. 102).
Hyparrhenia rufa (Nees) Stapf (m. 2,400; n. 69).
Indeterminabile* (m. 2,400; n. 2322).
Juniperus procera Endl. (m. 2,400; n. 24).
Lactuca inermis Forssk. (m. 2,400; n. 2150).
Melinis repens (Willd.) Zizka (m. 2,400; n. 57).
Myrica salicifolia A. Rich. (m. 2,400; n. 1677).
Myrsine africana L. (m. 2,400; n. 1102).
Olea europaea L. subsp. *cuspidata* (G. Don) Cif. (m. 2,400; n. 1181).
Osyris quadripartita Decn. (m. 2,400; n. 1619).
Pennisetum sphacelatum (Nees) Th. Dur. & Schinz (m. 2,400; n. 35).
Plantago lanceolata L. (m. 2,400; n. 1451).
Rhus glutinosa A. Rich. subsp. *glutinosa* var. *glutinosa* (m. 2,400; n. 2337 (FT, holotype of *Rhus amharica* Pic. Serm.), n. 2348).
Rhus vulgaris Meikle (m. 2,400; n. 454, n. 455).
Salix subserrata Willd. (m. 2,500; n. 1740).
Satureja abyssinica (Benth.) Briq. (m. 2,400; n. 1406).
Satureja punctata (Benth.) Briq. (m. 2,400; n. 1458).
Tapinanthus globiferus (A. Rich.) Tiegh. (m. 2,400; n. 1595).
Tolpis virgata (Desf.) Bertol. (m. 2,400; n. 861).
Vernonia leopoldii (Walp.) Vatke (m. 2,400; n. 951).
Vernonia rueppellii Walp. (m. 2,400; n. 2425).
Viscum tuberculatum A. Rich. (m. 2,400; n. 1586).

Vegetation; characteristic species: The presence of *Acacia abyssinica, Calpurnia aurea, Ficus sur, Heteromorpha arborescens* var. *abyssinica, Juniperus procera, Olea europaea* subsp. *cuspidata*, and species of *Rhus* suggest a mixed DAF with both *Acacia abyssinica* woodland and patches of DAF forest with *Juniperus procera* and *Olea europaea* subsp. *cuspidata.* The varied flora of shrubs and herbs suggest that a mosaic of secondary Afromontane bushland and grassland was also present.

Photographic documentation: Pichi Sermolli photographed the bushland and the open *Olea* woodland on Mount Guranghe [in the photographic archive spelt Monte Gunanghe].[11]

Locality T16a – Gondar

Handwritten labels with this locality, but no locality number. Marked as T16a on Map 3.

English translation of Italian indication of locality: [In or at the town of] *Gondar*

11 See archival font Dainelli (501), image 717, in the *Archivio fotografico* of the *Società geografica italiana*.

Georeferencing: Suitable central parts of the old Gondar, in 1937 far from the completely built up town of today, are approximately at 12.608801° N, 37.469975° E.
Collections cited in Pichi Sermolli (1951):
Pterocephalus frutescens A. Rich. (m. 2,280; n. 912).
Vernonia amygdalina Del. (m. 2,280; n. 898).
Vegetation; characteristic species: The shrub or small tree *Vernonia amygdalina* and the subshrub *Pterocephalus frutescens* suggest that the vegetation may have been secondary Afromontane bushland.

Base camp moved from Gondar to Bahar Dar at the southernmost point of Lake Tana.

29.1.1937

Locality T17 – Sponde del Nilo Azzurro al traghetto per Bahar Dar
Locality number 17 on printed labels with this locality; locality name both on printed and typed labels, the latter without locality number. Marked as T17 on Map 4.
English translation of Italian indication of locality: Bank of the Blue Nile at the ferry to Bahar Dar.
Georeferencing: According to a contemporary map in 1:100,000 available at IGM in Florence (*Comando Truppe del R. Governo Amara*. Goggiam F2. Bahar Dar. 1938), the ferry seemed already in 1938 to be replaced by a bridge near the location of the present bridge across the Blue Nile just E of Bahar Dar, while Guida (1938: 382) mentions the "traghetto di Bahar Dar." The current bridge is at 1,790 m. and at 11.605236° N, 37.409444° E. It is highly likely that Pichi Sermolli's localities at the ferry are near this place, both the ones at 1820 and the ones at 1825 m.
Collections cited in Pichi Sermolli (1951):
Ceratophyllum demersum L. (m. 1,820; n. 1739).
Cyperus papyrus L. (m. 1,820; n. 1953).
Cyperus penzoanus Pic. Serm. (m. 1,820; n. 1982 (FT, holotype of *Cyperus morandinii* Pic. Serm.)).
Hibiscus diversifolius Jacq. (m. 1,825; n. 211).
Ipomoea cairica (L.) Sweet (m. 1,820; n. 1323).
Persicaria setosula (A. Rich.) K. Wilson (m. 1,820; n. 1541).
Pistia stratiotes L. (m. 1,820; n. 1732).
Fern collections in FI-PS:
Thelypteris confluens (Thunb.) Morton (No alt.; n. 1857, FI-PS 10628).
Vegetation; characteristic species: The species collected in this locality are herbs either growing at the shore of the river or in shallow water.
Photographic documentation: Pichi Sermolli recorded on the 29.1. a number of photographs from papyrus swamps around Bahar Dar.[12] Enzo Minucci photographed on the 29.1.1937 the vegetation along the Abay at the ferry and the ferry boat itself.[13]

12 See archival font Dainelli (501), images 722, 723, 724, 725, in the *Archivio fotografico* of the *Società geografica italiana*.

13 See archival font Dainelli (501), images 67 and 498, in the *Archivio fotografico* of the *Società geografica italiana*. See Fig. 34 in this work.

Fig. 42. View of the modern town of Bahar Dar and the Blue Nile leaving in a southernly direction. Seen from a hill south of the town just east of the river. Evergreen scrub in the foreground with *Pterolobium stellatum*. Photograph by Ib Friis, 2016.

31.1.1937

Locality T18 – Riva del lago ad est di Bahar Dar
Locality number 18 on printed labels with this locality. Marked as T18 on Map 4.
English translation of Italian indication of locality: Shore of Lake Tana to the east of Bahar Dar.
Georeferencing: Presumably between the old centre of Bahar Dar and one of the outlets from Lake Tana to the Blue Nile, approximately at 11.599132° N, 37.395861° E.
Collections cited in Pichi Sermolli (1951):
Acanthus sennii Chiov. (m. 1,825; n. 2123).
Barleria ventricosa Nees (m. 1,825; n. 1519).
Capparis tomentosa Lam. (m. 1,825; n. 166).
Ficus ovata Vahl (m. 1,825; n. 2388).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,825; n. 1171).
Justicia schimperiana (Nees) T. Anders. (m. 1,825; n. 1504).
Kalanchoe lanceolata (Forssk.) Pers. (m. 1,825; n. 792).
Lantana trifolia L. (m. 1,825; n. 1417).
Maytenus arbutifolia (A. Rich.) Wilczek (m. 1,825; n. 2279).
Phragmanthera regularis (Sprague) M.G. Gilbert (m. 1,825; n. 1606).
Phyllanthus ovalifolius Forssk. (m. 1,825; n. 2452).

Plicosepalus acaciae (Zucc.) Wiens & Polhill (m. 1,825; n. 1613).
Plumbago zeylanica L. (m. 1,825; n. 1036).
Rhus sp.[2]* (m. 1,825; n. 453).
Setaria incrassata (Hochst.) Hack. (m. 1,825; n. 307).
Solanum campylacanthum A. Rich. (m. 1,825; n. 2559).
Tapinanthus globiferus (A. Rich.) Tiegh. (m. 1,825; n. 2486).
Vegetation; characteristic species: The only tree mentioned from this locality is *Ficus ovata,* which grows in a wide range of habitats; the remaining species are shrubs (three parasites) or herbs that may grow on the lake shore or in grassland near the lake.

Locality T18a – Bahar Dar
Locality number 18 with this locality; handwritten label with this locality name and locality number. Number 18 also used for "*Riva del lago ad est di Bahar Dar*"; therefore this locality is here numbered T18a. Marked as 18a on Map 4.
English translation of Italian indication of locality: [In or at the town of] *Bahar Dar*
Georeferencing: Presumably inside the old part of Bahar Dar, approximately at 11.594706° N, 37.389800° E.
Collections cited in Pichi Sermolli (1951):
Dracaena steudneri Engl. (m. 1,825; n. 2015).
Vegetation; characteristic species: *Dracaena steudneri* is an indigenous tree, but it is commonly planted as an ornamental; Pichi Sermolli made no note about this.

Locality T19 – Rive del lago ad ovest di Bahar Dar
Locality number 19 on printed labels with this locality. Marked as T19 on Map 4.
English translation of Italian indication of locality: Shores of Lake Tana to the west of Bahar Dar.
Georeferencing: In riparian forest and scrub west of Bahar Dar and on the long peninsula surrounded by a brim of papyrus ["piccole penisolette coperti di Papiri che fiancheggiano il Lago ad ovest di Bahar Dar"], approximately at 11.612607° N, 37.376881° E.
Collections cited in Pichi Sermolli (1951):
Acanthus polystachius Del. (m. 1,825; n. 2111).
Albuca abyssinica Jacq. (m. 1,825; n. 1755).
Capparis sepiaria L. var. *boscioides* (Pax) Kers (m. 1,825; n. 171).
Capparis tomentosa Lam. (m. 1,825; n. 167).
Carissa spinarum L. (m. 2,400 [probably erroneous for 1,825 m]; n. 1216).
Cissus petiolata Hook. f. (m. 1,825; n. 437).
Clematis hirsuta Guill. & Perr. (m. 1,825; n. 2359).
Cordia africana Lam. (m. 1,825; n. 1255).
Cussonia ostinii Chiov. (m. 1,825; n. 674).
Euphorbia abyssinica Gmel. (m. 1,825; n. 1658).
Ficus vasta Forssk. (m. 1,825; n. 2377).
Hippocratea africana (Willd.) Loes. var. *schimperiana* (A. Rich.) Cufod. (m. 1,825; n. 366).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 1,825; n. 97).
Hyparrhenia sp. cfr. H. gazensis* (m. 1,825; n. 330).
Indeterminabile* (m. 1,825; n. 2134).
Indigofera arrecta A. Rich. (m. 1,825; n. 539).
Ipomoea cairica (L.) Sweet (m. 1,825; n. 1324).
Kalanchoe lanceolata (Forssk.) Pers. (m. 1,825; n. 793).
Lablab purpureus (L.) Sweet (m. 1,825; n. 515).

Mimusops kummel A. DC. (m. 1,825; n. 1076).
Pavetta sp.* (m. 1,825; n. 756).
Phragmanthera regularis (Sprague) M.G. Gilbert (m. 1,825; n. 1607).
Plumbago zeylanica L. (m. 1,825; n. 1037).
Pterolobium stellatum (Forssk.) Brenan (m. 1,825; n. 651).
Rhoicissus tridentata (L. f.) Wild & Drummond (m. 1,825; n. 393).
Senna singueana (Del.) Lock (m. 1,825; n. 563).
Solanum campylacanthum A. Rich. (m. 1,825; n. 2560).
Teclea nobilis Del. (m. 1,825; n. 2058).
Vernonia adoensis Walp. (m. 1,825; n. 961).
Viscum tuberculatum A. Rich. (m. 1,825; n. 1581).
Vegetation; characteristic species: The trees collected from this locality are *Cordia africana, Cussonia ostinii, Euphorbia abyssinica, Ficus vasta, Mimusops kummel, Senna singueana* and *Teclea nobilis*. Together, they form a mixed assembly of trees of the lake shore and IAF (*Mimusops kummel*), trees in Afromontane woodland of the DAF (*Cordia africana, Cussonia ostinii, Euphorbia abyssinica, Ficus vasta, Senna singueana*) and species that occur in clumps of forest or secondary scrub (*Teclea nobilis*). This impression is confirmed by the smaller shrubs and the herbs.

1.2.1937

Locality T20 – Amba Covitta (Bahar Dar)
Locality number 20 on printed labels with this locality. Marked as T20 on Map 8.
English translation of Italian indication of locality: [The hill of] Amba Covitta ([south of] Bahar Dar).
Variant indication of locality:
Amba Covitta (n. 616).
Georeferencing: "Amba" is the Amharic word for a mountain, usually flat-topped, because the mountain is derived by erosion from a larger, flat plateau. The place name "Covitta" has not been seen on any map; there are several small hills south and south-west of Bahar Dar, now nearly all inside the built up area of the town. The "amba" with the most suitable height to the south-west of the town is approximately at 11.517453° N, 37.331545° E.
Collections cited in Pichi Sermolli (1951):
Albizia malacophylla (A. Rich.) Walp. (m. 1,900; n. 1195).
Carissa spinarum L. (m. 1,900; n. 1197, n. 1198).
Clematis hirsuta Guill. & Perr. m. 1900 (m. 1,900; n. 2370).
Combretum molle G. Don (m. 1,900; n. 729).
Croton macrostachyus Del. (m. 1,900; n. 1643).
Dichrostachys cinerea (L.) Wight & Arn. (m. 1,900; n. 546).
Dolichos oliveri Schweinf. (m. 1,900; n. 509).
Echinops giganteus A. Rich. (m. 1,900; n. 2173).
Erythrina abyssinica DC. (m. 1,900; n. 517).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,900; n. 832).
Gnidia involucrata A. Rich. (m. 1,900; n. 1531).
Grewia mollis A. Juss. (m. 1,900; n. 266).
Guizotia sp.* (m. 1,900; n. 2163).
Helinus mystacinus (Ait.) Steud. (m. 1,900; n. 404).

Hyparrhenia (?) variabilis* (m. 1,900; n. 52).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 1,900; n. 99).
Hyparrhenia cymbaria (L.) Stapf (m. 1,900; n. 117).
Hyparrhenia sp.* (m. 1,900; n. 317).
Laggera braunii Vatke (m. 1,900; n. 2177).
Lippia adoensis Walp. (m. 1,900; n. 1418).
Ocimum trichodon Gürke (m. 1,900; n. 2475).
Piliostigma thonningii (Schumach.) Milne-Redh. (m. 1,900; n. 616).
Senna singueana (Del.) Lock (m. 1,900; n. 562, n. 573).
Stereospermum kunthianum Cham. (m. 1,900; n. 1369).
Terminalia schimperiana Hochst. (m. 1,900; n. 714, n. 718).
Vernonia cylindrica Walp. (m. 1,900; n. 2444).
Vegetation; characteristic species: The trees in this locality include a majority of species normally associated with *Combretum-Terminalia* woodland (*Albizia malacophylla, Combretum molle, Erythrina abyssinica, Gardenia ternifolia* subsp. *jovis-tonantis, Grewia mollis, Piliostigma thonningii, Stereospermum kunthianum, Terminalia schimperiana*). Fewer are species associated with secondary evergreen scrub (*Carissa spinarum, Helinus mystacinus*) or Afromontane woodland (*Croton macrostachyus*).
Photographic documentation: Pichi Sermolli took two photographs on this date showing the mosaic of cultivations and patches of semi-natural vegetation near the lake shore near Bahar Dar and the plains south of the small town.[14]

Locality T21 – Pianura alla base di Amba Covitta (Bahar Dar)
Locality number 21 on printed labels; locality name both on printed and typed labels, the latter without locality number. Marked as T21 on Map 8.
English translation of Italian indication of locality: Plain at the base of Amba Covitta ([south of] Bahar Dar).
Georeferencing: As for locality number 20, approximately at 11.517453° N, 37.331545° E.
Collections cited in Pichi Sermolli (1951):
Combretum molle G. Don (m. 1,850; n. 728).
Cordia africana Lam. (m. 1,850; n. 1254).
Hygrophila schulli (Hamilt.) M.R. & S.M. Almeida (m. 1,850; n. 1363).
Hygrophila spiciformis Lindau (m. 1,850; n. 1341).
Trichodesma zeylanicum (Burm. f.) R. Br. (m. 1,850; n. 1276).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 1,850; n. 888).
Vernonia myriantha Hook. f. (m. 1,850; n. 2426 (FT, holotype of *Vernonia chiarugii* Pic. Serm.).
Vernonia rueppellii Walp. (m. 1,850; n. 2737).
Vegetation; characteristic species: As this locality is in the plains below Amba Covitta it is not surprising that there are species of trees also found in *Combretum-Terminalia* woodland (*Combretum molle, Cordia africana*). Since these plains south of the town are sometimes flooded, it is also to be expected that there are moisture-loving herbs or subshrubs (*Hygrophila schulli, Hygrophila spiciformis*).

14 See archival font Dainelli (501), images 726, 727, in the *Archivio fotografico* of the *Società geografica italiana*.

2.2.1937

Locality T22 – Sciunra Apu lungo la riva del lago ad ovest di Bahar Dar
Locality number 22 on printed labels with this locality. Marked as T22 on Map 4.
English translation of Italian indication of locality: Sciunra Apu along the shore of Lake Tana to the west of Bahar Dar.
Variant indication of locality:
Sciaunra Apu lungo la riva del lago ad ovest di Bahar Dar (n. 1121, n. 1146, n. 1170).
Georeferencing: The place name "Sciunra Apu" has not been seen on any map, nor has the alternative spelling "Sciaunra Apu". Most likely, it is a small village on the shore of Lake Tana between Bahar Dar and Zegie, but no village can now be pointed out as the suitable locality for this name. Assuming that Sciunra Apu is relatively close to the old part of Bahar Dar, but now inside the partly built-up outskirts of the town in direction of the airport, the locality could be approximately at 11.616247° N, 37.348191° E.
Collections cited in Pichi Sermolli (1951):
Arundo donax L. (m. 1,825; n. 1943).
Barleria ventricosa Nees (m. 1,825; n. 1517).
Calpurnia aurea (Ait.) Benth. (m. 1,825; n. 628).
Capparis sepiaria L. var. *boscioides* (Pax) Kers (m. 1,825; n. 172).
Carissa spinarum L. (m. 1,825; n. 1215).
Clematis simensis Fresen. (m. 1,825; n. 134).
Conyza pyrrhopappa A. Rich. (m. 1,825; n. 877).
Cordia africana Lam. (m. 1,825; n. 1256).
Croton macrostachyus Del. (m. 1,825; n. 1644).
Dicliptera maculata Nees (m. 1,825; n. 1498).
Dioscorea schimperiana Kunth (m. 1,825; n. 1772).
Diospyros abyssinica (Hiern) F. White (m. 1,825; n. 1121).
Echinochloa stagnina (Retz.) P. Beauv. (m. 1,825; n. 49).
Euclea racemosa Murray subsp. *schimperi* (A. DC.) F. White (m. 1,825; n. 1146).
Ficus vasta Forssk. (m. 1,825; n. 1712).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,825; n. 833).
Hygrophila spiciformis Lindau (m. 1,825; n. 1339).
Hyparrhenia sp. cfr. H. gazensis* (m. 1,825; n. 325).
Indeterminabile* (m. 1,825; n. 2133, n. 2182).
Ipomoea cairica (L.) Sweet (m. 1,825; n. 1325).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,825; n. 1170).
Lannea schimperi (A. Rich.) Engl. (m. 1,825; n. 481).
Lippia adoensis Walp. (m. 1,825; n. 1429).
Maytenus arbutifolia (A. Rich.) Wilczek (m. 1,825; n. 2319).
Millettia ferruginea (Hochst.) Bak. (m. 1,825; n. 507).
Mimusops kummel A. DC. (m. 1,825; n. 1077, n. 1078).
Panicum subalbidum Kunth (m. 1,825; n. 44).
Pavetta sp.* (m. 1,825; n. 754).
Phoenix reclinata Jacq. (m. 1,825; n. 2003).
Polystachya bennettiana Rchb. f. (m. 1,825; n. 2537, n. 2539).
Pterolobium stellatum (Forssk.) Brenan (m. 1,820; n. 643).
Rhoicissus tridentata (L. f.) Wild & Drummond (m. 1,825; n. 403).
Rhus vulgaris Meikle (m. 1,825; n. 452).
Senna singueana (Del.) Lock (m. 1,825; n. 560).

Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 1,825; n. 887).
Ximenia americana L. (m. 1,825; n. 359).
Vegetation; characteristic species: Some of the trees recorded from this locality are associated with forest, probably at the lake shore (*Mimusops kummel, Phoenix reclinata*), others probably in clumps in more open Afromontane woodland (*Cordia africana, Croton macrostachyus, Diospyros abyssinica, Euclea racemosa* subsp. *schimperi, Lippia adoensis, Maytenus arbutifolia, Millettia ferruginea, Pterolobium stellatum, Rhus vulgaris, Senna singueana*), yet others are typical of Afromontane woodland (*Gardenia ternifolia* subsp. *jovis-tonantis*, *Lannea schimperi, Ximenia americana*). Some of the herbaceous species are associated with swampy ground, and therefore probably found near the shoreline of the lake; others away from the lake in Afromontane grassland.

Locality T23 – Presso Bahar Dar
Locality number 23 on printed labels with this locality. Marked as T23 on Map 4.
English translation of Italian indication of locality: Near Bahar Dar.
Georeferencing: There is very little information to go by for georeferencing this locality, except that the floristic composition indicates relatively dry ground away from the lake. Since the locality was visited on the same day as no. 22, which is said to be to the west of Bahar Dar, it is likely that the locality is now inside the outskirts of the modern town; possibly approximately at 11.613346° N, 37.363908° E.
Collections cited in Pichi Sermolli (1951):
Amorphophallus gomboczianus Pic. Serm. (m. 1,825; n. 1988).
Barleria ventricosa Nees (m. 1,825; n. 1520).
Caylusea abyssinica (Fresen.) Fisch. & Mey. (m. 1,825; n. 146).
Coffea arabica L. (m. 1,825; n. 767, n. 768).
Commelina benghalensis L. (m. 1,825; n. 1752, n. 1753).
Datura stramonium L. (m. 1,825; n. 1301).
Diaphananthe tenuicalcar Summerh. (m. 1,825; n. 2526).
Kalanchoe lanceolata (Forssk.) Pers. (m. 1,825; n. 791).
Phytolacca dodecandra L'Hérit. (m. 1,825; n. 1567).
Podocarpus falcatus (Thunb.) Mirb. (m. 1,825; n. 30).
Senna singueana (Del.) Lock (m. 1,825; n. 561).
Solanum campylacanthum A. Rich. (m. 1,825; n. 2561).
Fern collections in FI-PS:
Asplenium theciferum (H.B.K.) Mett. (No alt.; n. 1854, FI-PS 10624).
Vegetation; characteristic species: The only proper tree collected in this locality is *Podocarpus falcatus;* Pichi Sermolli (1951: 19) wrote about this species: "In the Lake Tana basin I have seen this species only in the vicinity of houses, churches and villages. It is certainly cultivated and exclusively so for ornamental purposes. The seedlings in the first years after planting are defended against animals and other enemies by means of fences and cages made of intertwined branches." Another cultivated tree or shrub is *Coffea arabica.* Most of the remaining species indicate grassland with scattered secondary scrub. *Diaphananthe tenuicalcar* is an epiphytic orchid that must have grown on a tree or a shrub of *Coffea*.

Photographic documentation: Two photographs taken on this day show the semi-natural vegetation with *Euphorbia abyssinica* and papyrus swamps, both near Bahar Dar.[15]

Locality T23a – Coltivato presso Bahar Dar
No locality number on hand-written label with this locality. Marked as T23a on Map 4.
English translation of Italian indication of locality: Cultivated near Bahar Dar.
Georeferencing: Presumably collected near locality number 23 and therefore here recorded as T23a; a likely location would be approximately at 11.613346° N, 37.363908° E.
Collections cited in Pichi Sermolli (1951):
Lycopersicon esculentum Mill. (m. 1,825; n. 2541).
Vegetation; characteristic species: The tomato is a very commonly cultivated herb in home gardens.

3.2.1937

(In Pichi Sermolli (1951) the collection of *Oryza longistaminata,* n. 1873 from locality number 24, is said to have been collected on "5. feb.", almost certainly an error for 3.2.).

Locality T24 – Riva del lago in corrispondenza di Scimbit (Bahar Dar)
Locality number 24 on printed labels with this locality. Marked as T24 on Map 4.
English translation of Italian indication of locality: Shore of Lake Tana at Scimbit, near Bahar Dar.
Georeferencing: The village Scimbit is marked on the map in 1:100,000 by the *Ufficio Topografico del R. Governo Amara* (ca. 1938: Sheet F2, "Bahar Dar") and a church named Shimbat Mikhael [Shimbat Michael] is indicated on the map in 1:250,000 by the Egyptian-Sudanese mapping Authority (ca. 1940; Sheet 67A, Dangila). It is immediately west of the peninsula west of Bar Dar mentioned under locality 19. There are now two churches in this area; Pichi Sermolli's locality is presumable near 11.617270° N, 37.366629° E.
Collections cited in Pichi Sermolli (1951):
Aeschynomene schimperi A. Rich. (m. 1,825; n. 2267, n. 2268).
Cyperus longus L. (m. 1,825; n. 1959).
Cyperus papyrus L. (m. 1,825; n. 1956).
Cyperus penzoanus Pic. Serm. (m. 1,820; n. 1986 (FT, holotype of *Cyperus penzoanus* Pic. Serm.).
Dyschoriste nagchana (Nees) Bennett (m. 1,825; n. 1355).
Echinochloa pyramidalis (Lam.) Hitchc. & Chase (m. 1,825; n. 51).
Ficus ovata Vahl (m. 1,825; n. 2389).
Ipomoea cairica (L.) Sweet (m. 1,825; n. 1326).
Maytenus arbutifolia (A. Rich.) Wilczek (m. 1,825; n. 2282).
Oryza longistaminata A. Chev. & Roehr. (m. 1,820; n. 1873).
Persicaria setosula (A. Rich.) K. Wilson (m. 1,820; n. 1542).
Phoenix reclinata Jacq. (m. 1,825; n. 1996).
Polystachya bennettiana Rchb. f. (m. 1,825; n. 2536).
Rhus quartiniana A. Rich. (m. 1,825; n. 2340; n. 2342).

15 See archival font Dainelli (501), images 728, 729, in the *Archivio fotografico* of the *Società geografica italiana*.

Fig. 43. Patch of *Cyperus papyrus* and grasses on the shore of Lake Tana to the west of Bahar Dar. Forest in the background. Photograph by Ib Friis, 2015.

Sesbania sesban (L.) Merr. var. *nubica* Chiov. (m. 1,825; n. 2521).
Syzygium guineense (Willd.) DC. (m. 1,825; n. 817).
Tacazzea (?) apiculata* (m. 1,825; n. 2131).
Vegetation; characteristic species: The three indigenous species of trees collected in this locality (*Ficus ovata, Phoenix reclinata, Syzygium guineense*) occur typically in the forest communities on the lake shore. Many of the herbs and subshrubs are also typically associated with swampy ground near the lake shore (*Aeschynomene schimperi, Cyperus longus, Cyperus papyrus, Cyperus penzoanus, Echinochloa pyramidalis, Ipomoea cairica, Oryza longistaminata, Persicaria setosula, Sesbania sesban* var. *nubica*).
Photographic documentation: Photographs taken on this day show a "tanqua" (reed boat of papyrus) on the lake and papyrus swamps.[16]

Locality T24a – A sud di Bahar Dar presso il villaggio di Sabatami
No locality number on typed label with this locality. Marked as T24a on Map 4.
English translation of Italian indication of locality: South of Bahar Dar near the village of Sabatami.

16 See archival font Dainelli (501), images 730, 731, 732, in the *Archivio fotografico* of the *Società geografica italiana*.

Georeferencing: The exact spelling of a place name as "Sabatami" has not been seen on any map; the map in 1:100,000 by the *Ufficio Topografico del R. Governo Amara* (ca. 1938: Sheet F2, "Bahar Dar") has a village "Sevatamit" at 11° 33' N, 37° 25' E, the map on p. 176 in Miss. Studi al Lago Tana, vol. 2, has a place along the Blue Nile named "Samatami" and the map by Demelie Arega (no year) indicates a place named "Sebat amet" along the Blue Nile near that same place. The locality has not been given a number, but is here recorded as T23a. Presumably the locality should be mapped as at 11.538236° N, 37.400289° E.
Collections cited in Pichi Sermolli (1951):
Chrozophora plicata (Vahl) A. Juss. (m. 1,850; n. 1695).
Vegetation; characteristic species: The recording of *Chrozophora plicata* from this locality would suggest moist, disturbed ground.

4.2.1937

Excursion by boat or tanqua [papyrus-boat] from Bahar Dar to Kebra Uddus Gabriel, a forested island with a monastery in Lake Tana.

Locality T25 – Kebra Uddus Gabriel
Locality number 25 on printed labels with this locality. Marked as T25 on Map 4.
English translation of Italian indication of locality: [On the island of] *Kebra Uddus Gabriel.*
Georeferencing: "Uddus" or "kuddus" are Amharic words referring to the sainthood of a person and "kebra" means "glory"; the name refers to the monastery on a small island in the southernmost part of Lake Tana. The map on p. 176 in Miss. Studi al Lago Tana, vol. 2, indicates the name "I[sola] Kuddus Gabriel" as the largest and northernmost of the small islands with monasteries in the Lake near Bahar Dar. On the map by Demelie Arega (no year) this island is marked as "Kibran Gabriel". Pichi Sermolli's "Kebra Uddus Gabriel" is therefore the largest of the steep-sided island with a monastery in the southern part of Lake Tana. The highest point of the island is approximately at 11.651935° N, 37.364102° E.
Collections cited in Pichi Sermolli (1951):
Abutilon mauritianum (Jacq.) Medic. (m. 1,820-1,900; n. 221).
Achyranthes aspera L. var. *pubescens* (Moq.) C.C. Townsend (m. 1,820-1,900; n. 1438).
Ageratum conyzoides L. (m. 1,820-1,900; n. 1062).
Albizia schimperiana Oliv. (m. 1,820-1,900; n. 1117).
Arundo donax L. (m. 1,820-1,900; n. 1949).
Barleria ventricosa Nees (m. 1,820-1,900; n. 1521).
Celosia schweinfurthiana Schinz (m. 1,820-1,900; n. 2504).
Celosia trigyna L. (m. 1,820-1,900; n. 1449).
Celtis africana Burm. f. (m. 1,850-1,900; n. 1685).
Citrus aurantifolia (Christm.) Swingle (m. 1,820-1,900; n. 250).
Coffea arabica L. (m. 1,820-1,900; n. 769, n. 770).
Cordia africana Lam. (m. 1,820-1,900; n. 1258).
Cordia monoica Roxb. (m. 1,820-1,900; n. 2404, n. 2409).
Cynodon dactylon (L.) Pers. (m. 1,820-1,900; n. 1884).
Cyperus cyperoides (L.) Kuntze (m. 1,820-1,900; n. 1952).
Cyperus fischerianus A. Rich. (m. 1,820-1,900; n. 1967).
Dicliptera maculata Nees (m. 1,820-1,900; n. 1495).

Diospyros abyssinica (Hiern) F. White (m. 1,820-1,900; n. 1122).
Dombeya torrida (J.F. Gmel.) P. Bamps (m. 1,820-1,900; n. 235).
Ficus thonningii Bl. (m. 1,850-1,900; n. 1666).
Gossypium hirsutum L. (m. 1,820-1,900; n. 204).
Graminacee indeterminabili* (m. 1,820-1,900; n. 338).
Grewia ferruginea A. Rich. (m. 1,820-1,900; n. 285, n. 286).
Guizotia villosa Sch. Bip. (m. 1,820-1,900; n. 1005).
Hibiscus calyphyllus Cavan. (m. 1,820-1,900; n. 209).
Hippocratea africana (Willd.) Loes. var. *schimperiana* (A. Rich.) Cufod. (m. 1,820-1,900; n. 371).
Ipomoea cairica (L.) Sweet (m. 1,820-1,900; n. 1328).
Juniperus procera Endl. (m. 1,850-1,900; n. 18).
Justicia schimperiana (Nees) T. Anders. (m. 1,820-1,900; n. 1505).
Lablab purpureus (L.) Sweet (m. 1,820-1,900; n. 511).
Laggera crispata (Vahl) Hepper & Wood (m. 1,820-1,900; n. 929, n. 931, n. 932).
Millettia ferruginea (Hochst.) Bak. (m. 1,820-1,900; n. 508).
Mimusops kummel A. DC. (m. 1,820-1,900; n. 1079).
Olea europaea L. subsp. *cuspidata* (G. Don) Cif. (m. 1,820-1,900; n. 1172).
Pennisetum unisetum (Nees) Benth. (m. 1,820-1,900; n. 39).
Phoenix reclinata Jacq. (m. 1,820-1,900; n. 1997).
Phytolacca dodecandra L'Hérit. (m. 1,820-1,900; n. 1573).
Plumbago zeylanica L. (m. 1,820-1,900; n. 1038).
Rhamnus prinoides L'Hérit. (m. 1,820-1,900; n. 416).
Rumex nervosus Vahl (m. 1,820-1,900; n. 1554).
Sesbania sesban (L.) Merr. var. *nubica* Chiov. (m. 1,820-1,900; n. 2522, n. 2523).
Tragia cinerea (Pax) M.G. Gilbert & Radcl.-Smith (m. 1,820-1,900; n. 1691).
Fern collections in FI-PS and cited in Pichi Sermolli (1957b):
Adiantum poiretii Wikstr. (No alt.; n. 1801, not seen, cited from Pichi Sermolli 1957a: 688).
Asplenium theciferum (H.B.K.) Mett. (No alt.; n. 1848, FI-PS 29347, a duplicate at LUX marked MNHNL47671/LUX058536).
Vegetation; characteristic species: The majority of trees collected from this locality (*Albizia schimperiana, Celtis africana, Cordia africana, Dombeya torrida, Ficus thonningii, Juniperus procera, Millettia ferruginea, Olea europaea* subsp. *cuspidata)* indicate the forest on the island, which is protected by the presence of St. Gabriel's monastery; the combination of species indicate that the forest can be classified as DAF or IAF. *Mimusops kummel* and *Phoenix reclinata* may have occurred in the forest on the lake shore or further inland.
Photographic documentation: Some of Pichi Sermolli's photographs from the excursion to Kebra Uddus Gabriel show the lake shore and the forest, while the photographs from 501/737 to 501/743 show inside and outside of the church on the island.[17] Photographs from the lake show vegetation on the Zegi peninsula.[18] A photograph taken by

17 See archival font Dainelli (501), images 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, in the *Archivio fotografico* of the *Società geografica italiana*.

18 See archival font Dainelli (501), images 7744, 745, in the *Archivio fotografico* of the *Società geografica italiana*.

Dainelli on 5.2.1937 shows the lakeshore vegetation of the place on Kebra Uddus Gabriel, where the boat from Bahar Dar landed; most of the shrubs are a species of *Sesbania*.[19]

6.2.1937

A collection from near Bahar Dar.

Locality T25a – Bahar Dar
No locality number on handwritten label with this locality. Marked as T25a on Map 4.
English translation of Italian indication of locality: [At or in the town of] Bahar Dar.
Georeferencing: There is very little information to go by to georeference this locality, but the ecology of the collected species would indicate that it is away from the lake shore and swampy ground. Possibly south of the old town in an area now built up; according to this, Pichi Sermolli's locality is approximately at 11.580069° N, 37.395075° E.
Collections cited in Pichi Sermolli (1951):
Amorphophallus gomboczianus Pic. Serm. (m. 1,825; n. 1990).
Vegetation; characteristic species: The only recorded species is characteristic of Afromontane grassland or edges of secondary scrub.

7.2.1937

Excursion to the south of Bahar Dar and to the ferry on the Abay River to the east of the town.

Photographic documentation of unspecified habitats on the 7.2.1937: Among the photographs taken on that day only (501/749), showing riverine forest with *Phoenix reclinata*, has direct relation to the characteristics of the vegetation.[20]

Locality T25b – A sud di Bahar Dar
No locality number on handwritten label with this locality. Marked as T25b on Map 4.
English translation of Italian indication of locality: South of Bahar Dar.
Georeferencing: This locality could be at a large and swampy area in old streambeds along the Blue Nile to the south of the old centre of Bahar Dar; it can be seen on the map in 1:100,000 by the *Ufficio Topografico del R. Governo Amara* (ca. 1938: Sheet F2, "Bahar Dar"), but is now reduced in size by draining. According to this, Pichi Sermolli's locality is approximately at 11.540919° N, 37.406997° E.
Collections cited in Pichi Sermolli (1951):
Kanahia laniflora (Forssk.) R. Br. (m. 1,850; n. 1249).
Vegetation; characteristic species: In northern Ethiopia, *Kanahia laniflora* is common in the beds of temporary streams and along permanent streams.

19 See archival font Dainelli (501), image 96, in the *Archivio fotografico* of the *Società geografica italiana*.
20 See archival font Dainelli (501), image 746, 747, 748, 749, in the *Archivio fotografico* of the *Società geografica italiana*.

Locality T26 – Pianura a sud di Bahar Dar
Locality number 26 on printed labels with this locality. Marked as T26 on Map 8.
English translation of Italian indication of locality: Small plain south of Bahar Dar.
Variant indication of locality:
Piana a sud di Bahar Dar (n. 287, n. 332, n. 451, n. 480, n. 618, n. 632, n. 1587, n. 1608, n. 1614, n. 1645, n. 1655, n. 1711, n. 2101, n. 2149, n. 2159, n. 2162, n. 2399, n. 2400, n. 2562).
Piana a sud del Bahar Dar (n. 1161).
Piana sud di Bahar Dar (n. 1660).
Georeferencing: There are extensive areas with level ground south of Bahar Dar, and it is difficult to identify a specific place where the collections have been made. A suitable place for Pichi Sermolli's locality could be approximately at 11.501653° N, 37.426270° E.
Collections cited in Pichi Sermolli (1951):
Acanthus polystachius Del. (m. 1,850; n. 2100; n. 2101).
Aloe macrocarpa Tod. (m. 1,850; n. 1761).
Aristida adoensis Hochst. (m. 1,850; n. 332).
Calpurnia aurea (Ait.) Benth. (m. 1,850; n. 632).
Capparis tomentosa Lam. (m. 1,850; n. 168).
Carissa spinarum L. (m. 1,825; n. 1202).
Clematis hirsuta Guill. & Perr. (m. 1,850; n. 2360).
Combretum molle G. Don (m. 1,850; n. 732).
Cordia africana Lam. (m. 1,850; n. 1257).
Croton macrostachyus Del. (m. 1,850; n. 1645, n. 1655).
Echinochloa pyramidalis (Lam.) Hitchc. & Chase (m. 1,850; n. 50).
Eragrostis sp.* (m. 1,850; n. 1881).
Ethulia conyzoides L. f. (m. 1,850; n. 942).
Euphorbia schimperiana Scheele (m. 1,850; n. 1660).
Ferula communis L. (m. 1,850; n. 692).
Ficus sycomorus L. (m. 1,850; n. 2399, n. 2400).
Ficus vasta Forssk. (m. 1,850; n. 1711).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,850; n. 834).
Grewia ferruginea A. Rich. (m. 1,850; n. 287).
Guizotia sp.* (m. 1,850; n. 2159, n. 2162).
Hygrophila schulli (Hamilt.) M.R. & S.M. Almeida (m. 1,850; n. 1362).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 1,850; n. 101).
Hyparrhenia rufa (Nees) Stapf (m. 1,850; n. 77, n. 79).
Indigofera secundiflora Poir. (m. 1,850; n. 535).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,850; n. 1161).
Lactuca inermis Forssk. (m. 1,850; n. 2149).
Lannea schimperi (A. Rich.) Engl. (m. 1,850; n. 480).
Lippia adoensis Walp. (m. 1,850; n. 1420).
Phragmanthera regularis (Sprague) M.G. Gilbert (m. 1,850; n. 1608).
Piliostigma thonningii (Schumach.) Milne-Redh. (m. 1,850; n. 618).
Plicosepalus acaciae (Zucc.) Wiens & Polhill (m. 1,850; n. 1614).
Rhus sp.[2]* (m. 1,850; n. 451).
Senna singueana (Del.) Lock (m. 1,850; n. 568).
Setaria atrata Hack. (m. 1,850; n. 308).
Solanum campylacanthum A. Rich. (m. 1,850; n. 2562).
Stereospermum kunthianum Cham. (m. 1,850; n. 1368).

Vernonia adoensis Walp. (m. 1,850; n. 959).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 1,850; n. 886).
Vernonia cylindrica Walp. (m. 1,850; n. 2445).
Vernonia rueppellii Walp. (m. 1,850; n. 2424).
Viscum tuberculatum A. Rich. (m. 1,850; n. 1587).
Wahlenbergia abyssinica (A. Rich.) Thulin (m. 1,850; n. 1052).
Vegetation; characteristic species: The floristic composition of the collections indicates woodland vegetation with species associated with *Combretum-Terminalia* woodland (*Combretum molle, Gardenia ternifolia, Lannea schimperi, Piliostigma thonningii, Stereospermum kunthianum*) other species the presence of secondary bushland (*Calpurnia aurea, Capparis tomentosa, Grewia ferruginea, Senna singueana*), some species indicate disturbance.

Locality T27 – Traghetto del Nilo Azzurro
Locality number 27 on printed labels with this locality. Marked as T27 on Map 4.
English translation of Italian indication of locality: At the ferry on the Blue Nile.
Georeferencing: See also notes on locality number 17, at 1,790 m. These collected species are plants growing in swamps and open water and must be from the river itself, approximately at 11.604488° N, 37.407862° E.
Collections cited in Pichi Sermolli (1951):
Bridelia micrantha (Hochst.) Baill. (m. 1,820; n. 2460).
Echinochloa pyramidalis (Lam.) Hitchc. & Chase (m. 1,820; n. 339).
Hydrocotyle ranunculoides L. f. (m. 1,820; n. 707).
Mimosa pigra L. (m. 1,820; n. 582).
Nymphaea lotus L. (m. 1,820; n. 122).
Pistia stratiotes L. (m. 1,820; n. 1733).
Vegetation; characteristic species: The list includes the shrub or small tree *Bridelia micrantha;* the remaining species are herbs or subshrubs growing typically in moist places or in shallow water.

Locality T27 – continued – Presso Bahar Dar al traghetto del Nilo Azzurro
No locality number on typed label with this locality. Marked as T27 on Map 4.
English translation of Italian indication of locality: Near Bahar Dar at the ferry across the Blue Nile.
Georeferencing: The ecology of the collection would indicate slightly drier ground than the previous habitat numbered T27, but presumably both are near the ferry. Therefore, the two habitats are considered part of the same locality, and Pichi Sermolli's locality is therefore also numbered T27 and approximately at 11.604488° N, 37.407862° E.
Collections cited in Pichi Sermolli (1951):
Echinops giganteus A. Rich. (m. 1,825; n. 2175 (FT, holotype of *Echinops francinianus* Pic. Serm.)).
Vegetation; characteristic species: The only species recorded here, *Echinops giganteus,* grows typically in Afromontane woodland, often at margins of scrub.

8.2.1937

Excursion to the shores of Lake Tana to the west of Bahar Dar.

Locality T28 – Boscaglia ad ovest del villaggio di Selcien (Bahar Dar)).
Locality number 28 on printed labels with this locality. Marked as T28 on Map 4.
English translation of Italian indication of locality: Bushland to the west of the village of Selcien, near Bahar Dar.
Georeferencing: A village named "Selcen" is marked on the map in 1:100,000 by the *Ufficio Topografico del R. Governo Amara* (ca. 1938: Sheet F2, "Bahar Dar") at 11° 37' N, 37° 21' E, which is marked as being near the lake shore. A village with a church, "Salachun", is indicated on the map in 1:250,000 by the Egyptian-Sudanese mapping Authority (ca. 1940; Sheet 67A, Dangila). A church named "Selchen Michael" is marked near this position on the map by Demelie Arega (no year); presuming that this is the right church, Pichi Sermolli's locality is approximately at 11.636738° N, 37.319965° E.
Collections cited in Pichi Sermolli (1951):
Asparagus africanus Lam. (m. 1,850; n. 1767).
Capparis tomentosa Lam. (m. 1,850; n. 155).
Carissa spinarum L. (m. 1,850; n. 1199).
Caylusea abyssinica (Fresen.) Fisch. & Mey. (m. 1,825; n. 143).
Clematis hirsuta Guill. & Perr. (m. 1,850; n. 2371).
Convolvulus sagittatus Thunb. (m. 1,850; n. 1307, n. 1308).
Conyza pyrrhopappa A. Rich. (m. 1,850; n. 876).
Cordia africana Lam. (m. 1,850; n. 1260).
Croton macrostachyus Del. (m. 1,850; n. 1647, n. 1654).
Echinops giganteus A. Rich. (m. 1,850; n. 2171).
Entada abyssinica A. Rich. (m. 1,850; n. 621, n. 623).
Ethulia conyzoides L. f. (m. 1,850; n. 944).
Ficus thonningii Bl. (m. 1,850; n. 1663).
Ficus vasta Forssk. (m. 1,850; n. 1705, n. 1715).
Flacourtia indica (Burm. f.) Merr. (m. 1,850; n. 2044).
Foeniculum vulgare Miller (m. 1,850; n. 694).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,850; n. 837).
Grewia ferruginea A. Rich. (m. 1,850; n. 284).
Guizotia sp.* (m. 1,850; n. 2166).
Guizotia villosa Sch. Bip. (m. 1,850; n. 2165).
Helinus mystacinus (Ait.) Steud. (m. 1,850; n. 407).
Hibiscus cannabinus L. (m. 1,850; n. 218).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 1,850; n. 84).
Hyparrhenia (?) rufa* (m. 1,850; n. 64).
Hyparrhenia sp.* (m. 1,850; n. 326).
Indeterminabile* (m. 1,850; n. 2199).
Indigofera secundiflora Poir. (m. 1,850; n. 533).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,850; n. 1166).
Justicia ladanoides Lam. (m. 1,850; n. 1338).
Lactuca inermis Forssk. (m. 1,850; n. 2153, n. 2154).
Lannea schimperi (A. Rich.) Engl. (m. 1,850; n. 477).
Lippia adoensis Walp. (m. 1,850; n. 1419).
Maytenus arbutifolia (A. Rich.) Wilczek (m. 1,850; n. 2283).

Melinis repens (Willd.) Zizka (m. 1,850; n. 54).
Millettia ferruginea (Hochst.) Bak. (m. 1,850; n. 504).
Mimusops kummel A. DC. (m. 1,850; n. 1082).
Ocimum urticifolium Roth (m. 1,850; n. 2479).
Otostegia tomentosa A. Rich. subsp. *ambigens* (Chiov.) Sebald (m. 1,850; n. 2515).
Phragmanthera macrosolen (A. Rich.) M.G. Gilbert (m. 1,850; n. 2485).
Phragmanthera regularis (Sprague) M.G. Gilbert (m. 1,850; n. 1604).
Piliostigma thonningii (Schumach.) Milne-Redh. (m. 1,850; n. 613).
Plicosepalus acaciae (Zucc.) Wiens & Polhill (m. 1,850; n. 1611).
Pterolobium stellatum (Forssk.) Brenan (m. 1,850; n. 649).
Rhus vulgaris Meikle (m. 1,850; n. 446).
Senna singueana (Del.) Lock (m. 1,850; n. 564).
Solanum campylacanthum A. Rich. (m. 1,850; n. 2551).
Stereospermum kunthianum Cham. (m. 1,850; n. 1374).
Tapinanthus heteromorphus (A. Rich.) Danser (m. 1,850; n. 1610).
Tephrosia elata Deflers (m. 1,850; n. 2259).
Vernonia adoensis Walp. (m. 1,850; n. 958, n. 962).
Vernonia amygdalina Del. (m. 1,850; n. 901).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 1,850; n. 882, n. 891).
Viscum tuberculatum A. Rich. (m. 1,850; n. 1585).
Ximenia americana L. (m. 1,850; n. 357).
Vegetation; characteristic species: Pichi Sermolli terms this locality as "boscaglia", vegetation with trees and shrubs. The trees at this locality are *Cordia africana, Croton macrostachyus, Entada abyssinica, Ficus thonningii, Ficus vasta, Flacourtia indica, Gardenia ternifolia* subsp. *jovis-tonantis, Grewia ferruginea, Millettia ferruginea, Mimusops kummel, Piliostigma thonningii, Stereospermum kunthianum, Ximenia americana*). Some are typical woodland species (*Entada abyssinica, Gardenia ternifolia* subsp. *jovis-tonantis, Piliostigma thonningii, Stereospermum kunthianum, Ximenia americana*), while others are associated with the forest on the lake shore or IAF (*Mimusops kummel*), or clumps of trees in Afromontane woodland (*Millettia ferruginea*). Also the composition of the list of shrubs and herbs indicate a mosaic of forests and woodland.
Photographic documentation: Pichi Sermolli's photographs from Selcien show vegetation in shallow water, Afromontane bushland and wooded grassland and papyrus swamps.[21]

Locality T29 – Sulle rive del lago in corrispondenza di Selcien (Bahar Dar)
Locality number 29 on printed labels with this locality. Marked as T29 on Map 4.
English translation of Italian indication of locality: On the shores of the lake [Lake Tana] opposite the village of Selcien, near Bahar Dar.
Variant indication of locality:
Sulle rive del lago in corrispondenza di Selcien (Bahar Dar) foresta (n. 1123).
Presso le rive del lago in corrispondenza di Selcien (Bahar Dar) (n. 766).
Lungo le rive del lago in corrispondenza di Selcien (Bahar Dar) (n. 788).
Lungo la costa del lago in corrispondenza di Selcien (Bahar Dar) (n. 1734).

21 See archival font Dainelli (501), images 750, 751, 752, 753, 754, 755, 756, 757, in the *Archivio fotografico* of the *Società geografica italiana*.

Georeferencing: See notes about "Selcien" under locality number 28. To judge from the floristic composition of the collections, which includes species growing in water, this locality includes some of the lake shore, but also some forest-like vegetation, possibly coffee-forest, further inland. It must be approximately at 11.644689° N, 37.320040° E.
Collections cited in Pichi Sermolli (1951):
Abutilon mauritianum (Jacq.) Medic. (m. 1,825; n. 220).
Albizia schimperiana Oliv. (m. 1,825; n. 1120).
Barleria ventricosa Nees (m. 1,825; n. 1522).
Bridelia micrantha (Hochst.) Baill. (m. 1,825; n. 2453).
Calpurnia aurea (Ait.) Benth. (m. 1,850; n. 631).
Coffea arabica L. (m. 1,825; n. 766).
Conyza pyrrhopappa A. Rich. (m. 1,825; n. 874).
Diospyros abyssinica (Hiern) F. White (m. 1,850; n. 1123).
Ethulia conyzoides L. f. (m. 1,825; n. 945).
Hygrophila spiciformis Lindau (m. 1,825; n. 1340).
Hyparrhenia rufa x umbrosa[2]* (m. 1,825; n. 320).
Ipomoea cairica (L.) Sweet (m. 1,825; n. 1321).
Justicia schimperiana (Nees) T. Anders. (m. 1,825; n. 1506).
Kalanchoe lanceolata (Forssk.) Pers. (m. 1,825; n. 788).
Ludwigia leptocarpa (Nutt.) H. Hara (m. 1,825; n. 2196, n. 2197).
Mimusops kummel A. DC. (m. 1,820; n. 1080).
Phaulopsis imbricata (Forssk.) Sweet (m. 1,825; n. 1352).
Plumbago zeylanica L. (m. 1,825; n. 2079).
Sapium ellipticum (Krauss) Pax (m. 1,825; n. 1694).
Setaria megaphylla (Steud.) Th. Dur. & Schinz (m. 1,825; n. 47).
Typha latifolia L. (m. 1,825; n. 1734).
Vallisneria spiralis L. (m. 1,825; n. 1736).
Vegetation; characteristic species: Pichi Sermolli stated that this locality was on the lake shore as can also be seen from some of the species in the list. The trees and large shrubs are *Albizia schimperiana, Bridelia micrantha, Calpurnia aurea, Coffea arabica* (presumably cultivated), *Diospyros abyssinica, Mimusops kummel, Sapium ellipticum*. These are typical of clumps of trees in DAF, which is otherwise dominated by Afromontane woodland, but *Mimusops kummel* is typically associated with forests on lake shores and IAF. The smaller shrubs and herb are characteristic of DAF woodland and grassland or growing in shallow water near the lake shore (*Hygrophila spiciformis, Ipomoea cairica, Ludwigia leptocarpa, Typha latifolia, Vallisneria spiralis*).

Locality T29 – continued – Riva del lago in corrispondenza di Selcien (Bahar Dar)
No locality number on a typed label with this locality. Marked as T29 on Map 4.
English translation of Italian indication of locality: On the shore of the lake opposite Selcien, near Bahar Dar.
Georeferencing: Like the collections with locality number 29 on the label, this species grows at the lake shore, probably in the water, near locality number 28, and its locality has therefore been recorded as a continuation of T29; approximately at 11.644689° N, 37.3200400° E.
Collections cited in Pichi Sermolli (1951):
Persicaria setosula (A. Rich.) K. Wilson (m. 1,820; n. 1543).
Vegetation; characteristic species: This species is typically growing in swamps or in shallow water.

Locality T29 – continued – Riva occidentale del lago in corrispondenza di Selcien, sugli scogli basaltici
No locality number on labels with this locality. Marked as T29 on Map 4.
English translation of Italian indication of locality: On the western shore of the lake [Lake Tana] opposite Selcien, on basaltic rocks in the lake.
Georeferencing: Like the collections with locality number 29 on the label, this species grows at the lake shore, probably on rocks in the water, near locality number 28, and its locality has therefore been recorded as a continuation of T29; approximately at 11.644689° N, 37.320040° E.
Collections cited in Pichi Sermolli (1951):
Tristicha trifaria (Willd.) Spreng. (m. 1,820; n. 2066, n. 2067).
Vegetation; characteristic species: This species is typically growing on rocks in shallow water, but usually in running water.

Excursion by boat to the island of Kain (possibly misdated).

Locality T29a – Isola Kain
No locality number; handwritten label with no locality number; a collection date on 4.2., with the collections from Kebra Uddus Gabriel, the bigger island near Kain. Marked as T29a on Map 4.
English translation of Italian indication of locality: The island of Kain [in Lake Tana].
Georeferencing: According to Pichi Sermolli (1951, p. 13) a small island near the island of Kebra Uddus Gabriel: "Poco distante da Kebra Uddus Gabriel si trovano due piccole isole (Kebra Jesus e Kain)." [A short distance from Kebra Uddus Gabriel there are two small islands, Kebra Jesus and Kain]. A collection date on the 4.2. would seem more likely for this locality. The highest point of the island is at 11.645699° N, 37.368017° E.
Collections cited in Pichi Sermolli (1951):
Kanahia laniflora (Forssk.) R. Br. (m. 1,820; n. 1250).
Vegetation; characteristic species: In northern Ethiopia, *Kanahia laniflora* is common in the beds of temporary streams and along permanent streams, but some of Pichi Sermolli's records are also from lake shores.

9.2.1937

Excursions to the shores of Lake Tana to the east of Bahr-Dar.

Locality T30 – Riva del lago a est di Bahar Dar
Locality number 30 on printed labels with this locality. Marked as T30 on Map 4.
English translation of Italian indication of locality: On the shore of Lake Tana to the east of Bahar Dar.
Variant indication of locality:
Rive del lago ad est di Bahar Dar (n. 1621).
Georeferencing: This may be a supplementary visit, following up on the more intensive collecting activity on the 31st of January (locality number 18). The imprecisely indicated locality could be near the place where the Blue Nile leaves the lake, approximately at 11.618411° N, 37.404059° E.
Collections cited in Pichi Sermolli (1951):
Acanthus polystachius Del. (m. 1,825; n. 2104).

Ficus ovata Vahl (m. 1,825; n. 2390).
Guizotia (?) villosa* (m. 1,825; n. 2160).
Helinus mystacinus (Ait.) Steud. (m. 1,825; n. 406).
Maytenus serrata (A. Rich.) Wilczek (m. 1,850; n. 386).
Osyris quadripartita Decn. (m. 1,825; n. 1621).
Tacazzea apiculata Oliv. (m. 1,825; n. 2136).
Ximenia americana L. (m. 1,825; n. 358).
Vegetation; characteristic species: The only tree mentioned from this locality is *Ficus ovata,* which was also recorded from locality number 18; it grows in a wide range of habitats; the remaining species are common and widespread shrubs or herbs that may grow on the lake shore or in grassland or bushland near the lake.

10.2.1937

Excursions to the forest and bushland around the ferry on the Abay River and a hill south of town, Mt. Debangi.

Locality T31 – Foresta sulla sponda orientale del Nilo Azzurro al traghetto
Locality number 31 on printed labels with this locality; locality name also on typed label with no locality number. Marked as T31 on Map 4.
English translation of Italian indication of locality: Forest on the eastern shore of the Blue Nile near the ferry across the river.
Variant indication of locality:
Foresta sulla sponda orientale del Nilo Azzurro, al traghetto (n. 753).
Foresta della sponda orientale del Nilo Azzurro al traghetto (n. 370).
Foresta sulla sponda orientale del Nilo Azzurro al traghetto per Bahar Dar (n. 1351).
Sponda orientale del Nilo Azzurro al traghetto (n. 2456).
Georeferencing: See discussion for locality number 17; probably approximately at 11.605236° N, 37.409444° E.
Collections cited in Pichi Sermolli (1951):
Aerangis brachycarpa (A. Rich.) Th. Dur. & Schinz (m. 1,820; n. 2530, n. 2531).
Apodytes dimidiata Arn. var. *acutifolia* (A. Rich.) Boutique (m. 1,820; n. 349).
Bridelia micrantha (Hochst.) Baill. (m. 1,820; n. 2456).
Carissa spinarum L. (m. 1,820; n. 1205).
Cyperus longus L. (m. 1,820; n. 1960).
Cyperus penzoanus Pic. Serm. (m. 1,820; n. 1983).
Desmodium salicifolium (Poir.) DC. (m. 1,820; n. 527).
Dicliptera maculata Nees (m. 1,820; n. 1497).
Ethulia conyzoides L. f. (m. 1,820; n. 943).
Euclea racemosa Murray subsp. *schimperi* (A. DC.) F. White (m. 1,820; n. 1144, n. 1145).
Ficus vasta Forssk. (m. 1,825; n. 1706).
Hibiscus diversifolius Jacq. (m. 1,825; n. 215).
Hippocratea africana (Willd.) Loes. var. *schimperiana* (A. Rich.) Cufod. (m. 1,820; n. 370).
Hypoestes triflora (Forssk.) Roem. & Schult. (m. 1,820; n. 1342).
Indeterminabile* (m. 1,820; n. 2062).
Ipomoea cairica (L.) Sweet (m. 1,820; n. 1320).
Maytenus serrata (A. Rich.) Wilczek (m. 1,820; n. 384).
Millettia ferruginea (Hochst.) Bak. (m. 1,820; n. 502).

Mimosa pigra L. (m. 1,820; n. 580).
Mimusops kummel A. DC. (m. 1,820; n. 1081, n. 1083).
Pavetta sp.* (m. 1,820; n. 753).
Phaulopsis imbricata (Forssk.) Sweet (m. 1,820; n. 1351).
Phoenix reclinata Jacq. (m. 1,820; n. 1998).
Pittosporum abyssinicum Del. (m. 1,825; n. 244).
Polystachya bennettiana Rchb. f. (m. 1,820; n. 2535).
Syzygium guineense (Willd.) DC. (m. 1,820; n. 816).
Vegetation; characteristic species: Pichi Sermolli characterised this locality as forest, but some species indicate the presence of scrub and Afromontane woodland. Widespread forest trees or large shrubs are *Apodytes dimidiata* var. *acutifolia, Bridelia micrantha, Millettia ferruginea*. Trees associated with forest on lake shores or IAF are *Mimusops kummel, Phoenix reclinata, Syzygium guineense*. Epiphytic orchids on forest trees are *Aerangis brachycarpa, Polystachya bennettiana*. Species associated with Afromontane woodland are *Euclea racemosa* subsp. *schimperi, Ficus vasta, Pittosporum abyssinicum*. Subshrubs and herbs associated with swamps and shallow water are *Cyperus longus, Cyperus penzoanus, Mimosa pigra*.
Photographic documentation: One photograph is from this date and site, showing the riverine vegetation, dominated by *Phoenix reclinata*.[22]

No specimen from a locality number 32 has been traced.

Locality T33 – Boscaglia internamente alla foresta della sponda orientale del Nilo Azzurro al traghetto
Locality number 33 on printed labels with this locality. Marked as T33 on Map 4.
English translation of Italian indication of locality: Patch of bushland inside the forest on the eastern shore of the Blue Nile near the ferry across the river.
Variant indication of locality:
Boscaglia internamente alla sponda orientale del Nilo Azzurro al traghetto (n. 92).
Georeferencing: See discussion for locality number 17; probably approximately at 11.605236° N, 37.409444° E.
Collections cited in Pichi Sermolli (1951):
Acanthus polystachius Del. (m. 1,830; n. 2103).
Carissa spinarum L. (m. 1,830; n. 1204).
Croton macrostachyus Del. (m. 1,820; n. 1646).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,830; n. 836).
Guizotia sp.* (m. 1840; n. 2167).
Hyparrhenia (?) umbrosa* (m. 1,830; n. 66).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 1,830; n. 92).
Ipomoea cairica (L.) Sweet (m. 1,830; n. 1322).
Ipomoea sp.* (m. 1,830; n. 2128).
Ipomoea tenuirostris Choisy (m. 1,830; n. 1332, n. 1336).
Ocimum trichodon Gürke (m. 1,830; n. 2474).
Piliostigma thonningii (Schumach.) Milne-Redh. (m. 1,830; n. 612).

22 See archival font Dainelli (501), image 758, in the *Archivio fotografico* of the *Società geografica italiana*.

Rhus vulgaris Meikle (m. 1,830; n. 447).
Senna singueana (Del.) Lock (m. 1,830; n. 565).
Stereospermum kunthianum Cham. (m. 1,830; n. 1372).
Triumfetta pilosa Roth (m. 1,830; n. 298).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 1,830; n. 884).
Vegetation; characteristic species: Pichi Sermolli specified that this locality was scrub-vegetation inside the forest represented by locality number T31. Shrubs that agree with the characteristic of growing in scrub are *Acanthus polystachius, Carissa spinarum, Rhus vulgaris, Senna singueana*. However, the list also includes trees that are widespread in *Combretum-Terminalia* woodland (CTW) *Croton macrostachyus, Gardenia ternifolia* subsp. *jovis-tonantis, Piliostigma thonningii, Stereospermum kunthianum*, and the vegetation should therefore most likely be characterised as a mosaic of secondary scrub and CTW.
Photographic documentation: A photograph by E. Minucci shows the "ferry" and the vegetation on the shore of the Abay River.[23]

Locality T34 – M.[onte] Debangi (Bahar Dar)
Locality number 34 on printed labels with this locality; locality name also on typed labels without locality number. Marked as T34 on Map 4.
English translation of Italian indication of locality: Mt. Debangi, near Bahar Dar.
Georeferencing: Presumably, this is the same as the hill which is marked "Debengi" on the map in Pichi Sermolli (1951: behind title page). A hill named "Devanghi", which must be the same locality, is marked on the map in 1:100,000 by the *Ufficio Topografico del R. Governo Amara* (ca. 1938: Sheet 2, "Bahar Dar"). This hill, consisting of loose, red volcanic gravel, has now been nearly dug away and used for road material; the area is now partly covered by the suburbs of Bahar Dar; Pichi Sermolli's locality must be approximately at 11.589001° N, 37.358861° E.
Collections cited in Pichi Sermolli (1951):
Acanthus polystachius Del. (m. 1,900; n. 2115).
Albizia malacophylla (A. Rich.) Walp. (m. 1,900; n. 1190).
Alysicarpus ferrugineus A. Rich. (m. 1,900; n. 524).
Clematis hirsuta Guill. & Perr. (m. 1,900; n. 2365, n. 2369).
Clerodendrum umbellatum Poir. (m. 1,900; n. 1430).
Combretum molle G. Don (m. 1,900; n. 730, n. 736).
Crotalaria hyssopifolia Klotzsch (m. 1,900; n. 2231).
Cussonia ostinii Chiov. (m. 1,900; n. 673).
Dichrostachys cinerea (L.) Wight & Arn. (m. 1,900; n. 547).
Dodonaea angustifolia L. f. (m. 1,900; n. 494, n. 497).
Dombeya quinqueseta (Del.) Exell (m. 1,900; n. 232).
Entada abyssinica A. Rich. (m. 1,900; n. 2277).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,900; n. 835).
Gnidia involucrata A. Rich. (m. 1,900; n. 1532).
Grewia mollis A. Juss. (m. 1,900; n. 265).

23 See archival font Dainelli (501), image 498, in the *Archivio fotografico* of the *Società geografica italiana*. See also Fig. 34 in this work.

Heteromorpha arborescens (Spreng.) Cham. & Schltdl. var. *abyssinica* (A. Rich.) Wolff (m. 1,900; n. 701).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 1,900; n. 93).
Hyparrhenia rufa (Nees) Stapf (m. 1,900; n. 74).
Hypericum quartinianum A. Rich. (m. 1,900; n. 193).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,900; n. 1157).
Laggera crassifolia (A. Rich.) Oliv. & Hiern (m. 1,900; n. 924).
Lannea schimperi (A. Rich.) Engl. (m. 1,900; n. 478).
Lepidagathis hamiltoniana Wall. subsp. *collina* (Endl.) J.K. Morton (m. 1,900; n. 1527).
Lippia adoensis Walp. (m. 1,900; n. 1428).
Maytenus senegalensis (Lam.) Exell (m. 1,900; n. 2296).
Melinis ambigua Hack. (m. 1,900; n. 305).
Osyris quadripartita Decn. (m. 1,900; n. 1620).
Otostegia tomentosa A. Rich. subsp. *ambigens* (Chiov.) Sebald (m. 1,900; n. 2514 (FT, holotype, K, isotype of *Otostegia minuccii* Pic. Serm.)).
Otostegia integrifolia Benth. (m. 1,900; n. 1475).
Piliostigma thonningii (Schumach.) Milne-Redh. (m. 1,900; n. 619).
Plicosepalus acaciae (Zucc.) Wiens & Polhill (m. 1,900; n. 1615).
Rhus vulgaris Meikle (m. 1,900; n. 458).
Satureja punctata (Benth.) Briq. (m. 1,900; n. 1460).
Stereospermum kunthianum Cham. (m. 1,900; n. 1371).
Tephrosia elata Deflers (m. 1,900; n. 2258).
Tolpis virgata (Desf.) Bertol. (m. 1,900; n. 864).
Triumfetta pilosa Roth (m. 1,900; n. 299).
Vernonia adoensis Walp. (m. 1,900; n. 957).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 1,900; n. 883).
Vernonia cylindrica Walp. (m. 1,900; n. 2443).
Ximenia americana L. (m. 1,900; n. 2037).
Vegetation; characteristic species: The list of species from this locality contains many trees characteristic of *Combretum-Terminalia* woodland (CTW), *Albizia malacophylla, Combretum molle, Cussonia ostinii, Dombeya quinqueseta, Entada abyssinica, Gardenia ternifolia* subsp. *jovis-tonantis, Grewia mollis*, *Heteromorpha arborescens* var. *abyssinica, Maytenus senegalensis, Piliostigma thonningii, Stereospermum kunthianum*. A number of shrubby species occur in Afromontane scrub, and the vegetation should therefore most likely be characterised as a mosaic of secondary scrub and CTW.

Locality T35 – Base del M.[onte] Debangi (Bahar Dar)
Locality number 35 on printed labels with this locality. Marked as T35 on Map 4.
English translation of Italian indication of locality: Base of Mt. Debangi, near Bahar Dar.
Variant indication of locality:
Base del monte Debangi (Bahar Dar) (n. 1603).
Georeferencing: See notes about locality number 34; the two localities must be very close. Although most of the hill is now dug away, is seems probable that Pichi Sermolli's locality was approximately at 11.589001° N, 37.358861° E.
Collections cited in Pichi Sermolli (1951):
Ficus sycomorus L. (m. 1,850; n. 2403).
Grewia ferruginea A. Rich. (m. 1,900; n. 280).
Indigofera secundiflora Poir. (m. 1,850; n. 534).

Phragmanthera regularis (Sprague) M.G. Gilbert (m. 1,850; n. 1603).
Rhus vulgaris Meikle (m. 1,850; n. 448).
Senna singueana (Del.) Lock (m. 1,850; n. 576).
Terminalia schimperiana Hochst. (m. 1,850; n. 715).
Vegetation; characteristic species: In the vegetation at the base of the hill occurred two more trees characteristic of and widespread in *Combretum-Terminalia* woodland, *Ficus sycomorus* and *Terminalia schimperiana,* as well as shrubby species that typically occur in Afromontane scrub; the vegetation is therefore best characterised as a mosaic of secondary scrub and CTW.

Locality T36 – Presso Bahar Dar
Locality number 36 on printed labels with this locality name; on a hand written label of *Amorphophallus gamboczianus* the locality name and number are given as "36. Bahar Dar". Marked as T36 on Map 4.
English translation of Italian indication of locality: Near [the town of] Bahar Dar.
Georeferencing: There is very little information to go by for this locality, except that the floristic composition indicates relatively dry ground. It is likely that Pichi Sermolli made the collections inside what is now the outskirts of the modern town, possibly approximately at 11.613346° N, 37.363908° E.
Collections cited in Pichi Sermolli (1951):
Albizia schimperiana Oliv. (m. 1,825; n. 1119).
Amorphophallus gomboczianus Pic. Serm. (m. 1,825; n. 1987, n. 1989).
Dracaena steudneri Engl. (m. 1,825; n. 2010).
Kalanchoe lanceolata (Forssk.) Pers. (m. 1,830; n. 795).
Phragmanthera regularis (Sprague) M.G. Gilbert (m. 1,825; n. 1602).
Vegetation; characteristic species: It is difficult to characterise the vegetation of this locality. *Albizia schimperiana* and *Dracaena steudneri* are often forest trees, but also left in open, grazed areas, which would seem suitable habitats for *Amorphophallus gomboczianus* and *Kalanchoe lanceolata.*

12.2.1937

The base camp is moved to the Zege (Zeghie) Peninsula on the south-western shore of Lake Tana.

Locality T37 – Riva del lago presso Furie (Zeghie)
Locality number 37 on printed labels with this locality. Marked as T37 on Map 5.
English translation of Italian indication of locality: Shore of Lake Tana near the village of Furie, near the Zege peninsula.
Variant indication of locality:
Rive del lago presso Furie (Zeghie) (n. 479).
Georeferencing: "Furie" is a place, probably sometimes the name for a settlement or village south of - and now fused with - the village or small town is called "Zege" on most modern maps. Guida (1938: 384) mentions Furie as a plain just outside "Zeghie." On the map in 1:250,000 by the Egyptian-Sudanese mapping Authority (ca. 1940; Sheet 67A, Dangila) the plain and the settlement are indicated as "Zegi". Pichi Sermolli's locality is therefore probably at 11.688015° N, 37.315315° E.
Collections cited in Pichi Sermolli (1951):
Aeschynomene schimperi A. Rich. (m. 1,825; n. 2266).

Astragalus atropilosus (Hochst.) Bunge (m. 1,825; n. 530).
Carissa spinarum L. (m. 1,825; n. 1203).
Combretum molle G. Don (m. 1,825; n. 726).
Diplolophium africanum Turcz. (m. 1,825; n. 696).
Gnidia involucrata A. Rich. (m. 1,825; n. 1533).
Hyparrhenia gazensis (Rendle) Stapf forma* (m. 1,825; n. 314).
Indeterminabile* (m. 1,825; n. 2185).
Indigofera emarginella A. Rich. (m. 1,825; n. 540).
Lannea schimperi (A. Rich.) Engl. (m. 1,825; n. 479).
Maytenus senegalensis (Lam.) Exell (m. 1,825; n. 2297).
Piliostigma thonningii (Schumach.) Milne-Redh. (m. 1,820; n. 609).
Senna singueana (Del.) Lock (m. 1,825; n. 570).
Stereospermum kunthianum Cham. (m. 1,825; n. 1370).
Terminalia schimperiana Hochst. (m. 1,825; n. 712, n. 719).
Ziziphus abyssinica A. Rich. (m. 1,825; n. 425).
Vegetation; characteristic species: The trees and large shrubs from this locality are characteristic of CTW (*Combretum molle, Lannea schimperi, Maytenus senegalensis, Piliostigma thonningii, Stereospermum kunthianum, Terminalia schimperiana, Ziziphus abyssinica*).

Locality T37a – Furie
No locality number on label with this locality. Marked as T37a on Map 5.
English translation of Italian indication of locality: Furie [near the church].
Variant indication of locality:
Furie, presso la Chiesa (n. 1364).
Presso la Chiesa di Furie (Zeghie) (n. 1662).
Georeferencing: On the map by Demelie Arga (no year), there is a church named "Fure Mariam", which is indicated as being just south of Zege. On the map in 1:250,000 by the Egyptian-Sudanese mapping Authority (ca. 1940; Sheet 67A, Dangila) there is a church in the same place named "Fure Maryam." A church on a small peninsula just south of the village is located at 11.686135° N, 37.316438° E.
Collections cited in Pichi Sermolli (1951):
Euphorbia nubica N.E. Br. (m. 1,825; n. 1662).
Hygrophila schulli (Hamilt.) M.R. & S.M. Almeida (m. 1,825; n. 1364).
Vegetation; characteristic species: *Hygrophila schulli* was probably collected on moist ground near the lake shore; *Euphorbia nubica* is a succulent scrub much used as a hedge plant, and was probably planted.

Locality T37b – Costa del lago a Furie
No locality number on handwritten label with this locality. Marked as T37b on Map 5.
English translation of Italian indication of locality: Shore of the lake [Lake Tana] at Furie.
Georeferencing: See notes about locality number 37. Pichi Sermolli's locality is probably at 11.688015° N, 37.315315° E.
Collections cited in Pichi Sermolli (1951):
Nymphaea nouchali Burm. f. var. *caerulea* (Sav.) Verdc. (m. 1,820; n. 121).
Vegetation; characteristic species: This species was probably collected in the shallow water near the lake shore at Furie.

13.2.1937

Excursions at or on the Zege Peninsula.

Locality T38 – Pianura ad ovest di Zeghie
Locality number 38 on printed labels with this locality; locality name also on typed label without locality number. Marked as T38 on Map 5.
English translation of Italian indication of locality: Small plain west of the Zege peninsula.
Georeferencing: On the map in 1:250,000 by the Egyptian-Sudanese mapping Authority (ca. 1940; Sheet 67A, Dangila) both a peninsula and the small village at the base of the peninsula are named "Zegi." There are open areas with grassland and scattered trees to the west of the forest on the Zegie peninsula and the village of the same name. Some of this area may now be an extended market square. Guida (1938: 384) mentions "Zeghie" as one of the most important market villages around lake Tana. Pichi Sermolli's locality is approximately at 11.696162° N. 37.308505° E.
Collections cited in Pichi Sermolli (1951):
Acanthus sennii Chiov. (m. 1,850; n. 2120).
Alternanthera nodiflora R. Br. (m. 1,850; n. 1579).
Bersama abyssinica Fresen. (m. 1,850; n. 361).
Calpurnia aurea (Ait.) Benth. (m. 1,850; n. 626).
Carissa spinarum L. (m. 1,850; n. 1214).
Cissus petiolata Hook. f. (m. 1,850; n. 434).
Convolvulus sagittatus Thunb. (m. 1,850; n. 1309).
Cordia africana Lam. (m. 1,850; n. 1259).
Crotalaria spinosa Benth. (m. 1,850; n. 542).
Croton macrostachyus Del. (m. 1,850; n. 1648).
Dioscorea schimperiana Kunth (m. 1,850; n. 1771).
Entada abyssinica A. Rich. (m. 1,850; n. 2275).
Erythrina abyssinica DC. (m. 1,850; n. 518, n. 519).
Euclea racemosa Murray subsp. *schimperi* (A. DC.) F. White (m. 1,850; n. 1147).
Ficus ingens (Miq.) Miq. (m. 1,850; n. 1723).
Ficus vasta Forssk. (m. 1,850; n. 1728).
Grewia ferruginea A. Rich. (m. 1,850; n. 273, n. 288).
Guizotia scabra (Vis.) Chiov. (m. 1,850; n. 998).
Guizotia sp.* (m. 1,850; n. 2161).
Helinus mystacinus (Ait.) Steud. (m. 1,850; n. 405).
Hyparrhenia rufa x umbrosa[2]* (m. 1,850; n. 327).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,850; n. 1168).
Lactuca inermis Forssk. (m. 1,850; n. 2152, n. 2155).
Osyridocarpus schimperianus (A. Rich.) A. DC. (m. 1,850; n. 1635).
Phragmanthera regularis (Sprague) M.G. Gilbert (m. 1,850; n. 1601).
Phyllanthus ovalifolius Forssk. (m. 1,850; n. 2450).
Phytolacca dodecandra L'Hérit. (m. 1,850; n. 1566).
Plantago lanceolata L. (m. 1,850; n. 1453).
Plumbago zeylanica L. (m. 1,825; n. 2078).
Pterolobium stellatum (Forssk.) Brenan (m. 1,850; n. 646).
Rhoicissus tridentata (L. f.) Wild & Drummond (m. 1,850; n. 397).
Rhus glutinosa A. Rich. (m. 1,850; n. 2346).
Rhus vulgaris Meikle (m. 1,850; n. 450).

Rhynchosia resinosa (A. Rich.) Bak. (m. 1,850; n. 634).
Rumex abyssinicus Jacq. (m. 1,850; n. 1562).
Salvia merjamie Forssk. (m. 1,850; n. 1403).
Senna singueana (Del.) Lock (m. 1,850; n. 553).
Solanum anguivi Lam. (m. 1,850; n. 2575 (FT, holotype of *Solanum orthocarpum* Pic. Serm.).
Solanum campylacanthum A. Rich. (m. 1,850; n. 2563).
Stereospermum kunthianum Cham. (m. 1,850; n. 1373).
Tapinanthus globiferus (A. Rich.) Tiegh. (m. 1,850; n. 2490).
Verbascum sinaiticum Benth. (m. 1,850; n. 1291).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 1,850; n. 885).
Vernonia rueppellii Walp. (m. 1,850; n. 2423).
Ziziphus abyssinica A. Rich. (m. 1,850; n. 426).
Vegetation; characteristic species: The trees and large shrubs from this locality indicate a vegetation that seems to be mainly *Combretum-Terminalia* woodland (CTW), but mixed with secondary scrub associated with DAF. The species associated with CTW are: *Entada abyssinica, Erythrina abyssinica, Euclea racemosa* subsp. *schimperi, Ficus ingens, Ficus vasta, Stereospermum kunthianum, Ziziphus abyssinica*. The mainly shrubby species associated with DAF are: *Calpurnia aurea, Carissa spinarum, Bersama abyssinica, Cordia africana, Croton macrostachyus, Grewia ferruginea, Rhus glutinosa, Rhus vulgaris.*
Photographic documentation: A sequence of photographs from this date and various sites show bushland, grassland and large trees of *Ficus* in the relatively open vegetation outside the coffee forests.[24]

14.2.1937

Locality T39 – Parte meridionale della Penisola di Zeghie
Locality number 39 on printed labels with this locality. Marked as T39 on Map 5.
English translation of Italian indication of locality: Southern part of the Zege peninsula.
Georeferencing: Not a very exact indication of the locality on the Zegie peninsula. Pichi Sermolli's locality is probably between the south shore and the central clearing in the forest that covers most of the peninsula. An approximate position could be at 11.687779° N, 37.334411° E.
Collections cited in Pichi Sermolli (1951):
Achyranthes aspera L. var. *pubescens* (Moq.) C.C. Townsend (m. 1,900; n. 1437).
Achyranthes aspera L. var. *sicula* L. (m. 1,900; n. 1442, n. 1443).
Ageratum conyzoides L. (m. 1,900; n. 1064).
Albizia schimperiana Oliv. (m. 1,900; n. 1112, n. 1113).
Arundo donax L. (m. 1,900; n. 1951).
Asparagus africanus Lam. (m. 1,900; n. 2028, n. 2029).
Barleria ventricosa Nees (m. 1,900; n. 1516, n. 1523).
Capparis tomentosa Lam. (m. 1,900; n. 151).
Celosia schweinfurthiana Schinz (m. 1,900; n. 2503).

24 See archival font Dainelli (501), images 759, 760, 761, 762, 763, 764, in the *Archivio fotografico* of the *Società geografica italiana*.

Celtis africana Burm. f. (m. 1,900; n. 1679).
Citrus aurantifolia (Christm.) Swingle (m. 1,900; n. 251).
Citrus aurantium L. (m. 1,900; n. 252).
Clematis hirsuta Guill. & Perr. (m. 1,900; n. 2361).
Coffea arabica L. (m. 1,900; n. 764, n. 765).
Conyza pyrrhopappa A. Rich. (m. 1,900; n. 879).
Croton macrostachyus Del. (m. 1,900; n. 1639).
Cyathula uncinulata (Schrad.) Schinz (m. 1,900; n. 1447).
Cyperus fischerianus A. Rich. (m. 1,900; n. 1963).
Dalbergia lactea Vatke (m. 1,900; n. 2271).
Dicliptera laxata C.B. Cl. (m. 1,900; n. 2095).
Dicliptera maculata Nees (m. 1,900; n. 1492).
Dicliptera verticillata (Forssk.) C. Chr. (m. 1,900; n. 1490).
Diospyros abyssinica (Hiern) F. White (m. 1,900; n. 1134).
Dracaena steudneri Engl. (m. 1,900; n. 2012).
Ehretia cymosa Thonn. (m. 1,900; n. 1271).
Ensete ventricosum (Welw.) Cheesman (m. 1,900; n. 1778).
Euclea racemosa Murray subsp. *schimperi* (A. DC.) F. White (m. 1,900; n. 1142, n. 1143).
Ficus ovata Vahl (m. 1,900; n. 2393).
Foeniculum vulgare Miller (m. 1,900; n. 695).
Grewia ferruginea A. Rich. (m. 1,900; n. 289).
Guizotia villosa Sch. Bip. (m. 1,900; n. 997).
Hippocratea africana (Willd.) Loes. var. *schimperiana* (A. Rich.) Cufod. (m. 1,900; n. 369).
Hypoestes triflora (Forssk.) Roem. & Schult. (m. 1,900; n. 1343).
Indeterminabile* (m. 1,900; n. 2092).
Indigofera arrecta A. Rich. (m. 1,900; n. 537).
Ipomoea cairica (L.) Sweet (m. 1,900; n. 1319).
Jasminum abyssinicum DC. (m. 1,900; n. 1151).
Justicia schimperiana (Nees) T. Anders. (m. 1,900; n. 1507).
Kalanchoe lanceolata (Forssk.) Pers. (m. 1,900; n. 787).
Laggera crispata (Vahl) Hepper & Wood (m. 1,900; n. 928).
Lantana trifolia L. (m. 1,900; n. 1416).
Leucas urticifolia (Vahl) Sm. (m. 1,900; n. 1399).
Linociera (?) latipetala* (m. 1,900; n. 2090).
Maytenus gracilipes (Oliv.) Exell subsp. arguta (Loes.) Sebsebe (m. 1,900; n. 2315, n. 2316 (FT, holotype of *Gymnosporia castellii* Pic. Serm.), n. 2317).
Maytenus serrata (A. Rich.) Wilczek (m. 1,900; n. 2307, n. 2308, n. 2318).
Millettia ferruginea (Hochst.) Bak. (m. 1,900; n. 503).
Mimusops kummel A. DC. (m. 1,900; n. 1084).
Myrsine africana L. (m. 1,900; n. 1103).
Ocimum basilicum L. (m. 1,900; n. 1415).
Ocimum urticifolium Roth (m. 1,900; n. 2478, n. 2484).
Oxalis corniculata L. (m. 1,900; n. 2200).
Panicum monticola Hook. f. (m. 1,900; n. 304).
Pavetta sp.* (m. 1,900; n. 758).
Phaulopsis imbricata (Forssk.) Sweet (m. 1,900; n. 1348).
Phyllanthus ovalifolius Forssk. (m. 1,900; n. 2451).
Phytolacca dodecandra L'Hérit. (m. 1,900; n. 1574).
Podocarpus falcatus (Thunb.) Mirb. (m. 1,900; n. 31).

Pterolobium stellatum (Forssk.) Brenan (m. 1,900; n. 647, n. 648).
Ritchiea albersii Gilg (m. 1,900; n. 2326).
Rothmannia urcelliformis (Hiern) Robyns (m. 1,900; n. 2212, n. 2213, n. 2214, n. 2215).
Ruta chalepensis L. (m. 1,900; n. 256).
Ruttya speciosa (Hochst.) Engl. (m. 1,900; n. 1529).
Solanum anguivi Lam. (m. 1,900; n. 2564, n. 2570).
Vangueria sp.* (m. 1,900; n. 2036).
Vernonia hochstetteri Walp. (m. 1,900; n. 954).
Vernonia rueppellii Walp. (m. 1,900; n. 2433).
Zehneria scabra (L. f.) Sond. (m. 1,900; n. 819).
Vegetation; characteristic species: Among the trees in the list of collections from this locality, there is a notable element forest species: *Albizia schimperiana, Celtis africana,* Linociera (?) latipetala* (very likely *Chionanthus mildbraedii*), *Millettia ferruginea, Mimusops kummel, Ritchiea albersii, Rothmannia urcelliformis.* There is also the forest liana, *Dalbergia lactea*, and cultivated or escaped trees that grow best in forest habitats: *Citrus aurantifolia, Citrus aurantium, Coffea arabica, Podocarpus falcatus* (probably planted).
Photographic documentation: A number of photographs from the Zegi peninsula taken on this day show the forest and the understory of *Coffea arabica*, as well as the *negadras* of Zegi, the appointed leader of Zegi's coffee market.[25]

Locality T40 – Fascia diboscata nella parte meridionale della Penisola di Zeghie
Locality number 40 on printed labels with this locality. Marked as T40 on Map 5.
English translation of Italian indication of locality: Streak of ground where the forest has been cleared in the southern part of the Zege peninsula.
Georeferencing: Presently, only a narrow southwestern zone of the Zegie peninsula near the shore and a central clearing are without trees. In the narrow zone near the southern shore, Pichi Sermolli's locality could approximately be at 11.686867° N, 37.326180° E.
Collections cited in Pichi Sermolli (1951):
Cordia africana Lam. (m. 1,900; n. 1261).
Cyperus longus L. (m. 1,900; n. 1961).
Ficus ingens (Miq.) Miq. (m. 1,900; n. 1722).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,900; n. 825).
Helinus mystacinus (Ait.) Steud. (m. 1,900; n. 408).
Hyparrhenia cymbaria (L.) Stapf (m. 1,900; n. 112).
Hyparrhenia gazensis (Rendle) Stapf forma* (m. 1,900; n. 318).
Kanahia laniflora (Forssk.) R. Br. (m. 1,900; n. 1246).
Pennisetum petiolare (Hochst.) Chiov. (m. 1,900; n. 37).
Solanum giganteum Jacq. (m. 1,900; n. 2579).
Striga gesnerioides (Willd.) Vatke (m. 1,900; n. 1296).
Syzygium guineense (Willd.) DC. (m. 1,900; n. 810).
Tacazzea apiculata Oliv. (m. 1,900; n. 2137).
Vegetation; characteristic species: The trees *Ficus ingens, Gardenia ternifolia* subsp. *jovis-tonantis,* suggest that the vegetation has similarity with *Combretum-Terminalia*

25 See archival font Dainelli (501), images 765, 766, 767, 768, 769, in the *Archivio fotografico* of the *Società geografica italiana*.

woodland (CTW); *Syzygium guineense* suggests that there are remnants of lake shore forest, and it is likely that *Kanahia laniflora* was growing on the lake shore.

15.2.1937

Locality T41 – Riva del lago a sud di Furie (Zeghie)
Locality number 41 on printed labels with this locality. Marked as T41 on Map 5.
English translation of Italian indication of locality: Shore of the lake [Lake Tana] to the south of the village of Furie.
Variant indication of locality:
Rive del lago a sud di Furie (Zeghie) (n. 1085, n. 2488).
Georeferencing: See notes on locality number 37. Pichi Sermolli's collecting locality is probably at 11.683429° N, 37.316482° E.
Collections cited in Pichi Sermolli (1951):
Bridelia micrantha (Hochst.) Baill. (m. 1,825; n. 2455).
Diaphananthe tenuicalcar Summerh. (m. 1,825; n. 2527).
Euclea racemosa Murray subsp. *schimperi* (A. DC.) F. White (m. 1,825; n. 1141).
Grewia ferruginea A. Rich. (m. 1,825; n. 274).
Hippocratea africana (Willd.) Loes. var. *schimperiana* (A. Rich.) Cufod. (m. 1,825; n. 367).
Hymenodictyon floribundum (Hochst. & Steud.) Robinson (m. 1,825; n. 747).
Indeterminabile* (m. 1,825; n. 2132).
Ipomoea cairica (L.) Sweet (m. 1,825; n. 1327).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,825; n. 1169).
Kalanchoe petitiana A. Rich. (m. 1,830; n. 797, n. 799).
Korthalsella japonica (Thunb.) Engl. (parasita su *Syzygium guineense*; m. 1,820; n. 2488).
Mimusops kummel A. DC. (m. 1,825; n. 1085).
Osyridocarpus schimperianus (A. Rich.) A. DC. (m. 1,825; n. 1636).
Pavetta oliveriana Hiern (m. 1,825; n. 755).
Pennisetum (?) giganteum* (m. 1,825; n. 333).
Persicaria setosula (A. Rich.) K. Wilson (m. 1,820; n. 1544).
Plectranthus barbatus Andrews (m. 1,825; n. 1410).
Polygonum sp.* (m. 1,820; n. 1564).
Rhus quartiniana A. Rich. (m. 1,850; n. 2345).
Rhus vulgaris Meikle (m. 1,825; n. 441).
Sesbania sesban (L.) Merr. var. *nubica* Chiov. (m. 1,825; n. 2520).
Syzygium guineense (Willd.) DC. (m. 1,825; n. 811, n. 812).
Tacazzea apiculata Oliv. (m. 1,825; n. 2135).
Fern collections in FI-PS:
Pyrrosia schimperiana (Kuhn) Alston (No alt.; n. 1836, FI-PS 10639).
Vegetation; characteristic species: The trees recorded from this locality include species of the lake shore forest (*Mimusops kummel, Sesbania sesban* var. *nubica, Syzygium guineense*), and forest which could be represented by clumps of trees and large shrubs further inland (*Bridelia micrantha, Grewia ferruginea, Pavetta oliveriana*), but also species of more open woodland (*Euclea racemosa* subsp. *schimperi, Hymenodictyon floribundum, Rhus quartiniana, Rhus vulgaris*). The listed herbs include both species that grow in shallow water and swamps (*Persicaria setosula*) and in grassland and at edges of scrub (*Kalanchoe petitiana, Osyridocarpus schimperianus, Plectranthus barbatus*). *Diaphananthe tenuicalcar* is an epiphytic orchid, probably on the trees in the lake shore forest.

16.2.1937

Locality T41a – Nel mercato di Zeghie
No locality number on typed label with this locality. Marked as T41a on Map 5.
English translation of Italian indication of locality: In the market place of Zege.
Georeferencing: See notes at locality number 38 about the Zegie market. Market places in Ethiopia have often a big fig tree. There is a large fig tree visible on Google Earth at 11.692627° N, 37.316678° E.
Collections cited in Pichi Sermolli (1951):
Ficus vasta Forssk. (m. 1,830; n. 1729).
Vegetation; characteristic species: A big fig tree in the middle of an open space in a village.
Photographic documentation: This is very likely the fig tree shown in the photograph of the market place in function, taken by Giotto Dainelli already on 5.2.[26]

Locality T42 – Pendici diboscate sotto la Chiesa di Techle Aimanot (Zeghie)
Locality number 42 on printed labels with this locality; the locality name can be found both on printed and typed labels, the latter sometimes with the text: "Pendici diboscate a valle della Chiesa di Techlé Aimanot (Penisola di Zeghie)" – This may indicate a slightly different locality nearer to or at the following locality. Marked as T42 on Map 5.
English translation of Italian indication of locality: Slopes of valley below the church of Tekle Haimanot on the Zege peninsula, where the forest has been cleared.
Georeferencing: This is almost certainly the well-known Zege church marked as "Yiganda Tekle Haimanot" on the map of Lake Tana by Demelie Arega (no year). The altitude of the cleared area south of this church ranges from 1,880 to 1,970 m. These coordinates for the central part of the cleared area are 11.697398° N, 37.336079° E.
Collections cited in Pichi Sermolli (1951):
Albizia malacophylla (A. Rich.) Walp. (m. 2,000; n. 1193).
Caylusea abyssinica (Fresen.) Fisch. & Mey. (m. 2,000; n. 145).
Guizotia sp.* (m. 2,000; n. 2164).
Lablab purpureus (L.) Sweet (m. 2,000; n. 512, n. 514).
Rumex nervosus Vahl (m. 2,000; n. 1557).
Verbascum sinaiticum Benth. (m. 2,000; n. 1292).
Vegetation; characteristic species: The only tree recorded from this locality, *Albizia malacophylla*, is a characteristic species of *Combretum-Terminalia* woodland (CTW).
Photographic documentation: Pichi Sermolli took two photographs showing the cleared vegetation.[27]

Locality T42 – continued – Pendici diboscate a valle della Chiesa di Techle Aimanot (Zeghie) .
Locality number 42 on printed labels with this locality. Marked as T42a on Map 5.
English translation of Italian indication of locality: Slopes of the valley at the church of Tekle Haimanot on the Zege peninsula, where the forest has been cleared.

26 See archival font Dainelli (501), images 102, 103, in the *Archivio fotografico* of the *Società geografica italiana*.

27 See archival font Dainelli (501), images 772, 773, in the *Archivio fotografico* of the *Società geografica italiana*.

Variant indication of locality:
Pendici diboscate a valle della Chiesa di Techle Aimanot (Penisola di Zeghie) (n. 2174).
Georeferencing: See notes on locality number 42. Pichi Sermolli's locality, with reference to the Techle Haimanot Church, is probably in the northern part of the cleared area at 11.698425° N, 37.336171° E.
Collections cited in Pichi Sermolli (1951):
Cordia africana Lam. (m. 1,830; n. 1262).
Buddleja polystachya Fresen. (m. 2,000; n. 1285).
Clematis hirsuta Guill. & Perr. (m. 2,000; n. 2362).
Crepis rueppellii Sch. Bip. (m. 2,000; n. 866).
Echinops giganteus A. Rich. (m. 2,000; n. 2174 (FT, holotype of *Echinops nistrii* Pic. Serm.)).
Entada abyssinica A. Rich. (m. 2,000; n. 2270, n. 624).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,830; n. 824).
Grewia ferruginea A. Rich. (m. 2,000; n. 275).
Hyparrhenia sp.* (m. 2,000; n. 329).
Hyparrhenia variabilis Stapf (m. 2,000; n. 116).
Ipomoea tenuirostris Choisy (m. 2,000; n. 1331).
Lactuca inermis Forssk. (m. 2,000; n. 2146, n. 2148).
Launaea taraxacifolia (Willd.) C. Jeffrey (m. 2,000; n. 2145).
Melinis repens (Willd.) Zizka (m. 2,000; n. 56).
Nelsonia canescens (Lam.) Spreng. (m. 2,000; n. 1357).
Ocimum urticifolium Roth (m. 1,830; n. 2477).
Phytolacca dodecandra L'Hérit. (m. 2,000; n. 1575).
Solanum incanum L. (m. 2,000; n. 2550).
Sopubia ramosa (Hochst.) Hochst. (m. 2,000; n. 2088).
Stereospermum kunthianum Cham. (m. 2,000; n. 1377).
Tephrosia elata Deflers (m. 2,000; n. 2260).
Vernonia adoensis Walp. (m. 2,000; n. 960).
Vernonia amygdalina Del. (m. 2,000; n. 899).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 2,000; n. 895).
Vegetation; characteristic species: A number of trees from this locality are typical of *Combretum-Terminalia* woodland (*Entada abyssinica, Gardenia ternifolia* subsp. *jovis-tonantis, Stereospermum kunthianum*); one shrub occurs in forest or secondary Afromontane scrub (*Grewia ferruginea*). The herbs and subshrubs seem to indicate the presence of patches of grassland.

Locality T43 – Foresta presso Techle Aimanot (Zeghie)*).*
Locality number 43 on printed labels with this locality. Marked as T43 on Map 5.
English translation of Italian indication of locality: Forest near [the church of] Tecle Haimanot, on the peninsula of Zege.
Variant indication of locality:
Foresta presso Tachle Aimanot (Zeghie) (n. 1524).
Foresta presso Techle Aimanot (penisola di Zeghie) (n. 2027).
Georeferencing: See notes on locality number 42. As the church is to the north of the deforested expanses, the forested area mentioned for locality number 43 is probably to the north of the church, approximately at 11.700020° N, 37.335602° E.

Fig. 44. Forest on the Zegie peninsula with undergrowth of coffee (*Coffea arabica*). The trees with white flowers (withering brown) in the middle stratum of the canopy are *Dombeya torrida*, not collected from the Zegie peninsula by Pichi Sermolli. Photograph by Sebsebe Demissew, 2011.

Collections cited in Pichi Sermolli (1951):
Achyranthes aspera L. var. *pubescens* (Moq.) C.C. Townsend (m. 1,900; n. 1436).
Asparagus africanus Lam. (m. 2,000; n. 2027 (FT, holotype of *Asparagus asiaticus* L. var. *amharicus* Pic. Serm.)).
Barleria ventricosa Nees (m. 1,900; n. 1524).
Celtis africana Burm. f. (m. 1,950; n. 1678).
Clematis longicauda A. Rich. (m. 1,900; n. 2352).
Clematis simensis Fresen. (m. 1,900; n. 136, n. 137).
Dalbergia lactea Vatke (m. 1,900; n. 2272, n. 2273).
Ehretia cymosa Thonn. (m. 1,900; n. 1270).
Grewia ferruginea A. Rich. (m. 1,900; n. 268, n. 279).
Hypoestes forskaolii (Vahl) R. Br. (m. 1,900; n. 1480).
Jasminum abyssinicum DC. (m. 1,900; n. 1149, n. 1152).
Kalanchoe lanceolata (Forssk.) Pers. (m. 1,900; n. 794).
Maytenus serrata (A. Rich.) Wilczek (m. 1,900; n. 2305, n. 2306).
Panicum monticola Hook. f. (m. 1,900; n. 303).
Phaulopsis imbricata (Forssk.) Sweet (m. 1,900; n. 1346).
Pittosporum abyssinicum Del. (m. 1,950; n. 240).
Pluchea dioscoridis (L.) DC. (m. 1,900; n. 920).
Ruttya speciosa (Hochst.) Engl. (m. 1,900; n. 1530).

Sida ternata L. f. (m. 1,900; n. 198).
Solanum anguivi Lam. (m. 1,900; n. 2574).
Vernonia rueppellii Walp. (m. 1,900; n. 2434).
Vegetation; characteristic species: Pichi Sermolli described this locality as forest but there are only two forest tree (*Celtis africana, Ehretia cymosa*), one forest liana (*Dalbergia lactea*) and a few shrubs, including *Grewia ferruginea* and *Pittosporum abyssinicum,* that are associated with forest. *Panicum monticola* is a shade-loving forest grass, but other species, including *Kalanchoe lanceolata*, indicate open areas with grass.

Locality T44 – Fascia diboscata nella parte meridionale della Penisola di Zeghie presso il mercato
Locality number 44 on printed labels with this locality. Marked as T44 on Map 5.
English translation of Italian indication of locality: Streak of ground where the forest has been cleared in the southern part of the Zege peninsula, near the market place.
Georeferencing: See notes on locality number 40. Presently, only a narrow southwestern zone of the Zegie peninsula near the shore and a central clearing are without trees; now, and probably also previously, the open area along the southern shore is widest near the market place. Probably, Pichi Sermolli's locality is approximately at 11.693196° N, 37.319724° E.
Collections cited in Pichi Sermolli (1951):
Capparis tomentosa Lam. (m. 1,900; n. 158).
Hyparrhenia rufa (Nees) Stapf (m. 2,000; n. 65).
Hyparrhenia variabilis Stapf (m. 1,830; n. 115).
Justicia schimperiana (Nees) T. Anders. (m. 1,830; n. 1508).
Rumex nervosus Vahl (m. 1,850; n. 1556).
Vegetation; characteristic species: As indicated by Pichi Sermolli with the words "fascia diboscata", this locality was devoid of forest and represents one of the cleared sites on the peninsula. There are no trees collected from this locality, only shrubs and grasses.

Locality T45 – Presso il villaggio di Furie (Zeghie)
Locality number 45 on printed labels with this locality. Marked as T45 on Map 5.
English translation of Italian indication of locality: Near the village of Furie, near the Zege peninsula.
Georeferencing: See notes on Furie at locality number 37. Pichi Sermolli's locality is probably at 11.682438° N, 37.314526° E.
Collections cited in Pichi Sermolli (1951):
Ageratum conyzoides L. (m. 1,830; n. 1063).
Brassica carinata A. Br. (m. 1,850; n. 175).
Cynodon dactylon (L.) Pers. (m. 1,825; n. 1888).
Datura stramonium L. (m. 1,830; n. 2074).
Diospyros abyssinica (Hiern) F. White (m. 1,825; n. 1124, n. 1125).
Foeniculum vulgare Miller (m. 1,830; n. 693).
Jacaranda mimosifolia D. Don (m. 1,850; n. 2191).
Juniperus procera Endl. (m. 1,830; n. 15).
Ocimum basilicum L. (m. 1,830; n. 1413, n. 1414).
Origanum majorana L. (m. 1,830; n. 2083).
Persicaria senegalensis (Meisn.) Soják (m. 1,820; n. 2502).
Ricinus communis L. (m. 1,830; n. 1701).
Tragia cinerea (Pax) M.G. Gilbert & Radcl.-Smith (m. 1,830; n. 1692).

Vegetation; characteristic species: There are a few trees in the collection from this locality, including *Diospyros abyssinica,* the cultivated and introduced *Jacaranda mimosifolia,* and *Juniperus procera*, which may quite likely have been cultivated near a church. The herbaceous species are cultivated or weeds.

Locality T45 – continued – Coltivato presso il villaggio di Furie
No locality number on label with this locality. Marked as T45 on Map 5.
English translation of Italian indication of locality: Cultivated near the village of Furie.
Georeferencing: See notes on Furie at locality number 37. Pichi Sermolli's locality is probably at 11.682438° N, 37.314526° E.
Collections cited in Pichi Sermolli (1951):
Lycopersicon esculentum Mill. (m. 1,830; n. 2542).
Vegetation; characteristic species: The tomato was presumably cultivated in a home garden.

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Locality T45 – continued – Furie
No locality number on hand-written label with this locality. Marked as T45 on Map 5.
English translation of Italian indication of locality: [At the village of] Furie.
Georeferencing: See notes on Furie at locality number 37. Pichi Sermolli's locality is probably in the open areas of Furie at 11.682438° N, 37.314526° E.
Collections cited in Pichi Sermolli (1951):
Erythrina abyssinica DC. (m. 1,850; n. 516).
Vegetation; characteristic species: The only collection represents a tree of *Combretum-Terminalia* or Afromontane woodland, often used as an ornamental in villages and home gardens.

Locality T46 – Foresta presso Techle Aimanot (Zeghie)
Locality number 46 on printed labels with this locality. Marked as T46 on Map 5.
English translation of Italian indication of locality: Forest near the church of Tecle Haimanot, on the peninsula of Zege.
Variant indication of locality:
Foresta presso Techle Aimanot (penisola di Zeghie) (n. 25).
Georeferencing: See notes on the church of Techle Aimanot at locality number 43, particularly regarding the forested area at the church. Pichi Sermolli's locality is probably at 11.700020° N, 37.335602° E.
Collections cited in Pichi Sermolli (1951):
Ekebergia capensis Sparrm. (m. 1,950; n. 364).
Jasminum abyssinicum DC. (m. 1,950; n. 1150).
Juniperus procera Endl. (m. 1,950; n. 25).
Prunus africana (Hook. f.) Kalkm. (m. 1,950; n. 904).
Fern collections in FI-PS:
Asplenium aethiopicum (Burm. f.) Bech. (no. alt.; n. 1782, FI-PS 10489).
Vegetation; characteristic species: The combination of trees collected in this locality are indigenous forest trees, but *Juniperus procera* is often cultivated as an ornamental around churches.

Photographic documentation: One photograph from this date shows a view from the highest point of the Zegie Peninsula.[28] A sequence of photographs show the forest around the church of Techle Aimanot, some images from inside the church and the lake shore nearby.[29]

Locality T47 – Pendici diboscate a valle della Chiesa di Techle Aimanot (Zeghie)
Locality number 47 on printed labels with this locality. Marked as T47 on Map 5.
English translation of Italian indication of locality: Slopes of the valley at the church of Tekle Haimanot on the Zege peninsula, where the forest has been cleared.
Variant indication of locality:
Pendici diboscate sotto la Chiesa di Techle Aimanot (Zeghie) (n. 578, n. 1555).
Georeferencing: See notes on locality number 42, particularly regarding the deforested area at the church. Pichi Sermolli's locality is probably in the northern part of the cleared area at 11.698425° N, 37.336171° E.
Collections cited in Pichi Sermolli (1951):
Buddleja polystachya Fresen. (m. 2,000; n. 1284).
Capparis tomentosa Lam. (m. 2,000; n. 154).
Echinops giganteus A. Rich. (m. 2,000; n. 2410).
Ferula communis L. (m. 2,000; n. 689).
Ficus sur Forssk. (m. 1,950; n. 2384).
Indigofera arrecta A. Rich. (m. 2,000; n. 536).
Ipomoea cairica (L.) Sweet (m. 2,000; n. 1329).
Lupinus albus L. (m. 2,000; n. 578).
Melinis repens (Willd.) Zizka (m. 2,000; n. 55).
Mimosa pigra L. (m. 2,000; n. 579).
Otostegia tomentosa A. Rich. subsp. *ambigens* (Chiov.) Sebald (m. 2,000; n. 2511).
Rhus glutinosa A. Rich. (m. 2,000; n. 467, wrongly indicated as "4671" in Pichi Sermolli 1951, p. 80).
Ricinus communis L. (m. 2,000; n. 1698).
Rumex nervosus Vahl (m. 2,000; n. 1555).
Solanum campylacanthum A. Rich. (m. 2,000; n. 2554).
Sopubia ramosa (Hochst.) Hochst. (m. 2,000; n. 2087).
Steganotaenia araliacea A. Rich. (m. 2,000; n. 681).
Stereospermum kunthianum Cham. (m. 2,000; n. 1376).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 2,000; n. 890).
Vigna membranacea A. Rich. (m. 2,000; n. 625).
Wahlenbergia abyssinica (A. Rich.) Thulin (m. 2,000; n. 1053).
Vegetation; characteristic species: The trees collected from this locality include the riparian forest tree *Ficus sur*, but there are two trees typical of *Combretum-Terminalia* woodland (*Steganotaenia araliacea, Stereospermum kunthianum*), as well as shrubs typical of Afromontane secondary scrub (*Buddleja polystachya*, *Capparis tomentosa, Rhus glutinosa*) and *Mimosa pigra*, which is normally a species of scrub at swamps.

28 See archival font Dainelli (501), image 773, in the *Archivio fotografico* of the *Società geografica italiana*.

29 See archival font Dainelli (501), images 774, 775, 776, 777, 778, 779, in the *Archivio fotografico* of the *Società geografica italiana*. Image 779 is reproduced here as Fig. 6.

Locality T47 – continued – Coltivata nell'Orto Botanico di Firenze da semi provenienti dalla regione di Zeghie
No date or locality number on label with this information with imprecise locality data.
English translation of Italian indication of locality: Cultivated in the Florence botanical garden from seeds collected in the region of Zegie.
Lagenaria siceraria (Molina) Standl. (No altitude; n. 2192).

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The following localities are from an excursion to the south-western shores of Lake Tana to the south of Furie and the Zege (Zeghie) Peninsula.

Locality T48 & 49 – Presso il torrente Baimo lungo la via tra Zeghie e Bahar Dar
Locality number 48 & 49 on printed labels with this locality. Marked as T48 & 49 on Map 4.
English translation of Italian indication of locality: Near the stream of Baimo along the road between the Zege peninsula and Bahar Dar.
Georeferencing: The place name "Baimo" has not been seen on any map, and there are many trails and streams between Bahar Dar and Zegie; a possible position for this Pichi Sermolli locality could be at 11.603588° N, 37.283230° E.
Collections cited in Pichi Sermolli (1951):
Aloe macrocarpa Tod. (m. 1,850; n. 1759, n. 1762).
Cyperus dives Del. (m. 1,850; n. 1957).
Desmodium salicifolium (Poir.) DC. (m. 1,850; n. 528).
Ficus palmata Forssk. (m. 1,850; n. 1730).
Leonotis ocymifolia (Burm. f.) Iwarsson var. *raineriana* (Vis.) Iwarsson (m. 1,850; n. 1396).
Oenanthe palustris (Chiov.) Norman (m. 1,850; n. 676).
Ottelia ulvifolia (Planch.) Walp. (m. 1,850; n. 1737).
Steganotaenia araliacea A. Rich. (m. 1,850; n. 680).
Syzygium guineense (Willd.) DC. (m. 1,850; n. 2060, n. 2061).
Fern collections in FI-PS:
Bolbitis heudelotii (Fée) Alston (No alt.; n. 1970 [on the label, this plant is stated to grow in the Baimo River], FI-PS 11486, FI-PS 13229; also cited in Pichi Sermolli (1969: 392), where the collection is also stated to be present in "FI").
Vegetation; characteristic species: The trees collected at this locality includes species associated with riparian vegetation (*Ficus palmata, Syzygium guineense*) and *Combretum-Terminalia* woodland (*Steganotaenia araliacea*). Almost all the herbs grow in or beside water (*Cyperus dives, Ottelia ulvifolia, Oenanthe palustris*), apart from the succulent *Aloe macrocarpa.*

Locality T50 – Pianura tra M.[onte] Cicia e M.[onte] Vuoghelsa (Zeghie)
Locality number 50 on printed labels with this locality. Marked as T50 on Map 4.
English translation of Italian indication of locality: Small plain between Mt. Cicia and Mt. Vuoghelsa, near the Zege peninsula.
Variant indication of locality:
Pianura tra M.[onte] Vicia a M.[onte] Vuoghelsa (Zeghie) (n. 1713).

Fig. 45. Degraded lake shore forest with trees of *Syzygium guineense* growing right to the edge of the lake and sometimes in shallow water. These three trees were photographed on the eastern lake shore near Corata, but *Syzygium guineense* occurs in lake shore forests around most of the lake, except on very flat or very steep lake shores. Photograph by Ib Friis, 2011.

Georeferencing: "Uoghelsa" is the name of a hill marked on the map in Pichi Sermolli (1951). The place name "Cicia" or "Vicia" has not been seen on any map; a plain between two hills, one of them identifiable with Mt. Vuoghelsa is at 11.618091° N, 37.279774° E.
Collections cited in Pichi Sermolli (1951):
Capparis tomentosa Lam. (m. 1,850; n. 156).
Carissa spinarum L. (m. 1,850; n. 1200).
Combretum molle G. Don (m. 1,850; n. 725).
Croton macrostachyus Del. (m. 1,850; n. 1686).
Dombeya quinqueseta (Del.) Exell (m. 1,850; n. 231).
Ficus ingens (Miq.) Miq. (m. 1,850; n. 1720).
Ficus vasta Forssk. (m. 1,850; n. 1713).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,850; n. 826).
Maytenus senegalensis (Lam.) Exell (m. 1,900; n. 2285, n. 2289).
Phragmanthera regularis (Sprague) M.G. Gilbert (m. 1,850; n. 1605).
Piliostigma thonningii (Schumach.) Milne-Redh. (m. 1,850; n. 611).
Plicosepalus acaciae (Zucc.) Wiens & Polhill (m. 1,850; n. 1612).
Senna singueana (Del.) Lock (m. 1,850; n. 567, n. 575).
Stereospermum kunthianum Cham. (m. 1,850; n. 1375).

Viscum tuberculatum A. Rich. (m. 1,850; n. 1582).
Vegetation; characteristic species: The trees collected at this locality include species associated with *Combretum-Terminalia* woodland (*Combretum molle, Dombeya quinqueseta, Gardenia ternifolia* subsp. *jovis-tonantis Maytenus senegalensis, Piliostigma thonningii, Stereospermum kunthianum*). Other species combine woodland and secondary Afromontane scrub (*Capparis tomentosa, Carissa spinarum, Croton macrostachyus*). *Ficus ingens* and *Ficus vasta* occur in open grassland.
Photographic documentation: Pichi Sermolli's photographs from around Monte Vuoghelsa show mostly open woodland with patches of secondary Afromontane bushland.[30]

Locality T51 – Torrente Umfras presso il villaggio di Vuoghelsa (Zeghie)
Locality number 51 on printed labels with this locality, also on typed label with the same locality name, but without locality number. Marked as T51 on Map 4.
English translation of Italian indication of locality: The stream of Umfras near the village of Voughelsa, [also] near the Zege peninsula.
Georeferencing: Both the stream Umfras and the Voughelsa village are shown on the map in Pichi Sermolli (1951). Pichi Sermolli's locality must be very near locality number 50, approximately at 11.639507° N, 37.294963° E.
Collections cited in Pichi Sermolli (1951):
Ceratophyllum demersum L. (m. 1,850; n. 1738).
Colocasia esculenta (L.) Schott (m. 1,850; n. 1751).
Commelina benghalensis L. (m. 1,850; n. 2006).
Commelina diffusa Burm. f. (m. 1,850; n. 2004).
Cyperus dives Del. (m. 1,850; n. 1958).
Cyperus papyrus L. (m. 1,850; n. 1954).
Cyperus penzoanus Pic. Serm. (m. 1,850; n. 1985).
Hygrophila asteracanthoides Lindau (m. 1,850; n. 1358).
Nymphaea nouchali Burm. f. var. *caerulea* (Sav.) Verdc. (m. 1,850; n. 120).
Pistia stratiotes L. (m. 1,850; n. 1746).
Potamogeton schweinfurthii A. Benn. (m. 1,850; n. 1978, n. 1979).
Rotala repens (Hochst.) Koehne (m. 1,850; n. 262).
Vallisneria spiralis L. (m. 1,850; n. 1735).
Fern collections in FI-PS:
Bolbitis heudelotii (Fée) Alston (No alt.; n. 1971, FI-PS 11485, also cited in Pichi Sermolli (1969: 392), n. 2523, FI-PS 13228, also cited in Pichi Sermolli (1969: 392), where it is stated also to be present in "FI", but in Pichi Sermolli (1951) no. 2523 is listed as a species of *Sesbania*).
Vegetation; characteristic species: A number of the species collected at this locality grow in open water (*Ceratophyllum demersum, Nymphaea nouchali* var. *caerulea, Pistia stratiotes, Potamogeton schweinfurthii, Rotala repens, Vallisneria spiralis*). Others grow in swamps or along rivers (*Colocasia esculenta, Cyperus dives, Cyperus papyrus, Cyperus penzoanus, Hygrophila asteracanthoides*), and two on damp ground (*Commelina benghalensis, Commelina diffusa*).

30 See archival font Dainelli (501), images 783, 784, 785, 786, 787, 788, 789, in the *Archivio fotografico* of the *Società geografica italiana*.

Photographic documentation: Pichi Sermolli's photographs from the stream of Umfras (on the photographs spelt Enfas) show papyrus swamps, dense bushland along the stream and patches of vegetation with tall trees.[31]

Locality T51 – continued – Sorgente Usueni
Locality number 51 on printed labels with this locality; locality name and number also on hand-written label. Marked as T51a on Map 4.
English translation of Italian indication of locality: [At and in the] spring of Usueni.
Georeferencing: The place name "Usueni" has not been seen on any map and is not mentioned in the introduction to Pichi Sermolli (1951); presumably it is a spring between the Umfras River and Voughelsa. Pichi Sermolli's locality is presumably slightly east of locality number 50, and hence approximately at 11.635693° N. 37.294963° E.
Collections cited in Pichi Sermolli (1951):
Rotala repens (Hochst.) Koehne (m. 1,850; n. 2664).
Vegetation; characteristic species: The only species from this locality, *Rotala repens,* grows in slowly running water.

Locality T52 – M[onte]. Cicia presso il villaggio di Vuoghelsa (Zeghie)
Locality number 52 on printed labels with this locality. Marked as T52 on Map 4.
English translation of Italian indication of locality: Mt Cicia near the village of Vuoghelsa, near the Zege peninsula.
Georeferencing: Very near locality number 50, and hence presumably at 11.613494° N, 37.281273° E.
Collections cited in Pichi Sermolli (1951):
Combretum molle G. Don (m. 1,900; n. 731).
Dichrostachys cinerea (L.) Wight & Arn. (m. 1,900; n. 545).
Piliostigma thonningii (Schumach.) Milne-Redh. (m. 1,900; n. 614).
Solanum campylacanthum A. Rich. (m. 1,900; n. 2553).
Tapinanthus heteromorphus (A. Rich.) Danser (m. 1,850; n. 1609).
Terminalia schimperiana Hochst. (m. 1,900; n. 717).
Vegetation; characteristic species: The trees collected at this locality include species associated with *Combretum-Terminalia* woodland (*Combretum molle, Piliostigma thonningii, Terminalia schimperiana*).

Locality T53 – M.[onte] Vuoghelsa (Zeghie)
Locality number 53 on printed labels with this locality. Marked as T53 on Map 4.
English translation of Italian indication of locality: Mt. Vuogelsa near the Zege Peninsula.
Variant indication of locality:
M.[onte] Vuoghelsa (n. 927).
M.[onte] Vuoghelsa (Zeghie), nei campi presso il villaggio (n. 1277).
Georeferencing: Very near locality number 50, and hence presumably at 11.613494° N, 37.281273° E.

Collections cited in Pichi Sermolli (1951):
Acanthus polystachius Del. (m. 1,950; n. 2102).

31 See archival font Dainelli (501), images 790, 791, 792, 793, in the *Archivio fotografico* of the *Società geografica italiana*.

Becium obovatum (Benth.) N.E. Br. (m. 1,950; n. 1412).
Bidens setigera (Walp.) Sherff (m. 1,950; n. 2142).
Clematis hirsuta Guill. & Perr. (m. 1,950; n. 2364).
Dichrostachys cinerea (L.) Wight & Arn. (m. 1,950; n. 548, n. 549).
Dombeya quinqueseta (Del.) Exell (m. 1,950; n. 233).
Echinops giganteus A. Rich. (m. 1,950; n. 2172).
Entada abyssinica A. Rich. (m. 1,950; n. 622).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,950; n. 822).
Gnidia involucrata A. Rich. (m. 1,950; n. 1534, n. 1535).
Gomphocarpus abyssinicus Decne. (m. 1,950; n. 1243).
Grewia mollis A. Juss. (m. 1,950; n. 264).
Helichrysum schimperi (A. Rich.) Moeser (m. 1,950; n. 991).
Heteromorpha arborescens (Spreng.) Cham. & Schltdl. var. *abyssinica* (A. Rich.) Wolff (m. 1,950; n. 702).
Hyparrhenia sp.* (m. 1,950; n. 328).
Hypericum quartinianum A. Rich. (m. 1,950; n. 195).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,950; n. 1156, n. 1158).
Laggera braunii Vatke (m. 1,950; n. 2176).
Laggera crispata (Vahl) Hepper & Wood (m. 1,950; n. 927).
Lannea schimperi (A. Rich.) Engl. (m. 1,950; n. 472).
Lefeburea abyssinica A. Rich. (m. 1,950; n. 678).
Lepidagathis hamiltoniana Wall. subsp. *collina* (Endl.) J.K. Morton (m. 1,950; n. 1528).
Lippia adoensis Walp. (m. 1,950; n. 1422).
Maytenus senegalensis (Lam.) Exell (m. 1,950; n. 2284, n. 2286, n. 2287, n. 2288).
Osyris quadripartita Decn. (m. 1,950; n. 1622).
Otostegia tomentosa A. Rich. subsp. *ambigens* (Chiov.) Sebald (m. 1,950; n. 2509, n. 2510).
Otostegia integrifolia Benth. (m. 1,950; n. 1473, n. 1474).
Piliostigma thonningii (Schumach.) Milne-Redh. (m. 1,950; n. 610).
Rhus glutinosa A. Rich. (m. 1,950; n. 2347).
Rhynchosia nyasica Bak. (m. 1,950; n. 2263, n. 2264).
Rumex nervosus Vahl (m. 1,950; n. 1559).
Satureja punctata (Benth.) Briq. (m. 1,950; n. 1461, n. 1462).
Stereospermum kunthianum Cham. (m. 1,950; n. 1379).
Terminalia schimperiana Hochst. (m. 1,950; n. 709).
Trichodesma zeylanicum (Burm. f.) R. Br. (m. 1,950; n. 1277).
Vernonia adoensis Walp. (m. 1,950; n. 963).
Vernonia cylindrica Walp. (m. 1,950; n. 2440, n. 2441).
Viscum tuberculatum A. Rich. (m. 1,950; n. 1583).

Vegetation; characteristic species: The trees collected at this locality include species associated with *Combretum-Terminalia* woodland (*Dombeya quinqueseta, Entada abyssinica, Gardenia ternifolia* subsp. *jovis-tonantis*, *Grewia mollis, Heteromorpha arborescens* var. *abyssinica, Lannea schimperi, Maytenus senegalensis, Piliostigma thonningii, Stereospermum kunthianum, Terminalia schimperiana*). A number of shrubs are associated with evergreen Afromontane scrub (*Acanthus polystachius, Dichrostachys cinerea, Otostegia tomentosa* subsp. *ambigens, Otostegia integrifolia, Rhus glutinosa*).

Locality T54 – Tra la collina Atahunsa ed il villaggio di Furie (Zeghie)
Locality number 54 on printed labels with this locality. Marked as T54 on Map 4 & 5.

English translation of Italian indication of locality: Between the hill of Atahunsa and the village of Furie, near the Zege peninsula.
Variant indication of locality:
Fra la collina Atahunsa ed il villaggio di Furie (Zeghie) (n. 2435).
Georeferencing: "Atahunsa" is a hill marked on the map in Pichi Sermolli (1951); it is slightly further north than Monte Vuoghelsa, and Pichi Sermolli's locality is therefore probably at 11.663253° N, 37.278559° E.
Collections cited in Pichi Sermolli (1951):
Acacia abyssinica Benth. (m. 1,850; n. 592).
Albizia malacophylla (A. Rich.) Walp. (m. 1,850; n. 1194).
Buddleja polystachya Fresen. (No altitude; n. 1286).
Clematis simensis Fresen. (m. 1,850; n. 138).
Ficus sycomorus L. (m. 1,850; n. 2396, n. 2402).
Osyris quadripartita Decn. (m. 1,850; n. 1624).
Syzygium guineense (Willd.) DC. (m. 1,850; n. 1070).
Vernonia rueppellii Walp. (m. 1,850; n. 2435).
Vegetation; characteristic species: The trees collected from this locality appear of mixed association; *Albizia malacophylla* is associated with *Combretum-Terminalia* woodland, *Acacia abyssinica* with Afromontane woodland, *Ficus sycomorus* with both vegetation types, and *Syzygium guineense* with the lake shore forest or riparian vegetation along a small stream.
Photographic documentation: One photograph shows the bushland at Atahunsa.[32]

22.2.1937

Excursions by boat or tanqua to two islands in Lake Tana: Daga, which is forested and steeply rising out of the lake, only inhabited by monks, and Deck, which is flat, mostly farmed and with a number of villages.

Locality T55 – Isola Daga
Locality number 55 on printed labels with this locality. Marked as T55 on Map 3.
English translation of Italian indication of locality: The island of Daga [in Lake Tana].
Georeferencing: The smaller of the two islands in the south western part of Lake Tana; only inhabited by the monks of the Daga Estefanos monastery. The highest point of the island, a likely position for Pichi Sermolli's locality, is at approximately 11.895193° N, 37.310487° E.
Collections cited in Pichi Sermolli (1951):
Abutilon longicuspe A. Rich. (m. 1,900; n. 223).
Acanthus sennii Chiov. (m. 1,900; n. 2118).
Achyranthes aspera L. var. *pubescens* (Moq.) C.C. Townsend (m. 1,900; n. 1433).
Albizia schimperiana Oliv. (m. 1,900; n. 1110).
Arundo donax L. (m. 1,900; n. 1948).
Barleria ventricosa Nees (m. 1,900; n. 1515).
Bidens pilosa L. (m. 1,900; n. 1067).

32 See archival font Dainelli (501), image 794, in the *Archivio fotografico* of the *Società geografica italiana*.

Capparis sepiaria L. var. *boscioides* (Pax) Kers (m. 1,900; n. 169).
Celosia trigyna L. (m. 1,900; n. 1450).
Celtis africana Burm. f. (m. 1,900; n. 1680, n. 1681, n. 1682).
Citrus aurantium L. (m. 1,900; n. 254).
Coffea arabica L. (m. 1,900; n. 763).
Cordia africana Lam. (m. 1,900; n. 2406).
Cynodon dactylon?* (m. 1,900; n. 1883).
Cyperus fischerianus A. Rich. (m. 1,900; n. 1965).
Diaphananthe tenuicalcar Summerh. (m. 1,900; n. 2528).
Dicliptera maculata Nees (m. 1,900; n. 1493, n. 1496).
Diospyros abyssinica (Hiern) F. White (m. 1,900; n. 1126, n. 1131).
Dracaena steudneri Engl. (m. 1,900; n. 2013).
Dyschoriste nagchana (Nees) Bennett (m. 1,900; n. 1354).
Ficus ovata Vahl (m. 1,900; n. 2392).
Ficus thonningii Bl. (m. 1,900; n. 1674).
Ficus vasta Forssk. (m. 1,900; n. 1714).
Graminacee indeterminabili* (m. 1,900; n. 336).
Grewia ferruginea A. Rich. (m. 1,900; n. 283).
Hibiscus calyphyllus Cavan. (m. 1,900; n. 210).
Hibiscus diversifolius Jacq. (m. 1,900; n. 214).
Hippocratea africana (Willd.) Loes. var. *schimperiana* (A. Rich.) Cufod. (m. 1,900; n. 368).
Hypoestes forskaolii (Vahl) R. Br. (m. 1,900; n. 1479).
Indeterminabile* (m. 1,900; n. 2034, n. 2089, n. 2091, n. 2202, n. 2203, n. 2204).
Ipomoea cairica (L.) Sweet (m. 1,900; n. 1316).
Juniperus procera Endl. (m. 1,900; n. 26).
Justicia schimperiana (Nees) T. Anders. (m. 1,900; n. 1511).
Kanahia laniflora (Forssk.) R. Br. (m. 1,900; n. 1252).
Millettia ferruginea (Hochst.) Bak. (m. 1,900; n. 506).
Mimusops kummel A. DC. (m. 1,900; n. 1089).
Olea europaea L. subsp. *cuspidata* (G. Don) Cif. (m. 1,900; n. 1175).
Paullinia pinnata L. (m. 1,900; n. 486).
Phytolacca dodecandra L'Hérit. (m. 1,900; n. 1576).
Plumbago zeylanica L. (m. 1,900; n. 2080).
Podocarpus falcatus (Thunb.) Mirb. (m. 1,830; n. 29).
Prunus persica (L.) Batch (m. 1,900; n. 909).
Punica granatum L. (m. 1,900; n. 804).
Rhamnus prinoides L'Hérit. (m. 1,900; n. 2035).
Ritchiea albersii Gilg (m. 1,900; n. 2324, n. 2328).
Rumex nervosus Vahl (m. 1,900; n. 1560).
Senna petersiana (Bolle) Lock (m. 1,900; n. 2223).
Sesbania sesban (L.) Merr. var. *nubica* Chiov. (m. 1,900; n. 2519).
Solanum giganteum Jacq. (m. 1,900; n. 2577).
Tacazzea venosa Decne. (m. 1,900; n. 1236).
Vangueria sp.* (m. 1,900; n. 2207, n. 2208, n. 2209).
Vernonia rueppellii Walp. (m. 1,900; n. 2432).

Vegetation; characteristic species: Like the island of Kebra Uddus Gabriel (locality number 25), all land of this island belongs to a monastery, mostly forested with DAF and IAF, and only very little is cultivated. The forest trees collected from this island are *Albizia schimperiana, Celtis africana, Diospyros abyssinica, Dracaena steudneri, Ficus*

Fig. 46. The island of Daga, seen from the south-west. The island is completely covered by forest and only inhabited by the monks of the Daga Estefanos monastery. Photograph by Ib Friis, 2011.

ovata, Ficus thonningii, Grewia ferruginea, Juniperus procera, Millettia ferruginea, Mimusops kummel, Olea europaea subsp. *cuspidata, Podocarpus falcatus, Ritchiea albersii*). *It is not certain if Mimusops kummel* occurred in the forest (as in IAF) or in the lake shore forest, but the collected specimen was recorded at an altitude of m. 1900, which would be well above the lake shore, but notably, *Kanahia laniflora*, a typical lake shore plant, was also recorded from m. 1900 (*Syzygium guineense* was not collected from this locality). *Citrus aurantium, Prunus persica* and *Punica granatum* were cultivated or naturalised, and the same possibly applied to *Coffea arabica*.
Photographic documentation: One photograph shows the lakeshore vegetation from the northern shore of the island; the remaining photographs show the forests on the steep slopes of the ascent to the Daga Estefanos monastery.[33]

Locality T56 – Isola Deck nella parte meridionale di essa
Locality number 56 on printed labels with this locality; locality name also on typed labels without locality number. Marked as T56 on Map 3.
English translation of Italian indication of locality: In the southern part of the island of Dek.

33 See archival font Dainelli (501), images 796, 797, 798, 799, in the *Archivio fotografico* of the *Società geografica italiana*.

Georeferencing: The designation "Isola Deck nella parte meridionale di essa" [The Island of Deck, in its southern part] refers to the part of the island where there were patches of woodland. The western, northern, central and part of the southern parts of the island are intensely cultivated, apart from narrow patches relatively close to the southwestern and western shore and the partly natural vegetation in the eastern part. For a few species in Pichi Sermolli (1951) the locality has been indicated as "… nella parte meridionale …" [… in the southern part …], but that does not always agree with the labels. The southern part of the island with border between farmland and natural vegetation is approximately at 11.894901° N, 37.270619° E.
Collections cited in Pichi Sermolli (1951):
Capparis tomentosa Lam. (m. 1,830; n. 159).
Ficus ingens (Miq.) Miq. (m. 1,830; n. 1717).
Rotala repens (Hochst.) Koehne (m. 1,820; n. 263).
Vegetation; characteristic species: The selection of species from this part of the island is not informative with regard to natural vegetation; only *Rotala repens* indicates the presence of a slowly running stream.
Photographic documentation: Pichi Sermolli photographed *Rotala repens* in a small stream on the island of Dek.[34] The remaining photographs from the island show farmland, secondary bushland and papyrus swamps.[35]

Locality T56 – Isola Deck nella parte orientale di essa
Locality number 56 on printed labels with this locality; locality name also on typed labels without locality number. Marked as T56a on Map 3.
English translation of Italian indication of locality: In the eastern part of the island of Dek.
Variant indication of locality:
Isola Deck nella parte orientale (n. 2429).
Isola Deck, nella parte orientale di essa (n. 857).
Georeferencing: See the previous note on locality number 56. The eastern part of the island of the Island of Deck has patches of dense woodland. Most species were collected in the eastern part of the island, where an area around 11.907103° N, 37.292101° E seems to represent more natural vegetation than the farmland that covers most of the island.
Collections cited in Pichi Sermolli (1951):
Acanthus sennii Chiov. (m. 1,830; n. 2121).
Carthamus lanatus L. (m. 1,830; n. 857).
Caylusea abyssinica (Fresen.) Fisch. & Mey. (m. 1,825; n. 144).
Cordia africana Lam. (m. 1,830; n. 2405).
Echinops macrochaetus Fresen. (m. 1,830; n. 847).
Ficus ovata Vahl (m. 1,830; n. 2391).
Ficus thonningii Bl. (m. 1,830; n. 1671).
Ficus vasta Forssk. (m. 1,830; n. 1710).
Gossypium hirsutum L. (m. 1,830; n. 207).
Hibiscus diversifolius Jacq. (m. 1,830; n. 212).
Ipomoea cairica (L.) Sweet (m. 1,830; n. 1317).

34 See archival font Dainelli (501), image 808, in the *Archivio fotografico* of the *Società geografica italiana*.

35 See archival font Dainelli (501), images 800, 801, 802, 8033, 804, 805, 806, 807, 809, 810, 811, in the *Archivio fotografico* of the *Società geografica italiana*.

Ocimum urticifolium Roth (m. 1,900; n. 2476).
Rhus vulgaris Meikle (m. 1,830; n. 444).
Ricinus communis L. (m. 1,830; n. 1703).
Salix subserrata Willd. (m. 1,830; n. 1742).
Senna petersiana (Bolle) Lock (m. 1,830; n. 2224).
Solanum dasyphyllum Schumach. (m. 1,830; n. 2543).
Solanum giganteum Jacq. (m. 1,830; n. 2578).
Trichodesma zeylanicum (Burm. f.) R. Br. (m. 1,830; n. 1278).
Triumfetta pilosa Roth (m. 1,830; n. 300).
Vernonia amygdalina Del. (m. 1,830; n. 900).
Vernonia rueppellii Walp. (m. 1,830; n. 2429).
Vegetation; characteristic species: The tree species recorded from this part of the island Deck are associated with Afromontane forest (DAF, IAF), Afromontane woodland or secondary scrub (*Cordia africana, Ficus ovata, Ficus thonningii, Ficus vasta*); similarly with the shrubs (*Acanthus sennii, Rhus vulgaris*). *Salix subserrata* is usually associated with riparian vegetation. Some weedy species have been collected, including *Ricinus communis.*

23.2.1937

Base camp moved to Consuela [Consela, Quonzela] on the south-western shore of Lake Tana.

Locality T57 – Ilca tarara (ovest di Quonzela)
Locality number 57 on printed labels with this locality. Marked as T57 on Map 6.
English translation of Italian indication of locality: Ilca tarara [Ilca hill] to the west of the town of *Quonzela* [Consuela, Consela].
Variant indication of locality:
Il tarara (ovest di Quonzela) (n. 677).
Ilca tarara (a ovest di Quonzela) (n. 555, 572).
Ilca tarara (ad ovest di Quonzela) (n. 208, n. 301, n. 400, n. 423, n. 550, n. 635, n. 724, n. 1238, n. 1625, n. 2106, n. 2276, n. 2295, n. 2449).
Ilca tarara (colline ad ovest di Quonzela) (n. 1640, n. 1650).
Georeferencing: The small town of Quonzela is on the south-western shore of Lake Tana. On Africa 1:250,000, Sheet 67A, Dangla, by the Survey Office of the Anglo-Egyptian Sudan, the place is named "Cansela." In Guida (1938: 370) it is named "Conzela o Quinzela." On the map of Lake Tana by Demelle Arega (no date) it is called "Kunzila." The place name "Ilca Tarara" has not been seen on any map. "Tarara" is an Amharic word meaning "hill" or "small mountain". A hill that would fit the position in relation to Quonzela is located at 11.868690° N, 37.005708° E.
Collections cited in Pichi Sermolli (1951):
Acacia seyal Del. (m. 1,900; n. 2232, n. 2240).
Acanthus polystachius Del. (m. 1,900; n. 2106).
Aloe macrocarpa Tod. (m. 1,900; n. 1760, n. 1763).
Buchnera hispida Buch.-Ham. (m. 1,900; n. 1298).
Clematis hirsuta Guill. & Perr. (m. 1,900; n. 2366).
Combretum molle G. Don (m. 1,900; n. 724).
Convolvulus sagittatus Thunb. (m. 1,850; n. 1306).
Croton macrostachyus Del. (m. 1,850; n. 1640, n. 1650).

Dichrostachys cinerea (L.) Wight & Arn. (m. 1,900; n. 550).
Entada abyssinica A. Rich. (m. 1,900; n. 2276).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,850; n. 840).
Gossypium hirsutum L. (m. 1,900; n. 208).
Guizotia scabra (Vis.) Chiov. (m. 1,900; n. 1002).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 1,900; n. 86).
Hyparrhenia rufa (Nees) Stapf (m. 1,900; n. 78).
Hyparrhenia sp.* (m. 1,900; n. 2030).
Indigofera arrecta A. Rich. (m. 1,900; n. 538).
Ipomoea cairica (L.) Sweet (m. 1,850; n. 1318).
Ipomoea eriocarpa R. Br. (m. 1,850; n. 1330).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,900; n. 1167).
Laggera alata (D. Don) Oliv. (m. 1,900; n. 867).
Lefeburea abyssinica A. Rich. (m. 1,900; n. 677).
Maytenus senegalensis (Lam.) Exell (m. 1,900; n. 2295).
Osyris quadripartita Decn. (m. 1,900; n. 1623, n. 1625).
Phyllanthus ovalifolius Forssk. (m. 1,850; n. 2449).
Rhoicissus tridentata (L. f.) Wild & Drummond (m. 1,900; n. 400).
Rhus sp.[1]* (m. 1,900; n. 459).
Rhus vulgaris Meikle (m. 1,900; n. 445, n. 463).
Rhynchosia resinosa (A. Rich.) Bak. (m. 1,850; n. 635).
Senna singueana (Del.) Lock (m. 1,900; n. 555, n. 572).
Solanum campylacanthum A. Rich. (m. 1,850; n. 2555).
Stereospermum kunthianum Cham. (m. 1,900; n. 1380).
Tacazzea venosa Decne. (m. 1,850; n. 1238).
Trichodesma zeylanicum (Burm. f.) R. Br. (m. 1,850; n. 1279).
Triumfetta pilosa Roth (m. 1,900; n. 301).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 1,850; n. 881).
Vernonia cylindrica Walp. (m. 1,900; n. 2437).
Ziziphus abyssinica A. Rich. (m. 1,900; n. 423).
Vegetation; characteristic species: A number of tree species recorded from this locality are associated with *Combretum-Terminalia* woodland (*Acacia seyal, Combretum molle, Entada abyssinica, Gardenia ternifolia* subsp. *jovis-tonantis, Maytenus senegalensis, Stereospermum kunthianum*). Other species seem more associated with Afromontane woodland or scrub (*Croton macrostachyus, Dichrostachys cinerea, Rhus vulgaris*).

Locality T58 – Presso Quonzela
Locality number 58 on printed labels with this locality. Marked as T58 on Map 6.
English translation of Italian indication of locality: Near the town of Quonzela [Consuela, Consela].
Georeferencing: See notes about Quonzela at locality number 57. A representative location with woodland and bushland suitable for the species collected in this locality is at 11.879805° N, 37.027349° E.
Collections cited in Pichi Sermolli (1951):
Cajanus cajan (L.) Millsp. (m. 1,850; n. 639).
Cordia africana Lam. (m. 1,850; n. 1263).
Ficus thonningii Bl. (m. 1,850; n. 1672, n. 1673).
Indigofera atriceps Hook. f. (m. 1,850; n. 2222).

Kickxia elatine (L.) Dumort. subsp. *crinita* (Mabille) Greuter (m. 1,850; n. 1299).
Lablab purpureus (L.) Sweet (m. 1,850; n. 513).
Rhamnus prinoides L'Hérit. (m. 1,850; n. 415).
Tephrosia elata Deflers (m. 1,850; n. 2261).
Vegetation; characteristic species: The few trees recorded from this locality seem to represent Afromontane forest (DAF and IAF) and Afromontane woodland (*Cordia africana, Ficus thonningii*).
Photographic documentation: Two photographs represent grassland and a small hill, perhaps Ilca tarara, west of *Quonzela*.[36]

Locality T59 – Presso la Chiesa di Kuddus Ghigar (Quonzela)
Locality number 59 on printed labels with this locality. Marked as T59 on Map 6.
English translation of Italian indication of locality: Near the church of St. Gigar, near the town of Quonzela [Consuela, Consela].
Georeferencing: On Africa 1:250,000, Sheet 67A, Dangla, by the Survey Office of the Anglo-Egyptian Sudan, there is a "Kuddus Jigga" just south of Quonzela [Consuela] and on Google Earth there is an unnamed church in the same position, on a peninsula and surrounded by tall trees. Assuming that "Kuddus Jigga" is identical with the church of St. Gigar, the locality is at 11.889818° N, 37.021980° E.
Collections cited in Pichi Sermolli (1951):
Achyranthes aspera L. var. *sicula* L. (m. 1,850; n. 1444).
Albizia isenbergiana (A. Rich.) Fourn. (m. 1,850; n. 2274).
Celtis africana Burm. f. (m. 1,850; n. 1684).
Ehretia cymosa Thonn. (m. 1,850; n. 1272).
Euclea racemosa Murray subsp. *schimperi* (A. DC.) F. White (m. 1,850; n. 1139).
Juniperus procera Endl. (m. 1,850; n. 27).
Justicia schimperiana (Nees) T. Anders. (m. 1,850; n. 1510).
Millettia ferruginea (Hochst.) Bak. (m. 1,850; n. 505).
Mimusops kummel A. DC. (m. 1,850; n. 1088).
Rothmannia urcelliformis (Hiern) Robyns (m. 1,850; n. 2216).
Vegetation; characteristic species: From the collections listed there seems to have been an Afromontane forest near the church, probably with the character of IAF (*Albizia isenbergiana, Celtis africana, Ehretia cymose, Juniperus procera, Millettia ferruginea, Mimusops kummel, Rothmannia urcelliformis*). The presence of *Euclea racemosa* subsp. *schimperi* indicated Afromontane secondary scrub. *Juniperus procera* was probably planted at the church, and *Mimusops kummel* may have been part of the lake shore forest.

Locality T60 – Pianura ad ovest di Quonzela
Locality number 60 on printed labels with this locality; locality name also on typed labels with no locality number. Marked as T60 on Map 6.
English translation of Italian indication of locality: Small plane to the west of the town of Quonzela [Consuela, Consela].
Georeferencing: According to Google Earth there is a suitable-looking small plain at 11.875721° N, 37.020836° E.
Collections cited in Pichi Sermolli (1951):
Acanthus polystachius Del. (m. 1,850; n. 2105).

36 See archival font Dainelli (501), images 812, 813, in the *Archivio fotografico* of the *Società geografica italiana*.

Capparis tomentosa Lam. (m. 1,850; n. 160).
Carthamus lanatus L. (m. 1,850; n. 854).
Chrozophora plicata (Vahl) A. Juss. (m. 1,850; n. 1696).
Cordia africana Lam. (m. 1,850; n. 1264).
Cussonia ostinii Chiov. (m. 1,850; n. 672).
Cynodon dactylon?* (m. 1,850; n. 1891).
Echinops hispidus Fresen. (m. 1,850; n. 851).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,850; n. 843).
Guizotia sp.* (m. 1,850; n. 1003).
Heliotropium supinum L. (m. 1,850; n. 1273).
Hygrophila schulli (Hamilt.) M.R. & S.M. Almeida (m. 1,850; n. 1365).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 1,850; n. 85).
Hyparrhenia rufa (Nees) Stapf (m. 1,850; n. 71).
Hypericum quartinianum A. Rich. (m. 1,850; n. 197).
Maytenus serrata (A. Rich.) Wilczek (m. 1,850; n. 378).
Ocimum urticifolium Roth (m. 1,850; n. 2483).
Pavonia burchellii (DC.) Dyer (m. 1,850; n. 202).
Protea gaguedi J.F. Gmel. (m. 1,850; n. 1594).
Rhus quartiniana A. Rich. (m. 1,850; n. 2344).
Rumex nervosus Vahl (m. 1,850; n. 1558).
Senna singueana (Del.) Lock (m. 1,850; n. 566).
Solanum campylacanthum A. Rich. (m. 1,850; n. 2552).
Tephrosia elata Deflers (m. 1,850; n. 2262).
Terminalia schimperiana Hochst. (m. 1,850; n. 721).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 1,850; n. 892).
Vegetation; characteristic species: A number of tree species recorded from this locality are associated with *Combretum-Terminalia* woodland (*Cussonia ostinii*, *Gardenia ternifolia* subsp. *jovis-tonantis, Terminalia schimperiana*). *Cordia africana* occurs both in woodland and forest. Some large shrubs seem to represent patches of Afromontane scrub (*Acanthus polystachius, Capparis tomentosa*, *Hypericum quartinianum, Maytenus serrata, Protea gaguedi* (also in woodland), *Rhus quartiniana*). Several herbs are associated with moist ground in grassland (*Hygrophila schulli, Chrozophora plicata*).

24.2.1937

Excursions from Quonzela [Consuela, Consela].

Locality T61 – Quonzela in riva al lago
Locality number 61 on printed labels with this locality. Marked as T61 on Map 6.
English translation of Italian indication of locality: Quonzela [Consuela, Consela], at the shore of the lake [Lake Tana].
Variant indication of locality:
Quonzela, in riva al lago (n. 1253).
Georeferencing: A suitable place along the lake shore could be at 11.877202° N, 37.036413° E.
Collections cited in Pichi Sermolli (1951):
Kanahia laniflora (Forssk.) R. Br. (m. 1,830; n. 1253).

Tacazzea venosa Decne. (m. 1,830; n. 1237).
Vegetation; characteristic species: These two species are associated with moist ground near water or in shallow water.
Photographic documentation: Two photographs of species of Asclepiadaceae were taken at Quonzela, probably the specimens from this site: *Kanahia laniflora* in water near lake shore.[37] An unidentified species, almost certainly the specimen of *Tacazzea venosa* collected from the site, was growing on the shore.[38]

25.2.1937

Locality T62 – Penisoletta dove è la Chiesa di Kuddus Gheorghis Quonzela[
Locality number 62 on printed labels with this locality. Marked as T62 on Map 6.
English translation of Italian indication of locality: Small peninsula where the church of St. George Quonzela [Consuela, Consela] is located.
Variant indication of locality:
Penisoletta della Chiesa di Kuddus Gheorghis Quonzela (n. 2130).
Penisoletta dove si trova la Chiesa di Kuddus Gheorghis Quonzela (n. 157, n. 239).
Penisoletta dove sorge la Chiesa di Kuddus Gheorghis Quonzela (n. 28, n. 627, n. 650, n. 789, n. 1173, n. 1174).
Georeferencing: Almost certainly the isolated church dedicated to Kuddus Gheorghis (St. George) on a peninsula northwest of the town; a church with this position is indicated as "Kuzial Giorgis" on the map of Lake Tana by Demelie Arega (no year); the church is surrounded by a rather extensive wooded grove with forest trees; most of the peninsula is at 1800-1830 m. The locality can be georeferenced at approximately 11.889448° N, 37.021230° E.
Collections cited in Pichi Sermolli (1951):
Arundo donax L. (m. 1,900; n. 1945).
Calpurnia aurea (Ait.) Benth. (m. 1,850; n. 627).
Capparis tomentosa Lam. (m. 1,850; n. 157).
Cyphostemma adenocaule (A. Rich.) Wild & Drummond (m. 1,850; n. 432).
Dodonaea angustifolia L. f. (m. 1,830; n. 492).
Euclea racemosa Murray subsp. *schimperi* (A. DC.) F. White (m. 1,900; n. 1140).
Euphorbia nubica N.E. Br. (m. 1,850; n. 1661).
Ficus thonningii Bl. (m. 1,850; n. 1669).
Ficus vasta Forssk. (m. 1,850; n. 1707).
Glycine wightii (Wight & Arn.) Verdc. (m. 1,900; n. 522).
Grewia ferruginea A. Rich. (m. 1,850; n. 276, n. 290).
Helinus mystacinus (Ait.) Steud. (m. 1,850; n. 409).
Indeterminabile* (m. 1,900; n. 2047, n. 2181).
Indeterminabile* (m. 1,900; n. 2130).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,900; n. 1159, n. 1160).
Juniperus procera Endl. (m. 1,850; n. 28).

37 See archival font Dainelli (501), image 839, in the *Archivio fotografico* of the *Società geografica italiana*.

38 See archival font Dainelli (501), image 840, in the *Archivio fotografico* of the *Società geografica italiana*.

Justicia schimperiana (Nees) T. Anders. (m. 1,900; n. 1509).
Kalanchoe lanceolata (Forssk.) Pers. (m. 1,850; n. 789).
Maytenus serrata (A. Rich.) Wilczek (m. 1,850; n. 387).
Mimusops kummel A. DC. (m. 1,900; n. 1086, n. 1087).
Olea europaea L. subsp. *cuspidata* (G. Don) Cif. (m. 1,900; n. 1173, n. 1174).
Pavetta sp.* (m. 1,900; n. 759).
Pittosporum abyssinicum Del. (m. 1,850; n. 239).
Pterolobium stellatum (Forssk.) Brenan (m. 1,850; n. 650).
Rhoicissus tridentata (L. f.) Wild & Drummond (m. 1,850; n. 399).
Rhus quartiniana A. Rich. (m. 1,850; n. 2339).
Rhus sp.[4]* (m. 1,850; n. 457).
Rhynchosia resinosa (A. Rich.) Bak. (m. 1,900; n. 637).
Steganotaenia araliacea A. Rich. (m. 1,900; n. 682).
Striga gesnerioides (Willd.) Vatke (m. 1,900; n. 1297).
Ziziphus abyssinica A. Rich. (m. 1,850; n. 424).
Vegetation; characteristic species: Only a few of the trees typically planted or natural in the small forest groves around churches have been recorded from this locality (*Juniperus procera, Ficus thonningii, Mimusops kummel, Olea europaea* subsp. *cuspidata*). Present are also a small number of Afromontane woodland species (*Ficus vasta, Steganotaenia araliacea, Ziziphus abyssinica*). Some shrubs represent Afromontane secondary scrub (*Calpurnia aurea, Capparis tomentosa, Dodonaea angustifolia, Euclea racemosa* subsp. *schimperi, Grewia ferruginea, Helinus mystacinus, Justicia schimperiana, Maytenus serrata, Pterolobium stellatum, Rhus quartiniana*).
Photographic documentation: Pichi Sermolli took a number of photographs that show the wooded peninsula with the church of Kuddus Georgis.[39]

Locality T63 – Paduletto alla base di Ilca tarara (Quonzela)
Locality number 63 on printed labels with this locality. Marked as T63 on Map 6.
English translation of Italian indication of locality: Small swamp / swampy ground at the base of the Ilca tarara [Ilca hill] Quonzela [Consuela, Consela].
Georeferencing: Close to locality number 57, but with moist ground, it is therefore a site probably towards the lake; a probable location is at 11.881965° N, 37.009867° E.
Collections cited in Pichi Sermolli (1951):
Graminacee indeterminabili* (m. 1,830; n. 335).
Hibiscus diversifolius Jacq. (m. 1,850; n. 213).
Persicaria setosula (A. Rich.) K. Wilson (m. 1,850; n. 1540).
Vegetation; characteristic species: Pichi Sermolli characterised this locality as a small swamp, and *Persicaria setosula* grows typically in swamps or shallow water.

26.2.1937

Excursion to the high ground west of Lake Tana around Alefa.

Locality T64 – Da Quonzela ad Amberas Jesus lungo la strada per Alefa
Locality number 64 on printed labels with this locality. Marked as T64 on Map 6.

39 See archival font Dainelli (501), images 814, 815, 816, 817, 818, 819, in the *Archivio fotografico* of the *Società geografica italiana*.

English translation of Italian indication of locality: From Quonzela [Consuela, Consela] towards Amberas Jesus along the road to Alefa.
Variant indication of locality:
Da Quonzela ad Amberas Jesus lungo la via per Alefa (n. 83).
Da Quonzela ad Ambera Jesus lungo la strada per Alefa (n. 476, n. 554, n. 569, n. 594, n. 608, n. 620, n. 710, n. 711, n. 893, n. 894, n. 1599, n. 1995, n. 2056, n. 2108, n. 2235, n. 2236, n. 2237, n. 2247, n. 2248, n. 2249).
Georeferencing: The place name "Amberas Jesus" has not been seen on any map. In the book from 1951, the spelling of "Amberas Jesus" is sometimes without an "s" at the end of "Amberàs", as "Ambera Jesus". At the time of Pichi Sermolli's visit the road between Consuela and Alefa (now mostly known as Shawira) was in a more southerly position than the present road via Degel Ber. The road is marked on the map Africa 1:250,000, Sheet 67A, Dangla by the Survey Office of the Anglo-Egyptian Sudan. On Google Map there are several churches in the general area, mostly at altitudes of 2,000 m. or above. A church along the disused track is at 11.875289° N, 36.962690° E.
Collections cited in Pichi Sermolli (1951):
Acacia abyssinica Benth. (m. 1,950; n. 2246, n. 594).
Acacia bavazzanoi Pic. Serm. (m. 1,950; n. 2247, n. 2248, n. 2249).
Acacia seyal Del. (m. 1,950; n. 2235, n. 2236, n. 2237).
Acanthus polystachius Del. (m. 1,950; n. 2108).
Cordia africana Lam. (m. 1,950; n. 1265).
Entada abyssinica A. Rich. (m. 1,950; n. 620).
Exotheca abyssinica (A. Rich.) Anderss. (m. 1,950; n. 43, n. 83).
Ficus vasta Forssk. (m. 1870; n. 1727).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,950; n. 823, n. 841).
Guizotia scabra (Vis.) Chiov. (m. 1,950; n. 1000).
Hygrophila schulli (Hamilt.) M.R. & S.M. Almeida (m. 1,950; n. 1361).
Hyparrhenia rufa (Nees) Stapf (m. 1,950; n. 73).
Indeterminabile* (m. 1,950; n. 2056).
Lannea schimperi (A. Rich.) Engl. (m. 1,950; n. 476).
Maytenus serrata (A. Rich.) Wilczek (No altitude; n. 377).
Pennisetum ramosum (Hochst.) Schweinf. (m. 1,950; n. 784).
Phoenix reclinata Jacq. (m. 1,950; n. 1995).
Phragmanthera regularis (Sprague) M.G. Gilbert (m. 1,950; n. 1599).
Piliostigma thonningii (Schumach.) Milne-Redh. (m. 1,950; n. 608).
Rhus vulgaris Meikle (m. 1,950; n. 440).
Senna singueana (Del.) Lock (m. 1,950; n. 554, n. 569).
Setaria incrassata (Hochst.) Hack. (m. 1,950; n. 311).
Stereospermum kunthianum Cham. (m. 1,950; n. 1378).
Terminalia schimperiana Hochst. (m. 1,950; n. 710, n. 711).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 1,950; n. 893, n. 894).
Ziziphus abyssinica A. Rich. (m. 1,950; n. 422).
Ziziphus mucronata Willd. (m. 1,950; n. 427).
Vegetation; characteristic species: The trees recorded from this locality include a number of *Combretum-Terminalia* woodland species (*Acacia seyal, Entada abyssinica, Ficus vasta, Gardenia ternifolia* subsp. *jovis-tonantis, Lannea schimperi, Piliostigma thonningii, Stereospermum kunthianum, Terminalia schimperiana*), but also species that are predominantly associated with Afromontane woodland (*Acacia abyssinica, Acacia*

bavazzanoi, and species that occur in several vegetation types (*Cordia africana*). Some shrubs represent Afromontane secondary scrub (*Maytenus serrata, Rhus vulgaris, Senna singueana*). A few species indicate local moist habitats (*Hygrophila schulli, Phoenix reclinata*).
Photographic documentation: Pichi Sermolli's photographs taken on this date show wooded grasslands west of Quonzela.[40] A sequence of photographs showing wooded grassland with clumps of trees towards Alefa [Shahura].[41] Another sequence of photographs show clumps of *Olea europaea* subsp. *cuspidata* and *Acacia abyssinica*, species occurring in the vegetation of this general area, but it is not possible to associate these photographs with specific localities.[42]

Locality T65 – Pianura presso il villaggio di Scenti (Quonzela)
Locality number 65 on printed labels with this locality. Marked as T65 on Map 6.
English translation of Italian indication of locality: Small plain near the village of Scenti, in the vicinity of Quonzela [Consuela, Consela].
Georeferencing: A place name spelt exactly like "Scenti" has not been seen on any map, but on the map Africa 1:250,000, Sheet 67A, Dangla, by the Survey Office of the Anglo-Egyptian Sudan, there is a church, "Shanti Mariam", at 11.886983° N, 36.960100° E; the position of this church would agree with the information about this locality.
Collections cited in Pichi Sermolli (1951):
Acacia bavazzanoi Pic. Serm. (m. 1,900; n. 2250).
Acacia venosa Benth. (m. 1,900; n. 599).
Acanthus polystachius Del. (m. 1,950; n. 2107).
Ethulia conyzoides L. f. (m. 1,900; n. 941).
Ficus sycomorus L. (m. 1,900; n. 2401).
Guizotia scabra (Vis.) Chiov. (m. 1,900; n. 1001).
Terminalia schimperiana Hochst. (m. 1,900; n. 2407).
Vegetation; characteristic species: The trees recorded from this locality suggest a vegetation with woodland species (*Acacia bavazzanoi*, *Acacia venosa, Ficus sycomorus, Terminalia schimperiana*).

Locality T66 – M.[onte] Masciungulit Scientiber presso Scenti (Quonzela)
Locality number 66 on printed labels with this locality. Marked as T66 on Map 6.
English translation of Italian indication of locality: Mt. Masciungulit Scientiber near Scenti, in the vicinity of Quonzela [Consuela, Consela].
Georeferencing: Place names spelt exactly like "Masciungulit Scientibér" and "Scenti" have not seen on any map. It is probably a hill near the previous locality, perhaps the hill on which the church stands, at 11.887548° N, 36.951601° E.
Collections cited in Pichi Sermolli (1951):
Combretum (?) gallabatense* (m. 1,950; n. 2053).
Ferula communis L. (m. 1,950; n. 687).
Maytenus senegalensis (Lam.) Exell (m. 1,950; n. 2294).

40 See archival font Dainelli (501), images 820, 821, 822, 823, in the *Archivio fotografico* of the *Società geografica italiana*.
41 See archival font Dainelli (501), images 824, 825, 826, 827, in the *Archivio fotografico* of the *Società geografica italiana*.
42 See archival font Dainelli (501), images 828, 829, 830, 831, 832, in the *Archivio fotografico* of the *Società geografica italiana*.

Vegetation; characteristic species: The few trees recorded from this locality suggest a vegetation with woodland species (Combretum (?) gallabatense*, *Maytenus senegalensis*).

Locality T67 – Strada tra Quonzela ed Alefa, tratto tra Masciungulit Scientiber ed il torrente Taquan
Locality number 67 on printed labels with this locality. Marked as T67 on Map 6.
English translation of Italian indication of locality: Road between Quonzela [Consuela, Consela] and Alefa. Area between Masciungulit Scientiber and the stream of Taquan.
Variant indication of locality:
Strada tra Quonzela ed Alefa; tratto tra Masciungulit Scientiber ed il torrente Taquan (n. 465).
Strada tra Quonzela ed Alefa tratto tra Masciungulit Scientiber ed il torrente Taquan (n. 1638).
Strada tra Quonzela ed Alefa - tratto tra Masciungulit Scientiber ed il torrente Taquan (n. 742).
Georeferencing: Place names spelt exactly like "Masciungulit Scientibér" (see previous locality) or "Taquan" (see subsequent locality) have not been seen on any map; there is a stream near the assumed position of locality 66 and 69, possibly Taquan, and likely coordinates for locality 67 could therefore be 11.887548° N, 36.951601° E.
Collections cited in Pichi Sermolli (1951):
Combretum molle G. Don (m. 1,950; n. 742).
Croton macrostachyus Del. (m. 1,950; n. 1638).
Maytenus senegalensis (Lam.) Exell (m. 1,950; n. 2293).
Pittosporum abyssinicum Del. (m. 1,950; n. 241).
Rhus vulgaris Meikle (m. 1,850; n. 465).
Setaria (?) phragmitoides* (m. 1,950; n. 309).
Steganotaenia araliacea A. Rich. (m. 1,950; n. 683).
Vegetation; characteristic species: The few trees recorded from this locality suggest a vegetation with species associated with *Combretum-Terminalia* woodland (*Combretum molle, Maytenus senegalensis, Steganotaenia araliacea*). *Croton macrostachyus* occurs in several vegetation types, and *Rhus vulgaris* is a species of mainly Afromontane scrub.
Photographic documentation: The photographs taken by Pichi Sermolli around Alefa [Shahura] show Dry Afromontane Forest (DAF), with *Olea europaea* subsp. *cuspidata*, Afromontane wooded grassland and frequently small patches of riparian vegetation with *Phoenix reclinata*. However, the exact locations of these photographs are not well specified.[43]

Locality T68 – Presso il torrente Taquan lungo la via tra Quonzela ed Alefa
Locality number 68 on printed labels with this locality. Marked as T68 on Map 6.
English translation of Italian indication of locality: Near the stream of Taquan along the road from Quonzela [Consuela, Consela] to Alefa.
Georeferencing: A possible location above the stream at the right altitude and near the old road to Alefa or "Shawira" [Shahura] would be at ca. 2,100 m. (slightly higher than Pichi Sermolli indicated) and at ca. 11.902724° N, 36.921976° E.

43 See archival font Dainelli (501), images 826, 827, 828, 829, 830, 831, 832, in the *Archivio fotografico* of the *Società geografica italiana*.

Collections cited in Pichi Sermolli (1951):
Dichrostachys cinerea (L.) Wight & Arn. (m. 2,000; n. 2256).
Echinops longifolius A. Rich. (m. 2,000; n. 852).
Inula paniculata (Klatt) Burtt Davy (m. 2,000; n. 2415).
Olea europaea L. subsp. *cuspidata* (G. Don) Cif. (m. 2,000; n. 1177).
Otostegia tomentosa A. Rich. subsp. *ambigens* (Chiov.) Sebald (m. 2,000; n. 2516).
Phoenix reclinata Jacq. (m. 2,000; n. 1993, n. 1994).
Syzygium guineense (Willd.) DC. (m. 2,000; n. 813).
Vegetation; characteristic species: The presence of *Olea europaea* subsp. *cuspidata* might suggest DAF or IAF, but that is not supported by other species, which are associated with Afromontane scrub (*Dichrostachys cinerea, Otostegia tomentosa* subsp. *ambigens*). The presence of *Phoenix reclinata* and *Syzygium guineense* suggest a riparian vegetation along the stream of Taquan.

Locality T69 – Pianura di Dukulcan Jesus (Alefa)
Locality number 69 on printed labels with this locality. Marked as T69 on Map 6.
English translation of Italian indication of locality: Small plain of Dukulcan Jesus, near the town of Alefa ["Shawira" , "Shahura"].
Georeferencing: On the sheet 67A (Dangila) of Africa in 1:250,000, by the Survey Office of the Anglo-Egyptian Sudan, there is a church called "Dukulcan Jesus" just SE of the town now called "Shawira", or Shahura; presuming that "Shawira" is the town called "Alefa" by Pichi Sermolli, then this locality is at ca. 2,200 m. and at 11.924261° N, 36.904158° N.
Collections cited in Pichi Sermolli (1951):
Apodytes dimidiata Arn. var. *acutifolia* (A. Rich.) Boutique (m. 2,200; n. 347).
Combretum molle G. Don (m. 2,200; n. 734).
Cussonia ostinii Chiov. (m. 2,200; n. 671).
Ekebergia capensis Sparrm. (m. 2,200; n. 363).
Entada abyssinica A. Rich. (m. 2,200; n. 2269).
Gnidia glauca (Fresen.) Gilg (m. 2,200; n. 2497).
Hypericum quartinianum A. Rich. (m. 2,200; n. 187).
Leonotis ocymifolia (Burm. f.) Iwarsson var. *raineriana* (Vis.) Iwarsson (m. 2,200; n. 1391).
Maytenus obscura (A. Rich.) Cufod. (m. 2,200; n. 390).
Protea gaguedi J.F. Gmel. (m. 2,200; n. 1590).
Rhoicissus tridentata (L. f.) Wild & Drummond (m. 2,200; n. 395).
Rosa abyssinica Lindl. (m. 2,200; n. 661).
Stereospermum kunthianum Cham. (m. 2,200; n. 1381).
Syzygium guineense (Willd.) DC. (m. 2,200; n. 814).
Terminalia schimperiana Hochst. (m. 2,200; n. 722).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 2,200; n. 897).
Vegetation; characteristic species: The trees recorded from this locality includes a number of *Combretum-Terminalia* woodland species (*Combretum molle, Cussonia ostinii, Entada abyssinica, Stereospermum kunthianum, Terminalia schimperiana*). Other species are associated with forest (*Apodytes dimidiata* var. *acutifolia*, *Ekebergia capensis*), but most with Afromontane scrub (*Gnidia glauca*, *Hypericum quartinianum*, *Leonotis ocymifolia* var. *raineriana, Maytenus obscura, Protea gaguedi, Rosa abyssinica*). It is not certain if *Syzygium guineense* indicates riparian vegetation or may be subsp. *macrocarpum* characteristic of the western woodlands in Ethiopia.

27.2.1937

Excursion from Alefa to the watershed to the west of Lake Tana.

Locality T70 – Presso la Chiesa di Sciaura Mariam Alefa
Locality number 70 on printed labels with this locality. Marked as T70 on Map 6.
English translation of Italian indication of locality: Near the church of Sciaura Mariam (Alefa; also known as "Shawira", or "Shahura").
Variant indication of locality:
Presso la Chiesa di Sciaunra Mariam Alefa (n. 1176).
Georeferencing: The name of a church called "Sciaura Mariam" has not been seen on any map, but on the sheet 67A (Dangila) of Africa in 1:250,000, by the Survey Office of the Anglo-Egyptian Sudan, there is a church named "Shahura Maryam". Assuming that "Alefa" is the small town now called "Shawira", or Shahura or Sciaura, then this locality is approximately at ca. 2,200 m. and at 11.935397° N, 36.870904° E.
Collections cited in Pichi Sermolli (1951):
Abutilon longicuspe A. Rich. (m. 2,200; n. 224).
Barleria ventricosa Nees (m. 2,200; n. 1526).
Brucea antidysenterica J.F. Mill. (m. 2,200; n. 342).
Calpurnia aurea (Ait.) Benth. (m. 2,200; n. 630).
Carissa spinarum L. (m. 2,200; n. 1206).
Clausena anisata (Willd.) Benth. (m. 2,200; n. 247).
Clematis longicauda A. Rich. (m. 2,200; n. 2353).
Crepis rueppellii Sch. Bip. (m. 2,200; n. 865).
Dombeya torrida (J.F. Gmel.) P. Bamps (m. 2,200; n. 236).
Gnidia glauca (Fresen.) Gilg (m. 2,200; n. 2498).
Indeterminabile* (m. 2,200; n. 2043).
Juniperus procera Endl. (m. 2,200; n. 17).
Justicia schimperiana (Nees) T. Anders. (m. 2,200; n. 1512).
Maytenus serrata (A. Rich.) Wilczek (m. 2,200; n. 383, n. 2313).
Olea europaea L. subsp. *cuspidata* (G. Don) Cif. (m. 2,200; n. 1176).
Pterolobium stellatum (Forssk.) Brenan (m. 2,200; n. 645).
Rumex nervosus Vahl (m. 2,200; n. 1552).
Vegetation; characteristic species: The trees recorded from the surrounding of this church indicate the presence of a grove of trees associated with DAF or IAF (*Dombeya torrida, Juniperus procera, Olea europaea* subsp. *cuspidata*), as often seen around churches, and a number of species associated with Afromontane scrub (*Brucea antidysenterica, Calpurnia aurea, Carissa spinarum, Clausena anisata, Gnidia glauca, Justicia schimperiana, Maytenus serrata, Pterolobium stellatum*).

Locality T71 – Pianura a sud di Alefa
Locality number 71 on printed labels with this locality. Marked as T71 on Map 6.
English translation of Italian indication of locality: Small plain south of the town of Alefa.
Georeferencing: Assuming that "Alefa" is the small town now called "Shawira", or Shahura or Sciaura, then this locality is at approximately 11.923394° N, 36.883587° E.
Collections cited in Pichi Sermolli (1951):
Acacia abyssinica Benth. (m. 2,100; n. 588, n. 593).
Acacia seyal Del. (m. 2,100; n. 2239).
Acanthus polystachius Del. (m. 2,100; n. 2110).

Apodytes dimidiata Arn. var. *acutifolia* (A. Rich.) Boutique (m. 2,100; n. 345).
Croton macrostachyus Del. (m. 2,100; n. 1649, n. 1651).
Hyparrhenia rufa (Nees) Stapf (m. 2,100; n. 70).
Hyparrhenia umbrosa (Hochst.) Schweinf. & Aschers. (m. 2,100; n. 103).
Maytenus undata (Thunb.) Blakelock (m. 2,100; n. 374).
Themeda triandra Forssk. (m. 2,100; n. 60).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 2,100; n. 896).
Vegetation; characteristic species: The trees from this locality includes one species from Afromontane woodland (*Acacia abyssinica*), but also a widespread species from *Combretum-Terminalia* woodland and other vegetation types (*Acacia seyal*), a species that occurs in several vegetation types (*Croton macrostachyus*), as well as a species associated with Afromontane forest (*Apodytes dimidiata* var. *acutifolia)* and species associated with Afromontane scrub (*Acanthus polystachius, Maytenus undata*).

27.2.1937 (the month "1" on one collection error for "2").

Locality T72 – Ciglione sopra la sorgente calda di Full-uaha-Muhat (Alefa)
Locality number 72 on printed labels with this locality. Marked as T72 on Map 3.
English translation of Italian indication of locality: Brink above the hot spring of Fulluaha-Muhat, near the town of Alefa [also known as "Shawira", or "Shahura"].
Variant indication of locality:
Ciglione sopra la sorgente calda di Fulluahat-Muhat (Alefa) (no. 919).
Ciglione sopra la sorgente calda Fullaha-Muhat (Alefa) (n. 2395).
Ciglione sopra la sorgente calda Fulluaha-Muhat (n. 737).
Ciglione sopra la sorgente calda Fulluaha-Muhat (Alefa) (n. 598).
Georeferencing: The world "Fulluaha" is an Italian transcription of the Amharic "fil woha", meaning "hot water", and "Muhat" must be a local place name for the hot spring. The place name "Full-uaha-Muhat" or variants of this name has not been seen on any map, nor have the components of the name. On the map of the Lake Tana Basin in Pichi Sermolli (1951: unnumbered page next to title page), there is an indication of "Aqua termale" [hot water] at 1,180 m., near the western end of the loop formed by the route of the expedition W of "Alefa" approximately 12 km. W of the town. This locality is said to be at 1,900 m., presumably more than 500 m. above the hot spring. On the sheet 67A (Dangila) of Africa in 1:250,000 by the Survey Office of the Anglo-Egyptian Sudan, there is a "Warm spring" marked below a church on a hill of the plateau at ca. 36° 41′E, which agrees with the information on the map in Pichi Sermolli (1951: unnumbered page next to title page. Assuming that "Alefa" is the small town now called "Shawira", the edge of the plateau at ca. 1,900 m. is about 12 km. to the W of that town and the locality can be approximately georeferenced at 11.950690° N, 36.751832° E.
Collections cited in Pichi Sermolli (1951):
Acacia venosa Benth. (m. 1,900; n. 598).
Albizia malacophylla (A. Rich.) Walp. (m. 1,900; n. 1189).
Amorphophallus gomboczianus Pic. Serm. (m. 1,900; n. 1992).
Blumea axillaris (Lam.) DC. (m. 1,900; n. 919).
Capparis tomentosa Lam. (m. 1,900; n. 161).
Combretum molle G. Don (m. 1,900; n. 737).
Crinipes abyssinicus (A. Rich.) Hochst. (m. 1,900; n. 1872).
Dombeya quinqueseta (Del.) Exell (m. 1,900; n. 230).

Ficus sycomorus L. (m. 1870; n. 2395).
Galinsoga parviflora Cav. (the date "27.1." is an error for 27.2.; m. 1,900; n. 1010).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,900; n. 842).
Hyparrhenia cymbaria (L.) Stapf (m. 1,900; n. 109).
Hyparrhenia gazensis (Rendle) Stapf forma* (m. 1,900; n. 316).
Indeterminabile* (m. 1,900; n. 2201).
Lannea schimperi (A. Rich.) Engl. (m. 1,900; n. 475).
Osyridocarpus schimperianus (A. Rich.) A. DC. (m. 1,900; n. 1637).
Osyris quadripartita Decn. (m. 1,900; n. 1627, n. 1634).
Sterculia setigera Del. (m. 1,900; n. 238).
Stereospermum kunthianum Cham. (m. 1,900; n. 1382).
Ximenia americana L. (m. 1,800; n. 356).
Ziziphus abyssinica A. Rich. (m. 1,900; n. 421).
Fern collections in FI-PS:
Asplenium aethiopicum (Burm. f.) Bech. (No alt.; n. 1793, FI-PS 10649).
Vegetation; characteristic species: A long range of the trees collected from this locality are associated with *Combretum-Terminalia* woodland (*Acacia venosa, Albizia malacophylla, Combretum molle, Dombeya quinqueseta, Ficus sycomorus, Gardenia ternifolia* subsp. *jovis-tonantis, Lannea schimperi, Sterculia setigera, Stereospermum kunthianum, Ximenia americana, Ziziphus abyssinica*). The only shrubs associated with Afromontane scrub are *Osyridocarpus schimperianus* and *Osyris quadripartita*. The herbs seem to be characteristic of grassland typical of Afromontane woodland.
Photographic documentation: Pichi Sermolli apparently did not photograph the hot spring itself, but has images of the valley to the west of Alefa with *Combretum-Terminalia* deciduous woodland.[44] However, there exists a photograph of the hot spring taken by Enzo Minucci.[45]

28.2.1937

Excursions around Alefa and return to Quonzela (Consuela, Consela).

Locality T73 – Pianura di Dukulcan Jesus (Alefa)
Locality number 73 on printed labels with this locality; locality name also on typed label with no locality number. Marked as T73 on Map 6.
English translation of Italian indication of locality: Small plain at Dukulcan Jesus, near the town of Alefa [also known as "Shawira", or "Shahura"].
Variant indication of locality:
Pianura a sud di Dukulkan Jesus (Alefa) (n. 346).
Georeferencing: The same as for locality number 69, at 11.924261° N, 36.904158° N.
Collections cited in Pichi Sermolli (1951):
Acanthus sennii Chiov. (m. 2,200; n. 2119).
Albizia malacophylla (A. Rich.) Walp. (m. 2,200; n. 1191).

44 See archival font Dainelli (501), images 833, 834, 835, in the *Archivio fotografico* of the *Società geografica italiana*. Image 834 is reproduced in this work as Fig. 35.

45 See archival font Dainelli (501), image 560, in the *Archivio fotografico* of the *Società geografica italiana*.

Apodytes dimidiata Arn. var. *acutifolia* (A. Rich.) Boutique (m. 2,200; n. 346).
Buddleja polystachya Fresen. (m. 2,200; n. 1287).
Clematis hirsuta Guill. & Perr. (m. 2,200; n. 2373).
Combretum molle G. Don (m. 2,200; n. 738).
Dicrocephala integrifolia (L. f.) Kuntze (m. 2,200; n. 1056).
Dodonaea angustifolia L. f. (m. 2,200; n. 496).
Flacourtia indica (Burm. f.) Merr. ("27.2." must be an error for "28.2.; m. 2,200; n. 2040).
Gnaphalium unionis Oliv. & Hiern (m. 2,200; n. 1021).
Grewia ferruginea A. Rich. (m. 2,200; n. 277).
Osyris quadripartita Decn. (m. 2,200; n. 1626).
Pittosporum abyssinicum Del. (m. 2,000; n. 242).
Protea gaguedi J.F. Gmel. (m. 2,200; n. 1589).
Rosa abyssinica Lindl. (m. 2,200; n. 665).
Vernonia theophrastifolia Oliv. & Hiern (m. 2,200; n. 2420, n. 2421).
Vegetation; characteristic species: A few trees are associated with *Combretum-Terminalia* woodland (*Albizia malacophylla, Combretum molle*). A single tree is associated with Afromontane forest (*Apodytes dimidiata* var. *acutifolia*). A larger number are associated with Afromontane scrub (*Acanthus sennii, Buddleja polystachya, Dodonaea angustifolia, Flacourtia indica, Grewia ferruginea, Osyris quadripartite, Pittosporum abyssinicum, Protea gaguedi, Rosa abyssinica*).
Photographic documentation: Pichi Sermolli's photographs show vegetation observed on the return to Lake Tana at Quonzela, and again it is not possible to associate the photographs with specific localities.[46]

Locality T74 – Pendii sovrastanti il torrente Taquan lungo la via tra Alefa e Quonzela
Locality number 74 on printed labels with this locality. Marked as T74 on Map 6.
English translation of Italian indication of locality: Slopes overhanging the stream of Taquan along the road between Alefa [also known as "Shawira", or "Shahura"] and Quonzela [Consuela, Consela].
Variant indication of locality:
Pendici sovrastanti il torrente Taquan lungo la via tra Alefa e Quonzela (n. 668).
Pendii sovrastanti il torrente Taquan lungo la strada tra Alefa e Quonzela (n. 484).
Pendii sovrastanti il torrente Taquan lungo la via tra Quonzela ed Alefa (n. 2501).
Georeferencing: This is very close to locality number 68 and the rounded-off geographical coordinates are the same, at 11.902724° N, 36.921976° E.
Collections cited in Pichi Sermolli (1951):
Bridelia micrantha (Hochst.) Baill. (m. 2,100; n. 2459).
Faurea speciosa Welw. (m. 2,100; n. 2501).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 2,100; n. 838).
Lannea schimperi (A. Rich.) Engl. (m. 2,100; n. 484).
Pennisetum ramosum (Hochst.) Schweinf. (m. 2,100; n. 783).
Polyscias farinosa (Del.) Harms (m. 2,100; n. 668).
Polystachya bennettiana Rchb. f. (m. 2,100; n. 2538).
Protea gaguedi J.F. Gmel. (m. 2,100; n. 1588).

46 See archival font Dainelli (501), images 836, 837, 838, in the *Archivio fotografico* of the *Società geografica italiana*.

Vegetation; characteristic species: A number of large shrubs or trees collected from this locality are associated with *Combretum-Terminalia* woodland (*Faurea speciosa*, *Gardenia ternifolia* subsp. *jovis-tonantis*, *Lannea schimperi, Polyscias farinosa*). A few are associated with Afromontane forest (*Bridelia micrantha*) or Afromontane scrub (*Protea gaguedi*).

2.3.1937

Base camp moves to Gorgora on a peninsula at the northern shore of Lake Tana.

Locality T75 – Lungo le rive del lago a Gorgora
Locality number 75 on printed labels with this locality; locality name also on typed labels without locality number. Marked as T75 on Map 7.
English translation of Italian indication of locality: Along the shores of the lake [Lake Tana] at Gorgora.
Variant indication of locality:
Lungo la riva del lago a Gorgora (n. 2341).
Georeferencing: Gorgora is now a small town with a harbour; it is marked on almost any map. A wooded area along the lake shore near the harbour of Gorgora is at ca. 1,800 m. and at 12.239404° N, 37.301631° E.
Collections cited in Pichi Sermolli (1951):
Albizia schimperiana Oliv. (m. 1,820; n. 1116).
Arundo donax L. (m. 1,825; n. 1947).
Cyperus longus L. (m. 1,825; n. 1962).
Ficus ingens (Miq.) Miq. (m. 1,825; n. 1718).
Grewia ferruginea A. Rich. (m. 1,825; n. 281).
Hygrophila asteracanthoides Lindau (m. 1,825; n. 2077).
Korthalsella japonica (Thunb.) Engl. (m. 1,820; n. 2487 (FT, holotype of *Korthalsella binii* Pic. Serm.)).
Lotus schoelleri Schweinf. (m. 1,825; n. 2230).
Mimusops kummel A. DC. (m. 1,825; n. 1090).
Rhus quartiniana A. Rich. (m. 1,825; n. 2341).
Sauromatum venosum (Ait.) Kunth (m. 1,825; n. 1748).
Sesbania sesban (L.) Merr. var. *nubica* Chiov. (m. 1,825; n. 2518).
Syzygium guineense (Willd.) DC. (m. 1,825; n. 808).
Tacazzea venosa Decne. (m. 1,825; n. 1240).
Vegetation; characteristic species: The trees collected from this locality include *Mimusops kummel* and *Syzygium guineense*, both species characteristic of lake shore forests. Associated with Afromontane forest are *Albizia schimperiana, Ficus ingens* and *Sesbania sesban* var. *nubica*. A number of larger or smaller shrubs are associated with Afromontane scrub (*Grewia ferruginea, Rhus quartiniana*). The herbs are associated with grassland in Afromontane woodland (*Sauromatum venosum*) or moist ground (*Cyperus longus, Hygrophila asteracanthoides, Lotus schoelleri*).

3.3.1937

Locality T76 – Collina a sud del villaggio di Gorgora
Locality number 76 on printed labels with this locality. Marked as T76 on Map 7.

Fig. 47. Shoreline of Lake Tana south of Gorgora. In the foreground a tanqua (reed boat). Photograph by Ib Friis, 2011.

English translation of Italian indication of locality: Hill south of the village of Gorgora.
Variant indication of locality:
Collina sud del villaggio di Gorgora (n. 1392).
Colline a sud del villaggio di Gorgora (n. 354, n. 355, n. 615, n. 1183, n. 1187, n. 1629, n. 1675, n. 1719, n. 1725, n. 1941, n. 2374).
Georeferencing: A hilly promontory south of Gorgora with several hills, the highest at ca. 1,840 m., is at 12.234635° N, 37.300605° E.
Collections cited in Pichi Sermolli (1951):
Acacia seyal Del. (m. 1,900; n. 2233).
Albizia malacophylla (A. Rich.) Walp. (m. 1,950; n. 1187).
Aloe sp. cfr. A. abyssinica* (m. 1,900; n. 2021).
Bulbostylis densa (Wall.) Hand.-Mazz. subsp. *afromontana* (Lye) R. Haines (m. 1,900; n. 1980).
Cissus petiolata Hook. f. (m. 1,900; n. 435).
Combretum molle G. Don (m. 1,900; n. 733, n. 743).
Cordia africana Lam. (m. 1,900; n. 1266).
Cyphostemma adenocaule (A. Rich.) Wild & Drummond (m. 1,900; n. 430).
Dichrostachys cinerea (L.) Wight & Arn. (m. 1,900; n. 544).
Drimia altissima (L. f.) Ker-Gawl. (m. 1,900; n. 1756).
Erythrina abyssinica DC. (m. 1,900; n. 520).

Ficus glumosa Del. (m. 1,900; n. 1725, n. 2374).
Ficus ingens (Miq.) Miq. (m. 1,900; n. 1719).
Ficus thonningii Bl. (m. 1,900; n. 1675).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,900; n. 839).
Grewia ferruginea A. Rich. (m. 1,900; n. 271, n. 282).
Heteromorpha arborescens (Spreng.) Cham. & Schltdl. var. *abyssinica* (A. Rich.) Wolff (m. 1,900; n. 703).
Hymenodictyon floribundum (Hochst. & Steud.) Robinson (m. 1,900; n. 745).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 1,900; n. 87).
Hyparrhenia sp. cfr. H. gazensis* (m. 1,900; n. 315, n. 323).
Hyparrhenia rufa (Nees) Stapf (m. 1,900; n. 72).
Hyparrhenia variabilis Stapf (m. 1,900; n. 111).
Lannea schimperi (A. Rich.) Engl. (No altitude; n. 474).
Leonotis ocymifolia (Burm. f.) Iwarsson var. *raineriana* (Vis.) Iwarsson (m. 1,900; n. 1392).
Loudetia arundinacea (A. Rich.) Steud. (m. 1,900; n. 1938; m. 1,900; n. 1941).
Maytenus senegalensis (Lam.) Exell (m. 1,900; n. 2298).
Maytenus serrata (A. Rich.) Wilczek (m. 1,900; n. 389).
Mimusops kummel A. DC. (m. 1,900; n. 1091).
Osyris quadripartita Decn. (m. 1,900; n. 1629).
Otostegia fruticosa (Forssk.) Schweinf. (m. 1,900; n. 1400).
Piliostigma thonningii (Schumach.) Milne-Redh. (m. 1,900; n. 615).
Rhoicissus tridentata (L. f.) Wild & Drummond (m. 1,900; n. 429).
Schrebera alata (Hochst.) Welw. (m. 1,900; n. 1183).
Senna singueana (Del.) Lock (m. 1,900; n. 558).
Solanum anguivi Lam. (m. 1,900; n. 2568, n. 2569).
Steganotaenia araliacea A. Rich. (m. 1,900; n. 684).
Tapinanthus heteromorphus (A. Rich.) Danser (m. 1,900; n. 2492 (FT, holotype of *Loranthus scasellatii* Chiov. var. *glabrescens* Balle in Pic. Serm.).
Terminalia schimperiana Hochst. (m. 1,900; n. 723).
Vernonia cylindrica Walp. (m. 1,900; n. 2438).
Ximenia americana L. (m. 1,900; n. 354, n. 355).
Ziziphus abyssinica A. Rich. (m. 1,900; n. 420).

Fern collections in FI-PS:
Cheilanthes erythraea Pich. Serm. (No alt.; n. 1973, FI-PS 11484)[47]
Pellaea viridis (Forssk.) Prantl (No alt.; n. 1810, FI-PS 10635).
Arthropteris monocarpa (Cordem.) C. Chr. (No alt.; n. 1807, not seen, cited in Pichi Sermolli (1978: 132) as located in "FI").

Vegetation; characteristic species: A number of large shrubs or trees collected from this locality are associated with *Combretum-Terminalia* woodland (*Acacia seyal, Albizia malacophylla, Combretum molle, Erythrina abyssinica, Ficus glumosa, Ficus ingens, Gar-*

47 *Cheilanthes erythraea* Pich. Serm. (Pichi Sermolli 1973: 420 & 422) is a narrowly distributed species described on two collections from Eritrea; the species is restricted to Eritrea and northern Ethiopia. For the account of the species in the *Flora of Ethiopia and Eritrea*, Friis (2009: 63-64) saw two specimens from the Semien Mountains in northern Ethiopia (Chiovenda 849, 3044) and mentioned two considerably smaller specimens from the Lake Tana expeditions, Pichi Sermolli 1972, 1973, presumably forms from more open habitats than the locatlities in Eritrea and the Semien. Of the collections from Gorgora, only n. 1973 has been seen for this stydy.

Fig. 48. Shoreline with dry vegetation just south of Gorgora. Photograph by Ib Friis, 2015.

denia ternifolia subsp. *jovis-tonantis, Heteromorpha arborescens* var. *abyssinica, Hymenodictyon floribundum, Lannea schimperi, Maytenus senegalensis, Piliostigma thonningii, Steganotaenia araliacea, Terminalia schimperiana, Ximenia americana, Ziziphus abyssinica*). *Cordia africana* occurs both in woodland and forest; *Ficus thonningii* mainly in forest. *Mimusops kummel* is characteristic of lake shore forest. Some species are associated with Afromontane secondary scrub (*Dichrostachys cinerea, Grewia ferruginea, Leonotis ocymifolia* var. *raineriana, Maytenus serrata, Osyris quadripartite, Otostegia fruticosa, Schrebera alata, Senna singueana*).

Photographic documentation: Pichi Sermolli's photographs taken on this date show low hills with woodland and wooded grassland, one with view over Lake Tana.[48] On the same date, two photographs were taken in *Acacia* wooded grassland near the church of Debra Sina Mariam at the lake shore.[49]

48 See archival font Dainelli (501), images 841, 842, 843, 844, in the *Archivio fotografico* of the *Società geografica italiana*.

49 See archival font Dainelli (501), images 845, 846, in the *Archivio fotografico* of the *Società geografica italiana*.

4.3.1937

Excursions from Gorgora.

Locality T77 – Alla base di Zefen tarara (ovest di Gorgora)
Locality number 77 on printed labels with this locality. Marked as T77 on Map 7.
English translation of Italian indication of locality: At the base of Zefen tarara (Zefen hill) to the west of Gorgora.
Variant indication of locality:
Alla base delle colline di Zefen tarara (ovest di Gorgora) (n. 551, n. 559, n. 2109).
Alla base delle Zefen tarara (colline ad ovest di Gorgora) (n. 443).
Alla base di Zefen tarara (ovest di Quonzela [error for Gorgora]) (n. 964).
Alla base delle Zefen tarara (ovest di Gorgora) (n. 353, n. 697, n. 704, n. 740, n. 1394, n. 1878, n. 2086, n. 2170, n. 2238, n. 2473).
Alla base di Zefen tarara (Gorgora) (n. 829).
Georeferencing: The word "tarara" is Amharic for "hill." The name "Zefen" has not been seen on any map, but undoubtedly this locality is at the base of the E slope of the ca. 2,010 m. high hill(s) west of the town of Gorgora. The year after Pichi Sermolli's visit, a tall and massive, still standing monument for the Italian occupation of Gondar and Lake Tana was erected on the highest point of these hills, which – as noted by Pichi Sermolli - was named "Vetta Mussolini" [or "Cima Mussolini"], the Mussolini peak. Locally in Gorgora, the monument on top of the Zefen tarara was still in 2016 referred to as "Hawelti Mussolini", "Mussolini's stele." From the altitude indicated, the locality is approximately at 12.240659° N, 37.282768° E.
Collections cited in Pichi Sermolli (1951):
Acacia seyal Del. (m. 1,850; n. 2238).
Acanthus polystachius Del. (m. 1,850; n. 2109).
Chloris gayana Kunth (m. 1,850; n. 1878).
Combretum collinum Fresen. (m. 1,950; n. 740).
Dichrostachys cinerea (L.) Wight & Arn. (m. 1,850; n. 551).
Diplolophium africanum Turcz. (m. 1,850; n. 697).
Echinops giganteus A. Rich. (m. 1,850; n. 2170).
Erythrina abyssinica DC. (m. 1,950; n. 521).
Ferula communis L. (m. 1,850; n. 690).
Ficus sycomorus L. (m. 1,850; n. 2397).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,850; n. 829).
Gnidia involucrata A. Rich. (m. 1,850; n. 1537).
Heteromorpha arborescens (Spreng.) Cham. & Schltdl. var. *abyssinica* (A. Rich.) Wolff (m. 1,850; n. 704).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 1,850; n. 91).
Hyparrhenia gazensis (Rendle) Stapf forma* (m. 1,850; n. 313).
Hyparrhenia rufa (Nees) Stapf (m. 1,850; n. 75).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,850; n. 1165).
Laggera crassifolia (A. Rich.) Oliv. & Hiern (m. 1,950; n. 926).
Lannea schimperi (A. Rich.) Engl. (m. 1,850; n. 485).
Leonotis ocymifolia (Burm. f.) Iwarsson var. *raineriana* (Vis.) Iwarsson (m. 1,950; n. 1394).
Maytenus senegalensis (Lam.) Exell (m. 1,900; n. 2292).
Ocimum trichodon Gürke (m. 1,950; n. 2473).
Rhus vulgaris Meikle (m. 1,850; n. 443).

Rhynchosia resinosa (A. Rich.) Bak. (m. 1,950; n. 638).
Senna singueana (Del.) Lock (m. 1,850; n. 559).
Sopubia ramosa (Hochst.) Hochst. (m. 1,850; n. 2086).
Stereospermum kunthianum Cham. (m. 1,850; n. 1383).
Vernonia adoensis Walp. (m. 1,850; n. 964).
Vernonia cylindrica Walp. (m. 1,850; n. 2439).
Ximenia americana L. (m. 1,850; n. 353).
Vegetation; characteristic species: A number of large shrubs or trees collected from this locality are associated with *Combretum-Terminalia* woodland (*Acacia seyal, Combretum collinum, Erythrina abyssinica, Gardenia ternifolia* subsp. *jovis-tonantis, Heteromorpha arborescens* var. *abyssinica, Lannea schimperi, Maytenus senegalensis, Stereospermum kunthianum, Ximenia americana*). Some species are associated with Afromontane secondary scrub (*Acanthus polystachius, Dichrostachys cinerea, Leonotis ocymifolia* var. *raineriana, Rhus vulgaris, Senna singueana*).
Photographic documentation: Pichi Sermolli took a number of photographs of the woodland, wooded grassland and bushland on the hills of the Zefen tarara to the west of Gorgora.[50]

Locality T78 – Versante orientale di Zefen tarara (ovest di Gorgora)
Locality number 78 on printed labels with this locality. Marked as T78 on Map 7.
English translation of Italian indication of locality: Eastern slope of the Zefen tarara (Zefen hill) to the west of Gorgora.
Variant indication of locality:
Versante orientale di Zefen tarara (colline a ovest di Gorgora) (n. 596).
Versante orientale delle Zefen tarara (ovest di Gorgora) (n. 686, n. 705, n. 2241).
Versante orientale di Zefen tarara (colline ad ovest di Gorgora) (n. 401, n. 468, n. 483, n. 552, n. 716, n. 727, n. 739, n. 803, n. 1465, n. 1628, n. 2073, n. 2257, n. 2291).
Georeferencing: See locality number 77, approximately at 12.237210° N, 37.280832° E.
Collections cited in Pichi Sermolli (1951):
Acacia bavazzanoi Pic. Serm. (m. 1,950; n. 2257).
Acacia seyal Del. (m. 1,950; n. 2234?, n. 2241).
Acacia venosa Benth. (m. 1,950; n. 596).
Capparis tomentosa Lam. (m. 1,950; n. 165).
Combretum molle G. Don (m. 1,950; n. 727).
Combretum rochetianum A. Juss. (m. 1,950; n. 739).
Datura stramonium L. (m. 1,950; n. 1302).
Dichrostachys cinerea (L.) Wight & Arn. (m. 1,950; n. 552).
Dregea schimperi (Decne.) Bullock (m. 1,950; n. 1241).
Ferula communis L. (m. 1,950; n. 688).
Heteromorpha arborescens (Spreng.) Cham. & Schltdl. var. *abyssinica* (A. Rich.) Wolff (m. 1,950; n. 705).
Hymenodictyon floribundum (Hochst. & Steud.) Robinson (m. 1,950; n. 746).
Hyparrhenia cymbaria (L.) Stapf (m. 1,950; n. 90).
Hyparrhenia sp.* (m. 1,950; n. 324).
Hypoestes forskaolii (Vahl) R. Br. (m. 1,950; n. 1487).
Indeterminabile* (m. 1,950; n. 2188).

50 See archival font Dainelli (501), images 847, 848, 849, 850, in the *Archivio fotografico* of the *Società geografica italiana*.

Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,950; n. 1164).
Laggera crassifolia (A. Rich.) Oliv. & Hiern (m. 1,950; n. 922).
Lannea schimperi (A. Rich.) Engl. (m. 1,950; n. 483).
Loudetia arundinacea (A. Rich.) Steud. (m. 1,950; n. 1939, n. 1940).
Maytenus senegalensis (Lam.) Exell (m. 1,950; n. 2291).
Nicandra physaloides (L.) Gaertn. (m. 1,950; n. 1304).
Osyris quadripartita Decn. (m. 1,950; n. 1628).
Ozoroa insignis Del. (m. 1,950; n. 803).
Pentas lanceolata (Forssk.) Deflers (m. 1,950; n. 750).
Plectranthus barbatus Andrews (m. 1,950; n. 1409).
Rhoicissus tridentata (L. f.) Wild & Drummond (m. 1,950; n. 2073, n. 401).
Rhus glutinosa A. Rich. (m. 1,950; n. 468).
Satureja punctata (Benth.) Briq. (m. 1,950; n. 1465).
Solanum campylacanthum A. Rich. (m. 1,950; n. 2556).
Steganotaenia araliacea A. Rich. (m. 1,950; n. 686).
Terminalia schimperiana Hochst. (m. 1,950; n. 716).
Fern collections in FI-PS:
Arthropteris monocarpa (Cordem.) C. Chr. (No alt.; n. 1806, FI-PS 10632, also cited in Pichi Sermolli (1978: 132) and also stated to be located in "FI").
Vegetation; characteristic species: A number of large shrubs or trees collected from this locality are associated with *Combretum-Terminalia* woodland (*Acacia bavazzanoi, Acacia seyal, Acacia venosa, Combretum molle, Combretum rochetianum, Heteromorpha arborescens* var. *abyssinica, Hymenodictyon floribundum, Lannea schimperi, Loudetia arundinacea, Maytenus senegalensis, Ozoroa insignis, Steganotaenia araliacea, Terminalia schimperiana*). A relatively small number of species are associated with Afromontane secondary scrub (*Capparis tomentosa, Dichrostachys cinerea, Osyris quadripartita, Rhus glutinosa*).

Locality T78 – continued – Versante meridionale di Zefen tarara (colline a ovest di Gorgora
Locality number 78 on printed labels with this locality. Marked as T78 on Map 7.
English translation of Italian indication of locality: Southern slope of the Zefen tarara (Zefen hill) to the west of Gorgora.
Georeferencing: This is the only collection from the southern slope of the tarara (hill) of Zefen; see the previous locality also numbered 78, both must be approximately at 12.237210° N, 37.280832° E.
Collections cited in Pichi Sermolli (1951):
Ficus ingens (Miq.) Miq. (m. 1,950; n. 1716).
Vegetation; characteristic species: *Ficus ingens* is, as many trees on the eastern slope of Zefen, associated with *Combretum-Terminalia* woodland.

Locality T78a – Presso la Chiesa di Debra Sina Mariam (Gorgora)
No locality number on handwritten label with this locality. Marked as T78a on Map 7.
English translation of Italian indication of locality: Near the church of Debra Sina Mariam in Gorgora.
Georeferencing: Debra Sina Mariam is a large 17th century church very close to the shore of Lake Tana at 12.242354° N, 37.301669° E.
Collections cited in Pichi Sermolli (1951):
Grewia ferruginea A. Rich. (m. 1,850; n. 293).
Ritchiea albersii Gilg (m. 1,850; n. 2336).

Fig. 49. The eastern slope of Zefen tarara near Gorgora. The vegetation is mainly evergreen bushland and grassland. The monument on the highest point is the now partly ruined *Faro della Vittoria* [lighthouse of the victory], erected the year after Pichi Sermolli studied the vegetation of the hills. Photograph by Ib Friis, 2015.

Vegetation; characteristic species: These two species are associated with DAF or IAF and secondary Afromontane scrub.

Locality T78b – Pianura presso Debra Sina Mariam (Gorgora)
No locality number on typed labels with this place name. [Marked as T78b on Map 7].
English translation of Italian indication of locality: Small plain near the church of Debra Sina Mariam in Gorgora.
Georeferencing: Same as previous, at 12.242359° N, 37.301142° E.
Collections cited in Pichi Sermolli (1951):
Acacia bavazzanoi Pic. Serm. (m. 1,850; n. 2251, n. 2252).
Acacia seyal Del. (m. 1,850; n. 602).
Vegetation; characteristic species: The two trees, *Acacia bavazzanoi* and *Acacia seyal,* are mainly associated with *Combretum-Terminalia* woodland, similar to the vegetation on the nearby eastern slope of the Zenfen hill.
Photographic documentation: Pichi Sermolli took two photographs of the woodland near the lake shore at Debra Sina.[51]

51 See archival font Dainelli (501), images 851, 852, in the *Archivio fotografico* of the *Società geografica italiana*.

No specimen from a locality number 79 has been traced.

5.3.1937

Locality T80 – Pianura di Quami presso Gorgora
Locality number 80 on printed labels with this locality. Marked as T80 on Map 7.
English translation of Italian indication of locality: Small plain of Quami near Gorgora.
Georeferencing: The place name "Quami" has not been seen on any map. Plains are most common to the north of Gorgora, and an approximate location would be at 12.242359° N, 37.301142° E.
Collections cited in Pichi Sermolli (1951):
Acacia abyssinica Benth. (m. 1,850; n. 587).
Acacia bavazzanoi Pic. Serm. (m. 1,850; n. 2253 (FT, holotype of *Acacia bavazzanoi* Pic. Serm.), n. 2254, n. 2255).
Capparis tomentosa Lam. (m. 1,850; n. 164).
Ethulia conyzoides L. f. (m. 1,850; n. 946).
Ficus thonningii Bl. (m. 1,850; n. 1665).
Grewia ferruginea A. Rich. (m. 1,850; n. 270).
Hygrophila schulli (Hamilt.) M.R. & S.M. Almeida (m. 1,850; n. 1360).
Ipomoea cairica (L.) Sweet (m. 1,850; n. 1313).
Maytenus serrata (A. Rich.) Wilczek (m. 1,850; n. 375).
Rhus pyroides Burch. var. gracilis (Engl.) Burtt Davy* (m. 1,850; n. 2338).
Setaria incrassata (Hochst.) Hack. (m. 1,850; n. 310).
Vegetation; characteristic species: The trees or larger shrubs from this locality are associated with *Combretum-Terminalia* woodland (*Acacia abyssinica, Acacia bavazzanoi*), or associated with Afromontane secondary scrub (*Capparis tomentosa, Grewia ferruginea, Maytenus serrata*). *Ficus thonningii* is mainly a forest tree, but may occur in other vegetation types; it is not certain what the identification *Rhus pyroides* var. *gracilis* stands for. *Hygrophila schulli* indicates presence of moist grassland, almost certainly near the lake.
Photographic documentation: Pichi Sermolli's photographs from the location Quami, a name not seen elsewhere, show large specimens of *Acacia abyssinica* and other species of *Acacia* in grassland that went right down to the lake shore. [52]

Locality T81 – Pianura presso Debra Sina Mariam alle base di Zefen tarara (Gorgora)
Locality number 81 on printed labels with this locality. Marked as T81 on Map 7.
English translation of Italian indication of locality: Small plain near the church of Debra Sina Mariam at the base of the Zefen hill, near Gorgora.
Georeferencing: As locality 78, approximately at 12.241955 N, 37.290836 E. The area west of the church of Debra Sina Mariam, towards the hills, is now built up as part of the town of Gorgora.
Collections cited in Pichi Sermolli (1951):
Aloe sp. cfr. A. abyssinica* (m. 1,850; n. 2022).

52 See archival font Dainelli (501), images 856, 857, 858, 859, 860, 861, in the *Archivio fotografico* of the *Società geografica italiana*.

Vegetation; characteristic species: It is not certain in which habitat this species was found.

Locality T81 – continued – Pianura presso Debra Sina Mariam (Gorgora)
No locality number on typed labels seen with this place name; variants are derived from Pichi Sermolli (1951). [Marked as T81 on Map 7].
English translation of Italian indication of locality: Small plain near the church of Debra Sina Mariam in Gorgora.
Variant indication of locality:
Pianura presso Debra Sina Mariam (n. 1875).
Pianura presso Gorgora (n. 1708).
Georeferencing: At the church of Debra Sina Mariam close to the shore of Lake Tana at 12.242359° N, 37.301142° E.
Collections cited in Pichi Sermolli (1951):
Acacia seyal Del. (No altitude; n. 603).
Carissa spinarum L. (m. 1,850; n. 1207).
Chloris gayana Kunth (m. 1,850; n. 1875).
Ficus vasta Forssk. (m. 1,850; n. 1708).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,850; n. 828).
Gomphocarpus abyssinicus Decne. (m. 1,850; n. 1245).
Hyparrhenia (?) umbrosa* (m. 1,850; n. 104).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 1,850; n. 88).
Hyparrhenia rufa (Nees) Stapf (m. 1,850; n. 76).
Lannea schimperi (A. Rich.) Engl. (m. 1,850; n. 482).
Ocimum trichodon Gürke (m. 1,850; n. 2472).
Senna singueana (Del.) Lock (m. 1,850; n. 556, n. 557, n. 571).
Setaria (?) incrassata* (m. 1,850; n. 42).
Terminalia schimperiana Hochst. (m. 1,850; n. 713).
Ximenia americana L. (m. 1,850; n. 350).
Ziziphus abyssinica A. Rich. (m. 1,850; n. 419).
Vegetation; characteristic species: Most of the large shrubs or trees collected from this locality are associated with *Combretum-Terminalia* woodland (*Acacia seyal, Ficus vasta, Gardenia ternifolia* subsp. *jovis-tonantis, Lannea schimperi, Terminalia schimperiana, Ximenia americana, Ziziphus abyssinica*). A smaller number of species are associated with Afromontane secondary scrub (*Carissa spinarum, Senna singueana*).

Locality T82 – Versante orientale di Zefen tarara (colline ad ovest di Gorgora)
Locality number 82 on printed labels with this locality. Marked as T82 on Map 7.
English translation of Italian indication of locality: Eastern slope of the Zefen tarara (Zefen hill) west of Gorgora.
Variant indication of locality:
Versante orientale delle Zefen tarara (colline a ovest di Gorgora) (n. 2376).
Versante orientale di Zefen tarara (ovest di Gorgora) (n. 469, n. 1770, n. 2386, n. 2491).
Georeferencing: As locality 78, approximately at 12.237210° N, 37.280832° E.
Collections cited in Pichi Sermolli (1951):
Dioscorea quartiniana A. Rich. (m. 1,950; n. 1770).
Ficus glumosa Del. (m. 1,950; n. 1726, n. 2376).
Ficus ovata Vahl (m. 1,950; n. 2386).
Gnidia involucrata A. Rich. (m. 1,950; n. 1536).

Maytenus serrata (A. Rich.) Wilczek (m. 1,950; n. 382).
Rhus sp.[3]* (m. 1,950; n. 469).
Tapinanthus globiferus (A. Rich.) Tiegh. (m. 1,950; n. 2491).
Vegetation; characteristic species: These collections supplement what was found on the almost identical locality number 78 on 4.3.1937. *Ficus glumosa* is mainly associated with *Combretum-Terminalia* woodland, *Ficus ovata* with forest, and *Maytenus serrata* with secondary Afromontane scrub.

6.3.1937

Further excursions from Gorgora.

Locality T83 – Collina a sud del villaggio di Gorgora
Locality number 83 on printed labels with this locality. Marked as T83 on Map 7.
English translation of Italian indication of locality: Hill south of the village of Gorgora.
Variant indication of locality:
Collina sud del villaggio di Gorgora (n. 1395).
Colline a sud del villaggio di Gorgora (n. 2375).
Georeferencing: Unspecified hill or hills near the lake shore south of the town of Gorgora; approximately at 12.234635° N, 37.300605° E.
Collections cited in Pichi Sermolli (1951):
Ampelocissus schimperiana (A. Rich.) Planch. (m. 1,900; n. 439).
Asparagus racemosus Willd. (m. 1,900; n. 1764).
Bulbostylis pusilla (A. Rich.) C.B. Cl. subsp. *congolensis* (De Wild.) R. Haines (m. 1,900; n. 1981).
Ficus glumosa Del. (m. 1,900; n. 2375).
Leonotis ocymifolia (Burm. f.) Iwarsson var. *raineriana* (Vis.) Iwarsson (m. 1,900; n. 1395).
Sauromatum venosum (Ait.) Kunth (m. 1,900; n. 1750).
Tagetes erecta L. (m. 1,900; n. 1008).
Fern collections in FI-PS:
Pellaea viridis (Forssk.) Prantl (No alt.; n. 1811, FI-PS 29348).
Vegetation; characteristic species: Apart from *Ficus glumosa,* a tree mostly associated with *Combretum-Terminalia* woodland, and *Leonotis ocymifolia* var. *raineriana* with secondary Afromontane scrub, the herbs have rather unspecified association with explicit vegetation types.
Photographic documentation: Pichi Sermolli took a number of photographs from the top of the hill south of Gorgora, showing typical open woodland without species of *Acacia*.[53]

53 See archival font Dainelli (501), images 863, 864, 865, 866, in the *Archivio fotografico* of the *Società geografica italiana*.

7.3.1937

Excursion by boat or tanqua to Birghida Mariam, island in Lake Tana, and presumably to the Mendaba monastery on a peninsula nearby.

Locality T84 – Birghida Mariam (isola presso Gorgora)
Locality number 84 on printed labels with this locality. Marked as T84 on Map 7.
English translation of Italian indication of locality: Birghida Mariam, an island [in Lake Tana] near Gorgora.
Variant indication of locality:
Birghida Mariam (n. 1659).
Georeferencing: Birghida Mariam is a small island in Lake Tana south-east of Gorgora and near the peninsula on which the monastery of Mendaba is located; highest point of the island is at 1800 m. The island is named from a church on the island dedicated to St. Mary and located approximately at 12.212865° N, 37.295004° E.
Collections cited in Pichi Sermolli (1951):
Abutilon bidentatum (Hochst.) A. Rich. (m. 1,825; n. 203).
Albizia schimperiana Oliv. (m. 1,825; n. 1115).
Albuca abyssinica Jacq. (m. 1,825; n. 1754).
Aloe sp. cfr. A. eru* (m. 1,825; n. 2023).
Artemisia absinthium L. (m. 1,825; n. 2139).
Arundo donax L. (m. 1,825; n. 1946).
Capparis sepiaria L. var. *boscioides* (Pax) Kers (m. 1,825; n. 170).
Capparis tomentosa Lam. (m. 1,825; n. 163).
Celosia trigyna L. (m. 1,825; n. 1448).
Chenopodium opulifolium Koch & Ziz. (m. 1,825; n. 1578).
Cissus petiolata Hook. f. (m. 1,825; n. 436).
Commiphora schimperi (Berg) Engl. (m. 1,825; n. 344).
Cordia africana Lam. (m. 1,825; n. 1267).
Cymbopogon sp.* (m. 1,825; n. 1871).
Cynodon dactylon (L.) Pers. (m. 1,825; n. 1889, n. 1890).
Cyperus digitatus Roxb. subsp. *auricomus* (Spreng.) Kük. (m. 1,825; n. 1984).
Cyperus papyrus L. (m. 1,825; n. 1955).
Cyphostemma adenocaule (A. Rich.) Wild & Drummond (m. 1,825; n. 431).
Dicliptera verticillata (Forssk.) C. Chr. (m. 1,825; n. 1491).
Dioscorea schimperiana Kunth (m. 1,825; n. 1773).
Diospyros abyssinica (Hiern) F. White (m. 1,825; n. 1128, n. 1132).
Echinochloa (?) pyramidalis* (m. 1,825; n. 334).
Euclea racemosa Murray subsp. *schimperi* (A. DC.) F. White (m. 1,825; n. 1137, n. 1138).
Euphorbia abyssinica Gmel. (m. 1,825; n. 1659).
Ficus ingens (Miq.) Miq. (m. 1,825; n. 1721).
Ficus thonningii Bl. (m. 1,825; n. 1667, n. 2408).
Ficus vasta Forssk. (m. 1,825; n. 1704).
Gossypium hirsutum L. (m. 1,825; n. 205, n. 206).
Helinus mystacinus (Ait.) Steud. (m. 1,825; n. 411).
Hymenodictyon floribundum (Hochst. & Steud.) Robinson (m. 1,825; n. 744).
Hyparrhenia (?) umbrosa* (m. 1,825; n. 106).
Hyparrhenia sp.* (m. 1,825; n. 107).
Ipomoea cairica (L.) Sweet (m. 1,825; n. 1310; n. 1314).
Kanahia laniflora (Forssk.) R. Br. (m. 1,825; n. 1251).

Lannea schimperi (A. Rich.) Engl. (m. 1,825; n. 473).
Loudetia arundinacea (A. Rich.) Steud. (m. 1,825; n. 1937).
Melinis ambigua Hack. (m. 1,825; n. 306).
Mimusops kummel A. DC. (m. 1,825; n. 1093).
Ocimum urticifolium Roth (m. 1,825; n. 2482).
Olea europaea L. subsp. *cuspidata* (G. Don) Cif. (m. 1,825; n. 1178).
Pennisetum petiolare (Hochst.) Chiov. (m. 1,825; n. 38).
Persicaria setosula (A. Rich.) K. Wilson (m. 1,820; n. 1545).
Plumbago zeylanica L. (m. 1,825; n. 2082).
Polystachya steudneri Rchb. f. (m. 1,825; n. 2533).
Ritchiea albersii Gilg (m. 1,825; n. 2332, n. 2333).
Sauromatum venosum (Ait.) Kunth (m. 1,825; n. 1749).
Steganotaenia araliacea A. Rich. (m. 1,825; n. 679).
Tacazzea venosa Decne. (m. 1,825; n. 1239).
Teclea nobilis Del. (m. 1,825; n. 249).
Vernonia unionis Walp. (m. 1,825; n. 2180).
Vegetation; characteristic species: Most of the large shrubs or trees collected from this locality are associated with Afromontane forest (*Albizia schimperiana, Diospyros abyssinica, Ficus ingens, Ficus thonningii, Olea europaea* subsp. *cuspidata, Ritchiea albersii, Teclea nobilis*). *Mimusops kummel* is a characteristic component in the forest on lake shores, in which there is also *Kanahia laniflora*. Fewer are associated with *Combretum-Terminalia* woodland (*Ficus vasta, Lannea schimperi, Steganotaenia araliacea*).
Photographic documentation: Pichi Sermolli's photographs from Birghida Mariam show papyrus swamp, woody vegetation and buildings belonging to the church and monastery on the island.[54]

Locality T85 – Presso la Chiesa di Medina Alem (Gorgora)
Locality number 85 on printed labels with this locality. Marked as T85 on Map 7.
English translation of Italian indication of locality: Near the church of Medhane Alem, near Gorgora.
Georeferencing: Almost certainly the church here named "Medina Alem" is a church which is part of the monastery of Mendaba on a peninsula south of Gorgora; that church is named Medhane Alem, and it would have been natural for Pichi Sermolli to visit this locality in connection with a visit to the island of Birghida Mariam; the location of the church of Medhane Alem is at ca. 1,800 m. and approximately at 12.201010° N, 37.278524° E.
Collections cited in Pichi Sermolli (1951):
Plumbago zeylanica L. (m. 1,825; n. 2081).
Sauromatum venosum (Ait.) Kunth (m. 1,825; n. 1747).
Vegetation; characteristic species: These two collections are not sufficient to indicate the vegetation around the church and monastery of Medhane Alem, which, in the absence of the usual grove of trees around ecclesiastical buildings, is likely to be secondary Afromontane scrub.

54 See archival font Dainelli (501), images 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, in the *Archivio fotografico* of the *Società geografica italiana*.

9.3.1937

Base camp moving to Ifag near the north-eastern point of Lake Tana, passing the small village of Guramba on the way.

Locality T85a – Presso Guramba nelle vicinanze di una Chiesa Copta
No locality number on labels with this locality. Marked as T85a on Map 3.
English translation of Italian indication of locality: Near Guramba in the neighbourhood of a coptic church.
Variant indication of locality:
Presso Curamba nelle vicinanze di una Chiesa Copta (n. 1114).
Presso Guramba nelle vicinanze di una Chiesa (n. 805).
Georeferencing: Guramba is a market town north-east of Gorgora near "torrente Meagasc" on the map in Pichi Sermolli (1951: at title page). The map by Demelie Arega (no year) indicates several churches at or near Guramba, even one called Guramba Bet ["The house of Guramba"]. The church referred to here is most likely Guramba Michael, which is at 12.376553° N, 37.359685° E.
Collections cited in Pichi Sermolli (1951):
Albizia schimperiana Oliv. (m. 1,850; n. 1114).
Arundo donax L. (m. 1,850; n. 1950).
Eucalyptus tereticornis Smith (m. 1,850; n. 805).
Merremia pterygocaulos (Choisy) Hall. f. (m. 1,850; n. 1337).
Mimusops kummel A. DC. (m. 1,850; n. 1092).
Nelsonia canescens (Lam.) Spreng. (m. 1,850; n. 1356).
Vegetation; characteristic species: The trees collected from this locality (*Albizia schimperiana, Eucalyptus tereticornis, Mimusops kummel*) suggest a mixed grove around the church, including two indigenous forest species (perhaps IAF) and one introduced species of *Eucalyptus*.

Base camp moved to Ifag.

Specimens from a locality no. "86" have not been traced.

Locality T87 & 88 – Presso Ifag
Locality number 87, 88 on printed labels with this locality; locality name also on typed labels without locality number. These labels are found on a few collections which seem to have been made on 9.3., more were made on 10.3. with locality number 87, 88. Marked as T87 & 88 on Maps 3 & 8.
English translation of Italian indication of locality: Near the village [or small town] of Ifag.
Georeferencing: Ifag is at ca. 1,850 m., at 12.086855° N, 37.731135° E.
Collections cited in Pichi Sermolli (1951):
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,880; n. 827).
Tapinanthus globiferus (A. Rich.) Tiegh. (m. 1,880; n. 1597).
Vegetation; characteristic species: The only tree collected from this locality, *Gardenia ternifolia* subsp. *jovis-tonantis*, suggests that the vegetation could be woodland.

10.3.1937

Locality T87 & 88 – continued – Presso Ifag

Locality number 87, 88 on printed labels with this locality; locality name also on typed labels without locality number. A few collections seem to have been made on 9.3., more were made with this locality name and number on 10.3. Marked as T87 & 88 on Maps 3 & 8.

English translation of Italian indication of locality: Near the village [or small town] of Ifag.

Georeferencing: Ifag is at ca. 1,850 m., at 12.086855° N, 37.731135° E.

Collections cited in Pichi Sermolli (1951):

Acacia sieberiana DC. var. *woodii* (Burtt Davy) Keay & Brenan (m. 1,880; n. 583).
Cardiospermum halicacabum L. (m. 1,880; n. 500).
Ficus palmata Forssk. (m. 1,880; n. 1731).
Grewia ferruginea A. Rich. (m. 1,880; n. 269).
Helinus mystacinus (Ait.) Steud. (m. 1,880; n. 410).
Hypoestes triflora (Forssk.) Roem. & Schult. (m. 1,880; n. 2097 (FT, holotype of *Hypoestes busii* Pic. Serm.)).
Ipomoea cairica (L.) Sweet (m. 1,880; n. 1315).
Maytenus serrata (A. Rich.) Wilczek (m. 1,880; n. 2052, n. 388).
Phoenix reclinata Jacq. (m. 1,880; n. 2002).
Phyllanthus ovalifolius Forssk. (m. 1,880; n. 2448).
Pterolobium stellatum (Forssk.) Brenan (m. 1,880; n. 641, n. 644).
Rubus apetalus Poir. (m. 1,880; n. 667("10.2" must be an error for "10.3.")).
Senna petersiana (Bolle) Lock (m. 1,880; n. 2226).
Solanum campylacanthum A. Rich. (m. 1,880; n. 2557).
Tapinanthus globiferus (A. Rich.) Tiegh. (m. 1,880; n. 1596).
Tragia mitis Muell. Arg. (m. 1,880; n. 1688).

Vegetation; characteristic species: The larger shrubs and trees collected from this locality show association mainly with secondary Afromontane scrub (*Ficus palmata, Grewia ferruginea, Helinus mystacinus, Maytenus serrata, Pterolobium stellatum, Senna petersiana*). Associated with woodland is only *Acacia sieberiana* var. *woodii*; no species is associated with forest.

Photographic documentation: Pichi Sermolli's photographs from this area show a small stream, from where villagers collected water, and that *Phoenix reclinata* was common in the area where the mission had its camp.[55] Another photograph from this area shows a plant, *Cardiospermum halicacabum,* which was also collected as n. 500 and the specimens subsequently identified.[56]

Locality T89 – M.[onte] Abba Bailu (Regione di Ciucia-Ifag)

Locality number 89 on printed labels with this locality; locality name also occurs on typed labels with no locality number. Marked as T89 on Maps 3 & 8.

English translation of Italian indication of locality: Mt. Abba Bailu in the area of Ciucia-Ifag.

Variant indication of locality:

M.[onte] Abba Bailu (Ifag) (n. 1882).

55 See archival font Dainelli (501), images 910, 911, 912, 913, 914, 915, in the *Archivio fotografico* of the *Società geografica italiana*.

56 See archival font Dainelli (501), image 916, in the *Archivio fotografico* of the *Società geografica italiana*.

Georeferencing: The place names "Abba Bailu" or "Ciucia" have not been seen on any map. Unnamed hills ca. 3 km. NW of Ifag have heights that exceed 2,000 m. and are still well covered by vegetation; they are localised at approximately 12.094021° N, 37.708924° E.

Collections cited in Pichi Sermolli (1951):

Albizia malacophylla (A. Rich.) Walp. (m. 2,000; n. 1188, n. 1192).
Brachiaria brizantha (A. Rich.) Stapf (m. 2,000; n. 45).
Capparis tomentosa Lam. (m. 2,000; n. 162).
Cissus petiolata Hook. f. (m. 2,000; n. 433).
Clematis hirsuta Guill. & Perr. (m. 2,000; n. 2363).
Coleochloa abyssinica (A. Rich.) Gilly (m. 2,000; n. 1968, n. 1969).
Combretum molle G. Don (m. 2,000; n. 735).
Cynodon dactylon (L.) Pers. (m. 1,900; n. 1882).
Cyperus fischerianus A. Rich. (m. 2,000; n. 1964).
Diospyros abyssinica (Hiern) F. White (m. 2,000; n. 1127, n. 1133, n. 1135).
Dolichos oliveri Schweinf. (m. 2,000; n. 510).
Dyschoriste multicaulis (A. Rich.) O. Kuntze (m. 2,000; n. 1353).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 2,000; n. 830).
Gnidia involucrata A. Rich. (m. 2,000; n. 1538).
Grewia ferruginea A. Rich. (m. 2,000; n. 278).
Helinus mystacinus (Ait.) Steud. (m. 2,000; n. 412).
Heracleum abyssinicum (Boiss.) Norman (m. 2,000; n. 2219).
Heteromorpha arborescens (Spreng.) Cham. & Schltdl. var. *abyssinica* (A. Rich.) Wolff (m. 2,000; n. 699).
Hibiscus ludwigii Eckl. & Zeyh. (m. 2,000; n. 200).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 2,000; n. 89).
Hyparrhenia cymbaria (L.) Stapf (m. 2,000; n. 108, n. 110, n. 113).
Indeterminabile* (m. 2,000; n. 2045, n. 2063).
Justicia schimperiana (Nees) T. Anders. (m. 2,000; n. 1500).
Laggera alata (D. Don) Oliv. (m. 2,000; n. 921).
Leonotis ocymifolia (Burm. f.) Iwarsson var. *raineriana* (Vis.) Iwarsson (m. 2,000; n. 1393).
Maytenus serrata (A. Rich.) Wilczek (m. 2,000; n. 376).
Nuxia congesta Fresen. (m. 2,000; n. 1226).
Ochrocephala imatongensis (Philipson) Dittrich (m. 2,000; n. 2411).
Ocimum trichodon Gürke (m. 2,000; n. 2471).
Otostegia fruticosa (Forssk.) Schweinf. (m. 2,000; n. 2096).
Panicum maximum Jacq. (m. 2,000; n. 59).
Pennisetum unisetum (Nees) Benth. (m. 2,000; n. 40).
Pentas lanceolata (Forssk.) Deflers (m. 2,000; n. 748).
Phoenix reclinata Jacq. (m. 2,000; n. 2001).
Pseudarthria (?) confertiflora* (m. 2,000; n. 2524).
Rhoicissus tridentata (L. f.) Wild & Drummond (m. 2,000; n. 394).
Rhynchosia resinosa (A. Rich.) Bak. (m. 2,000; n. 636).
Ricinus communis L. (m. 2,000; n. 1699).
Ritchiea albersii Gilg (m. 2,000; n. 2327).
Satureja punctata (Benth.) Briq. (m. 2,000; n. 1457).
Schrebera alata (Hochst.) Welw. (m. 2,000; n. 1184).
Senna petersiana (Bolle) Lock (m. 2,000; n. 2227).

Solanum campylacanthum A. Rich. (m. 2,000; n. 2558).
Stephania abyssinica (A. Rich.) Walp. (m. 2,000; n. 129).
Vernonia cylindrica Walp. (m. 2,000; n. 2446).
Vernonia sp.* (m. 2,000; n. 903).
Vegetation; characteristic species: The larger shrubs and trees collected from this locality show association with secondary Afromontane scrub (*Ficus palmata, Grewia ferruginea, Helinus mystacinus, Maytenus serrata, Pterolobium stellatum, Senna petersiana*) or with *Combretum-Terminalia* woodland (*Albizia malacophylla, Combretum molle*).
Photographic documentation: Pichi Sermolli took a number of photographs from Monta Abba Bailu, showing riverine forest, bushland and grassland.[57]

11.3.1937

Locality T90 – Pianura a nord-est di Ifag
Locality number 90 on printed labels with this locality; locality name also on typed labels with no locality number. Marked as T90 on Maps 3 & 8.
English translation of Italian indication of locality: Small plain north-east of [the village or small town of] Ifag.
Georeferencing: A plain northeast of Ifag is extended around this point at 12.088382° N, 37.729919° E.
Collections cited in Pichi Sermolli (1951):
Acacia abyssinica Benth. (m. 1,880; n. 591).
Acacia bavazzanoi Pic. Serm. (m. 1,880; n. 2245).
Acacia lahai Benth. (m. 1,880; n. 607).
Acacia sieberiana DC. var. *woodii* (Burtt Davy) Keay & Brenan (m. 1,880; n. 584).
Acacia seyal Del. (m. 1,850; n. 604).
Acacia venosa Benth. (m. 1,880; n. 600).
Alysicarpus ferrugineus A. Rich. (m. 1,880; n. 526).
Asparagus africanus Lam. (m. 1,880; n. 1768).
Carissa spinarum L. (m. 1,880; n. 1201, n. 1208).
Carthamus lanatus L. (m. 1,880; n. 855).
Centella asiatica (L.) Urban (m. 1,880; n. 708).
Chloris gayana Kunth (m. 1,880; n. 1876).
Conyza pyrrhopappa A. Rich. (m. 1,880; n. 872, n. 873).
Cordia africana Lam. (m. 1,880; n. 1268).
Croton macrostachyus Del. (No altitude; n. 1652).
Cynodon dactylon (L.) Pers. (m. 1,880; n. 1885).
Drimia indica (Roxb.) Jessop (m. 1,880; n. 2007).
Echinops longifolius A. Rich. (m. 1,880; n. 853).
Helinus mystacinus (Ait.) Steud. (m. 1,880; n. 413).
Hibiscus panduriformis Burm. f. (m. 1,880; n. 217).
Hygrophila schulli (Hamilt.) M.R. & S.M. Almeida (m. 1,880; n. 1359).
Hyparrhenia rufa x umbrosa[2]* (m. 1,880; n. 321).
Kalanchoe lanceolata (Forssk.) Pers. (m. 1,880; n. 790).
Lactuca inermis Forssk. (m. 1,880; n. 2151).

57 See archival font Dainelli (501), images 887, 888, 889, 890, 891, 892, 893, in the *Archivio fotografico* of the *Società geografica italiana*.

Launaea rueppellii (Oliv. & Hiern) Boulos (m. 1,880; n. 1055).
Maytenus serrata (A. Rich.) Wilczek (m. 1,880; n. 380).
Ocimum urticifolium Roth (m. 1,880; n. 2481).
Premna schimperi Engl. (m. 1,880; n. 2046).
Rhus quartiniana A. Rich. (m. 1,880; n. 2343).
Rhus vulgaris Meikle (m. 1,880; n. 442).
Salix subserrata Willd. (m. 1,880; n. 1741).
Senna petersiana (Bolle) Lock (m. 1,880; n. 2225).
Solanum campylacanthum A. Rich. (m. 1,880; n. 2566).
Syzygium guineense (Willd.) DC. (m. 1,880; n. 809).
Tragia mitis Muell. Arg. (m. 1,880; n. 1687).
Vernonia thomsoniana Oliv. (m. 1,880; n. 2417).
Ximenia americana L. (m. 1,880; n. 351, n. 352).
Vegetation; characteristic species: Some of the larger shrubs and trees collected from this locality show association with *Combretum-Terminalia* woodland (*Acacia sieberiana* var. *woodii*, *Acacia seyal, Acacia venosa*), other woody species show association with secondary Afromontane scrub (*Carissa spinarum, Helinus mystacinus, Maytenus serrata*, *Ocimum urticifolium, Premna schimperi, Rhus quartiniana, Senna petersiana*). A number of herbaceous species are associated with Afromontane grassland. *Salix subserrata* is associated with riparian vegetation. *Syzygium guineense* is associated with forest on lake shores and *Hygrophila schulli* is associated with moist ground near lake shores.
Photographic documentation: Pichi Sermolli took a number of photographs from this area showing wooded grassland with *Acacia lahai.*[58]

Locality T91 – Pianura a nord-ovest di Ifag
Locality number 91 on printed labels with this locality. Marked as T91 on Maps 3 & 8.
English translation of Italian indication of locality: Small plain north-west of [the village or small town of] Ifag.
Georeferencing: As locality number 90, approximately at 12.088382° N, 37.729919° E.
Collections cited in Pichi Sermolli (1951):
Tapinanthus globiferus (A. Rich.) Tiegh. (m. 1880; n. 1598).
Vegetation; characteristic species: The only collection from this locality is an epiphytic and parasitic species of the Loranthaceae; the tree it was growing on is not mentioned.
Photographic documentation: A photo by Pichi Sermolli said to be taken on 13.3.1937 on a locality near Ifag shows a species of Loranthaceae, perhaps *Tapinanthus globiferus,* on a mimosoid tree.[59]

12.3.1937

Excursion along a now disused road from Ifag to Debre Tabor.

Locality T92 – Lungo la strada tra Debra Tabor a 12 chilometri da Ifag
Locality number 92 on printed labels with this locality. Marked as T92 on Maps 3 & 8.

58 See archival font Dainelli (501), images 917, 918, 919, in the *Archivio fotografico* of the *Società geografica italiana*.

59 See archival font Dainelli (501), image 920, in the *Archivio fotografico* of the *Società geografica italiana*.

English translation of Italian indication of locality: Along the road to [the town of] Debra Tabor, 12 km. from [the village or small town of] Ifag.
Georeferencing: The road used by Pichi Sermolli from Ifag to Debra Tabor is now disused and replaced by a more southerly road starting just north of Wareta (Uoreta). Localised by measuring the distance from Ifag, approximately at 12.024827° N, 37.820259° E.
Collections cited in Pichi Sermolli (1951):
Polystachya steudneri Rchb. f. (m. 1,950; n. 2534).
Vegetation; characteristic species: The only collection from this locality is an epiphytic orchid; the tree on which it was growing is not mentioned.

Locality T93 – Lungo il torrente Alemsaga presso la strada tra Ifag e Debra Tabor
Locality number 93 on printed labels with this locality; locality name also on typed labels with no locality number. Marked as T93 on Maps 3 & 8.
English translation of Italian indication of locality: Along the stream of Alemsaga on the road between [the village or small town of] Ifag and [the small town of] Debra Tabor.
Variant indication of locality:
Presso il torrente Alemsaga lungo la strada tra Debra Tabor ed Ifag (n. 13).
Lungo il torrente Alensaga presso la strada tra Ifag e Debra Tabor (n. 1483).
Georeferencing: The place name "Alemsaga" has not been seen on any map. A locality where a road, possibly part of the disused road from Ifag to Debra Tabor, crosses an unnamed stream is at 12.047305° N, 37.983893° E.
Collections cited in Pichi Sermolli (1951):
Achyranthes aspera L. var. *pubescens* (Moq.) C.C. Townsend (m. 1,900; n. 1439).
Alchemilla cryptantha A. Rich. (m. 1,900; n. 13).
Asparagus africanus Lam. (m. 1,900; n. 2026).
Bersama abyssinica Fresen. (m. 1,900; n. 360).
Capparis tomentosa Lam. (m. 1,900; n. 149).
Cardamine africana L. (m. 1,900; n. 174).
Clausena anisata (Willd.) Benth. (m. 1,900; n. 246).
Commelina benghalensis L. (m. 1,900; n. 2005 (FT, holotype of *Commelina pyrroblepharis* Hassk. forma *glabra* Pic. Serm.).
Crassocephalum macropappum (A. Rich.) S. Moore (m. 1,900; n. 1058).
Dicrocephala integrifolia (L. f.) Kuntze (m. 1,900; n. 1057).
Digitaria abyssinica (A. Rich.) Stapf (m. 1,900; n. 58).
Ficus thonningii Bl. (m. 1,900; n. 1668).
Geranium arabicum Forssk. subsp. *arabicum* (m. 1,900; n. 261).
Graminacee indeterminabili* (m. 1,900; n. 337).
Guizotia villosa Sch. Bip. (m. 1,900; n. 1004).
Hippocratea africana (Willd.) Loes. var. *schimperiana* (A. Rich.) Cufod. (m. 2,000; n. 365).
Hypoestes forskaolii (Vahl) R. Br. (m. 1,900; n. 1482, n. 1483).
Jasminum abyssinicum DC. (m. 1,900; n. 1148).
Laggera crispata (Vahl) Hepper & Wood (m. 1,900; n. 930).
Leucas stachydiformis (Benth.) Briq. (m. 1,900; n. 1398).
Maesa lanceolata Forssk. (m. 1,900; n. 1100).
Maytenus serrata (A. Rich.) Wilczek (m. 1,900; n. 2314).
Pavonia schimperiana A. Rich. (m. 1,900; n. 225).
Phytolacca dodecandra L'Hérit. (m. 1,900; n. 1568).
Ricinus communis L. (m. 1,900; n. 1700).

Ritchiea albersii Gilg (m. 1,900; n. 2331).
Salix subserrata Willd. (m. 1,900; n. 1743).
Schrebera alata (Hochst.) Welw. (m. 1,900; n. 1185).
Sida ternata L. f. (m. 1,900; n. 199).
Solanum anguivi Lam. (m. 1,900; n. 2565, n. 2571).
Urera hypselodendron (A. Rich.) Wedd. (m. 1,900; n. 1744).
Vernonia amygdalina Del. (m. 1,900; n. 902).
Vernonia hochstetteri Walp. (m. 1,900; n. 953).
Vegetation; characteristic species: The larger shrubs and trees collected from this locality show association with *Combretum-Terminalia* woodland (*Acacia sieberiana* var. *woodii, Acacia seyal, Acacia venosa, Ximenia americana*), others with secondary Afromontane scrub (*Carissa spinarum, Helinus mystacinus, Maytenus serrata, Ocimum urticifolium, Premna schimperi, Rhus quartiniana, Rhus vulgaris, Senna petersiana*). *Cordia africana* and *Croton macrostachyus* are associated with both forest and woodland. A number of herbaceous species are associated with Afromontane grassland. *Salix subserrata* is associated with riparian vegetation. *Syzygium guineense* is associated with forest on lake shores and *Hygrophila schulli* is associated with moist ground near lake shores.
Photographic documentation: Pichi Sermolli took photographs from near the stream of Alemsaga showing Afromontane scrub and open and dense woodland with large specimens of *Acacia abyssinica*, but the trees were not collected.[60]

Locality T94 – M.[onte] Quatele presso il villaggio di Tata
Locality number 94 on printed labels with this locality. Marked as T94 on Maps 3 & 8.
English translation of Italian indication of locality: Mt. Quatele near the village of Tata.
Variant indication of locality:
M.[onte] Guatele presso il villaggio di Tata (n. 34).
Monte Quatele presso il villaggio di Tata (n. 585).
Georeferencing: Neither the place name "Quatele", nor the name "Tata" has been seen on any map (in the book from 1951 "Quatele" is sometimes misspelt as "Guatele"). The altitudes indicated for the locality are high in comparison with the localities closer to Lake Tana; based on the altitudes of the terrain along the disused road from Ifag to Debra Tabor, the locality is assumed to be at 11.998790° N, 38.003781° E.
Collections cited in Pichi Sermolli (1951):
Acacia abyssinica Benth. (m. 2,200; n. 585).
Acanthus sennii Chiov. (m. 2,200; n. 2116).
Aira caryophyllea L. (m. 2,000; n. 1880).
Anthospermum pachyrrhizum Hiern (m. 2,000; n. 760).
Asparagus africanus Lam. (m. 2,200; n. 1766).
Brucea antidysenterica J.F. Mill. (m. 2,200; n. 343).
Buddleja polystachya Fresen. (m. 2,000; n. 1283).
Carissa spinarum L. (m. 2,000; n. 1210).
Clematis hirsuta Guill. & Perr. (m. 2,000; n. 2368).
Clutia lanceolata Forssk. (m. 2,000; n. 2468).
Conyza pyrrhopappa A. Rich. (m. 2,000; n. 878).
Croton macrostachyus Del. (m. 2,200; n. 1656).

60 See archival font Dainelli (501), images 907, 908, 909, in the *Archivio fotografico* of the *Società geografica italiana*. Image 909 is reproduced in Pichi Sermolli (1938a: Fig. 4).

Diplolophium africanum Turcz. (m. 2,200; n. 698).
Dodonaea angustifolia L. f. (m. 2,200; n. 495).
Dombeya torrida (J.F. Gmel.) P. Bamps (m. 2,200; n. 237, n. 2054).
Ferula communis L. (m. 2,200; n. 691).
Helichrysum schimperi (A. Rich.) Moeser (m. 2,000; n. 993).
Helichrysum stenopterum DC. (m. 2,000; n. 982).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 2,000; n. 95).
Hyparrhenia hirta (L.) Stapf (m. 2,000; n. 81).
Hypericum quartinianum A. Rich. (m. 2,200; n. 189).
Indeterminabile* (m. 2,200; n. 2048, n. 2049).
Inula paniculata (Klatt) Burtt Davy (m. 2,000; n. 2416).
Justicia schimperiana (Nees) T. Anders. (m. 2,000; n. 1501).
Laggera alata (D. Don) Oliv. (m. 2,000; n. 868).
Laggera crassifolia (A. Rich.) Oliv. & Hiern (m. 2,000; n. 923).
Leonotis ocymifolia (Burm. f.) Iwarsson var. *raineriana* (Vis.) Iwarsson (m. 2,000; n. 1389).
Lippia adoensis Walp. (m. 2,000; n. 1424, n. 1426, n. 1427).
Maytenus arbutifolia (A. Rich.) Wilczek (m. 2,200; n. 2321).
Nuxia congesta Fresen. (m. 2,000; n. 1224, n. 1225, n. 1232).
Olea europaea L. subsp. *cuspidata* (G. Don) Cif. (m. 2,200; n. 1180).
Osyris quadripartita Decn. (m. 2,200; n. 1632).
Otostegia integrifolia Benth. (m. 2,000; n. 1472).
Pennisetum sphacelatum (Nees) Th. Dur. & Schinz (m. 2,000; n. 34).
Phagnalon abyssinicum A. Rich. (m. 2,000; n. 934).
Phragmanthera regularis (Sprague) M.G. Gilbert (m. 2,000; n. 1600).
Pimpinella hirtella (Hochst.) A. Rich. (m. 2,200; n. 2031).
Rhus vulgaris Meikle (m. 2,200; n. 460, n. 464).
Ritchiea albersii Gilg (m. 2,200; n. 2329).
Rosa abyssinica Lindl. (m. 2,200; n. 656).
Rumex nervosus Vahl (m. 2,200; n. 1552).
Satureja punctata (Benth.) Briq. subsp. *ovata* (Benth.) Seybold (m. 2,000; n. 2069).
Stephania abyssinica (A. Rich.) Walp. (m. 2,200; n. 128).
Vernonia rueppellii Walp. (m. 2,000; n. 2428).
Viscum tuberculatum A. Rich. (m. 2,200; n. 1584).

Fern collections in FI-PS:
Dryopteris schimperiana (A. Br.) C. Chr. (No alt.; n. 1838, FI-PS 10630).

Vegetation; characteristic species: The larger shrubs and trees collected from this locality show association with secondary Afromontane scrub (*Carissa spinarum, Helinus mystacinus, Maytenus serrata, Ocimum urticifolium, Premna schimperi, Rhus quartiniana, Rhus vulgaris, Senna petersiana*).

Photographic documentation: Pichi Sermolli's photographs from Quatele show secondary Afromontane scrub with shrubs of *Otostegia* being frequent and with scattered trees.[61]

61 See archival font Dainelli (501), images 901, 902, 903, 904, 905, 906, in the *Archivio fotografico* of the *Società geografica italiana*.

Locality T95 – A meta costa del M.[onte] Quatele lungo la strada tra Ifag e Debra Tabor
Locality number 95 on printed labels with this locality. Marked as T95 on Maps 3 & 8.
English translation of Italian indication of locality: Halfway up Mt. Quatele, along the road between [the village or small town of] Ifag and [the small town of] Debra Tabor.
Variant indication of locality:
A meta costa di M.[onte] Quatele lungo la strada tra Ifag e Debra Tabor (n. 33, n. 935, n. 1209, n. 1233, n. 1385, n. 1463, n. 2496).
Georeferencing: As for locality number 94, approximately at 11.998790° N, 38.003781° E.
Collections cited in Pichi Sermolli (1951):
Acanthus sennii Chiov. (m. 2,100; n. 2117).
Athrixia rosmarinifolia (Walp.) Oliv. & Hiern (m. 2,100; n. 935).
Carissa spinarum L. (m. 2,100; n. 1209).
Clutia lanceolata Forssk. (m. 1,950; n. 2464).
Gnidia glauca (Fresen.) Gilg (m. 2,200; n. 2496).
Grewia ferruginea A. Rich. (m. 2,400; n. 292).
Inula paniculata (Klatt) Burtt Davy (m. 2,100; n. 2413, n. 2414).
Leonotis ocymifolia (Burm. f.) Iwarsson var. *raineriana* (Vis.) Iwarsson (m. 2,100; n. 1385).
Lippia adoensis Walp. (m. 2,100; n. 1423, n. 1425).
Myrsine africana L. (m. 1,950; n. 1104).
Nuxia congesta Fresen. (m. 2,100; n. 1233).
Osyris quadripartita Decn. (m. 2,000; n. 1631).
Pennisetum sphacelatum (Nees) Th. Dur. & Schinz (m. 2,100; n. 33).
Pittosporum abyssinicum Del. (m. 2,200; n. 243).
Premna schimperi Engl. (m. 2,100; n. 2517).
Rhoicissus tridentata (L. f.) Wild & Drummond (m. 2,400; n. 396).
Rhus vulgaris Meikle (m. 2,400; n. 449).
Satureja punctata (Benth.) Briq. (m. 2,100; n. 1463).
Vernonia leopoldii (Walp.) Vatke (m. 2,100; n. 952).
Ferns cited in Pichi Sermolli (1957a):
Adiantum poiretii Wikstr. (No alt.; n. 1797, not seen, cited from Pichi Sermolli 1957a: 688).
Vegetation; characteristic species: The larger shrubs and trees collected from this locality show association with secondary Afromontane scrub (*Acanthus sennii, Carissa spinarum, Clutia lanceolata, Gnidia glauca, Grewia ferruginea, Leonotis ocymifolia* var. *raineriana*, *Lippia adoensis, Myrsine africana, Nuxia congesta, Osyris quadripartita, Rhus vulgaris*).

Locality T95a – Sotto il villaggio di Tata lungo la strada tra Ifag e Debra Tabor
No locality number on labels with this locality. Marked as T95a on Maps 3 & 8.
English translation of Italian indication of locality: Below the village of Tata at the road between [the village or small town of] Ifag and [the small town of] Debra Tabor.
Georeferencing: The place name "Tata" has not been seen on any map; based on the assumptions about locality 94 & 95, it is probably near the previous localities at 11.998790° N, 38.003781° E.
Collections cited in Pichi Sermolli (1951):
Solanum marginatum L. f. (m. 2,000; n. 2548).

Vegetation; characteristic species: The only collection from this locality is a weedy subshrub associated with open, heavily grazed areas, usually at higher altitudes than indicated for this specimen.

14.3.1937

Excursion to flat areas, partly the plains called Foghera, along the eastern shore of Lake Tana south of Ifag.

Locality T96 – Presso il villaggio di Uoreta (Ifag)).
Locality number 96 on printed labels with this locality. Marked as T96 on Maps 3 & 8.
English translation of Italian indication of locality: Near the village of Uoreta, in the vicinity of [the village or small town of] Ifag.
Georeferencing: The place name "Uorreta" is indicated on the official map in Pichi Sermolli (1951); it is now a large village or small town called Woreta in the plains of Foghera (locality number 97); the locality is approximately at 11.938924° N, 37.702308° E.
Collections cited in Pichi Sermolli (1951):
Chloris gayana Kunth (m. 2,300; n. 1879).
Conyza pyrrhopappa A. Rich. (m. 2,300; n. 875).
Echinops hispidus Fresen. (m. 2,300; n. 850).
Grewia ferruginea A. Rich. (m. 2,300; n. 272).
Guizotia sp.* (m. 2,300; n. 2158).
Rhoicissus tridentata (L. f.) Wild & Drummond (m. 2,300; n. 402).
Rubia cordifolia L. (m. 2,300; n. 762).
Vegetation; characteristic species: The only shrub or tree recorded from this locality is *Grewia ferruginea,* which may indicate that the vegetation in this locality was degraded Afromontane scrub.
Photographic documentation: Pichi Sermolli's photographs from the surroundings of Uoreta show mostly cultivations and grassy planes with scattered trees, the first one along the Reb River between Ifag and Uoreta.[62]

Locality T97 – Pianura di Foghera (Ifag)
Locality number 97 on printed labels with this locality. Marked as T97 on Maps 3 & 8.
English translation of Italian indication of locality: Plains of Foghera, in the vicinity of [the village or small town of] Ifag.
Georeferencing: This is the frequently flooded plains along the east shore of Lake Tana, shown on the official map in Pichi Sermolli (1951); the locality is presumably on the plains to the west of Uoreta [Woreta], approximately at 11.940020° N, 37.641328° E.
Collections cited in Pichi Sermolli (1951):
Pennisetum ramosum (Hochst.) Schweinf. (m. 1,880; n. 785).
Vegetation; characteristic species: The only collection from this locality, the grass *Pennisetum ramosum,* is almost everywhere known to be associated with vertisol ('black cotton soil') in moist habitats.

62 See archival font Dainelli (501), images 923, 924, 925, 926, 927, in the *Archivio fotografico* of the *Società geografica italiana*.

Fig. 50. The plains of Foggera [Foghera] along the eastern shore of Lake Tana. These plains are flat and have often been flooded. Now they are almost completely cultivated. Photograph by Ib Friis, 2011.

Photographic documentation: Pichi Sermolli's photographs from this area show grassy plains with cultivation. [63]

Locality T98 – Regione di Uoreta (Ifag)
Locality number 98 on printed labels with this locality. Marked as T98 on Maps 3 & 8.
English translation of Italian indication of locality: In the area of [the village of] Uoreta [Woreta], in the vicinity of [the village or small town of] Ifag.
Georeferencing: As for locality 96, this locality is approximately at 11.938924° N, 37.702308° E.
Collections cited in Pichi Sermolli (1951):
Carthamus tinctorius L. (m. 2,300; n. 858).
Cirsium vulgare (Savi) Ten. (m. 2,300; n. 1006).
Ficus sycomorus L. (m. 2,300; n. 2398).
Ficus vasta Forssk. (m. 2,300; n. 1709).
Vegetation; characteristic species: The only two species of trees collected from this locality, *Ficus sycomorus* and *Ficus vasta,* are both mostly associated with open woodland.

63 See archival font Dainelli (501), images 926, 927, in the *Archivio fotografico* of the *Società geografica italiana*.

Photographic documentation: Pichi Sermolli took a photograph of a large specimen of *Ficus*, possibly *F. vasta*, near Uoreta.[64] Another photograph from this area shows cultivation.[65]

15.3.1937

Base camp moved to area at the church of Zara Enda Michael near the south-eastern shore of Lake Tana.

Locality T99 & 100 – Collina Mucara presso Zara Enda Michael
Locality number 99 & 100 on printed labels with this locality; locality name also on printed and typed labels, the latter with no locality number. Marked as T99 & 100 on Maps 3 & 8.
English translation of Italian indication of locality: Mucara hill near the church of Zara Enda Michael.
Georeferencing: The name "Mucara" has not been seen on any map. "Zara Michael" is a church indicated on the official map in Pichi Sermolli (1951). The church is near the top of a forested hill at 11.846149° N, 37.631009° E.
Collections cited in Pichi Sermolli (1951):
Ageratum conyzoides L. (m. 1,950; n. 1065).
Amorphophallus gomboczianus Pic. Serm. (m. 1,950; n. 1991).
Asparagus africanus Lam. (m. 1,950; n. 1765).
Bersama abyssinica Fresen. (m. 1,950; n. 362).
Clematis hirsuta Guill. & Perr. (m. 1,950; n. 2367).
Eriosema robustum Bak. (m. 1,950; n. 1186).
Ficus ovata Vahl (m. 1,950; n. 2385).
Ficus sycomorus L. (m. 1,950; n. 2394).
Gardenia ternifolia Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. (m. 1,950; n. 831).
Gnidia involucrata A. Rich. (m. 1,950; n. 1539).
Gomphocarpus abyssinicus Decne. (m. 1,950; n. 1244).
Grewia ferruginea A. Rich. (m. 1,950; n. 291).
Grewia mollis A. Juss. (m. 1,950; n. 267).
Helinus mystacinus (Ait.) Steud. (m. 1,950; n. 414).
Heteromorpha arborescens (Spreng.) Cham. & Schltdl. var. *abyssinica* (A. Rich.) Wolff (m. 1,950; n. 706).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 1,950; n. 96).
Hyparrhenia cymbaria (L.) Stapf (m. 1,950; n. 114).
Hyparrhenia gazensis (Rendle) Stapf forma* (m. 1,950; n. 319).
Hyparrhenia rufa x umbrosa[2]* (m. 1,950; n. 331).
Hypericum quartinianum A. Rich. (m. 1,950; n. 188, n. 194).
Indeterminabile* (m. 1,950; n. 2183).
Ipomoea eriocarpa R. Br. (m. 1,950; n. 2033).

64 See archival font Dainelli (501), image 924, in the *Archivio fotografico* of the *Società geografica italiana*.

65 See archival font Dainelli (501), image 925, in the *Archivio fotografico* of the *Società geografica italiana*.

Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,950; n. 1153).
Laggera crassifolia (A. Rich.) Oliv. & Hiern (m. 1,950; n. 925).
Lannea schimperi (A. Rich.) Engl. (m. 1,950; n. 471).
Leonotis ocymifolia (Burm. f.) Iwarsson var. *raineriana* (Vis.) Iwarsson (m. 1,950; n. 1388).
Maytenus senegalensis (Lam.) Exell (m. 1,950; n. 2299).
Melinis repens (Willd.) Zizka (m. 1,950; n. 53).
Osyris quadripartita Decn. (m. 1,950; n. 1630).
Otostegia tomentosa A. Rich. subsp. *ambigens* (Chiov.) Sebald (m. 1,950; n. 2512, n. 2513).
Pentas lanceolata (Forssk.) Deflers (m. 1,950; n. 749).
Piliostigma thonningii (Schumach.) Milne-Redh. (m. 1,950; n. 617).
Protea gaguedi J.F. Gmel. (m. 1,950; n. 1592).
Rhoicissus tridentata (L. f.) Wild & Drummond (m. 1,950; n. 398).
Rhus glutinosa A. Rich. (m. 1,950; n. 2349).
Rhus vulgaris Meikle (m. 1,950; n. 466).
Schrebera alata (Hochst.) Welw. (m. 1,950; n. 1182).
Senna singueana (Del.) Lock (m. 1,950; n. 574).
Steganotaenia araliacea A. Rich. (m. 1,950; n. 685).
Stereospermum kunthianum Cham. (m. 1,950; n. 1384).
Syzygium guineense (Willd.) DC. (m. 1,950; n. 1069).
Terminalia schimperiana Hochst. (m. 1,950; n. 720).
Triumfetta pilosa Roth (m. 1,950; n. 302).
Vernonia congolensis De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey (m. 1,950; n. 880).
Vernonia cylindrica Walp. (m. 1,950; n. 2442).
Vernonia purpurea Walp. (m. 1,950; n. 948).
Vernonia theophrastifolia Oliv. & Hiern (m. 1,950; n. 2422).
Vegetation; characteristic species: Some of the large shrubs and trees collected in this locality are associated with *Combretum-Terminalia* woodland (*Ficus sycomorus, Gardenia ternifolia* subsp. *jovis-tonantis, Grewia mollis, Heteromorpha arborescens* var. *abyssinica, Lannea schimperi, Maytenus senegalensis, Piliostigma thonningii, Steganotaenia araliacea, Stereospermum kunthianum, Terminalia schimperiana*). *Ficus ovata* represents species associated with forest. *Syzygium guineense* may represent forest on the lake shore. A number of species represent secondary Afromontane scrub (*Bersama abyssinica, Grewia ferruginea, Leonotis ocymifolia* var. *raineriana, Osyris quadripartite, Otostegia tomentosa* subsp. *ambigens, Protea gaguedi, Rhus glutinosa, Rhus vulgaris, Schrebera alata, Senna singueana*).
Photographic documentation: Pichi Sermolli's photographs from this area show open woodland with low trees and tall grass.[66]

Locality T101 – Zara Enda Michael
Locality number 101 on printed labels with this locality; locality name also on printed and typed labels, the latter with no locality number. Marked as T101 on Maps 3 & 8.
English translation of Italian indication of locality: [At the church of] Zara Enda Michael.

66 See archival font Dainelli (501), images 930, 931, in the *Archivio fotografico* of the *Società geografica italiana*.

Fig. 51. "Church forest" east of Lake Tana, a forested hill in the middle of which is a church. Photograph by Ib Friis, 2011.

Variant indication of locality:
Nei campi presso la foresta di Zara Enda Michael (n. 820).
Nei campi presso Zara Enda Michael (n. 821).
Georeferencing: As for locality 99, this locality is approximately at 11.846149° N, 37.631009° E.
Collections cited in Pichi Sermolli (1951):
Chloris gayana Kunth (m. 1,950; n. 1877).
Cucumis ficifolius A. Rich. (m. 1,950; n. 820).
Cucurbitaceae sp.* (m. 1,950; n. 2220).
Hyparrhenia anthistirioides (A. Rich.) Stapf (m. 1,950; n. 94).
Momordica foetida Schumach. (m. 1,940; n. 821).
Vegetation; characteristic species: The species from this or these localities at Zara Enda Michael are grasses and Cucurbitaceae that indicated that they were collected in a moderately open habitat.

16.3.1937

Locality T101 – continued – Foresta della Chiesa Zara Enda Michael
Locality number 101 on printed labels with this locality; printed and typed labels with this locality name, the latter without locality number. Marked as T101 on Maps 3 & 8.

English translation of Italian indication of locality: Forest of the church of Zara Enda Michael.
Variant indication of locality:
Foreste della Chiesa di Zara Enda Michael (n. 126, n. 1434).
Georeferencing: As for locality 99, the southern slope of the hill is wooded and this locality is approximately at 11.846149° N, 37.631009° E.
Collections cited in Pichi Sermolli (1951):
Achyranthes aspera L. var. *pubescens* (Moq.) C.C. Townsend (m. 1,940; n. 1434).
Albizia schimperiana Oliv. (m. 1,940; n. 1111).
Arundo donax L. (m. 1,940; n. 1944).
Capparis tomentosa Lam. (m. 1,940; n. 152, n. 153).
Cardiospermum halicacabum L. (m. 1,940; n. 499).
Celtis africana Burm. f. (m. 1,940; n. 1683).
Chionanthus mildbraedii (Gilg & Schellenb.) Stearn (m. 1,940; n. 2059, n. 2189, n. 2190).
Citrus aurantium L. (m. 1,940; n. 253).
Coffea arabica L. (m. 1,940; n. 772).
Cordia africana Lam. (m. 1,940; n. 1269).
Dicliptera maculata Nees (m. 1,940; n. 1494).
Diospyros abyssinica (Hiern) F. White (m. 1,940; n. 1129, n. 1130).
Dracaena steudneri Engl. (m. 1,940; n. 2014).
Ficus ovata Vahl (m. 1,950; n. 2387).
Ficus thonningii Bl. (m. 1,940; n. 1664).
Hippocratea africana (Willd.) Loes. var. *schimperiana* (A. Rich.) Cufod. (m. 1,940; n. 372).
Indeterminabile* (m. 1,940; n. 2187).
Ipomoea cairica (L.) Sweet (m. 1,940; n. 1311, n. 1312).
Juniperus procera Endl. (m. 1,940; n. 19, n. 22).
Justicia schimperiana (Nees) T. Anders. (m. 1,940; n. 1499, n. 1502).
Lepidotrichilia volkensii (Gürke) Leroy (m. 1,940; n. 2198).
Maytenus serrata (A. Rich.) Wilczek (m. 1,940; n. 2309, n. 2310, n. 2311).
Millettia ferruginea (Hochst.) Bak. (m. 1,940; n. 501).
Mimusops kummel A. DC. (m. 1,940; n. 1072).
Ocimum urticifolium Roth (m. 1,940; n. 2480).
Oplismenus compositus (L.) P. Beauv. (m. 1,940; n. 46).
Oxyanthus speciosus DC. (m. 1,940; n. 2210, n. 2211).
Pavetta sp.* (m. 1,940; n. 757).
Pavonia schimperiana A. Rich. (m. 1,940; n. 228).
Phoenix reclinata Jacq. (m. 1,940; n. 2000).
Phytolacca dodecandra L'Hérit. (m. 1,940; n. 1570).
Pterolobium stellatum (Forssk.) Brenan (m. 1,940; n. 640).
Pycnostachys abyssinica Fresen. (m. 1,940; n. 1407).
Ritchiea albersii Gilg (m. 1,940; n. 2184, n. 2334, n. 2335).
Solanum anguivi Lam. (m. 1,940; n. 2567, n. 2572).
Stephania abyssinica (A. Rich.) Walp. (m. 1,940; n. 126).
Teclea nobilis Del. (m. 1,940; n. 248).
Tragia cinerea (Pax) M.G. Gilbert & Radcl.-Smith (m. 1,940; n. 1690).
Vepris dainellii (Pic. Serm.) Kokwaro (m. 1,940; n. 2350 (FT, holotype, BR, K, P isotypes of *Diphasia dainellii* Pic. Serm.), n. 2351).
Fern collections in FI-PS:
Loxogramme abyssinica (Baker) M.G. Price (No alt.; n. 1868, FI-PS 10638).

Vegetation; characteristic species: The majority of trees and larger shrubs collected from this locality indicate that the vegetation is forest that can be classified as DAF or IAF (*Albizia schimperiana, Celtis africana, Chionanthus mildbraedii, Cordia africana, Diospyros abyssinica, Dracaena steudneri, Ficus ovata, Ficus thonningii, Juniperus procera* (probably planted in the church grove or forest), *Lepidotrichilia volkensii, Millettia ferruginea, Oxyanthus speciosus, Ritchiea albersii, Teclea nobilis, Vepris dainellii*). The presence of *Mimusops kummel* and *Phoenix reclinata* suggest that the forest has similarity with IAF. A number of species represent secondary Afromontane scrub (*Capparis tomentosa, Justicia schimperiana, Maytenus serrata*). Some trees are either cultivated or naturalised (*Citrus aurantium*, *Coffea arabica*).
Photographic documentation: Pichi Sermolli's own photographs, taken 17.3.1937, show a locally open, but well developed church forest with tall canopy and epiphytes on the branches of the trees.[67] Other photographs show *Ficus*, *Syzygium* and *Phoenix reclinata* along a small stream.[68]

Locality T101a – Lungo la costa in corrispondenza di Zara Enda Michael
No locality number on hand-written label with this locality. Marked as T101a on Maps 3 & 8.
English translation of Italian indication of locality: Along the shore [of Lake Tana] opposite the church of Zara Enda Michael.
Georeferencing: The shore of Lake Tana due west of Zara Enda Michael is approximately at 11.845970° N, 37.521357° E.
Collections cited in Pichi Sermolli (1951):
Nymphaea lotus L. (m. 1,820; n. 123).
Vegetation; characteristic species: This collection was made in shallow water of the lake.

18.3.1937

Locality T102 – Regione del Torrente Gueldo (Reg. Fissa)
Locality number 102 on printed labels with this locality; printed and typed labels with this locality name, the latter without locality number. Marked as T102 on Map 8.
English translation of Italian indication of locality: Area around the stream of Gueldo in the region of Fissa.
Variant indication of locality:
Regione del torrente Gueldo (Regione di Fissa) (n. 219, 428, 461,1074, 1108, 1155, 1247, 1525, 1693, 1999, 2186, 2280, 2281).
Regione del torrente Guelfo (Regione di Fissa) (n. 226).
Regione del torrente Gueldo (Regione Fissa) (n. 1068, 1071, 1212, 1213, 2381).
Regione del torrente Gueldo (Regione Fissa), lungo un corso d'acqua nella foresta (n. 2529).
Regione del torrente Queldo (Regione di Fissa) (n. 294, n. 296, n. 1136, n. 2278).

67 See archival font Dainelli (501), images 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, in the *Archivio fotografico* of the *Società geografica italiana*. Image 947 is reproced here as Fig. 36.

68 See archival font Dainelli (501), images 963, 964, 965, in the *Archivio fotografico* of the *Società geografica italiana*.

Georeferencing: The place names "Gueldo" and "Fissa" have not been seen on any map. On Google Earth there is a small village named "Fisa" near a small, unnamed stream. The general altitude of this area is 1850 m; currently forested places along the stream are at 11.730142° N, 37.460739° E.
Collections cited in Pichi Sermolli (1951):
Barleria ventricosa Nees (m. 1,900; n. 1525).
Bridelia micrantha (Hochst.) Baill. (m. 1,900; n. 2454, n. 2457, n. 2458).
Carissa spinarum L. (m. 1,900; n. 1212, n. 1213).
Clematis longicauda A. Rich. (m. 1,900; n. 2354, n. 2355).
Euclea racemosa Murray subsp. *schimperi* (A. DC.) F. White (m. 1,900; n. 1136, n. 2278).
Ficus sur Forssk. (m. 1,900; n. 2378, n. 2379, n. 2380, n. 2381).
Flacourtia indica (Burm. f.) Merr. (m. 1,900; n. 2038, n. 2039 (FT, male syntype, BR, K, L, MO, P male isosyntypes of *Flacourtia afra* Pic. Serm.), n. 2064 (FT, female syntype, A, L female isosyntypes of *Flacourtia afra* Pic. Serm.).
Grewia ferruginea A. Rich. (m. 1,900; n. 294, n. 296).
Indeterminabile* (m. 1,900; n. 2186; m. 1,900; n. 2529).
Jasminum grandiflorum L. subsp. *floribundum* (Fresen.) P.S. Green (m. 1,900; n. 1155).
Kanahia laniflora (Forssk.) R. Br. (m. 1,900; n. 1247).
Kosteletzkya grantii (Mast.) Garcke (m. 1,900; n. 219).
Maytenus arbutifolia (A. Rich.) Wilczek (m. 1,900; n. 2280, n. 2281).
Mimusops kummel A. DC. (m. 1,900; n. 1074).
Myrsine africana L. (m. 1,900; n. 1108).
Pavonia schimperiana A. Rich. (m. 1,900; n. 226).
Phoenix reclinata Jacq. (m. 1,900; n. 1999).
Rhoicissus tridentata (L. f.) Wild & Drummond (m. 1,900; n. 428).
Rhus vulgaris Meikle (m. 1,900; n. 461).
Sapium ellipticum (Krauss) Pax (m. 1,900; n. 1693).
Syzygium guineense (Willd.) DC. (m. 1,900; n. 1068, n. 1071).
Syzygium jambos (L.) Alston (m. 1,900; n. 2057).
Vegetation; characteristic species: A limited number of trees and larger shrubs collected from this locality indicate that the vegetation is forest that can be classified as DAF or IAF (*Bridelia micrantha, Ficus sur, Flacourtia indica, Myrsine africana, Sapium ellipticum*). The presence of *Mimusops kummel, Phoenix reclinata* and *Syzygium guineense* suggest that the forest has similarity with IAF; the species may also be riparian. A number of species represent secondary Afromontane scrub (*Carissa spinarum, Euclea racemosa* subsp. *schimperi, Grewia ferruginea, Maytenus arbutifolia, Rhus vulgaris*). One species of tree was either cultivated or naturalised (*Syzygium jambos*).
Photographic documentation: Pichi Sermolli's photographs from this area indicate that there were also tall specimens of *Albizia* in the vegetation.[69]

Locality T103 – Foresta della Chiesa di Gumbat Uddus Michael
Locality number 103 on printed labels with this locality; typed labels with this locality name, but without locality number. Marked as T103 on Map 8.
English translation of Italian indication of locality: Forest of the church of Gumbat Uddus [Saint] Michael.

69 See archival font Dainelli (501), images 963, 964, 955, in the *Archivio fotografico* of the *Società geografica italiana*.

Georeferencing: A church SE of Korata (Corata) is called "Gombat Michael" on the map of Lake Tana by Demelle Arega (no date); it is also marked on the sheet produced by the Survey Office Khartoum (1940: sheet Dangila) and is located on a densely forested hill at approximately 11.694909° N, 37.498455° E.
Collections cited in Pichi Sermolli (1951):
Abutilon cecilii N.E. Br. (m. 1,900; n. 2323 (FT, holotype of *Abutilon smenospermum* Pic. Serm.)).
Achyranthes aspera L. var. *pubescens* (Moq.) C.C. Townsend (m. 1,900; n. 1435).
Arundo donax L. (m. 1,900; n. 1942).
Capparis tomentosa Lam. (m. 1,900; n. 148, n. 150).
Citrus aurantium L. (m. 1,900; n. 255).
Clematis longicauda A. Rich. (m. 1,900; n. 2356).
Coffea arabica L. (m. 1,900; n. 771).
Cynodon dactylon (L.) Pers. (m. 1,900; n. 1886).
Cyperus fischerianus A. Rich. (m. 1,900; n. 1966).
Dracaena steudneri Engl. (m. 1,900; n. 2016).
Ficus thonningii Bl. (m. 1,900; n. 1670).
Flacourtia indica (Burm. f.) Merr. (m. 1,900; n. 2041, n. 2042).
Grewia ferruginea A. Rich. (m. 1,900; n. 295).
Juniperus procera Endl. (m. 1,900; n. 23).
Justicia schimperiana (Nees) T. Anders. (m. 1,900; n. 1503).
Maytenus serrata (A. Rich.) Wilczek (m. 1,900; n. 2312).
Mimusops kummel A. DC. (m. 1,900; n. 1073).
Pavonia schimperiana A. Rich. (m. 1,900; n. 227).
Phaulopsis imbricata (Forssk.) Sweet (m. 1,900; n. 1345, 1349).
Phytolacca dodecandra L'Hérit. (m. 1,900; n. 1569).
Prunus persica (L.) Batch (m. 1,900; n. 908).
Rosa x *richardii* Rehd. (m. 1,900; n. 655).
Setaria megaphylla (Steud.) Th. Dur. & Schinz (m. 1,900; n. 48).
Sida schimperiana A. Rich. (m. 1,900; n. 229).
Solanum giganteum Jacq. (m. 1,900; n. 2576).
Stephania abyssinica (A. Rich.) Walp. (m. 1,900; n. 127).
Tragia cinerea (Pax) M.G. Gilbert & Radcl.-Smith (m. 1,900; n. 1689).
Vernonia rueppellii Walp. (m. 1,900; n. 2436).
Vegetation; characteristic species: A limited number of trees and larger shrubs collected from this locality indicate that the vegetation is forest that at least previously should be classified as DAF or IAF (*Dracaena steudneri, Ficus thonningii, Flacourtia indica, Juniperus procera*). The presence of *Mimusops kummel* suggest that the forest has similarity with IAF. A number of species represent secondary Afromontane scrub (*Capparis tomentosa, Grewia ferruginea, Justicia schimperiana, Maytenus serrata*). Some species of trees or large shrubs were either cultivated or naturalised (*Citrus aurantium, Coffea arabica, Prunus persica, Rosa* x *richardii*). The herb *Cyperus fischerianus* suggests that moist ground was present.
Photographic documentation: Pichi Sermolli's photographs, taken 18.3.1937, show the church surrounded by trees and a tall canopy in the forest.[70]

70 See archival font Dainelli (501), images 956, 957, 958, 959, 960, 961, 962, in the *Archivio fotografico* of the *Società geografica italiana*.

19.3.1937

Excursion to Amba Libo, mountain area north-east of Lake Tana, made by the geologist of the mission, Enzo Minucci.

Locality T103a – Amba Libo
All collections from this locality have typed labels with locality and no locality number. Marked as T103a on Map 3.
English translation of Italian indication of locality: Amba Libo – a mountain visited by the geologist of the expedition, E. Minucci, who collected plants for Pichi Sermolli in this locality.
Georeferencing: Amba Libo is shown on the official map in Pichi Sermolli (1951), and on IGM (1934-1936a: sheet 9) and IGM (1934-1936b: sheet Asmara ND37), but a suitable topography is difficult to identify on Google Earth; the altitude and topography seen on Google Earth would seem to indicate a position at 2,950 m. at the coordinates 12.186714 N, 37.867175 E.
Collections cited in Pichi Sermolli (1951):
Alchemilla sp. cfr. A. fischeri* (tra m. 2,850 e 2,950; n. 10, n. 11).
Athrixia rosmarinifolia (Walp.) Oliv. & Hiern (tra m. 2,850 e 2,950; n. 936).
Clutia lanceolata Forssk. (tra m. 2,850 e 2,950; n. 2461).
Drimia simensis (Hochst.) Stedje (tra m. 2,850 e 2,950; n. 2008).
Erica arborea L. (tra m. 2,850 e 2,950; n. 1046).
Hagenia abyssinica (Bruce) J.F. Gmel. (tra m. 2,850 e 2,950; n. 652).
Helichrysum schimperi (A. Rich.) Moeser (tra m. 2,850 e 2,950; n. 992).
Helichrysum stenopterum DC. (tra m. 2,850 e 2,950; n. 985).
Hypericum quartinianum A. Rich. (tra m. 2,850 e 2,950; n. 190).
Hypericum revolutum Vahl (tra m. 2,850 e 2,950; n. 181).
Juniperus procera Endl. (m. 2,850-2,950; n. 21).
Kalanchoe petitiana A. Rich. (m. 2,850-2,950; n. 798).
Macowania ericifolia (Forssk.) B.L. Burtt & Grau (tra m. 2,850 e 2,950; n. 2178, n. 2179).
Maesa lanceolata Forssk. (tra m. 2,850 e 2,950; n. 1099).
Myrsine africana L. (tra m. 2,850 e 2,950; n. 1107).
Nuxia congesta Fresen. (tra m. 2,850 e 2,950; n. 1230).
Protea gaguedi J.F. Gmel. (m. 2,850-2,950; n. 1591).
Rhabdotosperma scrophulariifolia (A. Rich.) Hartl (tra m. 2,850 e 2,950; n. 2032).
Rumex nervosus Vahl (m. 2,850-2,950; n. 1548).
Fern collections in FI-PS:
Pteridium aquilinum (L.) Kuhn (m. 2,850-2,950; n. [E. Minucci in Pichi Sermolli] 1867, FI-PS 10627).
Vegetation; characteristic species: The small trees or large shrubs collected from this locality (*Clutia lanceolata, Erica arborea, Hagenia abyssinica, Hypericum quartinianum, Hypericum revolutum, Juniperus procera, Myrsine africana, Nuxia congesta, Protea gaguedi*) suggest a species-rich flora where the uppermost zone of the Afromontane forest meets *Hypericum* woodland and Ericaceous Belt. The two most characteristic species in the uppermost zone of the Afromontane forest, *Hagenia abyssinica* and *Hypericum revolutum,* were observed together here.
Photographic documentation: The only photographs that Minucci seems to have taken on Amba Libo show heavily grazed Afromontane grassland used as the market

place for villages on Amba Libo.[71] A few photographs by Nistri show the mountain slopes near Amba Libo and they indicate that the vegetation there seems to have been derived Afromontane bushland.[72]

22.3.1937

Visits to Debra Tabor in the mountains east of Lake Tana.

Locality T104 – Presso il villaggio di Debra Tabor
Locality number 104 on printed labels with this locality. Marked as T104 on Maps 3 & 8.
English translation of Italian indication of locality: Near the village [or small town] of Debra Tabor.
Georeferencing: Debra Tabor is shown on the official map in Pichi Sermolli (1951) and is now a large town. A suitable locality outside the old Debra Tabor would be at approximately 11.879704° N, 38.016948° E.
Collections cited in Pichi Sermolli (1951):
Brucea antidysenterica J.F. Mill. (m. 2,940; n. 340).
Clutia lanceolata Forssk. (m. 2,940; n. 2465).
Haplocarpha schimperi (Sch. Bip.) P. Beauv. (m. 2,940; n. 1015).
Indeterminabile* (m. 2,950; n. 2084)
Rumex nepalensis Spreng. (m. 2,940; n. 1561).
Rumex nervosus Vahl (m. 2,940; n. 1550).
Salvia nilotica Jacq. (m. 2,940; n. 1402).
Sida schimperiana A. Rich. (m. 2,940; n. 1054).
Stephania abyssinica (A. Rich.) Walp. (m. 2,940; n. 131).
Tacazzea conferta N.E. Br. (m. 2,940; n. 2195).
Vegetation; characteristic species: The only two species of woody plants recorded from this locality (*Brucea antidysenterica, Clutia lanceolata*) may suggest that the vegetation was degraded Afromontane scrub. Some of the herbs recorded also suggest open areas with grassland.

Locality T105 & 106 – M.[onte] Jesus Tabor
Locality number 105 & 106 on printed labels with this locality. Marked as T105 & 106 on Maps 3 & 8.
English translation of Italian indication of locality: Mt. Jesus Tabor.
Variant indication of locality:
Monte Jesus Tabor (n. 182, n. 183, n. 1047, n. 2242).
Georeferencing: The exact place name "Monte Jesus Tabor" has not been seen on any map, but other information confirms that it is a prominent hill with a church of the name "Debre Tabor Eyesus" ca. 2 km. south of the centre of Debre Tabor. This is the highest point in the surroundings of Debre Tabor and the highest point of this hill is at ca. 2,900 m. Note that the height indicated by Pichi Sermolli for the peak is probably

71 See archival font Dainelli (501), images 595, 596, in the *Archivio fotografico* of the *Società geografica italiana*.

72 See archival font Dainelli (501), images 3948, 3949, in the *Archivio fotografico* of the *Società geografica italiana*.

50-100 m. too high. A suitable collecting site near the church would be at 11.836913° N, 38.003040° E.

Collections cited in Pichi Sermolli (1951):

Acacia negrii Pic. Serm. (m. 3,050; n. 2242).
Alchemilla (?) abyssinica* (m. 3,050; n. 12, n. 14).
Athrixia rosmarinifolia (Walp.) Oliv. & Hiern (m. 3,050; n. 937, n. 938).
Campanula edulis Forssk. (m. 3,050; n. 1048).
Chiliocephalum schimperi Benth. (m. 3,050; n. 1024, erroneously indicated as 1937 on p. 159 in Pichi Sermolli 1951).
Clutia lanceolata Forssk. (m. 3,050; n. 2462, n. 2463).
Colutea abyssinica Kunth & Bouché (m. 3,050; n. 531).
Crepis rueppellii Sch. Bip. (m. 3,050; n. 2157).
Dipsacus pinnatifidus A. Rich. (m. 3,050; n. 915, n. 916).
Erica arborea L. (m. 3,050; n. 1047).
Exotheca abyssinica (A. Rich.) Anderss. (m. 3,050; n. 82).
Gerbera piloselloides (L.) Cass. (m. 3,050; n. 859, n. 860).
Gnidia glauca (Fresen.) Gilg (m. 3,050; n. 2493).
Habenaria lefebureana (A. Rich.) Th. Dur. & Schinz (m. 3,000; n. 2532).
Hebenstreitia angolensis Rolfe (m. 3,050; n. 1432).
Helichrysum foetidum (L.) Moench var. *microcephalum* A. Rich. (m. 3,050; n. 976).
Helichrysum forsskahlii (J.F. Gmel.) Hilliard & B.L. Burtt (m. 3,050; n. 977, n. 979, n. 981).
Helichrysum schimperi (A. Rich.) Moeser (m. 3,050; n. 994).
Helichrysum stenopterum DC. (m. 3,050; n. 983, n. 986).
Hyparrhenia (?) umbrosa* (m. 3,050; n. 105).
Hypericum quartinianum A. Rich. (m. 3,050; n. 186).
Hypericum revolutum Vahl (m. 3,050; n. 182, n. 183).
Hypoestes forskaolii (Vahl) R. Br. (m. 3,050; n. 1484, n. 1485).
Indeterminabile* (m. 3,000; n. 2085).
Kalanchoe lanceolata (Forssk.) Pers. (m. 3,000; n. 796).
Lactuca inermis Forssk. (m. 3,050; n. 2143).
Leucas stachydiformis (Benth.) Briq. (m. 3,050; n. 1397).
Lippia adoensis Walp. (m. 3,050; n. 1421, n. 2025).
Maytenus gracilipes (Oliv.) Exell subsp. *arguta* (Loes.) Sebsebe (m. 3,050; n. 2300, n. 2301).
Myrsine africana L. (m. 3,050; n. 1106).
Myrsine melanophloeos (L.) R. Br. (m. 3,050; n. 1095).
Osyris quadripartita Decn. (m. 3,000; n. 1633).
Otostegia tomentosa A. Rich. subsp. *steudneri* (Schweinf.) Sebald (m. 3,050; n. 2506, n. 2507; n. 2508).
Pavetta abyssinica Fresen. (m. 3,050; n. 752).
Pentas schimperiana (A. Rich.) Vatke (m. 3,050; n. 751).
Polygala steudneri Chod. (m. 3,050; n. 139).
Rosa abyssinica Lindl. (m. 3,000; n. 658).
Satureja punctata (Benth.) Briq. (m. 3,050; n. 1456, n. 1466, n. 1467, n. 1469, n. 1470).
Solanum anguivi Lam. (m. 3,000; n. 2540).
Sonchus bipontini Asch. (m. 3,050; n. 996).
Sparmannia ricinocarpa (Eckl. & Zeyh.) O. Kuntze (m. 3,050; n. 297).
Stephania abyssinica (A. Rich.) Walp. (m. 3,050; n. 132).
Tolpis virgata (Desf.) Bertol. (m. 3,050; n. 862).

Vernonia leopoldii (Walp.) Vatke (m. 3,050; n. 947, n. 950).
Wahlenbergia silenoides A. Rich. (m. 3,050; n. 1049).
Fern collections in FI-PS:
Adiantum poiretii Wikstr. (No alt.; n. 1798, FI-PS 13944, also cited in Pichi Sermolli 1957a: 688).
Dryopteris schimperiana (A. Br.) C. Chr. (No alt.; n. 1847, FI-PS 10629, FI-PS 12102).
Vegetation; characteristic species: The woody plants from this locality include *Acacia negrii, Clutia lanceolata, Colutea abyssinica, Erica arborea, Maytenus gracilipes* subsp. *arguta, Myrsine africana, Myrsine melanophloeos, Osyris quadripartita, Otostegia tomentosa* subsp. *steudneri, Rosa abyssinica*. This seems to indicate a mosaic of Afromontane wooded grassland and Ericaceous Belt.
Photographic documentation: Pichi Sermolli's photographs from this locality, taken on 22.3.1937, show mainly bushland, stated to be with low *Erica* scrub.[73] A photograph shows the view of and from the summit of Mt. Jesus Tabor.[74]

Locality T107 – Vetta di M.[onte] Jesus Tabor presso la Chiesa
Locality number 107 on printed labels with this locality. Marked as T107 on Maps 3 & 8.
English translation of Italian indication of locality: Peak of Mt. Jesus Tabor, near the church.
Variant indication of locality:
Vetta di M.[onte] Jesus Tabor (n. 1293).
Georeferencing: As for locality number 105 & 106, at 11.836913° N, 38.003040° E.
Collections cited in Pichi Sermolli (1951):
Conyza spinosa Oliv. & Hiern (m. 3,050; n. 995).
Juniperus procera Endl. (m. 3,050; n. 20).
Maytenus obscura (A. Rich.) Cufod. (m. 3,050; n. 391).
Solanum marginatum L. f. (m. 3,050; n. 2547).
Verbascum sinaiticum Benth. (m. 3,050; n. 1293).
Vegetation; characteristic species: This locality includes planted *Juniperus procera* close to the church (I. Friis pers. obs.) and secondary Afromontane scrub.

Locality T108 – Debra Tabor
Locality number 108 on printed labels with this locality. Marked as T108 on Maps 3 & 8.
English translation of Italian indication of locality: [At or in the small town of] Debra Tabor.
Georeferencing: As for locality number 104, but at a lower altitude. A suitable locality outside the old Debra Tabor would be at approximately 11.853666° N, 38.007486° E.
Collections cited in Pichi Sermolli (1951):
Euphorbia ampliphylla Pax (m. 2,490 [probably error for 2,940]; n. 1657).
Hypericum revolutum Vahl (m. 2,940; n. 185).
Vegetation; characteristic species: The two woody species recorded from this locality, *Euphorbia ampliphylla* and *Hypericum revolutum,* are not enough for a reconstruction of the vegetation, particularly because *Euphorbia ampliphylla* is recorded from an altitude of 2490 m. and *Hypericum revolutum* from an altitude of 2940 m. Inside what

73 See archival font Dainelli (501), images 973, 974, 975, 976, in the *Archivio fotografico* of the *Società geografica italiana*.
74 See archival font Dainelli (501), image 977, in the *Archivio fotografico* of the *Società geografica italiana*.

was in 1937 the much smaller town of Debra Tabor, there are very few places at altitudes below 2,600 m., so 2,490 m. is probably an error for 2,940 m., and altitudes as high as that are almost all around churches on hills. It is quite likely that both the candelabra-shaped *Euphorbia ampliphylla* and *Hypericum revolutum* could have occurred together in a wooded grove near a church.

Locality T109 – Collina dove è la Chiesa di Medania Alem (Debra Tabor)
Locality number 109 on printed labels with this locality. Marked as T109 on Maps 3 & 8.
English translation of Italian indication of locality: Hill where the church of Medhane Alem of Debra Tabor stands [in Italian 'is located' / 'is elevated'].
Variant indication of locality:
Collina dove sorge la Chiesa di Medania Alem (Debra Tabor) (n. 801, n. 1445).
Georeferencing: The name of the church of Medania [Medhane?] Alem at Debre Tabor has not been seen on any map, but it is marked on Google Earth and a church of that name still exists in the eastern part of the modern town; the highest point of the hill on which the church is localised is at 2,750 m., so Pichi Sermolli's figure is nearly 200 m. too high. A forested point on the hill is at 11.853496° N, 38.021651° E.
Collections cited in Pichi Sermolli (1951):
Acanthus sennii Chiov. (m. 2,950; n. 2122).
Brucea antidysenterica J.F. Mill. (m. 2,950; n. 341).
Buddleja polystachya Fresen. (m. 2,950; n. 1282).
Cyathula uncinulata (Schrad.) Schinz (m. 2,950; n. 1445).
Discopodium penninervium Hochst. (m. 2,950; n. 1300).
Dombeya torrida (J.F. Gmel.) P. Bamps (m. 2,950; n. 234).
Echinops macrochaetus Fresen. (m. 2,950; n. 848).
Hagenia abyssinica (Bruce) J.F. Gmel. (m. 2,950; n. 653, n. 654).
Haplocarpha schimperi (Sch. Bip.) P. Beauv. (m. 2,950; n. 1016, n. 1017).
Kalanchoe petitiana A. Rich. (m. 2,950; n. 800, n. 801).
Maesa lanceolata Forssk. (m. 2,950; n. 1098, n. 2050).
Maytenus gracilipes (Oliv.) Exell subsp. *arguta* (Loes.) Sebsebe (m. 2,950; n. 2304).
Phytolacca dodecandra L'Hérit. (m. 2,950; n. 1577).
Plantago lanceolata L. (m. 2,950; n. 1452).
Rumex nervosus Vahl (m. 2,950; n. 1549).
Senecio myriocephalus A. Rich. (m. 2,950; n. 1061("29.3." must be error for "23.3.")).
Solanum marginatum L. f. (m. 2,950; n. 2545).
Stephania abyssinica (A. Rich.) Walp. (m. 2,950; n. 124).
Tacazzea conferta N.E. Br. (m. 2,950; n. 2193).
Verbascum sinaiticum Benth. (m. 2,950; n. 1290, n. 1294).
Zehneria scabra (L. f.) Sond. (m. 2,950; n. 818).
Vegetation; characteristic species: The trees collected from this locality include species of secondary Afromontane scrub (*Acanthus sennii, Brucea antidysenterica, Buddleja polystachya, Discopodium penninervium, Maesa lanceolata, Maytenus gracilipes* subsp. *arguta*). A few forest species (DAF), associated with the higher zones of these forests, were also collected (*Dombeya torrida, Hagenia abyssinica, Senecio myriocephalus*).
Photographic documentation: Pichi Sermolli took a number of photographs show the vegetation on the hill of the church of Medania Alem in Debre Tabor.[75] When these

75 See archival font Dainelli (501), images 978, 979, 980, in the *Archivio fotografico* of the *Società geografica italiana*.

photographs were taken, there were hardly any buildings around the hill, which is now entirely incorporated in the urban area of Debre Tabor. The village around the church of Medania Alem was also photographed by Pichi Sermolli.[76]

23.3.1937

Locality T110 – Presso la Chiesa di Medania Alem (Debra Tabor)
Locality number 110 on printed labels with this locality. Marked as T110 on Maps 3 & 8.
English translation of Italian indication of locality: Near the church of Medhane Alem at [the small town of] Debra Tabor].
Georeferencing: As for locality number 109, at 11.853496° N, 38.021651° E.
Collections cited in Pichi Sermolli (1951):
Eucalyptus globulus Labill. (m. 2,950; n. 806).
Juniperus procera Endl. (m. 2,950; n. 16).
Prunus africana (Hook. f.) Kalkm. (m. 2,950; n. 907).
Vernonia rueppellii Walp. (m. 2,950; n. 2430, n. 2431).
Fern collections in FI-PS:
Asplenium theciferum (H.B.K.) Mett. (No alt.; n. 1851, FI-PS 10625).
Vegetation; characteristic species: The trees collected from this locality suggest that the church grove consisted of planted trees, primarily the indigenous *Juniperus procera* and the introduced *Eucalyptus globulus*.
Photographic documentation: Pichi Sermolli photographed a tall *Eucalyptus globulus* near the church. This may be the very tree that was also collected.[77]

Locality T111 – Lungo la strada per Ifag a km. 4 da Debra Tabor
Locality number 111 on printed labels with this locality. Marked as T111 on Maps 3 & 8.
English translation of Italian indication of locality: Along the road to [the village or small town of] Ifag, 4 km. from [the then small town of] Debra Tabor.
Variant indication of locality:
Lungo la strada per Ifag a 4 chilometri da Debra Tabor (n. 222, n. 595, n. 1489, n. 1551, n. 1745, n. 1776, n. 2330).
Lungo la strada tra Ifag e Debra Tabor a 4 chilometri da questa ultima (n. 660, n. 906).
Georeferencing: Can be localised on the official map in Pichi Sermolli (1951) by measuring the distance from Debra Tabor. All collections from this locality are indicated to be from an altitude of 2,800 m., but the highest point found on Google Map in the area is from ca. 2,600 m., located ca. 5 km. from the centre of Debre Tabor in the direction of Ifag, not far from the present road. We assume that this is the point of collection because Pichi Sermolli's altitudes are often indicated with an altitude ca. 200 m. too high. The point is approximately at 11.884170° N, 38.018880° E.
Collections cited in Pichi Sermolli (1951):
Abutilon longicuspe A. Rich. (m. 2,800; n. 222).
Acacia abyssinica Benth. (m. 2,800; n. 595).
Acacia negrii Pic. Serm. (m. 2,800; n. 2243).

76 See archival font Dainelli (501), images 967, 968, in the *Archivio fotografico* of the *Società geografica italiana*.

77 See archival font Dainelli (501), image 966, in the *Archivio fotografico* of the *Società geografica italiana*.

Allophylus abyssinicus (Hochst.) Radlk. (m. 2,800; n. 487).
Calpurnia aurea (Ait.) Benth. (m. 2,800; n. 633).
Carissa spinarum L. (m. 2,800; n. 1211).
Croton macrostachyus Del. (m. 2,800; n. 1653).
Hypoestes forskaolii (Vahl) R. Br. (m. 2,800; n. 1489).
Maytenus gracilipes (Oliv.) Exell subsp. *arguta* (Loes.) Sebsebe (m. 2,800; n. 2303).
Maytenus obscura (A. Rich.) Cufod. (m. 2,800; n. 392, n. 2290).
Maytenus serrata (A. Rich.) Wilczek (m. 2,800; n. 2302).
Myrsine africana L. (m. 2,800; n. 1105).
Nuxia congesta Fresen. (m. 2,800; n. 1231).
Prunus africana (Hook. f.) Kalkm. (m. 2,800; n. 905, n. 906).
Ritchiea albersii Gilg (m. 2,800; n. 2325, n. 2330).
Rosa abyssinica Lindl. (m. 2,800; n. 659, n. 660).
Rumex nervosus Vahl (m. 2,800; n. 1551).
Scadoxus multiflorus (Martyn) Raf. (m. 2,800; n. 1776).
Urera hypselodendron (A. Rich.) Wedd. (m. 2,800; n. 1745).
Vegetation; characteristic species: The trees collected from this locality include species of Afromontane wooded grassland (*Acacia abyssinica, Acacia negrii*) and secondary Afromontane scrub (*Allophylus abyssinicus, Calpurnia aurea, Carissa spinarum*, *Maytenus gracilipes* subsp. *arguta, Maytenus obscura, Maytenus serrata, Myrsine africana, Nuxia congesta, Rosa abyssinica*). A few forest species (DAF) were also collected (*Prunus africana, Ritchiea albersii*). *Croton macrostachyus* occurs in several vegetation types, both in forests and woodland.

Locality T111 – continued – Coltivata nell'Orto Botanico di Firenze da bulbi raccolti nei pressi di Debra Tabor (esemplare n. 1776 sopra citato), ottobre 1937 (n. 1775)
No locality number or specific locality on the label of this collection, but the bulbs may have originated from a locality 4 km. from Debra Tabor along the road to Ifag. Marked as T111 on Maps 3 & 8.
English translation of Italian indication of locality: Cultivated in the botanical garden of Florence from bulbs collected at Debra Tabor (wild collection, Pichi Sermolli 1776).
Scadoxus multiflorus (Martyn) Raf. (m. 2,800; n. 1775).
Vegetation; characteristic species: The record of *Scadoxus multiflorus* alone does not make it possible to identify the vegetation.
Photographic documentation: The plant was photographed in the wild on the 23.3.1937.[78]

Specimens from a locality number 112 have not been traced.

Locality T113 – Pianura a nord di Debra Tabor
Locality number 113 on printed labels with this locality. Marked as T113 on Maps 3 & 8.
English translation of Italian indication of locality: Small plain north of [small town of] Debra Tabor].

78 See archival font Dainelli (501), images 981, 982, 983, 984, 985, in the *Archivio fotografico* of the *Società geografica italiana*.

Georeferencing: The landscape to the north of Debra Tabor is undulated, and several altitudes are indicated from this locality. One of the few high-altitude plains at Debra Tabor is at 11.900893°N, 38.025935° E.
Collections cited in Pichi Sermolli (1951):
Acacia negrii Pic. Serm. (m. 2,940; n. 2244).
Asparagus africanus Lam. (m. 2,950; n. 1769).
Bromus leptoclados Nees (m. 2,940; n. 1874).
Dipsacus pinnatifidus A. Rich. (m. 2,940; n. 917).
Helichrysum forsskahlii (J.F. Gmel.) Hilliard & B.L. Burtt (m. 2,940; n. 978).
Hypericum revolutum Vahl (m. 2,940; n. 184).
Leonotis ocymifolia (Burm. f.) Iwarsson var. *raineriana* (Vis.) Iwarsson (m. 2,940; n. 1390).
Maytenus obscura (A. Rich.) Cufod. (m. 2,800; n. 2320).
Rosa abyssinica Lindl. (m. 2,900; n. 666).
Setaria sphacelata (Schumach.) Moss (m. 2,940; n. 41).
Solanum marginatum L. f. (m. 2,940; n. 2546).
Stephania abyssinica (A. Rich.) Walp. (m. 2,940; n. 125).
Vegetation; characteristic species: The trees collected from this locality include species of Afromontane wooded grassland (*Acacia negrii*) and Afromontane secondary scrub (*Leonotis ocymifolia* var. *raineriana*, *Maytenus obscura, Rosa abyssinica*).

Excursion without collecting; move of base camp.

Via Gondar, where the main part of the mission prepared for the journey back to Italy, Pichi Sermolli and Enzo Minucci moved to lignite deposits north-west of Lake Tana. The members of the mission camped inside Gondar near the compound with the ruined palaces from the 17th and 18th century.
Photographic documentation without collecting: The castles of Gondar are seen on a photograph taken from Pichi Sermolli's tent on 29.3.1937.[79] A sequence of photographs shows the monuments in Gondar.[80]

31.3.1937

Locality C – Bacino di Celga; Chemat Uensi
No locality number on hand-written label with this locality. Marked as C on Map 3.
English translation of Italian indication of locality: In the Celga basin, at the river of Chemat. ["Uensi" is Pichi Sermolli's rendering of the Amharic word for river, "wenz"].
Georeferencing: At the river Chemat in the Celga basin, both place names indicated on the official map in Pichi Sermolli (1951), which, however, does not agree with the satellite images on Google Earth. A probable position of this locality may be at 12.507064° N, 37.117540° E.
Collections cited in Pichi Sermolli (1951):
Scadoxus multiflorus (Martyn) Raf. (m. 1,800; n. 1777).

79 See archival font Dainelli (501), image 1000, in the *Archivio fotografico* of the *Società geografica italiana*.

80 See archival font Dainelli (501), images 992, 993, 994, 995, 996, 997, 998, 999, 1000, in the *Archivio fotografico* of the *Società geografica italiana*.

Vegetation; characteristic species: The record of *Scadoxus multiflorus* alone does not make it possible to identify the vegetation.
Photographic documentation: A photograph taken by Pichi Sermolli on 2.4.1937 of the lignite formations at Celga shows open Acacia wooded grassland, another photograph shows *Croton macrostachyus* parasitised by a species of *Viscum*.[81]

After a stay at Gondar from 1.4. to 5.4.1937 Pichi Sermolli and Enzo Minucci move to Debarech to prepare for a trip with mules and local guides into the Semien Mountains. Pichi Sermolli did not use numbered localities during the trip in the Semien.
Photographic documentation: A number of photographs taken by Pichi Sermolli on 5.4. and 6.4.1937 show ericaceous bushland and high altitude grassland near the Uolchefit [Wolkefit] Pass and near Debarek [Debark].[82]

6.4.1937

Locality S1 – Al torrente Addeschie
No locality number on printed labels with this locality. Marked as S1 on Map 9.
English translation of Italian indication of locality: At the stream of Addeschie.
Georeferencing: The stream of Addeschie must be to the W of the map published in Pichi Sermolli (1939: CXVII) and the name has not been seen on any map. The altitude for all collections from this locality is 2,900 m., which is probably too high. Presumably it is one of the first streams encountered after leaving Debarech, and by the modern road the first stream is crossed at 2,760 m. with coordinates of the crossing at 13.133069° N, 37.929139° E.
Collections cited in Pichi Sermolli (1951):
Alchemilla abyssinica Fresen. (m. 2,900 circa; n. 4).
Helichrysum splendidum (Thunb.) Less. (m. 2,900 circa; n. 972).
Koeleria capensis (Steud.) Nees (m. 2,900 circa; n. 1928).
Lythrum rotundifolium A. Rich. (m. 2,900 circa; n. 2730).
Potamogeton pusillus L. (m. 2,900 circa; n. 2713).
Potamogeton thunbergii Cham. & Schltdl. (m. 2,900 circa; n. 2712).
Vegetation; characteristic species: There are no trees or large shrubs collected from this locality, and the herbs do not suggest a specific vegetation type. A zone at low-altitude of the Ericaceous Belt or Afromontane wooded grassland are likely to have surrounded the stream of Addeschie.
Photographic documentation: Patches of *Erica* bushland on level ground and slopes above a small stream were photographed by Pichi Sermolli on 6.4.1937.[83] Another photograph shows a specimen of *Salix subserrata* along the stream, surrounded by *Erica* bushland.[84]

81 See archival font Dainelli (501), images 1001, 1002, in the *Archivio fotografico* of the *Società geografica italiana*.

82 See archival font Dainelli (501), images 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, in the *Archivio fotografico* of the *Società geografica italiana*. Image no. 501/1013 is reproduced in Pichi Sermolli (1939: Plate ["Table"] 1).

83 See archival font Dainelli (501), images 1015, 1016, 1017, 1018, in the *Archivio fotografico* of the *Società geografica italiana*.

84 See archival font Dainelli (501), image 1014, in the *Archivio fotografico* of the *Società geografica italiana*.

Locality S2 – Pendio a monte del torrente Saurie
No locality number on printed labels with this locality. Marked as S2 on Map 9.
English translation of Italian indication of locality: Slope of mountain at the stream of Saurie].
Georeferencing: The locality is to the west of the map published in Pichi Sermolli (1939: CXVII). On Hurni (1981 [1980]), the valley is spelt "Sawre"; a location at the approximate altitude indicated by Pichi Sermolli is at ca. 2,830 m. approximately at 13.162416° N, 37.953242° E.
Collections cited in Pichi Sermolli (1951):
Acacia negrii Pic. Serm. (m. 2,850 circa; n. 2698).
Alchemilla abyssinica Fresen. (m. 2,850 circa; n. 6).
Vegetation; characteristic species: The only tree collected from this locality, *Acacia negrii*, grows in Afromontane wooded grassland, and its highest known record is at 3,100 m.

Locality S3 – Presso il villaggio di Micciubbi
No locality number on printed labels with this locality. Marked as S3 on Map 9.
English translation of Italian indication of locality: Near the village of Micciubbi.
Georeferencing: The locality is to the west of the map published in Pichi Sermolli (1939: CXVII), and there is no place of that name on IGM (1934-1936a: sheet 9, 10). On Hurni (1981 [1980]), there is no place name spelt exactly as "Micciubbi", but a place named "Michibiny", which might be this place, is located before the Beleges Valley and Ambaras, when coming from Debarech. Michibiny is at ca. 3,200 m. approximately at 13.212649° N, 38.008704° E.
Collections cited in Pichi Sermolli (1951):
Anarrhinum forskaohlii (Gmel.) Cufod. subsp. *abyssinicum* (Jaub. & Spach) D.A. Sutton (m. 3,200; n. 2728).
Echinops longisetus A. Rich. (m. 3,200; n. 2169).
Erica arborea L. (m. 3,200; n. 1042).
Euphorbia schimperiana Scheele (m. 3,200; n. 2672).
Hypericum revolutum Vahl (m. 3,200; n. 180).
Kniphofia foliosa Hochst. (m. 3,200; n. 2017).
Lobelia rhynchopetalum Hemsl. (m. 3,200; n. 2700).
Moraea schimperi (Hochst.) Pic. Serm. (m. 3,200; n. 2674).
Satureja punctata (Benth.) Briq. (m. 3,200; n. 2686).
Thymus schimperi Ronniger (m. 3,200; n. 2685).
Vegetation; characteristic species: The only two trees collected from this locality, *Erica arborea* and *Hypericum revolutum*, and the soft-wooded *Lobelia rhynchopetalum*, meet at about m. 3,200, and must here have grown in the ericaceous Belt.
Photographic documentation: A series of photographs show mixed vegetation near Micciubbi with specimens of *Lobelia* growing in or at the edge of ericaceous bushland.[85]

85 See archival font Dainelli (501), images 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, in the *Archivio fotografico* of the *Società geografica italiana*. Image 1026 is reproduced here as Fig. 37.

7.4.1937

Collecting in the Beleges Valley towards the Cennech Pass.

Locality S4 – Crinale del versante destro della valle di Beleghes ad ovest di Ambaras
No locality number on printed labels with this locality. Marked as S4 on Map 9.
English translation of Italian indication of locality: Crest of the right-hand slope of the Beleges valley to the west of [the village of] Ambaras.
Georeferencing: The locality is to the west of the map published in Pichi Sermolli (1939: CXVII), the crest of the mountains to the W of Ambaras is approximately at 13.226647° N, 38.082991° E.
Collections cited in Pichi Sermolli (1951):
Alchemilla abyssinica Fresen. (m. 3,350 circa; n. 2).
Argyrolobium schimperianum A. Rich. (m. 3,350 circa; n. 2693).
Bartsia longiflora Benth. (m. 3,350 circa; n. 2722, n. 2723).
Clematis simensis Fresen. (m. 3,350 circa; n. 133).
Conyza vernonioides (A. Rich.) Wild (m. 3,350 circa; n. 2631).
Erica arborea L. (m. 3,350 circa; n. 1041).
Geranium arabicum Forssk. subsp. *latistipulatum* (A. Rich.) Kokwaro (m. 3,350 circa; n. 258).
Gnaphalium unionis Oliv. & Hiern (m. 3,350 circa; n. 1019).
Lythrum rotundifolium A. Rich. (m. 3,350 circa; n. 2725).
Maytenus cortii (Pic. Serm.) Cufod. (m. 3,350 circa; n. 2560; n. 2598, n. 2599 (FT, holotype of *Gymnosporia cortii* Pic. Serm.)).
Polygala steudneri Chod. (m. 3,350 circa; n. 140; m. 3,400-3,500; n. 141).
Satureja simensis (Benth.) Briq. (m. 3,350 circa; n. 2678).
Scabiosa columbaria L. (m. 3,350 circa; n. 2206).
Solanum marginatum L. f. (m. 3,350 circa; n. 2734).
Thymus schimperi Ronniger (m. 3,350 circa; n. 2677).
Veronica abyssinica Fresen. (m. 3,350 circa; n. 2724).
Fern collections in FI-PS:
Dryopteris schimperiana (A. Br.) C. Chr. (No alt.; n. 1843, FI-PS 12103)[86]
Vegetation; characteristic species: Here, the only two trees or large shrubs collected from this locality, *Erica arborea* and *Maytenus cortii*, a species related to *Maytenus obscura*, but occurring at higher altitudes, meet at about m. 3500, and must here have grown in the Ericaceous Belt. Little information is obtained from the rather rich flora of herbs and subshrubs.
Photographic documentation: Pichi Sermolli took a number of photographs at the Beleges Valley, which, as a number of them are images of landscapes around the deep valley, do not fit exactly with the localities in this chronological list. Most of the images show single bushes in high altitude grassland, others show open ericaceous bushland, a few images show a species of Araliaceae, possibly collection no. 670, *Schefflera abyssinica*. See also the following localities, to which the photographs cannot be certainly assigned.[87]

86 It is not certain at which of the localities near Ambaras (S4, S5, or S6) this collection was made.

87 See archival font Dainelli (501), images 1034, 1035, 1036, 1037, 1038, 1039, in the *Archivio fotografico* of the *Società geografica italiana*.

Locality S5 – Crinale del versante destro della valle di Beleghes ad ovest di Ambaras
No locality number on printed labels with this locality. Marked as S5 on Map 9.
English translation of Italian indication of locality: Crest of the right-hand slope of the Beleges valley to the west of [the village of] Ambaras].
Georeferencing: The locality is to the west of the map published in Pichi Sermolli (1939: CXVII), but at ca. 3,400-3,500 m. the crest of the mountains to the W of Ambaras is approximately at 13.227485° N, 38.114423° E.
Collections cited in Pichi Sermolli (1951):
Helichrysum citrispinum (m. 3,400-3,500; n. 1028).
Holothrix squammata (A. Rich.) Rchb. f. (m. 3,350 circa; n. 2705; m. 3,400-3,500; n. 2706).
Inula arbuscula Del. (m. 3,350 circa; n. 2621).
Pentaschistis (?) trisetoides* (m. 3,400-3,500; n. 1895).
Senecio myriocephalus A. Rich. (m. 3,350 circa; n. 1060).
Vegetation; characteristic species: The tallest shrub collected from this locality is *Senecio myriocephalus,* which has an upper altitudinal limit at 3,300(-3,900) m. and occurs in mountain bamboo thickets and the Ericaceous Belt, which must be the vegetation at this locality.
Photographic documentation: Pichi Sermolli took more photographs of the Ericaceous belt near the village of Ambaras.[88]

Locality S6 – Crinale del versante destro della valle di Beleghes a nord-est di Ambaras
No locality number on printed labels with this locality. Marked as S6 on Map 9.
English translation of Italian indication of locality: Ridge of the right-hand slope of the Beleges valley to the north-east of [the village of] Ambaras.
Georeferencing: The locality is to the west of the map published in Pichi Sermolli (1939: CXVII), but the highest ridge at ca. 3,650 m. is approximately at 13.258132° N, 38.132166° E.
Collections cited in Pichi Sermolli (1951):
Bartsia longiflora Benth. (m. 3,650 circa; n. 2726).
Euphorbia petitiana A. Rich. (m. 3,650 circa; n. 2671).
Festuca sp. cfr. F. macrophylla* (m. 3,650 circa; n. 1906, n. 1907, n. 1934, n. 1935).
Helichrysum splendidum (Thunb.) Less. (m. 3,650 circa; n. 973).
Pentaschistis pictigluma (Steud.) Pilg. (m. 3,650 circa; n. 1905, n. 1933).
Verbascum sinaiticum Benth. (m. 3,650 circa; n. 2727).
Vegetation; characteristic species: There is no indicator species to suggest the vegetation, but according to personal experience (I. Friis and Sebsebe Demissew) the vegetation is very similar to that of the previous locality, that is more or less open grassland and bushland in the Ericaceous Belt.
Photographic documentation: This is the last sequence of photographs from the Ericaceous belt around the village of Ambaras.[89]

88 See archival font Dainelli (501), images 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, in the *Archivio fotografico* of the *Società geografica italiana*.

89 See archival font Dainelli (501), images 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, in the *Archivio fotografico* of the *Società geografica italiana*. Image 1045 is reproduced here as Fig. 4.

Locality S7 – Ciglione del versante destro della valle di Beleghes (Regione Sancaber)).
No locality number on printed labels with this locality. Marked as S7 on Map 9.
English translation of Italian indication of locality: Edge of the right-hand slope of the Beleges valley near Sancaber.
Variant indication of locality:
Ciglione del versante destro della valle di Beleghes (Sancaber) (n. 179).
Ciglione destro della valle di Beleghes (regione Sancaber) (n. 2687).
Georeferencing: The locality is to the west of the map published in Pichi Sermolli (1939: CXVII), but at ca. 3,300 m. the edge of the right-hand slope of the Beleges Valley in the area of Sancaber is approximately at 13.234487° N, 38.081081° E.
Collections cited in Pichi Sermolli (1951):
Aloe steudneri Schweinf. (m. 3,300 circa; n. 2020).
Anarrhinum forskaohlii (Gmel.) Cufod. subsp. *abyssinicum* (Jaub. & Spach) D.A. Sutton (m. 3,300 circa; n. 2731).
Athrixia rosmarinifolia (Walp.) Oliv. & Hiern (m. 3,300 circa; n. 2627).
Buddleja polystachya Fresen. (m. 3,300 circa; n. 1281).
Clutia lanceolata Forssk. (m. 3,300 circa; n. 2673).
Erica arborea L. (m. 33,00 circa; n. 1044).
Hebenstreitia angolensis Rolfe (m. 3,300 circa; n. 1431).
Helichrysum horridum (Sch. Bip.) A. Rich. (m. 3,300 circa; n. 966).
Helichrysum schimperi (A. Rich.) Moeser (m. 3,300 circa; n. 989).
Helichrysum splendidum (Thunb.) Less. (m. 3,300 circa; n. 971).
Hypericum revolutum Vahl (m. 3,300 circa; n. 179).
Myrica salicifolia A. Rich. (m. 3,300 circa; n. 2741).
Myrsine africana L. (m. 3,300 circa; n. 1109).
Myrsine melanophloeos (L.) R. Br. (m. 3,300 circa; n. 1094).
Nuxia congesta Fresen. (m. 3,300 circa; n. 1229).
Otostegia tomentosa A. Rich. subsp. *steudneri* (Schweinf.) Sebald (m. 3,300 circa; n. 2683).
Polygala rupicola A. Rich. (m. 3,300 circa; n. 142).
Protea gaguedi J.F. Gmel. (m. 3,300 circa; n. 2714).
Pterocephalus frutescens A. Rich. (m. 3,300 circa; n. 911).
Rosa abyssinica Lindl. (m. 3,300 circa; n. 657).
Rumex nervosus Vahl (m. 3,300 circa; n. 2711).
Satureja punctata (Benth.) Briq. (m. 3,300 circa; n. 2688).
Schefflera abyssinica (A. Rich.) Harms (m. 3,300 circa; n. 670).
Senecio myriocephalus A. Rich. (m. 3,300 circa; n. 1059).
Thymus schimperi Ronniger (m. 3,300 circa; n. 2687).
Tolpis virgata (Desf.) Bertol. (m. 3,300 circa; n. 2620).
Verbascum sinaiticum Benth. (m. 3,300 circa; n. 2732).
Vernonia bipontini Vatke (m. 3,300 circa; n. 2629, n. 2630).
Vegetation; characteristic species: The small trees or large shrubs collected from this locality (*Buddleja polystachya, Clutia lanceolata, Erica arborea, Hypericum revolutum, Myrica salicifolia, Myrsine africana, Myrsine melanophloeos, Nuxia congesta, Otostegia tomentosa* subsp. *steudneri, Protea gaguedi, Rosa abyssinica, Schefflera abyssinica, Senecio myriocephalus*) suggest a species-rich flora where the uppermost zone of the Afromontane forest meets *Hypericum* woodland and the Ericaceous Belt. *Hagenia abyssinica*, with *Hypericum revolutum* the two most characteristic species in the uppermost zone of the Afromontane forest, was not observed in any part of the Semien studied on this

Fig. 52. View from the upper zone of Ericaceous bushland near the crest of the right-hand slope of the Beleges Valley in the Semien Mountains. In the background the lower mountains north of the Semien. Photograph by Ib Friis, 2015.

trip. Several of the herbaceous species collected from this locality are characteristic in seepage-areas at this altitude (I. Friis & Sebsebe Demissew, pers. obs.).

From the Beleges Valley to the Cennech Pass and Mt. Buahit

8.4.1937

Locality S8 – Ambaras Uascia sul versante destro della valle di Beleghes
No locality number on printed labels with this locality. Marked as S8 on Map 9.
English translation of Italian indication of locality: Ambaras washa (gorge or cave) on the right-hand slope of the Beleges valley. ["Uascia" is Pichi Sermolli's rendering of the Amharic word for narrow gorge or cave, "washa"].
Variant indication of locality:
Ambaras Uascia, sul versante destro della valle di Beleghes (n. 259).
Georeferencing: The locality is to the west of the map published in Pichi Sermolli (1939: CXVII), and there is no narrow gorge or cave indicated on the available maps, but altitudes at ca. 3,650 m. near Ambaras are in the direction of Mt. Inatye and Emiet Gogo. During fieldwork in this area, one of the authors has observed moisture-loving

species like those listed for this locality. The locality is approximately at 13.240868° N, 38.150222° E.
Collections cited in Pichi Sermolli (1951):
Conyza vernonioides (A. Rich.) Wild (m. 3,650 circa; n. 2632).
Geranium arabicum Forssk. subsp. *latistipulatum* (A. Rich.) Kokwaro (m. 3,650 circa; n. 259).
Helichrysum splendidum (Thunb.) Less. (m. 3,650 circa; n. 967).
Holothrix squammata (A. Rich.) Rchb. f. (m. 3,650 circa; n. 2708).
Hypericum revolutum Vahl (m. 3,650 circa; n. 178).
Kniphofia foliosa Hochst. (m. 3,650 circa; n. 1757, n. 1758).
Thymus schimperi Ronniger (m. 3,650 circa; n. 2692).
Vegetation; characteristic species: The only small trees or large shrub collected from this locality (*Hypericum revolutum*) suggest a flora similar to that of the previous locality, that is the uppermost zone of the Afromontane forest meets *Hypericum* woodland and Ericaceous Belt.
Photographic documentation: Pichi Sermolli's photographs from the area of Ambaras Uascia show ericaceous bushland with *Lobelia rhynchopetalum*.[90]

Locality S9 – Testata della valle di Beleghes presso il passo Cennech
No locality number on printed labels with this locality. Marked as S9 on Map 9.
English translation of Italian indication of locality: Head of the Beleges valley near the pass of Cennech.
Variant indication of locality:
Testata della valle di Beleghes presso il passo di Cennech (N. 2217).
Georeferencing: The locality is inside the western edge of the map published in Pichi Sermolli (1939: CXVII), and the locality can relatively precisely be located at a point from where the photograph reproduced as Tav. 2 in Pichi Sermolli (1939) was taken. It is located approximately at 13.261926° N, 38.196924° E.
Collections cited in Pichi Sermolli (1951):
Agrostis quinqueseta (Steud.) Hochst. (m. 3,700-3,800; n. 2075).
Erica tenuipilosa (Alm & T.C.E. Fries) Cheek subsp. spicata (A. Rich.) Cheek (m. 3,700-3,800; n. 1040).
Festuca sp. cfr. F. schimperiana* (m. 3,700-3,800; n. 2217).
Festuca sp.* (m. 3,700-3,800; n. 581, n. 2489, n. 2495).
Helichrysum splendidum (Thunb.) Less. (m. 3,700-3,800; n. 969).
Holothrix squammata (A. Rich.) Rchb. f. (m. 3,700-3,800; n. 2707).
Koeleria capensis (Steud.) Nees (m. 3,700-3,800; n. 1918, n. 1919).
Lobelia rhynchopetalum Hemsl. (m. 3,700-3,800; n. 2701).
Luzula abyssinica Parl. (m. 3,700-3,800; n. 2670).
Thymus schimperi Ronniger (m. 3,700-3,800; n. 2690; n. 2691).
Vegetation; characteristic species: The only small shrubby plant collected from this locality (*Erica tenuipilosa*), combined with the presence of *Lobelia rhynchopetalum,* suggest a flora where the upper part of the Ericaceous Belt meets with the Afroalpine vegetation.

90 See archival font Dainelli (501), images 1054, 1055, 1056, 1057, in the *Archivio fotografico* of the *Società geografica italiana*.

Fig. 53. A small mountain stream running from the right-hand side of the Beleges Valley towards the Beleges River, probably a "uasha" according to the concept of Pichi Sermolli. Photograph by Sebsebe Demissew, 2009.

Photographic documentation: Pichi Sermolli's photographs from near Cennech show grassland with scattered *Lobelia rhynchopetalum*.[91]

Locality S10 – Curfu Uascia sul versante destro della valle di Beleghes
No locality number on printed labels with this locality. Marked as S10 on Map 9.
English translation of Italian indication of locality: At the Curfu washa on the right-hand slope of the Beleges valley ["Uascia" is Pichi Sermolli's rendering of the Amharic word for narrow gorge or cave, "washa"].
Georeferencing: The locality is inside the western edge of the map published in Pichi Sermolli (1939: CXVII), but the name of the gorge or cave is not indicated on this or any other available map; from the altitude and the general information, the locality must be localised approximately at 13.254823° N, 38.175290° E.
Collections cited in Pichi Sermolli (1951):
Alchemilla abyssinica Fresen. (m. 3,700 circa; n. 7).
Cardamine obliqua A. Rich. (m. 3,700 circa; n. 2660; n. 2661).
Geranium arabicum Forssk. subsp. *arabicum* (m. 3,700 circa; n. 260).

91 See archival font Dainelli (501), images 1058, 1059, 1060, 1061, 1062, 1063, 1064, in the *Archivio fotografico* of the *Società geografica italiana*. No. 501/1064 is reproduced in Pichi Sermolli (1939: Table 2).

Haplocarpha rueppellii (Sch. Bip.) P. Beauv. (m. 3,700 circa; n. 1013).
Hypericum peplidifolium A. Rich. (m. 3,700 circa; n. 177).
Isolepis costata A. Rich. (m. 3,700 circa; n. 2668).
Lemna minor L. (m. 3,700 circa; n. 2699).
Saxifraga hederifolia A. Rich. (m. 3,700 circa; n. 2720).
Vegetation; characteristic species: There is no woody indicator species to suggest the vegetation, but according to personal experience (I. Friis and Sebsebe Demissew) the vegetation is quite likely moist Afroalpine.

Locality S11 – Gumosc Uascia sul versante destro della valle di Beleghes
No locality number on printed labels with this locality. Marked as S11 on Map 9.
English translation of Italian indication of locality: At the Gumosc washa on the right-hand slope of the Beleges valley. ["Uascia" is Pichi Sermolli's rendering of the Amharic word for narrow gorge or cave, "washa"].
Georeferencing: As the previous locality, this one is inside the western edge of the map published in Pichi Sermolli (1939: CXVII), but the name of the gorge or cave is not indicated on this or any other available map; from the altitude and the general information, the locality must be localised approximately at 13.255298° N, 38.178657° E.
Collections cited in Pichi Sermolli (1951):
Bartsia longiflora Benth. (m. 3,700 circa; n. 2733).
Erica arborea L. (m. 3,700 circa; n. 1045).
Haplocarpha rueppellii (Sch. Bip.) P. Beauv. (m. 3,700 circa; n. 1014).
Helichrysum citrispinum Del. (m. 3,700 circa; n. 1027).
Helichrysum formosissimum A. Rich. (m. 3,700 circa; n. 974).
Kniphofia foliosa Hochst. (m. 3,700 circa; n. 2018).
Vegetation; characteristic species: The only small tree or large shrub collected from this locality is *Erica arborea,* which in combination with the herbaceous species suggests a species-rich flora where in the Ericaceous Belt, with both dry and seepage-areas. As mentioned, Uascia [washa] is an Amharic word for cave, but Pichi Sermolli seems in the records from the Semien to have used it for small streams running in gorges. See photographs below.
Photographic documentation: The following photographs are from this date and therefore probably from the Gumosc Uascia area.[92]

Locality S12 – Versante nord-orientale di M. Buahit
No locality number on printed labels with this locality. Marked as S12 on Map 9.
English translation of Italian indication of locality: North-eastern slope of Mt. Buahit.
Georeferencing: From the altitude and the position on Mt. Buahit [Bwahit], this locality must be approximately at 13.247459° N, 38.221240° E.
Collections cited in Pichi Sermolli (1951):
Arabis alpina L. (m. 4,300 circa; n. 2652).
Dipsacus pinnatifidus A. Rich. (m. 4,300; n. 2619 (FT, holotype of *Dipsacus eremocephalus* Pic. Serm.)).
Epilobium stereophyllum Fresen. (m. 4,300 circa; n. 2703, n. 2704).
Helichrysum splendidum (Thunb.) Less. (m. 4,300 circa; n. 970).
Senecio farinaceus A. Rich. (m. 4,300 circa; n. 2611).

92 See archival font Dainelli (501), images 1051, 1052, 1053, in the *Archivio fotografico* of the *Società geografica italiana*.

Fig. 54. Ericaceous bushland and specimens of *Lobelia rhynchopetalum* on grassland meet in the uppermost reach of the Serekawa Valley, south of the deeper Beleges Valley. The dark areas in the background on the opposite slope are Ericaceous bushland, in the foreground scattered specimens of *Lobelia rhynchopetalum* in grassland. Photograph by Ib Friis, 2015.

Vegetation; characteristic species: There are no trees or shrubs among the collections from this locality, which must represent a mosaic of relatively dry Afroalpine vegetation with rocky and stony ground and moister Afroalpine vegetation.
Photographic documentation: Pichi Sermolli's photographs from Mount Buahit show grassland with *Lobelia rhynchopetalum*.[93]

Locality S13 – Versante nord-occidentale di M.[onte] Buahit
No locality number on printed labels with this locality. Marked as S13 on Map 9.
English translation of Italian indication of locality: North-western slope of Mt. Buahit.
Variant indication of locality:
Versante nord-occid. di M.[onte] Buahit (n. 2617).
Georeferencing: From the altitude and the position on Mt Buahit [Bwahit], this locality must be approximately at 13.247963° N, 38.218055° E.

93 See archival font Dainelli (501), images 1065, 1066, 1067, 1068, 1069, in the *Archivio fotografico* of the *Società geografica italiana*. No. 501/1065 is reproduced in Pichi Sermolli (1939: Tab. 3).

Collections cited in Pichi Sermolli (1951):
Agrostis sp.* (m. 4,200-4,510; n. 2068).
Alchemilla microbetula T.C.E. Fries (m. 4,200-4,510; n. 5).
Arabis alpina L. (m. 4,200-4,510; n. 2657).
Cerastium octandrum A. Rich. (m. 4,200-4,510; n. 2009, n. 2580).
Cirsium vel Carduus sp.* (m. 4,200-4,510; n. 2624).
Festuca sp.* (m. 4,200-4,510; n. 1922, n. 1923, n. 2065, n. 2467).
Galium acrophyum Chiov. (m. 4,200-4,510; n. 774).
Haplocarpha rueppellii (Sch. Bip.) P. Beauv. (m. 4,200-4,510; n. 1012).
Helichrysum citrispinum Del. (m. 4,200-4,510; n. 1029).
Oreophyton falcatum (A. Rich.) O.E. Schulz (m. 4,200-4,510; n. 2653, n. 2658, n. 2659).
Pentaschistis pictigluma (Steud.) Pilg. (m. 4,200-4,510; n. 1921).
Pentaschistis sp.* (m. 4,200-4,510; n. 1920).
Pimpinella pimpinelloides (Hochst.) Wolff (m. 4,200-4,510; n. 2736).
Ranunculus tembensis Fresen. (m. 4,200-4,510; n. 781).
Ranunculus oreophytus Del. (m. 4,200-4,510; n. 776, n. 778).
Sagina abyssinica A. Rich. (m. 4,200-4,510; n. 2590).
Satureja imbricata (Forssk.) Briq. (m. 4,200-4,510; n. 2689 (FT, holotype of *Satureja contardoi* Pic. Serm.)).
Saxifraga hederifolia A. Rich. (m. 4,200-4,510; n. 2719).
Senecio farinaceus A. Rich. (m. 4,200-4,510; n. 2612).
Senecio nanus A. Rich. (m. 4,200-4,510; n. 2617).
Wahlenbergia pusilla A. Rich. (m. 4,200-4,510; n. 1050).
Vegetation; characteristic species: As for the previous locality, there are no trees or shrubs among the collections from this locality, which must represent a mosaic of relatively dry Afroalpine vegetation with rocky and stony ground and moister Afroalpine vegetation.

To the northern part of the Semien: Mt. Selchi and the pass of Arcuasie.

10.4.1937

Locality S14 – Cresta meridionale di M.[onte] Selchi
No locality number on printed labels with this locality. Marked as S14 on Map 9.
English translation of Italian indication of locality: Southern crest of Mt. Selchi.
Georeferencing: From the altitude and the position on Mt Selchi [Silke], this locality must be at ca. 4,300 m. and approximately at 13.334785° N, 38.262672° E.
Collections cited in Pichi Sermolli (1951):
Agrostis quinqueseta (Steud.) Hochst. (m. 4,250-4,475; n. 1911).
Alchemilla microbetula T.C.E. Fries (m. 4,250-4,475; n. 9).
Anthemis tigreensis A. Rich. (m. 4,250-4,475; n. 2601).
Arabis alpina L. (m. 4,250-4,475; n. 2655).
Cerastium octandrum A. Rich. (m. 4,250-4,475; n. 2011, n. 2592).
Cineraria deltoidea Sond. (m. 4,250-4,475; n. 2608).
Cotula abyssinica A. Rich. (m. 4,250-4,475; n. 2623).
Festuca sp. cfr. F. rigidula* (m. 4,250-4,475; n. 2072, n. 2194).
Festuca sp. cfr. F. schimperiana* (m. 4,250-4,475; n. 1909).
Festuca sp.* (m. 4,250-4,475; n. 1914).
Galium acrophyum Chiov. (m. 4,250-4,475; n. 2662).

Fig. 55. Low Afroalpine vegetation on the western slope of Mt. Bwahit near summit. Photograph by Ib Friis, 2015.

Helichrysum citrispinum Del. (m. 4,250-4,475; n. 1026).
Helichrysum splendidum (Thunb.) Less. (m. 4,250-4,475; n. 968).
Herniaria hirsuta A. Rich. (m. 4,250-4,475; n. 2709).
Koeleria capensis (Steud.) Nees (m. 4,250-4,475; n. 1908, n. 1915, n. 1917, n. 2418).
Oreophyton falcatum (A. Rich.) O.E. Schulz (m. 4,250-4,475; n. 2525, n. 2654, n. 2656).
Paronychia bryoides A. Rich. (m. 4,250-4,475; n. 2710).
Pentaschistis pictigluma (Steud.) Pilg. (m. 4,250-4,475; n. 1910, n. 2076).
Poa sp.* (m. 4,250-4,475; n. 1916).
Ranunculus oreophytus Del. (m. 4,250-4,475; n. 779).
Sagina abyssinica A. Rich. (m. 4,250-4,475; n. 2894, n. 2595).
Senecio farinaceus A. Rich. (m. 4,250-4,475; n. 2607).
Senecio nanus A. Rich. (m. 4,250-4,475; n. 2618).
Swertia engleri Gilg (m. 4,250-4,475; n. 2591).
Vegetation; characteristic species: As for the previous localities, there are no trees or shrubs among the collections from this locality, which must represent a mosaic of relatively dry Afroalpine vegetation with stony ground and moister Afroalpine vegetation.

Locality S15 – Versante occidentale di M.[onte] Selchi
No locality number on printed labels with this locality. Marked as S15 on Map 9.
English translation of Italian indication of locality: Western slope of Mt. Selchi.
Georeferencing: From the altitude and the position on Mt Selchi [Silke], this locality must be approximately at 13.337190° N, 38.267524° E.

Collections cited in Pichi Sermolli (1951):
Agrostis cfr. A. quinqueseta* (m. 4,000 circa; n. 2593).
Agrostis quinqueseta (Steud.) Hochst. (m. 4,000 circa; n. 2494).
Alchemilla microbetula T.C.E. Fries (m. 4,200 circa; n. 8).
Bromus sp.* (m. 4,000 circa; n. 1927, n. 2742).
Carex monostachya A. Rich. (m. 4,000 circa; n. 2665).
Cerastium octandrum A. Rich. (m. 4,000 circa; n. 2588; m. 4,200 circa; n. 2596).
Erica tenuipilosa (Alm & T.C.E. Fries) Cheek subsp. *spicata* (A. Rich.) Cheek (m. 4,000 circa; n. 1039).
Festuca sp. cfr. F. rigidula* (m. 4,000 circa; n. 1924).
Festuca sp. cfr. F. schimperiana* (m. 4,200 circa; n. 1915, n. 2634).
Galium acrophyum Chiov. (m. 4,000 circa; n. 773).
Helichrysum foetidum (L.) Moench var. *microcephalum* A. Rich. (m. 4,000 circa; n. 973).
Luzula abyssinica Parl. (m. 4,000 circa; n. 2669).
Pentaschistis pictigluma (Steud.) Pilg. (m. 4,200 circa; n. 1912; m. 4,000 circa; n. 1925, n. 1926).
Sagina abyssinica A. Rich. (m. 4,000 circa; n. 2587; m. 4,200 circa; n. 2597).
Senecio farinaceus A. Rich. (m. 4,200 circa; n. 2610).
Swertia engleri Gilg (m. 4,000 circa; n. 2586).
Trifolium acaule A. Rich. (m. 4,000 circa; n. 2695).
Vegetation; characteristic species: There are no trees or shrubs among the collections from this locality, which must represent relatively moist Afroalpine vegetation, here with tussocks of *Carex monostachya*.
Photographic documentation: Pichi Sermolli's photographs from Mount Selchi are not specified with regard to the western and the eastern slope and can therefore not be associated with his localities from Mount Selchi.

Locality S16 – Presso il passo di Arcuasie
No locality number on printed labels with this locality. Marked as S16 on Map 9.
English translation of Italian indication of locality: Near the pass of Arcuasie.
Georeferencing: The pass and village of "Arcuasie", Arkwasie, cannot be well identified on maps, but is said to be at ca. 3,700 m. and that would agree with a location approximately at 13.291907° N, 38.265732° E.
Collections cited in Pichi Sermolli (1951):
Lactuca sp.* (m. 3,740 circa; n. 2144).
Sagina abyssinica A. Rich. (m. 3,740 circa; n. 2589).
Trifolium acaule A. Rich. (m. 3,740 circa; n. 2697).
Vegetation; characteristic species: The three collections from this locality are herbs growing in Afroalpine vegetation on rocky or stony ground or in Afroalpine grassland.

Locality S17 – Poco a monte del villaggio di Nori
No locality number on printed labels with this locality. Marked as S17 on Map 9.
English translation of Italian indication of locality: A little up the mountains at the village of Nori.
Georeferencing: On the maps of the Semien by Pichi Sermolli and E. Minucci there are two villages named Nori, one to the north-west and one to the south-west of the Arcuasie pass (Arkwasie); the south-western locality is in approximately the same place as a village named "Lori" on the Bern-map of the Semien, but from the travelogue it would seem that this locality is in the north-western position, above Arcuasie at approximately 13.295146° N, 38.269587° E.

Collections cited in Pichi Sermolli (1951):
Erica arborea L. (m. 3,700 circa; n. 1043).
Vegetation; characteristic species: The only collection from this locality, *Erica arborea,* indicates that it is in the Ericaceous Belt.
Photographic documentation: Pichi Sermolli photographed a number of views towards Mount Buahit from the camp at Nori and images showing the landscape around Nori; several photographs show Afroalpine grassland with *Lobelia rhynchopetalum*, some ericaceous bushland, and some show burnt vegetation.[94] Other photographs show a view of the Selchi pass and views in various directions.[95] Photographs from Arcuasie show the market, on short Afroalpine grassland, as well as areas with large swamps of *Carex monostachya* in the Arcuasie valley.[96]

Towards the eastern part of the Semien.

11.4.1937

Locality S18 – Lungo il Mai Sciaha
No locality number on printed labels with this locality. Marked as S18 on Map 9.
English translation of Italian indication of locality: Along the stream of Mai Sciaha. ["Mai" is a Tigrinya/Amharic word for "stream"].
Georeferencing: Pichi Sermolli's stream of Mai Sciaha must be the northern part of the long stream that, running southwards divides the Semien in a western and eastern part; that stream is now usually referred to as Mesheha Wenz. To judge from the altitude, the locality is approximately at 13.252890° N, 38.293898° E.
Collections cited in Pichi Sermolli (1951):
Ajuga integrifolia D. Don (m. 2,840 circa; n. 2680).
Anarrhinum forskaohlii (Gmel.) Cufod. subsp. *abyssinicum* (Jaub. & Spach) D.A. Sutton (m. 2,840 circa; n. 2729).
Rosa abyssinica Lindl. (m. 2,840 circa; n. 664).
Salix subserrata Willd. (m. 2,840 circa; n. 2715).
Ferns and fern allies cited in Gastaldo & Paola (1978):
Equisetum ramosissimum Desf. (No alt.; n. 1829, not seen, cited in Gastaldo & Paola 1978: 111).
Vegetation; characteristic species: This locality is in the uppermost reaches of the Mesheha River, where *Salix subserrata* forms a riparian scrub, surrounded by scrub of *Rosa abyssinica*. The two species of herbs grow on relatively moist ground.

Locality S19 – Lungo l'Ambiquo Uascia presso la sua confluenza con il Mai Sciaha
No locality number on printed labels with this locality. Marked as S19 on Map 9.
English translation of Italian indication of locality: Along the Ambiquo Uacia near its confluence with Mai Sciaha.

94 See archival font Dainelli (501), images 1070, 1071, 1072, 1073, 1074, 1075, 1076, in the *Archivio fotografico* of the *Società geografica italiana*. Image 1074 is reproduced here as Fig. 3.

95 See archival font Dainelli (501), images 1077, 1078, 1079, 1080, in the *Archivio fotografico* of the *Società geografica italiana*.

96 See archival font Dainelli (501), images 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, in the *Archivio fotografico* of the *Società geografica italiana*. Image 1086 is reproduced in Pichi Sermolli (1939: Plate 4) and here as Fig. 22. Image 1089 is reproduced here as Fig. 5.

Georeferencing: No map shows the name "Ambiquo Uacia", but there is a village named "Ambikwa" on Hurni (1981 [1980]) at ca. 3300 m; presumably the locality is in the valley below that village at approximately 13.268872° N, 38.309441° E.
Collections cited in Pichi Sermolli (1951):
Laggera tomentosa (A. Rich.) Oliv. & Hiern (m. 2,950 circa; n. 2628).
Primula verticillata Forssk. subsp. *simensis* (Hochst.) W. W. Sm. & Forrest (m. 2,950 circa; n. 1032).
Fern collections in FI-PS:
Pteris dentata Forssk. (No alt.; n. 1977, FI-PS 10647).
Vegetation; characteristic species: The only three collections from this locality are herbs growing in high montane Afroalpine vegetation on rocky or stony ground, mostly with some seepage.

Locality S20 – Pendio a valle del villaggio di Atgheba Ghiorghis
No locality number on printed labels with this locality. Marked as S20 on Map 9.
English translation of Italian indication of locality: Slope of the valley of the village Atgeba Giorgis].
Georeferencing: This village is named "Atgeba" on Hurni (1980) and on Google Earth (2020); the locality is approximately at 13.266551° N, 38.290724° E.
Collections cited in Pichi Sermolli (1951):
Acacia pilispina Pic. Serm. (m. 2,900-3,100; n. 2696 (FT, holotype of *Acacia pilispina* Pic. Serm.).
Aloe steudneri Schweinf. (m. 2,900-3,100; n. 2019).
Becium grandiflorum (Lam.) Pic. Serm. (m. 2,900-3,100; n. 2682).
Ceratostigma abyssinicum (Hochst.) Asch. (m. 2,900-3,100; n. 1035).
Gomphocarpus purpurascens A. Rich. (m. 2,900-3,100; n. 1242).
Plectranthus ornatus Codd (m. 2,900-3,100; n. 2681).
Vegetation; characteristic species: The only tree collected from this locality, *Acacia pilispina*, grows in Afromontane woodland or scrub, and this is the highest known record for it. The other species also normally grow at lower altitudes. At the altitudes of 2900-3100 m. one would expect bushland and woodland of *Erica arborea*, but probably the valley of the village Atgeba Giorgis represents a sheltered place where species more common at lower altitudes can reach unusually high.
Photographic documentation: Pichi Sermolli recorded this area in an extensive series of photographs.[97] Several images from the Atgheba Valley and one image from the Mesciaha [Meshehe, Mai Sciaha] Valley (image no. 1101 in Fondo Dainelli (501), reproduced here as Fig. 38) show a succulent, 4 or more ribbed, candelabra-shaped species of *Euphorbia*, not collected, but almost certainly *E. abyssinica*, the altitudinal limit of which is normally at c. 2400 m.

In the eastern part of the Semien Mountains, around Mt. Degien.

Locality S21 – Versante sud-orientale di M.[onte] Ualta
No locality number on printed labels with this locality. Marked as S21 on Map 9.
English translation of Italian indication of locality: South-eastern slope of Mt. Ualta.

97 See archival font Dainelli (501), images 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, in the *Archivio fotografico* of the *Società geografica italiana*.

Fig. 56. View from the eastern slope of Mt. Bwahit across the valley of Mai Sciaha towards the eastern massif of the Semien Mountains. Photograph by Ib Friis, 2015.

Variant indication of locality:
Versante sud-orientale M.[onte] Ualta (n. 1901, n. 1929, n. 2093, n. 2584, n. 2585, n. 2615, n. 2622, n. 2648, n. 2684, n. 2694).
Georeferencing: A mountain with a name similar to "M.[onte] Ualta" is not shown or named on modern maps; from the maps published by Pichi Sermolli it must be approximately on the same crest as Ras Degien, approximately at 13.249924° N, 38.367296° E.
Collections cited in Pichi Sermolli (1951):
Agrostis quinqueseta (Steud.) Hochst. (m. 4,300-4,520; n. 1903).
Agrostis sclerophylla C.E. Hubb. (m. 4,300-4,520; n. 1901, n. 1929).
Agrostis sp.* (m. 4,300-4,520; n. 1932).
Alchemilla microbetula T.C.E. Fries (m. 4,300-4,520; n. 2585).
Anthemis tigreensis A. Rich. (m. 4,300-4,520; n. 2633).
Arabis alpina L. (m. 4,300-4,520; n. 2650).
Bromus sp.* (m. 4,300-4,520; n. 1931).
Carex monostachya A. Rich. (m. 4,300-4,520; n. 2666).
Conyza messerii Pic. Serm. (m. 4,300-4,520; n. 2636 FT, holotype, K, isotype of *Conyza messeri* Pic. Serm.).
Festuca sp.* (m. 4,300-4,520; n. 2582).
Galium acrophyum Chiov. (m. 4,300-4,520; n. 775).
Helichrysum citrispinum Del. (m. 4,300-4,520; n. 1030).
Indeterminabile* (m. 4,300-4,520; n. 2622).

Koeleria capensis (Steud.) Nees (m. 4,300-4,520; n. 1904).
Oreophyton falcatum (A. Rich.) O.E. Schulz (m. 4,300-4,520; n. 2648, n. 2649).
Pentaschistis pictigluma (Steud.) Pilg. (m. 4,300-4,520; n. 1930).
Pimpinella pimpinelloides (Hochst.) Wolff (m. 4,300-4,520; n. 2738 (FT, holotype of *Gymnosciadium pusillum* Pic. Serm.)).
Poa cfr. P. leptoclada* (m. 4,300-4,520; n. 1902).
Ranunculus oreophytus Del. (m. 4,300-4,520; n. 777, n. 780).
Sagina abyssinica A. Rich. (m. 4,300-4,520; n. 2093).
Satureja imbricata (Forssk.) Briq. (m. 4,300-4,520; n. 2684).
Satureja simensis (Benth.) Briq. (m. 4,300-4,520; n. 2679).
Saxifraga hederifolia A. Rich. (m. 4,300-4,520; n. 2716).
Senecio farinaceus A. Rich. (m. 4,300-4,520; n. 2606).
Senecio nanus A. Rich. (m. 4,300-4,520; n. 2615).
Swertia engleri Gilg (m. 4,300-4,520; n. 2584).
Trifolium cryptopodium A. Rich. (m. 4,300-4,520; n. 2694).
Fern collections in FI-PS:
Polystichum wilsonii H. Christ (m. 4,300-4,520; n. 1859, FI-PS 18661)[98]
Vegetation; characteristic species: There are no trees or shrubs among the rather rich collection of herbs from this locality, which must represent a mosaic of relatively dry and stony and relatively moist Afroalpine vegetation, here with tussocks of *Carex monostachya*.
Photographic documentation: Pichi Sermolli photographs show the mosaic of dry and moist vegetation with *Lobelia rhynchopetalum* and tussocks of grasses and sedges.[99]

13.4.1937

Locality S22 – Versante meridionale di M.[onte] Degien
No locality number on printed labels with this locality. Marked as S22 on Map 9.
English translation of Italian indication of locality: Southern slope of Mt. Degien.
Georeferencing: According to modern maps and Google Earth, "Ras Degien" [Ras Dejen] is the highest part of a north-south crest, and it is difficult to identify a southern slope. However, from the altitude and the position on Mt. Degien [Ras Dejen], this locality must be approximately at 13.235000° N, 38.376227° E.
Collections cited in Pichi Sermolli (1951):
Agrostis sclerophylla C.E. Hubb. (m. 4,350-4,620; n. 1898).
Alchemilla microbetula T.C.E. Fries (m. 4,350-4,620; n. 1).
Anthemis tigreensis A. Rich. (m. 4,350-4,620; n. 2635).
Bromus sp.* (m. 4,350-4,620; n. 1900, n. 2581).
Cerastium octandrum A. Rich. (m. 4,350-4,620; n. 2583).
Helichrysum citrispinum Del. (m. 4,350-4,620; n. 1025).
Koeleria capensis (Steud.) Nees (m. 4,350-4,620; n. 1897).
Limosella capensis Thunb. (m. 4,350-4,620; n. 2651 (FT, holotype of *Limosella semiensis* Pic. Serm.)).

98 The label states that this collection was made on 12.4.1937.
99 See archival font Dainelli (501), images 1108, 1109, 1110, 1111, 1112, 1113, in the *Archivio fotografico* of the *Società geografica italiana*.

Fig. 57. View from the eastern slopes of Mt. Bwahit towards the chain with Mt. Ras Degien, the highest peak in Ethiopia. In the foreground *Lobelia rhynchopetalum* on grassland. Photograph by Ib Friis, 2015.

Oreophyton falcatum (A. Rich.) O.E. Schulz (m. 4,350-4,620; n. 2641, n. 2642, n. 2643, n. 2644, n. 2645, n. 2646, n. 2647).
Poa cfr. P. leptoclada* (m. 4,350-4,620; n. 1899).
Sagina abyssinica A. Rich. (m. 4,350-4,620; n. 2094).
Saxifraga hederifolia A. Rich. (m. 4,350-4,620; n. 2718).
Senecio farinaceus A. Rich. (m. 4,350-4,620; n. 2602 (FT, holotype of *Senecio degiensis* Pic. Serm.), n. 2603, n. 2604, n. 2605).
Vegetation; characteristic species: There are no trees or shrubs among the collections from this locality, which must represent relatively moist Afroalpine vegetation, but also areas with rocky ground.

Locality S23 – Sulla vetta di M.[onte] Degien
No locality number on printed labels with this locality. Marked as S23 on Map 9.
English translation of Italian indication of locality: On the summit of Mt. Degien.
Georeferencing: Assuming that this is identical with the peak that is currently presumed to be Ras Dejen, the highest point is now measured to be at 4,550 m., and it is located at 13.248613° N, 38.373253° E.
Collections cited in Pichi Sermolli (1951):
Senecio nanus A. Rich. (m. 4,620; n. 2616).
Vegetation; characteristic species: The only collection from this locality is a low herb growing in Afroalpine vegetation on rocky or stony ground.

Photographic documentation: Pichi Sermolli's photographs of Mount Degien [Dejen] are from the summit and below on the western slope.[100]

Locality S24 – Fessure delle roccie del versante settentrionale di M.[onte] Ancua
No locality number on printed labels with this locality. Marked as S24 on Map 9.
English translation of Italian indication of locality: Clefts in the rocks of the northern slope of Mt. Ancua.
Georeferencing: A mountain with a name similar to "M.[onte] Ancua" is not shown or named on modern maps; from the maps published by Pichi Sermolli it must be east of the peak of Mt. Degien [Dejen], although not possible to identify exactly, it may be approximately at 13.274232° N, 38.412176° E.
Collections cited in Pichi Sermolli (1951):
Oreophyton falcatum (A. Rich.) O.E. Schulz (m. 4,200 circa; n. 2640).
Primula verticillata Forssk. subsp. *simensis* (Hochst.) W. W. Sm. & Forrest (m. 4,200 circa; n. 1031, n. 1034).
Rosularia semiensis (A. Rich.) Ohba (m. 4,200 circa; n. 2637).
Vegetation; characteristic species: The collections from this locality represent low herbs growing in Afroalpine vegetation on rocky or stony ground; *Rosularia semiensis* grows on exposed rock faces, the two other species sheltered between rocks.
Photographic documentation: Pichi Sermolli's photographs from this locality show low Afroalpine vegetation.[101]

Locality S25 – Versante meridionale di M.[onte] Chiddis Arit
No locality number on printed labels with this locality. Marked as S25 on Map 9.
English translation of Italian indication of locality: Southern slope of Mt. Chiddis Arit [now mostly spelt Kidis Yared].
Georeferencing: From the altitude and the position on Mt. Chiddis Arit [Kidis Yared], this locality, in areas with steep slopes, must be approximately at 13.306185° N, 38.320524° E.
Collections cited in Pichi Sermolli (1951):
Lobelia schimperi A. Rich. (m. 3,800 circa; n. 2721).
Stachys hypoleuca A. Rich. (m. 3,800 circa; n. 2675).
Vegetation; characteristic species: The only two collections from this locality represent low herbs growing in Afroalpine vegetation on rocky or stony ground; they probably grow in sheltered places among rocks.

14.4.1937

Locality S25 – continued – M.[onte] Chiddis Arit
No locality number on printed labels with this locality. Marked as S25 on Map 9.
English translation of Italian indication of locality: Mt. Chiddis Arit [now mostly spelt Kidis Yared].

100 See archival font Dainelli (501), images 1123, 1124, 1125, 1126, 1127, in the *Archivio fotografico* of the *Società geografica italiana*.

101 See archival font Dainelli (501), images 1114, 1115, 1116, 1117, 1118, 1119, 1120, 1121, in the *Archivio fotografico* of the *Società geografica italiana*.

Georeferencing: As for the previous locality, this must be approximately at 13.306185° N, 38.320524° E.
Collections cited in Pichi Sermolli (1951):
Agrostis sclerophylla C.E. Hubb. (m. 4,200-4,532; n. 1896).
Carduus schimperi Sch. Bip. (m. 4,200-4,532; n. 2626).
Vegetation; characteristic species: The only two collections from this locality represent low herbs growing in Afroalpine vegetation on rocky or stony ground.
Locality S25 – continued – Tra le fessure delle roccie nel versante meridionale di M.[onte] Chiddis Arit
No locality number on printed labels with this locality. Marked as S25 on Map 9.
English translation of Italian indication of locality: In clefts in the rocks on the southern slope of Mt. Chiddis Arit [now mostly spelt Kidis Yared].
Variant indication of locality:
Versante meridionale di M.[onte] Chiddis Arit (n. 257).
Georeferencing: As for the previous locality, this must be approximately at 13.306185° N, 38.320524° E.
Collections cited in Pichi Sermolli (1951):
Carduus leptacanthus Fresen. (m. 4,000 circa; n. 2625 (FT, holotype of *Carduus semiensis* Pic. Serm.)).
Geranium arabicum Forssk. subsp. *latistipulatum* (A. Rich.) Kokwaro (m. 4,000 circa; n. 257).
Primula verticillata Forssk. subsp. *simensis* (Hochst.) W. W. Sm. & Forrest (m. 4,000 circa; n. 1033).
Rosularia semiensis (A. Rich.) Ohba (m. 4,000 circa; n. 2638, n. 2639).
Stachys hypoleuca A. Rich. (m. 4,000 circa; n. 2676).
Urtica simensis Steud. (m. 4,000 circa; n. 2739).
Fern collections in FI-PS:
Asplenium aethiopicum (Burm. f.) Bech. (m. 4,000; n. 1789, FI-PS 10640).
Asplenium demerkense Hieron. (m. 4,000; n. 1780, FI-PS 10645, FI-PS 10646).
Vegetation; characteristic species: The collections from this locality represent low herbs growing in Afroalpine vegetation on rocky or stony ground, sometimes sheltered between rocks.

Locality S26 – Versante orientale di M.[onte] Selchi
No locality number on printed labels with this locality. Marked as S26 on Map 9.
English translation of Italian indication of locality: Eastern slope of Mt. Selchi.
Georeferencing: From the altitude and the position in relation to Mt. Chiddis Arit [Kidis Yared], this locality must be approximately at 13.335000 N, 38.258475 E.
Collections cited in Pichi Sermolli (1951):
Erigeron alpinus L. (m. 4,300 circa; n. 2614).
Senecio schultzii A. Rich. (m. 4,300 circa; n. 2613).
Ferns cited in Pichi Sermolli (1966):
Anogramma leptophylla (L.) Link (m. 4000 ca.; n. 1826, not seen, cited from Pichi Sermolli 1966: 504).
Vegetation; characteristic species: The only two collections from this locality represent low herbs growing in Afroalpine vegetation on rocky or stony ground.

15.4.1937

Locality S27 – Pianura paludosa nel versante occidentale di M. Selchi
No locality number on printed labels with this locality. Marked as S27 on Map 9.
English translation of Italian indication of locality: Small, swampy plain at the western slope of Mt. Selchi.
Variant indication of locality:
Pianura paludosa del versante occidentale di M.[onte] Selchi (n. 1893, n. 2071).
Georeferencing: The slopes of the areas around Mt. Selchi (as "Mt. Silki" on Hurni (1980)) are nearly all relatively steep, and it is difficult to locate areas with inhibited drainage; the locality could be at 3.340448 N, 38.254945 E.
Collections cited in Pichi Sermolli (1951):
Agrostis quinqueseta (Steud.) Hochst. (m. 3,795; n. 1893).
Pentaschistis pictigluma (Steud.) Pilg. (m. 3,795; n. 2071).
Alchemilla abyssinica Fresen. (m. 3,795; n. 3).
Carex monostachya A. Rich. (m. 3,795; n. 2667).
Deschampsia caespitosa (L.) P. Beauv. (m. 3,795; n. 1894).
Haplocarpha rueppellii (Sch. Bip.) P. Beauv. (m. 3,795; n. 1011).
Limosella africana Glück (m. 3,795; n. 2740).
Ranunculus tembensis Fresen. (m. 3,795; n. 782).
Saxifraga hederifolia A. Rich. (m. 3,795; n. 2717).
Veronica beccabunga L. (m. 3,795; n. 2609).
Vegetation; characteristic species: There are no trees or shrubs among the collections from this locality, which must represent relatively moist Afroalpine vegetation with tussocks of *Carex monostachya*.
Photographic documentation: Pichi Sermolli's photographs from the *Carex monostachya* swamps on the eastern slopes of Mt. Selchi are from the 15.4.1937 and must represent this habitat.[102]

Photographic documentation without any locality or collections cited in Pichi Sermolli (1951): There are no collections associated with a number of photographs from the 15.-16.4.1937, taken at a camp below Mt. Beroc Uaha [in the photographic archive spelt Beroc Naha]. They show mainly the camp on Afroalpine grassland with scattered *Lobelia rhynchopetalum*.[103]

16.4.1937

Locality S28 – Ciglione a valle di Suohna
No locality number on printed labels with this locality. Marked as S28 on Map 9.
English translation of Italian indication of locality: Crest at [the] valley of Suohna.
Georeferencing: The village of "Suohna", [Sona], now with very basic camp facilities, is diffuse and widespread over mountain crests and valleys at ca. 3400 m; it can be approximately localised at 13.324594° N, 38.213952° E.

102 See archival font Dainelli (501), images 1139, 1140, 1141, in the *Archivio fotografico* of the *Società geografica italiana*.
103 See archival font Dainelli (501), images 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, in the *Archivio fotografico* of the *Società geografica italiana*.

Collections cited in Pichi Sermolli (1951):
Cymbopogon caesius (Hook. & Arn.) Stapf (m. 3,100 circa; n. 312).
Echinops longisetus A. Rich. (m. 3,100 circa; n. 2168).
Grewia ferruginea A. Rich. (m. 3,100 circa; n. 2735).
Nuxia congesta Fresen. (m. 3,100 circa; n. 1234).
Schefflera abyssinica (A. Rich.) Harms (m. 3,100 circa; n. 669).
Themeda triandra Forssk. (m. 3,100 circa; n. 1892).
Fern collections in FI-PS:
Adiantum capillus-veneris L. (m. 3000 m.; n. 1804, FI-PS 11497, also cited from FI in Pichi Sermolli 1957a: 681).
Vegetation; characteristic species: The shrubs and trees collected from this locality (*Grewia ferruginea, Nuxia congesta, Schefflera abyssinica*) represent Dry Afromontane Forest (DAF).
Photographic documentation: The photographs taken on the 16.4. at Suohna must have been taken at the beginning of the descent, near the highest part of the crest, as they show Afroalpine vegetation, while others show the vegetation lower down, including Ericaceous bushland and grassland with species of *Echinops*.[104]

From the Semien to the small town of Addi Arkai and onwards to Massawa. After the descent from the Semien Mountains Pichi Sermolli and Minucci headed towards Addi Arcai [Addi Arkay], which formed the end of the collecting trip, and from where they continued to Asmara. The entire group of the *Missione di Studio al Lago Tana* left Massawa on the 27th of April, 1937.

Photographic documentation without collecting: The remaining photographs taken by Pichi Sermolli during the mission show monuments in Axum, Gondar and places along the way back to Eritrea.[105]

104 See archival font Dainelli (501), images 1156, 1157, 1158, 1159, in the *Archivio fotografico* of the *Società geografica italiana*.

105 See archival font Dainelli (501), images 1163, 1164, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, in the *Archivio fotografico* of the *Società geografica italiana*.

CHAPTER 6

Updated numerical list of Pichi Sermolli's Ethiopian collections from 1937

All collections made on the mission to Lake Tana are in the systematically arranged overview of the collection in Pichi Sermolli (1951) cited with collection number, and in a numerically arranged list at the end of the volume all the identifications can be found. The two left-hand columns in the list in this chapter follow the model in Pichi Sermolli (1951) in citing the collection number and the identification as it was in 1951 (in Roman and without authorities). This list can also be used to verify the modern identification of any collection in the 1951 publication by finding the collection and its number via its original taxonomic identification in the main part of Pichi Sermolli (1951) and then the modern identification (italicized) in the table here. A few errors in Pichi Sermolli (1951) are commented on in footnotes. Collections that were not identified by Pichi Sermolli (1951) and not subsequently identified are marked with asterisks (*) after the names.

Numerical list of collections from the Lake Tana expedition (ferns and fern allies specified in a subsequent list)

Number	**Pichi Sermolli names in the monograph of 1951**	**Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]**
1	Alchemilla commutata	*Alchemilla microbetula* T.C.E. Fries
2-4	Alchemilla abyssinica	*Alchemilla abyssinica* Fresen.
5	Alchemilla commutata	*Alchemilla microbetula* T.C.E. Fries
6-7	Alchemilla abyssinica	*Alchemilla abyssinica* Fresen.
8	Alchemilla sessiliflora	*Alchemilla microbetula* T.C.E. Fries
9	Alchemilla commutata	*Alchemilla microbetula* T.C.E. Fries

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Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
10-11	Alchemilla sp. cfr. A. fischeri	Alchemilla sp. cfr. A. fischeri*
12	Alchemilla (?) abyssinica	Alchemilla (?) abyssinica*
13	Alchemilla cryptantha	*Alchemilla cryptantha* A. Rich.
14	Alchemilla (?) abyssinica	Alchemilla (?) abyssinica*
15-28	Juniperus procera	*Juniperus procera* Endl.
29-31	Podocarpus gracilior	*Podocarpus falcatus* (Thunb.) Mirb.
32-36	Pennisetum schimperi	*Pennisetum sphacelatum* (Nees) Th. Dur. & Schinz
37-38	Beckeropsis petiolaris	*Pennisetum petiolare* (Hochst.) Chiov.
39-40	Beckeropsis uniseta	*Pennisetum unisetum* (Nees) Benth.
41	Setaria sphacelata	*Setaria sphacelata* (Schumach.) Moss
42	(?) Setaria incrassata	Setaria (?) incrassata*
43	Exotheca abyssinica	*Exotheca abyssinica* (A. Rich.) Anderss.
44	Panicum glabrescens	*Panicum subalbidum* Kunth
45	Brachiaria brizantha	*Brachiaria brizantha* (A. Rich.) Stapf
46	Oplismenus compositus	*Oplismenus compositus* (L.) P. Beauv.
47-48	Setaria plicatilis	*Setaria megaphylla* (Steud.) Th. Dur. & Schinz
49	Echinochloa stagnina	*Echinochloa stagnina* (Retz.) P. Beauv.
50-51	Echinochloa pyramidalis	*Echinochloa pyramidalis* (Lam.) Hitchc. & Chase
52	(?) Hyparrhenia variabilis	Hyparrhenia (?) variabilis*
53-57	Rhynchelytrum roseum[1]	*Melinis repens* (Willd.) Zizka
58	Digitaria abyssinica var. velutina	*Digitaria abyssinica* (A. Rich.) Stapf
59	Panicum maximum	*Panicum maximum* Jacq.
60-61	Themeda triandra var. punctata	*Themeda triandra* Forssk.
62-63	Hyparrhenia sp. aff. H. papillipes	Hyparrhenia sp. aff. H. papillipes*
64	(?) Hyparrhenia rufa x papillipes	Hyparrhenia (?) rufa x papillipes*
65	Hyparrhenia rufa	*Hyparrhenia rufa* (Nees) Stapf
66	(?) Hyparrhenia umbrosa	Hyparrhenia (?) umbrosa*
67	Hyparrhenia hirta var. hirta	*Hyparrhenia hirta* (L.) Stapf
68	Hyparrhenia hirta	*Hyparrhenia hirta* (L.) Stapf
69-79	Hyparrhenia rufa	*Hyparrhenia rufa* (Nees) Stapf
80	Hyparrhenia hirta	*Hyparrhenia hirta* (L.) Stapf
81	Hyparrhenia hirta var. podotricha	*Hyparrhenia hirta* (L.) Stapf
82-83	Exotheca abyssinica	*Exotheca abyssinica* (A. Rich.) Anderss.
84-89	Hyparrhenia pseudocymbaria	*Hyparrhenia anthistirioides* (A. Rich.) Stapf
90	Hyparrhenia cymbaria	*Hyparrhenia cymbaria* (L.) Stapf

1 In Pichi Sermolli (1951, p. 178-179) the specimen numbers 53-57 are named *Rhynchelytrum repens* (Willd.) C.E. Hubbard, while in the numerical list on p. 277, they are referred to as *Rhynchelytrum roseum*. Both names are now considered synonyms of *Melinis repens* (Willd.) Zizka.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
91-102	Hyparrhenia pseudocymbaria	*Hyparrhenia anthistirioides* (A. Rich.) Stapf
103	Hyparrhenia umbrosa[2]	Hyparrhenia (?) umbrosa*
104-106	? Hyparrhenia umbrosa	Hyparrhenia (?) umbrosa*
107	Hyparrhenia sp.	Hyparrhenia sp.*
108-110	Hyparrhenia cymbaria	*Hyparrhenia cymbaria* (L.) Stapf
111	Hyparrhenia variabilis	*Hyparrhenia variabilis* Stapf
112-114	Hyparrhenia cymbaria	*Hyparrhenia cymbaria* (L.) Stapf
115-116	Hyparrhenia variabilis	*Hyparrhenia variabilis* Stapf
117-118	Hyparrhenia cymbaria	*Hyparrhenia cymbaria* (L.) Stapf
119	Hyparrhenia variabilis[3]	Hyparrhenia variabilis*
120-121	Nymphaea coerulea var. genuina	*Nymphaea nouchali* Burm. f. var. *caerulea* (Sav.) Verdc.
122-123	Nymphaea lotus	*Nymphaea lotus* L.
124-132	Stephania abyssinica	*Stephania abyssinica* (A. Rich.) Walp.
133-138	Clematis simensis	*Clematis simensis* Fresen.
139-141	Polygala negrii	*Polygala steudneri* Chod.
142	Polygala rupicola	*Polygala rupicola* A. Rich.
143-147	Caylusea abyssinica	*Caylusea abyssinica* (Fresen.) Fisch. & Mey.
148-149	Capparis persicaefolia	*Capparis tomentosa* Lam.
150-168	Capparis tomentosa	*Capparis tomentosa* Lam.
169-172	Capparis boscioides	*Capparis sepiaria* L. var. *boscioides* (Pax) Kers
173	Raphanus raphanistrum	*Raphanus raphanistrum* L.
174	Cardamine africana	*Cardamine africana* L.
175	Brassica integrifolia var. carinata	*Brassica carinata* A. Br.
176	Argemone mexicana	*Argemone mexicana* L.
177	Hypericum peplidifolium	*Hypericum peplidifolium* A. Rich.
178-185	Hypericum lanceolatum	*Hypericum revolutum* Vahl
186	Hypericum quartinianum var. roeperianum	*Hypericum quartinianum* A. Rich.
187-197	Hypericum quartinianum	*Hypericum quartinianum* A. Rich.
198-199	Sida triloba	*Sida ternata* L. f.
200	Hibiscus ludwigii	*Hibiscus ludwigii* Eckl. & Zeyh.
201-202	Pavonia kraussiana	*Pavonia burchellii* (DC.) Dyer
203	Abutilon bidentatum	*Abutilon bidentatum* (Hochst.) A. Rich.
204-208	Gossypium hirsutum	*Gossypium hirsutum* L.

2 In Pichi Sermolli (1951, p. 175), this collection is identified as *Hyparrhenia umbrosa*, while number 66, 104, 105 and 106 are identified as "Hyparrhenia (?) umbrosa"; on p. 277 and 278 all these collections are identified as "? Hyparrhenia umbrosa". According to the *Flora of Ethiopia and Eritrea*, *Hyparrhenia umbrosa* has not been recorded from Ethiopia.

3 In Pichi Sermolli (1951, p. 263), this collection is identified as *Hyparrhenia variabilis*, but in the numerical list on p. 278 it is named *Hyparrhenia cymbaria*.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
209-210	Hibiscus calyphyllus var. genuinus	*Hibiscus calyphyllus* Cavan.
211-215	Hibiscus diversifolius var. genuinus	*Hibiscus diversifolius* Jacq.
216	Hibiscus crassinervius	*Hibiscus crassinervius* A. Rich.
217	Hibiscus panduraeformis var. tubulosus	*Hibiscus panduriformis* Burm. f.
218	Hibiscus cannabinus var. verrucosus	*Hibiscus cannabinus* L.
219	Kosteletzkya grantii	*Kosteletzkya grantii* (Mast.) Garcke
220-221	Abutilon mauritianum	*Abutilon mauritianum* (Jacq.) Medic.
222-224	Abutilon longicuspe	*Abutilon longicuspe* A. Rich.
225-228	Pavonia schimperiana	*Pavonia schimperiana* A. Rich.
229	Sida schimperiana	*Sida schimperiana* A. Rich.
230-233	Dombeya multiflora var. vestita	*Dombeya quinqueseta* (Del.) Exell
234	Dombeya schimperiana	*Dombeya torrida* (J.F. Gmel.) P. Bamps
235&237	Dombeya bruceana	*Dombeya torrida* (J.F. Gmel.) P. Bamps
238	Sterculia tomentosa	*Sterculia setigera* Del.
239-244	Pittosporum abyssinicum	*Pittosporum abyssinicum* Del.
245	Boswellia papyrifera	*Boswellia papyrifera* (Del.) Hochst.
246-247	Clausena abyssinica	*Clausena anisata* (Willd.) Benth.
248-249	Teclea nobilis	*Teclea nobilis* Del.
250-251	Citrus limonia var. abyssinica	*Citrus aurantifolia* (Christm.) Swingle
252-255	Citrus bigaradia	*Citrus aurantium* L.
256	Ruta chalepensis subsp. bracteosa	*Ruta chalepensis* L.
257-259	Geranium latistipulatum	*Geranium arabicum* Forssk. subsp. *latistipulatum* (A. Rich.) Kokwaro
260	Geranium frigidum	*Geranium arabicum* Forssk. subsp. *arabicum*
261	Geranium simense forma typicum	*Geranium arabicum* Forssk. subsp. *arabicum*
262-263	Rotala repens	*Rotala repens* (Hochst.) Koehne
264-267	Grewia mollis var. petitiana	*Grewia mollis* A. Juss.
268-296	Grewia ferruginea	*Grewia ferruginea* A. Rich.
297	Sparmannia abyssinica var. concolor	*Sparmannia ricinocarpa* (Eckl. & Zeyh.) O. Kuntze
298-302	Triumfetta abyssinica	*Triumfetta pilosa* Roth
303-304	Panicum transvenulosum	*Panicum monticola* Hook. f.
305-306	Melinis ambigua	*Melinis ambigua* Hack.
307	Setaria lynesii	*Setaria incrassata* (Hochst.) Hack.
308	Setaria atrata	*Setaria atrata* Hack.
309	(?) Setaria phragmitoides	Setaria (?) phragmitoides*
310-311	Setaria lynesii	*Setaria incrassata* (Hochst.) Hack.
312	Cymbopogon excavatus	*Cymbopogon caesius* (Hook. & Arn.) Stapf
313-314	Hyparrhenia gazensis	Hyparrhenia gazensis*
315	Hyparrhenia sp. cfr. H. gazensis	Hyparrhenia sp. cfr. H. gazensis*

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
316	Hyparrhenia gazensis	Hyparrhenia gazensis*
317	Hyparrhenia sp.	Hyparrhenia sp.*
318-319	Hyparrhenia gazensis	Hyparrhenia gazensis*
320-322	(?) Hyparrhenia rufa x umbrosa	Hyparrhenia (?) rufa x umbrosa*
323	Hyparrhenia sp. cfr. H. gazensis	Hyparrhenia sp. cfr. H. gazensis*
324	Hyparrhenia sp.	Hyparrhenia sp.*
325	Hyparrhenia sp. cfr. H. gazensis	Hyparrhenia sp. cfr. H. gazensis*
326	Hyparrhenia sp.	Hyparrhenia sp.*
327	(?) Hyparrhenia rufa x umbrosa	Hyparrhenia (?) rufa x umbrosa*
328-329	Hyparrhenia sp.	Hyparrhenia sp.*
330	Hyparrhenia sp. cfr. H. gazensis	Hyparrhenia sp. cfr. H. gazensis*
331	(?) Hyparrhenia rufa x umbrosa	Hyparrhenia (?) rufa x umbrosa*
332	Aristida adoensis	*Aristida adoensis* Hochst.
333	(?) Pennisetum giganteum	Pennisetum (?) giganteum*
334	(?) Echinochloa pyramidalis	Echinochloa (?) pyramidalis*
335-338	Graminacea indeterminabile	Graminacea indeterminabile* [unidentifiable grasses]
339	Echinochloa pyramidalis	*Echinochloa pyramidalis* (Lam.) Hitchc. & Chase
340-343	Brucea antidysenterica	*Brucea antidysenterica* J.F. Mill.
344	Commiphora schimperi	*Commiphora schimperi* (Berg) Engl.
345-349	Apodytes acutifolia	*Apodytes dimidiata* Arn. var. *acutifolia* (A. Rich.) Boutique
350-359	Ximenia americana	*Ximenia americana* L.
360-362	Bersama abyssinica	*Bersama abyssinica* Fresen.
363-364	Ekebergia rueppelliana	*Ekebergia capensis* Sparrm.
365-373	Hippocratea obtusifolia var. schimperiana	*Hippocratea africana* (Willd.) Loes. var. *schimperiana* (A. Rich.) Cufod.
374	Gymnosporia laurifolia	*Maytenus undata* (Thunb.) Blakelock
375-382	Gymnosporia serrata var. schimperi	*Maytenus serrata* (A. Rich.) Wilczek
383-389	Gymnosporia serrata var. typica	*Maytenus serrata* (A. Rich.) Wilczek
390-392	Gymnosporia obscura	*Maytenus obscura* (A. Rich.) Cufod.
393-403	Rhoicissus erythrodes	*Rhoicissus tridentata* (L. f.) Wild & Drummond
404-414	Helinus mystacinus	*Helinus mystacinus* (Ait.) Steud.
415-418	Rhamnus prinoides	*Rhamnus prinoides* L'Hérit.
419-426	Zizyphus jujuba forma obliquifolia	*Ziziphus abyssinica* A. Rich.
427	Zizyphus mucronata	*Zizyphus mucronata* Willd.
428-429	Rhoicissus erythrodes	*Rhoicissus tridentata* (L. f.) Wild & Drummond
430-432	Cissus adenocaulis	*Cyphostemma adenocaule* (A. Rich.) Wild & Drummond
433-437	Cissus petiolata	*Cissus petiolata* Hook. f.
438	Cissus quadrangularis	*Cissus quadrangularis* L.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
439	Ampelocissus schimperianus	*Ampelocissus schimperiana* (A. Rich.) Planch.
440-450	Rhus macowani	*Rhus vulgaris* Meikle
451	Rhus sp.	Rhus sp.[2]*
452	Rhus macowani	*Rhus vulgaris* Meikle
453	Rhus sp.	Rhus sp.[2]*
454-456	Rhus macowani	*Rhus vulgaris* Meikle
457	Rhus sp.	Rhus sp.[4]*
458	Rhus macowani	*Rhus vulgaris* Meikle
459	Rhus sp.	Rhus sp.[1]*
460-466	Rhus macowani	*Rhus vulgaris* Meikle
467-468	Rhus glutinosa	*Rhus glutinosa* A. Rich.
469	Rhus sp.	Rhus sp.[3]*
470	Schinus molle	*Schinus molle* L.
471-485	Lannea schimperi	*Lannea schimperi* (A. Rich.) Engl.
486	Paullinia pinnata	*Paullinia pinnata* L.
487	Allophylus abyssinicus	*Allophylus abyssinicus* (Hochst.) Radlk.
488-489	Dodonaea viscosa var. spathulata	*Dodonaea angustifolia* L. f.
490-496	Dodonaea viscosa var. vulgaris forma burmanniana	*Dodonaea angustifolia* L. f.
497-498	Dodonaea viscosa var. vulgaris forma repanda	*Dodonaea angustifolia* L. f.
499-500	Cardiospermum halicacabum	*Cardiospermum halicacabum* L.
501-508	Milletia ferruginea	*Millettia ferruginea* (Hochst.) Bak.
509-510	Dolichos oliveri	*Dolichos oliveri* Schweinf.
511-515	Dolichos lablab var. uncinatus	*Lablab purpureus* (L.) Sweet
516-521	Erythrina tomentosa	*Erythrina abyssinica* DC.
522	Glycine javanica	*Glycine wightii* (Wight & Arn.) Verdc.
523	Cicer arietinum	*Cicer arietinum* L.
524-526	Alysicarpus ferrugineus	*Alysicarpus ferrugineus* A. Rich.
527-528	Desmodium salicifolium	*Desmodium salicifolium* (Poir.) DC.
529-530	Astragalus abyssinicus	*Astragalus atropilosus* (Hochst.) Bunge
531	Colutea istria	*Colutea abyssinica* Kunth & Bouché
532	Tephrosia interrupta	*Tephrosia interrupta* Engl.
533-535	Indigofera secundiflora	*Indigofera secundiflora* Poir.
536-539	Indigofera arrecta	*Indigofera arrecta* A. Rich.
540	Indigofera emarginella	*Indigofera emarginella* A. Rich.
541	Lotus brachycarpus	*Lotus quinatus* (Forssk.) Gillett var. *brachycarpus* (A. Rich.) Gillett
542	Crotalaria spinosa	*Crotalaria spinosa* Benth.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
543	Lotononis platycarpa var. abyssinica[4]	*Lotononis platycarpos* (Viv.) Pic. Serm.
544-552	Dichrostachys glomerata	*Dichrostachys cinerea* (L.) Wight & Arn.
553-576	Cassia goratensis	*Senna singueana* (Del.) Lock
577	Lotus brachycarpus	*Lotus quinatus* (Forssk.) Gillett var. *brachycarpus* (A. Rich.) Gillett
578	Lupinus termis	*Lupinus albus* L.
579-580	Mimosa asperata	*Mimosa pigra* L.
581	Festuca sp.	Festuca sp.*
582	Mimosa asperata	*Mimosa pigra* L.
583-584	Acacia nefasia	*Acacia sieberiana* DC. var. *woodii* (Burtt Davy) Keay & Brenan
585-586	Acacia xiphocarpa	*Acacia abyssinica* Benth.
587-589	Acacia abyssinica	*Acacia abyssinica* Benth.
590	Acacia xiphocarpa	*Acacia abyssinica* Benth.
591	Acacia abyssinica	*Acacia abyssinica* Benth.
592	Acacia xiphocarpa	*Acacia abyssinica* Benth.
593	Acacia abyssinica	*Acacia abyssinica* Benth.
594	Acacia xiphocarpa	*Acacia abyssinica* Benth.
595	Acacia abyssinica	*Acacia abyssinica* Benth.
596-600	Acacia venosa	*Acacia venosa* Benth.
601	Acacia etbaica	*Acacia etbaica* Schweinf. subsp. *etbaica*
602-604	Acacia seyal	*Acacia seyal* Del.
605-606	Acacia cyanophylla	*Acacia saligna* (Labil.) Wendl.
607	Acacia lahai	*Acacia lahai* Benth.
608-619	Piliostigma thonningii	*Piliostigma thonningii* (Schumach.) Milne-Redh.
620-624	Entada abyssinica	*Entada abyssinica* A. Rich.
625	Vigna membranacea	*Vigna membranacea* A. Rich.
626-633	Calpurnia subdecandra	*Calpurnia aurea* (Ait.) Benth.
634-638	Rhynchosia resinosa	*Rhynchosia resinosa* (A. Rich.) Bak.
639	Cajanus cajan forma bicolor	*Cajanus cajan* (L.) Millsp.
640-651	Pterolobium exosum	*Pterolobium stellatum* (Forssk.) Brenan
652-654	Hagenia abyssinica	*Hagenia abyssinica* (Bruce) J.F. Gmel.
655	Rosa sancta	*Rosa* x *richardii* Rehd.
656-664	Rosa abyssinica	*Rosa abyssinica* Lindl.

4 In Pichi Sermolli (1951, p. 266 and p. 283) the epithet is written "platycarpa" and the type species of *Lotononis*, *L. vexillata* (E.H.F. Meyer) Eckl. & Zeyh., indicates that the generic name is feminine; here we have followed the *Flora of Ethiopia and Eritrea*, where the name is *Lotononis platycarpos* (Viv.) Pic. Serm.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
665-666	Rosa abyssinica forma microphylla/microphilla (on p. 284)	*Rosa abyssinica* Lindl.
667	Rubus quartinianus var. pappianus	*Rubus apetalus* Poir.
668	Polyscias sp.	*Polyscias farinosa* (Del.) Harms
669-670	Schefflera abyssinica	*Schefflera abyssinica* (A. Rich.) Harms
671-674	Cussonia ostinii	*Cussonia ostinii* Chiov.
675	Daucus carota subsp. carota	*Daucus carota* L.
676	Oenanthe palustris	*Oenanthe palustris* (Chiov.) Norman
677-678	Lefeburea abyssinica	*Lefeburea abyssinica* A. Rich.
679-686	Steganotaenia araliacea	*Steganotaenia araliacea* A. Rich.
687-692	Ferula abyssinica	*Ferula communis* L.
693-695	Foeniculum vulgare subsp. capillaceum	*Foeniculum vulgare* Miller
696-698	Diplolophium abyssinicum	*Diplolophium africanum* Turcz.
699-706	Heteromorpha arborescens var. abyssinica	*Heteromorpha arborescens* (Spreng.) Cham. & Schltdl. var. *abyssinica* (A. Rich.) Wolff
707	Hydrocotyle ranunculoides	*Hydrocotyle ranunculoides* L. f.
708	Centella asiatica	*Centella asiatica* (L.) Urban
709-723	Terminalia schimperiana	*Terminalia schimperiana* Hochst.
724-738	Combretum trichanthum	*Combretum molle* G. Don
739	Combretum gallabatense	*Combretum rochetianum* A. Juss.
740-741	Combretum collinum	*Combretum collinum* Fresen.
742-743	Combretum richardianum	*Combretum molle* G. Don
744-747	Hymenodictyon kurria	*Hymenodictyon floribundum* (Hochst. & Steud.) Robinson
748-750	Pentas lanceolata	*Pentas lanceolata* (Forssk.) Deflers
751	Pentas schimperiana	*Pentas schimperiana* (A. Rich.) Vatke
752	Pavetta abyssinica	*Pavetta abyssinica* Fresen.
753-754	Pavetta sp.	Pavetta sp.*
755	Pavetta oliveriana	*Pavetta oliveriana* Hiern
756-759	Pavetta sp.	Pavetta sp.*
760-761	Anthospermum pachyrrhizum / pachyrrhyzum	*Anthospermum pachyrrhizum* Hiern
762	Rubia discolor	*Rubia cordifolia* L.
763-772	Coffea arabica	*Coffea arabica* L.
773-775	Galium hochstetteri	*Galium acrophyum* Chiov.
776-780	Ranunculus oreophytus	*Ranunculus oreophytus* Del.
781-782	Ranunculus dertropodius	*Ranunculus tembensis* Fresen.
783-785	Pennisetum ramosum	*Pennisetum ramosum* (Hochst.) Schweinf.
786-796	Kalanchoe brachycalix	*Kalanchoe lanceolata* (Forssk.) Pers.
797-801	Kalanchoe crenata	*Kalanchoe petitiana* A. Rich.
802	Kalanchoe marmorata	*Kalanchoe marmorata* Baker

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
803	Anaphrenium abyssinicum var. latifolium	*Ozoroa insignis* Del.
804	Punica granatum	*Punica granatum* L.
805	Eucalyptus tereticornis	*Eucalyptus tereticornis* Smith
806	Eucalyptus globulus	*Eucalyptus globulus* Labill.
807	Eucalyptus rostratus	*Eucalyptus camaldulensis* Dehnh.
808-817	Syzygium guineense	*Syzygium guineense* (Willd.) DC.
818	Melothria tomentosa var. parviflora	*Zehneria scabra* (L. f.) Sond.
819	Melothria punctata	*Zehneria scabra* (L. f.) Sond.
820	Cucumis ficifolius var. microphyllus	*Cucumis ficifolius* A. Rich.
821	Momordica schimperiana	*Momordica foetida* Schumach.
822-843	Gardenia lutea	*Gardenia ternifolia* Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc.
844-845	Echinops spinosus	*Echinops pappii* Chiov.
846	Echinops macrochaetus	*Echinops macrochaetus* Fresen.
847-848	Echinops macrochaetus var. pseudo-viscosus	*Echinops macrochaetus* Fresen.
849	Echinops macrochaetus var. macrochaetus	*Echinops macrochaetus* Fresen.
850-851	Echinops chamaecephalus	*Echinops hispidus* Fresen.
852-853	Echinops longifolius	*Echinops longifolius* A. Rich.
854-857	Carthamus lanatus	*Carthamus lanatus* L.
858	Carthamus tinctorius	*Carthamus tinctorius* L.
859-860	Gerbera piloselloides	*Gerbera piloselloides* (L.) Cass.
861-864	Tolpis virgata	*Tolpis virgata* (Desf.) Bertol.
865-866	Crepis rueppellii	*Crepis rueppellii* Sch. Bip.
867	Laggera alata var. natalensis	*Laggera alata* (D. Don) Oliv.
868	Laggera alata var. alata	*Laggera alata* (D. Don) Oliv.
869	Laggera alata	*Laggera alata* (D. Don) Oliv.
870	Conyza stricta	*Conyza stricta* Willd.
871	Conyza schimperi	*Conyza schimperi* A. Rich.
872-879	Conyza pyrrhopappa	*Conyza pyrrhopappa* A. Rich.
880-897	Vernonia quartiniana	*Vernonia congolensis* De Wild. & Muschl. subsp. *vernonioides* (Walp.) C. Jeffrey
898-902	Vernonia amygdalina	*Vernonia amygdalina* Del.
903	Vernonia sp.	Vernonia sp.*
904-907	Pygeum africanum	*Prunus africana* (Hook. f.) Kalkm.
908-909	Prunus persica	*Prunus persica* (L.) Batch
910-914	Pterocephalus frutescens	*Pterocephalus frutescens* A. Rich.
915-917	Dipsacus pinnatifidus	*Dipsacus pinnatifidus* A. Rich.
918	Psiadia arabica	*Psiadia punctulata* (DC.) Vatke
919	Blumea lacera	*Blumea axillaris* (Lam.) DC.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
920	Pluchea dioscoridis	*Pluchea dioscoridis* (L.) DC.
921	Laggera alata var. alata	*Laggera alata* (D. Don) Oliv.
922-926	Laggera crassifolia	*Laggera crassifolia* (A. Rich.) Oliv. & Hiern
927-932	Laggera pterodonta	*Laggera crispata* (Vahl) Hepper & Wood
933-934	Phagnalon hypoleucum	*Phagnalon abyssinicum* A. Rich.
935-938	Athrixia rosmarinifolia	*Athrixia rosmarinifolia* (Walp.) Oliv. & Hiern
939	Pulicaria undulata var. abyssinica	*Pulicaria incisa* (Lam.) DC.
940	Xanthium spinosum	*Xanthium spinosum* L.
941-946	Ethulia conyzoides	*Ethulia conyzoides* L. f.
947	Vernonia leopoldii	*Vernonia leopoldii* (Walp.) Vatke
948	Vernonia inulaefolia	*Vernonia purpurea* Walp.
949-952	Vernonia leopoldii	*Vernonia leopoldii* (Walp.) Vatke
953-956	Vernonia hochstetteri	*Vernonia hochstetteri* Walp.
957-964	Vernonia adoensis	*Vernonia adoensis* Walp.
965	Vernonia abyssinica	*Vernonia schimperi* DC.
966	Helichrysum horridum	*Helichrysum horridum* (Sch. Bip.) A. Rich.
967-973	Helichrysum abyssinicum	*Helichrysum splendidum* (Thunb.) Less.
974	Helichrysum formosissimum	*Helichrysum formosissimum* A. Rich.
975-976	Helichrysum foetidum var. microcephalum	*Helichrysum foetidum* (L.) Moench. var. *microcephalum* A. Rich.
977-980	Helichrysum fruticosum var. fruticosum	*Helichrysum forsskahlii* (J.F. Gmel.) Hilliard & B.L. Burtt
981	Helichrysum fruticosum var. compactum	*Helichrysum forsskahlii* (J.F. Gmel.) Hilliard & B.L. Burtt
982-987	Helichrysum hochstetteri	*Helichrysum stenopterum* DC.
988-994	Helichrysum schimperi	*Helichrysum schimperi* (A. Rich.) Moeser
995	Conyza spinosa	*Conyza spinosa* Oliv. & Hiern
996	Sonchus bipontini	*Sonchus bipontini* Asch.
997	Guizotia villosa	*Guizotia villosa* Sch. Bip.
998-1002	Guizotia scabra	*Guizotia scabra* (Vis.) Chiov.
1003	Guizotia sp.	Guizotia sp.*
1004-1005	Guizotia villosa	*Guizotia villosa* Sch. Bip.
1006	Cirsium lanceolatum var. abyssinicum	*Cirsium vulgare* (Savi) Ten.
1007	Chrysanthemum coronarium	*Chrysanthemum coronarium* L.
1008	Tagetes erecta	*Tagetes erecta* L.
1009-1010	Galinsoga parviflora	*Galinsoga parviflora* Cav.
1011-1014	Landtia rueppellii	*Haplocarpha rueppellii* (Sch. Bip.) P. Beauv.
1015-1017	Landtia schimperi	*Haplocarpha schimperi* (Sch. Bip.) P. Beauv.
1018	Tripteris vaillantii	*Osteospermum vaillantii* (Decne.) T. Norl.
1019-1023	Gnaphalium unionis	*Gnaphalium unionis* Oliv. & Hiern

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
1024	Chiliocephalum schimperi[5]	*Chiliocephalum schimperi* Benth.
1025-1030	Helichrysum citrispinum	*Helichrysum citrispinum* Del.
1031-1032	Primula simensis var. eusimensis	*Primula verticillata* Forssk. subsp. *simensis* (Hochst.) W.W. Sm. & Forrest
1033-1034	Primula simensis var. farinosa	*Primula verticillata* Forssk. subsp. *simensis* (Hochst.) W.W. Sm. & Forrest
1035	Ceratostigma abyssinicum	*Ceratostigma abyssinicum* (Hochst.) Asch.
1036-1038	Plumbago zeylanica	*Plumbago zeylanica* L.
1039-1040	Blaeria spicata	*Erica tenuipilosa* (Alm & T.C.E. Fries) Cheek subsp. *spicata* (A. Rich.) Cheek
1041-1047	Erica arborea	*Erica arborea* L.
1048	Campanula quartiniana	*Campanula edulis* Forssk.
1049	Wahlenbergia silenoides	*Wahlenbergia silenoides* A. Rich.
1050	Wahlenbergia pusilla	*Wahlenbergia pusilla* A. Rich.
1051-1053	Lightfootia abyssinica	*Wahlenbergia abyssinica* (A. Rich.) Thulin
1054	Sida schimperiana	*Sida schimperiana* A. Rich.
1055	Dianthoseris rueppellii	*Launaea rueppellii* (Oliv. & Hiern) Boulos
1056-1057	Dicrocephala latifolia	*Dicrocephala integrifolia* (L. f.) Kuntze
1058	Senecio macropappus	*Crassocephalum macropappum* (A. Rich.) S. Moore
1059-1061	Senecio myriocephalus	*Senecio myriocephalus* A. Rich.
1062-1065	Ageratum conyzoides	*Ageratum conyzoides* L.
1066	Cotula anthemoides	*Cotula anthemoides* L.
1067	Bidens pilosa var. minor	*Bidens pilosa* L.
1068-1071	Syzygium guineense	*Syzygium guineense* (Willd.) DC.
1072-1093	Mimusops kummel	*Mimusops kummel* A. DC.
1094-1095	Rapanea simensis	*Myrsine melanophloeos* (L.) R. Br.
1096-1100	Maesa lanceolata	*Maesa lanceolata* Forssk.
1101-1109	Myrsine africana	*Myrsine africana* L.
1110-1120	Albizzia schimperiana	*Albizia schimperiana* Oliv.
1121-1135	Maba abyssinica	*Diospyros abyssinica* (Hiern) F. White
1136-1147	Euclea kellau	*Euclea racemosa* Murray subsp. *schimperi* (A. DC.) F. White
1148-1152	Jasminum abyssinicum	*Jasminum abyssinicum* DC.

5 In Pichi Sermolli (1951, p. 159) specimen number 1937 is said to be a collection of *Chiliocephalum schimperi* Benth., collected on M. Jesus Tabor, m. 3050, 22.3., while on p. 180 the same specimen number is said to represent a collection of *Loudetia arundinacea* (Hochst.) Steud., from Birghida Mariam (isola presso Gorgora), m. 1,825, 7.3. On p. 288, n. 1024, which does not occur in the main part of the book, is indicated as *Chiliocephalum schimperi*, while, on p. 297, no. 1937 is indicated as *Loudetia arundinacea*. In this work we use the numbering, n. 1024, from the numerical sequence of specimen numbers on p. 288 and 297.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
1153-1171	Jasminum floribundum	*Jasminum grandiflorum* L. subsp. *floribundum* (Fresen.) P.S. Green
1172-1181	Olea chrysophylla	*Olea europaea* L. subsp. *cuspidata* (G. Don) Cif.
1182-1185	Schrebera alata	*Schrebera alata* (Hochst.) Welw.
1186	Eriosema robustum	*Eriosema robustum* Bak.
1187-1195	Albizzia pallida	*Albizia malacophylla* (A. Rich.) Walp.
1196	Carissa edulis var. cornifolia	*Carissa spinarum* L.
1197	Carissa edulis	*Carissa spinarum* L.
1198-1201	Carissa edulis var. tomentosa	*Carissa spinarum* L.
1202-1216	Carissa edulis	*Carissa spinarum* L.
1217	Carissa edulis var. tomentosa	*Carissa spinarum* L.
1218-1222	Carissa edulis	*Carissa spinarum* L.
1223	Hyparrhenia cymbaria	*Hyparrhenia cymbaria* (L.) Stapf
1224-1234	Lachnopylis congesta	*Nuxia congesta* Fresen.
1235	Echinopsis sp.	Echinopsis sp.*
1236-1240	Tacazzea venosa	*Tacazzea venosa* Decne.
1241	Marsdenia schimperi	*Dregea schimperi* (Decne.) Bullock
1242	Asclepias albida	*Gomphocarpus purpurascens* A. Rich.
1243-1245	Asclepias abyssinica	*Gomphocarpus abyssinicus* Decne.
1246-1253	Kanahia laniflora	*Kanahia laniflora* (Forssk.) R. Br.
1254-1269	Cordia abyssinica	*Cordia africana* Lam.
1270-1272	Ehretia abyssinica	*Ehretia cymosa* Thonn.
1273	Heliotropium supinum	*Heliotropium supinum* L.
1274	Heliotropium cinerascens	*Heliotropium cinerascens* DC. & A. DC.
1275	Cynoglossum lanceolatum var. eu-lanceolatum	*Cynoglossum lanceolatum* Forssk.
1276-1279	Trichodesma zeylanicum subsp. euzelanicum var. vulgare forma typicum	*Trichodesma zeylanicum* (Burm. f.) R. Br.
1280	Strychnos unguacha var. typica	*Strychnos innocua* Del.
1281-1288	Buddleja polystachya	*Buddleja polystachya* Fresen.
1289-1294	Verbascum sinaiticum	*Verbascum sinaiticum* Benth.
1295	Striga hermonthica	*Striga hermonthica* (Del.) Benth.
1296-1297	Striga gesnerioides	*Striga gesnerioides* (Willd.) Vatke
1298	Buchnera longifolia	*Buchnera hispida* Buch.-Ham.
1299	Linaria elatine	*Kickxia elatine* (L.) Dumort. subsp. *crinita* (Mabil.) W. Greuter
1300	Discopodium penninervium	*Discopodium penninervium* Hochst.
1301-1302	Datura stramonium	*Datura stramonium* L.
1303-1304	Nicandra physaloides	*Nicandra physaloides* (L.) Gaertn.
1305	Withania somnifera var. communis	*Withania somnifera* (L.) Dunal
1306	Convolvulus sagittatus var. linearifolius	*Convolvulus sagittatus* Thunb.

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1307-1309	Convolvulus sagittatus var. abyssinicus	*Convolvulus sagittatus* Thunb.
1310-1329	Ipomoea palmata	*Ipomoea cairica* (L.) Sweet
1330	Ipomoea eriocarpa	*Ipomoea eriocarpa* R. Br.
1331-1336	Ipomoea tenuirostris	*Ipomoea tenuirostris* Choisy
1337	Merremia pterygocaules	*Merremia pterygocaulos* (Choisy) Hall. f.
1338	Justicia leikipiensis	*Justicia ladanoides* Lam.
1339-1341	Hygrophyla spiciformis	*Hygrophila spiciformis* Lindau
1342-1343	Hypoestes triflora	*Hypoestes triflora* (Forssk.) Roem. & Schult.
1344-1347	Phaulopsis imbricata	*Phaulopsis imbricata* (Forssk.) Sweet
1348-1352	Phaulopsis inaequalis	*Phaulopsis imbricata* (Forssk.) Sweet
1353	Dyschoriste multicaulis	*Dyschoriste multicaulis* (A. Rich.) O. Kuntze
1354-1355	Dyschoriste perrottetii	*Dyschoriste nagchana* (Nees) Bennett
1356-1357	Nelsonia brunelloides	*Nelsonia canescens* (Lam.) Spreng.
1358	Hygrophila asteracanthoides	*Hygrophila asteracanthoides* Lindau
1359-1365	Hygrophila longifolia	*Hygrophila schulli* (Hamilt.) M.R. & S.M. Almeida
1366-1384	Stereospermum kunthianum	*Stereospermum kunthianum* Cham.
1385-1391	Leonotis velutina var. rugosa	*Leonotis ocymifolia* (Burm. f.) Iwarsson var. *raineriana* (Vis.) Iwarsson
1392-1396	Leonotis velutina var. velutina	*Leonotis ocymifolia* (Burm. f.) Iwarsson var. *raineriana* (Vis.) Iwarsson
1397-1398	Lasiocorys stachydiformis	*Leucas stachydiformis* (Benth.) Briq.
1399	Leucas urticifolia	*Leucas urticifolia* (Vahl) Sm.
1400-1401	Otostegia repanda	*Otostegia fruticosa* (Forssk.) Schweinf.
1402	Salvia nilotica	*Salvia nilotica* Jacq.
1403	Salvia merjamie	*Salvia merjamie* Forssk.
1404	Meriandra bengalensis	*Meriandra dianthera* (Roem. & Schult.) Briq.
1405	Satureja punctata var. punctata	*Satureja punctata* (Benth.) Briq.
1406	Satureja abyssinica	*Satureja abyssinica* (Benth.) Briq.
1407	Pycnostachys abyssinica	*Pycnostachys abyssinica* Fresen.
1408	Coleus comosus	*Plectranthus ornatus* Codd
1409-1410	Coleus barbatus	*Plectranthus barbatus* Andrews
1411	Becium grandiflorum	*Becium grandiflorum* (Lam.) Pic. Serm.
1412	Becium affine	*Becium obovatum* (Benth.) N.E. Br.
1413-1415	Ocimum basilicum var. anisatum	*Ocimum basilicum* L.
1416-1417	Lantana trifolia	*Lantana trifolia* L.
1418-1429	Lippia adoensis	*Lippia adoensis* Walp.
1430	Clerodendron cordifolium	*Clerodendrum umbellatum* Poir.
1431	Hebenstreitia dentata var. integrifolia	*Hebenstreitia angolensis* Rolfe
1432	Hebenstreitia dentata	*Hebenstreitia angolensis* Rolfe

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
1433-1438	Achyranthes aspera	*Achyranthes aspera* L. var. *pubescens* (Moq.) C.C. Townsend
1439	Achyranthes argentea var. virgata	*Achyranthes aspera* L. var. *pubescens* (Moq.) C.C. Townsend
1440-1444	Achyranthes argentea	*Achyranthes aspera* L. var. *sicula* L.
1445	Cyathula uncinulata var. uncinulata	*Cyathula uncinulata* (Schrad.) Schinz
1446-1447	Cyathula uncinulata/globulifera var. abyssinica[6]	*Cyathula uncinulata* (Schrad.) Schinz
1448-1450	Celosia trigyna	*Celosia trigyna* L.
1451-1452	Plantago lanceolata var. communis subvar. eurhiza	*Plantago lanceolata* L.
1453-1454	Plantago lanceolata var. dubia subvar. eudubia	*Plantago lanceolata* L.
1455	Plantago lanceolata var. dubia subvar. hirsuta	*Plantago lanceolata* L.
1456-1470	Satureja punctata var. rigida[7]	*Satureja punctata* (Benth.) Briq.
1471-1478	Otostegia integrifolia	*Otostegia integrifolia* Benth.
1479-1489	Hypoestes forskalei	*Hypoestes forskaolii* (Vahl) R. Br.
1490-1491	Dicliptera micranthes	*Dicliptera verticillata* (Forssk.) C. Chr.
1492-1497	Dicliptera maculata	*Dicliptera maculata* Nees
1498	Dicliptera maculata forma albolanata	*Dicliptera maculata* Nees
1499-1512	Adhatoda schimperiana	*Justicia schimperiana* (Nees) T. Anders.
1513-1514	Monechma affine	*Monechma debile* (Forssk.) Nees
1515-1526	Barleria ventricosa	*Barleria ventricosa* Nees
1527-1528	Lepidagathis radicalis	*Lepidagathis hamiltoniana* Wall. subsp. *collina* (Endl.) J.K. Morton
1529-1530	Ruttya speciosa	*Ruttya speciosa* (Hochst.) Engl.
1531-1539	Gnidia involucrata	*Gnidia involucrata* A. Rich.
1540-1545	Polygonum barbatum var. vulgare	*Persicaria setosula* (A. Rich.) K. Wilson
1546-1560	Rumex nervosus	*Rumex nervosus* Vahl
1561	Rumex steudeli	*Rumex nepalensis* Spreng.
1562	Rumex abyssinicus	*Rumex abyssinicus* Jacq.
1563	Polygonum plebeium	*Polygonum plebeium* R. Br.
1564	Polygonum sp.	Polygonum sp.*
1565	Scleranthus annuus	*Scleranthus annuus* L.
1566	Phytolacca dodecandra var. apiculata	*Phytolacca dodecandra* L'Hérit.
1567-1577	Phytolacca dodecandra	*Phytolacca dodecandra* L'Hérit.
1578	Chenopodium opulifolium	*Chenopodium opulifolium* Koch & Ziz.
1579	Alternanthera nodiflora	*Alternanthera nodiflora* R. Br.

6 In Pichi Sermolli (1951, p. 270), specimen number 1446 is named *Cyathula globulifera* Moq. var. *abyssinica* Moq, while on p. 37, on p. 275 and on p. 293, it is named *Cyathula uncinulata* var. *abyssinica*, which is a new combination made on p. 37.

7 In Pichi Sermolli (1951, p. 125) n. 1456-1463, 1465-1467 and 1469-1470 are named *Satureja punctata* var *rigida*, on p. 253, n. 1464 and 1468 are identified with the same name, which is also used for all the numbers 1456-1470 on p. 293.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
1580	Viscum nervosus var. angustifolium	*Viscum triflorum* DC. subsp. *nervosum* (A. Rich.) M.G. Gilbert
1581-1587	Viscum tuberculatum	*Viscum tuberculatum* A. Rich.
1588-1594	Protea gaguedi	*Protea gaguedi* J.F. Gmel.
1595-1598	Loranthus globiferus var. salicifolius	*Tapinanthus globiferus* (A. Rich.) Tiegh.
1599-1608	Loranthus regularis	*Phragmanthera regularis* (Sprague) M.G. Gilbert
1609-1610	Loranthus heteromorphus	*Tapinanthus heteromorphus* (A. Rich.) Danser
1611-1615	Loranthus acaciae	*Plicosepalus acaciae* (Zucc.) Wiens & Polhill
1616-1634	Osyris abyssinica	*Osyris quadripartita* Decne.
1635-1637	Osyridocarpus schimperianus	*Osyridocarpus schimperianus* (A. Rich.) A. DC.
1638-1656	Croton macrostachys	*Croton macrostachyus* Del.
1657	Euphorbia obovalifolia	*Euphorbia ampliphylla* Pax
1658-1659	Euphorbia controversa	*Euphorbia abyssinica* Gmel.
1660	Euphorbia dilatata	*Euphorbia schimperiana* Scheele
1661-1662	Euphorbia nubica	*Euphorbia nubica* N.E. Br.
1663-1675	Ficus thonningii	*Ficus thonningii* Bl.
1676-1677	Myrica salicifolia	*Myrica salicifolia* A. Rich.
1678-1685	Celtis kraussiana	*Celtis africana* Burm. f.
1686	Croton macrostachys	*Croton macrostachyus* Del.
1687-1688	Tragia mitis	*Tragia mitis* Muell. Arg.
1689-1692	Tragia pungens	*Tragia cinerea* (Pax) M.G. Gilbert & Radcl.-Smith
1693-1694	Sapium ellipticum	*Sapium ellipticum* (Krauss) Pax
1695-1696	Chrozophora plicata var. obliquifolia	*Chrozophora plicata* (Vahl) A. Juss.
1697	Andrachne aspera	*Andrachne aspera* Spreng.
1698-1699	Ricinus communis var. genuinus forma macrophyllus	*Ricinus communis* L.
1700-1702	Ricinus communis var. africanus forma subviridis	*Ricinus communis* L.
1703	Ricinus communis var. megalospermus forma pruinosus	*Ricinus communis* L.
1704-1715	Ficus vasta	*Ficus vasta* Forssk.
1716-1723	Ficus ingens	*Ficus ingens* (Miq.) Miq.
1724	Ficus riparia	*Ficus sur* Forssk.
1725-1726	Ficus glumosa var. glaberrima	*Ficus glumosa* Del.
1727-1729	Ficus dahro	*Ficus vasta* Forssk.
1730-1731	Ficus palmata	*Ficus palmata* Forssk.
1732-1733	Pistia stratiotes var. cuneata	*Pistia stratiotes* L.
1734	Typha latifolia subsp. eu-latifolia var. elatior	*Typha latifolia* L.
1735-1736	Vallisneria spiralis	*Vallisneria spiralis* L.
1737	Ottelia lancifolia	*Ottelia ulvifolia* (Planch.) Walp.
1738-1739	Ceratophyllum demersum	*Ceratophyllum demersum* L.
1740-1743	Salix subserrata	*Salix subserrata* Willd.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
1744-1745	Urera hypselodendron	*Urera hypselodendron* (A. Rich.) Wedd.
1746	Pistia stratiotes var. cuneata	*Pistia stratiotes* L.
1747-1750	Sauromatum nubicum	*Sauromatum venosum* (Ait.) Kunth
1751	Colocasia esculenta	*Colocasia esculenta* (L.) Schott
1752	Commelina pyrrhoblepharis	*Commelina benghalensis* L.
1753	Commelina bengalensis	*Commelina benghalensis* L.
1754-1755	Albuca hysterantha	*Albuca abyssinica* Jacq.
1756	Urginea micrantha	*Drimia altissima* (L. f.) Ker-Gawl.
1757-1758	Kniphofia foliosa	*Kniphofia foliosa* Hochst.
1759-1763	Aloe macrocarpa var. major	*Aloe macrocarpa* Tod.
1764	Asparagus racemosus	*Asparagus racemosus* Willd.
1765-1769	Asparagus asiaticus var. asiaticus[8]	*Asparagus africanus* Lam.
1770	Dioscorea quartiniana	*Dioscorea quartiniana* A. Rich.
1771-1773	Dioscorea schimperiana	*Dioscorea schimperiana* Kunth
1774	Dioscorea abyssinica	*Dioscorea abyssinica* Kunth
1775-1777	Haemanthus multiflorus	*Scadoxus multiflorus* (Martyn) Raf.
1778	Musa ensete	*Ensete ventricosum* (Welw.) Cheeseman
1779-1870	PTEROPSIDA	PTEROPSIDA This group is not dealt with in Pichi Sermolli (1951) and not represented in the *Centro Studi Erbario tropicale* (FT); see separate partial list in the section termed "Ferns and fern allies not in Pichi Sermolli (1951)" in this chapter.
1871	Cymbopogon sp.	Cymbopogon sp.*
1872	Crinipes abyssinica	*Crinipes abyssinicus* (A. Rich.) Hochst.
1873	Oryza perennis	*Oryza longistaminata* A. Chev. & Roehr.
1874	Bromus cognatus	*Bromus leptoclados* Nees
1875-1879	Chloris gayana	*Chloris gayana* Kunth
1880	Aira caryophyllea var. latigluma	*Aira caryophyllea* L.
1881	Eragrostis sp.	Eragrostis sp.*
1882	Cynodon dactylon	*Cynodon dactylon* (L.) Pers.
1883	Cynodon dactylon (?)	Cynodon dactylon?*
1884-1889	Cynodon dactylon	*Cynodon dactylon* (L.) Pers.
1890-1891	Cynodon dactylon / (?)[9]	Cynodon dactylon?*

8 In Pichi Sermolli (1951, p. 194) these collections are named as *Asparagus asiaticus* var. *asiaticus*, on p. 296 only as *Asparagus asiaticus*.

9 In Pichi Sermolli (1951, p. 181), n. 1890 is named as *Cynodon dactylon*, while n. 1891 on the same page is named as *Cynodon dactylon* (?); on p. 297 both n. 1890 and 1891 are named as *Cynodon* (?) *dactylon*.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
1892	Themeda triandra[10]	*Themeda triandra* Forssk.
1893	Agrostis quinqueseta + Festuca sp.	Agrostis quinqueseta+Festuca sp.*
1894	Deschampsia caespitosa var. latifolia	*Deschampsia caespitosa* (L.) P. Beauv.
1895	Pentaschistis sp. aff. P. trisetoides	Pentaschistis sp. aff. P. trisetoides*
1896	Agrostis sclerophylla	*Agrostis sclerophylla* C.E. Hubb.
1897	Koeleria cristata var. convoluta	*Koeleria capensis* (Steud.) Nees
1898	Agrostis sclerophylla	*Agrostis sclerophylla* C.E. Hubb.
1899	Poa sp. aff. P. leptoclada	Poa sp. aff. P. leptoclada*
1900	Bromus sp.	Bromus sp.*
1901	Agrostis sclerophylla	*Agrostis sclerophylla* C.E. Hubb.
1902	Poa sp. aff. P. leptoclada	Poa sp. aff. P. leptoclada*
1903	Agrostis quinqueseta ?	Agrostis quinqueseta?*
1904	Koeleria cristata var. convoluta	*Koeleria capensis* (Steud.) Nees
1905	Pentaschistis pictigluma	*Pentaschistis pictigluma* (Steud.) Pilg.
1906	Festuca sp. (F. macrophylla ?)	Festuca (?) macrophylla*
1907	Festuca macrophylla ?	Festuca (?) macrophylla*
1908	Koeleria cristata var. convoluta	*Koeleria capensis* (Steud.) Nees
1909	? Festuca schimperiana / Festuca cfr. schimperiana	Festuca sp. cfr. F. schimperiana*
1910	Pentaschistis pictigluma ?	Pentaschistis pictigluma?*
1911	Agrostis quinqueseta ?	Agrostis quinqueseta?*
1912	Pentaschistis pictigluma	*Pentaschistis pictigluma* (Steud.) Pilg.
1913	? Festuca schimperiana[11]	Festuca (?) schimperiana*
1914	Festuca sp.	Festuca sp.*
1915	Koeleria cristata var. convoluta	*Koeleria capensis* (Steud.) Nees
1916	Poa sp. nov.?	Poa sp. nov.?*
1917-1919	Koeleria cristata var. convoluta	*Koeleria capensis* (Steud.) Nees
1920	Pentaschistis sp.	Pentaschistis sp.*
1921	Pentaschistis pictigluma	*Pentaschistis pictigluma* (Steud.) Pilg.
1922-1923	Festuca sp.	Festuca sp.*
1924	? Festuca rigidula	Festuca (?) rigidula*
1925-1926	Pentaschistis pictigluma	*Pentaschistis pictigluma* (Steud.) Pilg.
1927	Bromus sp.	Bromus sp.*
1928	Koeleria cristata var. convoluta	*Koeleria capensis* (Steud.) Nees

10 In Pichi Sermolli (1951), on p. 237 specimen number 1892 is named *Themeda triandra* Forssk. var. *hispida* Stapf, while on p. 297 it is named *Themeda triandra* without indication of infraspecific taxon.

11 In Pichi Sermolli (1951, p. 240) a collection of from "Versante occidentale di M. Selchi, m. 4,200 circa, 10.4." is given the specimen number 1915; this must be an error for 1913, which is the number given for a collection of "? *Festuca schimperiana*" on p. 297.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
1929	Agrostis sclerophylla	*Agrostis sclerophylla* C.E. Hubb.
1930	Pentaschistis pictigluma	*Pentaschistis pictigluma* (Steud.) Pilg.
1931	Bromus sp.	Bromus sp.*
1932	Agrostis sp.	Agrostis sp.*
1933	Pentaschistis pictigluma	*Pentaschistis pictigluma* (Steud.) Pilg.
1934	? Festuca macrophylla (p. 239) / Festucas sp. (p. 297)	Festuca sp.*
1935	? Festuca macrophylla	Festuca (?) macrophylla*
1936	Juncus bufonius	*Juncus bufonius* L.
1937-1939	Loudetia arundinacea var. arundinacea[12]	*Loudetia arundinacea* (A. Rich.) Steud.
1940-1941	Loudetia arundinacea var. hensii (p. 180) / var. trichantha (p. 297)[13]	*Loudetia arundinacea* (A. Rich.) Steud.
1942-1951	Arundo donax	*Arundo donax* L.
1952	Cyperus cyperoides	*Cyperus cyperoides* (L.) Kuntze
1953-1956	Cyperus papyrus subsp. antiquorum	*Cyperus papyrus* L.
1957-1958	Cyperus dives	*Cyperus dives* Del.
1959-1962	Cyperus longus subsp. badius	*Cyperus longus* L.
1963-1967	Cyperus fischerianus	*Cyperus fischerianus* A. Rich.
1968	Coleochloa abyssinica var. abyssinica	*Coleochloa abyssinica* (A. Rich.) Gilly
1969	Coleochloa abyssinica var. castanea	*Coleochloa abyssinica* (A. Rich.) Gilly
1970-1977	PTEROPSIDA	PTEROPSIDA This group is not dealt with in Pichi Sermolli (1951) and not represented in the *Centro studi Erbario tropicale* (FT); see separate partial list in the section termed "Ferns and fern allies not in Pichi Sermolli (1951)" in this chapter.
1978-1979	Potamogeton schweinfurthii	*Potamogeton schweinfurthii* A. Benn.
1980	Bulbostylis trifida	*Bulbostylis densa* (Wall.) Hand.-Mazz. subsp. *afromontana* (Lye) R. Haines
1981	Bulbostylis holotricha	*Bulbostylis pusilla* (A. Rich.) C.B. Cl. subsp. *congolensis* (De Wild.) R. Haines
1982-1983	Cyperus morandinii	*Cyperus penzoanus* Pic. Serm.
1984	Cyperus digitatus subsp. auricomus	*Cyperus digitatus* Roxb. subsp. *auricomus* (Spreng.) Kük.
1985	Cyperus morandinii	*Cyperus penzoanus* Pic. Serm.
1986	Cyperus penzoanus	*Cyperus penzoanus* Pic. Serm.

12 In Pichi Sermolli (1951, p. 159) specimen number 1937 is said to be a collection of *Chiliocephalum schimperi* Benth., collected on M. Jesus Tabor, m. 3,050, 22.3., while on p. 180 the same specimen number is said to be a collection of *Loudetia arundinacea* (Hochst.) Steud., from Birghida Mariam (isola presso Gorgora), m. 1825, 7.3. On p. 288, n. 1024, which does not occur in the main part of the book, is indicated as *Chiliocephalum schimperi*, while, on p. 297, no. 1937 is indicated as *Loudetia arundinacea*. In this work we use the numbering from the numerical sequence of specimen numbers, p. 288 and 297, and n. 1937 is assumed to be a specimen of *Loudetia arundinacea*.

13 On p. 180 *Loudetia arundinacea* var. *trichantha* (Peter) Hutch. is listed as a synonym of *Loudetia arundinacea* var. *hensii* (De Wild.) C.E. Hubb., while on p. *297 the name* is var trichantha.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
1987-1992	Amorphophallus gomboczianus	*Amorphophallus gomboczianus* Pic. Serm.
1993-2003	Phoenix abyssinica	*Phoenix reclinata* Jacq.
2004	Commelina nudiflora var. werneana	*Commelina diffusa* Burm. f.
2005	Commelina pyrrhoblepharis forma glabra	*Commelina benghalensis* L.
2006	Commelina pyrrhoblepharis	*Commelina benghalensis* L.
2007	Urginea indica	*Drimia indica* (Roxb.) Jessop
2008	Urginea simensis	*Drimia simensis* (Hochst.) Stedje
2009	Cerastium caespitosum var. simense	*Cerastium octandrum* A. Rich.
2010	Dracaena steudneri	*Dracaena steudneri* Engl.
2011	Cerastium caespitosum var. simense.	*Cerastium octandrum* A. Rich.
2012-2016	Dracaena steudneri	*Dracaena steudneri* Engl.
2017	Kniphofia densiflora	*Kniphofia foliosa* Hochst.
2018	Kniphofia foliosa	*Kniphofia foliosa* Hochst.
2019-2020	Aloe sp. cfr. A. aethiopica	*Aloe steudneri* Schweinf.
2021-2022	Aloe sp. cfr. A. abyssinica	Aloe sp. cfr. A. abyssinica*
2023	Aloe sp. cfr. A. eru	*Aloe* sp. cfr. A. eru*
2024	Aloe sp. cfr. A. abyssinica	*Aloe* sp. cfr. A. abyssinica*
2025	Lippia adoensis	*Lippia adoensis* Walp.
2026-2029	Asparagus asiaticus var. amharicus	*Asparagus africanus* Lam.
2030	Hyparrhenia sp.	Hyparrhenia sp.*
2031	Pimpinella hirtella	*Pimpinella hirtella* (Hochst.) A. Rich.
2032	Celsia scrophulariifolia subsp. foliosa	*Rhabdotosperma scrophulariifolia* (A. Rich.) Hartl
2033	Ipomoea eriocarpa	*Ipomoea eriocarpa* R. Br.
2034	Indeterminabile	Indeterminabile* [unidentifiable]
2035	Rhamnus prinoides	*Rhamnus prinoides* L'Hérit.
2036	Vangueria sp.	Vangueria sp.*
2037	Ximenia americana	*Ximenia americana* L.
2038-2042	Flacourtia afra	*Flacourtia indica* (Burm. f.) Merr.
2043	Indeterminabile	Indeterminabile* [unidentifiable]
2044	Flacourtia afra	*Flacourtia indica* (Burm. f.) Merr.
2045	Indeterminabile	Indeterminabile* [unidentifiable]
2046	Premna viburnoides var. schimperi	*Premna schimperi* Engl.
2047-2049	Indeterminabile	Indeterminabile* [unidentifiable]
2050	? Maesa lanceolata[14]	*Maesa lanceolata* Forssk.
2051	Pavetta sp.	Pavetta sp.*

14 On p. 108 in Pichi Sermolli (1951) specimen number 2050 is named as *Maesa lanceolata* and collected in the same locality as n. 1098, which is certainly that species, but n. 2050 is not identified with absolute certainty, as the specimen is sterile; in the numerical list on p. 299 the specimen number is named as ? *Maesa lanceolata*.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
2052	Gymnosporia serrata var. schimperi	*Maytenus serrata* (A. Rich.) Wilczek
2053	Combretum (?) gallabatense	Combretum (?) gallabatense*
2054	Dombeya bruceana	*Dombeya torrida* (J.F. Gmel.) P. Bamps
2055	Boerhaavia pentandra	*Commicarpus grandiflorus* (A. Rich.) Standl.
2056	Indeterminabile	Indeterminabile* [unidentifiable]
2057	Jambosa jambos	*Syzygium jambos* (L.) Alston
2058	Teclea nobilis	*Teclea nobilis* Del.
2059	Linociera latipetala	*Chionanthus mildbraedii* (Gilg & Schellenb.) Stearn
2060-2061	Syzygium guineense	*Syzygium guineense* (Willd.) DC.
2062-2063	Indeterminabile	Indeterminabile* [unidentifiable]
2064	Flacourtia afra	*Flacourtia indica* (Burm. f.) Merr.
2065	Festuca sp.	Festuca sp.*
2066-2067	Tristicha trifaria	*Tristicha trifaria* (Willd.) Spreng.
2068	Agrostis sp.	Agrostis sp.*
2069	Satureja ovata var. cinereo-tomentosa	*Satureja punctata* (Benth.) Briq. subsp. ovata (Benth.) Seybold
2070	Pulicaria undulata var. abyssinica	*Pulicaria incisa* (Lam.) DC.
2071	Pentaschistis pictigluma	*Pentaschistis pictigluma* (Steud.) Pilg.
2072	? Festuca rigidula (p. 240) /Festuca rigidula (p. 299)[15]	Festuca (?) rigidula*
2073	Rhoicissus erythrodes	*Rhoicissus tridentata* (L. f.) Wild & Drummond
2074	Datura stramonium	*Datura stramonium* L.
2075	Agrostis quinqueseta + Festuca sp.	Agrostis quinqueseta+Festuca sp.*
2076	Pentaschistis pictigluma	*Pentaschistis pictigluma* (Steud.) Pilg.
2077	Hygrophila asteracantoides	*Hygrophila asteracanthoides* Lindau
2078-2082	Plumbago zeylanica	*Plumbago zeylanica* L.
2083	Majorana hortensis	*Origanum majorana* L.
2084-2085	Indeterminabile	Indeterminabile* [unidentifiable]
2086-2088	Sopubia ramosa	*Sopubia ramosa* (Hochst.) Hochst.
2089	Indeterminabile	Indeterminabile* [unidentifiable]
2090	Linociera (?) latipetala	Linociera (?) latipetala*
2091-2092	Indeterminabile	Indeterminabile* [unidentifiable]
2093-2094	Sagina abyssinica	*Sagina abyssinica* A. Rich.
2095	Dicliptera laxata	*Dicliptera laxata* C.B. Cl.
2096	Otostegia repanda	*Otostegia fruticosa* (Forssk.) Schweinf.
2097	Hypoestes busii	*Hypoestes triflora* (Forssk.) Roem. & Schult.
2098-2099	Brillantaisia grottanellii	*Brillantaisia grottanellii* Pic. Serm.

15 On p. 240 in Pichi Sermolli (1951) all cited collections are named with doubt as ? *Festuca rigidula*; on p. 299 n. 2072 is named as *Festuca rigidula*.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
2100-2115	Acanthus (?) polystachius	*Acanthus polystachius* Del.
2116-2123	Acanthus sennii	*Acanthus sennii* Chiov.
2124	Blepharis maderaspatensis var. abyssinica	*Blepharis maderaspatensis* (L.) Roth
2125-2127	Dyschoriste broiloi	*Dyschoriste multicaulis* (A. Rich.) O. Kuntze
2128	Ipomoea sp.	Ipomoea sp.*
2129	Echium plantagineum	*Echium plantagineum* L.
2130	Asclepiadaceae indeterminabile	Asclepiadaceae indeterminabile* [unidentifiable species of Asclepiadaceae]
2131	? Tacazzea apiculata	Tacazzea (?) apiculata*
2132-2134	lndeterminabile	Indeterminabile* [unidentifiable]
2135-2137	Tacazzea apiculata	*Tacazzea apiculata* Oliv.
2138	Centaurea melitensis	*Centaurea melitensis* L.
2139	Artemisia rehan	*Artemisia absinthium* L.
2140	Bidens chaetodonta var. glabrior	*Bidens camporum* (Hutch.) Mesfin
2141-2142	Bidens setigera var. abyssinica	*Bidens setigera* (Walp.) Sherff
2143	Lactuca capensis	*Lactuca inermis* Forssk.
2144	Lactuca sp.	Lactuca sp.*
2145	Lactuca taraxacifolia	*Launaea taraxacifolia* (Willd.) C. Jeffrey
2146-2147	Lactuca capensis	*Lactuca inermis* Forssk.
2148	Lactuca abyssinica	*Lactuca inermis* Forssk.
2149-2155	Lactuca capensis	*Lactuca inermis* Forssk.
2156	Lactuca pseudoabyssinica	*Launaea pseudoabyssinica* (Chiov.) Kilian
2157	Crepis rueppellii	*Crepis rueppellii* Sch. Bip.
2158-2159	Guizotia sp.	Guizotia sp.*
2160	Guizotia (?) villosa	Guizotia (?) villosa*
2161-2164	Guizotia sp.	Guizotia sp.*
2165	Guizotia villosa	*Guizotia villosa* Sch. Bip.
2166-2167	Guizotia sp.	Guizotia sp.*
2168-2169	Echinops hoffmannianus	*Echinops longisetus* A. Rich.
2170-2173	Echinops giganteus	*Echinops giganteus* A. Rich.
2174	Echinops nistrii	*Echinops giganteus* A. Rich.
2175	Echinops francinianus	*Echinops giganteus* A. Rich.
2176-2177	Laggera braunii	*Laggera braunii* Vatke
2178-2179	Antithrixia abyssinica	*Macowania ericifolia* (Forssk.) B.L. Burtt & Grau
2180	Vernonia unionis	*Vernonia unionis* Walp.
2181-2182	lndeterminabile	Indeterminabile* [unidentifiable]
2183	Probab. Bignoniaceae	Bignoniaceae, probab.*
2184	Ritchiea steudneri	*Ritchiea albersii* Gilg
2185	lndeterminabile	Indeterminabile* [unidentifiable]

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
2186-2187	Asclepiadaceae ?	Asclepiadaceae?*
2188	lndeterminabile	Indeterminabile* [unidentifiable]
2189-2190	Linociera latipetala	*Chionanthus mildbraedii* (Gilg & Schellenb.) Stearn
2191	Jacaranda mimosifolia	*Jacaranda mimosifolia* D. Don
2192	Lagenaria vulgare	*Lagenaria siceraria* (Molina) Standl.
2193	Tacazzea conferta	*Tacazzea conferta* N.E. Br.
2194	? Festuca rigidula (p. 240) /Festuca rigidula (p. 300)[16]	Festuca (?) rigidula*
2195	Tacazzea conferta	*Tacazzea conferta* N.E. Br.
2196-2197	Jussiaea pilosa	*Ludwigia leptocarpa* (Nutt.) H. Hara
2198	Trichilia volkensii var. buchanani	*Lepidotrichilia volkensii* (Gürke) Leroy
2199	lndeterminabile	Indeterminabile* [unidentifiable]
2200	Oxalis corniculata var. corniculata	*Oxalis corniculata* L.
2201	lndeterminabile	Indeterminabile* [unidentifiable]
2202-2204	Celastraceae ?	Celastraceae?*
2205	Oxalis corniculata var. corniculata	*Oxalis corniculata* L.
2206	Scabiosa columbaria	*Scabiosa columbaria* L.
2207-2209	Vangueria sp.	Vangueria sp.*
2210-2211	Oxyanthus speciosus	*Oxyanthus speciosus* DC.
2212-2216	Rothmannia urcelliformis	*Rothmannia urcelliformis* (Hiern) Robyns
2217	? Festuca schimperiana	Festuca (?) schimperiana*
2218	Pentas lanceolata	*Pentas lanceolata* (Forssk.) Deflers
2219	Heracleum abyssinicum	*Heracleum abyssinicum* (Boiss.) Norman
2220	Cucurbitacea indeterminabile	Cucurbitacea indeterminabile* [unidentifiable species of Cucurbitaceae]
2221	Melothria ciprianii	*Zehneria scabra* (L. f.) Sond.
2222	Indigofera alboglandulosa	*Indigofera atriceps* Hook. f.
2223-2227	Cassia petersiana	*Senna petersiana* (Bolle) Lock
2228-2229	Crotalaria lachnocarpoides	*Crotalaria lachnocarpoides* Engl.
2230	Lotus mearnsi	*Lotus schoelleri* Schweinf.
2231	Crotalaria hyssopifolia	*Crotalaria hyssopifolia* Klotzsch
2232	Acacia seyal	*Acacia seyal* Del.
2233-2234	Acacia seyal ?	Acacia seyal?*
2235-2241	Acacia seyal	*Acacia seyal* Del.
2242-2243	Acacia negrii	*Acacia negrii* Pic. Serm.
2245	Acacia bavazzanoi	*Acacia bavazzanoi* Pic. Serm.
2246	Acacia xiphocarpa	*Acacia abyssinica* Benth.

16 In Pichi Sermolli (1951, p. 240) all cited collections are named with doubt as *? Festuca rigidula* Steud.; on p. 300 the n. 2194 is named as *Festuca rigidula*.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
2247-2255	Acacia bavazzanoi	*Acacia bavazzanoi* Pic. Serm.
2256	Dichrostachys glomerata	*Dichrostachys cinerea* (L.) Wight & Arn.
2257	Acacia bavazzanoi	*Acacia bavazzanoi* Pic. Serm.
2258-2262	Tephrosia rigida	*Tephrosia elata* Deflers
2263-2264	Rhynchosia (?) imbricata	*Rhynchosia nyasica* Bak.
2265	Indigofera secundiflora var. gondarensis	*Indigofera secundiflora* Poir.
2266-2268	Aeschynomene schimperi	*Aeschynomene schimperi* A. Rich.
2269-2270	Entada abyssinica	*Entada abyssinica* A. Rich.
2271-2273	Dalbergia lactea	*Dalbergia lactea* Vatke
2274	Albizzia isembergiana	*Albizia isenbergiana* (A. Rich.) Fourn.
2275-2277	Entada abyssinica	*Entada abyssinica* A. Rich.
2278	Euclea kellau	*Euclea racemosa* Murray subsp. *schimperi* (A. DC.) F. White
2279-2283	Gymnosporia engleriana var. macrantha	*Maytenus arbutifolia* (A. Rich.) Wilczek
2284-2289	Gymnosporia senegalensis var. inermis forma macrocarpa	*Maytenus senegalensis* (Lam.) Exell
2290	Gymnosporia obscura	*Maytenus obscura* (A. Rich.) Cufod.
2291-2299	Gymnosporia senegalensis var. inermis forma macrocarpa	*Maytenus senegalensis* (Lam.) Exell
2300-2301	Gymnosporia serrata var. steudneri	*Maytenus gracilipes* (Oliv.) Exell subsp. *arguta* (Loes.) Sebsebe
2302	Gymnosporia serrata var. typica	*Maytenus serrata* (A. Rich.) Wilczek
2303-2304	Gymnosporia serrata var. steudneri	*Maytenus gracilipes* (Oliv.) Exell subsp. *arguta* (Loes.) Sebsebe
2305-2314	Gymnosporia serrata var. typica	*Maytenus serrata* (A. Rich.) Wilczek
2315-2317	Gymnosporia castellii	*Maytenus gracilipes* (Oliv.) Exell subsp. *arguta* (Loes.) Sebsebe
2318	Gymnosporia serrata var. typica	*Maytenus serrata* (A. Rich.) Wilczek
2319	Gymnosporia engleriana var. macrantha	*Maytenus arbutifolia* (A. Rich.) Wilczek
2320	Gymnosporia obscura	*Maytenus obscura* (A. Rich.) Cufod.
2321	Gymnosporia engleriana var. macrantha	*Maytenus arbutifolia* (A. Rich.) Wilczek
2322	Celastraceae ?	Celastraceae?*
2323	Abutilon smenospermum / lndeterminabile[17]	*Abutilon cecilii* N.E. Br.
2324-2336	Ritchiea steudneri	*Ritchiea albersii* Gilg
2337	Rhus amharica / Indeterminabile[18]	*Rhus glutinosa* A. Rich.

17 In Pichi Sermolli (1951, p. 92-93) the specimen number 2323 from "Foresta della Chiesa di Gumbit Uddus Michael, m. 1,900, 18.3." is made the type collection of a new species, *Abutilon smenospermum* Pic. Serm., but this has not been corrected in the numerical list of collections on p. 302, where the number is indicated as "Indeterminabile".

18 In Pichi Sermolli (1951, p. 81) the specimen number 2337 from "Pendici orientali di M. Guranghe (nord di Gondar), m. 2,400, 27.1." is made the type collection of a new species, *Rhus amharica* Pic. Serm., but this has not been corrected in the numerical list of collections on p. 302, where the number is indicated as "Indeterminabile".

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
2338	Rhus pyroides var. gracilis	Rhus pyroides var. gracilis*
2339-2345	Rhus huillensis var. erythraea	*Rhus quartiniana* A. Rich.
2346-2349	Rhus glutinosa	*Rhus glutinosa* A. Rich.
2350-2351	Diphasia dainellii	*Vepris dainellii* (Pic. Serm.) Kokwaro
2352-2356	Clematis longicauda	*Clematis longicauda* A. Rich.
2357-2373	Clematis glaucescens	*Clematis hirsuta* Guill. & Perr.
2374-2376	Ficus glumosa var. glaberrima	*Ficus glumosa* Del.
2377	Ficus dahro	*Ficus vasta* Forssk.
2378-2384	Ficus sur	*Ficus sur* Forssk.
2385-2393	Ficus brachypoda	*Ficus ovata* Vahl
2394-2403	Ficus gnaphalocarpa	*Ficus sycomorus* L.
2404	Cordia ovalis	*Cordia monoica* Roxb.
2405-2406	Cordia abyssinica	*Cordia africana* Lam.
2407	Terminalia schimperiana	*Terminalia schimperiana* Hochst.
2408	Ficus thonningii	*Ficus thonningii* Bl.
2409	Cordia ovalis	*Cordia monoica* Roxb.
2410	Echinops giganteus	*Echinops giganteus* A. Rich.
2411	Centaurea imatongensis	*Ochrocephala imatongensis* (Philipson) Dittrich
2412-2416	Inula decipiens	*Inula paniculata* (Klatt) Burtt Davy
2417	Vernonia thomsoniana var. thomsoniana	*Vernonia thomsoniana* Oliv.
2418	Koeleria cristata var. convoluta	*Koeleria capensis* (Steud.) Nees
2419	Vernonia theophrastifolia	*Vernonia theophrastifolia* Oliv. & Hiern
2420-2422	Vernonia richardiana	*Vernonia theophrastifolia* Oliv. & Hiern
2423-2425	Vernonia francavillana	*Vernonia rueppellii* Walp.
2426	Vernonia chiarugii	*Vernonia myriantha* Hook. f.
2427-2429	Vernonia francavillana	*Vernonia rueppellii* Walp.
2430-2431	Vernonia rueppellii	*Vernonia rueppellii* Walp.
2432-2436	Vernonia francavillana	*Vernonia rueppellii* Walp.
2437-2446	Vernonia cylindrica	*Vernonia cylindrica* Walp.
2447	Vernonia filigera	*Vernonia filigera* Oliv. & Hiern
2448-2452	Phyllanthus guineensis	*Phyllanthus ovalifolius* Forssk.
2453-2460	Bridelia micrantha	*Bridelia micrantha* (Hochst.) Baill.
2461-2466	Cluytia richardiana var. pubescens	*Clutia lanceolata* Forssk.
2467	Festuca sp.	Festuca sp.*
2468-2470	Cluytia richardiana var. pubescens	*Clutia lanceolata* Forssk.
2471-2475	Ocimum trichodon	*Ocimum trichodon* Gürke
2476-2484	Ocimum suave	*Ocimum urticifolium* Roth
2485	Loranthus macrosolen	*Phragmanthera macrosolen* (A. Rich.) M.G. Gilbert
2486	Loranthus globiferus	*Tapinanthus globiferus* (A. Rich.) Tiegh.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
2487	Korthalsella binii	*Korthalsella japonica* (Thunb.) Engl.
2488	Korthalsella opuntia	*Korthalsella japonica* (Thunb.) Engl.
2489	Festuca sp.	Festuca sp.*
2490-2491	Loranthus globiferus	*Tapinanthus globiferus* (A. Rich.) Tiegh.
2492	Loranthus scassellati var. glabrescens	*Tapinanthus heteromorphus* (A. Rich.) Danser
2493	Lasiosiphon glaucus	*Gnidia glauca* (Fresen.) Gilg
2494	Agrostis quinqueseta	*Agrostis quinqueseta* (Steud.) Hochst.
2495	Festuca sp.	Festuca sp.*
2496-2500	Lasiosiphon glaucus	*Gnidia glauca* (Fresen.) Gilg
2501	Faurea rochetiana[19]	*Faurea speciosa* Welw.
2502	Polygonum senegalense	*Persicaria senegalensis* (Meisn.) Soják
2503	Celosia schweinfurthiana	*Celosia schweinfurthiana* Schinz
2505	Plantago coronopus subsp. eu-coronopus var. ceratophylla	*Plantago coronopus* L.
2506-2508	Otostegia steudneri	*Otostegia tomentosa* A. Rich. subsp. *steudneri* (Schweinf.) Sebald
2509-2516	Otostegia minuccii	*Otostegia tomentosa* A. Rich. subsp. *ambigens* (Chiov.) Sebald
2517	Premna viburnoides var. schimperi	*Premna schimperi* Engl.
2518-2523	Sesbania aegyptiaca	*Sesbania sesban* (L.) Merr. var. *nubica* Chiov.
2524	Pseudarthria (?) confertiflora	Pseudarthria (?) confertiflora*
2525	Oreophyton falcatum forma depauperatum	*Oreophyton falcatum* (A. Rich.) O.E. Schulz
2526-2528	Diaphananthe tenuicalcar	*Diaphananthe tenuicalcar* Summerh.
2529	Aerangis sp. / Aerangis sp. cfr. A. rohlfsiana[20]	Aerangis sp. cfr. A. rohlfsiana*
2530-2531	Aerangis rohlfsiana	*Aerangis brachycarpa* (A. Rich.) Th. Dur. & Schinz
2532	Habenaria lefebureana	*Habenaria lefebureana* (A. Rich.) Th. Dur. & Schinz
2533-2534	Polystachya steudneri	*Polystachya steudneri* Rchb. f.
2535-2539	Polystachya bennettiana	*Polystachya bennettiana* Rchb. f.
2540	Solanum uollense	*Solanum anguivi* Lam.
2541-2542	Solanum lycopersicum	*Lycopersicon esculentum* Mill.
2543	Solanum dasyphyllum	*Solanum dasyphyllum* Schumach.
2544-2548	Solanum marginatum	*Solanum marginatum* L. f.
2549	Solanum adoense	*Solanum adoense* A. Rich.
2550	Solanum incanum	*Solanum incanum* L.

19 The acceptance in the *Flora of Ethiopia and Eritrea* of *Faurea speciosa* Welw. as the correct name of this species is an error. The basionym of *Faurea rochetiana* (A. Rich.) Chiov. ex Pic. Serm. has priority over *Faurea speciosa* Welw.

20 In Pichi Sermolli (1951, p. 197) the specimen number 2529 from "Regione del torrente Gueldo (Regione Fissa), lungo un corso d'acqua nella foresta, m. 1,900, 18.3." is identified as *Aerangis* sp.; on p. 304 it is identified as *Aerangis* sp. cfr. *A. rohlfsiana*.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
2551-2563	Solanum campylacanthum	*Solanum campylacanthum* A. Rich.
2564	Solanum rohrii	*Solanum anguivi* Lam.
2565	Solanum mesodolichum	*Solanum anguivi* Lam.
2566	Solanum campylacanthum	*Solanum campylacanthum* A. Rich.
2567-2570	Solanum rohrii	*Solanum anguivi* Lam.
2571-2574	Solanum indicum	*Solanum anguivi* Lam.
2575	Solanum orthocarpum	*Solanum anguivi* Lam.
2576-2579	Solanum giganteum	*Solanum giganteum* Jacq.
2580	Cerastium caespitosum var. simense	*Cerastium octandrum* A. Rich.
2581	Bromus sp.	Bromus sp.*
2582	Festuca sp.	Festuca sp.*
2583	Cerastium caespitosum var. simense / Indeterminabile[21]	*Cerastium octandrum* A. Rich.
2584	Swertia engleri	*Swertia engleri* Gilg
2585	Alchemilla commutata	*Alchemilla microbetula* T.C.E. Fries
2586	Swertia engleri	*Swertia engleri* Gilg
2587	Sagina abyssinica	*Sagina abyssinica* A. Rich.
2588	Cerastium caespitosum var. simense / Indeterminabile[22]	*Cerastium octandrum* A. Rich.
2589-2590	Sagina abyssinica	*Sagina abyssinica* A. Rich.
2591	Swertia engleri	*Swertia engleri* Gilg
2592	Cerastium caespitosum var. simense	*Cerastium octandrum* A. Rich.
2593	Agrostis sp. cfr. A. quinqueseta	Agrostis sp. cfr. A. quinqueseta*
2594-2595	Sagina abyssinica	*Sagina abyssinica* A. Rich.
2596	Cerastium caespitosum var. simense	*Cerastium octandrum* A. Rich.
2597	Sagina abyssinica	*Sagina abyssinica* A. Rich.
2598-2600	Gymnosporia cortii[23]	*Maytenus cortii* (Pic. Serm.) Cufod.
2601	Anthemis sp. cfr. A. tigreensis	*Anthemis tigreensis* A. Rich.
2602-2603	Senecio degensis	*Senecio farinaceus* A. Rich.
2604-2607	Senecio farinaceus	*Senecio farinaceus* A. Rich.
2608	Cineraria abyssinica var. rothii	*Cineraria deltoidea* Sond.
2609	Veronica beccabunga forma minima	*Veronica beccabunga* L.

21 In Pichi Sermolli (1951, p. 200-201) the specimen number 2583 from "Versante meridionale di M. Degien, m. 4,350-4,620, 13.4." has been named *Cerastium caespitosum* var. *simense*; on p. 305 it is named "Indeterminabile".

22 In Pichi Sermolli (1951, p. 200-201) the specimen number 2588 from "Versante occidentale di M. Selchi, m. 4,000 circa, 10.4." has been named *Cerastium caespitosum* var. *simense*; on p. 305 it is named "Indeterminabile".

23 In Pichi Sermolli (1951, p. 210) the specimen numbers 2598, 2599, 2560, all from "Crinale del versante destro della valle di Beleghes ad ovest di Ambaras, m. 3350 circa, 7.4.[1937]", are named *Gymnosporia cortii*; on p. 305 the numbers 2598, 2599, 2600 are also identified as this species. However, on p. 134 a specimen numbered 2560 from "Rive del lago ad ovest di Bahar Dar, m. 1825, 31.1." is named *Solanum campylacanthum*, with the same identification on p. 304, and no specimen number 2600 is recorded in the entire text of Pichi Sermolli (1951). It is therefore assumed that "2560", twice on p. 210, is a misprint for 2600.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
2610-2612	Senecio farinaceus	*Senecio farinaceus* A. Rich.
2613	Senecio schultzii	*Senecio schultzii* A. Rich.
2614	Erigeron alpinum subsp. alpinum	*Erigeron alpinus* L.
2615-2618	Senecio nanus	*Senecio nanus* A. Rich.
2619	Dipsacus eremocephalus	*Dipsacus pinnatifidus* A. Rich.
2620	Tolpis virgata	*Tolpis virgata* (Desf.) Bertol.
2621	Inula arbuscula	*Inula arbuscula* Del.
2622	Indeterminabile	Indeterminabile* [unidentifiable]
2623[24]	Cotula abyssinica var. nana	*Cotula abyssinica* A. Rich.
2624	Cirsium vel Carduus sp.	Cirsium vel Carduus sp.*
2625	Carduus semiensis	*Carduus leptacanthus* Fresen.
2626	Carduus schimperi	*Carduus schimperi* Sch. Bip.
2627	Athrixia rosmarinifolia	*Athrixia rosmarinifolia* (Walp.) Oliv. & Hiern
2628	Laggera tomentosa	*Laggera tomentosa* (A. Rich.) Oliv. & Hiern
2629-2630	Vernonia bipontini	*Vernonia bipontini* Vatke
2631-2632	Nidorella vernonioides	*Conyza vernonioides* (A. Rich.) Wild
2633	Anthemis semiensis	*Anthemis tigreensis* A. Rich.
2634	? Festuca schimperiana	Festuca (?) schimperiana*
2635	Anthemis semiensis	*Anthemis tigreensis* A. Rich.
2636	Conyza messerii	*Conyza messerii* Pic. Serm.
2637-2639	Afrovivella simensis	*Rosularia semiensis* (A. Rich.) Ohba
2640-2647	Oreophyton falcatum	*Oreophyton falcatum* (A. Rich.) O.E. Schulz
2648	Oreophyton falcatum forma depauperatum	*Oreophyton falcatum* (A. Rich.) O.E. Schulz
2649	Oreophyton falcatum	*Oreophyton falcatum* (A. Rich.) O.E. Schulz
2650	Arabis alpina var. meruensis	*Arabis alpina* L.
2651	Limosella semiensis	*Limosella capensis* Thunb.
2652	Arabis alpina var. meruensis	*Arabis alpina* L.
2653-2654	Oreophyton falcatum	*Oreophyton falcatum* (A. Rich.) O.E. Schulz
2655	Arabis alpina var. meruensis	*Arabis alpina* L.
2656	Oreophyton falcatum forma depauperatum	*Oreophyton falcatum* (A. Rich.) O.E. Schulz
2657	Arabis alpina var. meruensis	*Arabis alpina* L.
2658-2659	Oreophyton falcatum forma depauperatum	*Oreophyton falcatum* (A. Rich.) O.E. Schulz
2660-2661	Cardamine obliqua	*Cardamine obliqua* A. Rich.
2662	Galium hochstetteri	*Galium acrophyum* Chiov.

24 In the list (Pichi Sermolli 1951, p. 305) the number is erroneously indicated as "2223", but correctly placed between 2622 and 2624 and correcty indicated as 2623 on p. 230.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
2663	Indeterminabile[25]	Indeterminabile* [unidentifiable]
2664	Rotala repens	*Rotala repens* (Hochst.) Koehne
2665-2667	Carex monostachya	*Carex monostachya* A. Rich.
2668	Scirpus costatus	*Isolepis costata* A. Rich.
2669-2670	Luzula abyssinica var. simensis	*Luzula abyssinica* Parl.
2671	Euphorbia petitiana	*Euphorbia petitiana* A. Rich.
2672	Euphorbia dilatata	*Euphorbia schimperiana* Scheele
2673	Cluytia richardiana var. pubescens	*Clutia lanceolata* Forssk.
2674	Moraea schimperi	*Moraea schimperi* (Hochst.) Pic. Serm.
2675-2676	Stachys hypoleuca	*Stachys hypoleuca* A. Rich.
2677	Thymus schimperi	*Thymus schimperi* Ronniger
2678-2679	Satureja simensis	*Satureja simensis* (Benth.) Briq.
2680	Ajuga crenata	*Ajuga integrifolia* D. Don
2681	Coleus comosus	*Plectranthus ornatus* Codd
2682	Becium grandiflorum	*Becium grandiflorum* (Lam.) Pic. Serm.
2683	Otostegia steudneri	*Otostegia tomentosa* A. Rich. subsp. *steudneri* (Schweinf.) Sebald
2684	Satureja contardoi	*Satureja imbricata* (Forssk.) Briq.
2685	Thymus schimperi	*Thymus schimperi* Ronniger
2686	Satureja punctata var. rigida	*Satureja punctata* (Benth.) Briq.
2687	Thymus schimperi	*Thymus schimperi* Ronniger
2688	Satureja punctata var. rigida	*Satureja punctata* (Benth.) Briq.
2689	Satureja contardoi	*Satureja imbricata* (Forssk.) Briq.
2690-2692	Thymus schimperi	*Thymus schimperi* Ronniger
2693	Argyrolobium schimperianum	*Argyrolobium schimperianum* A. Rich.
2694	Trifolium cryptopodium	*Trifolium cryptopodium* A. Rich.
2695	Trifolium acaule	*Trifolium acaule* A. Rich.
2696	Acacia pilispina	*Acacia pilispina* Pic. Serm.
2697	Trifolium acaule	*Trifolium acaule* A. Rich.
2698	Acacia negrii	*Acacia negrii* Pic. Serm.
2699	Lemna minor	*Lemna minor* L.
2700-2701	Lobelia rhynchopetalum	*Lobelia rhynchopetalum* Hemsl.
2702	Indeterminabile[26]	Indeterminabile* [unidentifiable]
2703-2704	Epilobium schimperianum	*Epilobium stereophyllum* Fresen.

25 In Pichi Sermolli (1951) specimen number 2663 is mentioned on p. 306 as "Indeterminabile"; the number is not mentioned anywhere else in the book. It is not possible to identify the place of origin of n. 2663.

26 In Pichi Sermolli (1951) specimen number 2702 is mentioned on p. 306 as "Indeterminabile"; the number is not mentioned anywhere else in the book. It is not possible to identify the place of origin of n. 2702.

Number	Pichi Sermolli names in the monograph of 1951	Names in *Flora of Ethiopia and Eritrea* or Puff & Sileshi Nemomissa (2005) [if different]
2705-2708	Deroemeria squamata	*Holothrix squammata* (A. Rich.) Rchb. f.
2709	Herniaria hirsuta	*Herniaria hirsuta* A. Rich.
2710	Paronychia bryoides	*Paronychia bryoides* A. Rich.
2711	Rumex nervosus	*Rumex nervosus* Vahl
2712	Potamogeton richardi	*Potamogeton thunbergii* Cham. & Schltdl.
2713	Potamogeton pusillus	*Potamogeton pusillus* L.
2714	Protea gaguedi	*Protea gaguedi* J.F. Gmel.
2715	Salix subserrata	*Salix subserrata* Willd.
2716-2720	Saxifraga hederaefolia	*Saxifraga hederifolia* A. Rich.
2721	Lobelia schimperi	*Lobelia schimperi* A. Rich.
2722-2723	Bartsia longiflora	*Bartsia longiflora* Benth.
2724	Veronica abyssinica	*Veronica abyssinica* Fresen.
2725	Lythrum rotundifolium	*Lythrum rotundifolium* A. Rich.
2726	Bartsia longiflora	*Bartsia longiflora* Benth.
2727	Verbascum sinaiticum	*Verbascum sinaiticum* Benth.
2728-2729	Anarrhinum arabicum var. abyssinicum	*Anarrhinum forskaohlii* (Gmel.) Cufod. subsp. *abyssinicum* (Jaub. & Spach) D.A. Sutton
2730	Lythrum rotundifolium	*Lythrum rotundifolium* A. Rich.
2731	Anarrhinum arabicum var. abyssinicum	*Anarrhinum forskaohlii* (Gmel.) Cufod. subsp. *abyssinicum* (Jaub. & Spach) D.A. Sutton
2732	Verbascum sinaiticum	*Verbascum sinaiticum* Benth.
2733	Bartsia longiflora	*Bartsia longiflora* Benth.
2734	Solanum marginatum	*Solanum marginatum* L. f.
2735	Grewia ferruginea	*Grewia ferruginea* A. Rich.
2736	Gymnosciadium pusillum	*Pimpinella pimpinelloides* (Hochst.) Wolff
2737	Vernonia francavillana	*Vernonia rueppellii* Walp.
2738	Gymnosciadium pusillum	*Pimpinella pimpinelloides* (Hochst.) Wolff
2739	Urtica simensis	*Urtica simensis* Steud.
2740	Limosella africana	*Limosella africana* Glück
2741	Myrica salicifolia	*Myrica salicifolia* A. Rich.
2742	Bromus sp.	Bromus sp.*

Ferns and fern allies not in Pichi Sermolli (1951)

As can be seen from the collection numbers in the list above (derived from Pichi Sermolli 1951: 275-318), ferns and fern allies are only listed as a group, with the species not specified. The 102 numbers (n. 1779-1870 and n. 1970-1977) that represent what Pichi Sermolli terms "Pteropsida" (ferns and fern allies) are neither included in the 1951 monograph, nor did we find specimens to represent these collections in the *Centro Studi Erbario tropicale* (FT) in Florence, and Pichi Sermolli Pichi never pub-

lished a list of identification of the 102 collections of ferns and fern allies from the Lake Tana expedition.

Only 28 fern collections from that expedition have been seen in the historical herbarium called the "L'Erbario Pteridologico di Pichi Sermolli" (Pteridological Herbarium of Pichi Sermolli), donated to the Museum of Natural History of Florence in 2009. Now the Pteridological Herbarium of Pichi Sermolli is referred to as FI-PS and kept in a room next to the room accommodating the *Centro Studi Erbario Tropicale* (FT). The collections in FI-PS were traced by Ib Friis when he in 2009 consulted Pichi Sermolli's Pteridological Herbarium in order to compare it with the checklist of Ethiopian ferns and fern allies that Pichi Sermolli had given to the Ethiopian Flora Project as a first contribution to the flora volume with ferns and fern allies. Due to his death in 2005, Pichi Sermolli never managed to contribute more than this checklist to the *Flora of Ethiopia and Eritrea*, and the volume with ferns and fern allies only came out i 2009.

The following list of ferns and fern allies is numerically arranged and includes the name of the plants according to the *Flora of Ethiopia and Eritrea*, Pichi Sermolli's collection numbers, localities and dates according to the labels, as well as the numbers in herbarium FI-PS. These numbers were given to the sheets by Pichi Sermolli himself when he incorporated them in his own herbarium. No original name is cited, as no original names for specific sheets have been published by Pichi Sermolli (some have been named later in the fascicles of ferns and fern allies in the *Adumbratio*). Because Pichi Sermolli distributed so many duplicate specimens, it is possible that duplicates of these 28 collections, as well as of the still unlocalised 74 other collections of Pteridophytes may be found in other herbaria than FT and FI-PS. We recently found a duplicate of *Asplenium theciferum* (Pichi Sermolli 1848) in the herbarium LUX (MNHNL47671/LUX058536), to which institution it had come via a herbarium belonging to the Belgian botanist André Lawalrée, who shared with Pichi Sermolli a special interest in ferns.

In the literature, there are two potential sources of additional records of Pteridophytes from the Lake Tana expedition. One source is the records in the accounts of families of ferns and fern allies in the *Adumbratio florae aethiopicae* (Pichi Sermolli 1957a, 1966, 1969, 1978; Gastaldo & Paola 1978), the second is a list of ferns from the area around Tucur Dinghia west of Gondar (Pichi Sermolli 1940b). In the list below, the relevant information from the *Adumbratio* has been integrated with information from specimens seen in FI-PS, making up a list of 35 records.[27] As appears from chapter 3, Pichi Sermolli (1940b) listed ferns found in the area around Tucur Dinghia west of Gondar. Some of these are found in the list below, but not all ferns species mentioned in Pichi Sermolli (1940b) have been seen documented with specimens or listed in the *Adumbratio*. We have not found material to document the following taxon names from the Tucur Dinghia area: *Cheilanthes farinosa* (Forssk.) Kaulf. forma *sulphurea* (Moore) Pich. Serm., *Dryopteris schimperiana* (Hochst.) C. Chr., *Loxogramme lanceolata* (Sw.) Presl, *Loxoscaphe theciferum* (HBK.) Moore subsp. *concinnum* (Schrad.) Pich. Serm. var. *schimperi* (Hook.) Pich. Serm., *Pteris quadriaurita* Retz. var. *abyssinica* (Hieron.) Pich. Serm. These records are therefore not included in the following list, which includes only ca. 35% of the collection numbers stated to be ferns and fern allies in Pichi Sermolli (1951).

27 In the accounts in the *Adumbratio*, it is indicated from where the specimens have been seen, either in the herbarium "PlC. SER." (Pichi Sermolli's private fern herbarium, now FI-PS) or in "FI", which is the entire range of herbaria in the Museum of Natural History in Florence. As the latter collections have not been traced, these sheets are referred to only with the designation "FI".

Specimens of ferns from the Lake Tana Expedition in FI-PS or cited in the *Adumbratio*

Name in *Flora of Ethiopia and Eritrea*	**Pichi Sermolli's number**	**Locality**	**Altitude**	**Date of collection**	**Number in FI-PS**
Asplenium aethiopicum (Burm. f.) Bech.	1779	Tucùr-Dinghià (Gondar).	No alt.	24.1.1937	FI-PS 10651
Asplenium demerkense Hieron.	1780	Semien, southern slope of Mt Chiddis-Arit.	4000 m.	14.4.1937	FI-PS 10645, FI-PS 10646
Asplenium aethiopicum (Burm. f.) Bech.	1782	Near the church of Tekle Aimanot on the Zeghie peninsula.	No alt.	17.2.1937	FI-PS 10489
Asplenium aethiopicum (Burm. f.) Bech.	1789	Semien, south slope of Mt Chiddis Arit.	4000 m.	14.4.1937	FI-PS 10640
Asplenium aethiopicum (Burm. f.) Bech.	1793	Crest above the hot spring Fulluaha – Muhat (Alefa).	No alt.	27.2.1937	FI-PS 10649
Adiantum poiretii Wikstr.	1797	Monte Quatele between Ifag and Debre Tabor.	No alt.	12.3.1937	Not seen[28]
Adiantum poiretii Wikstr.	1798	Mt Jesus Tabor.	No alt.	22.3.1937	FI-PS 13944[29]
Adiantum poiretii Wikstr.	1801	On the island of Kebra Uddus Gabriel.	No alt.	4.2.1937	Not seen[30]
Adiantum poiretii Wikstr.	1802	Tucùr-Dinghià (Gondar).	No alt.	24.1.1937	FI-PS 13945[31]
Adiantum capillus-veneris L.	1804	Semien, Suohna.	3000 m.	16.4.1937	FI-PS 11497[32]
Adiantum capillus-veneris L.	1805	Daharo Kaulos near Asmara.	No alt.	17.1.1937	Not seen[33]
Arthropteris monocarpa (Cordem.) C. Chr.	1806	East slope of the hill Zefen tarara west of Gorgora.	No alt.	4.3.1937	FI-PS 10632[34]
Arthropteris monocarpa (Cordem.) C. Chr.	1807	Hill south of the village of Gorgora.	No alt.	3.3.1937	Not seen[35]
Pellaea viridis (Forssk.) Prantl	1810	Hills south of the village of Gorgora.	No alt.	3.3.1937	FI-PS 10635
Pellaea viridis (Forssk.) Prantl	1811	Hills south of the village of Gorgora.	No alt.	6.3.1937	FI-PS 29348
Anogramma leptophylla (L.) Link	1826	Semien; southern slope of Mt. Chiddis Arit.	Ca. 4000 m.	14.4.1937	Not seen[36]
Asplenium protensum Schrad.	1828	Tucur Dinghia (Gondar)	No alt.	24.1.1937	FI-PS 10648
Equisetum ramosissimum Desf.	1829	Along the Mesciaha River.	No alt.	11.4.1937	Not seen[37]
Pyrrosia schimperiana (Kuhn) Alston	1836	Lake shore south of Furie, Zeghie Peninsula.	No alt.	15.2.1937	FI-PS 10639

28 Also stated to be present in "FI" according to Pichi Sermolli (1957a: 688).
29 Also stated to be present in "FI" according to Pichi Sermolli (1940 and 1957a: 688).
30 Stated to be present in "FI" according to Pichi Sermolli (1957a: 688).
31 Also stated to be present in "FI" according to Pichi Sermolli (1957a: 688).
32 Also stated to be present in "FI" according to Pichi Sermolli (1957a: 681).
33 Stated to be present in "FI" according to Pichi Sermolli (1957a: 680).
34 Also stated to be present in "FI" according to Pichi Sermolli (1978: 132).
35 Stated to be present in "FI" according to Pichi Sermolli (1978: 132).
36 Stated to be present in "FI" according to Pichi Sermolli (1966: 504).
37 Stated to be present in "FI" according to Gastaldo & Paola (1978: 111).

Name in *Flora of Ethiopia and Eritrea*	Pichi Sermolli's number	Locality	Altitude	Date of collection	Number in FI-PS
Dryopteris schimperiana (A. Br.) C. Chr.	1838	Mt Quatele along the road between Ifag and Debra Tabor.	No alt.	12.3.1937	FI-PS 10630
Dryopteris schimperiana (A. Br.) C. Chr.	1843	Slopes below the crest of Ambaras above the valley of the Beleghes River.	No alt.	7.4.1937	FI-PS 12103
Dryopteris schimperiana (A. Br.) C. Chr.	1847	Mt Jesus Tabor.	No alt.	22.3.1937	FI-PS 10629, FI-PS 12102
Asplenium theciferum (H.B.K.) Mett.	1848	Near the church on the island of Kebra Uddus Gabriel.	No alt.	4.2.1937	FI-PS 29347[38]
Asplenium theciferum (H.B.K.) Mett.	1851	Near the church of Medania Alem (Debra Tabor).	No alt.	23.3.1937	FI-PS 10625
Asplenium theciferum (H.B.K.) Mett.	1854	Near Bahr Dar	No alt.	2.2.1937	FI-PS 10624
Asplenium theciferum (H.B.K.) Mett.	1854	Near Bahr Dar.	No alt.	2.2.1937	FI-PS 10624
Thelypteris confluens (Thunb.) Morton	1857	Where the Blue Nile leaves Lake Tana at the ferry across from Bahr Dar.	No alt.	29.1.1937	FI-PS 10628
Polystichum wilsonii H. Christ	1859	Semien, south-eastern slope of Mt Ualta	4300–4520 m.	12.4.1937	FI-PS 18661
Pteridium aquilinum (L.) Kuhn	1867[39]	Amba Libo.	2850–2950 m.	19.3.1937	FI-PS 10627
Loxogramme abyssinica (Baker) M.G. Price	1868	Forest at the church of Zara Enda Michael.	No alt.	16.3.1937	FI-PS 10638
Bolbitis heudelotii (Fée) Alston	1970	In the Baimo River along the road from Zeghie to Bahr Dar.	No alt.	10.2.1937	FI-PS 11486, FI-PS 13229[40]
Bolbitis heudelotii (Fée) Alston	1971	In the Umfras River near the village Vuoghelsa (Zeghie).	No alt.	19.2.1937	FI-PS 11485[41]
Cheilanthes erythraea Pich. Serm.	1973	Hills south of the village of Gorgora.	No alt.	3.3.1937	FI-PS 11484
Pteris dentata Forssk.	1977	Semien, along the river Ambiquo above its confluence with Mai Sciaha.	No alt.	2.4.1937	FI-PS 10647
Bolbitis heudelotii (Fée) Alston	2523	In the Umfras River near the village Vuoghelsa (Zeghie).	No alt.	19.2.1937	FI-PS 13228[42]

38 A duplicate has been seen at LUX marked MNHNL47671/LUX058536.

39 E. Minucci in Pichi Sermolli

40 Also stated to be present in "FI" according to Pichi Sermolli (1969: 392).

41 Also stated to be present in "FI" according to Pichi Sermolli (1969: 392).

42 Also stated to be present in "FI" according to Pichi Sermolli (1969: 392); in the monograph (Pichi Sermolli 1951) no. 2523 is listed as a species of *Sesbania*.

CHAPTER 7

Later studies of localities around Lake Tana and in the Semien Mountains

The first of the rather few later studies of the vegetation around Lake Tana and the Semien was published by Sebald (1968), who, based on observations made in 1966, described habitats with a floristic list compiled on observations from the peninsula with the Church of Shimbat [Shimbet] Michael west of Bahar Dar, the Debanki or Debangi Hill south west of Bahar Dar, a hill with the church of Sesela Abo, 3 km. west-northwest of Bahar Dar, and the Enton Island, 6 km. north west of Bahar Dar. The vegetation on all these sites confirmed the observations of Pichi Sermolli. The data from the sites in the Semien Mountains, which Sebald also visited in 1966, is not consistently represented, often the paper quotes coordinates of localities where the night was spent, but not coordinates of places where data was collected. The paper referred to the map of the high Semien in 1:50 000 by Werdecker (1966), but it has not been possible to access that map, as it is left out of the scanned copy of the journal, where it should be reproduced.

Sebald (1972) provided information about woody species at localities visited in 1968 around Lalibela, at the southern end of Lake Tana and in the Awash Valley between Metahara and the Awash railway station. The data from the sites with woodland south of Lake Tana have mainly been compiled into a table with approximately 60 species of trees and shrubs, but without indication of an exact place name or site number. It is therefore not possible to use this data set in comparison with Pichi Sermolli's localities, but the species of trees and shrubs deviate only very little from a compiled and nomenclaturally updated list of Pichi Sermolli's woodland species.

Friis (1992) defined the forests around Lake Tana as (4 – south of Lake Tana) undifferentiated Afromontane forest, including various types of upland forest with *Podocarpus*, and (5 – north of Lake Tana) dry single-dominant Afromontane forest, with *Juniperus procera* in the canopy and *Olea europaea* subsp. *cuspidata* in the understorey.

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Ib Friis, Sebsebe Demissew, Odile Weber, Paulo van Breugel, *Plants and vegetation of NW Ethiopia. A new look at Rodolfo E.G. Pichi Sermolli's results from the 'Missione di Studio al Lago Tana', 1937*, © 2022 Author(s), CC BY 4.0, published by Firenze University Press, ISBN 978-88-5518-634-6 , DOI 10.36253/978-88-5518-634-6

Puff & Sileshi (2005) made detailed studies of the flora of the Semien Mountains and accounted for 545 species that occur in the Semien Mountains above approximately 2,000 m., to the peak of Ras Dejen at ca. 4,550 m. The identified collections made by Pichi Sermolli during his visit to the Semien contains 325 species. Of these, 27 species are not recorded from the Semien by Puff & Sileshi (2005). Pichi Sermolli's collections thus represent 325 out of a total of 572 (545+27) species recorded from the Semien, or ca. 57%. One species has an updated name in Puff & Sileshi (2005): *Salix subserrata* Willd. is changed to *Salix mucronata* Thunb.

Alemnew Alelign et al. (2007) provides a study of the diversity and regeneration of the forests on the Zegie peninsula, which study is useful in itself and supplements our knowledge of the potential natural vegetation in the forests of the Lake Tana Basin.

Friis et al. (2010; Map C2) show a fringe of varying width in the immediate vicinity of the lake of "Freshwater marshes and swamps, floodplains and lake shore vegetation (FLV/MFS)"; this agrees to the areas where lake shore swamps were recorded by Pichi Sermolli in his reports before 1951. Around the lake and the swamps there is an equally narrow fringe of "*Combretum-Terminalia* woodland and wooded grassland (CTW)", followed by a brim of varying width of "Dry evergreen Afromontane forest and grassland complex (DAF)", which on to the west, where the western escarpment of the Ethiopian highlands begins, is replaced by extensive areas of "*Combretum-Terminalia* woodland and wooded grassland (CTW)".

Chuangye Song et al. (2018), who did not refer to the works of Pichi Sermolli, have provided a map the actual vegetation of the Lake Tana basin through visual interpretation of high-spatial-resolution images provided by Google Earth and field survey data along main roads. A total of 33 171 polygons were generated to represent patches of vegetation in the Lake Tana basin, and validation using surveyed vegetation plots indicated that 90 % of the patches were correctly identified. The following vegetation types were identified: *Natural forest* (dense crowns, usually tightly packed, could be identified, overlapping in clusters. This vegetation type was mostly located around churches or near rivers). – *Woodland* (vegetation where the individual large crowned trees could be identified, either tightly packed or open with visible patches of understory). – *Plantation forest* (identified as uniformly spaced dense trees are almost the same height; the plots being angular in outline and with trees in straight rows). – *Bushland* (vegetation with a coarse texture and mottled tones. The shrubs are unevenly spaced, tend to clump, and there may be a mixture of scattered trees mixed into the vegetation). – *Grassland* (the image of this vegetation appears almost smooth. Cow trails may be visible). – *Wetland* (vegetation with coarse texture and irregular edges near pools, ponds, rivers or lakes. Scattered shrubs and trees may exist). The resulting map is extremely complex, and it is difficult to draw generalised conclusions about relations between vegetation and environmental parameters from it. The paper did not attempt to reconstruct the potential natural vegetation but concluded that the natural vegetation of the Lake Tana basin has been heavily influenced by man to facilitate a continued expansion of cropland.

Getahun Tassew Melese et al. (2018), who do not cite any papers by Pichi Sermolli on the Semien, has presented a study of 62 plots inside the present area of the Semien National Park and located in what Pichi Sermolli characterised as the High Semien, in the direction west-east between Ambaras and Ras Dejen and in the direction south-north between Sebat Minch [in south-western direction towards Deresge; outside the area studied by Pichi Sermolli] and Mt. Silky [Mount Silke]. The conclusions of this paper, which has studied 86 Afroalpine species, is that the vegetation is dominated by Asteraceae (21 species, but not the largest ground cover) and grasses (11 species, largest ground cover of any family), and that the Afroalpine vegetation in the parts of the Sem-

ien mountains which were studied can be divided into three plant community types (1) *Erica arborea–Festuca macrophylla* plant community type at altitudes of 3,508–3,803 m., (2) the *Festuca macrophylla–Alchemilla microbetula* plant community type at altitudes of 3,724–4,552 m., and (3) the *Agrostis sclerophylla–Agrostis quinqueseta* plant community type at altitudes of 3,990–4,438 m. Getahun Tassew Melese et al. (2018) is a plot-based study with focus on small herbs, so it is difficult to compare the results with the more general observations made by Pichi Sermolli. Among the environmental parameters emphasized by Pichi Sermolli was the substrate, varying from rocks to swamps, and moisture availability, and none of these factors are part of the analyses by Getahun Tassew Melese et al. (2018).

In general, the later studies of the Lake Tana region and the Semien Mountains have not yet provided overviews that can replace the publications by Pichi Sermolli or the general analysis that we provide here.

CHAPTER 8

Pichi Sermolli's observations of vegetation compared with models of the vegetation

In this chapter, we have tried to compare the conclusion about the vegetation on Pichi Sermolli's collecting sites in chapter "5. Chronological list of collecting localities …" with our model of potential natural vegetation of Ethiopia, originally published by Friis et al. (2010) and now modified for Friis et al. (2022), also accounting for the vegetation type Intermediate Evergreen Afromontane Forest (IAF), proposed by Abiyot Berhanu et al. (2018). The comparison is not easy because the vegetation was deeply influenced by human activity nearly everywhere in the sites collected by Pichi Sermolli and therefore, as we have observed ourselves when revisiting Pichi Sermolli's sites, often partly or completely secondary. But an additional difficulty is the observation that due to the change in environmental factors, mainly altitude and humidity, the vegetation is also naturally a mosaic. As can be seen from the maps in Friis et al. (2010) and Maps 1 to 9 in this work, the vegetation close to the Lake Tana (but not the actual shore vegetation) is, due to the altitude, in many places potentially *Combretum-Terminalia* woodland vegetation, but with a slight increase in altitude or humidity the potential natural vegetation changes to Dry Evergreen Afromontane Complex or Intermediate Evergreen Afromontane Forest. Pichi Sermolli observed the natural forests on two islands in Lake Tana (Kebra Uddus Gabriel and Daga) and on the Zeghie peninsula; in the latter locality only the canopy represented and still represents the natural forest.

The first table shows how the many observations from Pichi Sermolli's collecting sites with some difficulty can be fitted into the categories of Potential Natural Vegetation. In the second table each of the localities in chapter five has been referred to a vegetation type as defined in Friis et al. (2010, 2022) based on the characteristic species in the species list and compared with the vegetation type according to the modelling in Friis et al. (2022).

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Categories of Potential Natural Vegetation according to Friis et al. (2010, 2022)	**Vegetation at Pichi Sermolli collecting sites, as characterised and recorded in "5. Chronological list of collecting localities …"**
Eritrean vegetation, unspecified types	*Acacia etbaica* bushland
	Bed of temporary stream
	Dry *Acacia* bushland
Combretum-Terminalia woodland (CTW) and variants, including mosaics with Dry Afromontane Forest, Woodland and Secondary Bushland (DAF)	CTW [proper]
	CTW (deciduous woodland with *Boswellia papyrifera*)
	CTW and DAF woodland
	CTW and DAF woodland and DAF secondary bushland, some FLV/MFS
	CTW in mosaic with DAF secondary bushland
	CTW with small patch of DAF secondary bushland
	Mainly CTW with some DAF/IAF-species
	Mosaic of CTW, DAF secondary bushland and a few species of DAF/IAF forest
	Mosaic of CTW, DAF woodland and DAF secondary bushland
	Mosaic of CTW, DAF woodland and DAF secondary bushland; many species of *Acacia*
	Mosaic of CTW, DAF/IAF forest and DAF secondary bushland
	Mosaic of CTW, DAF/IAF lake shore forest and DAF secondary bushland
	Mosaic of CTW, IAF lake shore forest, DAF woodland and DAF secondary bushland
	Mosaic of CTW, lake-shore forest (IAF) and FLV/MFS
Dry Afromontane Forest, Woodland and Secondary Bushland (DAF) and minor variants	DAF forest and secondary bushland; some DAF woodland
	DAF secondary bushland
	DAF woodland
	DAF woodland (with *Acacia negrii*) and DAF secondary bushland
	DAF woodland with *Acacia pilispina*

Categories of Potential Natural Vegetation according to Friis et al. (2010, 2022)	**Vegetation at Pichi Sermolli collecting sites, as characterised and recorded in "5. Chronological list of collecting localities …"**
Mainly Dry Afromontane Forest (DAF), but with elements of Intermediate Afromontane Forest (IAF) and variants with elements of other vegetation types	DAF/IAF- forest
	DAF/IAF forest and DAF secondary bushland
	DAF/IAF forest, with some DAF secondary bushland
	Dry AA, some species growing on vertical rock faces
	IAF lake shore forest, DAF secondary bushland and DAF woodland
	IAF lake shore forest, with some DAF/IAF forest and DAF secondary bushland
	IAF-species in IAF lake-shore forest, DAF woodland and FLV/OW
	Lake-shore forest (IAF), FLV/MFS and FLV/OW
	Lake-shore forest (IAF), in mosaic with DAF secondary bushland and FLV/OW
	Mainly DAF secondary bushland with CTW-species
	Mainly DAF secondary bushland with DAF/IAF-species and forest patches
	Mainly DAF secondary bushland with DAF/IAF-species and forest patches, but with one species widespread in CTW
	Mainly DAF secondary bushland with DAF/IAF-species
	Mosaic of DAF/IAF forest and FLV/MFS
	Mosaic of DAF/IAF forest and DAF secondary bushland
	Mosaic of DAF/IAF forest and DAF secondary bushland, some FLV/MFS, a few species of CTW
	Mosaic of DAF/IAF forest and DAF secondary bushland, some IAF lake shore forest and FLV/MFS
	Mosaic of DAF/IAF forest and DAF woodland
	Mosaic of DAF/IAF forest and small patches of DAF secondary bushland; possibly IAF lake shore forest
	Mosaic of DAF/IAF forest, DAF secondary bushland and DAF woodland
Dry Afromontane Forest, Woodland and Secondary Bushland (DAF) - secondary bushland and variants, some with elements from *Combretum-Terminalia* woodland (CTW)	Mosaic of DAF secondary bushland and CTW
	Mosaic of DAF secondary bushland and CTW and DAF woodland
	Mosaic of DAF secondary bushland and DAF woodland
	Mosaic of DAF secondary bushland with DAF/IAF-species and forest

Categories of Potential Natural Vegetation according to Friis et al. (2010, 2022)	**Vegetation at Pichi Sermolli collecting sites, as characterised and recorded in "5. Chronological list of collecting localities …"**
Intermediate Afromontane Forest (IAF) - mainly lake shore forests	Mosaic of lake-shore forest (IAF), DAF secondary bushland and CTW
	Mosaic of lake-shore forest (IAF), DAF secondary bushland and FLV/OW
Ericaceous Belt (EB) and variants	EB [proper]
	EB, mosaic of dry patches and areas with seepage
	Lowest zone in EB
	Transition between uppermost zone of DAF and lowermost zone of EB
	Transition between uppermost zone of EB and AA
Afro-Alpine vegetation (AA) and subtypes	Dry, stony AA
	Moist AA with *Carex monostachya* swamps
	Mosaic of moist and dry AA
	Mosaic of moist and dry AA, the former with *Carex monostachya* swamps
Freshwater Lakes (FLV) and variants; open water (FLV/OW) and freshwater marshes and swamps, floodplains and lake shore vegetation [other than lake shore forest here classifies as IAF] (FLV/MFS)	FLV/MFS on black cotton soil
	FWL/OW
	Mosaic of FLV/MFS and DAF woodland

We have also tried to model the Potential Natural Vegetation of all Pichi Sermolli's collecting cites according to the criteria used in Friis et al. (2022). In running the calculations for the model, we have used the coordinates ascribed to all the collecting sites by the georeferencing in chapter "5. Chronological list of collecting localities …" The model also includes data from the Digital Elevation Model (CGIAR-CSI 2008) with a pixel size of 90 x 90 m., and we have used that data for comparing Pichi Sermolli's indications of the altitudes of the sites with the DEM. Although the pixel size may allow some local variation in altitude within the 90 x 90 m., we expect that the DEM provides more accurate altitudes than Pichi Sermolli's measurements using an altimeter liable to indicate varying altitudes with changes in barometric pressure. Again, the field observations show a considerably more complex situation than what is predicted by the model.

Number	NumID	Lat	Long	Altitude according to Pichi Sermolli (1951) in m.	Average altitude according to Pichi Sermolli (m.)	Altitude according to DEM in m.	Difference altitude estimate	Habitat according to observations	Modelled habitat
E1	1	15.345293	38.959	2400	2400	2384	16	*Acacia etbaica* bushland	Outside model of Ethiopian vegetation
E2	2	15.282629	38.85	c. 2300	2300	2260	40	Semideciduous bushland	Outside model of Ethiopian vegetation
E3	3	15.139246	36.655	585	585	588	-3	Dry Acacia bushland	Outside model of Ethiopian vegetation
NW1	4	13.769868	36.935	850	850	734	116	Bed of temporary stream	*Combretum-Terminalia* woodland and wooded grassland
NW2	5	12.845624	37.367	1200	1200	1215	-15	Deciduous woodland with *Boswellia papyrifera*	*Combretum-Terminalia* woodland and wooded grassland
T1	6	12.819888	37.374	1600	1600	1399	201	DAF (secondary bushland)	*Combretum-Terminalia* woodland and wooded grassland
T2	7	12.772005	37.413	1800-2000	1900	1860	40	Mainly DAF (secondary bushland with CTW-species)	Dry evergreen Afromontane forest and grassland complex
T3	8	12.772005	37.413	c. 2000	2000	1860	140	Mainly DAF (secondary bushland with DAF/IAF-species)	Dry evergreen Afromontane forest and grassland complex
T5	9	12.741234	37.418	2300	2300	2052	248	Mainly DAF (secondary bushland with CTW-species)	Dry evergreen Afromontane forest and grassland complex
T7	10	12.744099	37.419	2400	2400	2131	269	Mainly DAF (secondary bushland with DAF/IAF-species and forest patches)	Dry evergreen Afromontane forest and grassland complex
T8&9	11	12.744099	37.419	2400	2400	2131	269	Mainly DAF (secondary bushland with DAF/IAF-species and forest patches)	Dry evergreen Afromontane forest and grassland complex
T10	12	12.706899	37.454	2500	2500	2556	-56	Mainly DAF (secondary bushland with DAF/IAF-species)	Dry evergreen Afromontane forest and grassland complex
T11	13	12.704897	37.447	2400	2400	2536	-136	Mainly DAF (secondary bushland with DAF/IAF-species and forest patches)	Dry evergreen Afromontane forest and grassland complex

Number	NumID	Lat	Long	Altitude according to Pichi Sermolli (1951) in m.	Average altitude according to Pichi Sermolli (m.)	Altitude according to DEM in m.	Difference altitude estimate	Habitat according to observations	Modelled habitat
T12	14	12.710368	37.446	2400	2400	2436	-36	Mainly DAF (secondary bushland with DAF/IAF-species and forest patches, but with one species widespread in CTW)	Dry evergreen Afromontane forest and grassland complex
T14,15&16	15	12.721863	37.508	2400	2400	2763	-363	Mainly DAF (secondary bushland with DAF/IAF-species and forest patches)	Dry evergreen Afromontane forest and grassland complex
T16a	16	12.608801	37.47	2280	2280	2226	54	DAF (secondary bushland)	Dry evergreen Afromontane forest and grassland complex
T17	17	11.605236	37.409	1820	1820	1786	34	FLV/MFS	*Combretum-Terminalia* woodland and wooded grassland
T18	18	11.599132	37.396	1825	1825	1798	27	Mosaic of DAF/IAF and FLV/MFS	*Combretum-Terminalia* woodland and wooded grassland
T18a	19	11.594706	37.39	1825	1825	1795	30	DAF (secondary bushland)	*Combretum-Terminalia* woodland and wooded grassland
T19	20	11.612607	37.377	1825	1825	1788	37	Mainly DAF (secondary bushland with DAF/IAF-species and forest patches)	*Combretum-Terminalia* woodland and wooded grassland
T20	21	11.517453	37.332	1900	1900	1966	-66	Mainly CTW with some DAF/IAF-species	Intermediate evergreen Afromontane forest
T21	22	11.517453	37.332	1850	1850	1966	-116	Mainly CTW with some DAF/IAF-species; small areas with FLV/MFS	Intermediate evergreen Afromontane forest
T22	23	11.616247	37.348	1825	1825	1792	33	Mosaic of CTW, lake-shore forest (IAF) and FLV/MFS	*Combretum-Terminalia* woodland and wooded grassland
T23	24	11.613346	37.364	1825	1825	1814	11	Mosaic of DAF secondary bushland with DAF/IAF-species and forest	Combretum-Terminalia woodland and wooded grassland
T23a	25	11.613346	37.364	1825	1825	1814	11	Home garden	*Combretum-Terminalia* woodland and wooded grassland
T24	26	11.61727	37.367	1825	1825	1791	34	Lake-shore forest (IAF), FLV/MFS and FLV/OW	*Combretum-Terminalia* woodland and wooded grassland

Number	NumID	Lat	Long	Altitude according to Pichi Sermolli (1951) in m.	Average altitude according to Pichi Sermolli (m.)	Altitude according to DEM in m.	Difference altitude estimate	Habitat according to observations	Modelled habitat
T24a	27	11.538236	37.4	1850	1850	1781	69	Only one species; probably in CTW	*Combretum-Terminalia* woodland and wooded grassland
T25	28	11.651935	37.364	1820-1900, 1850-1900	1870	1819	51	DAF/IAF- forest	*Combretum-Terminalia* woodland and wooded grassland
T25a	29	11.580069	37.395	1825	1825	1795	30	Only one species; probably in CTW	*Combretum-Terminalia* woodland and wooded grassland
T25b	30	11.540919	37.407	1850	1850	1772	78	Bed of temporary stream	*Combretum-Terminalia* woodland and wooded grassland
T26	31	11.501653	37.426	1850	1850	1758	92	CTW in mosaic with DAF secondary bushland	*Combretum-Terminalia* woodland and wooded grassland
T27	32	11.604488	37.408	1820, 1825	1822	1793	29	IAF-species in IAF lake-shore forest, DAF woodland and FLV/OW	*Combretum-Terminalia* woodland and wooded grassland
T28	33	11.636738	37.32	1850	1850	1801	49	Mosaic of lake-shore forest (IAF), DAF secondary bushland and CTW	*Combretum-Terminalia* woodland and wooded grassland
T29	34	11.644689	37.32	1820, 1825, 1850	1832	1790	42	Mosaic of lake-shore forest (IAF), DAF secondary bushland and FLV/OW	Fresh-water lakes – open water vegetation
T29a	35	11.645699	37.368	1820	1820	1799	21	Bed of temporary stream	Fresh-water lakes – open water vegetation
T30	36	11.618411	37.404	1825	1825	1790	35	DAF woodland	*Combretum-Terminalia* woodland and wooded grassland
T31	37	11.605236	37.409	1820	1820	1786	34	Mosaic of DAF/IAF forest, DAF secondary bushland and DAF woodland	*Combretum-Terminalia* woodland and wooded grassland
T33	38	11.605236	37.409	1830	1830	1786	44	Mosaic of DAF secondary bushland and DAF woodland	*Combretum-Terminalia* woodland and wooded grassland

Number	NumID	Lat	Long	Altitude according to Pichi Sermolli (1951) in m.	Average altitude according to Pichi Sermolli (m.)	Altitude according to DEM in m.	Difference altitude estimate	Habitat according to observations	Modelled habitat
T34	39	11.589001	37.359	1900	1900	1803	97	Mosaic of DAF secondary bushland and DAF woodland	Intermediate evergreen Afromontane forest
T35	40	11.589001	37.359	1850, 1900	1875	1803	72	Mosaic of DAF secondary bushland and DAF woodland	Intermediate evergreen Afromontane forest
T36	41	11.613346	37.364	1825	1825	1814	11	Mosaic of DAF secondary bushland and DAF woodland	*Combretum-Terminalia* woodland and wooded grassland
T37	42	11.688015	37.315	1825	1825	1797	28	Mosaic of DAF secondary bushland and DAF woodland	Fresh-water lakes – open water vegetation
T37a	43	11.686135	37.316	1825	1825	1809	16	Mosaic of DAF secondary bushland and FLV/MFS	*Combretum-Terminalia* woodland and wooded grassland
T37b	44	11.688015	37.315	1820	1820	1797	23	FWL/OW	Fresh-water lakes – open water vegetation
T38	45	11.696162	37.309	1825, 1850	1832	1797	35	Mosaic of DAF secondary bushland and DAF woodland	*Combretum-Terminalia* woodland and wooded grassland
T39	46	11.687779	37.334	1900	1900	1818	82	Mosaic of DAF/IAF forest, DAF secondary bushland and DAF woodland	Intermediate evergreen Afromontane forest
T40	47	11.686867	37.326	1900	1900	1814	86	Mosaic of DAF/IAF forest and DAF woodland	Intermediate evergreen Afromontane forest
T41	48	11.683429	37.316	1820, 1825, 1850	1832	1791	41	Mosaic of lake-shore forest (IAF), DAF secondary bushland and DAF woodland	Fresh-water lakes – open water vegetation
T41a	49	11.692627	37.317	1830	1830	1806	24	Single tree in village	Intermediate evergreen Afromontane forest
T42	50	11.697398	37.336	2000	2000	1917	83	Mosaic of DAF secondary bushland and DAF woodland	Intermediate evergreen Afromontane forest
T42a	51	11.698425	37.336	1830, 2000	1865	1938	-73	Mosaic of DAF secondary bushland and DAF woodland	Intermediate evergreen Afromontane forest
T43	52	11.70002	37.336	1900, 2000	1950	1982	-32	Mosaic of DAF/IAF forest and DAF secondary bushland	Intermediate evergreen Afromontane forest

Number	NumID	Lat	Long	Altitude according to Pichi Sermolli (1951) in m.	Average altitude according to Pichi Sermolli (m.)	Altitude according to DEM in m.	Difference altitude estimate	Habitat according to observations	Modelled habitat
T44	53	11.693196	37.32	1830, 1850, 1900, 2000	1895	1816	79	DAF secondary bushland	Intermediate evergreen Afromontane forest
T45	54	11.682438	37.315	1830, 1850	1840	1797	43	Home garden	Intermediate evergreen Afromontane forest
T46	55	11.70002	37.336	1950	1950	1982	-32	Mosaic of DAF/IAF forest (at church) and DAF secondary bushland	Intermediate evergreen Afromontane forest
T47	56	11.698425	37.336	2000	2000	1938	62	Mosaic of DAF/IAF forest, DAF secondary bushland and DAF woodland	Intermediate evergreen Afromontane forest
T48&49	57	11.603588	37.283	1850	1850	1828	22	IAF lake shore forest, DAF secondary bushland and DAF woodland	Intermediate evergreen Afromontane forest
T50	58	11.618091	37.28	1850	1850	1919	-69	Mosaic of DAF/IAF forest, DAF secondary bushland and DAF woodland	Intermediate evergreen Afromontane forest
T51	59	11.639507	37.295	1850	1850	1805	45	Mosaic of FLV/OW and FLV/MFS	Intermediate evergreen Afromontane forest
T51a	60	11.635693	37.295	1850	1850	1805	45	FLV/OW	Intermediate evergreen Afromontane forest
T52	61	11.613494	37.281	1900	1900	1850	50	CTW	Intermediate evergreen Afromontane forest
T53	62	11.613494	37.281	1950	1950	1850	100	Mosaic of DAF secondary bushland and CTW	Intermediate evergreen Afromontane forest
T54	63	11.663253	37.279	1850	1850	1813	37	Mosaic of lake-shore forest (IAF), DAF secondary bushland and CTW	Intermediate evergreen Afromontane forest
T55	64	11.895193	37.31	1900	1900	1836	64	DAF/IAF forest (on nearly the whole island), with some DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T56	65	11.894901	37.271	1820, 1830	1815	1794	21	Mosaic of DAF secondary bushland and DAF woodland	*Combretum-Terminalia* woodland and wooded grassland

Number	NumID	Lat	Long	Altitude according to Pichi Sermolli (1951) in m.	Average altitude according to Pichi Sermolli (m.)	Altitude according to DEM in m.	Difference altitude estimate	Habitat according to observations	Modelled habitat
T56a	66	11.907103	37.292	1830	1830	1798	32	Mosaic of DAF/IAF forest and DAF secondary bushland	*Combretum-Terminalia* woodland and wooded grassland
T57	67	11.86869	37.006	1850, 1900	1875	1886	-11	Mosaic of DAF secondary bushland and CTW	Dry evergreen Afromontane forest and grassland complex
T58	68	11.879805	37.027	1850	1850	1798	52	DAF/IAF forest with some secondary bushland	*Combretum-Terminalia* woodland and wooded grassland
T59	69	11.889818	37.022	1850	1850	1811	39	Mosaic of DAF/IAF forest (at church and lake shore) and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T60	70	11.875721	37.021	1850	1850	1812	38	Mosaic of DAF secondary bushland and CTW	Dry evergreen Afromontane forest and grassland complex
T61	71	11.877202	37.036	1830	1830	1793	37	FLV/MFS	Fresh-water lakes – open water vegetation
T62	72	11.889448	37.021	1850, 1900	1875	1807	68	Mosaic of DAF/IAF forest (around church), DAF secondary bushland and DAF woodland	Dry evergreen Afromontane forest and grassland complex
T63	73	11.881965	37.01	1830, 1850	1840	1790	50	Mosaic of FLV/MFS and DAF woodland	*Combretum-Terminalia* woodland and wooded grassland
T64	74	11.875289	36.963	1950	1950	1968	-18	Mosaic of CTW, DAF woodland and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T65	75	11.886983	36.96	1900	1900	1959	-59	Mosaic of CTW, DAF woodland and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T66	76	11.887548	36.952	1950	1950	2037	-87	Mosaic of CTW, DAF woodland and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T67	77	11.887548	36.952	1950	1950	2037	-87	Mosaic of CTW, DAF woodland and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T68	78	11.902724	36.922	2000	2000	2144	-144	Mosaic of DAF/IAF forest and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T69	79	11.924261	36.904	2200	2200	2218	-18	Mosaic of CTW, DAF/IAF forest and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex

Number	NumID	Lat	Long	Altitude according to Pichi Sermolli (1951) in m.	Average altitude according to Pichi Sermolli (m.)	Altitude according to DEM in m.	Difference altitude estimate	Habitat according to observations	Modelled habitat
T70	80	11.935397	36.871	2200	2200	2240	-40	Mosaic of DAF/IAF forest and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T71	81	11.923394	36.884	2100	2100	2146	-46	Mosaic of CTW, DAF secondary bushland and a few species of DAF/IAF forest	Dry evergreen Afromontane forest and grassland complex
T72	82	11.95069	36.752	1800, 1900	1850	1972	-122	CTW with small patch of DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T73	83	11.924261	36.904	2200	2200	2218	-18	Mosaic of CTW, DAF woodland and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T74	84	11.902724	36.922	2100	2100	2144	-44	CTW and DAF woodland, with small patches of DAF forest and secondary bushland	Dry evergreen Afromontane forest and grassland complex
T75	85	12.239404	37.302	1820, 1825	1822	1798	24	IAF lake shore forest, with some DAF/IAF forest and DAF secondary bushland	Fresh-water lakes – open water vegetation
T76	86	12.234635	37.301	1900, 1950	1925	1838	87	Mosaic of CTW, IAF lake shore forest, DAF woodland and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T77	87	12.240659	37.283	1850, 1950	1900	1911	-11	Mosaic of CTW, DAF woodland and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T78	88	12.23721	37.281	1950	1950	1958	-8	CTW and DAF woodland	Dry evergreen Afromontane forest and grassland complex
T78a	89	12.242354	37.302	1850	1850	1794	56	DAF/IAF forest and DAF secondary bushland	*Combretum-Terminalia* woodland and wooded grassland
T78b	90	12.242359	37.301	1850	1850	1789	61	CTW and DAF woodland	*Combretum-Terminalia* woodland and wooded grassland
T80	91	12.242359	37.301	1850	1850	1789	61	CTW and DAF woodland and DAF secondary bushland, some FLV/MFS	*Combretum-Terminalia* woodland and wooded grassland
T81	92	12.241955	37.291	1850	1850	1823	27	Mosaic of CTW, DAF woodland and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex

Number	NumID	Lat	Long	Altitude according to Pichi Sermolli (1951) in m.	Average altitude according to Pichi Sermolli (m.)	Altitude according to DEM in m.	Difference altitude estimate	Habitat according to observations	Modelled habitat
T82	93	12.23721	37.281	1950	1950	1958	-8	CTW and DAF woodland	Dry evergreen Afromontane forest and grassland complex
T83	94	12.234635	37.301	1900	1900	1838	62	CTW and DAF woodland	Dry evergreen Afromontane forest and grassland complex
T84	95	12.212865	37.295	1820, 1825	1822	1796	26	Mosaic of DAF/IAF forest and DAF secondary bushland, some FLV/MFS, a few species of CTW	*Combretum-Terminalia* woodland and wooded grassland
T85	96	12.20101	37.279	1825	1825	1799	26	CTW and DAF woodland	*Combretum-Terminalia* woodland and wooded grassland
T85a	97	12.376553	37.36	1850	1850	1805	45	DAF/IAF forest (around church)	Dry evergreen Afromontane forest and grassland complex
T87&88	98	12.086855	37.731	1880	1880	1851	29	Mosaic of CTW, DAF woodland and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T89	99	12.094021	37.709	1900, 2000	1950	1981	-31	Mosaic of CTW, DAF woodland and DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T90	100	12.088382	37.73	1850, 1880	1865	1856	9	Mosaic of CTW, DAF woodland and DAF secondary bushland; many species of Acacia	Dry evergreen Afromontane forest and grassland complex
T91	101	12.088382	37.73	1880	1880	1856	24	Only one species; possibly DAF woodland	Dry evergreen Afromontane forest and grassland complex
T92	102	12.024827	37.82	1950	1950	1807	143	Only one species; possibly DAF woodland	Dry evergreen Afromontane forest and grassland complex
T93	103	12.047305	37.984	1900	1900	1858	42	Mosaic of DAF/IAF forest and DAF secondary bushland, some IAF lake shore forest and FLV/MFS	Dry evergreen Afromontane forest and grassland complex
T94	104	11.99879	38.004	2000, 2200	2100	2006	94	DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T95	105	11.99879	38.004	1950, 2000, 2100, 2200, 2400	2130	2006	124	DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex

Number	NumID	Lat	Long	Altitude according to Pichi Sermolli (1951) in m.	Average altitude according to Pichi Sermolli (m.)	Altitude according to DEM in m.	Difference altitude estimate	Habitat according to observations	Modelled habitat
T95a	106	11.99879	38.004	2000	2000	2006	-6	DAF woodland	Dry evergreen Afromontane forest and grassland complex
T96	107	11.938924	37.702	2300	2300	1794	506	DAF secondary bushland	*Combretum-Terminalia* woodland and wooded grassland
T97	108	11.94002	37.641	1880	1880	1791	89	FLV/MFS on black cotton soil	Fresh-water marshes and swamps
T98	109	11.938924	37.702	2300	2300	1794	506	DAF woodland	*Combretum-Terminalia* woodland and wooded grassland
T99&100	110	11.846149	37.631	1950	1950	1805	145	Mosaic of CTW, DAF/IAF lake shore forest and DAF secondary bushland	*Combretum-Terminalia* woodland and wooded grassland
T101	111	11.846149	37.631	1940, 1950	1945	1805	140	Mosaic of DAF/IAF forest and small patches of DAF secondary bushland; possibly IAF lake shore forest	*Combretum-Terminalia* woodland and wooded grassland
T101a	112	11.84597	37.521	1820	1820	1953	-133	FLV/OW	Dry evergreen Afromontane forest and grassland complex
T102	113	11.730142	37.461	1900	1900	1794	106	Mosaic of DAF/IAF forest (lake shore forest) and patches of DAF secondary bushland	*Combretum-Terminalia* woodland and wooded grassland
T103	114	11.694909	37.498	1900	1900	1918	-18	Mosaic of DAF/IAF forest (church forest) and patches of DAF secondary bushland	Dry evergreen Afromontane forest and grassland complex
T103a	115	12.186714	37.867	2850-2950	2900	2932	-32	Transition between uppermost zone of DAF (with *Hagenia abyssinica-Hypericum revolutum* forest) and lowermost zone of EB	Dry evergreen Afromontane forest and grassland complex
T104	116	11.879704	38.017	2940, 2950	2945	2579	366	DAF secondary bushland (probably derived from DAF forest)	Intermediate evergreen Afromontane forest
T105&106	117	11.836913	38.003	3000, 3050	3025	2840	185	EB (with patches of *Acacia negrii* woodland)	Intermediate evergreen Afromontane forest
T107	118	11.836913	38.003	3050	3050	2840	210	EB (with patches of planted *Juniperus procera* in church forest)	Intermediate evergreen Afromontane forest

Number	NumID	Lat	Long	Altitude according to Pichi Sermolli (1951) in m.	Average altitude according to Pichi Sermolli (m.)	Altitude according to DEM in m.	Difference altitude estimate	Habitat according to observations	Modelled habitat
T108	119	11.853666	38.007	2940 (2490 is probably error)	2940	2700	240	Transition between uppermost zone of DAF (with *Hypericum revolutum* forest) and lowermost zone of EB	Intermediate evergreen Afromontane forest
T109	120	11.853496	38.022	2950	2950	2716	234	Transition between uppermost zone of DAF (with *Hypericum revolutum* and secondary bushland) and lowermost zone of EB	Intermediate evergreen Afromontane forest
T110	121	11.853496	38.022	2950	2950	2716	234	Transition between uppermost zone of DAF (*Juniperus procera* probably planted (church forest)) and lowermost zone of EB	Intermediate evergreen Afromontane forest
T111	122	11.88417	38.019	2800	2800	2563	237	DAF forest and secondary bushland; some DAF woodland (with *Acacia abyssinica* and *A. negrii*)	Intermediate evergreen Afromontane forest
T113	123	11.900893	38.026	2800, 2900, 2940	2880	2534	346	DAF woodland (with *Acacia negrii*) and DAF secondary bushland	Intermediate evergreen Afromontane forest
C	124	12.507064	37.118	1800	1800	1841	-41	Only one species (*Scadoxus multiflorus*) recorded	Dry evergreen Afromontane forest and grassland complex
S1	125	13.133069	37.929	c. 2900	2900	2743	157	Lowest zone of EB	Dry evergreen Afromontane forest and grassland complex
S2	126	13.162416	37.953	c. 2850	2850	2923	-73	DAF woodland (with *Acacia negrii*)	Ericaceous belt
S3	127	13.212649	38.009	3200	3200	3202	-2	Transition between uppermost zone of DAF (with *Hypericum revolutum*) and lowermost zone of EB	Ericaceous belt
S4	128	13.226647	38.083	c. 3350	3350	3380	-30	EB	Afroalpine belt
S5	129	13.227485	38.114	c. 3350, 3400-3500	3400	3515	-115	Probably EB	Afroalpine belt
S6	130	13.258132	38.132	c. 3650	3650	3697	-47	Probably EB	Afroalpine belt
S7	131	13.234487	38.081	c. 3300	3300	3347	-47	Transition between uppermost zone of DAF (with *Hypericum revolutum*) and lowermost zone of EB	Afroalpine belt

Number	NumID	Lat	Long	Altitude according to Pichi Sermolli (1951) in m.	Average altitude according to Pichi Sermolli (m.)	Altitude according to DEM in m.	Difference altitude estimate	Habitat according to observations	Modelled habitat
S8	132	13.240868	38.15	c. 3650	3650	3703	-53	Transition between uppermost zone of DAF (with *Hypericum revolutum*) and lowermost zone of EB	Afroalpine belt
S9	133	13.261926	38.197	3700-3800	3750	3657	93	Transition between uppermost zone of EB and AA (with *Lobelia rhynchopetalum* grassland)	Afroalpine belt
S10	134	13.254823	38.175	c. 3700	3700	3802	-102	AA	Afroalpine belt
S11	135	13.255298	38.179	c. 3700	3700	3743	-43	EB, mosaic of dry patches and areas with seepage	Afroalpine belt
S12	136	13.247459	38.221	c. 4300	4300	4323	-23	Mosaic of moist and dry AA	Afroalpine belt
S13	137	13.247963	38.218	4200-4510	4350	4293	57	Mosaic of moist and dry AA	Afroalpine belt
S14	138	13.334785	38.263	4250-4475	4350	4328	22	Mosaic of moist and dry AA	Afroalpine belt
S15	139	13.33719	38.268	c. 4000	4000	4228	-228	Moist AA with *Carex monostachya* swamps	Afroalpine belt
S16	140	13.291907	38.266	c. 3740	3740	3383	357	Dry, stony AA	Afroalpine belt
S17	141	13.295146	38.27	c. 3700	3700	3514	186	EB	Afroalpine belt
S18	142	13.25289	38.294	c. 2840	2840	2836	4	Transition between uppermost zone of DAF (with *Rosa abyssinica* and *Salix subserrata*) and lowermost zone of EB	Dry evergreen Afromontane forest and grassland complex
S19	143	13.268872	38.309	c. 2950	2950	3037	-87	Mosaic of moist and dry AA	Ericaceous belt
S20	144	13.266551	38.291	2900-3100	3000	2975	25	DAF woodland with *Acacia pilispina*	Ericaceous belt
S21	145	13.249924	38.367	4300-4520	4410	4123	287	Mosaic of moist and dry AA, the former with Carex monostachya swamps	Afroalpine belt
S22	146	13.235	38.376	4350-4620	4485	4427	58	Mosaic of dry and moist AA, mostly moist	Afroalpine belt
S23	147	13.248613	38.373	4620	4620	4477	143	Dry AA	Afroalpine belt

Number	NumID	Lat	Long	Altitude according to Pichi Sermolli (1951) in m.	Average altitude according to Pichi Sermolli (m.)	Altitude according to DEM in m.	Difference altitude estimate	Habitat according to observations	Modelled habitat
S24	148	13.274232	38.412	c. 4200	4200	4169	31	Dry AA, some species growing on vertical rock faces	Afroalpine belt
S25	149	13.306185	38.321	c. 3800, 4000, 4200-4532	4055	4267	-212	Dry AA	Afroalpine belt
S26	150	13.335	38.258	4300	4300	4135	165	Dry AA	Afroalpine belt
S27	151	13.340448	38.255	3795	3795	3814	-19	Moist AA with *Carex monostachya* swamps	Afroalpine belt
S28	152	13.324594	38.214	c. 3100	3100	3397	-297	Transition between uppermost zone of DAF and lowermost zone of EB	Afroalpine belt

CHAPTER 9

Conclusions

According to this analysis of Pichi Sermolli's works, his observations of the *Combretum-Terminalia* woodland on the western escarpment of the Ethiopian highlands represent a very valuable pioneering effort, which according to Friis et al. (2022) describes the main features of this vegetation suitably, although much detail has had to be added since. Also Pichi Sermolli's observations of the vegetation of the Semien still stands as a pioneering work, and the outlines of his observations agree with later descriptions, for example the one by Puff & Sileshi (2005), which confirms Pichi Sermolli's vegetation types from the higher parts of the Semien Mountains: *Ericaceous woodland and bushland* and *Afroalpine vegetation types*, within which Pichi Sermolli distinguished *Carex monostachya* bogs, Afroalpine grasslands with *Lobelia rhynchopetalum* and Afroalpine vegetation on stony or rocky areas.

The situation with the vegetation of the Lake Tana Basin is more complicated. According to our conclusions in this publication, one can in the Lake Tana Basin observe a complex mosaic of *Combretum-Terminalia* woodland (CTW), *Dry evergreen Afromontane forest and grassland complex* (DAF, with the subtypes *Undifferentiated Afromontane forest* (DAF/U) and *Afromontane woodland, wooded grassland and grassland* (DAF/WG)), *Intermediate Montane Forest* (IMF), and *Fresh-water lakes, etc.* (FLV, with the subtypes *Fresh-water lake vegetation (open water;* (FLV/OW) and *Freshwater marshes and swamps, floodplains and lake shore vegetation* (FLV/MFS)). Pichi Sermolli described the original forests vegetation on the islands of Dek and Kebra Uddus Gabriel and on the Zegie peninsula, the shore forests of Lake Tana with *Syzygium guineense* and the heavily grazed Afromontane wooded grasslands with *Acacia abyssinica* and other highland species of *Acacia*, as well as the patches of *Combretum-Terminalia* woodland that occurs inside the Lake Tana Basin, he did not manage to paint a completely clear picture of the complex vegetation mosaic. The many centuries of human activity in the

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Lake Tana basin has blurred any borders that may originally have existed between the *Combretum-Terminalia* woodland, the forests, the Afromontane woodland, wooded grassland and grassland, and the secondary Afromontane bushland. This blurred image has been documented by the detailed map of the actual vegetation by Chuangye Song et al. (2018). Pichi Sermolli's studies have documented the many manifestations of vegetation in the Lake Tana Basin and contained many pioneering observations, but he did not formulate a lasting synthesis about the vegetation in the Tana Basin, which may have discouraged him from writing the definite second volume on vegetation that was announced in Pichi Sermolli (1951).

Even today it is difficult to reconstruct the potential natural vegetation in the Lake Tana basin. Pichi Sermolli's ideas about the vegetation of the western escarpment of the Ethiopian highlands and of the Semien were clear and in agreement with present-day opinions. Because of these observations and because of Pichi Sermolli's very well documented collections from the Lake Tana Basin, we strongly recommend that his works should still be studied and considered a solid foundation on which to base further studies of those parts of Ethiopia.

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Indexes and synonymy

This section contains (1) an alphabetically arranged index to localities mentioned in Pichi Sermolli (1951), (2) an alphabetically arranged index of the plant names in this work, both nearly all those used in the publications by Pichi Sermolli and those accepted for the *Flora of Ethiopia and Eritrea*, (3) an alphabetical list of all the outdated plant names used by Pichi Sermolli (including names in publications other than Pichi Sermolli 1951 and also some rarely used in the 1951 publication) and their modern equivalents, and (4) a list of the archival numbers of Pichi Sermolli's photographs and the dates on which we assume they were taken. Note that not all names used in Pichi Sermolli's publications on Ethiopian and Eritrean plants can be found in Index 2; the modern synonyms of some names which Pichi Sermolli rarely used have to be found via the list of synonyms in 3, and the currently used name should then be looked for in the text via Index 2.

1. Index to locality names

The names of towns or villages are simply listed as names. Mountains are usually in Pichi Sermolli's text indicated by "Mt." or "Monte", indications repeated here. Streams are indicated as "Torrente" or by an English word, "stream", "river", etc. Islands are indicated as "Isola". Mountain passes are indicated as "Colle" or "Passo". The ferry on the Abay (Blue Nile) at Bahar Dar is the "traghetto". Pichi Sermolli sometimes used the Amharic word for hill or mountain ("tarara"), for flat-topped hills ("amba"), for river or steam ("uenz", "uensi" or "wenz"), for hot spring ("full-uaha", "fil woha"), for caves, shelters or possibly narrow gorges ("uascia", "washa"), as well as the Amharic names of the saints to which the churches were dedicated or holy places for which they were names ("Uddus" or "kudus" means "saint.") "Techle Aimanot" or "Tecle Aimanot" is a well-known Ethiopian saint, "Kuddus Georgis" is "St. George", who is also very well known in Ethiopia, "Maryam" is Mary, for example in "Debra Sina Mariam" and "Brigida Mariam", while "Kuddus Jigga" or "Gigar" seems to be a less well known saint, and "Medhane Alem" means the saviour of the world.

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As mentioned previously, Ethiopian place names are always difficult to render, particularly when transcribed to non-Ethiopian languages, and the way such names have been transcribed in Italian and English may vary significantly. We have tried to indicate Pichi Sermolli's original spelling as far as possible and cite more standardised place names in sharp brackets, for example "Zeghie [Zegie]". In most cases the entries in this index follow the spelling at the particular place in the text to which the entry refers. However, there are also significant inconsistencies in the spelling of the place names between Pichi Sermolli's different publications, making it difficult to follow a principle of the most frequently used spelling. An example is the spelling of the name of a small town at the southwestern shore of Lake Tana [Quonzela, Consuela, Consela]; in this case we have tried to indicate all three forms in sharp brackets in the texts, but only indexing the two most different forms, Quonzela and Consuela, which are far apart in the index. In order to avoid too many minor variant-spellings in the Index, we have applied a limited standardisation of the varying spelling. Therefore, in order to find a place name, try also to look for minor variations, for example spelling with "s" or "z" or spellings with or without an "h" which letter in Italian serves to modify the sound of the consonant before it. Other difficulties are caused by names normally considered to consist of two words, but sometimes only cited by the latter, for example "Ras Degien" or "Degien" [Ras Dascian or Dascian; Ras Dejen or Dejen], where "Ras" indicates that the name refers to a peak or a promontory, or "Beleghes" and "Mai Beleghes", where "Mai" indicates that the name refers to a stream.

2. Index to plant names in this work.

This is an alphabetical index to names of taxa used in the main part of this work, including both names used in the *Flora of Ethiopia and Eritrea* and to those Pichi Sermolli's identifications that could not be further identified.

For the latter category, we have slightly standardised the forms of the names which Pichi Sermolli (1951) used as his preliminary reference, e.g. *Hyparrhenia* (?) *umbrosa*, *Hyparrhenia* sp. cfr. *H. gazensis*, or *Indeterminabile*. All preliminary names in this category are marked with asterisks (*), both in the text and in this index. We have gone slightly further than Pichi Sermolli (1951) and have tried to classify these names into two further categories, where the category with a question mark (e.g. *Hyparrhenia* (?) *umbrosa*) indicates a near identification, while the type with "sp. cfr." seems to indicate a more general assumption about the identity. For neither type, the preliminary identifications are provided with authority, although such are sometimes indicated in Pichi Sermolli (1951). We have left out such authorities in order to make a clear distinction between names verified against the taxonomic concepts in the *Flora of Ethiopia and Eritrea* and Pichi Sermolli's preliminary identifications, where the authorities are often outdated.

3. Identifications of names used by Pichi Sermolli in his works on the Lake Tana expedition but not accepted in the *Flora of Ethiopia and Eritrea*, with recent synonyms

Synonyms are indicated in Italics; accepted names in Bold. Three parallel horizontal lines ≡ indicate a nomenclatural synonym. Two parallel horizontal lines = indicate a taxonomic synonym. Two horizontal curled lines ≈ indicate an "auct., non" synonyms, that is a name used by Pichi Sermolli (1951), but identified with a non-synonymous name in the *Flora of Ethiopia and Eritrea*.

A

Abutilon smenospermum Pic. Serm. = **Abutilon cecilii** N.E. Br.

Acacia cyanophylla Lindl. = **Acacia saligna** (Labill.) Wendl.; a species introduced from Australia.

Acacia nefasia (A. Rich.) Schweinf. = **Acacia sieberiana** DC. var. **woodii** (Burtt Davy) Keay & Brenan

Acacia xiphocarpa Benth. = **Acacia abyssinica** Benth.

Achyranthes argentea Lam. = **Achyranthes aspera** L. var. **sicula** L.

Achyranthes argentea Lam. var. *virgata* Moq. in DC. = **Achyranthes aspera** L. var. **sicula** L.

Adhatoda schimperiana Nees ≡ **Justicia schimperiana** (Nees) T. Anders.

Aerangis rohlfsiana (Kraenzl.) Schltr. = **Aerangis brachycarpa** (A. Rich.) Th. Dur. & Schinz

Afrovivella simensis (Britten) Berger = **Rosularia semiensis** (A. Rich.) Ohba

Aira caryophyllea var. *latigluma* (Steud.) C.E. Hubb. = **Aira caryophyllea** L.

Ajuga crenata Chiov. = **Ajuga integrifolia** D. Don

Albizzia isembergiana (A. Rich.) Benth. = **Albizia isenbergiana** (A. Rich.) Fourn.

Albizzia pallida Fourn. [but in the list of collections as *Albizzia malacophylla* var. *pallida* without indication of authorities] = **Albizia malacophylla** (A. Rich.) Walp. var. **malacophylla**

Albuca hysterantha Chiov. = **Albuca abyssinica** Jacq.

Alchemilla commutata Rothm. = **Alchemilla microbetula** T.C.E. Fries

Alchemilla commutata Rothm. forma *muscoides* (Hauman & Balle) Rothm. = **Alchemilla microbetula** T.C.E. Fries

Alchemilla sessiliflora Rothm. = **Alchemilla microbetula** T.C.E. Fries

Aloe abyssinica Lam. ≈ **Aloe sp.** - not identifiable.

Aloe aethiopica [auct., non (Schweinf.) Berger] ≈ **Aloe steudneri** Schweinf.

Aloe eru Berger ≈ **Aloe sp.** - not identifiable.

Aloe macrocarpa Tod. var. *major* Berger = **Aloe macrocarpa** Tod.

Anaphrenium abyssinicum Hochst. var. *latifolium* (Oliv.) Engl. = **Ozoroa insignis** Del.

Anarrhinum arabicum [(Poir.) Jaub. & Spach] var. *abyssinicum* (Jaub. & Spach) Engl. ≡ **Anarrhinum forsskaolii** (Gmel.) Cufod. subsp. **abyssinicum** (Jaub. & Spach) D.A. Sutton

Anthemis semiensis Pic. Serm. = **Anthemis tigreensis** A. Rich.

Antithrixia abyssinica (Walp.) Vatke ≡ **Macowania abyssinica** (Walp.) B.L. Burtt

Apodytes acutifolia A. Rich. ≡ **Apodytes dimidiata** Arn. var. **acutifolia** (A. Rich.) Boutique

Arabis alpina L. var. *meruensis* (O.E. Schulz) Pic. Serm. = **Arabis alpina** L.

Artemisia rehan Chiov. = **Artemisia absinthium** L.

Asclepias abyssinica (Decne.) N.E. Br. ≡ **Gomphocarpus abyssinicus** Decne.

Asclepias albida N.E. Br. = **Gomphocarpus purpurascens** A. Rich.

Asparagus asiaticus [sensu Baker (1875) & Cufodontis (1971), non] L. ≈ **Asparagus africanus** Lam.

Asparagus asiaticus var. *amharicus* Pic. Serm. = **Asparagus africanus** Lam.

Astragalus abyssinicus Hochst. ≡ **Astragalus atropilosulus** (Hochst.) Bunge subsp. **abyssinicus** (Hochst.) Gillett var. **abyssinicus**

B

Becium affine (Benth.) Chiov. = **Becium obovatum** (Benth.) N.E. Br.

Beckeropsis petiolaris (Hochst.) Fig. & De Not. ≡ **Pennisetum petiolare** (Hochst.) Chiov.

Beckeropsis uniseta (Nees) K. Schum. ≡ **Pennisetum unisetum** (Nees) Benth.

Bidens chaetodonta Sherff var. *glabrior* (Oliv. & Hiern.) Sherff = **Bidens camporum** (Hutch.) Mesfin

Bidens pilosa L. var. *minor* (Bl.) Sherff = **Bidens pilosa** L.

Bidens setigera (Walp.) Sherff var. *abyssinica* (Sch.Bip.) Sherff = **Bidens setigera** (Walp.) Sherff

Blaeria spicata A. Rich. ≡ **Erica tenuipilosa** (Alm & T.C.E. Fries) Cheek subsp. **spicata** (A. Rich.) Cheek

Blepharis maderaspatensis (L.) Roth var. *abyssinica* (Hochst.) Fiori = **Blepharis maderaspatensis** (L.) Roth

Blumea lacera (Burm. f.) DC. = **Blumea axillaris** (Lam.) DC.

Boerhaavia pentandra sensu Cufod., non Burch. ≈ **Commicarpus grandiflora** (A. Rich.) Standl.

Brassica integrifolia (West) Ruprecht var. *carinata* (A. Br.) O.E. Schulz ≡ **Brassica carinata** A. Br.

Bromus cognatus Steud. = **Bromus leptoclados** Nees

Buchnera longifolia Klotsch = **Buchnera hispida** Buch.-Ham.

Bulbostylis holotricha A. Peter = **Bulbostylis pusilla** (Wall.) Hand. Mazz. subsp. **congolensis** (De Wild.) R. Haines

Bulbostylis trifida auct, non (Nees) Nelmes ≈ **Bulbostylis densa** (Wall.) Hand. Mazz. subsp. **afromontana** (Lye) R. Haines

C

Cajanus cajan (L.) Milsp. forma *bicolor* [Baker] = **Cajanus cajan** (L.) Milsp.

Calpurnia subdecandra (L'Hérit.) Schweick. = **Calpurnia aurea** (Ait.) Benth.

Campanula quartiniana A. Rich. = **Campanula edulis** Forssk.

Capparis boscioides Pax ≡ **Capparis sepiaria** L. var. **boscioides** (Pax) Kers

Capparis persicifolia A. Rich. [1848; in Pichi Sermolli 1951: 45, 278, as *persicaefolia*] = **Capparis tomentosa** Lam.

Carduus semiensis Pic. Serm. = **Carduus leptacanthus** Fresen.

Carissa edulis Vahl = **Carissa spinarum** L.

Carissa edulis Vahl var. *cornifolia* (Jaub. & Spach) Pic. Serm. = **Carissa spinarum** L.

Carissa edulis Vahl var. *tomentosa* (A. Rich.) Stapf = **Carissa spinarum** L.

Cassia goratensis Fresen. = **Senna singueana** (Del.) Lock

Cassia petersiana Bolle ≡ **Senna petersiana** (Bolle) Lock

Celsia scrophulariifolia A. Rich. subsp. *foliosa* (Chiov.) Murb. ≈ **Rhabdotosperma scrophulariifolia** (A. Rich.) Hartl

Celtis kraussiana Benth. = **Celtis africana** Burm. f.

Centaurea imatongensis Philipson ≡ **Ochrocephala imatongensis** (Philipson) Dittrich

Cerastium caespitosum Gilib. var. *simense* Engl. = **Cerastium octandrum** A. Rich. var. **octandrum**

Chrozophora plicata (Vahl) A. Juss. var. *obliquifolia* (Vis.) Prain = **Chrozophora plicata** (Vahl) A. Juss.

Cineraria abyssinica A. Rich. var. [forma] *rothii* Oliv. & Hiern = **Cineraria deltoidea** Sond.

Cirsium lanceolatum (L.) Scop. var. *abyssinicum* (A. Rich.) Chiov. = **Cirsium vulgare** (Savi) Ten.

Cissus adenocaulis A. Rich. ≡ **Cyphostemma adenocaule** (A. Rich.) Wild & Drummond

Citrus bigaradia Lois. = **Citrus aurantium** L.

Citrus limonia Osb. var. *abyssinica* (Riccob.) Pic. Serm. = **Citrus aurantifolia** (Christm.) Swingle

Clausena abyssinica (Engl.) Engl. = **Clausena anisata** (Willd.) Benth.

Clematis glaucescens Fresen. = **Clematis hirsuta** Perr. & Guill.

Clerodendron cordifolium (Hochst.) A. Rich. = **Clerodendrum umbellatum** Poir.

Cluytia richardiana Muell. Arg. var. *pubescens* (A. Rich.) Muell. Arg. = **Clutia lanceolata** Forssk.

Coleochloa abyssinica (A. Rich.) Gilly var. *abyssinica* = **Coleochloa abyssinica** (A. Rich.) Gilly

Coleochloa abyssinica (A. Rich.) Gilly var. *castanea* (C.B. Clarke) Pic. Serm. = **Coleochloa abyssinica** (A. Rich.) Gilly

Coleus barbatus (Andrews) Benth. ≡ **Plectranthus barbatus** Andrews

Coleus comosus Gürke = **Plectranthus ornatus** Codd [non **Plectranthus comosus** Sims]
Colutea istria [auct., non] Mill. ≈ **Colutea abyssinica** Kunth & Bouché
Combretum gallabatense Schweinf. = **Combretum rochetianum** A. Juss.
Combretum richardianum van Heurk & Müll. Arg. = **Combretum molle** G. Don
Combretum trichanthum Fresen. = **Combretum molle** G. Don
Commelina nudiflora var. *werneana* (Hassk.) C.B. Clarke = **Commelina diffusa** Burm. f.
Commelina pyrrhoblepharis Hassk. = **Commelina benghalensis** L.
Commelina pyrrhoblepharis forma *glabra* Pic. Serm. = **Commelina benghalensis** L.
Convolvulus sagittatus Thunb. var. *abyssinicus* (Hall. f.) Rendle = **Convolvulus sagittatus** Thunb.
Convolvulus sagittatus Thunb. var. *linearifolius* (Hall. f.) A. Meeuse = **Convolvulus sagittatus** Thunb.
Cordia abyssinica R. Br. = **Cordia africana** Lam.
Cordia ovalis DC. & A. DC. = **Cordia monoica** Roxb.
Cotula abyssinica A. Rich. var. *nana* A. Rich. = **Cotula abyssinica** A. Rich.
Croton macrostachys Del. [orthographic variant in Pichi Sermolli 1951] ≡ **Croton macrostachyus** Del
Cucumis ficifolius A. Rich. var. *microphyllus* Naud. = **Cucumis ficifolius** A. Rich.
Cyathula globulifera Moq. var. *abyssinica* Moq. = **Cyathula uncinulata** (Schrad.) Schinz
Cyathula uncinulata (Schrad.) Schinz var. *abyssinica* (Moq.) Pic. Serm. = **Cyathula uncinulata** (Schrad.) Schinz
Cymbopogon excavatus (Hochst.) Stapf [ex Burtt Davy] = **Cymbopogon caesius** (Hook. & Arn.) Stapf
Cynoglossum lanceolatum Forssk. var. *eulanceolatum* Brand = **Cynoglossum lanceolatum** Forssk.
Cyperus longus L. subsp. *badius* (Desf.) Bonnier & Layens [in Pichi Sermolli (1951: 187) the authority is (Desf.) Aschers. & Graebn.] = **Cyperus longus** L. [there is no infraspecific division in FEE, and *Cyperus longus* subsp. *badius* is not cited]
Cyperus morandinii Pic. Serm. = **Cyperus penzoanus** Pic. Serm.
Cyperus papyrus subsp. *antiquorum* (Willd.) Kük. = **Cyperus papyrus** L.

D

Deroemeria squamata (A. Rich.) Rchb. f. ≡ **Holothrix squammata** (A. Rich.) Rchb. f.
Deschampsia caespitosa (L.) P. Beauv. var. *latifolia* (A. Rich.) Hook. f. [in Pichi Sermolli (1951: 237) the authority is indicated as (A. Rich.) Th. Dur. & Schinz} = **Deschampsia caespitosa** (L.) P. Beauv.
Dianthoseris rueppellii Sch.Bip. [ex Oliv. & Hiern] ≡ **Launaea rueppellii** (Oliv. & Hiern) Boulos
Dichrocephala latifolia [auct., non] (Lam.) DC. ≈ **Dichrocephala integrifolia** (L. f.) O. Kuntze [in FEE as **Dicrocephala**]
Dichrostachys glomerata (Forssk.) Chiov. = **Dichrostachys cinerea** (L.) Wight. & Arn.
Dicliptera maculata Nees forma *albolanata* Lanza = **Dicliptera maculata** Nees
Dicliptera micranthes Nees = **Dicliptera verticillata** (Forssk.) C. Chr.
Digitaria abyssinica (A. Rich.) Stapf var. *velutina* (Chiov.) Henr. – possibly ≈ **Digitaria abyssinica** (A. Rich.) Stapf (*Digitaria abyssinica* (A. Rich.) Stapf var. *velutina* (Chiov.) Henr [non Pic. Serm.], a synonym of **Digitaria pearsonii** Stapf, is known only from Eritrea and Bale).
Diphasia dainellii Pic. Serm. ≡ **Vepris dainellii** (Pic. Serm.) Kokwaro
Diplolophium abyssinicum (A. Rich.) Benth. = **Diplolophium africanum** Turz.
Dipsacus eremocephalus Pic. Serm. = **Dipsacus pinnatifidus** A. Rich.
Dodonaea viscosa Jacq. var. *spathulata* (Smith) Benth. ≈ **Dodonaea angustifolia** L. f.
Dodonaea viscosa Jacq. var. *vulgaris* Benth. forma *burmanniana* (DC.) Radlk. ≈ **Dodonaea angustifolia** L. f.
Dodonaea viscosa Jacq. var. *vulgaris* Benth. forma *repanda* (Schumach. & Thonn.) Radlk. ≈ **Dodonaea angustifolia** L. f.
Dolichos lablab L. var. *uncinatus* (Schweinf.) Chiov. = **Lablab purpureus** (L.) Sweet
Dombeya bruceana A. Rich. = **Dombeya torrida** (J.F. Gmel.) P. Bamps
Dombeya multiflora (Endl.) Planch. var. *vestita* K. Schum ≈ **Dombeya quinqueseta** (Del.) Excell

Dombeya schimperiana A. Rich. = **Dombeya torrida** (J.F. Gmel.) P. Bamps
Dyschoriste broiloi Pic. Serm. = **Dyschoriste multicaulis** (A. Rich.) O. Kuntze
Dyschoriste perrottetii (Nees) O. Kuntze = **Dyschoriste nagchana** (Nees) Bennett

E

Echinops chamaecephalus A. Rich. = **Echinops hispidus** Fresen.
Echinops francinianus Pic. Serm. = **Echinops giganteus** A. Rich.
Echinops hoffmannianus Mattf. = **Echinops longisetus** A. Rich.
Echinops macrochaetus Fresen. var. *macrochaetus* = **Echinops macrochaetus** Fresen.
Echinops macrochaetus Fresen. var. *pseudoviscosus* Fiori = **Echinops macrochaetus** Fresen.
Echinops nistrii Pic. Serm. = **Echinops macrochaetus** Fresen.
Echinops spinosus auct., non L. ≈ **Echinops pappii** Chiov.
Ehretia abyssinica Fresen. = **Ehretia cymosa** Thonn. var. **cymosa**
Ekebergia rueppelliana (Fresen.) A. Rich. = **Ekebergia capensis** Sparrm.
Epilobium schimperianum A. Rich. = **Epilobium stereophyllum** Fresen.
Erigeron alpinum L. subsp. *alpinum* ≡ **Erigeron alpinus** L.
Erythrina tomentosa A. Rich. = **Erythrina abyssinica** DC.
Eucalyptus rostratum Schlecht. [*E. rostrata* Schldl., non Cav.] ≈ **E. camaldulensis** Dehnh.
Euclea kellau Hochst. ≡ **Euclea racemosa** Murr. subsp. **schimperi** (A. DC.) F. White
Euphorbia controversa N.E. Br. = **Euphorbia abyssinica** Gmel.
Euphorbia dilatata A. Rich. = **Euphorbia schimperiana** Scheele
Euphorbia obovalifolia [auct., non]A. Rich. = **Euphorbia ampliphylla** Pax

F

Faurea rochetiana (A. Rich.) Pic. Serm. = **Faurea speciosa** Welw. [an error in FEE, **Faurea rochetiana** (A. Rich.) Pic. Serm. has priority]
Ferula abyssinica A. Rich. = **Ferula communis** L.
Festuca rigidula Steud. = **Festuca abyssinica** A. Rich.
Festuca schimperiana A. Rich. = **Festuca abyssinica** A. Rich.
Ficus brachypoda Hutch. = **Ficus ovata** Vahl
Ficus dahro Del. = **Ficus vasta** Forssk.
Ficus glumosa Del. var. *glaberrima* Martelli = **Ficus glumosa** Del.
Ficus gnaphalocarpa (Miq.) A. Rich. ≡ **Ficus sycomorus** L. subsp. **gnaphalocarpa** (Miq.) C.C. Berg
Ficus riparia (Miq.) A. Rich. = **Ficus sur** Forssk.
Flacourtia afra Pic. Serm. = **Flacourtia indica** (Burm. f.) Merr.
Foeniculum vulgare Mill. subsp. *capillaceum* (Gilib. [nom illeg.]) Holmboe ≈ **Foeniculum vulgare** Mill.

G

Galium hochstetteri Pic. Serm. = **Galium acrophyum** Chiov.
Gardenia lutea Fresen. = **Gardenia ternifolia** Schumach. & Thonn. subsp. **jovistonantis** (Welw.) Verdc.
Geranium frigidum A. Rich. = **Geranium arabicum** Forssk. subsp. **arabicum**
Geranium latistipulatum A. Rich. ≡ **Geranium arabicum** Forssk. subsp. **latistipulatum** (A. Rich.) Kokwaro
Geranium simense A. Rich. forma *typicum* Kunth = **Geranium arabicum** Forssk. subsp. **arabicum**
Glycine javanica L. = **Glycine wightii** (Wight & Arn.) Verdc. (Pichi Sermolli's taxon may represent either of the two subspecies represented in the Flora of Ethiopia 3. **Glycine wightii** subsp. **wightii** var. **longicauda** (Schweinf.) Verdc. and **Glycine wightii** subsp. petitiana (A. Rich.) Verdc. – the taxa have later been transferred to **Neonotonia wightii** (Wight & Arn.) Lackey.
Grewia mollis A. Juss. var. *petitiana* (A. Rich.) Burret = **Grewia mollis** A. Juss.
Gymnosciadium pusillum Pic. Serm. = **Pimpinella pimpinelloides** (Hochst.) Wolff
Gymnosporia castellii Pic. Serm. = **Maytenus gracilipes** (Oliv.) Exell subsp. **arguta** (Loes.) Sebsebe
Gymnosporia cortii Pic. Serm. ≡ **Maytenus cortii** (Pic. Serm.) Cufod.

Gymnosporia engleriana Loes. var. *macrantha* Loes. = **Maytenus arbutifolia** (A. Rich.) Wilczek var. **arbutifolia**
Gymnosporia laurifolia (A. Rich.) Loes. = **Maytenus undata** (Thunb.) Blakelock
Gymnosporia obscura (A. Rich.) Loes. ≡ **Maytenus obscura** (A. Rich.) Cufod.
Gymnosporia senegalensis (Lam.) Loes. var. *inermis* (A. Rich.) Loes. forma *macrocarpa* Loes. = **Maytenus senegalensis** (Lam.) Exell
Gymnosporia serrata (A. Rich.) Loes. var. *schimperi* Fiori = **Maytenus serrata** (A. Rich.) Wilczek
Gymnosporia serrata (A. Rich.) Loes. var. *serrata* = **Maytenus serrata** (A. Rich.) Wilczek
Gymnosporia serrata (A. Rich.) Loes. var. *steudneri* (Engl.) Loes. = **Maytenus gracilipes** (Oliv.) Exell subsp. **arguta** (Loes.) Sebsebe
Gymnosporia serrata (A. Rich.) Loes. var. *typica* Fiori ≡ **Maytenus serrata** (A. Rich.) Wilczek

H

Haemanthus multiflorus Martyn ≡ **Scadoxus multiflorus** (Martyn) Raf.
Hebenstreitia dentata [auct., non] L. ≈ **Hebenstreitia angolensis** Rolfe
Hebenstreitia dentata L. var. *integrifolia* (L.) Choisy ≈ **Hebenstreitia angolensis** Rolfe
Helichrysum abyssinicum (Sch.Bip.) A. Rich. = **H. splendidum** (Thunb.) Less.
Helichrysum fruticosum (Forssk. [non rite publ.]) Vatke var. *fruticosum* = **Helichrysum forsskahlii** (J.F. Gmel.) Hilliard & B-L. Burtt var. **forsskahlii**
Helichrysum fruticosum (Forssk.) Vatke var. *compactum* Vatke ≡ **Helichrysum forsskahlii** (J.F. Gmel.) Hilliard & B.L. Burtt var. **compactum** (Vatke) Mesfin
Helichrysum hochstetteri (A. Rich.) Hook. f. = **Helichrysum stenopterum** DC.
Hibiscus calyphyllus Cav. var. *genuinus* Hochr. = **Hibiscus calyphyllus** Cav.
Hibiscus cannabinus L. var. *verrucosus* (Guill. & Perr.) Engl.= **Hibiscus cannabinus** L.
Hibiscus diversifolius A. Rich. var. *genuinus* Hochr. = **Hibiscus diversifolius** A. Rich.
Hibiscus panduriformis Burm. f. var. *tubulosus* (Cav.) Hochr. (1900) 96, nom. illeg. = **Hibiscus panduriformis** Burm. f.
Hippocratea obtusifolia Roxb. var. *schimperiana* (A. Rich.) Loes. ≡ **Hippocratea africana** (Willd.) Loes. var. **schimperiana** (A. Rich.) Cufod.
Hygrophila longifolia (L.) S. Kurz = **H. schulii** (Hamilt.) M.R. & S.M. Almeida [I FEE, the correct name is now **H. auriculata** (Schumach.) Heine.]
Hymenodictyon kurria Hochst. = **Hymenodictyon floribundum** (Hochst. & Steud.) Robinson
Hyparrhenia gazensis (Rendle) Stapf ≈ **Hyparrhenia sp.** [H. gazensis is not mentioned in the FEE, and according to the *Flora of Tropical East Africa* it does not occur in Ethiopia]
Hyparrhenia hirta (L.) Stapf var. *podotricha* (Hochst.) Pic. Serm. = **Hyparrhenia hirta** (L.) Stapf
Hyparrhenia pseudocymbaria (Steud.) Stapf = **Hyparrhenia anthistirioides** (A. Rich.) Stapf
Hyparrhenia umbrosa (Hochst.) Clayton ≈ **Hyparrhenia sp.** The type of *H. umbrosa* is Schimper 1116 from Tigray, Mt. Scholoda, 1838, and is according to the FEE (vol. 9: 344) an intermediate specimen between the taxa **H. cymbaria** (L.) Stapf and **H. tamba** (Steud.) Stapf.
Hypericum lanceolatum [auct., non] Lam. ≈ **Hypericum revolutum** Vahl
Hypericum quartinianum A. Rich. var. *roeperianum* ([W.G. Schimper ex] A. Rich.) Engl. [Moggi & Pisacchi] ≡ **Hypericum roeperianum** A. Rich.
Hypoestes busii Pic. Serm. = **Hypoestes triflora** (Forssk.) Roem. & Schult.

I

Indigofera alboglandulosa Engl. = **Indigofera atriceps** Hook. f. subsp. **atriceps**
Indigofera secundiflora Poir. var. *gondarensis* Pic. Serm. = **Indigofera secundiflora** Poir. var. **rubripilosa** De Wild.
Inula decipiens E.A. Bruce = **Inula paniculata** (Klatt) Burtt Davy
Ipomoea palmata Forssk. = **Ipomoea cairica** (L.) Sweet var. **cairica**

J

Jambosa jambos (L.) Millsp. ≡ **Syzygium jambos** (L.) Alston [only the related **Syzygium cumini** (L) Skeels mentioned in FEE]

Jasminum floribundum Fresen. ≡ **Jasminum grandiflorum** L. subsp. **floribundum** (Fresen.) P.S. Green

Jussiaea pilosa Kunth ≈ **Ludwigia leptocarpa** (Nutt.) H. Hara

Justicia leikipiensis [auct., non] S. Moore ≈ **Justicia ladanoides** Lam.

K

Kalanchoe brachycalyx A. Rich. = **Kalanchoe laciniata** (L.) DC.

Kalanchoe crenata (Andr.) Haw. [in the Sudan, but not recorded from Ethiopia according to the FEE; the correct identification of Pichi Sermolli's plants from Ethiopia is **Kalanchoe petitiana** A. Rich.] ≈ **Kalanchoe petitiana** A. Rich.

Kniphofia densiflora Engl. = **Kniphofia foliosa** Hochst.

Koeleria cristata (L.) Pers. var. *convoluta* (Steud.) C.E. Hubb. = **Koeleria capensis** (Steud.) Nees

Korthalsella binii Pic. Serm. = **Korthalsella japonica** (Thunb.) Engl.

Korthalsella opuntia (Thunb. [non L.]) Merrill = **Korthalsella japonica** (Thunb.) Engl.

L

Lachnopylis congesta (Fresen.) C.A. Smith ≡ **Nuxia congesta** Fresen.

Lactuca abyssinica Fresen. = **Lactuca inermis** Forssk.

Lactuca capensis Thunb. = **Lactuca inermis** Forssk.

Lactuca pseudoabyssinica Chiov. ≡ **Launaea pseudoabyssinica** (Chiov.) N. Kilian

Lactuca taraxacifolia (Willd.) Hornem. ≡ **Launaea taraxacifolia** (Willd.) C. Jeffrey

Lagenaria vulgare Ser. = **Lagenaria siceraria** (Molina) Standl.

Laggera alata (D. Don.) Oliv. var. *alata* = **Laggera alata** (D. Don) Oliv.

Laggera alata (D. Don.) Oliv. var. *natalensis* (DC.) Chiov. = **Laggera alata** (D. Don) Oliv.

Laggera pterodonta (DC.) Oliv. = **Laggera crispata** (Vahl) Hepper & Wood

Landtia rueppellii (Sch.Bip.) Benth. & Hook. f. ≡ **Haplocarpha rueppellii** (Sch. Bip.) Beauv.

Landtia schimperi (Sch.Bip.) Benth. & Hook. f. ≡ **Haplocarpha schimperi** (Sch. Bip.) Beauv.

Lasiocorys stachydiformis Benth. ≡ **Leucas stachydiformis** (Benth.) Briq.

Lasiosiphon glaucus Fresen. ≡ **Gnidia glauca** (Fresen.) Gilg

Leonotis velutina Fenzl var. *rugosa* (Benth.) Baker = **Leonotis ocymifolia** (Burm. f.) Iwarsson var. **raineriana** (Vis.) Iwarsson

Leonotis velutina Fenzl var. *velutina* = **Leonotis ocymifolia** (Burm. f.) Iwarsson var. **raineriana** (Vis.) Iwarsson

Lepidagathis radicalis Nees = **Lepidagathis hamiltoniana** Walp. subsp. **collina** (Endl.) J.K. Morton

Lightfootia abyssinica A. Rich. ≡ **Wahlenbergia abyssinica** (A. Rich.) Thulin

Limosella semiensis Pic. Serm. ≈ **Limosella capensis** Thunb. (identity ?).

Linaria elatine (L.) Mill. ≈ **Kickxia elatine** (L.) Dumort. subsp. **crinita** (Mabille) W. Greuter (only var. in FEE area).

Linociera latipetala M. Taylor = **Chionanthus mildbraedii** (Gilg & Schellenb.) Stearn

Loranthus acaciae Zucc. ≡ **Plicosepalus acacia** (Zucc.) Wiens & Polhill

Loranthus globiferus A. Rich. ≡ **Tapinanthus globiferus** (A. Rich.) Tiegh.

Loranthus globiferus A. Rich. var. *salicifolius* Sprague = **Tapinanthus globiferus** (A. Rich.) Tiegh,

Loranthus heteromorphus A. Rich. ≡ **Tapinanthus heteromorphus** (A. Rich.) Danser

Loranthus macrosolen A. Rich. ≡ **Phragmanthera macrosolen** (A. Rich.) M. Gilbert

Loranthus regularis Sprague ≡ **Phragmanthera regularis** (Sprague) M. Gilbert

Loranthus scasellatii Chiov. var. *glabrescens* Pic. Serm. ≈ **Tapinanthus heteromorphus** (A. Rich.) Danser

Lotononis platycarpos (Viv.) Pic. Serm. var. *abyssinica* (A. Rich.) Pic. Serm. = **Lotononis platycarpos** (Viv.) Pic. Serm.

Lotus brachycarpus A. Rich. ≡ **Lotus quinatus** (Forssk.) Gillett var. **brachycarpus** (A. Rich.) Gillett

Lotus mearnsii De Wild., nom. Illeg., non Britton ≈ **Lotus schoelleri** Schweinf.

Loudetia arundinacea (A. Rich.) Steud. var. *arundinacea* = **Loudetia arundinacea** (A. Rich.) Steud.

Loudetia arundinacea (A. Rich.) Steud. var. *hensii* (De Wild.) C.E. Hubb. = **Loudetia arundinacea** (A. Rich.)

Steud. [on p. 180 in Pichi Sermolli 1951, *Loudetia arundinacea* var. *trichantha* is indicated as a synonym of *Loudetia arundinacea* var. *hensii*, on p. 297 the accepted name is *Loudetia arundinacea* var. *trichantha*]

Loudetia arundinacea (A. Rich.) Steud. var. *trichantha* (Peter) Hutch. = **Loudetia arundinacea** (A. Rich.) Steud.

Lupinus termis Forssk. = **Lupinus albus** L.

Luzula abyssinica Parl. var. *simensis* (Buchenau) Buchenau = **Luzula abyssinica** Parl.

M

Maba abyssinica Hiern ≡ **Diospyros abyssinica** (Hiern) F. White

Marsdenia schimperi Decne ≡ **Dregea schimperi** (Decne.) Bullock

Melothria ciprianii Pic. Serm. = **Zehneria scabra** (L. f.) Sond.

Melothria punctata (?Thunb.) Cogn. = **Zehneria scabra** (L. f.) Sond.

Melothria tomentosa Cogn. var. *parviflora* Cogn. = **Zehneria scabra** (L. f.) Sond.

Meriandra bengalensis (Roxb.) Benth. = **Meriandra dianthera** (Roem. & Schult.) Briq.

Mimosa asperata L. = **Mimosa pigra** L.

Momordica schimperiana Naud. = **Momordica foetida** Schumach.

Monechma affine Hochst. ≈ **Monechma debile** auct., non (Forssk.) Nees [*Justicia bracteata* (Hochst.) Zarb. In FTEA]]

Musa ensete Gmel. = **Ensete ventricosum** (Welw.) Cheesman

N

Nelsonia brunelloides (Lam.) O. Kuntze ≈ **Nelsonia canescens** (Lam.) Sprengel var. **canescens**

Nidorella vernonioides A. Rich. ≡ **Conyza vernonioides** (A. Rich.) Wild

Nymphaea coerulea Savigny var. genuina Gilg & Muschler = **Nymphaea nouchali** Burm. f. var. **caerulea** (Sav.) Verdc.

O

Ocimum basilicum L. var. *anisatum* Benth. = **Ocimum** x **africanum** Lour. [not in FEE]

Ocimum suave Willd. = **Ocimum urticifolium** Roth

Olea chrysophylla Lam. = **Olea europaea** L. subsp. **cuspidata** (G. Don.) Cif.

Oreophyton falcatum (A. Rich.) O.E. Schulz forma *depauperatum* O.E. Schulz = **Oreophyton falcatum** (A. Rich.) O.E. Schulz

Oryza perennis sensu Cufod. ≈ **Oryza longistaminata** A. Chev. & Roehr.

Osyris abyssinica A. Rich. = **Osyris quadripartita** Decn.

Otostegia minuccii Pic. Serm. = **Otostegia tomentosa** A. Rich. subsp. **ambigens** (Chiov.) Sebald

Otostegia repanda Benth. = **Otostegia fruticosa** (Forssk.) Penzig

Otostegia steudneri Schweinf. ≡ **Otostegia tomentosa** A. Rich. subsp. **steudneri** (Schweinf.) Sebald

Ottelia lancifolia A. Rich. = **Ottelia ulvifolia** (Planch.) Walp.

Oxalis corniculata L. var. *corniculata* ≡ **Oxalis corniculata** L.

P

Panicum glabrescens Steud. = **Panicum subalbidum** Kunth

Panicum transvenulosum Stapf = **Panicum monticola** Hook.

Pavetta sp. in Pichi Sermolli (1951): **Pavetta oliveriana** Hiern

Pavonia kraussiana Hochst. = **Pavonia burchellii** (DC.) Dyer

Pennisetum giganteum A. Rich. = **Pennisetum macrourum** Trin.

Pennisetum schimperi A. Rich. = **Pennisetum sphacelatum** (Nees) Th. Dur. & Schinz

Phagnalon hypoleucum Oliv. & Hiern = **Phagnalon abyssinicum** A. Rich.

Phaulopsis inaequalis Pic. Serm. = **Phaulopsis imbricata** (Forssk.) Sweet subsp. **imbricata**

Phoenix abyssinica Drude = **Phoenix reclinata** Jacq.

Phyllanthus guineensis Pax = **Phyllanthus ovalifolius** Forssk.

Phytolacca dodecandra L'Hérit. var. *apiculata* (Engl.) Baker & C.H. Wright = **Phytolacca dodecandra** L'Hérit.

Pistia stratiotes L. var. cuneata Engl. = **Pistia stratiotes** L.

Plantago coronopus L. subsp. *eucoronopus* Pilger var. *ceratophylla* (Hoffmansegg & Link) Rapin = **Plantago coronopus** L.

Plantago lanceolata L. var. *communis* Schlecht. subvar. *eurhiza* (Koch) Pilger = **Plantago lanceolata** L.

Plantago lanceolata L. var. *dubia* (L.) Wahlenb. subvar. *eudubia* Pilger = **Plantago lanceolata** L.
Plantago lanceolata L. var. *dubia* (L.) Wahlenb. subvar. *hirsuta* (Peterm.) Pilger = **Plantago lanceolata** L.
Podocarpus gracilior Pilg. = **Podocarpus falcatus** (Thunb.) Mirb.
Polygala negrii Chiov. = **Polygala steudneri** Chod.
Polygonum barbatum L. var. *vulgare* Mein. = **Persicaria setosula** (A. Rich.) K. Wilson
Polygonum senegalense Meisn. ≡ **Persicaria senegalensis** (Meisn.) Soják
Polyscias sp. in Pichi Sermolli (1951): **Polyscias farinosa** (Del.) Harms
Potamogeton richardi Solms = **Potamogeton thunbergii** Cham. & Schlecht.
Premna viburnoides A. Rich. var. *schimperi* (Engl.) Pic. Serm. ≡ **Premna schimperi** Engl.
Primula simensis Hochst. var. *eusimensis* Pax = **Primula verticillata** Forssk. subsp. **simensis** (Hochst.) W.W. Sm. & Forest
Primula simensis Hochst. var. *farinosa* (Schweinf.) Pax = **Primula verticillata** Forssk. subsp. **simensis** (Hochst.) W.W. Sm. & Forrest
Psiadia arabica Jaub. & Spach = **Psiadia punctulata** (DC.) Vatke
Pterolobium exosum (J.F. Gmel.) Bak. f. = **Pterolobium stellatum** (Forssk.) Brenan
Pulicaria undulata DC. [non (L.) C.A. Mey.] var. *abyssinica* Chiov. = **Pulicaria incisa** (Lam.) DC.
Pygeum africanum Hook. f. ≡ **Prunus africana** (Hook. f.) Kalkm.

R

Ranunculus dertropodius A. Rich. = **Ranunculus tembensis** Fresen
Rapanea simensis (DC.) Mez = **Myrsine melanophloeos** (L.) R. Br.
Rhoicissus erythrodes (Fresen.) Planch. = **Rhoicissus tridentata** (L. f.) Wild & Drummond
Rhus amharica Pic. Serm. = **Rhus glutinosa** A. Rich. subsp. **glutinosa** var. **glutinosa**
Rhus huillensis Engl. var. *erythraea* Fiori = **Rhus quartiniana** A. Rich. var. **quartiniana**
Rhus macowani sensu Pic. Serm., non Schönl. ≈ **Rhus vulgaris** Meikle
Rhus pyroides Burch. var. *gracilis* Pic. Serm., non (Engl.) Burtt Davy ≈ **Rhus vulgaris** Meikle
Rhynchelytrum repens (Willd.) C.E. Hubb. ≡ **Melinis repens** (Willd.) Zizka
Rhynchelytrum roseum (Nees) Stapf & C.E. Hubb. = **Melinis repens** (Willd.) Zizka
Rhynchosia imbricata Bak. = **Rhynchosia nyasica** Bak.
Ricinus communis L. var. *africanus* (Willd.) Müll.Arg. forma *subviridis* Müll. Arg. ≈ **Ricinus communis** L.
Ricinus communis L. var. *genuinus* Müll. Arg. forma *macrophyllus* Müll. Arg. ≈ **Ricinus communis** L.
Ricinus communis L. var. *megalospermus* (Del.) Müll. Arg. forma *pruinosus* Müll. Arg. ≈ **Ricinus communis** L.
Ritchiea steudneri Gilg. = **Ritchiea albersii** Gilg
Rosa abyssinica Lindl. forma *microphylla* Almagia = **Rosa abyssinica** Lindl.
Rosa sancta A. Rich. = **Rosa x richardii** Rehd.
Rubia discolor Turcz. ≡ **Rubia cordifolia** L. subsp. **conotricha** (Gand.) Verdc. var. **discolor** (Turzc.) K. Scum.
Rubus quartinianus A. Rich. var. *pappianus* C.E. Gust. = **Rubus apetalus** Poir.
Rumex steudelii A. Rich. = **Rumex nepalensis** Spreng.
Ruta chalepensis L. subsp. *bracteosa* (DC.) Batt. [in Pichi Sermolli 1951 as (DC.) Ruy] = **Ruta chalepensis** L.

S

Salix subserrata Willd. [as this in Pichi Sermolli 1951 and FEE, now **Salix mucronata** Thunb.]
Satureja contardoi Pic. Serm. = **Satureja imbricata** (Forssk.) Briq.
Satureja ovata (Benth.) Pic. Serm. var. *cinereotomentosa* (A. Rich.) Pic. Serm. = **Satureja punctata** (Benth.) Briq. subsp. **ovata** (Benth.) Seybold
Satureja punctata (Benth.) Briq. var. *punctata* ≡ **Satureja punctata** (Benth.) Briq. subsp. **punctata**
Satureja punctata (Benth.) Briq. var. *rigida* Pic. Serm. = **Satureja punctata** (Benth.) Briq. subsp. **punctata**
Sauromatum nubicum Schott =: **Sauromatum venosum** (Ait.) Kunth
Scirpus costatus (A. Rich.) Böckl. ≡ **Isolepis costata** A. Rich.

Senecio degiensis Pic. Serm. = **Senecio farinaceus** A. Rich.
Senecio macropappus A. Rich. ≡ **Crassocephalum macropappum** (A. Rich.) S. Moore
Sesbania aegyptiaca Poir. = **Sesbania sesban** (L.) Merr.
Setaria lynesii Stapf & C.E. Hubb. = **Setaria incrassata** (Hochst.) Hack.
Setaria phragmitoides Stapf = **Setaria incrassata** (Hochst.) Hack.
Setaria plicatilis (Hochst.) Engl. = **Setaria megaphylla** (Steud.) Th. Dur. & Schinz
Sida triloba Cav. = **Sida ternata** L. f.
Solanum indicum L. (nom. rej.) = **Solanum anguivi** Lam.
Solanum lycopersicum L. ≡ **Lycopersicon esculentum** Mill.
Solanum mesodolichum (Bitter) Pic. Serm. = **Solanum anguivi** Lam.
Solanum orthocarpum Pic. Serm. = **S. anguivi** Lam.
Solanum rohrii [corr. *S. rothii*] C.H. Wright = **Solanum anguivi** Lam.
Solanum uollense (Chiov.) Pic. Serm. = **Solanum anguivi** Lam.
Sparmannia abyssinica A. Rich. var. *concolor* Chiov. = **Sparmannia ricinocarpa** (Eckl. & Zeyh.) O. Kuntze
Sterculia tomentosa Guill. & Perr. = **Sterculia setigera** Del.
Strychnos unguacha A. Rich. var. *typica* Gilg = **Strychnos innocua** Del.
Syzygium guineense (Willd.) DC., sensu Pic. Serm. = **Syzygium guineense** (Willd.) DC. subsp. **guineense**

T

Tephrosia rigida Bak. = **Tephrosia elata** Deflers
Themeda triandra Forssk. var. *punctata* (A. Rich.) Stapf = **Themeda triandra** Forssk.
Trichilia volkensii Gürke var. *buchanani* (DC.) Pic. Serm. = **Lepidotrichilia volkensii** (Gürke) Leroy
Trichodesma zeylanicum (Burm. f.) R. Br. subsp. *euzelanicum* Brand var. *vulgare* Brand forma *typicum* Brand ≡ **Trichodesma zeylanicum** (Burm. f.) R. Br.
Tripteris vaillantii Decne. ≡ **Osteospermum vaillantii** (Decne.) T. Norl.
Triumfetta abyssinica K. Schum. = **Triumfetta pillosa** Roth
Typha latifolia L. subsp. *eulatifolia* Graebn. var. *elatior* Graebn. = **Typha latifolia** L.

U

Urginea indica (Roxb.) Kunth ≡ **Drimia indica** (Roxb.) Jessop
Urginea micrantha (A. Rich.) Solms = **Drimia altissima** (L. f.) Ker-Gawl.
Urginea simensis Hochst. ≡ **Drimia simensis** (Hochst.) Stedje

V

Vernonia abyssinica Walp. = **Vernonia schimperi** DC.
Vernonia chiarugii Pic. Serm. = **Vernonia myriantha** Hook. f.
Vernonia francavillana Oliv. & Hiern = **Vernonia rueppellii** Walp.
Vernonia inulifolia Walp. = **Vernonia purpurea** Walp.
Vernonia quartiniana A. Rich. [nom. illeg.] = **Vernonia congolensis** De Wild. & Muschl. subsp. **vernonioides** (Walp.) C. Jeffrey
Vernonia richardiana (O. Kuntze) Pic. Serm. = **Vernonia theophrastifolia** Oliv. & Hiern
Vernonia thomsoniana Oliv. var. *thomsoniana* = **Vernonia thomsoniana** Oliv.
Veronica beccabunga L. forma *minima* Hemsl. & Skan = **Veronica beccabunga** L.
Viscum nervosum A. Rich. var. *angustifolium* Sprague = **Viscum triflorum** DC. subsp. **nervosum** (A. Rich.) M. Gilbert

W

Withania somnifera (L.) Dunal var. *communis* (Nees) Dunal = **Withania somnifera** (L.) Dunal

Z

Zizyphus jujuba (L.) Gaert. [non Lam.] forma *obliquifolia* Engl. = **Zizyphus abyssinica** A. Rich.

4. List of archival numbers and dates of Pichi Sermolli's photographs

In the database of photographs in the Archivio fotografico of the *Società Geografica Italiana* it is not possible to search directly on the archival numbers, and because of variation in spelling it is very difficult to search on place names. It is, however, simple to search on the name on the photographer and then go to the archival number, if that is known. It is also simple to search on the date on which a photograph has been recorded to have been taken. This is a list of archival numbers and dates will facilitate such searches. The list will also make it easier to find out if there are photographs in the database on dates of interest, for example dates with interesting collections mentioned in "5. Chronological list …" Remember to search on "Autore personale: Pichi Sermolli, Rodolfo". During the preparations of the lists in this work, we have found that there may sometimes be a discrepancy of a day or a few days between the collecting date of a herbarium specimen and the date on which the photograph of the vegetation is taken.

Archival number Note that the initial part of the archival number, "501/", is left out	**Date on which photograph is supposed to have been taken**	**Archival number Note that the initial part of the archival number, "501/", is left out**	**Date on which photograph is supposed to have been taken**
696	1937/01/19	796-811	1937/02/22
697	1937/01/20	812-818	1937/02/23
698-707	1937/01/22	819	1937/02/25
708-713	1937/01/24	820-828	1937/02/26
714	1937/01/25	829-836	1937/02/27
715-716	1937/01/26	837-838	1937/02/28
717-721	1937/01/27	839-840	1937/03/01
722-725	1937/01/29	841-846	1937/03/03
726-727	1937/02/01	847-850	1937/03/04
728-729	1937/02/02	851-861	1937/03/05
730-732	1937/02/03	862-866	1937/03/06
733-736	1937/02/04	867-882	1937/03/07
737-745	1937/02/05	883-893	1937/03/10
746-749	1937/02/07	894-909	1937/03/12
750-757	1937/02/08	910-922	1937/03/13
758	1937/02/10	923-929	1937/03/14
759-764	1937/02/13	930-934	1937/03/15
765-769	1937/02/14	935-938	1937/03/16
770	1937/02/15	939-950	1937/03/17
771-772	1937/02/16	951-965	1937/03/18
773-779	1937/02/17	966-968	1937/03/21
780-782	1937/02/18	969-977	1937/03/22
783-795	1937/02/19	978-990	1937/03/23

Archival number Note that the initial part of the archival number, "501/", is left out	Date on which photograph is supposed to have been taken
991	not dated
992-1000	1937/03/29
1001-1002	1937/04/02
1003-1005	1937/04/04
1006-1011	1937/04/05
1012-1033	1937/04/06
1034-1047	1937/04/07
1048-1069	1937/04/08
1070-1096	1937/04/10
1097-1104	1937/04/11
1105-1114	1937/04/12
1116-1122	1937/04/13
1123-1129	1937/04/14
1130-1148	1937/04/15
1149-1160	1937/04/16
1161-1162	1937/04/17
1163-1171	1937/04/19
1172	1937/04/20

Maps

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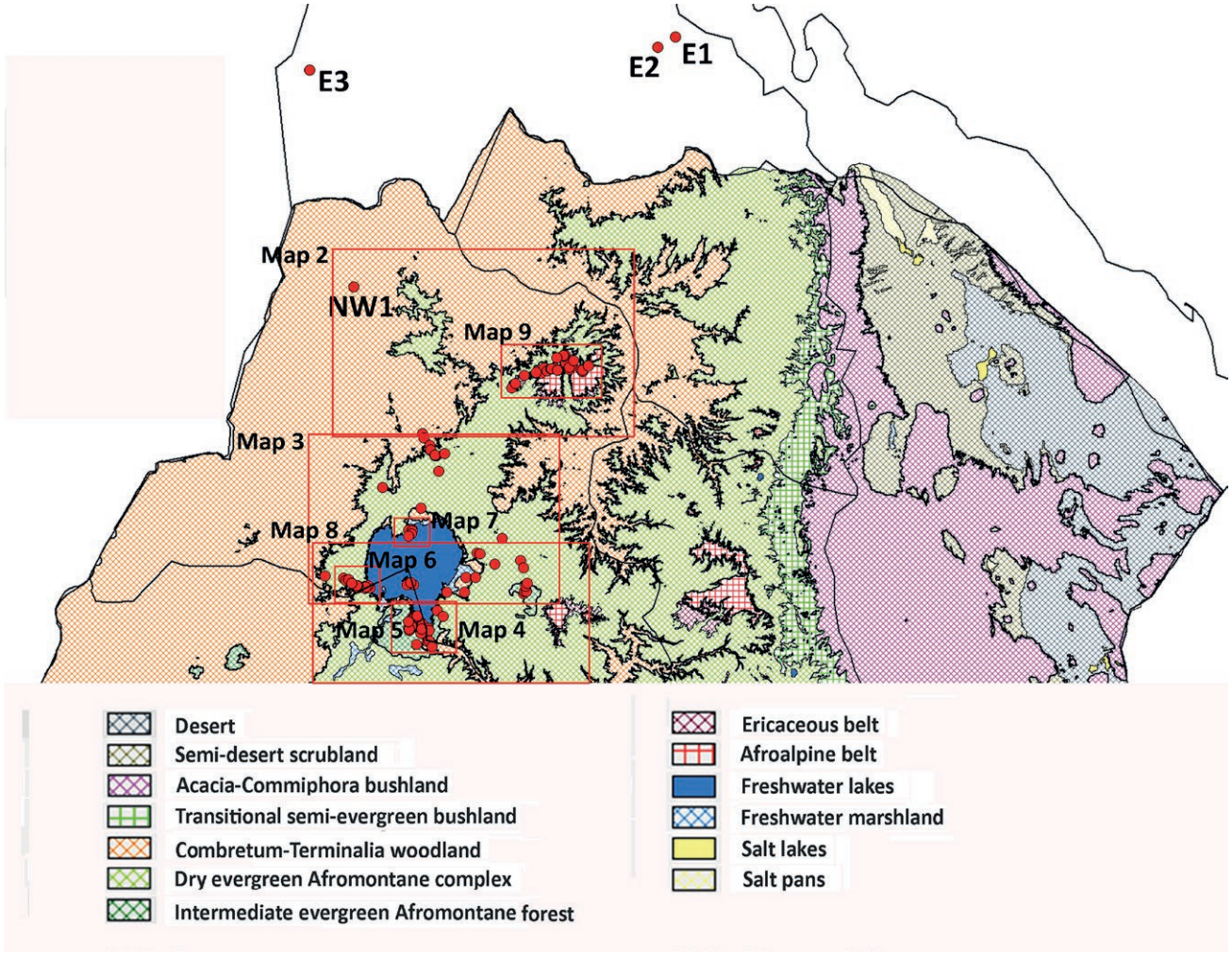
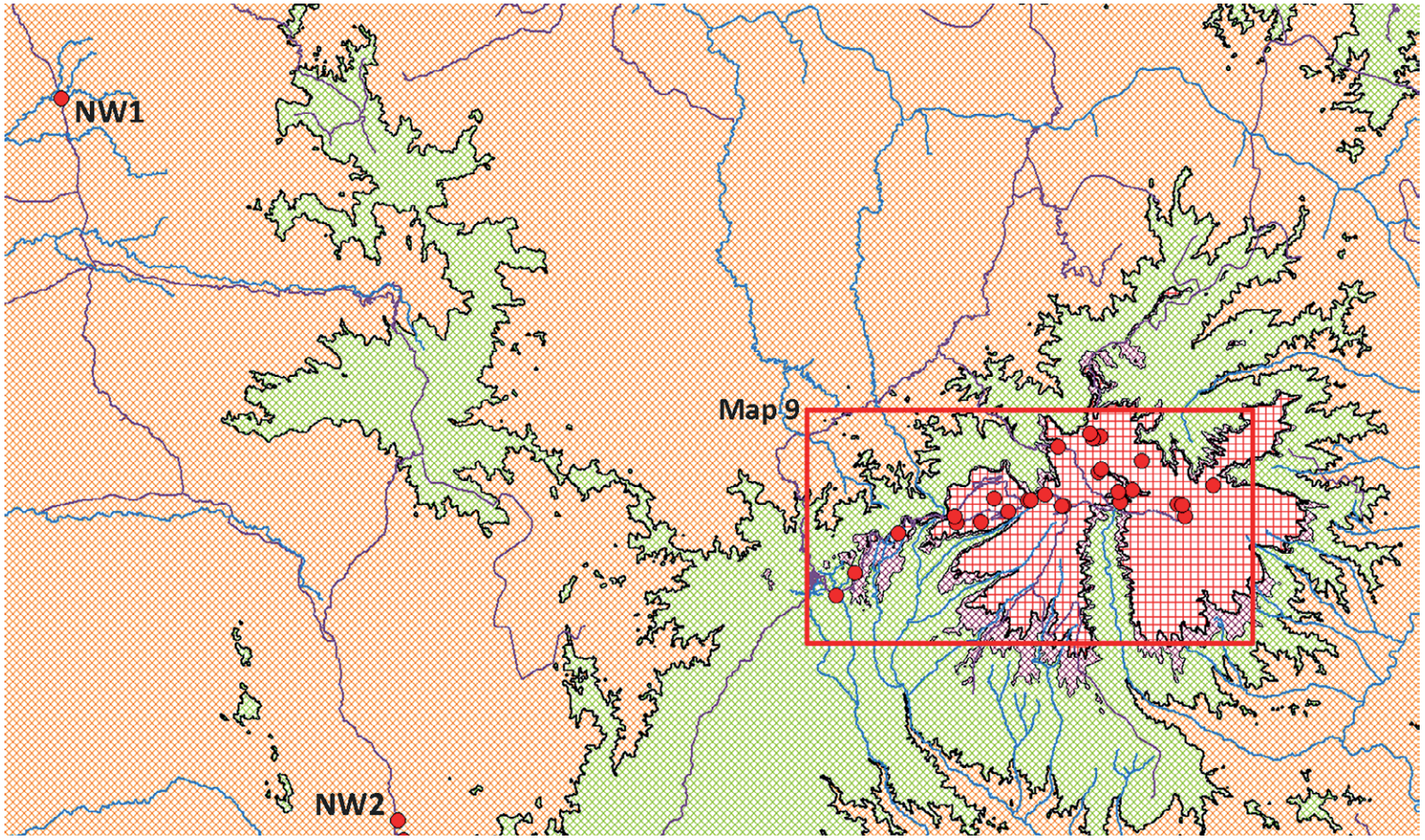
Referee List (DOI 10.36253/fup_referee_list)
FUP Best Practice in Scholarly Publishing (DOI 10.36253/fup_best_practice)

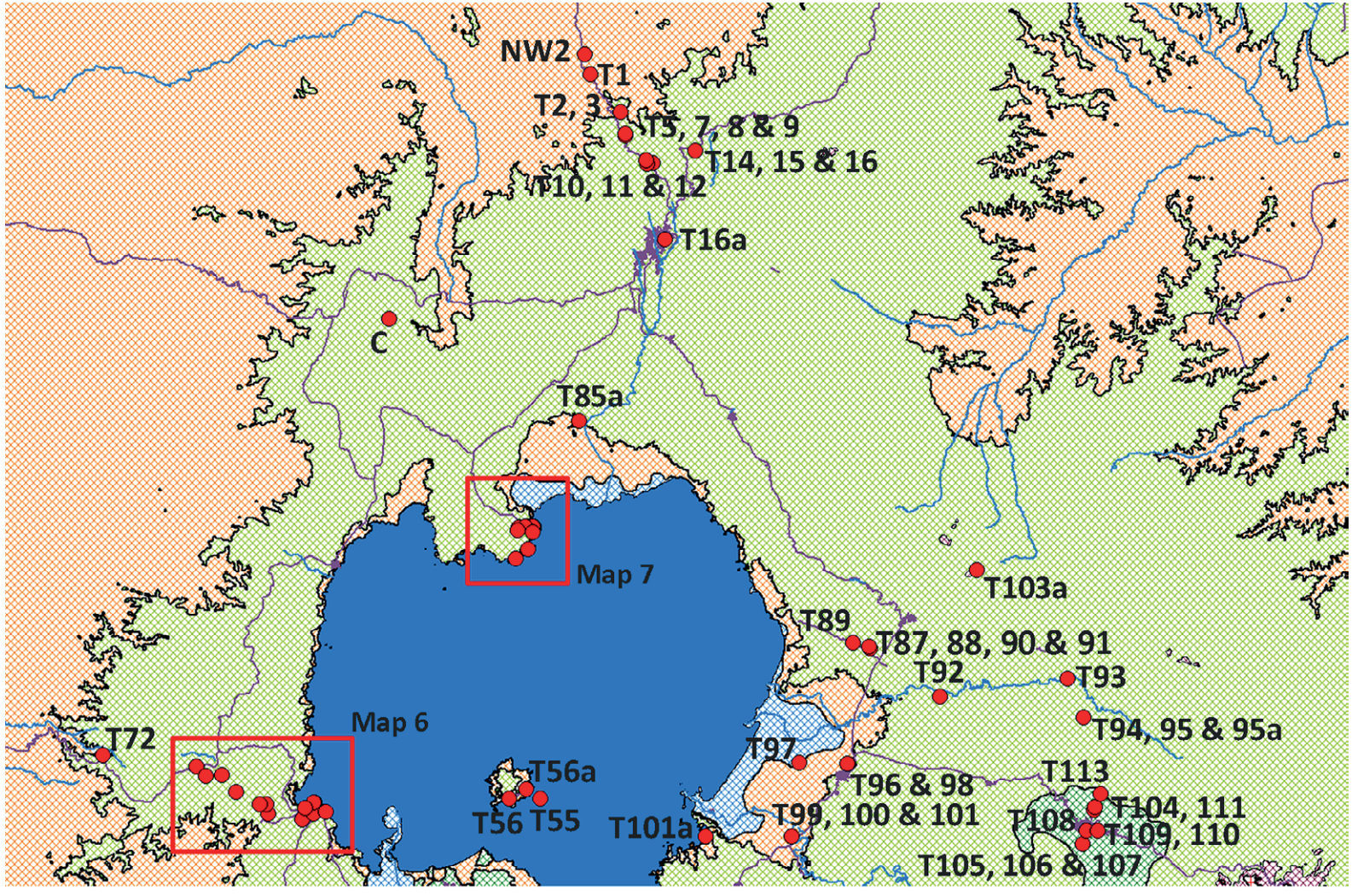
Ib Friis, Sebsebe Demissew, Odile Weber, Paulo van Breugel, *Plants and vegetation of NW Ethiopia. A new look at Rodolfo E.G. Pichi Sermolli's results from the 'Missione di Studio al Lago Tana', 1937*, © 2022 Author(s), CC BY 4.0, published by Firenze University Press, ISBN 978-88-5518-634-6 , DOI 10.36253/978-88-5518-634-6



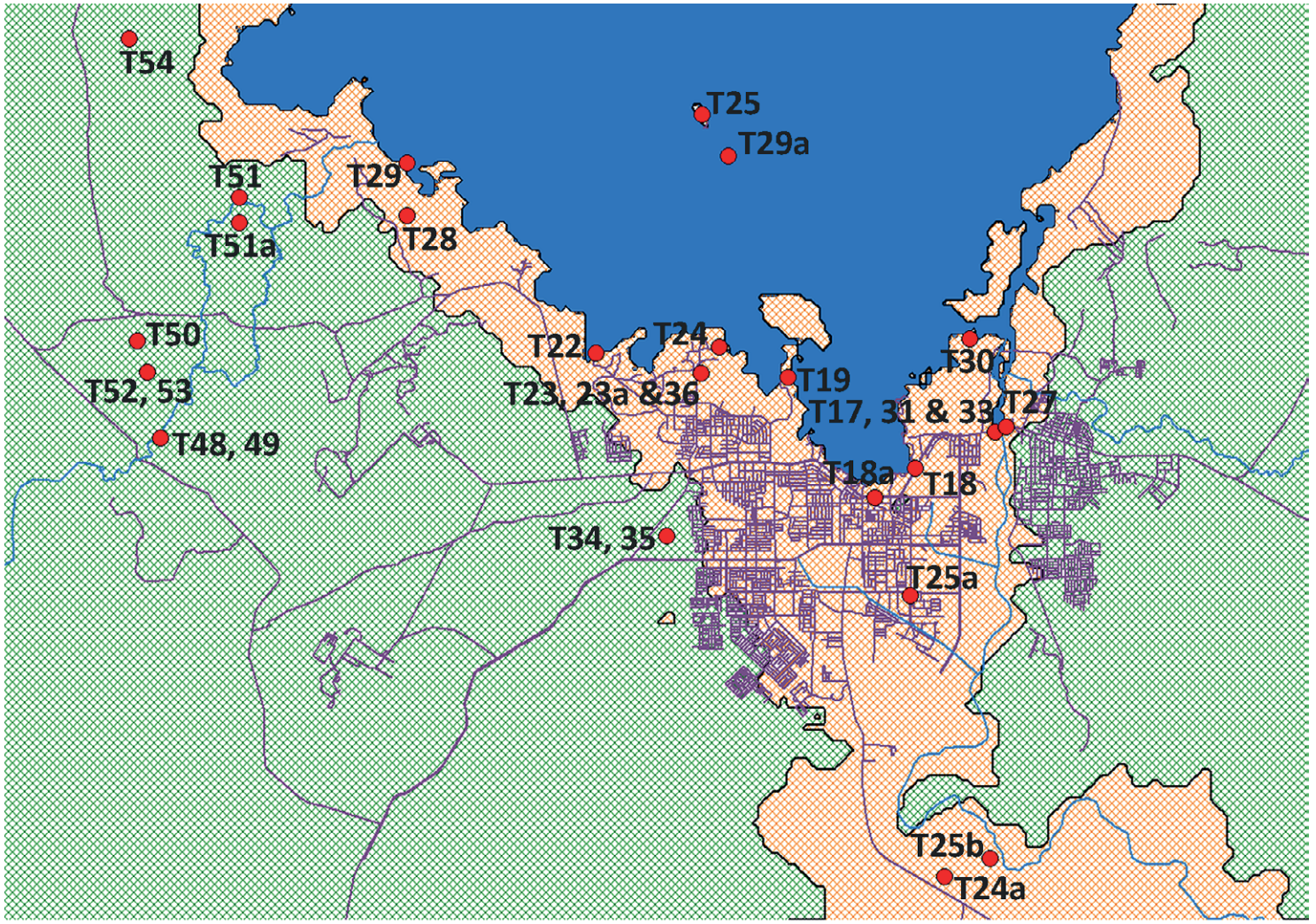
Map 1. Key to Pichi Sermolli's collecting localities. The map shows northern Ethiopia (within the borders of which there are indications of vegetation types) and adjacent parts of Eritrea and Sudan (no indication of vegetation). The rectangles outlined with red show the areas covered by the following maps. For vegetation types, see the legend and the text. Modern roads are indicated with purple lines, rivers with blue lines and the borders of the floristic areas used in the *Flora of Ethiopia and Eritrea* with black lines. The coding of the collecting localities is the same as the coding in the "Chronological list of collecting localities ..."



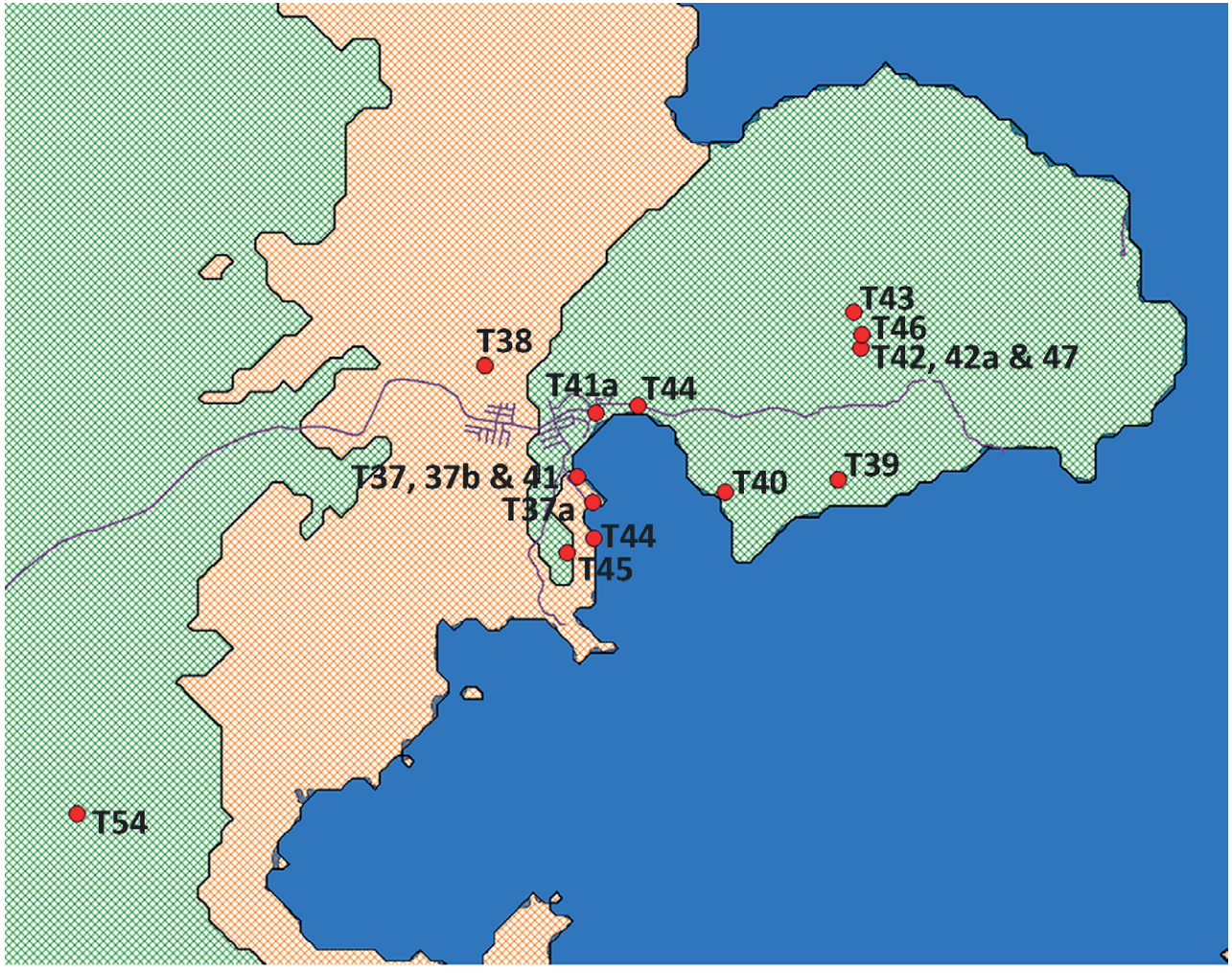
Map 2. Key to Pichi Sermolli's collecting localities. The map shows the area studied to the north of the Lake Tana basin, with the road between Om Ager and Humera used by the mission on the outwards journey (left) and the Semien Mountains (right). The rectangles outlined with red show areas covered by following maps. For vegetation types, see the colour coding in Map 1 and the text. Modern roads are indicated with purple lines, rivers with blue lines and the borders of the floristic areas used in the *Flora of Ethiopia and Eritrea* with black lines. The coding of the collecting localities is the same as the coding in the "Chronological list of collecting localities …"



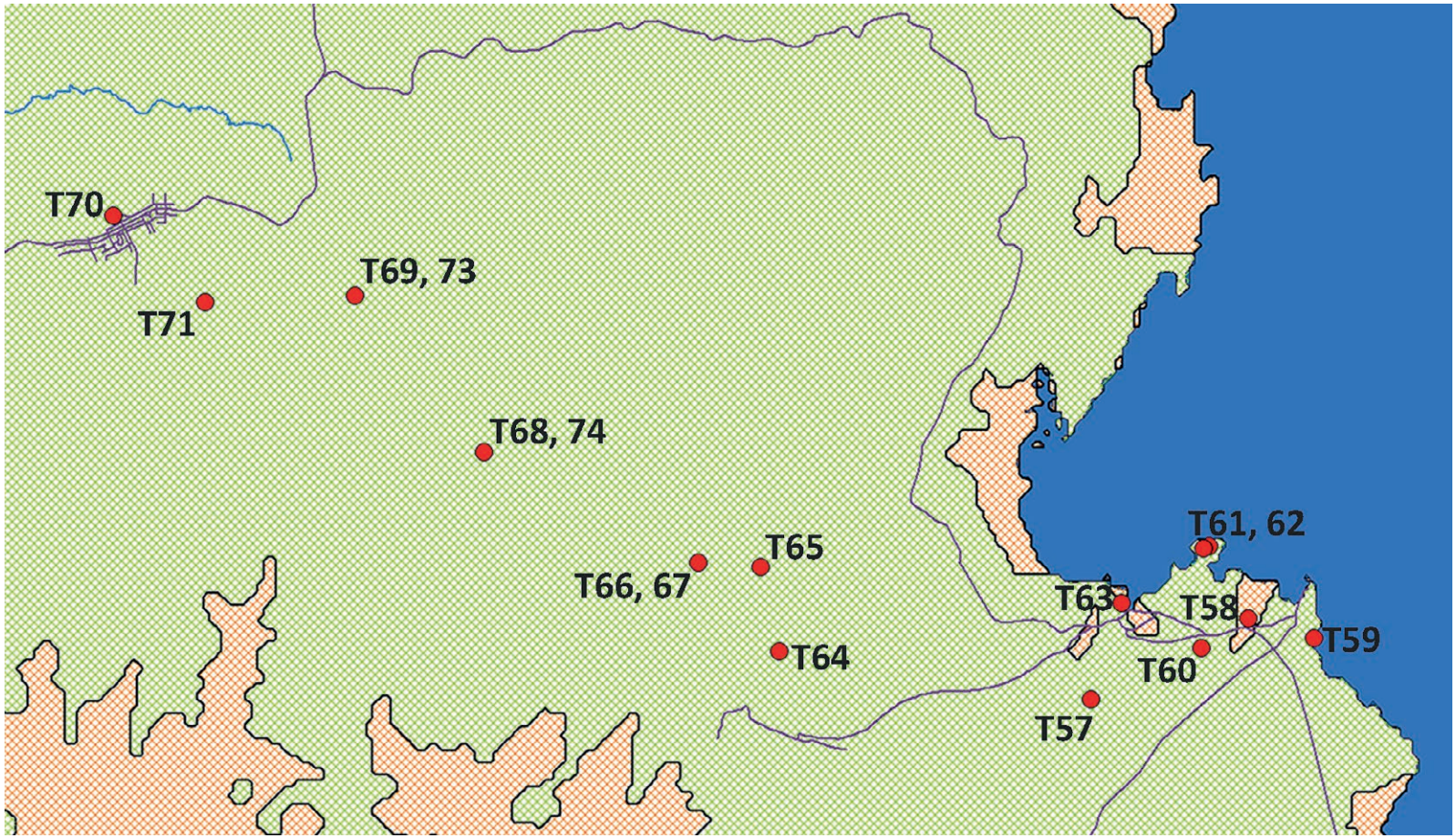
Map 3. Key to Pichi Sermolli's collecting localities. Map showing the surroundings of the northern part of the Lake Tana basin. The rectangles outlined with red show areas covered by following maps. For vegetation types, see the colour coding in Map 1 and the text. Modern roads are indicated with purple lines, rivers with blue lines and the borders of the floristic areas used in the *Flora of Ethiopia and Eritrea* with black lines. The coding of the collecting localities is the same as the coding in the "Chronological list of collecting localities ..."



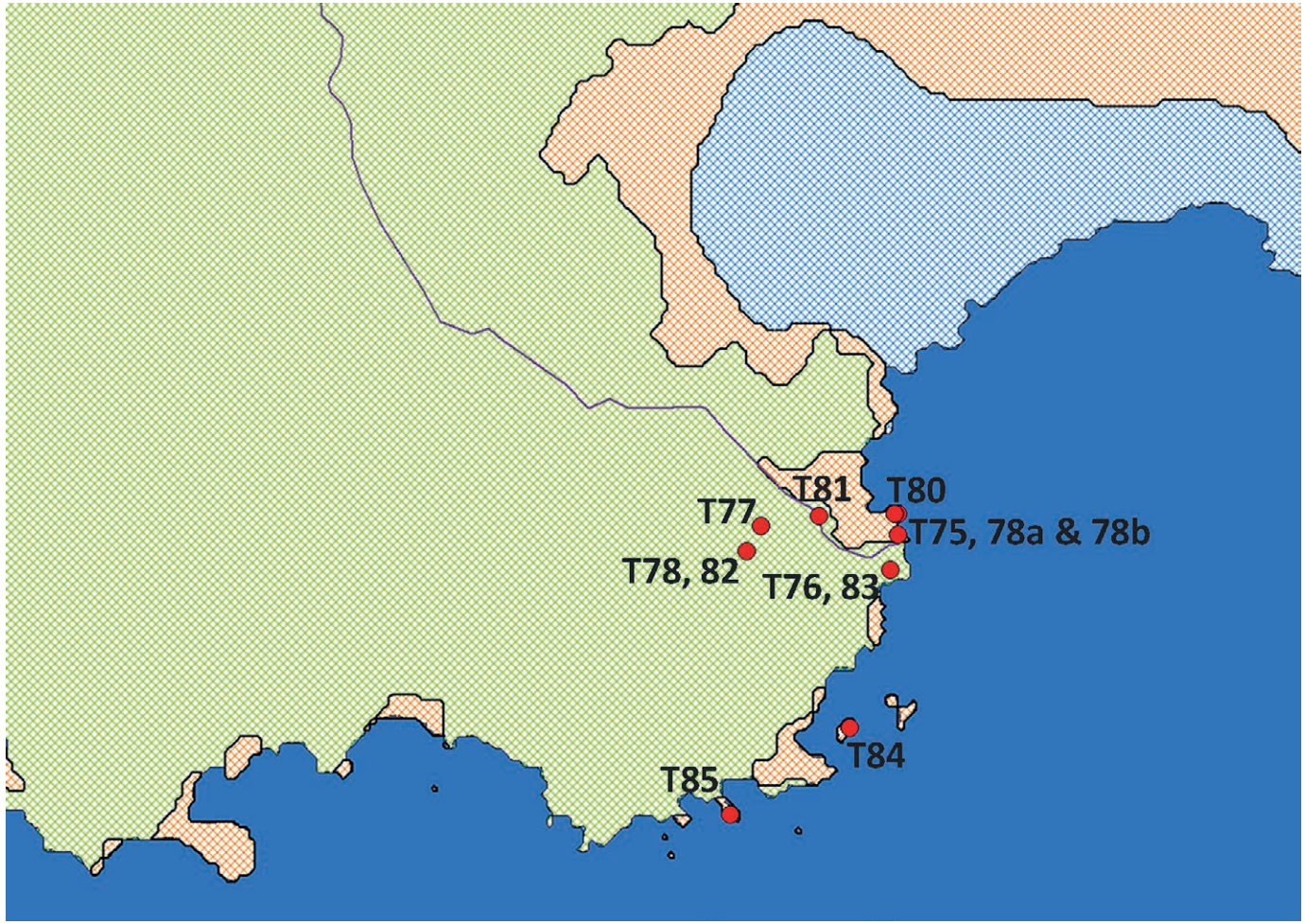
Map 4. Key to Pichi Sermolli's collecting localities. Map showing the surroundings of the southernmost part of the Lake Tana basin around the town of Bahar Dar, which is indicated by the modern network of the town. For vegetation types, see the colour coding in Map 1 and the text. Modern roads are indicated with purple lines, rivers with blue lines and the borders of the floristic areas used in the *Flora of Ethiopia and Eritrea* with black lines. The coding of the collecting localities is the same as the coding in the "Chronological list of collecting localities …"



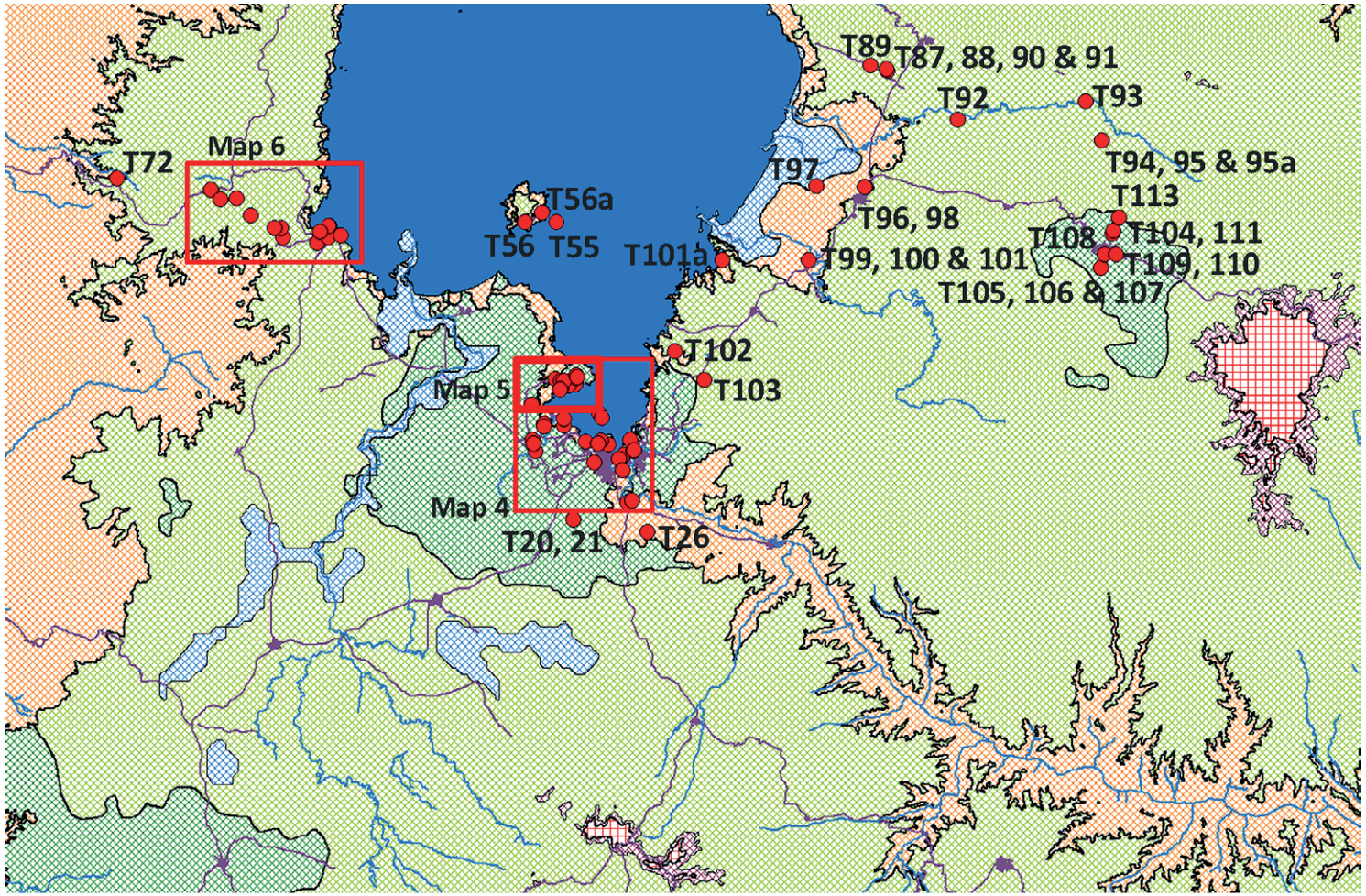
Map 5. Key to Pichi Sermolli's collecting localities. Map showing the surroundings of the village of Furie and the Zegie peninsula in the southwestern part of Lake Tana. For vegetation types, see the colour coding in Map 1 and the text. Modern roads are indicated with purple lines, rivers with blue lines and the borders of the floristic areas used in the *Flora of Ethiopia and Eritrea* with black lines. The coding of the collecting localities is the same as the coding in the "Chronological list of collecting localities ..."



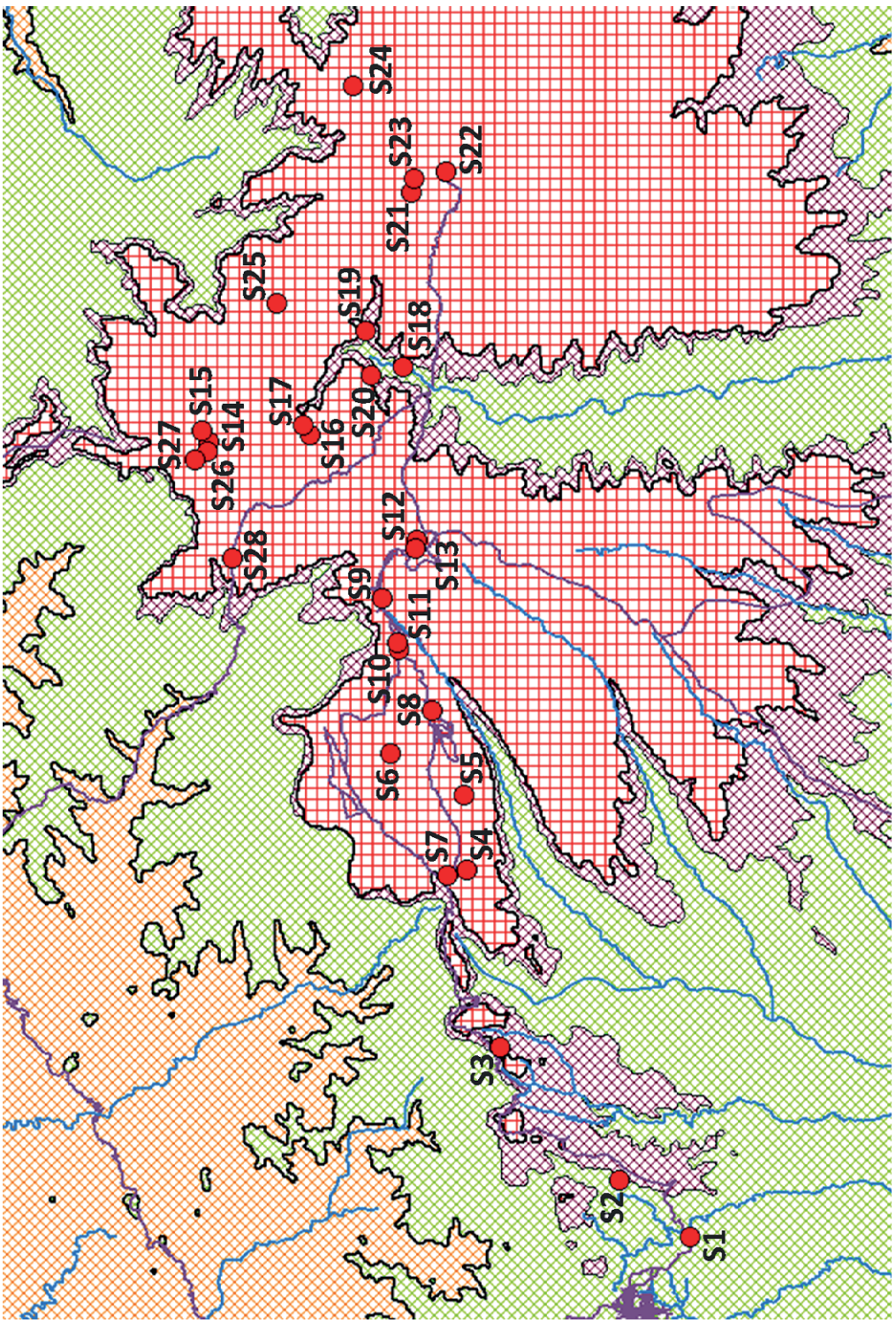
Map 6. Key to Pichi Sermolli's collecting localities. Map showing the area between the villages of Quonzela [Consuela] and Sciaura [Shahura] at the southwestern part of Lake Tana. The westernmost collecting locality in this area is outside the map and shown on Map 3. For vegetation types, see the colour coding in Map 1 and the text. Modern roads are indicated with purple lines, rivers with blue lines and the borders of the floristic areas used in the *Flora of Ethiopia and Eritrea* with black lines. The coding of the collecting localities is the same as the coding in the "Chronological list of collecting localities ..."



Map 7. Key to Pichi Sermolli's collecting localities. Map showing the eastern part of the Gorgora peninsula at the northern edge of Lake Tana. The prominent peninsula in the lower left corner of the map is the site of the ruins of the Portuguese church Maryam Gimp and Susenyos' palace; Pichi Sermolli made no collections there. For vegetation types, see the colour coding in Map 1 and the text. Modern roads are indicated with purple lines, rivers with blue lines and the borders of the floristic areas used in the *Flora of Ethiopia and Eritrea* with black lines. The coding of the collecting localities is the same as the coding in the "Chronological list of collecting localities …"



Map 8. Key to Pichi Sermolli's collecting localities. Map showing the surroundings of the southern part of the Lake Tana basin with the small Abay (left), the gorge through which the Abay drains the lake (southeast) and the areas studied east of the lake towards Debre Tabor and Mount Guna (not visited). For vegetation types, see the colour coding in Map 1 and the text. Modern roads are indicated with purple lines, rivers with blue lines and the borders of the floristic areas used in the *Flora of Ethiopia and Eritrea* with black lines. The coding of the collecting localities is the same as the coding in the "Chronological list of collecting localities ..."



Map 9. Key to Pichi Sermolli's collecting localities. Map showing the surroundings of the Semien Mountains. The red rectangles indicate areas covered by following maps. For vegetation types, see the colour coding in Map 1 and the text. Modern roads are indicated with purple lines, rivers with blue lines and the borders of the floristic areas used in the *Flora of Ethiopia and Eritrea* with black lines. The coding of the collecting localities is the same as the coding in the "Chronological list of collecting localities …" The distance between S21-23 and S24 is not certain

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Plants and vegetation of NW Ethiopia. A new look at Rodolfo E.G. Pichi Sermolli's results from the 'Missione di Studio al Lago Tana', 1937. Pichi Sermolli's work with his more than 2750 collections of plants from nearly 150 localities on the Lake Tana expedition in Ethiopia in 1937 was interrupted by World War II, but completed in 1947 at the Royal Botanic Gardens, Kew, and the British Museum (Natural History), UK. It resulted in preliminary accounts of the vegetation published 1938-40 and a taxonomically arranged account in 1951, all in Italian. Pichi Sermolli's observations are difficult to locate due to the imperfect maps of the time, but in this book the authors have reconstructed the sequence of the collections, georeferenced the localities, and updated the identifications of the species. By reconstructing Pichi Sermolli's observations, it is possible to draw conclusions about the vegetation and compare with a recent model of the vegetation of Ethiopia. According to this, the vegetation of the Lake Tana Basin was a complex mosaic of woodland, scrub, forest, farmland and lake shore vegetation now difficult to interpret in detail. Pichi Sermolli's study of the vegetation in the Semien Mountains demonstrated for the first time the zonation of Ericaceous woodland and Afroalpine vegetation, within which he distinguished *Carex monostachya* bogs, Afroalpine grasslands with *Lobelia rhynchopetalum*, and stony and rocky Afroalpine vegetation. This book interprets Pichi Sermolli's observations in English and compares them with modern knowledge of the region, partly obtained by the present authors' own field work. It demonstrates how Pichi Sermolli's studies form a valuable contribution to the understanding of the Ethiopian flora and vegetation.

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