A Descriptive List

of

The Indigenous Trees of the Uganda Protectorate

By

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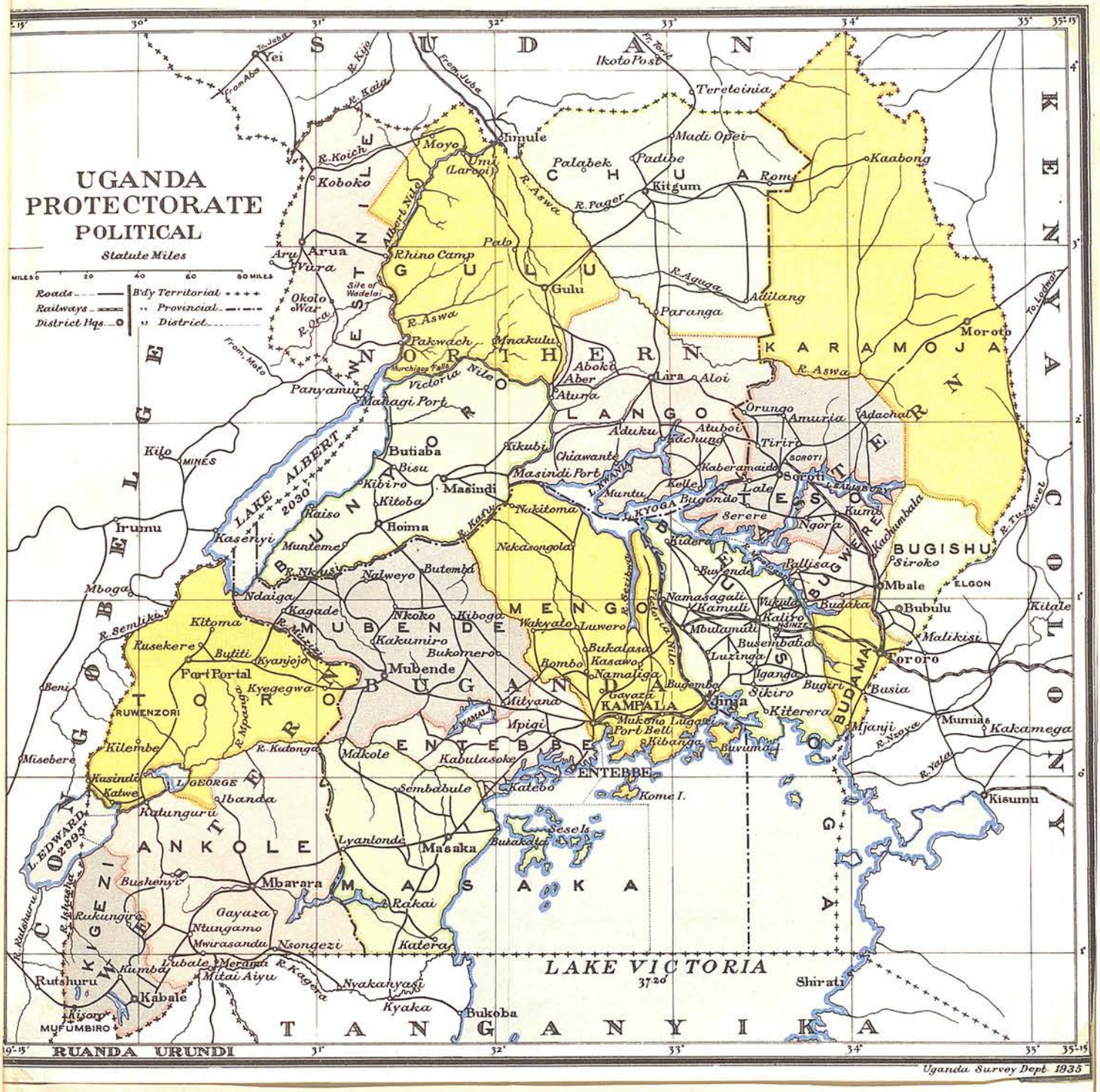
Frontispiece. Tree ferns (Cyathea deckenii Kuhn).

C O N T E N T S.



Map. Uganda Protectorate, Political. 1935.

INTRODUCTION.

On my arrival in Uganda as a Probationary Assistant Conservator of Forests in July 1931 the first task which I was given was that of sorting and classifying the herbarium collection of the Forest Department at Entebbe.

The collection consisted, at that time, of a number of dusty bundles of mounted botanical specimens, some with labels, some without, all stuffed away in the bottom of an unused stationery cupboard. Most of the specimens, of which a large percentage were type numbers, had been collected by Mr. M.T. Dawe in the early years of the century, the majority between 1903 and 1907. Had the whole of Mr. Dawe's collection been available, the herbarium would have been of considerable value but unfortunately many of his specimens had been lost and many others were so ravaged by insects and mould that they had to be destroyed. The value of the herbarium for reference purposes was therefore very small.

Between the date of Mr. Dawe's departure from Uganda in 1910 and the appointment of the present Conservator of Forests, Mr. N.V.Brasnett, in 1929 very little botanical collecting had been done by the staff of the Forest Department. During this period various members of the Agricultural Department had collected steadily but their attention had been devoted chiefly to herbs and undershrubs, relatively few woody species being represented in their collections. The result of this was that even as recently as 1930 deplorably little was known concerning the trees of the Protectorate, whilst, in the absence of authentically determined material for comparison, it was practically impossible to obtain names for any but the very commonest woody species except by sending specimens to Europe for determination.

I have always been interested in plants and my desire to learn something of the trees and shrubs in Uganda was only stimulated the more by the difficulty of obtaining information. Helped by the enthusiasm and interest of the Conservator I began collecting and notetaking within a few days of my arrival in the country and have continued the habit ever since. At the time of writing, after 6½ years

spent in Uganda, excluding furlough, my collection amounts to over 3,800 numbers. My interest has lain chiefly in woody plants but I have not confined my attention to these, and a good half of my sheets are of herbs and undershrubs.

It is no exaggeration to say that my collection has added greatly to our knowledge of the flora of Uganda, containing as it does plants from every administrative district in the Protectorate, many of them from areas previously unvisited botanically. Practically all the specimens have been named at Kew.

From time to time as I have learnt more about my subject I have written various pamphlets and articles relating to plants and vegetation in Uganda, of which the following are the most important -:

(1) Notes on the Flora and Fauna of a Uganda Swamp. Uganda Journal, Vol.I, pp. 51-60. 1933.

(2) The Mimosaceae of Uganda. Uganda Forest Department Bulletin No.1, pp. 1-20. 1934.

(3) Native Names of Trees and Shrubs of Uganda. Uganda Forest Department Bulletin No.2, pp. 1-14. 1934.

(4) Ambatch and African Blackwood and some other Light and Heavy Uganda Woods. Uganda Journal, Vol.II, pp. 278-283. 1934.

(5) The Vegetation of Namanve Swamp, Uganda. The Journal of Ecology, Vol.XXIII: 2, pp. 422-435. 1935.

(6) The Savannah and Mountain Forests of South Karamoja, Uganda. Imperial Forestry Institute Paper No.11, pp. 1-14. Oxford, 1938.

(7) A Plant Collection from Karamoja. Uganda Journal, Vol.VI, pp. 43-53. 1938.

(8) Fifteen Uganda Timber Trees, being Vol. IV of Forest Trees and Timbers of the British Empire, a series edited by Dr. J.Burtt Davy and Dr. L. Chalk of the Imperial Forestry Institute, Oxford. (Part author, responsible for botanical sections). In press.

In 1934, the staff of the botanical department of the Imperial Forestry Institute compiled a Check-List of Uganda trees and shrubs, typed copies of which were issued to the Uganda Forest Department for the incorporation of local data. In the revision of this list I was fortunate enough to be asked to collaborate, and in checking the records as far as was possible in Uganda, my knowledge of the trees of the Protectorate was greatly increased. The revised list was published

in 1935 under the title Check-List of the Forest Trees and Shrubs of the British Empire : No.1, Uganda Protectorate.

The Check-List, out of date though it now is, has served its purpose well. It was compiled partly to stimulate interest in the flora of the Protectorate and partly, as explained by Dr. J.Burtt Davy in his introduction, to bring to light the lacunae in our knowledge of the plants with which it deals, and to form a basis for the rectification of errors and the collection of additional information. All of this it has done.

A review of the list, appearing in The Empire Forestry Journal over the initials E.O.S., contained the following remarks -:

> "It may be some time before the botanists of Uganda have collected sufficient material for a flora, but the present list suggests that they are not far off having enough information for a good descriptive list of trees alone. ----- Such a list with a vernacular index and, if possible, some line-drawings in the text, might be of more value to many foresters than a flora."

It was this review, published in 1935, which first suggested to me the idea of writing a descriptive list of the trees of Uganda, and with this end in view I collected even more extensively than previously for the next two years. In April 1937 I began the actual writing of this thesis, which has taken almost exactly two years to complete. By far the greater part of it has been written in my spare time.

Owing to the fact that all my work has been carried out in Uganda, remote both from herbaria where type specimens can be consulted and from libraries where type descriptions and general information can be obtained, the thesis is not as authoritative as I should like it to be.

On the assumption that the Senatus of the University will agree to the publication of this work, the Government of Uganda has voted a sum of money for its printing in 1939, irrespective of whether it is successful as a thesis or not. Before publication I hope to visit Europe on leave and to be able to visit the leading herbaria in England with a view to clearing up a number of doubtful points.

Notes on thesis -:

Scope.

It was my original intention to describe in detail (without reference to other works) only those species with which I was myself acquainted, giving only very short notes concerning those species which I had not met. Whilst such a treatment might have something to commend it in a work regarded purely as a thesis, it obviously limited the value of a work intended for publication as a reference book. I have therefore modified my original intention greatly and have included all the authoritative information concerning botanical descriptions, habits, field characters and uses, on which I could lay my hands. In other words this book is, in part, a compilation. In cases where all the families, genera or species being dealt with are not available for scrutiny, botanical keys are notoriously difficult to construct. I have had no hesitation, therefore, in borrowing widely from the keys contained in published works, notably the Flora of Tropical Africa, the Flora of West Tropical Africa, and Hutchinson's Families of Flowering Plants.

In order to avoid interruption of the text by quotation marks and bracketed reference, I have not indicated borrowed references in the body of the work, even when, as is often the case, such information has been quoted almost verbatim.

The chief sources of reference are indicated in the Bibliography, those from which I have borrowed most freely being indicated by asterisks. The most useful works (which should be in the library of every Forest Officer in Uganda), are indicated by double asterisks. To all the authors I wish to express my indebtedness.

The usual difficulty has been experienced in deciding what species to include and what to exclude; i.e. as to where shrubs end and trees begin. Such a decision must always be largely a matter of personal opinion, and in such cases there will always be divergent views. In general I have preferred to err on the side of inclusion rather than of exclusion but it is quite possible that a number of plants which I have encountered only as shrubs do sometimes occur as trees. In all I have described 635 species (excluding varieties), 559

of which I have collected myself

Arrangement.

The arrangement of this book is alphabetical. The families follow each other in alphabetical order, the genera are arranged alphabetically within the family and the species alphabetically within the genera. Botanists would no doubt prefer an arrangement on phylogenetic lines but there can be little doubt that for quick reference the alphabetical arrangement is best. Since, however, both the chief herbaria in Uganda are arranged phylogenetically according to the classification proposed by Hutchinson in The Families of Flowering Plants, I have quoted the number of the family in Hutchinson's arrangement at the top of each page of this book, a procedure which should facilitate reference.

Citation of Specimens.

In all cases where a species is represented in my own collection and has therefore been readily available to me for examination, I have cited that specimen in preference to any other. In cases where I have not collected a plant myself I have cited some specimen of another collector whose material I have examined, or a description of whose specimen I have seen.

Synonyms.

No attempt has been made to give the full synonymy of any of the species dealt with but if a plant has been known in Uganda by any name other than the correct one I have indicated whether that name is a synonym or a misidentification.

Spelling.

All specific epithets have been decapitalized in conformity with the practice adopted by the Imperial Forestry Institute, Oxford, and in accordance with Resolution VIII b. (Botanical Orthography) of the Fourth Empire Forestry Conference, 1935.

Vernacular, European and Trade Names.

Although the average African is acquainted with the local names of a larger number of the plants of his native country than is the average European,

his application of the names to the plants is not sufficiently accurate for a vernacular name to be a consistently reliable means of identifying a given species. At the same time a vernacular name is frequently a useful check on an identification arrived at in other ways, and as such can have considerable value.

In this book I have included only those vernacular names which are of proved application and have been confirmed by at least three independent observers. Had I included all the vernacular names recorded in my notebooks the glossary at the end of this work would have been at least six times as long as it is. But many dubious applications would have been included and the value of the name as a check on identification would have been lost.

No new European names have been coined. Those given are in general use either in Uganda or in other parts of Africa.

The Trade Names for timbers are those recommended by the Empire Forestry Association in the Empire Forestry Handbook, 1938.

Distribution.

The distribution of each species is shown by listing the administrative districts in which it is known to occur. The type of country which the plant frequents within the District is indicated in the text.

All Districts are shown on the map.

Our knowledge of the species occurring in certain areas is still lamentably scanty, especially so as regards Mubende, Bugwere and Budama Districts where little botanical collecting has been done.

Illustrations. (Included with original typescript only).

If the line drawings which accompany this work assist in any way in the identification of the species which they purport to portray they will have served their purpose. I am well aware of their inadequacy but have included them in the belief that even a poor drawing is generally better than none. The drawings seek to convey an impression; they do not pretend to be accurate in detail.

Although all the drawings have been sketched by me from my own specimens, my presentation of them owes much to the illustrations in Lely, The Useful Trees of Northern Nigeria; in Crowfoot, Flowering

Flowering Plants of the Northern and Central Sudan; and in Hutchinson & Dalziel Flora of West Tropical Africa, to which acknowledgement is here made.

The photographs are my own; the map is that which faces page 225 of Uganda (Thomas & Scott, Oxford. 1935).

Acknowledgements.

My chief debt of gratitude is to the authorities at the Kew Herbarium, not only for identifying the major part of my collection but also for many critical re-examinations of plants collected by Messrs Bagshawe, Dawe and others many years ago — specimens of which no duplicates are available in Uganda. I am also indebted to Kew for information as to the distribution of various species and for answering, confirming or disproving, as the case might be, numerous questions and suggestions of mine regarding the correct determination of Uganda plants.

It is with pleasure that I acknowledge my gratitude to Dr.J.Burtt Davy of the Imperial Forestry Institute at Oxford for his unfailing kindness in supplying me with copies of type descriptions not available in Uganda, and for a number of critical determinations. A similar debt of thanks is owed to members of the Department of Botany of the British Museum, Natural History.

In Uganda I have to thank Messrs. Hansford, Thomas and Chandler of the Agricultural Department for sending me at regular intervals, at considerable inconvenience to themselves, all the specimens of woody plants in the departmental herbarium and for gathering together for me much scattered information.

To Mr. N.V. Brasnett, Conservator of Forests, I owe more than I can adequately express. Had it not been for his encouragement I would never have begun this thesis, and it is largely due to his continous help and support that I have been enabled to finish it.

I wish also to thank Mrs. B.H. Tothill for many helpful suggestions, and Mr. R.G. Sangster for reading through the manuscript and for assistance in compiling the index.

The typing has been done by my sister Miss Minnie Eggeling and by Mr. M.K. Isyabi, African Clerk, to both of whom I tender thanks.

B. Sc. (For.) Edin.

20th March, 1939.

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(3) Kew Bulletin of Miscellaneous Information, London.

Abbreviations of above used in the text -:

F.T.A.	-	Flora of Tropical Africa.
F.W.T.A.	-	Flora of West Tropical Africa.
Leg.Trop. Afr.	-	Leguminosae of Tropical Africa.
Rev.Zool.Bot.Afr.	-	Revue de Zoologie et du Botanique Africaines.

LIST OF ILLUSTRATIONS

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* KEY TO THE FAMILIES.

*Mainly adapted from Hutchinson, The Families of Flowering Plants and Hutchinson & Dalziel, Flora of West Tropical Africa.

1. Foliage fern-like; reproduction by spores (Tree ferns) ---------- Cyatheaceae

   Foliage not fern-like; reproduction by seeds-- 2.

2. Ovules enclosed in a closed ovary (ANGIOSPERMAE) ---------- 5.

   Ovules not enclosed in an ovary(GYMNOSPERMAE)-- 3.

GYMNOSPERMAE

3. Leaves pinnate, circinate in bud; fruit a large cone (Encephalartos) ---------- Cycadaceae

   Leaves simple, not circinate in bud; fruit not a large cone ---------- 4.

4. Mature leaves scale-like; fruit berry-like; male flowers not in catkins (Juniperus) ---- Cupressaceae

   Mature leaves not scale-like; fruit not berry-like; male flowers in catkins (Podocarpus)-- Podocarpaceae

ANGIOSPERMAE

5. Leaves usually parallel-veined; flower-parts usually in threes or sixes; cotyledon one (MONOCOTYLEDONES) ---------- 6.

   Leaves usually net-veined; flower-parts usually in fours or fives or multiples of these numbers, very rarely (Annonaceae) in threes or sixes; cotyledons two, rarely more (DICOTYLEDONES) ---------- 10.

MONOCOTYLEDONES

6. Perianth present, or if small or very reduced or absent then flowers not accompanied by scaly bracts ---------- 7.

   Perianth absent or represented by minute scales; flowers minute, enclosed by a bract and bracteole, arranged in spikelets in the axils of scaly bracts (Bamboos) ---------- Gramineae

7. Perianth absent (Pandanus) ---------- Pandanaceae

   Perianth present ---------- 8.

8. Perianth composed of similar or subsimilar segments in 1-2 series, usually very conspicuous and petaloid ---------- 9.

   Perianth sometimes composed of separate calyx and corolla (the former often green, the latter

usually petaloid), sometimes both series sepaloid and chaffy and much reduced (Palms) ---------- Palmae

9. Leaves noticeably thick and fleshy, sharply toothed on the margins; fruit a capsule (Aloë) ---------- Liliaceae

Leaves not especially thick and fleshy, not toothed on the margin; fruit a berry (Dracaena) ---------- Agavaceae

DICOTYLEDONES.

10. Gynaecium composed of 2 or more separate or nearly separate styles and stigmas ---- 11.

Gynaecium composed of 1 carpel or 2 or more united carpels with free or united styles, or if carpels free below then the styles or stigmas united ---------- 12.

11. Petals present, free from each other, sometimes considerably modified or scarcely distinguishable from the sepals ---------- 18.

Petals absent ---------- 19.

12. Ovules attached to the wall or walls of the ovary ---------- 13.

Ovules attached to the central axis or to the base of apex of the ovary-cell ---------- 15.

13. Ovary superior ---------- 14.

Ovary inferior (Rubiaceae) ---------- 55.

14. Petals present, free from each other ---------- 20.

Petals present, more or less united ---------- 39.

Petals absent ---------- 47.

15. Ovary superior ---------- 16.

Ovary inferior ---------- 17.

16. Petals present, free from each other ---------- 56.

Petals present, more or less united ---------- 99.

Petals absent ---------- 120.

17. Petals present, free from each other ---------- 142.

Petals present, more or less united ---------- 153.

Petals absent ---------- 157.

GROUP 1. - Two or more free carpels; petals present, free from each other.

18. Leaves stipulate ---------- Rosaceae
Leaves exstipulate ---------- Annonaceae

GROUP 2. - Two or more free carpels; petals absent.

19. Leaves stipulate; stamens united into a column Sterculiaceae
Leaves exstipulate; stamens free ---------- Monimiaceae

GROUP 3. - One carpel or more than one united carpels; ovules on the walls of the ovary; ovary superior; petals present, free from each other.

20. Leaves opposite ---------- 21.
Leaves alternate ---------- 22.

21. Stamens more or less united into 3 or more separate bundles ---------- Hypericaceae
Stamens free or more or less united into not more than 2 separate bundles ---------- Samydaceae

22. Stamens numerous (more than 12) ---------- 23.
Stamens 12 or fewer ---------- 32.

23. Filaments united into 1 or two unequal bundles Mimosaceae
Filaments free or at most partially adnate to a gynophore ---------- 24.

24. Ovary stipitate ---------- 25.
Ovary sessile or subsessile ---------- 26.

25. Leaves simple or digitate ---------- Capparidaceae
Leaves pinnate or pinnately trifoliolate ---- Papilionaceae

26. Anthers opening by terminal pores --------- Ochnaceae
Anthers opening by longitudinal slits ------ 27.

27. Flowers regular ---------- 28.
Flowers irregular ---------- 31.

28. Leaves stipulate, the stipules sometimes falling off early but leaving a scar ---- 29.
Leaves exstipulate or apparently so -------- Flacourtiaceae

29. Corona present ---------- Passifloraceae
Corona absent ---------- 30.

30. Stamens and petals hypogynous ---------- Flacourtiaceae
Stamens and petals perigynous ---------- Rosaceae

31. Odd petal adaxial; corolla papilionaceous (composed of standard, wings and keel) ---- Papilionaceae

Odd petal abaxial; corolla not papilionaceous ---------- Caesalpiniaceae

32. Flowers regular ---------- 33.

Flowers irregular ---------- 37.

33. Stamens completely united into a column; leaves pellucid-punctate ---------- Canellaceae

Stamens free or united only at the base or rarely only the anthers connivent; leaves not punctate ---------- 34.

34. Leaves stipulate ---------- 35.

Leaves exstipulate ---------- 36.

35. Connective produced above the anther-cells- Violaceae

Connective not produced above the anther-cells ---------- Ochnaceae

36. Leaves simple ---------- Pittosporaceae

Leaves pinnate or pinnately trifoliolate-- Anacardiaceae

Leaves bipinnate ---------- Mimosaceae

37. Leaves simple or digitate ---------- Capparidaceae

Leaves pinnate, pinnately trifoliolate or imparipinnate; rarely simple and deeply bilobed or unifoliolate ---------- 38.

38. Adaxial petal inside the others in bud --- Caesalpiniaceae

Adaxial petal outside the others in bud--- Papilionaceae

GROUP 4. One carpel or more than one united carpel; ovules on the walls of the ovary; ovary superior; petals present, more or less united.

39. Stamens free from the corolla-tube ------- 40.

Stamens inserted on the corolla-tube ------ 44.

40. Ovary composed of a single carpel -------- 41.

Ovary composed of two or more carpels ----- 43.

41. Flowers regular ---------- Mimosaceae

Flowers irregular ---------- 42.

42. Adaxial petal inside the others in bud ---- - Caesalpiniaceae
Adaxial petal outside the others in bud ----- Papilionaceae

43. Stamens 5 ---------- Pittosporaceae
Stamens numerous, more than 5 ---------- Annonaceae

44. Stamens fewer than the corolla-lobes -------- Bignoniaceae
Stamens the same number as the corolla-lobes- 45.

45. Carpels free or almost free ---------- 46.
Carpels connate into a 1- or 2-celled ovary-- Verbenaceae

46. Corona present ---------- Asclepiadaceae
Corona absent ---------- Apocynaceae

GROUP 5. - One carpel or more than one united carpels; ovules on the walls of the ovary; ovary superior; petals absent.

47. Flowers in dense heads surrounded by an involucre of imbricate bracts ---------- Proteaceae
Flowers not in dense heads surrounded by an involucre of imbricate bracts ---------- 48.

48. Ovary composed of 1 carpel ---------- 49.
Ovary composed of 2 or more carpels -------- 52.

49. Stamens numerous, more than 10 ---------- Papilionaceae
Stamens 10 or fewer ---------- 50.

50. Flowers hermaphrodite ---------- Caesalpiniaceae
Flowers unisexual or polygamous ---------- 51.

51. Flowers solitary or cymose or fasciculate --- Ulmaceae
Flowers on or within an enlarged usually fleshy receptacle or in catkins or heads--- Moraceae

52. Fruit stipitate ---------- Capparidaceae
Fruit sessile ---------- 53.

53. Inflorescence a catkin ---------- Salicaceae
Inflorescence not a catkin ---------- 54.

54. Perianth and stamens perigynous; staminodes present ----------p Samydaceae
Perianth and stamens hypogynous; staminodes ~~present~~ absent ---------- Flacourtiaceae

GROUP 6. - One carpel or more than one united carpels; ovules on the walls of the ovary; ovary inferior; petals present, more or less united.

55. Only tree-family represented in this group in Uganda-- Rubiaceae

GROUP 7. - One carpel or more than one united carpels; ovules attached to the central axis or to the base or apex of the ovary-cell; ovary superior; petals present, free from each other.

56. Perfect stamens the same number as the petals and opposite to them ---------- 57.

Perfect stamens the same number as the petals and alternate with them or more numerous, very rarely fewer ---------- 58.

57. Leaves gland-dotted ---------- Myrsinaceae

Leaves not gland-dotted ---------- Rhamnaceae

58. Flowers markedly zygomorphic ---------- 59.

Flowers actinomorphic or only very slightly zygomorphic ---------- 61.

59. Stamens more than 12 ---------- Rosaceae

Stamens 8 or fewer ---------- 60.

60. Lower sepal subsaccate; leaves pinnate; anthers opening lengthwise ---------- Melianthaceae

Lower sepal not saccate; leaves simple; anthers opening by apical pores ---------- Polygalaceae

61. Stamens united into ~~more than one~~ several separate bundles often opposite the petals ---------- 62.

Stamens free or sometimes more or less united at the base or into one bundle ---------- 64.

62. Leaves alternate ---------- Sterculiaceae

Leaves opposite ---------- 63.

63. Styles free from the base or nearly so ---------- Hypericaceae

Styles more or less united or stigma one and sessile ---------- Guttiferae

64. Leaves opposite or verticillate or rarely fasciculate ---------- 65.

Leaves alternate ---------- 68.

65. Stamens more than twice as many as the petals 66.

Stamens not more than twice as many as the petals ---------- 67.

66. Flowers unisexual; anthers inflexed in bud --- Euphorbiaceae

Flowers hermaphrodite; anthers not inflexed in bud --- Rhizophoraceae

67. Flowers unisexual --- Euphorbiaceae

Flowers hermaphrodite --- Celastraceae

68. Stamens more than twice as many as the sepals or petals --- 69.

Stamens definite in number in relation to the sepals or petals, often the same number or twice as many or fewer --- 78.

69. Sepals valvate or open in bud --- 70.

Sepals imbricate or rarely connate or calyptrate --- 74.

70. Anthers 1-celled --- Bombacaceae

Anthers 2-celled --- 71.

71. Stamens more or less united into a tube or into separate bundles --- Sterculiaceae

Stamens free or slightly united only at the base --- 72.

72. Leaves exstipulate --- Anacardiaceae

Leaves stipulate --- 73.

73. Flowers unisexual --- Euphorbiaceae

Flowers hermaphrodite --- Tiliaceae

74. Leaves simple --- 75.

Leaves compound or rarely unifoliolate and then with a tumid petiole --- 77.

75. Leaves exstipulate --- Theaceae

Leaves stipulate --- 76.

76. Disk present --- Euphorbiaceae

Disk absent --- Flacourtiaceae

77. Wood with resin ducts; leaves scented; style or stigma often excentric --- Anacardiaceae

Wood not resinous; leaves not or rarely scented; style or stigma central --- Sapindaceae

78. Leaves compound or rarely unifoliolate and then with a tumid petiole --- 79.

Leaves simple --- 87.

79.	Stamens united into a tube	80.
	Stamens free or united only at the base	81.
80.	Leaves stipulate	Melianthaceae
	Leaves exstipulate	Meliaceae
81.	Leaves stipulate	Melianthaceae
	Leaves exstipulate	82.
82.	Leaves gland-dotted	Rutaceae
	Leaves not gland-dotted	83.
83.	Ovules ascending or horizontal	84.
	Ovules pendulous	85.
84.	Ovary of 1 carpel	Connaraceae
	Ovary of more than 1 carpel	Sapindaceae
85.	Leaflets 2	Simarubaceae
	Leaflets more than 2	86.
86.	Ovary of 1 carpel	Anacardiaceae
	Ovary of more than 1 carpel	87.
87.	Wood resinous	Burseraceae
	Wood not resinous	Simarubaceae
88.	Anthers opening by valves	Hamamelidaceae
	Anthers opening by apical pores	Ochnaceae
	Anthers opening by slits lengthwise	89.
89.	Leaves stipulate	90.
	Leaves exstipulate	94.
90.	Flowers unisexual	91.
	Flowers hermaphrodite	92.
91.	Stipules conspicuous, persistent	Euphorbiaceae
	Stipules very inconspicuous, caducous	Celastraceae
92.	Stipules axillary	93.
	Stipules not axillary	Celastraceae
93.	Stipules small; ovary 3-celled; petals appendaged inside	Erythroxylaceae

Stipules large; ovary 2-celled; petals not appendaged inside ---------- Simarubaceae

94. Stamens united into a tube ---------- Meliaceae

Stamens free or connate only at the base ---- 95.

95. Stamens very distinctly perigynous ---------- Thymelaeaceae

Stamens hypogynous or very slightly perigynous ---------- 96.

96. Stamens the same number as the petals ------ Icacinaceae

Stamens double the number of the petals or if fewer only by the abortion of some anthers- 97.

97. Ovary 1-celled ---------- Anacardiaceae

Ovary 2-or more-celled ---------- 98.

98. Flowers hermaphrodite ---------- Olacaceae

Flowers polygamous-dioecious ---------- Sapindaceae

GROUP 8. - One carpel or more than one united carpels; ovules attached to the central axis or to the base or apex of the ovary-cell; ovary superior; petals present, more or less united.

99. Stamens the same number as and opposite the corolla-lobes ---------- 100.

Stamens the same number as the corolla-lobes and alternate with them, or more numerous, or fewer ---------- 102.

100. Ovules 2 or more in each ovary-cell; style undivided ---------- Myrsinaceae

Ovules solitary in the whole ovary or in each cell of the ovary; style often lobed ------ 101.

101. Petals imbricate ---------- Sapotaceae

Petals valvate ---------- Olacaceae

102. Stamens more than twice as many as the corolla-lobes ---------- 103.

Stamens as many as or up to twice as many as the corolla-lobes or fewer ---------- 104.

103. Disk absent; leaves exstipulate ---------- Ebenaceae

Disk present; leaves usually stipulate ------ Euphorbiaceae

104. Stamens as many as or more than the corolla-lobes ---------- 105.

Stamens fewer than the corolla-lobes ------ 117.

105. Leaves opposite or verticillate, mostly exstipulate ---------- 106.
Leaves alternate ---------- 111.

106. Anthers opening by apical pores or pore-like slits ---------- Ericaceae
Anthers opening by longitudinal slits ------- 107.

107. Corona present ---------- Asclepiadaceae
Corona absent ---------- 108.

108. Style ~~simple~~, with a single stigma --------- 109.
Style with more than 1 separate stigma ------ 110.

109. Leaves stipulate ---------- Loganiaceae
Leaves exstipulate ---------- Apocynaceae

110. Stamens the same number as the corolla-lobes- Verbenaceae
Stamens double the number of the corolla-lobes ---------- Ebenaceae

111. Leaves stipulate, the stipules sometimes soon falling off ---------- Euphorbiaceae
Leaves exstipulate ---------- 112.

112. Stamens inserted on or adnate to the corolla-tube ---------- 113.
Stamens free from the corolla or slightly adnate to its base ---------- 114.

113. Ovules 1-4 in each ovary-cell ---------- Boraginaceae
Ovules numerous in each ovary-cell --------- Solanaceae

114. Anthers opening by terminal pores ---------- Ericaceae
Anthers opening by longitudinal slits ------- 115.

115. Leaves compound ---------- Connaraceae
Leaves simple ---------- 116.

116. Corolla-tube long ---------- Ebenaceae
Corolla-tube very short ---------- Aquifoliaceae

117. Flowers zygomorphic ---------- Bignoniaceae
Flowers actinomorphic ---------- 118.

118. Peduncle of inflorescence adnate to the petiole ---------- Chailletiaceae

Peduncle of inflorescence not adnate to the petiole ---------- 119.

119. Disk present; stamens 4 ---------- Verbenaceae

Disk absent; stamens 2 ---------- Oleaceae

GROUP 9. - One carpel or more than one united carpels; ovules attached to the central axis or to the base or apex of the ovary-cell; ovary superior; petals absent.

120. Calyx absent from the hermaphrodite and often from the female flowers ---------- 121.

Calyx always present ---------- 123.

121. Flowers surrounded by an involucre margined by fleshy glands; male flowers several to numerous (each consisting of a single stamen), with a single female often stalked flower in their midst ---------- Euphorbiaceae

Flowers not as above ---------- 122.

122. Leaves stipulate ---------- Moraceae

Leaves exstipulate ---------- Myricaceae

123. Leaves opposite or verticillate ---------- 124.

Leaves alternate ---------- 129

124. Leaves exstipulate ---------- Euphorbiaceae

Leaves stipulate ---------- 125.

125. Flowers hermaphrodite or polygamous ---------- Ulmaceae

Flowers unisexual ---------- 126.

126. Ovary 2-or more-celled, often deeply lobed --- Euphorbiaceae

Ovary 1-celled, usually not lobed ---------- 127.

127. Ovule erect ---------- Moraceae

Ovule pendulous ---------- 128.

128. Filaments erect or inflexed in bud ---------- Moraceae

Filaments not inflexed in bud ---------- Ulmaceae

129. Leaves stipulate ---------- 130.

Leaves exstipulate ---------- 136.

130. Stamens monadelphous ---------- 131.

Stamens free or shortly connate only at the base ---------- 132.

131. Flowers unisexual or polygamous; hairs usually stellate ---------- Sterculiaceae

Flowers always unisexual; hairs often simple- Euphorbiaceae

132. Stamens the same number as the sepals and alternate with them ---------- Rhamnaceae

Stamens the same number as the sepals and opposite to them, or more numerous or fewer ---------- 133.

133. Flowers hermaphrodite ---------- Rosaceae

Flowers unisexual ---------- 134.

134. Ovary 3-celled; composed of 3 carpels ------ Euphorbiaceae

Ovary 2-celled, composed of 2 carpels ------ Hamamelidaceae

Ovary 1-celled, composed of 1 carpel ------ 135.

135. Leaves urticating ---------- Urticaceae

Leaves not urticating ---------- Moraceae

136. Stamens more or less connate into a central column ---------- Myristicaceae

Stamens free or the filaments shortly connate only at the base ---------- 137.

137. Stamens distinctly perigynous ---------- 138.

Stamens hypogynous or slightly perigynous if accompanied by a disk ---------- 139.

138. Calyx long and petaloid; anthers opening by slits ---------- Proteaceae

Calyx short; anthers opening by valves ------ Lauraceae

139. Flowers arranged in an involucre margined by glands; male flowers reduced to a single stamen, the female to a single stipitate ovary ---------- Euphorbiaceae

Flowers not as above; stamens more than 1 --- 140.

140. Leaves glandular; flowers in catkin-like spikes or racemes ---------- Myricaceae

Leaves not glandular; flowers not in catkin-like spikes or racemes ---------- 141.

141. Ovules solitary, pendulous; seed with a straight embryo ---------- Euphorbiaceae

Ovules 2 in each cell, collateral or the lower ascending; embryo spirally twisted ---------- Sapindaceae

GROUP 10. - One carpel or more than one united carpels; ovules attached to the central axis or to the base or apex of the ovary-cell; ovary inferior; petals present, free from each other.

142. Leaves opposite or verticillate ---------- 143.

Leaves alternate ---------- 148.

143. Leaves stipulate ---------- Rhamnaceae

Leaves exstipulate ---------- 144.

144. Stamens numerous; leaves gland-dotted ------ Myrtaceae

Stamens as many as to twice as many as the petals; leaves not gland-dotted ---------- 145.

145. Anthers opening by terminal pores; leaves parallel-nerved ---------- Melastomaceae

Anthers opening by longitudinal slits ------ 146.

146. Fruit winged ---------- Combretaceae

Fruit not winged ---------- 147.

147. Ovules up to 3 in each cell; petals with alternating scales ---------- Oliniaceae

Ovules solitary; petals without alternating scales ---------- Cornaceae

148. Flowers unisexual ---------- Hamamelidaceae

Flowers hermaphrodite or polygamous ------- 149.

149. Leaves compound ---------- 150.

Leaves simple ---------- 151.

150. Fruit a berry or drupe ---------- Araliaceae

Fruit composed of 2 indehiscent mericarps Umbelliferae

151. Leaves stipulate ---------- Rhamnaceae

Leaves exstipulate ---------- 152.

152. Petals valvate, loriform ---------- Alangiaceae

Petals imbricate, not loriform ---------- Combretaceae

GROUP 11. - One carpel or more than one united carpels; ovules attached to the central axis or to the base or apex of the ovary-cell; ovary inferior; petals present, more or less united.

153.	Leaves opposite ----------	154.
	Leaves alternate ----------	156.
154.	Leaves stipulate ----------	Rubiaceae
	Leaves exstipulate ----------	155.
155.	Anthers free from each other; leaves gland-dotted ----------	Myrtaceae
	Anthers mostly connivent around the style; leaves not gland-dotted ----------	Compositae
156.	Flowers in heads surrounded bya common involucre ----------	Compositae
	Flowers not in heads ----------	Myrsinaceae

GROUP 12. - One carpel or more than one united carpels; ovules attached to the central axis or to the base or apex of the ovary-cell; ovary inferior; petals absent.

157.	Leaves exstipulate ----------	Combretaceae
	Leaves stipulate ----------	158.
158.	Flowers hermaphrodite ----------	Rhamnaceae
	Flowers unisexual ----------	159.
159.	Ovary 1-celled ----------	Moraceae
	Ovary 2-celled ----------	Hamamelidaceae

.x. The figure following the name of the family on the top line of each page is the number of the family in Hutchinson The Families of Flowering Plants. It is given to facilitate reference in herbaria.

AGAVACEAE

DRACAENA

Leaves linear, laxly disposed, up to 12 in. long and 1½ in. broad ---------- D. afromontana

Leaves lanceolate to linear-lanceolate, crowded, up to about 3 ft. long and 4½ in. broad ---------- D. steudneri

DRACAENA AFROMONTANA Mildbr. Dawe 617

Understorey shrub or tree, usually 12-20 ft. high, occasionally attaining 40 ft. Stems much-branched, usually only an inch or two thick, sometimes as much as 1 ft. thick. Branches drooping. Leaves very dark green. Flowers white, tinged with red outside, in lax terminal panicles up to 1 ft. long; perianth lobes 3 times as long as the tube. Berries globose, ⅓-½ in. diam., red when ripe.

Kigezi; Toro; Bugishu. In mountain forest; 7-8,000 ft.

We include here Snowden 804, 1591 originally determined as D. sp. near mannii Bak. and D. mannii Bak. respectively; also Dawe 617, Snowden 261, Scott Elliot 7899, 8009, Liebenberg 877, Fishlock and Hancock 34, Dummer 3604, and Mahon s.n., all originally determined as D. reflexa Lam. var. nitens Bak.

DRACAENA STEUDNERI Schweinf. Eggeling 3158.

Synonym. D. papahu Engl.

Kajolyanjovu (Luganda); Omugorogora (Lunyoro, Ankole dialect).

Tree 20-40 ft. high (rarely 60 ft. high), branched at a narrow angle to the stem. Trunk swollen and conical at the base. Bark grey-brown to reddish. Panicles terminal, up to 2 ft. long; flowers white or yellow-white, in glomerules on the branches of the panicles; perianth-lobes as long as the tube. Berries globose, about ½ in. diam., ~~black~~ black when ripe.

Mengo; Entebbe; Kigezi; Ankole; Toro; Bunyoro; Chua; Lango; Bugishu. On the edge of forest and in secondary scrub; 3,500-6,000 ft.

AGAVACEAE (313)

We include here Snowden 1821, 2017 and Scott Elliot 7829 originally determined as D. fragrans (L.) Ker - Gawl.

ALANGIACEAE

ALANGIUM

ALANGIUM CHINENSE (Lour.) Rehder Eggeling 1558, 3266

Synonyms. Marlea begoniaefolia Roxb.; Alangium begoniifolium (Roxb.) Baill.; A.begoniifolium subsp. eubegoniifolium Wang.

Fast-growing deciduous tree to 50 ft.. Bark pinkish-grey. Leaves alternate, ovate to broadly elliptic, 3-6 in. long, 1½-3½ in. broad, acuminate, 3-5 nerved from the very oblique base; petiole up to 1 in. long. Flowers creamy-white, fragrant, in small axillary cymes 1-1½ in. long; calyx minute, toothed; petals puberulous, strap-shaped, reflexing, about 1/3 in. long. Fruit ellipsoid, about ½ in. long and 1/3 in. broad. Wood soft, white, valueless. Mengo; Kigezi; Toro; Bunyoro; Bugishu. Usually on the edge of forest.

ANACARDIACEAE

1. Leaves simple ..... (2) Heeria
   Leaves trifoliolate ..... 2.
   Leaves pinnately 5- or more-foliolate ..... 3.

2. Ovary with one fertile cell ..... (5) Rhus
   Ovary with 3-5 fertile cells ..... (3) Lannea

3. Style terminal ..... (7) Sorindeia
   Style more or less on the shoulders of the ovary-cells ..... 4.

4. Petals valvate; styles 5 ..... (1) Antrocaryon
   Petals imbricate; styles 3-4 ..... 5.

5. Sepals more or less united at the base ..... (3) Lannea
   Sepals free ..... 6.

6. Anthers long; fruit obovoid; male flowers spicate ..... (6) Sclerocarya
   Anthers rounded; fruit broadly ellipsoid; flowers in lax panicles ..... (4) Pseudospondias

(1) ANTROCARYON

ANTROCARYON POLYNEURON Mildbr. ined. Eggeling 1472.

Deciduous forest tree to 120 ft. Buttresses small, blunt. Bark iron-grey, thick, scarcely scaling. Slash pink and white, resinous, scented. Leaves 1-2 ft. long, pinnate, tufted at the ends of the branches; leaflets 10-20, opposite or sub-opposite, pubescent on both surfaces, ovate-lanceolate, up to 4½ in. long and 1½ in. broad, apex gradually acuminate, base generally rounded and unequal-sided; lateral nerves numerous, parallel. Flowers small, yellow-white, in axillary spikes 5-6 in. long; sepals 5; petals 5; stamens 10. Drupe depressed-globose, 5-sided, about 2 in. diam., strong-smelling, much sought after by wild pig and sometimes eaten by natives. Sap-wood white; heartwood rich reddish-brown.

Bunyoro (Budongo Forest); Madi (Zoka Forest). Uncommon.

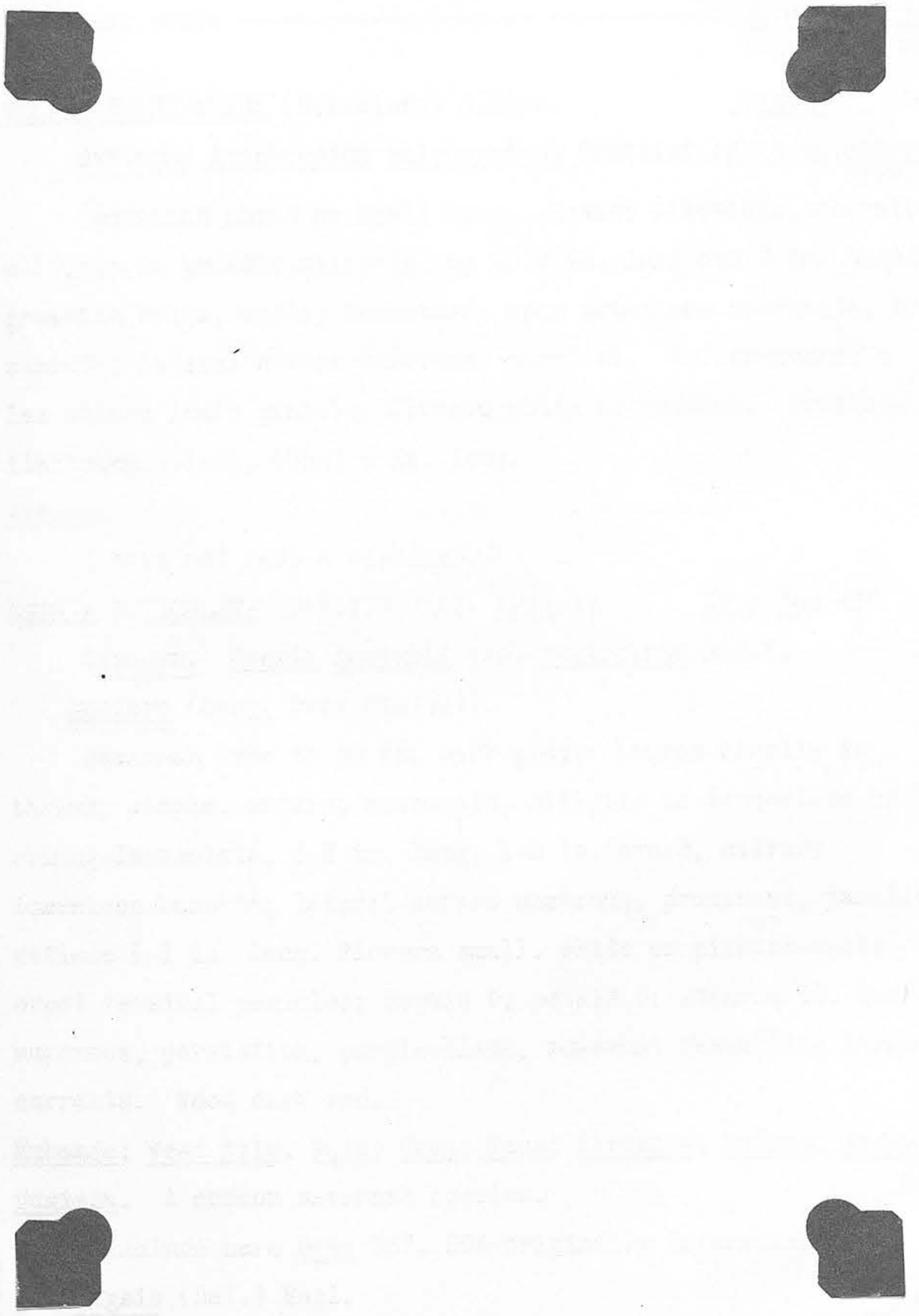


Fig.1. Heeria reticulata (Bak.f.) Engl. a. Fruiting branch. b. Portion of panicle. c. Flower x 3.

ANACARDIACEAE (205)

(2) HEERIA

Leaf-apex subtruncate or emarginate ---------- H.pulcherrima

Leaf-apex acute ---------- H.reticulata

HEERIA PULCHERRIMA (Schweinf.) O.Ktze. Bagshawe 306.

Synonyms. Anaphrenium pulcherrimum Schweinf.; Rhus pulcherrima Oliv.

Savannah shrub or small tree. Leaves alternate, obovate-elliptic to broadly elliptic, up to 8 in. long and 3 in. broad, greenish below, softly tomentose, apex sometimes mucronate, base cuneate; lateral nerves numerous, parallel. Inflorescence a lax oblong leafy panicle; flowers white or reddish. Fruits flattened, black, about ⅓ in. long.

Ankole.

I have not seen a specimen.

HEERIA RETICULATA (Bak.f.) Engl. (Fig.1). Eggeling 488.

Synonym. Heeria insignis var. reticulata Bak.f.

Emuturu (Gang, Teso dialect).

Savannah tree to 30 ft. Bark grey. Leaves usually in threes, simple, entire, mucronate, elliptic to lanceolate or oblong-lanceolate, 4-8 in. long, 1-3 in. broad, silvery tomentose beneath; lateral nerves numerous, prominent, parallel; petiole ½-1 in. long. Flowers small, white or pinkish-white, in erect terminal panicles; sepals 5; petals 5; stamens 10. Berries numerous, persisting, purple-black, somewhat resembling large currants. Wood dark red.

Mubende; West Nile; Gulu; Chua; Teso; Karamoja, Budama, Bugwere; Bugishu. A common savannah species.

I include here Dawe 337, 894 originally determined as H.insignis (Del.) Engl.

(3) LANNEA

1. Leaves trifoliolate ---------- 2.
   Leaves pinnately 5-or more-foliolate ---------- 4.

2. Leaves glabrous below ---------- L.stuhlmannii
   Leaves tomentose below ---------- 3.

3. Leaflets more than 1 in. long ---------- L.fulva
   Leaflets less than 1 in.long ---------- L.triphylla

4. Leaflets tomentose or pubescent below ------ 5.
   Leaflets glabrous below or nearly so ------- 7.

5. Leaves less than 6 in. long ---------- L.humilis
   Leaves more than 6 in.long ---------- 6.

6. Hairs on upper surface of leaflets mostly simple L.barteri
   Hairs on upper surface of leaflets mostly stellate L.schimperi

7. Leaflets more than 4 in. long ---------- L.welwitschii
   Leaflets less than 3½ in. long ---------- 8.

8. Leaflets 4-5 times as long as broad -------- L.fruticosa
   Leaflets not more than 3 times as long as broad ----------L.stuhlmannii

(Straight on)

Fig.2. Lannea barteri (Oliv.) Engl. a. Leaf x ½. b. Male flower-spike x ½. c. Female flower-spike x ½. d. Fruits x ½.

LANNEA BARTERI (Oliv.) Engl. (Fig.2.) Eggeling 779.

Synonym. Odina barteri Oliv.

Mubumbo (Lunyoro).

Savannah tree 30-40 ft. (rarely 60 ft.) high. Bark dark grey to almost black, rough. Slash salmon-pink with paler streaks. Leaves softly pubescent; leaflets 5-11, subsessile, ovate to ovate-elliptic, 3½-6 in. long, 1½-3 in. broad, apex more or less acuminate. When dry the young parts are yellow-brown or rusty. Racemes simple, clustered at the ends of the twigs, male and female on separate trees, appearing when the tree is leafless. Male spikes usually 5-6 in. long (rarely up to 15 in. long) in clusters of about 12 together; female spikes shorter. Flowers 4-merous, yellow, the male scented, the female not scented. Fruit reddish-purple, oblong, ½ in. long. Wood soft, dirty white, worthless; weight 25 lbs. per cu.ft. air dry. Mengo; Kigezi; Toro; Bunyoro; West Nile; Gulu; Chua; Lango; Teso; Karamoja.

LANNEA FRUTICOSA (Hochst.) Engl. Eggeling 783, 864.

Synonym. Odina fruticosa Hochst.

Savannah tree to 25 ft. Branchlets rough, thickly lenticellate. Leaves 9-18 in. long, tufted at the branch ends, minute stellate-pubescent at first, finally glabrous; leaflets 11-15, sessile, lanceolate, 1½-3½ in. long, ½-1 in. broad, obtuse at the apex. Racemes stout, simple or once-branched near the base, axillary, foxy-pubescent with stellate hairs, 2½-5 in. long. Flowers 4-merous, yellow. Fruit 1/3 - ½ in. long, with 4 raised marks near the apex.

West Nile; Madi; Gulu; Chua.

The var. ? parvifolia (Oliv.) of F.T.A. with smaller leaves and fruiting spikes under 1 in. long has been found in Gulu.

We include here Maitland 1343, originally determined as L. kirkii Burtt Davy

LANNEA FULVA Engl. Eggeling 1772, 2885

Savannah tree or shrub to 20 ft. Branchlets, petioles and rhachis of inflorescence densely fulvous-pubescent. Leaves trifoliolate (sometimes a few unifoliolate); lateral leaflets elliptic, 1-2 in. long, ¾-1½ in. broad; upper surface at first mealy puber-

puberulous, becoming glabrous, dark-green; lower surface flannelly tomentose, fulvous or yellow-white. Racemes slender, simple or once-branched, 2-5 in. long.

Ankole; Chua; Teso; Karamoja. Uncommon, usually among rocks.

LANNEA HUMILIS (Oliv.) Engl. Eggeling 2509,2830,2848.

Deciduous savannah tree or shrub to 15 ft. Leaves tufted at the branch ends; leaflets 13-19, oblong, ¼-1 in. long, rounded at both ends, white- or fulvous-tomentose below. Flower-spikes ½-1½ in. long, unbranched; sepals tomentose; petals glabrous. Fruit white-tomentose, ½ in. long.

Chua (Mt. Rom); Karamoja.

LANNEA SCHIMPERI (Hochst.ex A.Rich.) Engl. (Photo. 3.). Eggeling 486,681,855,1955.

Synonym. Odina schimperi Hochst. ex A.Rich.

Mubumbo (Lunyoro); Etitai (Luteso).

Savannah tree to 35 ft. Bole frequently spirally twisted. Leaves reddish-flannelly when young; leaflets 5-9, subsessile, elliptic to ovate-lanceolate, 2-5 in. long, 1½-2 in. broad, apex more or less acuminate, upper surface pubescent at first, becoming glabrous, lower surface tomentose. When dry the young parts are pinkish-brown or salmon-pink. Racemes simple, 2-5 in, long, clustered at the ends of the twigs, appearing when the tree is leafless; flowers yellow.

Ankole; Bunyoro; Mubende; West Nile; Madi; Gulu; Chua; Teso; Karamoja; Budama; Bugishu.

It is questionable whether this species and L.barteri are really distinct.

Bagshawe 264, determined as L. rufescens Engl., may belong here. I have not seen the specimen.

LANNEA STUHLMANNII (Engl.) Engl. Eggeling 1172.

Synonym. Odina stuhlmannii Engl.

Egalayi (Luteso).

Savannah shrub or tree to 40 ft. Bark grey, flaking off in fragments up to 4 in. long. Crown rounded and spreading with drooping branchlets. Leaves 3-5-foliolate (occasionally 7-foliolate or unifoliolate), crowded at the ends of the twigs; leaflets usually 3-5,

rarely 1 or 7, elliptic, ¾-3 in. long, ½-2½ in. broad, acuminate. Racemes axillary, erect, slender, simple or once branched, up to 6 in. long. Flowers fugitive, yellow, strongly scented. Fruit edible ½ in. long. Wood soft and light.

Ankole; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Karamoja.

LANNEA TRIPHYLLA (Hochst. ex. A.Rich.) Engl. Eggeling 2842,2979.

Deciduous savannah shrub or tree to 15 ft. Branchlets, underside of leaflets and inflorescence white- or pale buff-pubescent. Leaves trifoliolate; lateral leaflets broadly elliptic to suborbicular, not exceeding 1/3 in. in length in our specimens; terminal leaflet obovate to suborbicular, scarcely 1 in. long. Racemes 1-2 in. long; flowers yellowish. Fruit ¼ in. long.

Karamoja. In very dry savannah.

LANNEA WELWITSCHII (Hiern) Engl. Eggeling 710, 1189,3593.

Forest tree to 100 ft. Bole straight and cylindrical, without buttresses, free from branches for 30-50 ft. Bark grey, scaling slightly. Slash red. Leaves 1-1½ ft. long, clustered at the ends of the branches; leaflets 5-7 (rarely 9), ovate to ovate-lanceolate, 4-7 in. long, 1½-2½ in. broad, long acuminate at the apex, cuneate and unequal-sided at the base, glabrous on both surfaces, shortly petiolulate. Inflorescence paniculate, axillary, up to 15 in. long; flowers numerous, yellow, 4-merous. Fruits glabrous, about ½ in. long, purplish when ripe. Wood white, light and pliable.

Entebbe; Toro; Bunyoro.

(4) PSEUDOSPONDIAS

PSEUDOSPONDIAS MICROCARPA (Rich.) Engl. Eggeling 109,1192,3517

Synonym. Spondias microcarpa Rich.

Muziru (Luganda, Lusoga); Bagambanimpyata (Lunyoro).

Forest tree 30-60 ft. or occasionally up to 80 ft. high. Bole short, usually gnarled and twisted, heavily buttressed. Bark pale yellow-grey flaking in large sheets. Slash white. Leaves pinnate, up to 2 ft. long; leaflets 2-6 pairs, glabrous, sub-opposite to al-

alternate, oblong to elliptic, 4-8 in. long, 1½-3½ in. broad, apex broadly and obtusely acuminate, base unequal-cuneate to rounded. Flowers very small, white, in lax axillary panicles up to as long as the leaves, male and female on separate trees; sepals 4, free; petals 4, imbricate; stamens 8. Fruit broadly ellipsoid, about ¾ in. long, blue-black when ripe, edible, smelling of turpentine. Wood white, perishable, subject to borer.

Mengo; Entebbe; Sesse; Ankole; Kigezi; Toro; Bunyoro; West Nile; Madi; Busoga. Widespread in swampy forest and on the edge of streams.

(5) RHUS

1. Leaves glabrous beneath ..... R.glaucescens
   Leaves tomentose or pubescent beneath..... 2.

2. Leaflets entire, under 4 in. long ..... R.incana
   Leaflets crenate, up to 8 in. long or more.. R.abyssinica

RHUS ABYSSINICA Hochst. ex Oliv. Eggeling 804, 2669

Shrub or tree to 20 ft. Branchlets tomentose. Leaves trifoliolate, very variable in size; petiole up to 3 in. long. Leaflets sessile, crenate towards the apex (sometimes entire on flowering shoots where the leaves are frequently unifoliolate), glabrescent on the upper surface, pubescent or tomentose beneath; central leaflet obovate to oblanceolate, usually 3-8 in. but sometimes as much as 12 in. long, 1½-4 in. broad; lateral leaflets usually elliptic. Flowers brownish-white, in axillary and terminal panicles up to 8 in. long. Fruits small, brown, numerous.

Toro; Chua; Bugishu. In mountain forest, 6-8000 ft.

Include here Eggeling 2442, originally determined as R. incana Hill.

RHUS GLAUCESCENS A.Rich.(sensu lato). Eggeling 227, 298, 782.

Kakonsokonso, Musese (Luganda); Kasankisanki (Lunyoro); [illegible] Ebabu (Luteso).

Bush, or occasionally a tree to 20 ft., in savannah or scrub. Branchlets grey-brown. Leaves pale green, trifoliolate; petiole ½-1½ in. long. Leaflets obovate to oblanceolate or oblong-lanceolate

Fig.3. Sclerocarya birrea Hochst. a. Leaf. b. Fruit. c. Female flowers with developing ovaries. d. Male flower-spike.

glabrous beneath or at most slightly puberulous on the midrib, apex obtuse to subacute (sometimes mucronate), base cuneate, margin entire or crenulate; central leaflet 1½-4 in. long. Panicles slender, up to 6 in. long; flowers greenish-yellow, very small. Fruit globose, about ¼ in. diam.

Mengo; Enteb e; Ankole; Mubende; Bunyoro; West Nile; Gulu; Chua; Lango; Teso; Karamoja; Bugwere; Bugishu.

I include here Eggeling 2905, originally determined as R. longipes Engl., and all Uganda specimens determined as R. natalensis Bernh.

RHUS INCANA MILL. (sensu lato). Eggeling 181, 1640.

Synonym. Rhus villosa Linn. f.

Otago (Acholi); Kasankisanki (Lunyoro); Kakonso (Luganda, Busoga dialect); Ewayo (Luteso); KakonsoKonso (Luganda); Omuhanza (Lunyankole).

Bush or occasionally a tree to 20 ft. Leaves trifoliolate; petiole up to 2 in. long. Leaflets obtuse, softly tomentose on the lower surface, glabrescent above, subsessile; central leaflet 1½-4 in. long, 1-2 in. broad. Panicles up to 6 in. long.

Mengo; Entebbe; Ankole; Mubende; Bunyoro; Gulu; Chua; Lango; Teso; Budama; Bugishu; Busoga. A common ~~widely spread~~ and very variable species.

(6) SCLEROCARYA

SCLEROCARYA BIREEA Hochst. (Fig.3.) Eggeling 792, 862, 877.

Otitimo (Acholi).

Savannah tree to 40 ft. Bark pale grey, flaking in small or large scales. Slash orange-pink with green edges. Leaves 6-12 in. long, tufted at the ends of the branchlets; leaflets 5-9 pairs, opposite, glaucous, entire or toothed, obovate to elliptic, ½-2 in. long; ½-1 in. broad, apex usually very acute, base shortly cuneate. Flowers precocious, dioecious, each in the axil of a small red bract; male flowers sessile in erect terminal spikes 2-3 in. long; female flowers 2-3 together at the twig ends, on stout pedicels ½-1 in. long; sepals 4, free, purple-red; petals 4, recurved, green with purple-red tips; stamens 12-16, yellow. Fruit pale yellow, plum-like, 1½-1½ in. diam. with a tough skin and juicy mucilaginous flesh which it is difficult to separate from the stone. The juice is pleasantly acid and re-

refreshing and makes an agreeable drink. Wood dirty white with reddish streaks, soft, coarse-grained, of little value. Weight 30 lbs. per cu.ft. air dry.

West Nile: Madi; Gulu; Chua; Lango; Teso; Karamoja.

(7) SORINDEIA

SORINDEIA SP. NEAR S.USAMBARENSIS Engl. Dawe 306.

This is the only record of the genus from Uganda. We have not seen the specimen and are not aware where it was collected. Dawe 1006, oroginally thought to be Sorindeia, is Zanha golungensis Hiern (Sapindaceae).

Fig.4. Annona chrysophylla Boj. a. Flowering branch x ½.
b. Flower x I. c. Fruit x ½.

ANNONACEAE

1. Carpels in a single whorl, united into a 1-celled ovary with parietal placentas; stigmas radiating; petals more or less united into a tube.....(4) Monodora

   Carpels spirally arranged, free or if united forming a many-celled syncarp; stigmas erect; petals free or rarely slightly united at the base ..... 2.

2. Petals either 6 in two distinct series or rarely 4 in one series, all valvate ..... 3.

   Petals always 6 in two series, both or only the inner series imbricate ..... 6.

3. Carpels united into a fleshy mass in fruit .....(1) Annona

   Carpels not united or if slightly so then always quite free in fruit ..... 4.

4. Petals 4.....(6)Uvariopsis

   Petals 6..... 5.

5. Anthers transversely septate; styles uniting into a central column .....(7) Xylopia

   Anthers not transversely septate; styles deeply lobed, lobes clavate .....(3)Hexalobus

6. Ovules 1-2; outer petals spreading, the inner ones much shorter and closely appressed over the stamens and carpels .....(2)Cleistopholis

   Ovules numerous; petals of both series more or less similar, the inner ones at length spreading .....(5) Uvaria

(1) ANNONA

ANNONA CHRYSOPHYLLA Boj. (Fig.4) Eggeling 230, 1176.

Synonyms. Annona senegalensis Oliv., in F.T.A. partly, not of Pers.; A.senegalensis var. latifolia Oliv.

Mubengeya (Luganda, Lunyoro); Obwolo, Ovolo (Acholi); Ebolo (Luteso): WILD CUSTARD APPLE or SOURSOP.

Savannah shrub or tree to 20 ft. Bark smooth, silvery-grey. Slash pink. Leaves broadly ovate, 3-7 in. long, 1½-4 in. broad, rounded at both ends, blue-green and glabrous on the upper surface, paler and softly pubescent beneath, fragrant when crushed; petiole ½-¾ in. long. Flowers single or paired, softly pubescent, ½-¾ in. long; sepals 3, small, green; petals 6, in two series, outer row

buff, with broad flat edges, inner creamy-yellow; stamens numerous. Fruit more or less globose, 1-2 in. diam., green at first with paler reticulations corresponding to the carpels, ripening to orange-yellow, edible. Wood greenish-grey, soft.

Mengo; Entebbe; Masaka; Toro; Bunyoro; West Nile; Madi; Gulu; Lango; Teso; Budama; Bugishu.

The variety *porpetae* (Baill.) Robyns & Ghesq. (Dawe 718) is scarcely worth maintaining.

(2) CLEISTOPHOLIS

CLEISTOPHOLIS PATENS (Benth.) Engl. & Diels Eggeling 1448, 3043.

Riparian forest tree 60-70 ft. high, with horizontal branches. Bark grey-white, smooth with slight vertical corrugations, very similar to that of half-grown Maesopsis. Slash sweet-scented. Leaves alternate, very shiny above, oblong-lanceolate, 4-7 in. long, 1½-1¾ in. broad, acuminate, shortly petiolate. Flowers small, yellow-green, in axillary clusters of 1-6; sepals 3, small; petals 6, in two series, the outer twice as long as the inner; stamens numerous, sessile; pedicels slender, ¾-1 in. long. Fruiting carpels about 1 in. long and ½ in. thick, several together on a thickened stipe about ½ in. long. Wood white, soft and light.

Toro; Bunyoro. Uncommon.

(3) HEXALOBUS

HEXALOBUS MONOPETALUS (A.Rich.) Engl.& Diels Eggeling 861,1596,1942.

Synonym. Hexalobus senegalensis A.DC.

Rota (Madi).

Savannah tree about 20 ft. high, attaining larger size on the edge of streams. Leaves alternate, entire, subsessile, oblong-lanceolate, up to 6 in. long, ¾-2 in. broad, apex more or less acute, base rounded, undersurface pubescent. Flowers sessile, axillary, solitary or 2-3 together; sepals 3, rusty-brown, silky-pubescent; petals 6, canary-yellow, fugitive, about ¾ in. long. Fruiting carpels 2-3 together, sub-sessile, 1¾-2 in. long, about 1 in. broad; seed bright red when ripe, staining the fingers yellow. Wood reddish, durable.

Bunyoro (Fajao); West Nile; Madi; Gulu.

In West Madi poles of this species are in demand for hut-building and

the bark is used for making twine for fishing lines.

(4) MONODORA

Flowers 1½-3 in. across; inner petals pure white, broadly cordate, shortly and obtusely cuspidate at the apex, with a distinct narrow claw almost as long as the blade, up to ½ in. long and broad, auricles glabrous, not incurved; surface of fruit wrinkled.....M.gibsonii

Flowers 4-5 in. across; inner petals coloured, broadly ovate, obtuse at the apex, shortly clawed or sessile, up to 1¾ in. long and 1¼ in. broad, with incurved pilose auricles; surface of fruit smooth .....M.myristica

MONODORA GIBSONII Bullock (ined.) Eggeling 1154,1599,3066.

Understorey tree or shrub to 20 ft. Leaves on flowering branchlets obovate-elliptic, 2-5 in. long, ¾-2 in. broad, apex obtusely acuminate, base cuneate; petiole ¼ in. long; lateral nerves usually 8-9 prs. Flowers 1½-3 in. across, smaller than but otherwise very similar to those of M.myristica, borne singly on short branchlets which thicken later to support the fruit. Fruit more or less globose, about 2 in. diam., deeply wrinkled. Wood white, pale brown when seasoned.

Bunyoro. Known only from the Budongo Forest where it is not abundant. Named after Mr. R.A.Gibson, late Senior Assistant Conservator of Forests, Uganda.

MONODORA MYRISTICA Dunal Eggeling 164, 3212.

CALABASH NUTMEG.

Forest tree to about 40 ft. Bark grey. Slash white. Leaves obovate-elliptic, up to 2 ft. long and 8 in. broad but usually not more than 8 in. long and 2 ½ in. broad on flowering shoots, glaucous, paler below than above, apex obtusely acuminate, base rounded; petiole thick, purplish, ½ in. long; lateral nerves 12-20 prs., prominent beneath. Flowers large, handsome, 4-5 in. across, borne singly on short flowering branches; sepals 3, green with reddish spots, crispate, lanceolate, 1-1½ in. long; petals 6 in two series; outer petals ovate-lanceolate up to 4 in. long, crispate, greenish-yellow spotted with purple-red and brown; inner petals broadly ovate, much shorter than the outer, not crispate, greenish-white with purple-brown spots,

the lamina more or less distinctly auricled at the base, the auricles incurved, pilose. Flower-stalk slender, up to 8 in. long with an ovate leafy crispate bract up to 1 in. long in the upper half. Fruit smooth, green, spherical, woody, 3-4 in. or occasionally up to 6 in. diam., containing numerous edible inch-long seeds embedded in a fragrant pulp.

Mengo; Entebbe; Ankole; Kigezi; Toro; Bunyoro; Busoga.

(5) UVARIA

1. Leaves softly pubescent below ..... U.schweinfurthii

   Leaves glabrous below or at most the midrib slightly pubescent ..... 2.

2. Fruiting carpels elongate, 1-2 in. long, ½ in. diam.; stipe stout; leaves obovate, 2-4 in. long, ¾-1½ in. broad; petiole ¼ in. long; lateral nerves prominent beneath (reddish in dried specimens), impressed above ..... U.bukobensis

   Fruiting carpels globose, slightly under ½ in. diam.; stipe slender; leaves oblong, 2½-5½ in. long, 1-2 in. broad; petiole about 1/10 in. long; lateral nerves not prominent, slightly raised on both surfaces ..... U.schweinfurthii

UVARIA BUKOBENSIS Engl. Eggeling 54, 130, 3010.

Scandent schrub or occasionally a straggling tree to 20 ft. ~~15-20 ft. high.~~ Flowers greenish, rusty-pubescent in bud, in axillary fascicles of 1-3; sepals 3, broadly rounded or truncate at the apex, not meeting over the top of the bud (so that a small circular patch of petal is exposed), ¼-⅓ in. long and broad; petals 6, fleshy, ½-¾ in. long, ¼-½ in. broad; stamens numerous. Fruiting carpels cinnamon-pubescent.

Mengo; Entebbe; Sesse; West Nile. Fairly common in Mawokata and on the Islands.

UVARIA SCHWEINFURTHII Engl. & Diels Eggeling 1594.

Subscandent shrub or tree to 20 ft. Leaves pubescent below with scattered stellate hairs visible to the naked eye among the simple pubescence. Fruiting carpels cylindrical, ½-¾ in. diam., regularly banded with shallow rings about 1/10 in. apart; stipe about ½ in. long.

Bunyoro (Fajao).

UVARIA WELWITSCHII (Hiern) Engl. ~~and~~ Diels Eggeling 412.

Small tree, scandent shrub, or liane. Flowers yellow-green; sepals 3, sub-acute, meeting in bud so that no part of the petals are exposed, ⅓-½ in. long; petals 6, ¾-1 in. long, ½-¾ in. broad. Fruiting carpels long-stipitate, olive-green when dry, frequently very numerous (up to 70).

Mengo; Entebbe; Sesse; Ankole; Toro; Busoga.

(6) UVARIOPSIS

UVARIOPSIS (TETRASTEMMA) SP. NOV? Eggeling 2291,3154.

Understorey forest tree to 25 ft. Leaves simple, alternate, oblong-lanceolate, 3-6 in. long, 1-1¾ in. broad, apex acuminate, base cordate; petiole under ½ in. long. Flowers usually single or paired, borne on the previous year's wood below the leaves; sepals two, small; petals 4, pinkish-yellow, fleshy, about ⅕ in. long; pedicels ¼ in. long. Wood white, light brown when seasoned, hard, close grained, of even texture.

Toro; Bunyoro.

We include here all Uganda specimens previously determined as Tetrastemma sp.nov.?

(7) XYLOPIA

Leaves elliptic, thickly coriaceous, glabrous, 2½-5 in. long, 1¼-1¾ in. broad ..... X.eminii

Leaves oblong-lanceolate, thin, puberulous on the underside, 1½-4 in. long, ½-1 in. broad ..... X.sp.near X.holtzii

XYLOPIA EMINII Engl. Eggeling 1583.

Nsagalane (Luganda).

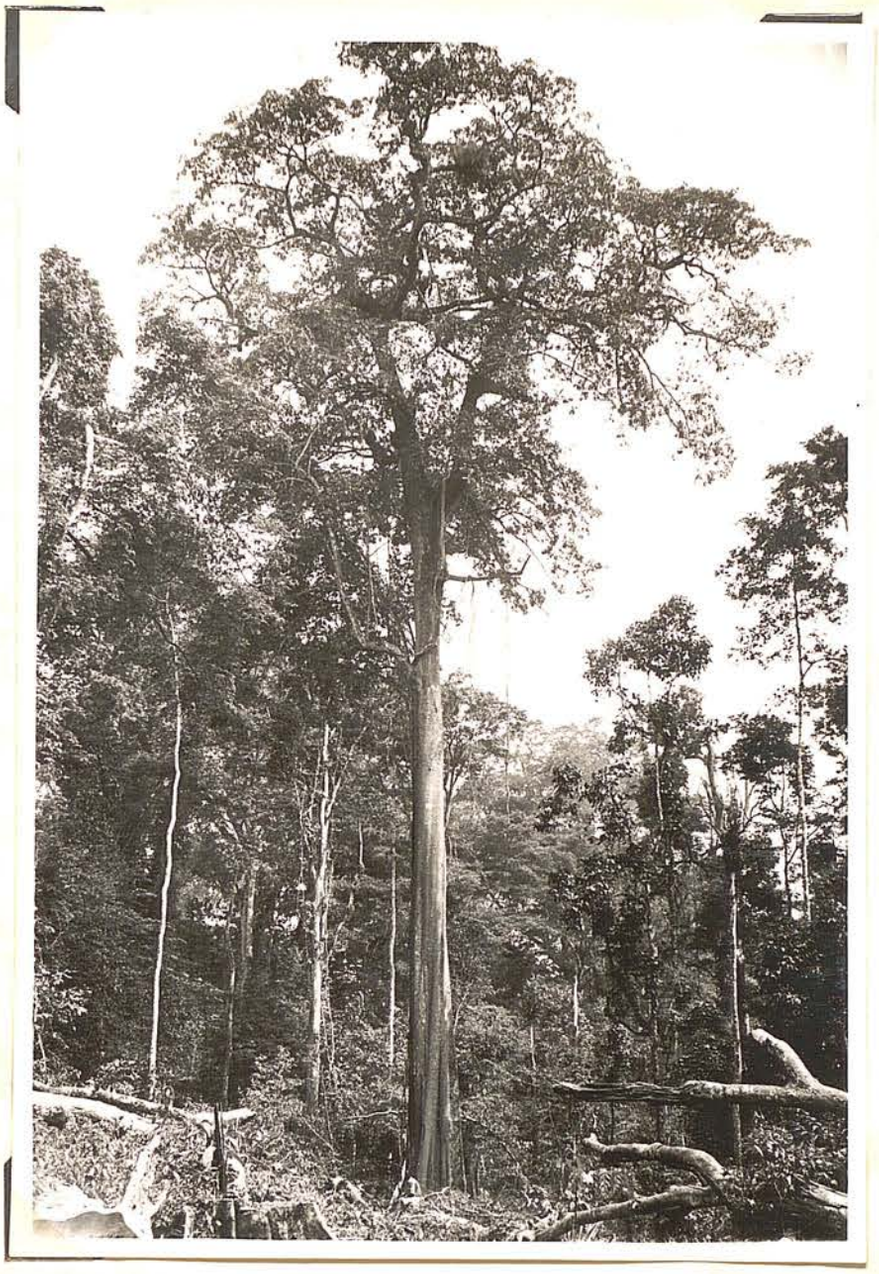
Slender-boled tree up to 50 ft. high. Flowers axillary, in clusters of 1-3; calyx cupular, small, 3-lobed; petals 6, about ¾ in. long, linear, pointed. Fruiting carpels numerous, sessile, cylindrical, at least 2 in. long and ⅕ in. diam. Wood brown or greyish, coarsed-grained, hard to saw, nailing and planing well. Weight about 55 lb. per cu.ft. air dry.

Mengo; Masaka. In periodically inundated or permanently swampy forest.

XYLOPIA SP. near X.HOLTZII Engl. Eggeling 1826.

Riparian tree to 80 ft. Crown very small, composed of 2-3 whorls of short horizontal branches. Flowers axillary, usually in pairs; sepals 3, small; petals 6, up to ½ in. long, linear, pointed, light green.

West Nile (Koich River near Nkoka).



Phot.2. Alstonia congensis Engl. Habit photo.

Phot.3. Lannea schimperi (Hochst. ex A.Rich.) Engl. Habit photo.

APOCYNACEAE

1. Corolla-lobes overlapping to the right viewed from outside ..... (3) Funtumia

   Corolla-lobes overlapping to the left viewed from outisde..... (2.

2. Fruit dehiscent, composed of two follicles ..... (1) Alstonia

   Fruit indehiscent, composed of two berries or two drupes ..... 3.

3. Sepals united into a tubular or subcampanulate calyx circumscissile at the base or splitting longitudinally ..... (7) Voacanga

   Sepals free or nearly so ..... 4.

4. Corolla-tube at least 4 times as long as the lobes; ovules 2 in each cell ..... (6) Rauvolfia

   Corolla-tube not more than 2 times as long as the lobes; ovules numerous in each cell ..... 5.

5. Anthers shortly 2-lobed at the base, inserted on the upper third of the corolla-tube ..... (5) Picralima

   Anthers sagittate, inserted at or below the middle of the corolla-tube ..... 6.

6. Leaves usually with numerous axillary glands; stamens inserted at the middle of the corolla-tube.. (2) Conopharyngia

   Leaves without axillary glands; stamens inserted near the base of the corolla-tube ..... (4) Gabunia

(1) ALSTONIA

ALSTONIA CONGENSIS Engl. (Photo.2.) Eggeling 1545,1547,1548.

Mujwa (Lunyoro): PATTERN WOOD: STOOL WOOD.

Forest tree to 130 ft., with deeply fluted bole. Bark grey-brown, wrinkled, with conspicuous lenticels. Slash yellow with darker pinkish spots, chalky white latex exuding. Leaves obovate, 5-8 in. long, 1½-3 in. broad, dark above, pale beneath; lateral nerves numerous, parallel. Flowers white, in lax terminal cymes. Follicles paired, slender, elongate, 8-16 in. long, hanging vertically; seeds with a tuft of fluffy white hairs at each end. Wood nearly white when freshly cut, darkening to pale buff, straight-grained; heartwood and sapwood not differentiated. In bending, compressive strength ~~strength~~

and elasticity, the timber has about 90% of the strength of red deal (Pinus sylvestris), which it equals in hardness. It is a valuable box-making wood although the presence of latex ducts is a drawback. Other possible uses include match making, cor stock for veneers, and engineers patterns. The timber is very perishable in the ground and is susceptible to attack by insects. Weight 27 lbs. per cu.ft. air dry.

Mengo; Toro (Bwamba); Bunyoro; Busoga. Abundant only in the Budongo Forest in Bunyoro.

(2) CONOPHARYNGIA

Leaves broadly elliptic; corolla-tube up to 1½ in.long..C.holstii

Leaves elliptic to elliptic-oblong; corolla-tube ¾-1 in. long ..... C.johnstonii

Leaves oblong to oblong-lanceolate; corolla-tube about ½ in. long ..... C.usambarensis

CONOPHARYNGIA HOLSTII Stapf Eggeling 45, 1982,3084.

Kitwekyankima (Luganda); Mungogwenkende, Mwogogwenkende (Lutoro).

Heavily foliaged understorey shrub or tree to 20 ft. Leaves usually 7-12 in. long and 3-5½ in. broad but sometimes much larger. Flowers waxy white, yellow in the throat, about 1½ in. diam., very fragrant; corolla-tube stout, up to ⅔ in. diam., densely tomentose within except on the filamental ridges. Fruits spherical, green, about the size of a tennis ball, paired on a common peduncle. Poles not durable.

Mengo; Entebbe; Sesse; Kigezi; Toro; Bunyoro; Budama. A common forest species. The latex is sometimes used for making bird-lime.

CONOPHARYNGIA JOHNSTONII Stapf Snowden 860.

Tree to 40 ft., very similar to the preceding species but the corolla-tube more slender, villous within only near the mouth. Leaves up to 14 in. long and 5½ in. broad. Wood soft, white.

Bugishu (6000 ft.).

CONOPHARYNGIA USAMBARENSIS (Engl.) Stapf Snowden 2018.

Shrub or tree to 40 ft. Leaves undulate, up to 10 in. long and 4 in. broad, much narrower than in either of the preceding species. Flowers smaller than those of C.holstii, otherwise very similar. Wood whitish, soft.

Entebbe.

(3) FUNTUMIA

Lateral nerves with pits in the axils below; latex tested on the finger-tips at once coagulating and coming away cleanly from the skin ..... F.elastica

Lateral nerves without pits in the axils; latex on the finger-tips not coagulating but remaining sticky..... F.latifolia

FUNTUMIA ELASTICA Stapf Eggeling 2316, 2319.

Musanda (Lunyoro): LAGOS RUBBER TREE; WILD RUBBER.

Second-storey forest tree to 80 ft. Bole straight, cylindrical, unbuttressed, generally under 5 ft. in girth. Slash yellow-white, with copious white latex. Leaves oblong-elliptic, 4-10 in. long, 1½-4 in. broad. Flowers yellow-white, fragrant, in short dense axillary cymes. Fruit the shape of an aeroplane propeller, up to 12 in. long; seed with a tuft of long silky hairs at one end. Wood soft and white.

Mengo; Entebbe; Toro; Bunyoro.

The tree yields a high quality rubber, which was at one time a valuable source of revenue. At present prices tapping is no longer an economic proposition.

FUNTUMIA LATIFOLIA Stapf ex Schltr. Eggeling 122,384,3102.

Musanda(Lunyoro); Mutoke (Lutoro): WILD RUBBER.

Tree very similar to the above, yielding a poor quality rubber which was nevertheless widely collected when the price was high.

Mengo; Entebbe; Sesse; Ankole; Kigezi; Toro; Bunyoro; Madi (Zoka Forest); Bugishu; Busoga.

A much commoner tree than F.elastica, especially abundant in the Bunyoro forests.

(4) GABUNIA

GABUNIA ODORATISSIMA Stapf — Eggeling 3125.

Understorey tree to 30 ft. Leaves oblong to oblong lanceolate, up to 12 in. long and 3 in. broad; petiole ½-¾ in. long. Flowers large, creamy-white, very fragrant; calyx ¼-½ in. long with ovate lobes; corolla-tube twisted, 3-4 in. long, lobes linear-lanceolate, 1-2 in. long. Drupe ovoid, 6 in. long, 5 in. broad.

West Ankole; Toro.

(5) PICRALIMA

PICRALIMA NITIDA Th. & Hel. Dur. — Dawe 719.

Understorey tree. Leaves opposite, oblong to oblong-elliptic, up to 9 in. long and 3 in. broad; petiole ¾-1 in. long. Flowers white, 1½ in. across when fully open; calyx lobes 5, ovate, keeled, about ⅓ in. long; petals 5, united, the base of the tube ribbed. Fruits obovoid, 4-6 in. long, 3-4 in. broad, green, usually in pairs: seeds flattened, about 1 in. long. Wood pale yellow.

Toro.

(6) RAUVOLFIA

1. Flowers distinctly pedicellate; young branches slender; leaf-whorls distant; branches of inflorescence puberulous ..... R.vomitoria

   Flowers sessile or almost so; young branches stout; leaf-whorls crowded; branches of inflorescence glabrous ..... 2.

2. Leaf 3-4 times as long as broad, obovate to oblanceolate, apex acute or shortly acuminate..... R.oxyphylla

   Leaf 4-6 times as long as broad, lanceolate to oblong-lanceolate, apex long-acuminate ..... R.sp.

RAUVOLFIA OXYPHYLLA Stapf — Eggeling 534, 1890, 3087.

Tree to 60 ft. with spreading umbrella-shaped crown. Leaves whorled, crowded, dark green, up to 12 in. long and 3 in. broad; midrib conspicuous, straw-coloured drying to brown. Flowers white in large umbels up to 8 in. across. Fruits sub-globose, asymetrical.

Mengo; Toro; Bunyoro; West Nile; Bugishu (6,500 ft.)

We include here a specimen (Snowden 1038) originally determined as R.inebrians K.Schum.; also Bagshawe 1136 and Dawe 711, determined as R. sp. near R. macrophylla Stapf.

RAUVOLFIA VOMITORIA Afz. Eggeling 63, 3007.

Shrub or small tree to 15 ft. (rarely 20 ft.). Young branches 4-sided. Leaves in whorls of 3-4, very variable in shape, ~~blade~~ 3-6 in. long, 1-3 in. broad, apex acuminate. Corolla white. Fruit ovoid, ⅓ in. diam., red when ripe.

Mengo; Entebbe; Sesse; Masaka; Bunyoro; Busoga. Usually in secondary forest or on forest-edge.

RAUVOLFIA SP. Eggeling 1725.

Tree 50 ft. high on stream banks in savannah. Leaves dark green above, paler below, ~~blade~~ up to 5½ in. long and 1½ in. broad; midrib and petioles straw-white when dry. Flowers creamy-yellow. Fruit sub-globose, ¾ in. diam.

Chua.

The specimen cited was originally determined as R.caffra Sond. but is not that species. Uganda Forest Dept. 1461, originally determined as R.natalensis Sond., belongs here too.

(7) VOACANGA

Leaf acute or acuminate at the apex ..... V.africana

Leaf rounded or obtuse at the apex ..... V.obtusa

VOACANGA AFRICANA Stapf Eggeling 1792.

Low-branched spreading shrub or tree to 20 ft. Leaves elliptic, 3-7 in. long, 1½-2½ in. broad. Flowers creamy-white, waxy, fragrant, about 1½ in. across; calyx and corolla-tube about ½ in. long; rhachis of inflorescence pubescent. Drupe ~~Fruit~~ spherical, green.

West Madi.

VOACANGA OBTUSA K.Schum. Eggeling 151, 1517

Swamp-loving tree usually 20-30 ft. high, occasionally attaining 50 ft. Leaves obovate, 4-10 in. long, 2-4 in. broad, glabrous, crowded at the branch ends. Flowers creamy-white, waxy, fragrant, 1½-2 in. across, calyx and corolla-tube ½-¾ in. long; rhachis of inflorescence glabrous. Drupe ~~Fruit~~ spherical, green, 2 in. diam. or more. Wood reddish-brown, with fine and open grain, nailing well, though

somewhat fissile, tough and hard to saw, planing easily but badly (the grain rips out), turning indifferently. Weight 44 lbs. per cu. ft. air dry.

Mengo; Entebbe; Ankole; Bunyoro; West Nile; Gulu. A common tree in valley bottoms and swampy forest.

AQUIFOLIACEAE

ILEX

ILEX MITIS (L.) Radlk. Eggeling 1130, 2447, 2459.

Omunyaishu (lukiga).

Tree generally 20-30 ft. high but sometimes as much as 70 ft. high. Leaves alternate, elliptic to oblanceolate, up to 4 in. long and 1½ in. broad, glabrous, dark green above, brownish below, margin entire or remotely denticulate, apex apiculate; petiole ¼-½ in. long. Flowers white, densely clustered on short axillary peduncles; petals connate, persisting in the fruit; pedicels about ¼ in. long. Berry small, spherical, purple-brown. Wood hard, white, close grained. Kigezi; Bugishu. In mountain forest; 4500-9000 ft.

Fig. 5. A. Cussonia spicata Thunb. AI. Leaf showing two leaflets x ¼. A2. Flower-spike x ¼. B. Cussonia arborea Hochst. BI. Young leaves x ¼. B2. Flower-spikes x ¼. B3. Apex of flower-spike x I.

ARALIACEAE

1. Leaves pinnate ..... (2) Polyscias

   Leaves digitate or digitately lobed ..... 2.

2. Flowers in spikes; ovary 2-celled .....(1) Cussonia

   Flowers in umbels or in umbelluled racemes; ovary 5- or more-celled .....(3) Schefflera

(1) CUSSONIA

Leaflets simple, tomentellous below ..... C.arborea

Leaflets pinnately 3-5 foliolate, glabrous below.... C.spicata

CUSSONIA ARBOREA Hochst. (Fig.5). Eggeling 262, 1164.

Osai (Madi); Ebusibusi (Luteso).

Savannah tree to 20 ft., occasionally attaining 40 ft. Young parts stellate-tomentose. Bark grey-brown, corky, deeply furrowed. Leaves digitate or very deeply digitately lobed, crowded at the ends of the thick branchlets; petiole 6-18 in. long; leaflets 5-7, elliptic, occasionally with one or two deep notches or lobes near the apex, up to 9 in. long and 3½ in. broad, apex acutely acuminate, base cuneate, serrulate, flannelly beneath when young. Flower-spikes sessile, up to 14 in. long, about ¼ in. thick, crowded at the tips of the branchlets. Flowers precocious, yellow, about ⅕ in. diam. Fruit ovoid, fleshy, ¼ in. long. Wood soft, white, worthless.

Toro; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Budama; Bugishu; Busoga.

CUSSONIA SPICATA Thunb. (Fig.5). Eggeling 2492.

Tree to 40 ft. Leaves digitate, glabrous, tufted at the top of the slender bole; petiole up to 2½ in. long; leaflets 5-9, pinnately 3-5-foliolate, 12 in. or more long, rhachis broadly winged; secondary leaflets oblong-lanceolate, 1½-3½ in. long, ½-1½ in. broad, apex long-acuminate, base attenuate, margin serrately notched. Flower spikes terminal, erect, 3-4 in. long, 1¾-1 in. thick; peduncles stout, up to 9 in. long. Flowers yellow. Fruit ovoid, ⅓ in. long. The wood is very perishable.

Bugishu. On the edge of forest, 5-7000 ft.

(2) POLYSCIAS

POLYSCIAS FULVA (Hiern) Harms Eggeling 99, 1542.

Synonym. Panax fulvum Hiern

Setera (Luganda); Mujugantara (Lutoro); Mungu (Luchiga).

Deciduous flat-topped tree to 40 ft. in secondary forest and on forest edges. Bole straight, cylindrical, unbuttressed. Bark grey-yellow. Crown obconical, flat-topped, composed of a whorl of limbs each of which bears whorls of branches. Young parts densely stellate-pubescent. Leaves pinnate, up to 4 ft. long; leaflets usually 17-29, ovate-elliptic, shortly acuminate, 3-7 in. long, 1½-3 in. broad, puberulous on the midrib above, softly tomentose beneath. Panicles erect, tomentellous, 1½-3 ft. long; lateral branches 1-4 in. long; flowers yellowish, with an unmistakable somewhat cinnamon-like odour when dry; ovary 2-celled. Fruit ellipsoid, ribbed, about ¼ in. long. Wood white or pinkish-white, soft and light, suitable for boxes; it is said to be durable.

Mengo; Entebbe; Sesse; Masaka; Ankole; Kigezi; Toro; Mubende; West Nile; Chua; Busoga. Absent from the Bunyoro forests.

(3) SCHEFFLERA

1. Leaves rounded or ~~erodate~~ cordate at the base ..... 2.
   Leaves cuneate at the base ..... 4.

2. Flowers in compound umbels ..... S.polysciadia
   Flowers in umbelluled racemes ..... 3.

3. Leaflets entire ..... S.goetzenii
   Leaflets crenate-serrate ..... S.abyssinica

4. Umbellules pedunculate; flowers sessile .... S.volkensii
   Umbellules sessile or nearly so; flowers pedicellate ..... S.urostachya

SCHEFFLERA ABYSSINICA (Benth.& Hook.f.) Harms Eggeling 3509, 3596.

Synonym. Heptapleurum abyssinicum Benth.& Hook.f.

Spreading tree to 60 ft. Bark grey-black, corky. Leaves digitate, clustered at the ends of the branches; petiole up to 12 in. long; leaflets thinly coriaceous, usually 5 or 6, ovate, blade

generally 5-8 in. long and 2½-4 in. broad, apex caudate-acuminate; petiolule 1-2½ in. long. Umbelluled racemes 4-12 in. long, clustered below the terminal leaf-tuft; peduncles of umbellules ½-¾ in. long; pedicels ¼-⅓ in. long; flowers polygamous, styles 3 in male flowers, 5 or 6 in female flowers, recurved in fruit. Fruit red, ¼-⅓ in. long.

Chua; Bugishu. In mountain forest; 6-8,000 ft.

SCHEFFLERA GOETZENII Harms Eggeling 3282.

Liane, scandent shrub or small tree. Leaves digitate; petiole rather slender, about 5 in. long; leaflets usually 4-6, coriaceous, elliptic to oblong-elliptic, blade up to 5 in. long and 1¾ in. broad, entire, apex subcaudate-acuminate; petiolule up to 1¼ in. long. Umbelluled racemes terminal; peduncle of umbellules ⅓-¾ in. long; flowers yellow; pedicels ¼-⅓ in. long.

Kigezi(Impenetrable Forest; 7,000 ft.).

SCHEFFLERA POLYSCIADIA Harms Eggeling 3786.

Scandent shrub or tree to 15 ft.. Leaves digitate; petiole stout, up to 8 in. long; leaflets usually 5-7, thickly coriaceous, entire, acute, ovate, blade up to 9 in. long and 4 in. broad, with a narrow hyaline margin; petiolule 1½-3 in. long. Inflorescence about 6 in. long, carrying 1 or 2 whorls of compound umbels; peduncles of compound umbels 1-1½ in. long; peduncle of umbellules about ¾ in. long; pedicels ⅕ in. long; flowers yellow-brown, fragrant, Fruit 5-ribbed.

Toro (Ruwenzori; 8-9,000 ft.).

SCHEFFLERA UROSTACHYA Harms Eggeling 183, 3093.

Scandent shrub or small tree. Bark on lower stem thick, corrugated, corky. Leaves digitate, borne at the branch-ends; petiole stout, clasping, up to 15 in. long; leaflets 5-10, oblong-elliptic to obovate, blade up to 9 in. long and 3 in. broad, entire or serrately notched, apex acute to shortly acuminate; petiolule up to 2½ in. long. Umbelluled racemes terminal, up to 15 in. long, in

clusters of about 8 together, radiating at right angles to the branchlet like the spokes of a wheel; umbellules sessile or on peduncles up to $\frac{1}{3}$ in. long; flowers yellow-white, on pedicels about $\frac{1}{4}$ in. long. Fruit usually 6-ribbed.

Mengo; Entebbe; Sesse; Toro; Busoga. Fairly common in lake-shore forests, especially on Sesse.

SCHEFFLERA VOLKENSII Harms Eggeling 2463.

Tree to 80 ft., epiphytic at first. Leaves digitate; leaflets usually 5, obovate to elliptic, blade up to $5\frac{1}{2}$ in. long. Umbelluled racemes up to 10 in. long; flowers yellow-green, sessile, the umbellules appearing like little heads; peduncles of umbellule $\frac{1}{3}$-$\frac{1}{2}$ in. long.

Bugishu (Elgon; 6-9,000 ft.).

ASCLEPIADACEAE

CALOTROPIS

CALOTROPIS PROCERA Dryand. Eggeling 830.

SODOM APPLE.

Soft-wooded shrub or occasionally a tree up to 18 ft. high with clean bole 6-8 ft. long and about 3 ft. in girth. Bark thick, corky, yellow-brown. Young parts clothed with white tomentum. Leaves pale green, fleshy, sessile or shortly pedunculate, ovate to obovate, 2½-12 in. long, 1½-7 in. broad, apex obtuse with a short abrupt point, base cordate. Cymes arising from between the bases of the leaves, subumbellate, 3-10 flowered, on peduncles up to 3 in. long; sepals ¼ in. long; corolla campanulate, ¾-1 in. diam., with 5 white lobes with purple tips; ~~about ⅓ in. long;~~ pedicels ½-1 in. long. Fruit subglobose to obliquely ovoid, 3-4 in. long, green, with a thick spongy inflated pericarp.

Bunyoro; West Nile; Madi; Gulu; Chua; Karamoja.

Floss from the seeds is used in Karamoja for stuffing cushions.

Fig.6. Kigelia moosa Sprague. a. Leaf x $\frac{1}{4}$. b. Leaflet x I.
c. Apex of panicle x $\frac{1}{2}$. d. Flower x $\frac{1}{2}$.

BIGNONIACEAE

1. Calyx spathaceous ..... 2.

   Calyx not spathaceous ..... 3.

2. Flowers flame colour; fruit-valves boat-shaped; ovules multiseriate ..... (3) Spathodea

   Flowers yellow; fruit-valves flat; ovules 4-6-seriate ..... (2) Markhamia

3. Flowers pale pink; corolla under 2 in. long; ovary 2-celled; fruit dehiscent; seed winged.. (4) Stereospermum

   Flowers maroon, orange or scarlet; corolla 3-4 in. long; ovary 1-celled; fruit indehiscent; seed not winged ..... (1) Kigelia

(1) KIGELIA

1. Leaflets lanceolate, glabrous ..... K.lanceolata

   Leaflets elliptic-oblong to obovate, usually shortly pubescent below at least on the nerves.. 2.

2. Leaves paired, opposite, up to 2½ ft. long; leaflets acuminate at the apex; cylindric portion of corolla-tube shorter than or as long as the calyx ..... K.moosa

   Leaves in threes, up to 1½ ft. long; leaflets rounded at the apex and frequently mucronate; cylindric portion of corolla-tube much longer than the calyx ..... K.aethiopica

KIGELIA AETHIOPICA Decne. (Photo. 4). Eggeling 757.

Muikya (Lunyoro); Lado (Madi); Yago (Acholi): SAUSAGE TREE.

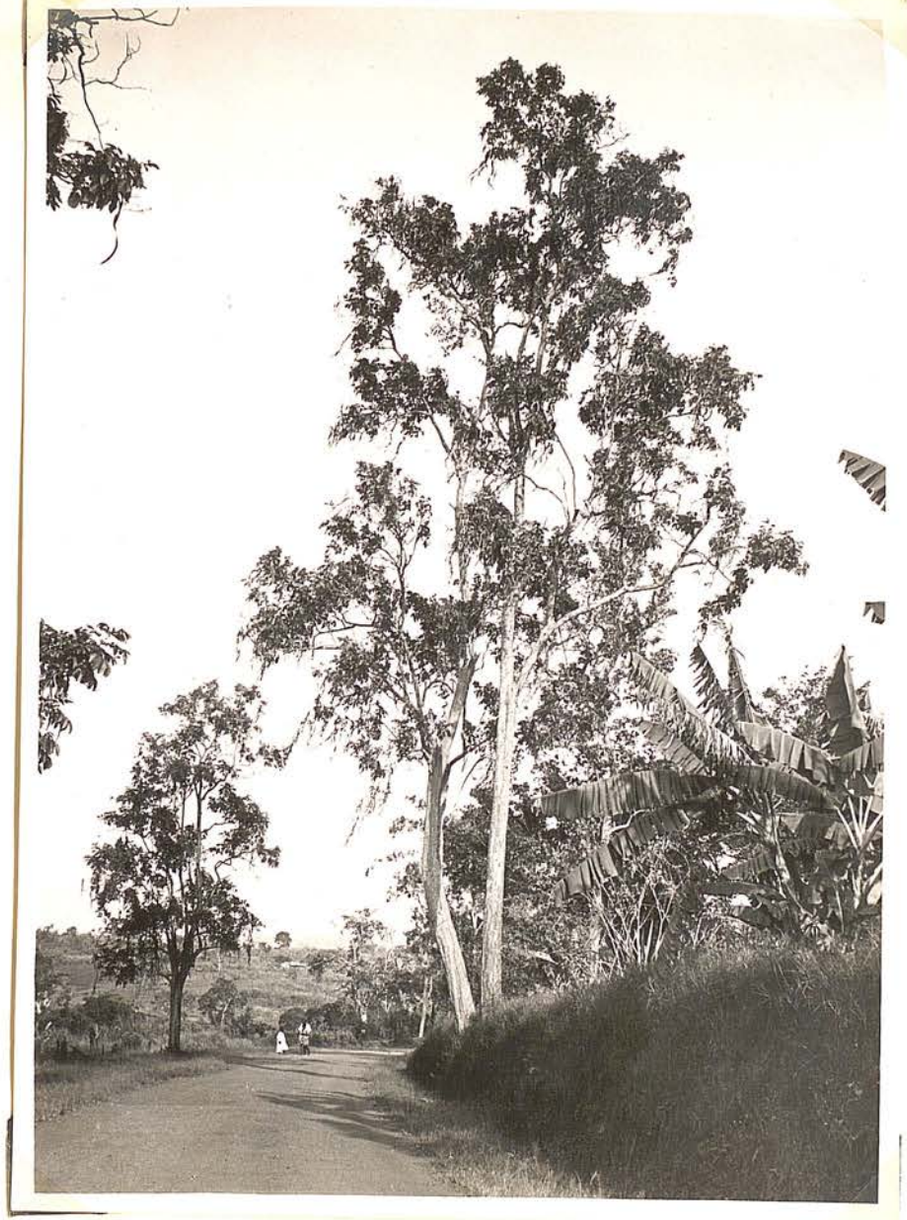
Synonym. K.pinnata Oliv. not of DC.

Wide-spreading, low-branched savannah tree to 50 ft. nearly always on the banks of streams. Bark stone-grey to pale brown. Slash white. Leaflets usually 7-9, scabrid, 2½-5 in. long. Flowers unpleasantly scented; corolla trumpet-shaped, up to 4½ in. long, the inside reddish-purple or maroon, the outside whitish with reddish lines. Fruit sausage-shaped, 1-3 ft. long, 3-4 in. thick, grey-green, fibrous, slightly rough on the surface, usually rounded at the ends. Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Karamoja; Busoga.

Include here Brasnett 55, originally determined as K. pinnata DC.

Phot.4. Kigelia aethiopica Decne.

Fruits.



Phot.5. Markhamia platycalyx (Bak.) Sprague

Habit photo.

KIGELIA MOOSA Sprague (Fig. 6). Eggeling 124, 1895.

Musa (Luganda); Muikya (Lunyoro): SAUSAGE TREE.

Spreading tree to 30 ft. on stream banks and in swampy forest. Bark grey. Slash white. Leaflets usually 11 or 13, scabrid, 3-5 in. long, 1½-2¼ in. broad. Corolla orange, fading to reddish. Fruit up to 15 in. long and 4 in. thick, sharp-pointed, usually curved.

Sesse; Masaka; Ankole; Toro; Mubende; Bunyoro; West Nile; Bugishu; Budema.

KIGELIA LANCEOLATA Sprague Scott-Elliot 7905.

Tree to 40 ft. Bark dark grey, thick. Leaves paired, opposite; leaflets 7-13, shortly petiolulate, 4-8 in. long, 1¼-2½ in. broad, apex acuminate. Inflorescence up to 1½ ft. long; corolla purplish streaked with yellow, about 2½ in. long, the lower portion of the tube very slightly constricted near the base and much shorter than the calyx. Wood grey-white, soft.

Toro (Ruwenzori).

(2) MARKHAMIA

MARKHAMIA PLATYCALYX (Bak.) Sprague (Photo. 5). Eggeling 518, 1896.

Synonym. Dolichandrone platycalyx Baker

Lusambya (Luganda): NSAMBYA.

Tree to 40 ft., rarely 60 ft. Bole fairly straight, fluted towards the base. Crown irregular, usually oblong or pyramidal. Bark grey-brown, flaking in irregular strips and patches. Slash white. Leaves opposite, pinnate, 8-18 in. long; leaflets 7-11, elliptic to oblong-lanceolate, 2-8 in. long, 1-3 in. broad, entire or slightly serrate. Pseudostipules orbicular, foliaceous, up to 1½ in. across, paired in the axils of the leaves. Flowers yellow, striped and spotted with red, in axillary and terminal panicles; calyx about 1 in. long, split down one side; corolla bell-shaped, 1½-2 in. long, 5-lobed; perfect stamens 4. Fruit capsular, up to 4 ft. long and ¾ in. wide, the flat thin valves having very prominent ribs. Seed oblong, about 1 in. long, including the almost transparent wing at each end. Wood yellow-white when fresh, drying to pale yellow-brown; heartwood

just

Fig.7. Stereospermum kunthianum Cham. a. Portion of panicle x I. b. Pair of leaflets x I. c. Fruit x ½. d. Seed x I. e. Flower x I.

just distinguishable from sapwood, tough, moderately flexible, easily split but not too fissile to take nails, durable, more than usually resistant to termites; weight 35-37 lbs. per cu.ft. air dry.
Mengo; Entebbe; Sesse; Masaka; Mubende; Ankole; Toro; Bunyoro; West Nile; Madi; Busoga. ~~In the wild state the tree is only really abundant in Bwamba and~~ The tree is encountered most often on the edge of high forest or in fringing forest. It is widely cultivated to provide poles for hut-building, and is to be found either planted or wild in every District in the Protectorate. The timber is used by native carpenters for chairs, tables, bedsteads, tool handles, and wooden shoes.

(3) SPATHODEA

SPATHODEA CAMPANULATA Beauv. Eggeling 1406, 3128.

Synonym. S. nilotica Seem.

Kifabakazi (Luganda); Munyara (Lunyoro, Lutoro): UGANDA OR NANDI FLAME; FLAME OF THE FOREST.

Tree 30-40 ft. high. Leaves pinnate, opposite or in threes; leaflets usually 9-13, ovate to ovate-oblong, 2½-5 in. long, 1-2 in. broad, acutely acuminate, pubescent below. Flower-buds brown, tomentose, containing abundant water which squirts out when the buds are squeezed. Flowers showy, crimson or flame-coloured edged with yellow, borne in short dense terminal corymbose racemes; calyx recurved, long acuminate, 1½-2½ in. long, split down one side, tomentose; corolla trumpet-shaped, 3½-5 in. long, with crispate lobes. Capsule lanceolate-oblong, 6-10 in. long, blackish-brown. Seeds ¾ in. long, including the almost transparent surrounding wing. Wood brownish-white, very soft and light.
Mengo; Entebbe; Sesse; Masaka; Ankole; Kigezi; Toro; Mubende; Bunyoro; Madi; Lango; Budama; Busoga. A species of fringing forest and secondary scrub, widely cultivated as a shade and avenue tree. One of the most ornamental of the indigenous trees of Uganda.

(4) STEREOSPERMUM

STEREOSPERMUM KUNTHIANUM Cham. (Fig. 7). Eggeling 1163, 1537.

Mulemangundu (Lunyoro); Enyitai (Luteso); Opolok (Acholi); Lopai (Madi); Ndebesa (Lusoga).

Savannah tree 15-30 ft. high. Stem usually waved or spiral. Bark grey, flaking to expose contrasting light patches as on the London Plane. Slash white. Leaves pinnate; leaflets 5 to 9, oblong to oblong-elliptic, usually 2-4 in. long and 1-2 in. broad but sometimes very much larger, entire on adult trees, crenate-serrate on saplings. Flowers pale pink or lilac, occasionally dark pink, rarely almost white, fragrant, precocious, borne in large drooping panicles; calyx 5-lobed, ⅓ in. long; corolla funnel-shaped, 1½-2 in. long, with 5 crumpled lobes which bear red or violet lines on their inner face; stamens 4, 2 long and 2 short. Capsule cylindrical, spirally twisted, dark brown, 1½-2 ft. long, ¼ in. thick; valves very persistent. Seeds 1-1½ in. long, winged at each end. Wood white, tinged with yellow and pink; weight 60 lbs. per cu.ft. air dry.

Mengo; Toro; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Karamoja; Budama; Busoga.

A tree well worth cultivating for the sake of its peach-like blossons. An infusion of the leaves is used in Bunyoro for washing wounds.

Fig.8. Bombax reflexum Sprague a. Leaf x ½. b. Flower-bud x I. c. Calyx from below x I. d. Petal x I. e. Spines x I.

* BOMBACACEAE

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*Note.

In The Botany of the Speke and Grant Expedition, Captain Grant states that when passing through Unyoro the expedition camped under a baobab (Adansonia digitata L.).

This very conspicuous member of the Bombacaceae has not been reported from Uganda again, and as Captain Grant's record is unsupported by a specimen we have not included the species here.

BOMBAX

BOMBAX REFLEXUM Sprague (Fig. 8). Eggeling 1458.

Synonym. B. buonopozensis Hiern, not of Beauv.

Mulimbi (Lunyoro).

Forest tree to 150 ft. or more, with straight cylindrical bole armed with conical woody spines. Branches whorled. Leaves digitate, glabrous; petiole up to 10 in. long; leaflets 5-7, subsessile with short narrowly winged petiolules, oblanceolate, up to 9 in. long and 2½ in. broad, acuminate. Flowers solitary, bright red, precocious; calyx saucer-like, shallow, unlobed, up to 1½ in. diam., about ½ in. high, rough and puberulous outside, villous with light brown hairs inside; petals oblong, rounded at the tip, 2½-3½ in. long, 1-1½ in. broad, minute tomentose outside, pubescent within; stamens in 5 bundles, filaments 1¼-1½ in. long; stigmas reflexed. Capsule pendulous, 4-5 in. long, containing a large number of small black seeds embedded in grey-white floss.

Toro; Bunyoro. A very striking but rather uncommon tree, well worth growing for its splendid flowers.

Fig.9. Cordia abyssinica R.Br. a. Flowers x I. b. Opened flower x I (style x 1½.). c. Fruits x I. d. Leaf x I.

BORAGINACEAE

Style once divided ..... (1) Cordia

Style twice divided ..... (2) Ehretia

(1) CORDIA

1. Calyx very strongly ribbed; corolla ½-1 in. long ... C.abyssinica

   Calyx not or only very slightly ribbed; corolla under ½ in. long ..... 2.

2. Leaves usually 6-9 in. long, smooth above, tomentose-pilose beneath; panicles longer than the leaves, loose and straggling ..... C.millenii

   Leaves 1-4 in. long, scabrib above, pubescent beneath; panicles shorter than the leaves, densely compact ..... 3.

3. Leaves broadly ovate to orbicular; flowers pedicellate ..... C.ovalis

   Leaves oblanceolate to oblong; flowers sessile..... C.sp.

CORDIA ABYSSINICA R.Br. (Fig.9). Eggeling 464,1897.

Synonyms. C.holstii Guerke; C.unyorensis Sprague (fruit excepted).

Mukebu (Luganda); Mujugangoma (Lunyoro); Mutumba (Lutoro).

Shrub or tree generally under 30 ft. high but occasionally up to 60 ft. Bark pale brown, fibrous. Slash white. Leaves alternate, ovate to suborbicular, usually 3-7 in. long and 1½-4 in. broad (exceptionally up to 12 in. long and 9 in. broad), smooth above, shortly tomentellous beneath; petiole 1-3 in. long. Flowers sessile, white, massed in compact panicles shorter than the leaves, very decorative; calyx brown-tomentellous, tubular, ⅓ in. long; corolla funnel-shaped, 3 times as long as the calyx, with 5 short rounded undulate lobes; stamens included, anthers black; style exserted. Drupe ovoid, ⅓-½ in. diam., yellow, with sweet mucilaginous flesh. Wood brown, taking a good polish, suitable for cabinet work but rarely obtained in large enough sizes.

Mengo; Entebbe; Masaka; Ankole; Toro; Bunyoro; West Nile; Chua; Bugishu; Budama; Busoga. A tree of savannah and forest edge. Wood commonly employed for making native drums.

CORDIA MILLENII Bak. Eggeling 96,1155,1627, 3047.

Synonyms. C.ugandensis S.Moore; C.longipes Bak; C.unyorensis Sprague (only as to fruits).

Mukebu (Luganda); Mujugangoma (Lunyoro); Mutumba (Kamba).

Tree to 80 ft. or more, with spreading crown. Bole thick, rarely straight, with short round buttresses. Bark light brown, fibrous. Leaves alternate, obovate-suborbicular, usually 3½-6 in. long and 2½-4½ in. broad (occasionally up to 12 in. long and 7 in. broad), entire or crenulate, smooth above, tomentose-pilose beneath, apex usually rounded, base rounded to cordate; petiole usually 1½-3 in. long, occasionally up to 6 in. long. Flowers sessile, white, ½ in. long; corolla-tube cylindrical, slightly longer than the calyx; stamens exserted. Fruit ovoid, 1½-1¾ in. long, about ¾ in. diam., cupped by the enlarged calyx. Wood yellow to yellow-brown, lustrous, seasoning and finishing well, very suitable for furniture and cabinet-making; weight 28 lbs per cu.ft. air dry.

Mengo; Entebbe; Sesse; Toro; Bunyoro. Essentially a forest species but occasionally found in proximal grasslands. As the native names imply, the wood ~~of this and of the preceding species~~ is used for drums.

CORDIA OVALIS R.Br. Eggeling 1978, 3343.

Synonyms. C.rubra Hochst.; C.monoica Roxb.

Shrub or tree to 20 ft. with bark scaling in strips. Leaves usually sub-opposite, 2-3 in. long, 1½-2½ in. broad, conspicuously scabrid above, pubescent beneath; petiole about ½ in. long. Flowers pale yellow, fragrant, ¼ in. long; stamens exserted. Fruit yellow, ovoid, ¾ in. long.

Sesse; Bunyoro; West Nile; Teso; Busoga.

CORDIA SP. Eggeling 793,1707,2803.

Savannah shrub or tree to 20 ft., exceptionally attaining 40 ft. Bark smooth, whitish. Leaves alternate, 1-3 in. long, ¾-1¾ in. broad, scabrid above, pubescent to almost glabrous beneath, margin entire or crenate; petiole up to 1 in. long. Panicles few-flowered; flowers yellow-white, about ¼ in. long; corolla-tube slightly

longer than the calyx; stamens exserted. Drupe ovoid, up to ½ in. long, pointed, cherry-red, soft and juicy.

Bunyoro (Butiaba); West Madi; Chua; Karamoja. Confined to dry savannah.

The plant is intermediate between C.gharaf (Forsk.) Ehrenb.(Synonym. C.rothii Roem. & Schultes) and C.ovalis R.Br. with both of which it has been identified in the past. Until further material is available its true position must remain uncertain. I include here two of my specimens (Eggeling 793, 1707) originally determined as C.crenata Del.

(2) EHRETIA

Corolla at least twice as long as the calyx; leaves smooth on the upper surface ..... E.cymosa

Corolla shortly exserted from the calyx; leaves conspicuously scabrid on the upper surface ..... E.teitensis

EHRETIA CYMOSA Thonn. Eggeling 694, 3160.

Synonym. E.silvatica Guerke

Shrub or tree to 60 ft., usually on the edge of forest. Leaves ovate, acute, entire, glabrous to puberulous above, glabrous to pubescent beneath, 3-8 in. long, 1½-3½ in. broad; petiole up to 1 in. long. Flowers white, sessile, ¼ in. long, in crowded cymes; stamens and style exserted. Berries small, round, yellow-red. Wood perishable. Masaka; Ankole; Kigezi; Toro; Mubende; Bunyoro; Teso; Bugwere; Bugishu.

Two of my specimens (Eggeling 1614, 1628) differ from the above in having smaller flowers and less dense indumentum. They may represent another species.

I include here two numbers (Bagshawe 386, 976) originally determined as E.angolensis Bak.

EHRETIA TEITENSIS Guerke Scott Elliot 6172.

Shrub or ~~small~~ tree to 20 ft. Branchlets whitish-pubescent. Leaves obovate, obtuse, 1-1½ in. long; petiole very short. Cymes few-flowered.

Toro (Ruwenzori).

BURSERACEAE

1. Leaves simple or trifoliate or if pinnate then with less than 5 pairs of leaflets ..... (3) Commiphora

   Leaves pinnate with more than 5 pairs of leaflets.. 2.

2. Fruit a capsule; leaflets crenate ..... (1) Boswellia

   Fruit a drupe; leaflets entire ..... (2) Canarium

(1) BOSWELLIA

Leaves under 2 in. long ..... B.elegans

Leaves 6-12 in. long ..... B.papyrifera

BOSWELLIA ELEGANS Engl. Eggeling 3001.

Savannah tree to 20 ft. Leaves tufted on short side shoots; leaflets 17-25, less than ½ in. long. Flowers yellow. Fruit red, pear-shaped, about ¾ in. long, 3-seeded.

Karamoja.

The tree yields an aromatic resin used mixed with snuff as a cure for coughs.

BOSWELLIA PAPYRIFERA Hochst. Eggeling 885,1716,2370.

Leyo (Acholi): FRANKINCENSE TREE.

Deciduous savannah tree to 30 ft. Bark papery, pale yellow-brown, peeling in wide strips. Slash reddish, exuding a fragrant resin. Leaflets 13-19, up to 3½ in. long and 1½ in. broad, opposite to sub-opposite, oblong-lanceolate, crenate, sessile, softly pubescent on both surfaces when young, ultimately glabrous above. Panicles up to 18 in. long, clustered at the ends of the thick branchlets; rhachis red; flowers precocious, pedicellate, sweet-scented, ½ in. diam.; calyx 5-lobed; petals 5, white tinged with pink; stamens 10, yellow; pedicels about ⅓ in. long. Fruit 3-sided, pear-shaped, red, about 1 in. long.

West Madi; Chua; Karamoja. Confined to dry hillsides in dry savannah. Sometimes used as a live headge.

(2) CANARIUM

BURSERACEAE (196)

CANARIUM SCHWEINFURTHII Engl. (Photo.7). Eggeling 79.

Muwafu (Luganda); Mubani (Lunyoro): CANARIUM (Trade name); INCENSE TREE.

Deciduous forest tree to 120 ft., commonly retained as a shade tree in banana-gardens in Buganda, in which situation the tree rarely exceeds a height of 60 ft. in height and produces an extremely symmetrical wide-spreading umbrella-shaped crown. Buttresses slight or absent. Bark grey, rough, fissured. Slash pale brown to flesh-colour, exuding a fragrant resin usable as incense. Branchlets densely rusty-pubescent. Leaves up to 2 ft. long, tufted at the ends of the branches; leaflets usually 6-10 pairs, sometimes up to 15 pairs, opposite to sub-opposite, oblong to oblong-lanceolate, 3-7 in. long, 1-2 in broad, pubescent beneath, apex abruptly acuminate, base cordate. Panicles axillary, up to 8 in. long; flowers yellow-green to creamy-yellow, about ½ in long; calyx 3-lobed; petals 3, slightly exceeding the calyx. Fruit purple, date-like, 1-1½ in. long, cupped by the persistent calyx. Wood pale pink, of considerable value as a structural timber but liable to attack by borer.

Mengo; Entebbe; Sesse; Masaka; Ankole; Bunyoro; West Nile; Busoga.

The fruits are edible, being used as an article of food in Buganda. The greenish pulp is eaten raw, the seeds only when cooked.

(3) COMMIPHORA

Until much more material is available, a satisfactory key to this difficult genus cannot be prepared. Our lack of information regarding even the commonest members is especially regrettable since Commiphora is of considerable importance in the drier parts of the Protectorate.

The genus is especially noteworthy for the readiness with which poles of all the species take root when planted. They are frequently used to form live-hedges round cattle-bomas and villages and are of potential value for the fencing of grazing grounds.

BURSERACEAE (196)

The following species are recorded:—

COMMIPHORA ABYSSINICA (Engl. Eggeling 3454.

Small savannah tree. Bark on bole black, corrugated, cracking into squares; on the purple-brown branchlets it peels in papery strips. Leaves subsessile, clustered, obovate, ¾-1½ in. long, 2/5 - ¾ in. broad, glabrous, obtuse or rounded at the apex, cuneate at the base. Flowers subsessile, clustered on very short cushion-like side-branches; calyx tubular, divided about half-way to the base; petals pink, spathulate, reflexed at the tip, about ¼ in. long.
Fruit ovoid, beaked, about ½ in.long.
Bunyoro: Karamoja.

COMMIPHORA AFRICANA (Arn.) Engl. Bagshawe 214.

Synonym. Balsamodendron africanum Arn.

Shrub or tree to 20 ft., usually spiny. Bark resin-scented, green and shining, flaking in papery scales. Leaves usually trifoliolate, leaflets obovate, obtuse or broadly pointed, coarsely crenate-serrate, pubescent on both sides; central leaflet ½-1½ in. long, ½-1 in. broad; petiole shorter than the leaflets. Flowers fasciculate, axillary, ¼ in. long; corolla-tube red, lobes green. Fruit drupaceous, elliptic, ¼-⅓ in. long, grey-green with a purplish bloom.
Ankole.

COMMIPHORA BOIVINIANA Engl. Eggeling 2973.

Shrub or loosely-branched tree to 40 ft. Bark smooth, brownish-grey. Branchlets, leaves and inflorescence densely pubescent to tomentose. Leaves imparipinnate, about 4 in. long, tufted at the ends of the branchlets; leaflets usually 3-4 pairs, finely pubsescent, irregular in shape, the lateral leaflets usually broadly elliptic to ovate-oblong, up to 1¼ in. long and ¾ in. broad, the terminal leaflet obovate. Inflorescence spikate, longer than the leaves; flowers fasciculate, the fascicles widely spaced on the rhachis of the spike.

BURSERACEAE (196)

Karamoja.

COMMIPHORA CAMPESTRIS Engl. Eggeling 2981.

Bush or tree to 20 ft. Trunk gnarled and fluted; bark green or yellow-green, peeling in straw-coloured sheets. Sap spine-scented. Leaves trifoliolate, glabrous, grey-green with a waxy bloom; leaflets obovate, up to ¾ in. long, crenulate; petiole up to 1 in. long. Flowers red.

Karamoja.

COMMIPHORA HOLLISII Sprague Eggeling 854.

Bush or small tree with branchlets terminating in a sharp spine. Leaves trifoliolate; leaflets coarsely crenate-serrate, the terminal one up to ¾ in. long, twice as long as the lateral leaflets; petiole up to ½ in. long.

Chua.

COMMIPHORA LINDENSIS Engl. Eggeling 2843.

Shrub or tree to 20 ft. Branchlets spiny. Bark dull green, peeling in papery rolls. Slash gummy. Leaves glabrous, simple or trifoliolate, sessile or subsessile; terminal leaflet crenate, oblanceolate, up to 2 in. long, acute; lateral leaflets similar to the terminal leaflet but much smaller, usually less than ½ in. long. Flowers pinkish.

Chua; Karamoja.

COMMIPHORA PILOSA Engl. Eggeling 645,841, 3484.

Spiny shrub or tree. Bark green or yellow-green with straw-coloured papery peel. Leaves trifoliolate, pubescent; terminal leaflet obovate, up to 2 in. long, rounded at the apex, deeply crenate; lateral leaflets elliptic, up to ¾ in. long; petiole up to ¾ in. long. Spines axillary, sharp, up to ½ in. long. Flowers red, precocious. Fruits green, tinged with pink.

Ankole; West Nile; Chua; Teso; Karamoja; Budama.

COMMIPHORA SUBSESSILIFOLIA Engl. Eggeling 2482.

Small glabrous savannah tree. Outer bark peeling in pale brown papery strips to reveal the green under-bark. Branchlets grey or grey-brown. Leaves trifoliolate, sessile or subsessile,

glabrous; leaflets sessile, obovate-elliptic, crenate, apex subacute to rounded, base cuneate; terminal leaflet 1-2 in. long, ½-1 in. broad; lateral leaflets 2/5 - 4/5 in. long, 1/5 - 2/5 in. broad. Flowers pinkish-green, in axillary clusters on the bare shoots.

Chua.
COMMIPHORA SP. Eggeling 1218.

Spiny shrub or tree to 20 ft. Bark light green, scaling in papery sheets, Spines straight. Leaves simple, in clusters of 2-3, glabrous, crenate, obovate, 1-1¼ in.long, ¾ in. broad, apex rounded. Flowers yellow-green, fascicled. Wood brownish-white, soft and light.

Bunyoro (near Butiaba).

Perhaps only a form of C.Abyssinica Engl.

Fig.10. Afzelia africana Smith . a. Section of pod showing seeds x $\frac{1}{2}$. b. Leaf x $\frac{1}{3}$. c. Inflorescence x $\frac{1}{3}$. d. Flower x 3.

CAESALPINIACEAE

1. Leaves simple, bilobed ..... (3) Bauhinia
   Leaves compound ..... 2.

2. Leaves once pinnate ..... 3.
   Leaves twice pinnate ..... 10.

3. Leaves imparipinnate ..... (8) Dialium
   Leaves paripinnate ..... 4.

4. Bracteoles large ..... 5.
   Bracteoles small ..... 8.

5. Sepals with the margins very much thinner than the centres, only just imbricate in bud... (2) Baikiaea
   Sepals the same thickness throughout, very imbricate in bud ..... 6.

6. Anthers attached at or near the base ..... (5) Cassia
   Anthers attached at the middle ..... 7.

7. Stamens 3 .....(11) Tamarindus
   Stamens 10 or more ..... (6) Cynometra

8. Petals 5 .....(10) Isoberlinia
   Petal 1 ..... 9.

9. Petal sessile, shorter than the calyx ..... (7) Daniellia
   Petal clawed, longer than the calyx ..... (1) Afzelia

10. Fruit indehiscent; flowers sessile; ovules 1-2 (4) Burkea
    Fruit dehiscent; flowers shortly pedicellate; ovules 5 or more ..... (9) Erythrophloeum

(1) AFZELIA

Petals 1½-2 times as long as the calyx-lobes --- A. africana

Petal 2½-3 times as long as the calyx-lobes----- A. bella

AFZELIA AFRICANA Smith (Fig.10). Eggeling 865, 1538.

Beyo (Gang); Meli (Madi).

Wide-spreading deciduous savannah tree to 50 ft., with

rounded crown, massive limbs and short thick buttresses. Bark pale grey to dark brown, scaling in large flakes. Slash pale pink. Leaves up to 1½ ft. long; leaflets 4-6 pairs, opposite, broadly elliptic to oblong-elliptic, 2½-5 in. long, 1½-2½ in. broad, apex acuminate, base broadly rounded; petiole up to ⅓ in. long. Panicles flat and spreading, up to 8 in. long; flowers fragrant; calyx-lobes 4, greenish; petal 1, greenish-white tinged with red or purple; stamens 7. Pod 5-6 in. long, 2½-3 in. broad, thick, black, woody, bursting violently to discharge the seeds. Seeds about ¾ in. long, black with a cup-shaped orange aril, weighing about 120 to the pound. Sapwood dirty-white to pale brown; heartwood orange-or yellow-brown, darkening to rich red-brown, often beautifully figured, extremely durable, resistant to termites. It is an excellent utility timber comparable with oak in toughness and hardness but considerably stronger. Its toughness and tendency to pick up under the plane, and the irritating sawdust are its chief disadvantages. It is recommended for office furniture, doors, stair treads, flooring, general joinery, ships timber, etc.; weight about 55 lbs. per cu.ft. air dry.

Bunyoro (Fajao); West Nile; Madi; Gulu; Chua. Sparingly distributed through northern Uganda though common and gregarious on several rocky hills and escarpments where protected from fire.

AFZELIA BELLA Harms Eggeling 3374.

Forest tree 100 ft. or more high. Bark smooth, grey. Slash white. Crown thick. Leaves equal-pinnate; leaflets opposite, about 6 pairs, dark above, paler below, elliptic to oblong, 2¼-3¼ in. long, 1-1⅓ in. broad, base unequal-rounded, apex shortly acuminate; petiole 1/5 in. long. Flowers large, decorative; calyx-lobes 4, spreading, finely puberulous and yellow green outside, purple-red inside towards the base, ½-¾ in. long; petal 1, rarely 2, white with a tinge of red at the base of the claw, fading to

purple, 1¾-2½ in. long; stamens 7, dark red; staminode 1. Pod woody, very similar to that of A.africana; seeds ovoid, slightly compressed, 1-1⅓ in. long, black with a large appressed orange axil with two lobes, one of which extends almost to the top of the seed.
Toro (Bwamba). Rare.

(2) BAIKIAEA

BAIKIAEA MINOR Oliv. Eggeling 43, 591, 680.

Synonym. B. Suzannae Ghesq.
Nkoba (Luganda, Buddu dialect).

Tree to 90 ft. Leaflets 4-6 pairs, subopposite to alternate, leathery, oblong to elliptic, usually 3-5 in. long and ¾-1½ in. broad (occasionally up to 7 in. long and 3 in. broad), base shortly cuneate, apex acute to obtusely pointed, glabrous; petiolule up to ⅓ in. long. Racemes terminal; axis usually 1-1½ in. long, occasionally up to 3 in. long. Flowers white, large, opening and fading within the space of two days; sepals 4, thick, up to 3½ in. long, the upper one twice as broad as the others, dark brown tomentose outside, silvery villous within; petals 5, crinkled, 3-5 in. long, midrib thickly pilose outside, thinly pilose inside, posterior petal lemon within, remainder white; stamens 10, as long as the petals, the upper one free, the others unequally connate below; anthers versatile, ½ in. long. Pod flat, curved, velvety dark-brown tomentose, up to 15 in. long; stipe 1-2 in. long. Wood pale brown, straight-grained, close in texture, moderately strong, easy to saw and plane but nailing badly; it stains and paints very well and is a suitable timber for joinery, cheap furniture, shelving, etc.; weight about 51 lbs. per cu.ft. air dry.
Mengo; Entebbe; Sesse; Masaka; Ankole; Kigezi; Busoga.
A forest species usually found near water, frequently planted as an avenue tree on account of its handsome flowers.

Fig.11. Bauhinia thonningii Schum. a. Inflorescence x 1.
b. Flower x 1½. c. Pod x ½. d. Leaves x ⅓.

CAESALPINIACEAE (146)

I include here all Uganda specimens determined as B.eminii Taub. and B.insignis Benth.

(3) BAUHINIA

BAUHINIA THONNINGII Schum. (Fig.11). Eggeling 372,895,2354.

Synonym, Bauhinia reticulata Oliv., not of DC.

Kigali (Luganda); Maza (Madi); Kirama (Lunyoro, Busoga dialect); Mugali (Lunyoro); Epapai (Gang,Teso dialect); Ogali (Gang): CAMEL FOOT.

Savannah shrub or tree to 20 ft. Bark dark brown to nearly black, thick, fissured. Leaves cordate at the base, 3-7 in. long, 3-6 in. broad, leathery, digitately 9- to 11-nerved (the central nerve prolonged as a mucro into the notch between the lobes of the leaf); lower surface very strongly reticulate, pubescent between the veins. Racemes terminal or axillary, carried horizontally; flowers white, fragrant, dropping, about 1 in. long; calyx 5-lobed, rufous-tomentose; petals 5, white, crinkled; stamens 10. Pod oblong, usually 6-8 in. long (occasionally up to 12 in. long), 1-2 in. broad, at first densely red-brown tomentose, ultimately glabrous, shortly stalked. Wood reddish darkening to dirty brown, liable to attack by termites and borers.

Mengo; Mubende; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Karamoja; Budama; Busoga. A common and widely distributed savannah species. The roots yield a red-brown dye, the pods and seeds a black or black-blue dye. The bark is rich in tannin and provides a useful fibre. The pods are sometimes used as a substitute for soap.

(4) BURKEA

BURKEA AFRICANA Hook. Eggeling 1776.

Savannah tree to 30 ft. Bark grey-brown to blackish, corrugated, scaly. Slash dark red. Leaves 1-2 ft. long,

in tufts at the ends of the branches; pinnae 3-5 pairs, almost opposite; leaflets (Fig.38) up to 9 pairs, alternate, ovate to evate-lanceolate, 1-2 in. long, ¾-1¼ in. broad, unequal-sided, blue-green above, grey-green beneath. Panicles terminal, up to 1 ft. long; flowers crowded, small, fragrant, creamy-white; calyx 5-lobed; petals 5, recurved; stamens 10. Pod elliptic-lanceolate, about 2 in. long and 1 in. broad, long-stipitate, flat except for the twisted tip, thin, brittle, persistent, containing a single flat seed. Wood dark brown to reddish-brown, the sapwood paler, difficult to work but taking a high polish. A reasonably sound and durable wood very suitable for uprights in constructional work and similar purposes. Weight 72 lbs. per cu.ft. air dry.

West Nile; West Madi.

(5) CASSIA

1. Pod cylindrical, 1-3 ft. long, indehiscent, not compressed between the seeds; anthers dehiscing longitudinally ..... 2.

   Pod flattened or if subcylindrical then compressed between the seeds, not exceeding 1 ft. in length, dehiscent; anthers dehiscing by apical pores ..... 3.

2. Racemes corymbose, less than 6 in. long; flowers pink; bracts early deciduous ..... C.Mannii

   Racemes pendulous, not corymbose, up to 18 in. long; flowers yellow; bracts persistent .. C.sieberiana

3. Leaflets acute at the apex ..... C.petersiana

   Leaflets abtuse at the apex ..... 4.

4. Stipules early deciduous; pod subcylindrical C.singueana

   Stipules persistent; pod flat..... C.didymobotrya

CASSIA DIDYMOBOTRYA **Fresen.** Eggeling 3351.

Omugabagaba (Lunyoro, Ankole dialect).

Bushy shrub about 12 ft. high, occasionally a tree to 20 ft. Leaves up to 1½ ft. long; leaflets 10-20 pairs, sessile, inserted close together on the upper side of the rhachis, oblong, 1-2½ in. long, up to ¾ in. broad, apex rounded (bearing

a conspicuous slender mucro); stipules orbicular, apiculate, reflexed, under ½ in. long. Racemes simple, erect, up to 18 in. long; flowers bright yellow, crowded; unopened flower-buds almost black. Pod oblong, 3-4 in. long, about ¾ in. broad.

Mengo; Entebbe; Sesse; Ankole; Toro; Bunyoro; West Nile; Gulu; Teso; Budama; Bugishu. In secondary scrub.

CASSIA MANNII Oliv. (Photo.36). Eggeling 1421, 1605.

Ntanyenya (Lunyoro).

Deciduous forest tree to 80 ft. Bark dark brown, shaggy. Leaves up to 14 in. long; leaflets 5-12 pairs, elliptic to elliptic-ovate, 2-3½ in. long, 1-1½ in. broad; apex more or less acute or shortly acuminate, base rounded; petiolules ¼ in. long. Corymbose racemes clustered below the leaves; flowers rose-pink, handsome; sepals about ½ in. long; petals about ¾ in. long; stamens 9. Pod 1-1½ in. diam.; seeds obovoid, compressed, about ½ in. long by ¼ in. broad and 1/6 in. thick. Sapwood white; heartwood red-brown, becoming handsome rich dark brown when seasoned, hard, heavy, cross-grained, tough, turning and polishing well.

Bunyoro (Budongo and Bugoma Forests). A rare and extremely decorative tree well worthy of cultivation.

The species is distinguished from all other species of Cassia by the presence in the pod of a longitudinal septum which divides the transverse loculi into halves, each of which contains one seed. Another unusual feature is that the flower possess only 9 stamens.

CASSIA PETERSIANA Bolle Eggeling 541,2276.

Bushy shrub or low-branching tree to 20 ft. Leaves 5-12 in. long, usually with small deciduous glands between the leaflets; leaflets 6-12 pairs, 1½-3½ in. long, ¾-1½ in. broad, shortly petiolulate; stipules sub-cordate or reniform, ½-¾ in. long. Flowers golden-yellow, in simple or branched corymbose racemes; sepals and petals very unequal. Pod thick-margined, up to 10 in. long and ½ in.

Fig.12. Cassia sieberiana DC. Portions of -: (a) Pod. (b) Raceme. (c) Leaf. All natural size.

broad.

Mubende; Bunyoro; Lango; Bugishu; Busoga. In secondary scrub and on the edge of forests.

CASSIA SIEBERIANA DC. (Fig.2). Eggeling 1813.

AFRICAN LABURNUM.

Savannah tree to 35 ft. Bark shaggy, dark brown to almost black. Slash yellow. Leaves up to 1 ft. long; leaflets 6-14 pairs, elliptic to oblong, 1½-3½ in. long, ¾-1¾ in. broad, basal pair of leaflets about as long as broad, apical pair about twice as long as broad; petiolules ¼ in. long. Flowers pale yellow, 1½-2 in. diam., with 3 stamens exceeding the petals and the remainder shorter than the petals; bracts linear, ⅓-2/3 in. long; bracteoles subulate, much shorter than the bracts. Pod ½-¾ in. diam. Sapwood white; heartwood yellow or reddish, darkening to brown, close-grained, hard, difficult to work, taking a good polish. Weight 70 lbs. per cu. ft. air dry.

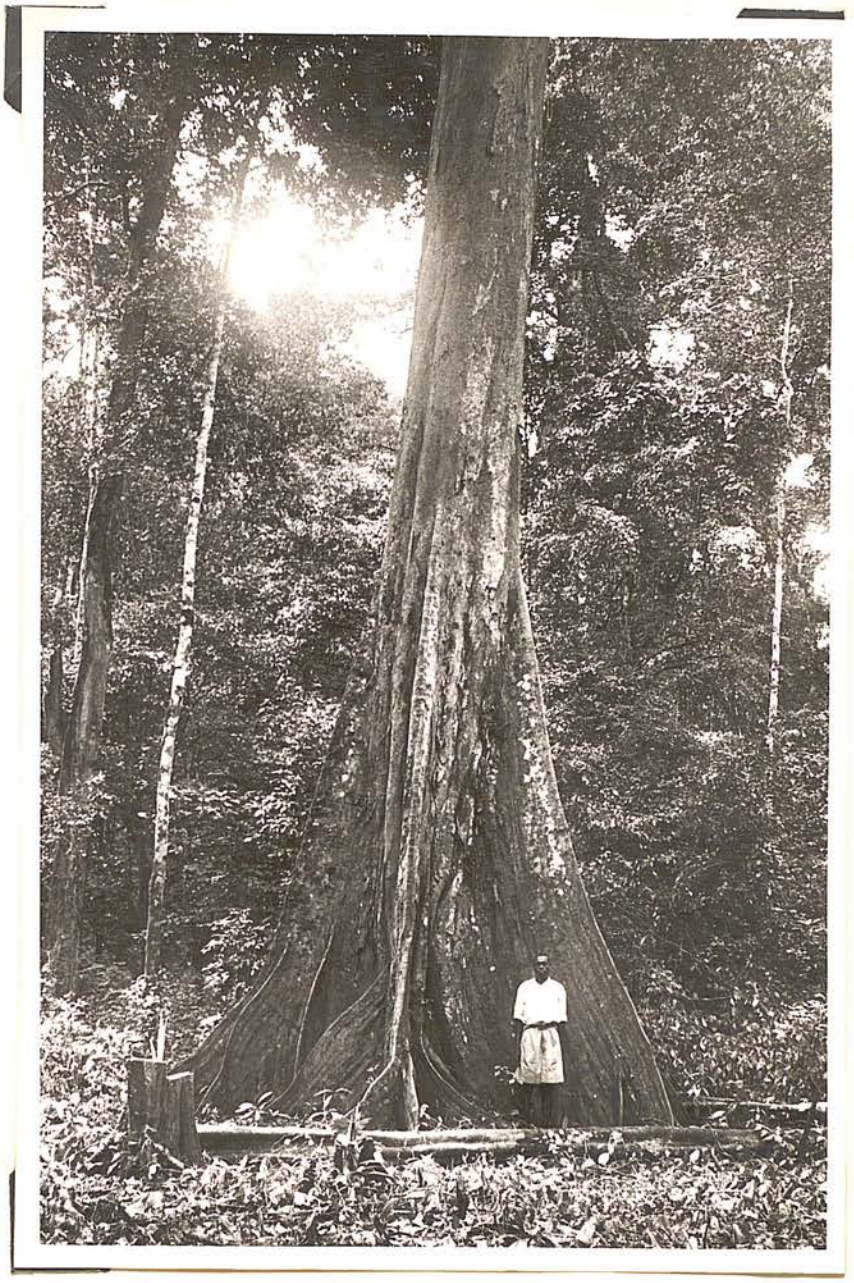
West Nile. An uncommon, local, highly ornamental species which deserves to be more widely known in cultivation than it is at present. It grows readily from seed.

CASSIA SINGUEANA Del. Eggeling 737,2672.

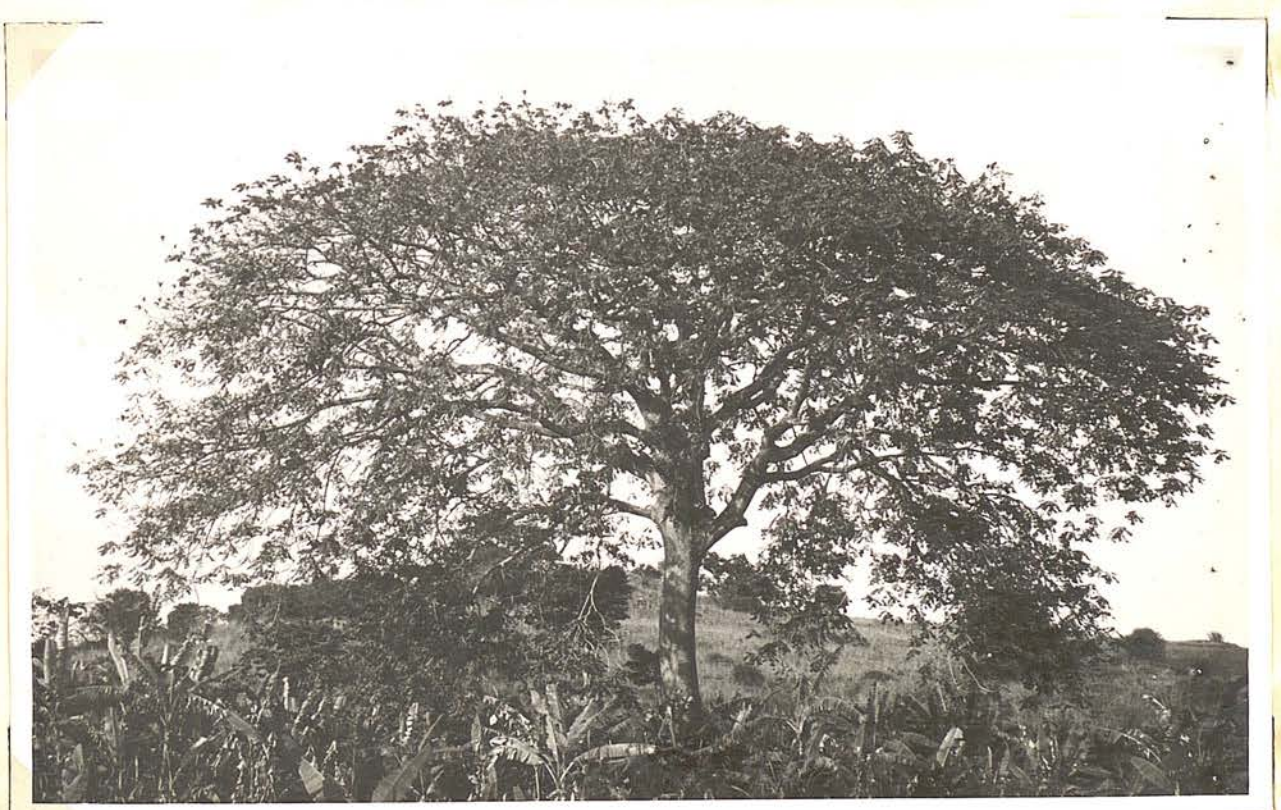
Synonym. C.goratensis Fresen.

Savannah tree to 20 ft. Bark scaly and fissured, grey or brown. Slash brown. Leaves 5-12 in. long, usually with small deciduous glands between the leaflets; leaflets 4-10 pairs, ovate 1-2 in. long, ⅓-1 in. broad, shortly petiolulate. Corymbose racemes short, clustered at the ends of the branches; flowers golden-yellow, precocious, 1½-2 in. across; stamens all shorter than the longest petal; bracts early deciduous. Pod 3-8 in. long, ¼-⅓ in. broad, constricted between the seeds, beaked at the apex, yellow and sticky when ripe.

West Nile; Madi; Gulu; Lango; Teso; Karamoja; Bugwere; Bugishu; Busoga. I include here a specimen collected by



Phot.6. Cynometra alexandri C.H.Wright. Buttresses.



Phot.7. Canarium schweinfurthii Engl. Habit photo.

CAESALPINIACEAE (146)

the
Mr. / Speke and Grant expedition in Madi and originally determined as Swartzia Madagascariensis Desv. (Papilionaceae).
The genus Swartzia does not occur in Uganda.
~~Swartzia does occur in Uganda.~~

(6) CYNOMETRA

CYNOMETRA ALEXANDRI C.H.Wright (Photo.6) Eggeling 1148, 1575, 2139 3321.

Muhimbi, Muhindi (Lunyoro): MUHIMBI (Trade name); UGANDA IRONWOOD.

Very large evergreen forest tree attaining 150 ft. Bole short and gnarled. Buttresses very prominent, thin, plank-like, triangular, frequently extending as ribbons along the ground for a considerable distance. Bark smooth, grey-brown, flaking in large irregular sheets. Slash creamy-yellow to white. Leaves alternate, with two pairs of leaflets, the upper pair 2-3 times as long as the lower; leaflets opposite, obliquely lanceolate to oblong-lanceolate, upper pair 1-3in. long, ½-1 in. broad. Racemes short; flowers densely crowded, white, very fragrant, smelling of hawthorn, about ¼ in. diam.; calyx-lobes 4; petals 5; stamens 10. Pod flat, smooth, 2½ in. long, 1½ in. broad, containing 3-4 flat circular seeds. Sapwood pale, well-defined, 2-3 in. wide; heartwood reddish-brown, close-grained, too hard to take nails, difficult to saw and plane, turning and polishing well, giving a fine finish: it is very durable and almost completely resistant to termites; weight 55 lbs. per cu. ft. air dry. There is a larger standing volume of this timber than of any other tree in Uganda but it is as yet very little exploited. It has been used for bridge timbers, mine-shaft-guides and railway sleepers; it is also suitable for heavy rollers; flooring blocks, etc. Kigezi (Marabigambo Forest); Ankole (Lake Lutoto); Toro; Bunyoro. Distribution apparently limited by elevation; not found above 4,000 ft.

Fig.13. Daniellia oliveri (Rolfe) Hutch. & Dalz. a. Flower-buds showing bracteoles. b. Seed. c. Immature pod. d. Flowers. e. Portion of leaf. All natural size.

CAESALPINIACEAE (146)

(7) DANIELLIA

DANIELLIA OLIVERI (Rolfe)Hutch.& Dalz.(Fig.12), Eggeling 875.

Synonym. Paradaniellia oliveri Rolfe

Masa (Madi); Bitoke, Bito (Lugbara): African Copaiba BALSAM.

Deciduous savannah tree to 80 ft. with thick straight cylindrical bole up to 30 ft. long, and dense flat-topped spreading obconical crown. Bark pale grey, scaly. Slash crimson with fine white lines, a gum-resin exuding. Leaves generally about 18 in. long; leaflets 6-9 pairs, opposite, increasing in size from below upwards, unequal-sided, ovate, basal leaflets 3-6 in. long and 1½-3 in. broad, apex obtusely acuminate, base broadly rounded. Flowers fragrant, in large flat panicles; bracts petaloid, deciduous, completely enclosing the bud; calyx greenish-white, with 4 petaloid lobes slightly over ½ in. long; single petal much reduced, only visible when the flower is fully open; stamens 10, white, about 2 in. long. Pod, flat, smooth, straw-coloured, obliquely elliptic, 2-3 in. long, 1¼-1¾ in. broad, splitting by the sudden curling of the inner layers to expose the single dark brown seed on its twisted funicle. The open pod with the seed attached remains on the tree for a considerable time before falling. Sapwood white, tinged with brown or pink; heartwood red-brown with darker streaks, weak and perishable but very easily worked, of good appearance and pleasantly scented; weight 44 lbs. per cu. ft. air dry.

West Nile; West Madi

A tree of possible value for the improvement of poor-grade savannah. It is a fast growing species which should be sown at stake as it transplants badly. It yields a resin used locally for gum.

CAESALPINIACEAE (146)

(8) DIALIUM

Leaflets 5-7 ---------- D.sp.very near D.bipindense

Leaflets 9 ---------- D.sp.

DIALIUM SP.very near D.BIPINDENSE Harms Eggeling 2136.

Deciduous forest tree to 100 ft. Bark smooth, pale. Leaves alternate; rhachis 2½-4 in. long; leaflets subopposite, ovate to oblong-lanceolate, 1½-4 in. long, ¾-1 in. broad, apex attenuate, base rounded. Flowers not seen. Fruit nut-brown, globular, drupaceous, indehiscent, about ⅓ in. diam. Bunyoro (Budongo Forest).

Until flowering material becomes available, the exact identity of this uncommon species must remain uncertain.

DIALIUM SP. Eggeling 3376.

Deciduous forest tree to 60 ft., resembling a half-grown Cynometra in habit, Bark smooth. Leaves alternate; rhachis slender, 2-3 in. long; leaflets subopposite, ovate-lanceolate to oblong-lanceolate, 1-2½ in. long, ½-1 in. broad, apex obtusely acuminate, base rounded. Inflorescence paniculate, 3-4 in. long, with spreading lateral branches up to 3 in. long; flowers small, in cymules on the branches of the panicle; sepals 5, orange-brown outside, greenish-white inside; stamens 2, asymmetric about the ovary; anthers bright yellow; ovary shortly stipitate, covered with dark brown appressed hairs. Fruit not seen.

Toro (Bwamba); Bunyoro (Budongo Forest).

Possibly only a variety of the preceding.

(9) ERYTHROPHLOEUM

ERYTHROPHLOEUM GUINEENSE G.Don Eggeling 106,909,1180,2246.

Mumara (Lunyoro): ORDEAL TREE.

Forest tree to 100 ft., usually with undulate bole and short blunt buttresses. Crown rounded, spreading, dense. Bark dark brown, scaly. Slash red, granular. Pinnae 2-4

pairs; leaflets alternate or sub-opposite, 7-13, ovate-elliptic, up to 4 in. long and 1½ in. broad, acuminate. Inflorescence a lax panicle with short catkin-like branches; flowers small, creamy-white or brownish, densely crowded, very fragrant. Pod flat, slightly curved, woody-leathery, reddish-purple, 2½-5 in. long, 1-1½ in. broad, containing about 6 (5-10) shiny brown seeds. The pods dehisce without scattering the seeds. Sapwood yellow-white, hard; heartwood reddish-brown (rish dark brown when seasoned), hard, extremely durable, almost completely resistant to termites and borers. Owing to the cross-grain, the wood is difficult to work, but it gives a splendid polish. Because

(Straight on)

Fig. 14. Tamarindus indica L. a. Pod. b. Leaves.
c. Flower. All natural size..

ofiits low elasticity it is unsuitable as a mine-timber but is highly recommended for rough constructional work, door frames, bridge decking, piles, sleepers etc. Weight 60 lbs. per cu.ft. air dry.

Sesse; Bunyoro; Madi.

The bark is ~~highly~~ very poisonous and was formerly widely employed in Africa in trials by ordeal: it is used in Bunyoro as an emetic.

(10) ISOBERLINIA

ISOBERLINIA TOMENTOSA (Harms) Hutch. Eggeling 1966,1967.

Deciduous savannah tree to 40 ft. with steeply-ascending branches and spreading crown. Bark grey, scaly. Slash red. Leaves usually about 18 in. long (much longer on saplings), bright red and shining when young; leaflets usually 3 pairs, opposite or sub-opposite, ovate-oblong to ovate-elliptic, generally 4-8 in. long and 1½-3 in. broad but up to 15 in. long and 10 in. broad on young plants. Flowers white, in large panicles; sepals 5-6 , small; petals 5-6; stamens 10-12; bracteoles hard, blackish-green, enclosing the bud, about the same length as the petals; ovary stipitate, densely tomentose. Pod flat, obliquely-oblong, up to 12 in. long and 3 in. broad, containing 4-6 large flat seeds. The seeds are discharged by the violent splitting of the pods, the two valves separating with a report and curling up in spirals. The unripe fruits protrude from the general level of the crown like small flags.

West Nile. Very local; gregarious and regenerating profusely ~~where it does occur.~~ wherever it is found.

(11) TAMARINDUS

TAMARINDUS INDICA L. (Fig.14). Eggeling 729, 1217.

Chwaa (Acholi); Iti (Madi, Lugwara); Mukoge (Lusoga, Lunyoro, Luganda); Munondo (Lugungu): TAMARIND.

Evergreen savannah tree to 50 ft., with short stout bole and compact rounded ~~drooping~~ crown with drooping branchlets reaching within a few feet of the ground. Bark pale grey with scales about 1 in. across. Slash pale red. Leaves up to 6 in. long; leaflets usually 10-15 pairs, opposite, oblong, ½-1 in. long, ⅕-½ in. broad, base unequally rounded, apex rounded or emarginate. Racemes small, slender, droop-

drooping, usually about 3 in. long; flowers about 1 in. across; sepals 4, yellow inside, reddish outside; petals 3, yellow streaked with red or orange; fertile stamens 3; bracteoles velvete, enclosing the flower bud, caducous. Pod variable, more or less oblong, about 4 in. long, usually curved, pale brown with a brittle shell, containing 1-10 seeds joined one to another by tough fibres running through the sticky pulp. Sapwood wide, pale yellow; heartwood narrow, dark brown to purplish, tough hard, cross-grained, difficult to work, liable to crack in seasoning, bending well, taking a good polish. It has been suggested both as a furniture wood and for boat building; it yields an excellent charcoal. Weight 58 lbs. per cu.ft. air dry.

Mengo; Entebbe; Toro; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Karamoja; Bugwere; Sudana; Busoga. A common tree of drier savannahs, frequently growing on or beside anthills.

Owing to the dense crown there is usually no undergrowth beneath the tree, which suggests that it might be suitable for firebreaks. The fruit pulp yields a pleasant cooling drink, valuable as a refrigerant in fevers, and as a laxative. The following recipes are recommended -: (1) To two ounces of pulp add 2 pints of milk or water, boil, strain and allow to cool; sweeten to taste. (2) To two ounces of pulp add 2 pints cold water and a little sugar, stir, set aside and leave to mature in a cool place for several days.
Chutney and a jam with the consistency of damson cheese can also be made from the fruit.

CANELLACEAE

WARBURGIA

WABURGIA UGANDENSIS Sprague Eggeling 3131, 3137.

Synonym. Dawea ugandensis Sprague ~~(nomen)~~ (name only.)

~~Muhamuni (Lutoro).~~ Mwiha (Lutoro).

Forest tree to 140 ft. Bark ~~rough,~~ pale brown to blackish, rough with rectangular scales. Slash resinous. Leaves simple, entire, pellucid-punctate, ovate to oblanceolate, 1½-5 in. long, ¾-1¼ in. broad, apex shortly acuminate; petiole narrowly winged. Flowers green, produced in short very few-flowered axillary cymes; sepals 3; petals 10 in two whorls of 5 each, those of the inner whorl smaller than those of the outer; staminal tube 10-lobed. Fruit green, ovoid, 1½-2 in. long. Heartwood yellow or greenish, becoming brown on exposure, very fragrant when freshly cut, the scent somewhat resembling that of sandalwood. The timber has a high oil-content, burns with an incense-like smell, and takes a high polish; it is not durable and is not resistant to termites. Weight 52-56 lb. per cu. ft. air dry.

Toro.

The resin is used by natives to fix tools in handles. The bark, leaves, and young twigs are very hot to the taste, the leaves being sometimes used by Indians in Kenya in curries.

CAPPARIDACEAE

1. Sepals connate into a tube at the base ..... (5) Maerua
   Sepals free to the base or nearly to the base .. 2.

2. Petals absent ..... (1) Boscia
   Petals present ..... 3.

3. Sepals in two series ..... (2) Capparis
   Sepals in a single series ..... 4.

4. Sepals imbricate ..... (3) Crataeva
   Sepals valvate ..... 5.

5. Torus with a linear appendage of united staminodes between the two larger petals; stamens 4. (4) Euadenia
   Torus without an appendage; stamens many..... (6) Ritchiea

(1) BOSCIA

Leaves oblanceolate-oblong to obovate-oblong.....B.dawei
Leaves linear to elongate-lanceolate .....B.salicifolia

BOSCIA DAWEI Sprague & Green Dawe 383.

Savannah shrub or small tree. Branchlets grey-brown. Leaves 1-1½ in. long, up to ½ in. broad; apex obtuse or rounded, often mucronate; petiole short. Racemes simple, axillary, solitary; flowers crowded; pedicels ⅓-½ in. long; stamens 6-7. Fruit not seen. Ankole.

BOSCIA SALICIFOLIA Oliv. Eggeling 856, 2329.

Savannah tree to 40 ft. Branchlets drooping, brittle. Leaves willow-like, 2-5 in. long, ⅓- ½ in. broad, very acute at the apex; midrib prominent below, often straw-coloured; petiole up to ½ in. long. Flowers yellow-green to white, in axillary cymes up to 2 in. long; sepals reflexed; stamens 6-14. Fruit spherical, ½ in. diam. West Nile; Madi; Gulu; Chua; Karamoja.

(2) CAPPARIS

CAPPARIS AFZELII Pax Eggeling 1145, 1452.

Mwirima (Lunyoro).

Fig.15. Crataeva adansonii DC. a. Leaf. b. Fruit. c. Flower-spray of large-flowered form. All natural size..

Unarmed forest shrub or tree to 30 ft. Slash white with umber edges. Bark smooth. Branches wide-spreading, drooping, showing concentric pink rings in transverse section. Leaves ovate to oblong-oblanceolate, up to 5 in. long and 2 in. broad, apex acuminate. Flowers white, fading through pink to purple, in axillary fascicles of 1-3 towards the ends of the branchlets; sepals $\frac{1}{3}$-$\frac{1}{2}$-in. long; petals much shorter than the sepals; stamens numerous, up to 1 in. long. Fruit ellipsoid, 1-1½ in. long, pointed, stipitate, densely glandular.

Mengo; Entebbe; Sesse; Toro; Bunyoro; Busoga.

The var. buvumense Bak.f. which occurs on Buvuma Island, Sesse, is scarcely distinct.

(3) CRATAEVA

CRATAEVA ADANSONII DC. (Fig.15; Photo.8). Eggeling 778.

Synonym. C.religiosa Oliv.

Ililia (Madi); Oyoro, Oyuru (Acholi).

Savannah tree usually 15-30 ft. high, occasionally up to 50 ft. high. Bark pale brown. Leaves trifoliolate, pale green, tufted at the ends of the branches; petiole up to 3 in. long; leaflets ovate-lanceolate, up to 4 in. long and 1½ in. broad, apex long-acuminate, base cuneate. Flowers precocious, in many flowered terminal or axillary corymbs near the ends of the twigs; sepals 4, small, pale green; petals 4, all on one side of the flower, white or yellow-white, sometimes with lilac tips, ½-⅔ in. long; stamens numerous, pale lilac, ⅔-1 in. long. Fruit yellow or pale brown, sub-globose, 1½-2½ in. diam., on a woody stalk up to 2½ in. long. Seeds numerous, kidney-shaped, embedded in a white mealy flesh. Wood yellow-white, with a peculiar odour which is noticeable even when a twig is broken.

Bunyoro (Butiaba); West Nile; Madi; Gulu; Chua; Karamoja; Bugishu.

A large-flowered form which occurs near Laropi in West Madi is distinctly worthy of cultivation. It has petals over 1 in. long and stamens up to 1½ in. long.

Fig. 16. Maerua angolensis DC. a. Fruiting branch. b. Flower. c. Flower-spray. All natural size..

CAPPARIDACEAE (36)

(4) EUADENIA

EUADENIA SP. near E.ALIMENSIS Hua Eggeling 2097.

Forest shrub or tree to 15 ft., usually in swampy ground. Leaves 3-foliolate; petiole up to 3 in. long; leaflets obovate (the lateral pair unequal-sided), 2-5 in. long, 1-2 in. broad. Flowers usually precocious, in many-flowered terminal racemes; sepals 4, up to ½ in. long; petals 4 (2 small, 2 large), the larger ones 2-2½ in. long, linear-spathulate, yellow, pinkish-purple at the base, with veins of the same colour; fertile stamens 4. Fruit not seen.

Bunyoro (Budongo Forest).

(5) MAERUA

1. Leaves mostly trifoliolate; petals present -- 2.
   Leaves simple; petals absent ---------- 3.

2. Fruit elongate, more or less torulose ------- M.hoehnelii
   Fruit globose ---------- M.sphaerocarpa

3. Leaves more than 1 in. long ---------- M.angolense
   Leaves less than 1 in. long ---------- M.crassipes

MAERUA ANGOLENSIS DC. (Fig.16). Eggeling 625,760,1439,1443

Savannah shrub or tree usually less than 15 ft. high, but occasionally as much as 30 ft. high. Bark dark grey, smooth. Branchlets spotted with small white lenticels. Leaves very variable in size and shape, usually elliptic to ovate-lanceolate, 1-2½ in. long, ½-1½ in. broad, apex rounded or emarginate, usually mucronate; petiole ½-1 in. long. Flowers in leafy corymbose racemes; calyx lobes 4, reflexed, about ½ in. long; calyx tube half as long as the lobes; corona toothed; stamens numerous, white, about 1 in. long; pedicels thick, under ½ in. long. Fruit yellow, elongate, up to 10 in. long, containing up to 40 seeds; stipe 1-3 in. long. Wood hard, heavy, yellowish, fine-grained, taking a high polish, suitable for small cabinet work, but very brittle.

Ankole; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Karamoja.

MAERUA CRASSIFOLIA Forsk. Eggeling 2803, 2988.

Tree to 20 ft. in very dry savannah. Crown usually rounded. Leaves elliptic to ovate-lanceolate, about ¾ in. long and ⅓ in. broad, apex rounded or emarginate, base cuneate; petiole very short. Flowers green with white stamens; calyx lobes 4, reflexed, about ¼ in. long; stamens ½-¾ in. long. Fruit up to 3 in. long, containing up to 10 seeds, stipe ½ in. long or less.

Karamoja.

MAERUA HOEHNELII Schweinf. Brasnett 121.

Savannah bush or tree to 15 ft. Branchlets pubescent. Leaves trifoliolate or bifoliolate, rarely simple; petiole ¼-½ in. long; leaflets puberulous beneath, narrowly elliptic, up to 1½ in. long and 2/3 in. broad, apex obtuse and apiculate, base cuneate; petiolule very short. Cymes corymbose, at the end of short lateral branchlets; sepals green outside, whitish inside, reflexed, ¼ in. long; petals small, white; stamens numerous. Fruit stipitate, up to 1 in. long and ⅓ in. diam.; fruiting pedicels up to 1¼ in. long.

Karamoja.

MAERUA SPHAEROCARPA Gilg Eggeling 797, 1703, 1747, 2336, 2918.

Savannah bush or tree to 20 ft. Leaves chiefly 3-foliolate, (often simple towards the ends of the branches); petiole up to 1¼ in. long; leaflets narrowly elliptic to ovate-lanceolate, up to 3 in. long and 1 in. broad, apex rounded or emarginate; petiolules less than ¼ in. long. Flowers white, in terminal corymbose racemes; calyx lobes 4, reflexed, less than ¼ in. long; calyx tube up to a third as long as the lobes; petals 4, small; stamens numerous, about ⅓ in. long; pedicels slender, up to 1 in. long. Fruit stipitate yellow, spherical, ¼-½ in. diam.

Chua; Karamoja.

(6) RITCHIEA

Leaves 2-5-foliolate (usually 3-foliolate); petals linear; sepals acuminate, 1 in. long ..... R.albersii

Leaves 1-3-foliolate (usually 1-foliolate; petals spathulate; sepals rounded, ¼ in. long..... R.sp.

RITCHIEA ALBERSII Gilg — Eggeling 36,2829,3267.

Forest shrub or tree to 20 ft. Leaflets narrowly-elliptic to obovate-oblong, up to 6 in. long and 2 in. broad, lateral nerves up to 8 pairs; petiolules very short; petiole up to 3 in. long. Flowers large in few-flowered terminal corymbs; sepals 4, green; petals 4, greenish-white, 1 in. long, ⅛ in. broad; stamens numerous, white, 1¼ in. long. Fruit green, plum-like, on a long stipe. The wood emits a disagreeable odour when burnt.

Entebbe; Sesse; Masaka; Kigezi; Chua; Karamoja.

RITCHIEA SP. — Eggeling 2177.

Shrub or tree to 15 ft. Leaves unifoliolate towards the top of the twigs, trifoliolate lower down; leaflets narrowly elliptic to oblong, up to 7 in. long and 2 in. broad; lateral nerves usually more than 10 pairs; petiole ¼-3 in. long. Inflorescence a many-flowered terminal corymb; flowers smaller than those of B.albersii; sepals 4, green; petals 4, snow-white with very faint green veins, ½ in. long; stamens numerous, white except at the base where they are tinged with black. Fruit not seen.

Gulu (Fajao, on banks of Nile); Busoga (on banks of Nile near Bwendi[a]).

A handsome species deserving trial in gardens.

CELASTRACEAE

1. Fruit capsular; seeds arillate ..... 2.
   Fruit drupaceous; seeds not arillate ..... 3.

2. Leaves opposite ..... (1) Catha
   Leaves alternate ..... (3) Gymnosporia

3. Leaves alternate ..... (4) Mystroxylon
   Leaves opposite ..... 4.

4. Ovary 1-celled; style lateral; flowers 5-merous (5) Pleurostylia
   Ovary 2-4-celled; style terminal; flowers usually 4-merous ..... (2) Elaeodendron

(1) CATHA

CATHA EDULIS Forsk. Eggeling 981,2478,2821.

Shrub or tree usually about 20 ft. high, occasionally attaining as much as 80 ft. Leaves opposite, ovate-lanceolate to elliptic, 2-4 in. long, ½-1½ in. broad, obtusely acuminate, serrate; petiole ¼ in. long. Flowers small and white, in axillary cymes, ½-3 in. long; calyx 5-lobed; petals 5; stamens 5. Capsule oblong, woody, pendulous, ⅓ in. long, opening into 3 valves. Wood pale golden-yellow to dark brown, lustrous, very straight grained, fine and even in texture, moderately hard and strong. It saws and planes well, gives a smooth finish and polishes highly without filling, and these factors, taken in conjunction with its handsome appearance, point to its suitability for cabinet-making; weight 42 lbs. per cu.ft. air dry.

Mengo; Kigezi (Mt. Muhavura); Karamoja (Mt.Debasien); Bugishu (Mt.Elgon). Chiefly in mountain forest; 5-8,000 ft.

(2) ELAEODENDRON

ELAEODENDRON BUCHANANII Loes. Eggeling 643,891,1808,1827,3498.

Tree to 50 ft. with spreading crown. Bark black-brown. Leaves crenulate, obovate-oblong, up to 8 in. long and 3½ in.

broad (usually less than 5 in. long and less than 2 in. broad), apex rounded to acute and often emarginate, base cuneate; petiole ¼-½ in. long. Cymes axillary, with 2-3 whorls of branches; flowers yellow-green, fragrant. Fruit brown, woody, ellipsoid, ½-¾ in. long, sharp-pointed.

Ankole; West Nile; Madi; Chua; Teso; Bugwere; Budama.

Eggeling 3498, from the Imatong Mts., Chua, may be distinct. It is a forest tree 100 ft. high, with smooth, grey-white bole, pale salmon-pink granular slash and white flowers.

(3) GYMNOSPORIA

1.	Peduncles simple	2.
	Peduncles forked	3.
2.	Leaves obtuse	G.lancifolia
	Leaves acute	G.luteola
3.	Leaves obtuse or rounded or emarginate ..	4.
	Leaves acute	6.
4.	Leaves usually rounded or emarginate	G.senegalensis
	Leaves obtuse	5.
5.	Leaves crenate-dentate, cuneate at the base	G.atkaio
	Leaves crenate, long-attenuate to the base	G.buxifolia
6.	Armed; cymes fascicled; peduncles 1-2 in. long, very slender	G.gracilipes
	Unarmed; cymes solitary; peduncles at most 1 in.long,not noticeably slender.	G.lepidota

GYMNOSPORIA ATKAIO (A.Rich.) Loes. Eggeling 2381.

Savannah shrub or tree to 25 ft. Spines long, straight, slender. Leaves elliptic-oblong to obovate, 1½-2½ in. long; ¾-1½ in. broad. Cymes axillary, forked from near the base; flowers cream-coloured. (straight on).

Fruit trilocular, yellow-brown.

Chua (Mt. Rom; 6,500 ft.).

This species and C. buxifolia are very close and may not be distinct.

GYMNOSPORIA BUXIFOLIA (L.) Szyszyl. Eggeling 665,713,2499,2906.

Savannah shrub or tree to 20 ft. Spines (when present) straight, up to 1½ in. long, bearing leaves or ~~spines~~ flowers. Leaves elliptic-oblong to obovate, generally ¾-1½ in. long and ¼-½ in. broad, occasionally up to 3 in. long and 1 in. broad. Flowers white.

Entebbe; Masaka; Ankole; Teso; Karamoja; Bugishu.

Eggeling 665 is referable to the var. laxifolia (Sond.), in which the spines are small or obsolete and the panicles lax. The other specimens cited belong to the var. glomeruliflora (Sond.), where the panicle is sub-sessile and dense.

GYMNOSPORIA GRACILIPES (Welw. ex Oliv.) Loes. Eggeling 2435,3168.

Spiny shrub or tree to 30 ft. in secondary scrub or forest. Bark smooth, pale brown. Spines red-brown, straight, up to 2½ in. long, not bearing leaves or flowers. Leaves elliptic to obovate-oblanceolate, usually under 4 in. long and 2 in. broad, apex acuminate, base cuneate, margin crenulate. Flowers cymose, white, very small; peduncles slender, up to 2 in. long; pedicels up to 1/16 in. long.

Toro; Bunyoro; Bugishu.

~~The majority~~ mat. if not all, of Uganda specimens are referable to the var. arguta Loes.

GYMNOSPORIA LANCIFOLIA (Schum. & Thonn.) Loes. Eggeling 16,1810.

Unarmed shrub or small tree in secondary forest. Leaves elliptic to ovate-elliptic, up to 4½ in. long and 1¾ in. broad, apex acute or shortly acuminate, base cuneate, margin serrulate. Flowers small, white, in axillary fascicles; pedicels up to ¼ in. long. Fruit purple-red, 3-valved; seeds orange.

Mengo; Entebbe; Madi.

Fig.17. Gymnosporia senegalensis (Lam.) Loes. a. Flowering-branch. b. and c. Different types of leaves. d. Spines. All natural size.

GYMNOSPORIA LEPIDOTA Loes. Eggeling 3787.

Unarmed shrub or small tree of mountain forest. Leaves ovate, up to 2 in. long and 1 in. broad, apex acute, base rounded. Cymes solitary, axillary, few-flowered; flowers white; pedicels up to 1 in. long.

Toro (Ruwenzori; 10-11,000 ft.).

GYMNOSPORIA LUTEOLA (Del.) Szyszyl. Eggeling 2041.

Small unarmed tree to 40 ft. Leaves glaucous or pale green, very leathery, ovate-oblong, usually coarsely dentate, 1½-4 in. long, ¾-1½ in. broad, coated on the underside with a white wax. Fascicles axillary, 2-8-flowered. Capsule the size of a pea. Wood red, hard, dense and heavy.

Karamoja (Mt. Debasien; 9,700 ft.).

GYMNOSPORIA SENEGALENSIS (Lam.)Loes. (Fig.17). Eggeling 257, 392, 603, 1173.

Munabuliko (Luganda); Nyabuliko (Lunyoro); Engerengerai (Luteso).

Savannah shrub or tree to 25 ft. Bark grey. Slash red. Branchlets armed or unarmed; spines very variable, short and slender or long and stout, frequently bearing leaves and flowers. Leaves pale green or glaucous, very variable in shape and size, usually obovate to obovate-elliptic, usually about 3½ in. long and 1½ in. broad (up to 5 in. long and 2½ in. broad), apex rounded or emarginate (occasionally sub-acute), base long-cuneate, margin serrulate; petioles often red. Cymes axillary, single or fascicled; flowers white, male and female on the same tree; sepals 5, united; petals 5; stamens 5; style 3-fid. Capsule red, ½ in. diam., 3-celled, 6-seeded. Wood whitish, hard, fine in texture, straight-grained, durable, planing and sawing well but splitting during seasoning: weight 45 lbs. per cu.ft. air dry. It has been suggested as a possible substitute for boxwood for certain purposes.

Mengo; Entebbe; Masaka; Ankole; Mubende; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Bugishu; Budama; Busoga.

One of the commonest and most widely spread of savannah trees. Numerous varieties and forms have been described of which the following

have been recorded from Uganda -: var. inermis A.Rich.; var.inermis forma coriacea Loes.; var. inermis forma macrocarpa Loes.; var. spinosa Engl.

(4) MYSTROXYLON

MYSTROXYLON AETHIOPICUM (Thunb.) Loes. Eggeling 481.

Synonym. Rheedendron aethiopicum Oliv.

Bush or tree attaining 50 ft. but usually much smaller. Bole short; crown narrow; branchlets pendulous. Leaves elliptic to ovate, 1-4 in. long, ½-2 in. broad, apex rounded or emarginate, margin undulate or entire. Flowers greenish-yellow, inconspicuous, in subsessile axillary clusters. Fruit ovoid, apiculate, red, ¼-⅓ in. long, single-seeded, edible.

Mubende; Ankole; Toro; Lango; Teso; Bugishu; Budama.

(5) PLEUROSTYLIA

PLEUROSTYLIA CAPENSIS Loes. Eggeling 1766.

Savannah tree attaining 30 ft., but usually much less. Branches grey-brown, fissured; twigs opposite, angular, drooping. Leaves very variable in shape and size, linear lanceolate to elliptic or ovate, 1-4½ in. long, ⅓-1½ in. broad; apex acuminate or obtuse or sub-emarginate; base cuneate; margin undulate or entire. Inflorescence a few-flowered axillary cyme about ½ in. long; flowers creamy.

Chua; Teso.

CHAILLETIACEAE

TAPURA

<u>TAPURA FISCHERI</u> Engl. <u>Eggeling</u> 1158,1785,1820, 2281, 3482.

Bush or tree to 80 ft. or more, occuring in rain forest, fringing forest and on rocky hills in the driest savannahs. Leaves sometimes variegated, simple, alternate, ovate to obovate-oblong, up to 4 in. long and $1\frac{1}{4}$ in. broad, apex obtusely acute to acuminate, base rounded to shortly cuneate; petiole $\frac{1}{4}$ in. long, bearing the flower clusters. Flowers creamy white, clustered on short peduncles. Fruits small, green.

<u>Bunyoro</u>; <u>West Nile</u>; <u>Chua</u>.

COMBRETACEAE (121)

COMBRETACEAE

Petals present; fruit 4-winged ----------(1) Combretum

Petals absent; fruit 2-winged ----------(2) Terminalia

(1) COMBRETUM [x]

---

x Combretum glutinosum Gill.& Perr. and C. reticulatum Fresen. were recorded from Madi by Speke and Grant, ~~that it is~~ but it is doubtful if they really occur in Uganda. I have not included them here.

1.	Petiole ½-1 in. long; fruit red ----------	7.
	Petiole less than ½ in. long; fruit yellow or yellow-green ----------	2.
2.	Adult leaves glabrous below of hairy only on the nerves or in the nerve-axils -----	3.
	Adult leaves pubescent or tomentose below--	6.
3.	Fruit ½-¾ in. long ----------	4.
	Fruit ¾-1¾ in. long ----------	5.
4.	Tertiary nerves very prominent ----------	C.sp.cf.C.microlepidotum
	Tertiary nerves not very prominent -------	8.
5.	Fruit ¾-1 in. long ----------	C.sp.cf.C.microlepidotum
	Fruit 1-1¾ in. long ----------	C.ghasalense
6.	Fruit ¾-1 in. long; leaves elliptic to ovate ----------	C.gueinzi
	Fruit 1-1½ in. long; leaves broadly elliptic ----------	C.schweinfurthii
7.	Leaves cobweb-hairy and prominently reticulate below ----------	C.sp.
	Leaves neither hairy nor prominently reticulate below ----------	C.binderianum
8.	Leaves more than 2 in. long ----------	C.molle
	Leaves less than 1 in. long ----------	C.sp.near C.transvaalense

Fig.18. Combretum binderianum Kotschy . a. Flowering branch.
b. Fruit. Both natural size.

COMBRETUM BINDERIANUM Kotschy (Fig.18). Eggeling 860,1175,1651.

Synonyms. C.collinum Auct.; C.collinum Fresen; C.elaeagni folium Planch.; C.fischeri Engl.; C.populifolium Engl.& Diels

Mukora (Lunyoro); Okecu, Odugu (Gang); Ekulongi (Gang, Teso dialect).

Savannah shrub or tree to 30 ft. Bark dark grey, rough. Leaves sub-opposite, paired or in whorls of 3-4, obovate-elliptic to narrowly elliptic or oblong, usually 4-5 in. long and about 1½ in. broad (up to 6 in. long and 2½ in. broad), dark green and sparingly lepidote above, grey-green and densely lepidote below, apex sub-acute, base unequal-cuneate; petiole slender. Flowers white, in axillary spikes 2-4 in. long towards the base of the leafy branchlets. Fruit 1-1½ in. long and broad.

Mengo; Mubende; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Bugwere; Budama; Bugishu; Busoga. The commonest savannah tree in Uganda.

I place here tentatively, as a pubescent form, Chandler 638, originally named C.sp.? C.elongense Exell; also Eggeling 1523 which alternatively may be C.kabadense Exell.

COMBRETUM GHASALENSE Engl.& Diels Eggeling 759,1695,1697.

Synonym. C.ternifolium Engl.& Diels

Ekimeng (Gang, Teso dialect); Okecu (Gang).

Savannah tree to 30 ft. Branchlets orange-red. Leaves usually ternate, lanceolate-elliptic to oblanceolate-elliptic or ovate, 3½-7 in. long, 1½-3 in. broad, tapered to the apex, cuneate at the base, finely glandular and finely reticulate below, glutinous when young; midrib compressed. Flowers precocious, creamy-yellow, sweet-scented. Fruit yellow, rather large.

West Nile; Gulu; Chua; Lango; Teso; Bugwere; Budama; Busoga.

COMBRETUM GUEINZII Sond. Eggeling 637,689,858,1170,1653,2496.

Synonyms. C.ankolense Bag.& Bak.; C.splendens Engl.; C. gueinzii var.splendens (Engl.).

Okecu, Oduk (Gang); Muramma (Lunyoro); Ndawa (Luganda,

Busoga dialect); Ekworo (Gang, Teso dialect).

Savannah tree to 20 ft. Young branches and inflorescence tawny-pubescent. Leaves paired or ternate, elliptic to elliptic-oblong or occasionally ovate, up to 7 in. long and 3 in. broad, glabrescent above except on the midrib and main nerves, tawny-pubescent below, apex acute or acuminate, base unequal-rounded. Flowers usually precocious, dark yellow, fragrant, in spikes 2-4 in. long. Fruits yellow-green.

Masaka; Ankole; Toro; Mubende; West Nile; Gulu; Chua; Lango; Teso; Karamoja; Bugishu; Bugwere; Budama; Busoga. A common and very variable species.

I include here Bagshawe 184 originally determined as C.welwitschii Engl. & Diels.

COMBRETUM MOLLE R.Br. Eggeling 1479,1722,1724,1790.

Synonym. C.trichanthum Fresen.

Tree to 40 ft. Bark smooth, grey. Leaves opposite to sub-opposite, elliptic or elliptic-lanceolate, usually 2-4 in. long and 1½ in. broad (occasionally up to 6 in. long and 2 in. broad), apex acute or acuminate, base rounded. Flowers yellow, in spikes 1½-2 in. long. Fruits small, yellowish.

Toro; Bunyoro; West Nile; Madi; Chua. On hillsides and escarpments.

COMBRETUM SCHWEINFURTHII Engl.& Diels Eggeling 1543,1778, 1984,1975.

Savannah bush or tree to 15 ft. Leaves thick, tough, 5-9 in. long, 3-5 in. broad (up to 12 in. long and 6 in. broad on young plants), obtuse or apiculate, glabrescent above except on the midrib, white or buff-coloured below with felty flannel-like tomentum. Fruit large, the body of the fruit pinkish-brown, the wings yellow.

West Nile; Madi. A very local species recognisable by its Terminalia-like leaves.

COMBRETACEAE (121)

COMBRETUM SP. cf. C.MICROLEPIDOTUM Engl. Eggeling 632,1811, 3209,3412.

Savannah tree to 40 ft. high. Bark rough, fissured, grey-black. Leaves opposite, glutinous when young, elliptic-oblong, 3-6 in. long, 1¼-2 in. broad, acute at the apex, unequal-rounded at the base, both surfaces hairless when adult except on the midrib and in the nerve-axils, lower surface densely lepidote; tertiary nerves sub-prominent. Flower-spikes axillary, about 2 in. long; flowers yellow-white. Fruits yellow, broadly and bluntly elliptic.

Mengo; Ankole; Kigezi; West Nile; Lango.

I include here Bagshawe 808 originally determined as C.welwitschii Engl.& Diels; also all the numerous Uganda specimens originally determined as C.petitianum A.Rich.

COMBRETUM SP.near C.TRANSVAALENSE Schinz Eggeling 2503,2510.

Bush or small tree 10-12 ft. high, with the habit of Duranta repens but much sturdier. Bark grey-orange. Leaves crowded, box-like, elliptic to obovate-elliptic, ½-1 in. long, ¼-2/3 in. broad, obtuse and usually mucronate at the apex, unequal-rounded at the base; petiole about 1/10 in. long. Flower-spikes axillary, ½-2/3 in. long; flowers white, fragrant. Fruits yellow, ½-¾ in. long.

Karamoja; Bugishu. In very dry savannah.

COMBRETUM SP. Eggeling 3411, 3414.

Savannah tree to 15 ft. Branchlets softly grey-pubescent. Leaves usually ternate, thick, tough, dull and scarcely shining above, prominently reticulate and grey-puberulous below, oblong lanceolate to oblong, 4-6 in. long, 1½-2 in. broad, apex obtuse, base broadly cuneate. Fruit 1-1¼ in. long, green at first, the wings changing to rich ruby and the fruit-body to brownish-green tinged with red. Flowers not seen.

West Nile (Aringa; near the Sudan border).

(2) TERMINALIA

1. Branches whorled; spines present; fruit less than ¾ in. long ..... T.sp.prob.T. spinosa

Branches not whorled, spines absent, fruit more than 1½ in. long..... 2.

2. Adult leaves glabrous below ..... 3.

Adult leaves pubescent or tomentose below ..... 5.

3. Leaves shortly petiolate or subsessile, long-attenuate to the base; fruit 3-4 in.long .....T.dawei

Leaves long-petiolate, cuneate at the base; fruit 1½-2½ in. long ..... 4.

4. Fruit broadly elliptic, 1½-2 in. long,leaves broadly obovate-elliptic.....T.brownii

Fruit oblong-lanceolate, 2-2½ in. long; leaves obovate-oblong..... T.sp.near I. schweinfurthii

5. Fruit lanceolate-elliptic, about 2 in.long; leaf-blade usually 4-8 in.long..... T.velutina

Fruit elliptic-oblong, 2½-4 in. long;leaf-blade usually 6-15 in. long ..... T.spekei

TERMINALIA BROWNII Fresen. Eggeling 809,842,2047.

Kilere (Gang); Museta (Lunyoro); Malere (Madi).

Tree to 50 ft.; crown usually rather flat-topped; bole ash-grey. Leaves crowded at the ends of the branches,2-3 in. long, 1½-2½ in. broad, apex usually shortly apiculate, base unequal-sided; petiole ½-1½ in. long. Flowers white, foul-smelling, in spikes 3-5 in. long; calyx-tube glabrous. Fruit up to 1¼ in. long, purple-red with a faint glaucous bloom. Wood yellow-brown, medium hard, light, strong, durable, valued as a hut-building pole in West Nile, Madi and Acholi. Toro; Bunyoro; West Nile; Madi; Gulu; Chua; Karamoja;Bugishu. In dry savannah and on mountain-sides up to 7,000 ft. Uganda specimens were originally referred to the var. albertensis Bag. & Bak., but this is scarcely distinct from the type.

TERMINALIA DAWEI Rolfe Eggeling 1238,1513,1669,1961,2198.

Opok (Gang); Ekoboi (Gang, Teso dialect),

Savannah tree to 40 ft. Branches grey; bole dark grey to black-brown. Slash dark red-brown. Leaves pale green

Fig.19. Terminalia velutina Rolfe . a. Leaf and flower-spike: natural size. b. Flower x 2.

or glaucous, glabrous, very tough, obovate, up to 15 in. or more long, tufted at the ends of the branches; midrib white, prominent on both sides. Flowers white, foul-smelling, in spikes up to 7 in. long; calyx glabrous; disk hairy. Fruit oblong, up to 1½ in. broad, green at first, becoming reddish-purple, drying to brown, apex emarginate. Wood yellow-brown, with twisted grain, difficult to work, durable, said to yield a good charcoal; weight about 60 lbs. per cu. ft. air dry. West Nile; Madi; Gulu; Lango; Teso. Usually more or less gregarious.

I place here all Uganda specimens originally determined as T.macroptera Guill. & Perr. from which T.dawei may not be distinct.

TERMINALIA SPEKEI Rolfe Eggeling 1670,1759,1782,2215.

Opok (Gang); Ekoboi (Gang, Teso dialect).

Savannah tree to 35 ft. Bark blackish-grey, deeply fissured. Leaves elliptic to elliptic-oblong, usually 6-15 in. long but sometimes as much as 2 ft. long, up to 5 in. broad, apex sub-obtuse, base more or less rounded, upper surface glabrescent, lower surface densely tomentose; petiole up to 2 in. long. Flowers white, foetid, in spikes up to 6 in. long; calyx pubescent. Fruit obtuse or apiculate, up to 1½ in. broad, green drying to brown. Wood very similar to that of T.dawei.

Mubende; West Nile; Madi; Gulu; Chua; Lango; Teso; Karamoja.

I include here Maitland 1163, Eggeling 489 and Uganda Forest Department 753, all originally determined as T. torulosa F.Hoffm. The leaves of these specimens, all of which are in fruit, are slightly smaller than those of typical T.spekei and the fruits tend to be broadest at the middle rather than above it (see f (1), Fig.20). These differences are not, in my opinion, sufficient to warrant separation but, until flowering material becomes available, the question must remain in doubt.

Fig.20. Terminalia spp. -- Fruits. a. T.sp.near T. spinosa Engl. b. T.velutina Rolfe. c. T.brownii Fresen. d. T.sp. near T.schweinfurthii Engl.& Diels. e. T.dawei Rolfe. f (1). and f (2). T.spekei Rolfe (broad-and narrow-fruited forms.). All natural size.

COMBRETACEAE (121)

TERMINALIA VELUTINA Rolfe (Fig.19) Eggeling 765,1162,1755, 2061.
Mukara (Lunyoro); Opok (Gang); Ekoboi (Gang,Teso dialect).

Savannah tree usually 15-25 ft. high, occasionally attaining 40 ft. Bark dark grey to black, deeply fissured. Slash yellow. Leaves elliptic-oblong to elongate-oblong, up to 9 in. long and 4 in. broad, glabrescent above, lossely to velvety tomentose below, apex obtuse or sub-acute, base unequal-rounded; petiole about 1 in. long. Flower-spikes axillary, up to 6 in. long; flowers white, foetid; calyx pubescent. Fruit pale green, ripening to brown, about ¾ in. broad, apex bluntly rounded or emarginate. Wood yellow-brown, resembling oak in colour and sometimes in appearance, hard, tough, durable, working well with tools; weight 63 lbs. per cu. ft. air dry.

Mengo; Mubende; Bunyoro; Gulu; Chua; Lango; Teso; Karamoja; Budama; Busoga. Under this name I include the numerous Uganda specimens originally referred to T.avicennioides Guill. & Perr.; also Brasnett 180 originally determined as T.alemula Diels.

TERMINALIA SP. near T.SCHWEINFURTHII Engl.& Diels Eggeling 903,2774.

Tree to 30 ft. Leaf-blade 4-6 in. long, 1½-2½ in. broad, apex obtuse or rounded, base shortly cuneate; petiole about 1 in. long. Flowers not seen. Fruits purple-brown when ripe, ¾-1 in. broad.

West Madi; Karamoja (Mt.Debasien).

TERMINALIA SP. near T.SPINOSA Engl. Eggeling 2793, 2978.

Deciduous tree to 25 ft. Branches whorled, carried horizontally. Stipular spines stout, straight, sharp, paired, ¼-½ in. long. Leaves obovate, ¾-1½ in. long, up to 1 in. broad, truncate and emarginate at the apex, clustered at the ends of short stout side-shoots; petiole short, red. Flower-spikes up to 2 in. long, in terminal clusters of 4-5 above the leaves; flowers pink and white. Fruit tiny, dark brown, sometimes with a rudimentary third wing.

Karamoja. In the driest savannahs.

COMPOSITAE

1. Outer (female) flowers of the head ligulate or filiform, inner (hermaphrodite) flowers tubular ..... 2.

   Outer and inner flowers similar, all tubular and hermaphrodite ..... 4.

2. Plants heath-like ..... (4) Stoebe

   Plant not heath-like ..... 3.

3. Involucralbracts in two series of similar size ... (2) Nidorella

   Involucralbracts in one series or if in two series then the outer one composed of smaller bracts... (3) Senecio

4. Involucral bracts in one series or if in two series then the outer one composed of smaller bracts... (3) Senecio

   Involucral bracts in several series of similar size 5.

5. Style-arms stout and obtuse ..... (1)Brachylaena

   Style-arms very slender and tapering ..... (5) Vernonia

(1) BRACHYLAENA

BRACHYLAENA HUTCHINSII Hutch. Uganda Forest Dept.1463,1464.

Deciduous tree to 30 ft. Bole usually fluted; bark whitish, smooth, with longitudinal cracks. Leaves oblanceolate, up to 5 in. long and 1 in. broad, apex acute, base long-cuneate, margin entire or dentate, undersurface white; petiole ½ in. long. Flowers small in short axillary racemes up to 1 in. long. Wood pale yellow to pale-brown, scented, very hard and heavy, easy to work and split, extremely resistant to insects, fungi and weather. Weight 60 lbs. per cu.ft. air dry.

Busoga(East bank of Victoria Nile about 1 mile below the Ripon Falls).

(2) NIDORELLA

NIDORELLA VERNONIOIDES Sch.-Bip.ex A.Rich. Eggeling 2452.

Shrub or tree to 25 ft., with trunk up to 3 ft. in girth. Leaves oblanceolate, up to 7 in. long and 1¾ in. broad, tawny-pubescent on both sides, denticulate, apex acute, base narrowed to the short winged petiole, persisting in downward-hanging clusters when

dead. Flowers golden-yellow, in terminal compound cymes; capitula ¼ in. diam..

Bugishu (Elgon; 9-10,500 ft.).

We include here a specimen (Thomas 555) originally identified as N.arborea R.E.Fries.

(3) * SENECIO

* Key adapted from that of Hauman in Rev. Zool. et Bot. Afr. XXVIII, 1 (1935).

1. Capitula small, well under ½ in. long and thick.. S.multicorymbosus

   Capitula very large, over ½ in. long and thick.... 2.

2. Leaves attenuate to the base; petiole broadly winged (wings over ¾ in. wide at the narrowest part).. 3.

   Leaves cordate or rounded at the base; petiole not or only narrowly winged (wings under ¾ in.broad at the narrowest part) ..... 6.

3. Leaf-auricles glabrous above or at most with only a few scattered hairs ..... S.erici-rosenii

   Leaf-auricles long-silky above ..... 4.

4. Leaves ovate; blade less than twice as long as broad; petiole 2-3 in. long..... S.alticola

   Leaves ovate-lanceolate; blade at least twice as long as broad; petiole 4-6 in. long ..... 5.

5. Leaves glabrous beneath..... S.erioneuron

   Leaves hairy beneath ..... S.adnivalis

6. Petiole winged; leaves glabrous beneath or nearly so ..... 7.

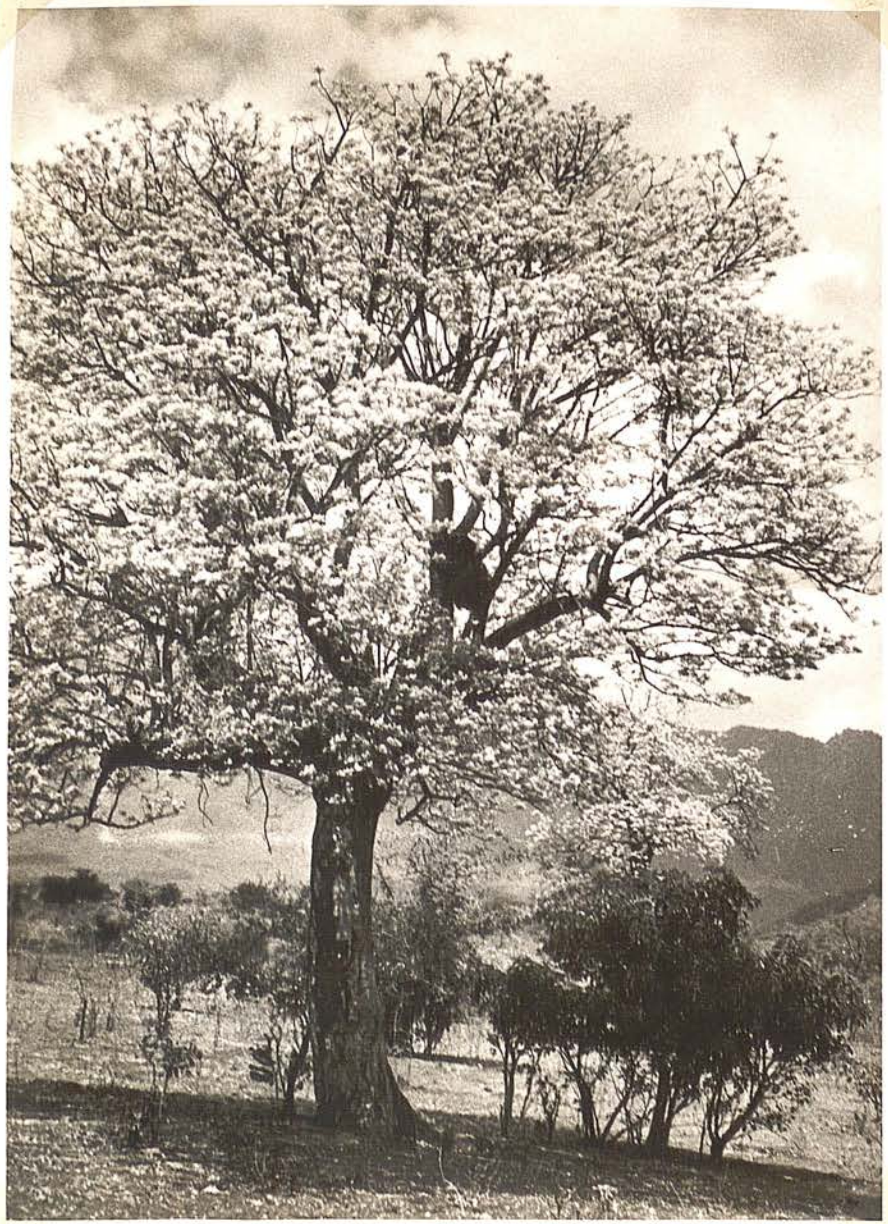
   Petiole not winged; leaves far from glabrous beneath ..... 8.

7. Leaves thick and leathery; hairs on upper surface of leaf-auricles forming a thick silky pad..... S.elgonensis

   Leaves thin; hairs on upper surface of leaf-auricles not forming a thick silky pad ..... S.amblyphyllus

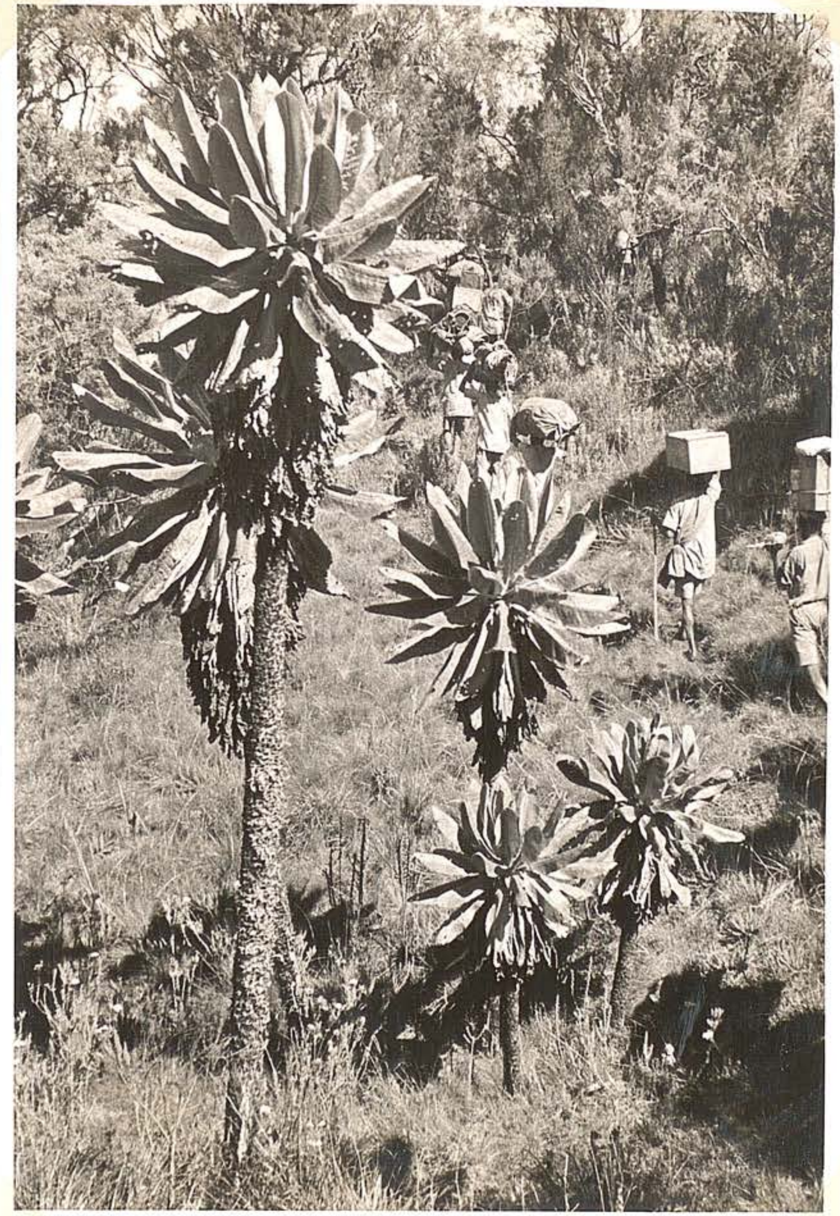
8. Ray florets present; underside of leaves clothed with long white cottony hairs ..... S.petiolatus

   Ray florets absent; underside of leaves clothed with short felty cream-coloured tomentum..... S.gardneri



Phot.8. Crataeva adansonii DC.

A tree in full flower.



Phot.9. Senecio elongensis Th.Fries jr.

Habit photo.

Note: (1) S.johnstonii Oliv. although often recorded by travellers does not occur in Uganda and is consequently not included in the above key.

(2) With the exception of S. multicorymbosus, all these plants are popularly known as 'Tree Groundsels'.

SENECIO ADNIVALIS Stapf Dawe 663.

Tree to 25 ft. Leaves up to 2 ft. long, clustered at the branch-ends. Flowers yellow, in stiff erect much-branched panicles up to 4 ft. in length.

Toro (Ruwenzori; 12-13,500 ft.).

The subspecies RETRACTISQUAMATUS Haum. (Eggeling 1326, 1328) from the same locality differs in the narrower base of the petiole, the glabrous involucral bracts and the longer ligules.

A variety of this subspecies (var. INTER-MEDIA Haum.; Burtt 2797, 2811), with more than usually dense matting on the underside of the leaf, is found on Mt. Muhavura, Kigezi.

SENECIO ALTICOLA (Mildbr.) Th.Fries Eggeling 3279.

Tree to 15 ft., with tough ovate leaves, fleecy beneath. Doubtfully distinct from S. adnivalis Stapf.

Kigezi (Mt. Muhavura; 11,500-13,500 ft.).

From the same locality is recorded the variety SUBSALVESCENS Haum. (Thomas 1182), characterised by the looser tomentum on the under-surface of the leaf.

SENECIO AMBLYTRYLLUS Cotton Thomas 655.

Tree to 25 ft. Closely related to S.elgonensis Th.Fries jr. and perhaps not specifically distinct.

Bugishu (Elgon; 9,100-11,500 ft.).

SENECIO ELGONENSIS Th.Fries jr. (Photo. 9). Thomas 628,630.

Tree 15-30 ft. high.

Bugishu (Elgon; 10-13,200 ft.).

SENECIO ERICI-ROSENII R.E.& Th.Fries Eggeling 1340,1348,3278

Synonym. S.longeligulatus De Wild.

Tree to 30 ft., branching to form a fairly wide-spreading crown.

petiole 2-3 in. long.

Kigezi (Virunga Volcanoes); Toro (Ruwenzori). Normally extends from 8,500 to 11,700 ft. but occurs considerably higher on Mt. Sabinio where it can be found on the summit at 12,600 ft.

SENECIO ERIOCEPHALUS Cotton Eggeling 1310, 1313, 1324.

Tree to 20 ft. Wood white, close-grained, ~~with central pith~~. Perhaps only a variety of S. adnivalis Stapf.

Toro (Ruwenzori; 10,500-13,500 ft.).

SENECIO GARDNERI Cotton Thomas 627.

Tree to 25 ft. Leaves cordate at the base. Petiole thickly clothed on both sides with long white hairs. The only tree groundsel in Uganda which does not possess ray florets.

Bugishu (Elgon; 12-14,000 ft.).

SENECIO MULTICORYMBOSUS Klatt. Eggeling 801, 2410.

Kitalakuba (Luganda).

Much-branched soft-wooded shrub or tree to 25 ft. Stem green throughout its length. Leaves oblong-elliptic, up to 18 in. long and 4 in. broad, apex acuminate, base cuneate, margin serrate. Inflorescence terminal, up to 2 ft. long. Flowers yellow.

Mengo; Entebbe; Mubende; Toro; Chua; Bugishu; Budama; Busoga. A low-level species not extending above 7,000 ft. altitude.

SENECIO PETIOLATUS Cotton Eggeling 1327, 1364.

Tree to 20 ft. Distinguished from all other arborescent groundsels by the long, unwinged, beetroot-red petiole ~~clothed~~ whose sides are clothed with long woolly hairs. Wood white, close-grained, ~~with central pith~~.

Toro (Ruwenzori; 12,500-13,500 ft.).

(4) STOEBE

STOEBE KILIMANDSCHARICA O.Hoffm. Eggeling 2446, 2871.

Wiry heath-like shrub or tree to 15 ft. Foliage silvery grey-green, the largest leaves under ¼ in. long. Flowers small, bright

yellow, in sessile axillary clusters towards the end of the branchlets.

Karamoja (Mt. Moroto); Bugishu (Elgon). In mountain grasslands; 8-10,000 ft.

(5) VERNONIA*

*See note after V.sp.near V.adolfi-friderici Muschler

Leaves obovate-oblanceolate, about 6 in. long and 1¼ in. broad ---------- V.amygdalina

Leaves lanceolate, usually 6-9 in. long and about 2½ in. broad ---------- V.sp.near V.adolfi-friderici

VERNONIA AMYGDALINA Del. Eggeling 71(a),907,3229, 3479, 3492.

Labwori (Gang); Mululuza (Luganda).

Shrub to 15 ft., or sometimes a tree attaining 30 ft. in height with a bole up to 4½ ft. in girth. Bark pale grey. Leaves silvery-tomentose,tapered at both ends. Flowers white, in terminal panicles up to 1 ft. across; capitula about ¼ in. diam.

Mengo; Entebbe; Ankole; Mubende; Bunyoro; West Nile; Gulu;Chua; Lango; Teso; Budama; Busoga. A very common thicket-forming species, chiefly found on the edge of forest.

The branchlets are resistant to termites and are useful as stakes for lining-out plantations.

VERNONIA SP. near V.ADOLFI- FRIDERICI Muschler Eggeling 1352.

Tree to 30 ft. with trunk up to 4 ft. girth. Crown spreading umbrella-shaped. Leaves doubly dentate, lanceolate, up to 9 in.long and 2½ in. broad in our specimen, apex acute to acuminate, base shortly cuneate; petiole velvety, about 2½ in. long. Flowers white tinged with lilac; capitula 1½ in.long and 1 in.broad.

Toro (Ruwenzori; 9,000 ft.)

Note -:
The two plants described above are the only species of Vernonia occurring in Uganda which the writer considers worthy to be called trees. A number of other species have been described by collectors as 'shrubby trees' or'tree-like' shrubs and we give short descriptions of them below. There are probably several others equally deserving of inclusion -:

COMPOSITAE (238)

(1) V.auriculifera Hiern — Eggeling 2434, 3095.

Synonym. V.uniflora Hutch.& Dolz.

Ekinyekanyeme (Lunyoro, Ankole dialect).

Shrub or shrubby tre. Leaves oblong-lanceolate, 4-6 in. long, 1½-2½ in. broad, rounded at the base, puberulous above, woolly-tomentose below, sharply serrulate. Flowers pale mauve, very small; capitula numerous, single-flowered, forming a large spreading corymb.

Ankole; Toro; Bugishu. 5-8,000 ft.

(2) V.colorata Drake — Bagshawe 119.

Synonym. V.senegalensis Less.

Shrubby tree to 15 ft., amongst elephant grass. Leaves obovate, up to 6 in. long and 4 in. broad. Flowers white, in heads ¼-⅓ in. long.

Ankole.

(3) V.conferta Benth. — Maitland 790.

Tree-like shrub. Leaves coarsely dentate, elongate-obovate, 1-2 ft. long, 6-8 in. broad, crowded at the ends of the branches Flowers white in subsessile heads distributed along the elongated branches of the ample panicles.

Sesse.

(4) V.dumicola S.Moore — Eggeling 423.

Low shrub or shrubby tree to 15 ft. Leaves linear-oblong to oblanceolate, dentate. Flowers pale purple.

Mengo.

CONNARACEAE

CONNARUS

<u>CONNARUS LONGISTIPITATUS</u> Gilg. <u>Eggeling</u> 1938.

Understorey tree to 40 ft. Bark smooth. Leaves imparipinnate; leaflets usually 7 or 9, opposite or sub-opposite, elliptic to oblong-elliptic, generally 2½-4 in. long and ¾-1½ in. broad, apex acuminate, base shortly cuneate or rounded; petiolules under ¼ in. long. Panicles conspicuous, terminal, up to 18 in. long and 8 in. wide; rhachis brown-pubescent; flowers white, decorative, borne in great profusion, about ¼ in. long. Fruit pod-like, stipitate, obliquely obovate, 1 in. long and ½ in. broad, beaked, scarlet when ripe; seed black with an orange aril.

<u>Mengo</u>; <u>Entebbe</u>; <u>Ankole</u>; <u>Bunyoro</u>; <u>Kigezi</u>.

I include here <u>Sangster</u> 111, originally determined as <u>Deinbollia</u> <u>sp</u>. (Sapindaceae).

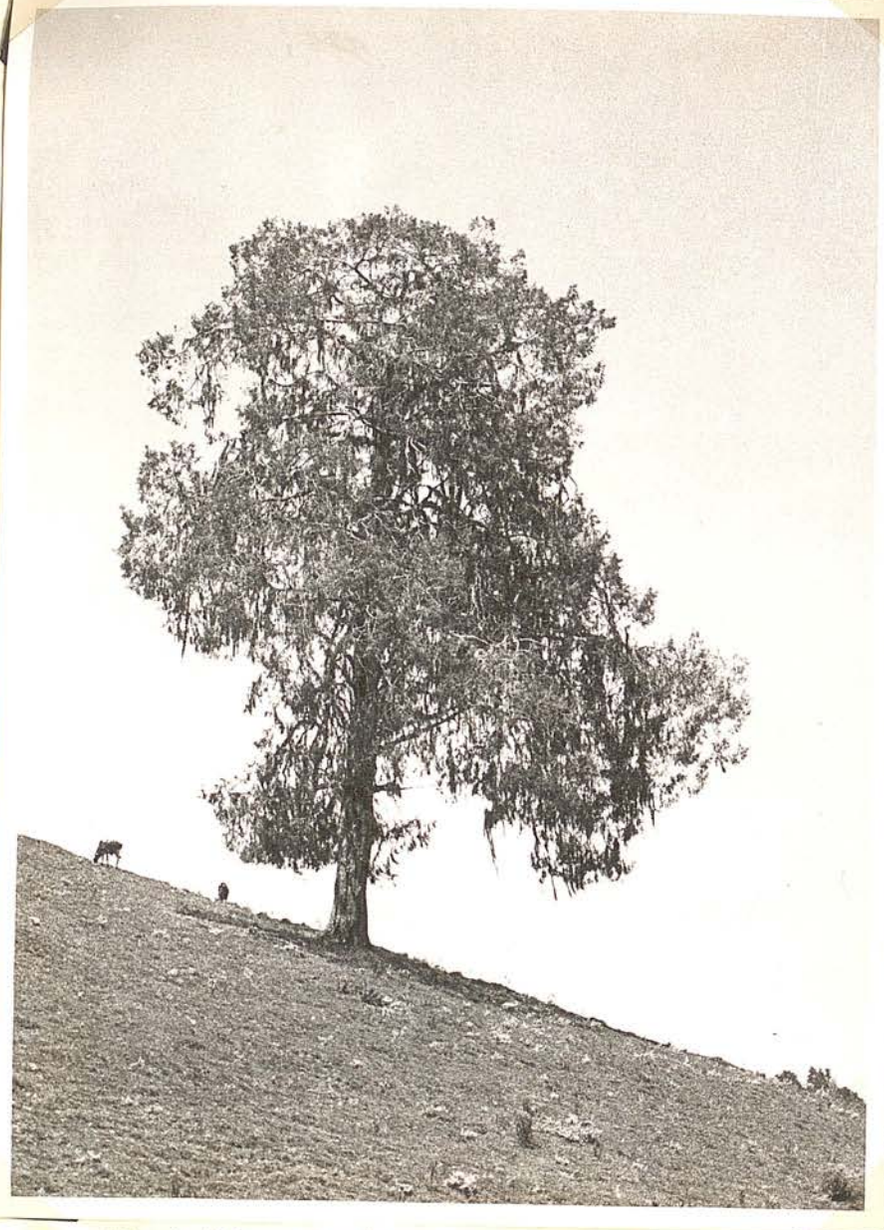
CORNACEAE

CORNUS

CORNUS VOLKENSII Harms Engeling 1050, 1551, 2458.

Tree usually about 30 ft. high but sometimes attaining 60 ft. Leaves pale green, opposite, ovate-elliptic, 2-7 in. long, 1-3½ in. broad, apex long-acuminate, base shortly cuneate; lateral nerves 4-5 pairs, prominent, usually opposite or sub-opposite; petiole up to ¾ in. long. Flowers small, greenish, long-pedicellate, in simple terminal long-stalked umbels, each umbel enclosed in bud by four pale green bracts. Drupe about ½ in. long. Wood perishable; weight about 35 lb. per cu.ft. air dry.

Kigezi (Virunga Mts.); Toro (Ruwenzori); Bugishu (Elgon). In mountain forest, 8-10,500 ft., often accompanying Arundinaria bamboo.



Phot. 10. Juniperus procera Hochst.

Habit photo.

Phot. 11. Erica arborea L. Height 25 ft.

CUPRESSACEAE

JUNIPERUS

JUNIPERUS PROCERA Hochst. (Photo. 10.). Ingoling 2471, 2476, 2816, 2817.

Tololyo (Sabei): CEDAR; AFRICAN PENCIL CEDAR (Trade name).

Evergreen dioecious timber tree attaining 120 ft. in height. Crown pyramidal in youth, spreading in age. Bark light brown, thin, fibrous, cracking and peeling in long narrow strips. Foliage of two types - juvenile and adult; leaves on young trees needle-like, about 1 in. long; leaves on adult trees paired, scale-like, triangular, sharp-pointed. Cones small, solitary, terminal; fruit waxy blue-grey, berry-like, the size of a pea, containing 2-3 seeds. Wood pale to dark purplish-red when freshly cut, turning rich reddish-brown when seasoned, very fragrant, light, straight-grained, easily split, easy to work and finish, extremely durable and almost immune to termites. Weight 32-38 lbs. per cu.ft. air dry.

Karamoja (Timu Forest and Mt.Moroto); Bugishu (Elgon). Essentially a species of dry mountain forest, attaining its optimum development between 6,000 and 9,000 ft. ~~altitude~~ under a rainfall of 40-45 in. The supply of timber available in Uganda is too small for the tree to be of much value. In Kenya, cedar is the most widely-used timber for building purposes and considerable quantities are exported in the form of slats for pencil-making.

CYATHEACEAE

CYATHEACEAE

Sori naked ---------- (1) Alsophila

Sori covered ---------- (2) Cyathea

(1) ALSOPHILA

ALSOPHILA MILDBRAEDII Brause Scott-Elliot 8004.

Tree fern attaining 15 ft.

Toro (Ruwenzori; 9,000 ft.).

I have not seen a specimen.

(2) CYATHEA

Stem and lower portion of petiole very prickly- C.deckenii

Stem and lower portion of petiole almost smooth C.dregei

CYATHEA DECKENII Kuhn (Frontispiece). Eggeling 3128.

Malere (Lunyoro; Toro dialect); Kinyaruba (Lunyoro, Ankole dialect); Omugunza (Lunyoro, dialect of the Bakiga).

Tree fern attaining 25 ft.

Sesse; Ankole; Kigezi; Toro; Bugishu. In damp valleys in forest; most abundant between 5,000 and 9,000 ft.

This is the common tree fern of E. Africa and has often in the past been confused with C.dregei Kunzl.

We include here Godman 118 originally determined as C.manniana Hook., a West African species from which C.deckenii may not be distinct.

CYATHEA DREGEI [illegible] Kze. Eggeling 3152, 3632.

Synonym. Alsophila angolense Bak.; Cyathea angolense Welw.; C.burkei Hook.; C.dregei var. burkei (Hook.) Pappe & Raws.

Malere (Lunyoro, Toro dialect).

Tree fern to 15 ft.

Ankole; Toro.

[illegible] A rare species in Uganda, known only from Butiti Hill in Toro (where it grows in pits in the ironstone), and from near Lwasamaire in Ankole where it is found on the edge of papyrus swamps.

CYCADACEAE

ENCEPHALARTOS

pinnules very oblique at the base, much narrowed on the lower edge..... E.laurentianus

pinnules subequally rounded or cuneate at the base .E.septentrionalis

ENCEPHALARTOS LAURENTIANUS ~~De Wild.~~ De Wild. Bagshawe 1054.

Stem erect or prostrate, usually cylindric, up to 7½ ft. in girth and 30 ft. in length. Leaves 10-20 ft. long, glabrous; ~~pinnules~~ leaflets 60-80 pairs, ovate-lanceolate, 10-15 in. long, 1½-2 in. broad, with 6-10 teeth on each edge. Male cone ♂ peduncled, pale green to bright red, ovate to narrow-cylindric, 6-12 in. long, 2½ in. ~~diam.~~ diam.; female cone ♀ subsessile, grey-green, oblong-ellipsoid, 1½ ft. long, 9 in. ~~diam.~~ diam., usually 3 to each fertile crown. Seed ♀ ovoid-oblong, 1½ in. long, outer coat orange.

Toro (Valley of the Mpanga).

ENCEPHALARTOS SEPTENTRIONALIS Schweinf Eggeling 3426, 3578.

Stem ~~usually~~ short or absent, erect or prostrate, at most about 6 ft. long and 3 ft. in girth. Leaves up to 5 ft. long, petiole and rhachis grey-tomentose; ~~pinnules~~ leaflets 40-60 pairs, ovate-lanceolate, 4-7 in. long, ⅔-1 in. broad, at first densely tomentose, ultimately pubescent or glabrous, with 3-6 teeth on each edge mainly in the basal half. Male cones peduncled, 8-12 in. long, about 2½ in. diam., 4-10 in each crown. Female cones not seen. Seeds ovoid, about 1 in. long.

Madi (Rocky hills near Moyo); Chua (Imatong Mts.; 7,500 ft.).

Fig.21. Diospyros mespiliformis Hochst. ex A. Rich. a. Flowering-branch. b. Fruiting-branch. Both natural size.

EBENACEAE (221)

EBENACEAE

1. Calyx not enlarged in fruit ---------- (2) Euclea
   Calyx enlarged in fruit ---------- 2.
2. Ovary 4- or 8-celled ---------- (1) Diospyros
   Ovary 3-or 6-celled ---------- (3) Maba

(1) DIOSPYROS

DIOSPYROS MESPILIFORMIS Hochst.ex A.Rich.(Fig.21). Eggeling 1482, 1679, 2000

Chumu (Gang, Madi): WEST AFRICAN EBONY (Trade name).

Tree to 50 ft. Bark black, with small regular scales. Slash salmon-pink. Young shoots and inflorescence silvery-tomentose. Leaves shiny, oblong to elliptic, 3-6 in. long, 1-2 in broad; midrib impressed above, prominent below. Flowers dioecious, white, fragrant; male flowers clustered, stamens 10-16; female flowers solitary, staminodes 6-8. Fruits yellow, subglobose, 1 in. diam., with sweet edible pulp; fruiting-calyx spreading; seeds 4-6, dark brown. Wood white to greyish-pink, slowly darkening to dark brown, hard, fine and even in grain, close and uniform in texture, very strong, fairly resistant to fungi, almost termite-proof; it planes easily and turns well but will not take nails; weight 50-65 lbs. per cu.ft. air dry. Some trees yield ebony-coloured wood, the black colouration apparently developing after death.

Entebbe; Bunyoro; West Nile; Madi; Gulu; Chua; Teso; Karamoja. Usually in scrub forest in rocky gullies on hillsides, but also, though less commonly, in open savannah.

(2) EUCLEA

1. Leaves oblanceolate to obovate-lanceolate, broadest above the middle; apex rounded ---------- E.latidens
   Leaves elliptic to lanceolate, broadest at or below the middle; apex rounded ---------- 2.
2. Leaves 2-4 in. long, $\frac{3}{4}$-$1\frac{1}{2}$ in. broad ---------- E.divinorum
   Leaves longer and broader than above ---------- E.urijensis

EBENACEAE (221)

EUCLEA DIVINORUM Hiern Eggeling 480,635 (a),3408.

Synonym. E.keniensis R.E.Fries

Shrub or tree attaining 40 ft. Leaves 2-4 in. long, ¾-1¼ in. broad. Flowers fragrant, yellow-white; male racemes lax, up to 1½ in. long; female racemes stouter, up to ¾ in. long. Fruit globose, 1/5 in. diam., edible.

Masaka; Ankole; West Nile; Teso; Karamoja; Bugishu. Usually on rocky ground.

I include here Fyffe 47/13 and Snowden 825, both originally determined as E.kellau Hochst.

EUCLEA LATIDENS Stapf Eggeling 2610.

Evergreen shrub or small tree. Leaves 2-3 in. long, ¾-1¼ in. broad. Flowers yellow; male racemes up to 1½ in. long; female racemes up to ½ in. long. Fruit globose, 1/5 in. diam.

Mengo; Ankole; Teso; Karamoja.

I include here Eggeling 2610 and Sangster 406,originally determined as E.kellau Hochst.

EUCLEA URIJENSIS Hiern Bagshawe 1172.

The specimen cited was collected by Dr.A.G.Bagshawe in forest near the mouth of the Mpanga river in Toro. The type is Scott Elliot 8180 from Urigi, Ruwenzori. It is doubtful if the plant is ever more than a shrub.

Toro.

I have not seen a specimen.

(3) MABA

Leaves 2½-5 in. long, ¾-1½ in. broad ---------- M.abyssinica

Leaves ½-1 in. long, ¼-½ in. broad ---------- M.sp.? natalensis

MABA ABYSSINICA Hiern Eggeling 1457, 3110, 3173.

Mpimbya (Luganda); Muhoko (Lunyoro,Toro dialect).

Straight-boled forest tree to 80 ft. Bark dark grey to blackish-brown, shaggy, scaling in strips. Leaves lanceolate

to oblong -lanceolate; apex obtuse; midrib impressed above. flowers white, fragrant, subsessile, in axillary clustered; stamens about 14. Fruit spherical, yellow, about ½ in. diam.; fruiting-calyx spreading, distinctly enlarged. Wood hard, whitish, usually with ebony-like markings near the centre, not durable; weight 47-52 lbs. per cu. ft. air dry.
Mengo; Masaka; Ankole; Toro; Bunyoro.

I include here Uganda Forest Department 69, Fyffe 84, Dumme 4252, 5567, all originally determined as Diospyros sp.; also Dawe 545, originally determined as M.mualala Welw.

MABA SP. ? M.NATALENSIS Harv. Eggeling 3393.

Evergreen forest tree to 25 ft. Branchlets grey, shortly pubescent. Leaves box-like, glossy, glabrous or practically so, pvate-lanceolate to rhomboid, obtuse at both ends; midrib more prominent above than below; petiole short, hairy. Flowers not seen. Fruit yellow-green, ellipsoid, ¼-⅓ in. long, tipped by the persistent style, tightly set in the enlarged cup-like appressed scarcely lobed calyx, resembling a small acorn in its cup.
Toro (Bwamba). Very rare.

ERICACEAE

1. Leaves small and heath-like ..... 2.
   Leaves neither small nor heath-like ..... 3.

2. Calyx-lobes equal; pedicels bracteolate ..... (2) Erica
   Calyx-lobes unequal; the lowest lobe longer than the others; pedicels not bracteolate ..... (4) Philippia

3. Leaves entire; style undivided; stamens 10..... (1) Agauria
   Leaves denticulate; style 5-branched; stamens 15.. (3) Ficalhoa

(1) AGAURIA

Leaves glabrous ..... A. salicifolia
Leaves glandular-hairy on the midrib..... A. sp. near A. goetzii

AGAURIA SALICIFOLIA (Comm. ex Lam.) Hook.f. Eggeling 965,3669.

Bush or tree to 30 ft., frequently stunted. Leaves oblong to elliptic-lanceolate, usually 1-2½ in. long and ½-¾ in. broad (occasionally as much as 5 in. long and 1½ in. broad), apex shortly acuminate, upper surface bright green, lower surface grey-white or glaucous; midrib depressed above, prominent beneath; petiole ¼ in. long. Racemes axillary, 1-1½ in. long; flowers yellow-green to pinkish-white, ⅓ in. long; calyx deeply 5-lobed, pubescent outside; corolla deciduous, 5-lobed, cylindrical, ribbed; stamens 10. Capsule 5-angled, about ¼ in. diam. Wood reddish-brown, light, easy to work, ~~It has been~~ suggested as a possible substitute for boxwood.

Ankole (6,000 ft.); Kigezi (Mt. Muhavura; 7,500-10,000 ft.).

AGAURIA SP. near A. GOETZII Engl. Eggeling 2444.

Tree 40 ft. high. Leaves oblong, 2-4 in. long, ¾-1¼ in. broad, apex shortly and abruptly acuminate or long-mucronate. Racemes axillary, 1-2½ in. long; flowers yellow-green with a tinge of pink, about ⅓ in. long.

Bugishu (Elgon; 7,500 ft.).

(2) ERICA

Branchlets shortly pubescent-tomentose, with longer intermingled barbellate hairs ..... E. arborea
Branchlets glabrous or nearly so ..... E. ruwenzoriensis

ERICA ARBOREA Linn. (Photo. 11) Eggeling 969.

Shrub or tree to 25 ft. Leaves acicular, $\frac{1}{6}$-$\frac{1}{3}$ in. long, shortly petiolate. Flowers white, in terminal or sub-terminal clusters on short lateral branches, often so abundant as to appear racemose; calyx, white fading through pinkish to brown; stamens included; style exserted; anthers red; stigma red.

Kigezi (Mt.Muhavura; 7-9,500 ft.); Bugishu (Elgon; 9,500-12,500 ft.)

ERICA RUWENZORIENSIS Alm.& Th.Fries jr. Mrs.Tothill 2430.

Shrub or tree. Leaves acicular, up to $\frac{1}{10}$in. long, sessile. Flowers white to pinkish-purple, clustered.

Ruwenzori (9,500 ft.); Bugishu (Elgon; 12,000 ft.). A much less common tree-heather than E.arborea.

(3) FICALHOA

FICALHOA LAURIFOLIA Hiern Eggeling 3259.

Tree of mountain forest attaining 120 ft. or more. Stem cylindrical, up to 15 ft. in girth, sometimes bluntly buttressed. Bark grey-brown, rough and scaly. Slash pink. Branchlets covered with long yellow hairs when young, becoming glabrous. Leaves elliptic to oblong-lanceolate, $2\frac{1}{2}$-$4\frac{1}{2}$ in. long, $\frac{1}{2}$-$1\frac{1}{4}$ in. broad, apex acuminate, base cuneate; petiole upto $\frac{1}{4}$ in. long. Cymes axillary, usually paired, up to $\frac{3}{4}$ in. diam.; flowers subsessile, green or yellow green, very small; stamens 15 in 5 groups of 3 alternating with the corolla lobes. Capsule small, 5-valved. Wood grey-brown to pale chocolate, even-grained, fine in texture, usually unfigured, durable. It saws, planes and finishes well, polishes highly without filling, splits a little when nailed near edges but takes large nails with fair ease. The appearance and easy working qualities of the timber suggest its suitability for joinery, furniture, cabinet work, panel framing, flooring and instrument making.

Kigezi; the largest tree in the Impenetrable Forest.

(4) PHILIPPIA

1. Branchlets distinctly hairy to the naked eye ..... P.benguelensis
   Branchlets not hairy to the naked eye ..... 2.

2. Leaves spreading, $\frac{1}{5}$-$\frac{1}{4}$ in. long.....P.sp. near P.hexagona
   Leaves appressed, less than $\frac{1}{5}$-in. long ..... 3.

3. Leaves $\frac{1}{10}$- $\frac{1}{5}$in. long ..... P.excelsa
   Leaves less than $\frac{1}{10}$in. long ..... P.johnstonii

PHILIPPIA BENGUELENSIS (Engl.) Alm.& Th.Fries jr. Eggeling 946,1387, 3183.

Synonyms. P.stuhlmannii Engl.; P.holstii Engl.

Hungi (Lukonjo).

Bush or tree to 15 ft. Leaves appressed or slightly spreading, usually less than $\frac{1}{10}$in. long but sometimes as much as $\frac{1}{5}$in. long. Flowers white with dark red anthers.

Kigezi (6,500 ft.); Ankole (5-9,000 ft.); Toro (Ruwenzori; 7,500-8,500 ft.); Bugishu (Elgon; 10-12,000 ft).

We include here Snowden 1298 originally determined as P.(Ericinella) mannii Hook.f.

PHILIPPIA EXCELSA Alm.& Th.Fries jr. Eggeling 2455.

Tree heather attaining 15 ft. or more. Flowers white with reddish anthers and stigma.

Bugishu (Elgon; 11-12,000 ft.).

PHILIPPIA JOHNSTONII Engl. Eggeling 987,1060,1114,1347.

Hungi (Lukonjo).

Shrub or tree to 40 ft. Flowers white; anthers pink or red, sometimes slightly exserted. Wood pinkish-brown, close-grained, resembling pearwood. It saws easily, planes smoothly, nails and turns well, and takes a good polish. Weight 49 lb. per cu.ft. air dry.

Kigezi (Virunga Mts.; 9-12,900 ft.); Toro (Ruwenzori; 8,700-11,300 ft).

We include here Dawe 549 originally determined as P. (Ericinella) mannii Hook.f.

PHILIPPIA SP.near P.HEXAGONA Alm.& Th.Fries ~~Mgr.~~ Eggeling 3793.

Hungi (Lukonjo).

Tree heather 50 ft. high. Leaves thick. Flowers pink.

Toro (Ruwenzori; 11-12,000 ft.). Readily recognised from other species of Philippia by the coarse bristly foliage.

ERYTHROXYLACEAE

ERYTHROXYLUM

ERYTHROXYLUM EMARGINATUM Schum. & Thonn. Eggeling 1734,1898,2504.

Understorey shrub or small tree. Leaves alternate, dark green and shining above, pale green below, tough, leathery, entire, glabrous, oblanceolate to obovate, up to 7 in. long and 3 in. broad, apex obtuse and emarginate; petiole about ¼ in. long. Stipules intrapetiolar, triangular, keeled. Flowers in axillary fascicles of 1–4, white or pinkish-white, fragrant, about ¼ in. across when fully expanded: sepals 5; petals 5, each with a scale on the inner face; stamens 10. Fruit drupaceous, ellipsoid, about ½ in. long, red; peduncle up to 1 in. long.

West Nile: Chua; Karamoja.

We include here Eggeling 2064 originally determined as E. fischeri Engl.

*EUPHORBIACEAE

*Many of the keys and descriptions in this section are taken with little alteration from F.T.A. and F.W.T.A.

1. Male and female flowers much reduced and enclosed in a common involucre; stamens 1; perianth usually absent or rim-like; rarely cupular (Tribe EUPHORBIEAE) ..... 21.

   Male and female flowers not enclosed in a common involucre; stamens usually more than 1 ..... 2.

2. Ovary-cells 2-ovuled (Tribe PHYLLANTHEAE) ..... 4.

   Ovary-cells 1-ovuled ..... 3.

3. Stamens 1-seriate, opposite the sepals; petals present (Tribe GELONIEAE); disk absent; rudimentary ovary present in the male flowers; leaves pellucid-dotted; flowers very small in axillary fascicles; fruit a small drupe ..... (15) Microdesmis

   Stamens 1-2-seriate, the outer alternate with the sepals or all more or less central, sometimes very numerous; petals present or absent (Tribe CROTONEAE) ..... 11.

4. Sepals of the male flowers valvate in bud ..... 5.

   Sepals of the male flowers imbricate in bud ..... 6.

5. Fruit drupaceous; ovary 2-celled; tertiary nerves of the leaves usually parallel ..... (3) Bridelia

   Fruit capsular; ovary 3-celled; tertiary nerves not parallel ..... (4) Cleistanthus

6. Petals present in the male flowers ..... (21) Spondianthus

   Petals absent from the male flowers ..... 7.

7. Male flowers in spikes or racemes, ~~not in an involucre of bracts~~ ..... 8.

   Male flowers in axillary glomerules or fascicles, rarely in racemes of fascicles or solitary in the leaf-axils ..... 9.

   Male flowers in a globose head surrounded by calycine bracts; ~~female solitary in an involucre of bracts; fruit indehiscent, containing 3-4 pyrenes~~ (24) Uapaca

8. Fruit broadly winged; leaves glandular below ..... (12) Hymenocardia

   Fruit not winged; leaves not glandular below ..... (2) Antidesma

9. Disk in the male flowers central; fruit indehiscent (6) Drypetes

   Disk in the male flowers not central; fruit usually dehiscent ..... 10.

10. Flowers dioecious; rudimentary ovary present in the male flowers ~~deeply bi-partite~~ .....(10) Flueggea

Flowers usually monoecious; rudimentary ovary absent from the male flowers.....(17) Phyllanthus

11. Leaves digitately compound, with separate leaflets (16) Ricinodendron

Leaves simple, sometimes deeply lobed but not into separate leaflets ..... 12.

12. Petals present in the male flowers ..... 13.

Petals absent from the male flowers..... 14.

13. Anthers inflexed in bud; leaves often lepidote or stellate-pubescent below ..... (5) Croton

Anthers erect in bud; leaves neither ~~=~~ lepidote nor ~~=~~ stellate-pubescent below .....(18) Pseudagrostistachys

14. Male calyx open in bud, not covering the stamens...(20) Sapium

Male calyx closed in bud and enveloping the stamens 15.

15. Male calyx-lobes imbricate; flowers in leaf-opposed glomerules.....(11) Gelonium

Male calyx-lobes valvate or sub-valvate; flowers not in leaf-opposed glomerules ..... 16.

16. Anther-cells globose or ovoid, separate except at the point of attachment to the filament..... 17.

Anther-cells usually oblong, adnate to the connective from the middle upwards or throughout..... 18.

17. Anthers 4-celled.....(23) Tetrorchidium

Anthers 2-celled..... (8) Erythrococca

18. Anthers 3-4-celled.....(14) Macaranga

Anthers 2-celled..... 19.

19. Stamens connate in the lower part ~~usually 8~~; male spikes on the old wood.....(13) Lepidoturus

Stamens free; male spikes not on the old wood..... 20.

20. Stamens 8 or fewer ..... (1) Alchornea

Stamens 15-30 .....(15) Neoboutonia

21. Involucre ~~with one~~ entirely surrounded by a continuous or notched rim-like gland ~~entirely surrounding it~~ .....(22) Synadenium

Involucre with 2-8 distinct and very conspicuous glands on the margin..... 22.

22. Fruit a capsule..... ..... (9)Euphorbia

Fruit a thick and fleshy indehiscent drupe..... (7)Elaeophorbia

(1) ALCHORNEA

1. Leaves long-petiolate, palminerved; ovary 3-celled...A.cordifolia

Leaves shortly petiolate, penninerved; ovary 3-4-celled..... 2.

2. Leaves 6-12 in. long, 2½-4½ in. broad, nerves 12 or more on each side of the midrib.....A.floribunda

Leaves 2½-6 in. long, 1-1½ in. broad, nerves up to 10 on each side of the midrib.....A.glabrata

ALCHORNEA CORDIFOLIA Muell.Arg. Eggeling 75.

Synonym. A.cordata Benth.

Luzibaziba (Luganda).

Shrub or tree to 25 ft. Stem frequently armed with blunt spines. Leaves usually crenate-serrate, broadly ovate, 4-10 in. long, 3-6 in. broad, 5-nerved from the cordate base; petiole up to 6 in. long, ascending, the leaf blade drooping over it. Inflorescences axillary; male paniculate; female a long lax spike; flowers greenish-yellow; calyx 4-lobed; styles 2, long. Fruit red, ½-¾ in. diameter.

Entebbe; Mengo; Masaka; Sesse; Ankole; Mubende; Bunyoro; Buddu; Busoga. In secondary scrub and on forest edges; especially common on the shores of Lake Victoria. The plant is a favourite food of the situtunga antelope.

Harris 54.

ALCHORNEA FLORIBUNDA Muell.Arg. [illegible]

Shrub or tree to 30 ft. Leaves elongate-oblanceolate, usually crenate, base attenuate and rounded; petiole up to ¼ in. long. Male inflorescence lateral; female terminal; styles 3.

Entebbe; Bunyoro.

ALCHORNEA GLABRATA Prain Maitland 575.

Synonym. A.floribunda var. glabrata Muell.Arg.

Shrub or tree to 40 ft. Leaves oblong-oblanceolate, crenate or entire, base attenuate and truncate; petiole up to ¼ in. long. Inflorescences terminal.

Entebbe.

([illegible]) ANTIDESMA

1. Stipules laciniate .... *A. laciniatum* var. *membranaceum*

   Stipules entire .... 2.

2. Leaves obovate to elliptic-lanceolate, apex usually caudate-acuminate, base cuneate, glabrous except the midrib and lateral nerves below............ *A. membranaceum*

   Leaves elliptic to oblong-elliptic, usually rounded at base and apex, sparsely hairy to tomentose below... *A. venosum*

ANTIDESMA LACINIATUM var. MEMBRANACEUM Muell.Arg. Eggeling 429, 2067, 3045.

Understorey tree to 30 ft. Bark grey-brown; branchlets hairy. Leaves oblong to oblanceolate-elliptic, usually 6-8 in. long and 1½-2½ in. broad, sometimes up to 10 in. long and 3½ in. broad, apex acuminate, base rounded, glabrous except the midrib and nerves below; stipules up to ½ in. long, deeply 3-5-partite, lobes awl-shaped. Male racemes pendant, 2-4 in. long; sepals 3; stamens 3, anthers red. Female racemes 2-3 in. long at flowering, about 6 in. long in fruit; flowers brownish. Fruit ellipsoid, red, ⅓ in. long. Wood hard, yellow-white.

Entebbe; Mengo; Bunyoro.

ANTIDESMA MEMBRANACEUM Muell.Arg. Eggeling 84, 1146, 2194.

Bush or tree to 40 ft. Leaves usually 2-5 in. long and 1-2 in. broad, sometimes up to 8 in. long and 3 in. broad. Male inflorescence 2-5 in. long; female racemes usually 3-6 in. long (exceptionally up to 12 in. long); flowers yellow-green. Fruit ellipsoid, slightly flattened, red, ⅓ in. long.

Entebbe; Sesse; Bunyoro.

ANTIDESMA VENOSUM Tul. Eggeling 286, 141.

Synonym. *A. membranaceum* var. *molle* Muell.Arg.

Shrub or tree to 30 ft. Leaves light-green, usually 1½-5 in. long and ¾-2 in. broad, sometimes up to 6 in. long and 3 in. broad. Male spikes usually about 3 in. long, sometimes as much as 6 in. long; flowers greenish, anthers red. Female racemes 2-5 in. long. Fruit ellipsoid, slightly flattened, dark red, edible, ¼ in. long.

Entebbe; Mengo; Ankole; West Nile; Gulu; Teso.

(2) BRIDELIA

1. Lateral nerves continued to the leaf-margin to form a marginal nerve..... 2.

   Lateral nerves not continued to form a marginal nerve ..... B.atroviridis

2. Fruit 1-celled..... 3.

   Fruit 2-celled..... B.scleroneuroides

3. Leaves rusty-pubescent below; veins prominent on the lower surface ..... 4.

   Leaves glabrous or only minutely puberulous below; veins not prominent on the lower surface. B.micrantha

4. Flowers in clusters in the leaf-axils..... B.ferruginea

   Flowers in terminal spikes ..... B.neogoetzea

BRIDELIA ATROVIRIDIS Mucll.Arg. Eggeling 178.

Savannah bush or small tree. Leaves oblong-elliptic, 3-6½ in. long, 1½-2½ in. broad, acuminate, glabrescent on both surfaces. Flowers in small axillary clusters, red in bud; male flowers shortly pedicellate; female flowers subsessile. Fruit oblong-ellipsoid, 1-celled, black, about ⅓ in. long. Wood dark brown, extremely hard and durable.

Entebbe.

The tree is a food plant of Anaphe silkworm. ~~(See too B.micrantha)~~

BRIDELIA FERRUGINEA Benth. Eggeling 1584,1646,1802.

Shrub or tree to 60 ft. Branchlets rusty-pubescent. Bark dark grey and scaly; slash crimson. Leaves undulate, broadly elliptic, 2-5 in. long, 1-3 in. broad, very shortly acuminate. Flowers creamy-yellow, fragrant, in axillary clusters. Fruit ovoid, black, ⅓-½ in. long. Wood brown, coarse-grained; weight 60 lbs. per cu.ft. air dry.

West Nile; Madi; Gulu; Chua. Beside streams and in swampy forest.

BRIDELIA MICRANTHA (Hochst.) Baill. Eggeling 2.

Katazamiti (Luganda).

Tree to 40 ft. with dense wide-spreading crown. Branches frequently spiny. Leaves elliptic to obovate, usually 3-5 in. long and

Fig.22. Bridelia scleroneuroides Pax a. Flowering-branch.
b. Fruiting-branch. Both natural size.

1-2 in. broad, acuminate, shining and glabrous above. Flowers creamy, in axillary clusters; male shortly stalked; female sessile. Fruit ellipsoid, blue-black, ½-⅓ in. long, 1-seeded, edible, carrying the remains of the two bifid stylee. Heartwood dark brown, very hard, exceptionally durable in ground and water, resistant to termites. The tree yields a good charcoal and an excellent firewood. Timber from large stems might be used for interior carpentry, being fine-grained and taking a good polish. In pole-size the timber is recommended for hut-building.

Entebbe; Mengo; Sesse; Kigezi; Ankole; Toro; Budama; Busoga. Common on the edge of forests in the Lake Victoria region. The tree is the chief host-plant of the wild (Anaphe) silkworm and plantations established at a time when there was a sale for the silk but now abandoned may be seen here and there in Buganda.

BRIDELIA NEOGOETZEA Gehrm. Snowden 1384.

Spreading tree to 70 ft., frequently with storeyed branches. Branchlets sometimes spiny. Leaves elliptic to oblong-elliptic, 2-5 in. long, 1¼-3 in. broad, apex shortly and obtusely acuminate. Flowers pale yellow with darker yellow disk. Fruit ovoid, acute, ¼-½ in. long. Wood heavy.

Ankole; Toro. In forest, 6-8,000 ft.

BRIDELIA SCLERONEUROIDES Pax (Fig.22.). Eggeling 407.

Eryecho (Luteso).

Savannah bush or tree to 30 ft. with drooping branches. Leaves oblong to oblong-elliptic, usually 2-5 in. long and ½-2 in. broad, rigidly leathery, softly and densely pubescent below, apex obtuse or subacute. Flowers yellow, in axillary clusters. Fruit globose, ¼ in. diam., purple-black.

Entebbe; Mengo; Toro; Mubende; West Nile; Gulu; Lango; Teso; Budama; Busoga.

(4) CLEISTANTHUS

CLEISTANTHUS SP. probably C. POLYSTACHYUS Hook.f. ex Planch. Eggeling 158, 325, 1900, 3081.

Fig.23. Croton macrostachys Hochst. ex A.Rich. a. Underside of leaf showing glands. b. Portion of underside of leaf (magnified) showing stellate pubescence. c. Flower-spike (male) in bud. d. Portion of same, with flowers expanded. e. Fruits. All natural size.

Understorey shrub or tree to 40 ft. Branchlets rusty-pubescent. Leaves oblong-elliptic, 3-6 in. long, ¾-1½ in. broad, glabrous, apex subcaudate-acuminate. Flowers yellow, dioecious, in short axillary and terminal racemes; flower-buds brown. Fruit globose, 3-ridged, ⅓-½ in. diam.

Entebbe; Mengo; Toro; West Nile.

I include here Eggeling's 3081 originally determined as Cassipourea sp.? and Eggeling 325 originally determined as Ouratea sp.

(5) CROTON

1.	Leaves toothed	2.
	Leaves entire	4.
2.	Leaves glabrous below or with a few scattered hairs when young	C. sylvaticus
	Leaves puberulous or pubescent below	3.
3.	Flowers monoecious; filaments glabrous.....	C. oxypetalus
	Flowers usually dioecious; filaments pubescent in the lower part.....	C. macrostachys
4.	Petals present and well developed in the female flower	C. megalocarpus
	Petals absent from the female flowers.....	5.
5.	Ovary long-villous or subsetose with stellate hairs; leaves deeply cordate, digitately 5-7-nerved at the base	C. niloticus
	Ovary scaly without stellate hairs; leaves rounded at the base, penninerved.....	C. dichogamus

CROTON DICHOGAMUS Pax Eggeling 2677.

Savannah shrub or tree to 40 ft., with pyramidal crown. Young branchlets densely covered with brown overlapping scales. Leaves ovate-lanceolate to elliptic-lanceolate, 1½-2½ in. long, ½-1¼ in. broad, glabrous and yellowish-brown above, densely covered with silvery scales below with a few brownish scales scattered here and there, apex obtuse or slightly pointed; petiole up to ⅓ in. long. Flowers monoecious, the female at the base of the racemes, the male at the top.

Karamoja.

I enclude here Brasnett 74 originally determined as C. menyhartii Pax.

CROTON MACROSTACHYS Hochst. ex A.Rich. (Fig.23.). Eggeling 923, 1710, 3017.

Musogasoga (Luganda); Murangala (Luchiga); Muyemberera (Lusoga)

Tree usually 30-40 ft. high, sometimes attaining 80 ft. Bark grey. Leaves with a pair of stalked glands at the base of the lamina, broadly ovate, usually 3-6 in. long and 1½-4 in. broad, crenulate, 3-7-nerved at the base, shortly stellate-puberulous at first on both surfaces, at length nearly glabrous, apex acuminate; petiole up to 3½ in. long. Flowers yellow-white, sweet-scented, normally dioecious or at least on separate shoots, sometimes a few females accompanying the males. Male inflorescence up to 10 in. long, flowers pedicellate; female inflorescence usually only up to 4 in. long, flowers subsessile. Capsule grey-white, trilobed, ½ in. diam., tomentellous. Wood yellow, very perishable.

Entebbe; Mengo; Besse; Masaka; Ankole; Kigezi; Toro; Bunyoro; West Nile; Chua; Teso; Budama; Bugishu; Busoga. A common tree in secondary forest and on forest edges.

CROTON MEGALOCARPUS Hutch. Eggeling 1568, 1981, 3085, 3112.

Forest tree to 120 ft. or more. Bark grey and rough, scaling in flakes about 2 in. diam. Sapwood yellow. Leaves oblong-lanceolate to elliptic-oblong, 2-5 in. long, 1-2 in. broad, shortly acuminate, rounded to sub-cordate, minute stellate-puberulous above, paler and densely silvery-scaly below; petiole 1-3 in. long, bearing several large yellow sessile or subsessile glands just below the junction with the lamina. Flowers yellow-white, monoecious, in many-flowered silver-budded racemes up to 10 in. long, a few female flowers towards the base, the remainder male. Capsule ellipsoid, 1-1½ in. long. Wood yellow-white to grey with dark brown streaks near the centre of the heart, coarse, difficult to work, perishable: weight 45 lbs. per cu.ft. air dry.

Entebbe; Mengo; Toro; Bunyoro. A dominant upperstorey tree in some of the Toro forests; a rather uncommon second-storey tree in the Bunyoro forests.

CROTON NILOTICUS Muell. Arg. Speke & Grant 706.

Small tree. Leaves broadly ovate to ovate-rhomboid, 2-4½ in. long and 1½-4 in. broad on flowering shoots, up to 12 in. long and

broad on older branches, apex shortly and obtusely pointed; petiole 1-1½ in. long (over 6 in. long in the case of very large leaves). Flowers probably dioecious, the males not known; female racemes axillary and terminal, about 3½ in. long. Gulu. I have not seen a specimen.

CROTON OXYPETALUS Muell.Arg. Eggeling 1185,1186,3058,3071.

Tree usually about 30 ft. high but sometimes as much as 80 ft. high. Leaves serrate, elliptic to ovate, 2-6 in. long and 1½-3 in. broad, base rounded to sub-cordate, apex gradually acuminate; petiole ½-1½ in. long. Flowers white, monoecious, in racemes up to 9 in. long, the upper third of the raceme composed of male flowers, the rest of female. Bunyoro. On the edge of forests.

CROTON SYLVATICUS Hochst. Stuhlmann 1210.

Shrub or small tree. Leaves serrulate, ovate, 1½-2½ in. long, 1-1½ in. broad, apex subcaudate-acuminate, base rounded. Flowers monoecious; racemes up to 6 in. long, consisting of numerous male flowers with a few females scattered amongst them; filaments glabrous. Fruit sub-globose, ⅓ in. diam., shortly stellate-pubescent. Sesse. I have not seen a specimen.

(6) DRYPETES

1. Flowers in axillary fascicles on the young shoots ---------- D.battiscombei

   Flowers arising from the trunk or from old leafless branches ---------- 2.

2. Leaf-apex caudate-acuminate ---------- D.ugandensis

   Leaf-apex obtuse ---------- D.sp.prob. D. major.

DRYPETES BATTISCOMBEI Hutch. Eggeling 1580.

Understorey tree to 60 ft. Bark smooth, dark grey. Leaves dark green, crenate-serrate, oblong to oblong-lanceolate, usually 4-7 in. long and 1¼-1½ in. broad, apex caudate-acuminate, base cuneate and unequal-sided; petiole ⅓-½ in. long. Flowers dioecious; male numerous, clustered,

creamy-yellow, on pedicels up to 1/5 in. long; female solitary. Fruit globose, ½-¾ in. diam., covered with dense grey-brown tomentum. Wood white, heavy, not durable.

Bunyoro; Bugishu.

DRYPETES UGANDENSIS Hutch. Bagshawe 613.

Synonym. Cyclostemon ugandensis Rendle

Low tree with grey bark. Leaves obscurely denticulate, oblong-elliptic to oblong-lanceolate, 4-6½ in. long, 1¼-2 in. broad, slightly unequal-sided at the base; petiole ⅓ in. long. Flowers **dioecious**, cream-coloured, fascicled on the old wood; pedicels ½-¾ in. long.

Sesse. We have not seen a specimen.

DRYPETES SP. probably D.MAJOR Hutch. Eggeling 3078.

Understorey tree to 30 ft. Bark fairly smooth, yellow-grey. Leaves repand-**dentate** to entire, oblong-lanceolate to oblong, usually 4-6 in. long and 1½-2 in. broad, base unequal-sided; petiole up to ¼ in. long, deeply grooved. Flowers not seen. Fruit bright yellow, sessile on the main limbs, containing 3 seeds.

Bunyoro (Budongo Forest). Rare.

(7) ELAEOPHORBIA

ELAEOPHORBIA DRUPIFERA Stapf Eggeling 3313.

Kididi (Kuamba); Nkukuru (Lunyoro, Toro dialect).

Forest tree to 70 ft. with clean cylindrical bole and rounded crown. Branches succulent and angular when young, becoming cylindrical and woody with age, weakly armed with paired broad-based prickles about 1/5 in. long. Bark grey. Slash yellow-white, exuding a white latex. Leaves fleshy, oblanceolate to obovate, 3-9 in. long, 1¾-4 in. broad, apex obtusely rounded (sometimes widely emarginate), base cuneate. Peduncles forked (with a sessile involucre in the fork), the branches about 1 in. long; involucre with 5 transversely oblong denticulate lobes and 5 fleshy transversely oblong glands; flowers greenish-white, the

male numerous, the female solitary and subsessile. Fruit a fleshy ellipsoid yellow drupe about 1¼ in. long with a hard bony 3-celled endocarp or "stone" which is marked with a slender groove down the back of each cell and has one pore at the base and 3 pores near the apex between the grooves. Kigezi (Malabigambo Forest); Toro (Bwamba).

This species so closely resembles Euphorbia teke Schweinf. that it can only be distinguished with certainty when in fruit.

(8) ERYTHROCOCCA

It is doubtful if any of the rather numerous Uganda representatives of this genus really deserve the name 'tree' although E.bongensis has been described as such by two collectors.

ERYTHROCOCCA BONGENSIS Pax — Eggeling 338.

Savannah shrub or small tree. Branchlets grey-white, with small stipular prickles. Leaves obscurely crenate, elliptic to ovate, ½-2 in. long, ¼-1¼ in. broad, apex acute to rounded, base cuneate. Flowers minute; males in small compact clusters with densely pubescent rhachis and with pedicels up to ⅓ in. long; females not seen.

Entebbe; Mengo; Gulu; Teso.

(9) EUPHORBIA*

* Euphorbia antiquorum L., although often recorded by travellers, does not occur in Uganda. It is therefore not included here.

1. Branches armed ..... 2.
   Branches unarmed ..... 6.

2. Flowering branches 2-6 in. diam..... 3.
   Flowering branches 1-1½ in. diam. .....E.venenifica
   Flowering branches ½-¾ in. diam.....E.teke

3. Spine-shields united into a continuous horny margin to the stem-angles..... 7.
   Spine-shields separate, not united into a continuous horny margin..... 4.

EUPHORBIACEAE (136)

4. Flowering branches flat and thin, or sometimes 3-angled..... E.dawei

   Flowering branches 3-7-angled..... 5.

5. Leaves well developed, 1½-3½ in. long, ⅓-2/3 in. broad; flowering-eyes quite separate from the spine-shields and not connected with them by a horny margin..... E.neglecta

   Leaves absent; flowering eyes united with or embraced by the spine-shields..... E.calycina

6. Leaves well developed, strap-shaped, 5-12 in. long, ¼-1½ in. broad; involucre with 4 large fan-shaped glands palmately divided into 5-9 (usually 7) filiform segments 2-3 times forked at the apex..... E.grantii

   Leaves small, early deciduous, linear, up to ½ in. long; involucre with 5 small peltate 5-lobed glands not divided into filiform segments..... E.media var. bagshawei

7. Spines up to 2½ in. long ..... E.sp.(1)

   Spines ⅓-½ in. long ..... E.sp.(2)

EUPHORBIA CALYCINA N.E.Br. (Photo.14). Eggeling 200,1638.

Enkukura (Lunyoro, Ankole dialect); Weri (Lugbara).

Savannah tree to 30 ft. with succulent dark green 4-winged spiny branches slightly constricted at intervals; the central solid part ½-¾ in. thick; spines paired, up to ½ in. long. Cymes pedunculate, composed of a central sessile male involucre and 2 lateral mostly hermaphrodite cream-coloured involucres on short branches up to ¼ in. long; peduncles ½-¾ in. long.

Entebbe; Masaka; Ankole; Kigezi; Toro; Bunyoro; West Nile; Madi; Gulu; Chua; Lango. The common "Candelabra Euphorbia" of Uganda.

I place here Eggeling 200, originally determined as E.sp. near E.barteri N.E.Br.

EUPHORBIA DAWEI N.E.Br. Eggeling 3391.

Gregarious savannah tree to 30 ft., with palm-like habit. Branches grey-green, succulent, spiny, constricted at intervals; spines short, paired. Leaves rudimentary or very small,

recurving between the spines, elliptic, up to 1/6 in. long, soon deciduous. Cymes about ½ in. long.
Toro. The tree forms pure stands on the plains north of Lake George near Muhokya.

EUPHORBIA GRANTII Oliv. Eggeling 153.

Synonym. E.mulemae Rendle

Shrub or small tree. Bole woody; branches more or less herbaceous towards the tips. Leaves pale green, sessile, ascending, acute at the apex, narrowed to the base. Umbels 5-15 in. diam. terminal, with repeatedly forked cyme-rays; bracts opposite, sessile, 1½-3½ in. long, ¾-2 in. broad, acuminate into a fine awn ⅓-1 in. long. Involucres solitary, purple-red with green glands; Capsule ½ in. diam.
Entebbe; Mengo; Masaka; Ankole; Teso.

EUPHORBIA MEDIA N.E.Br. var. BAGSHAWEI N.E.Br. Eggeling 38.

Nkoni (Luganda); Oruyenzhe (Lunyoro, Ankole dialect).

Shrub or tree to 20 ft., frequently planted as a live hedge. In the open the plant has a straight cylindrical bole up to 10 ft. long and a dense bushy crown. Branchlets green, terete, succulent, alternate or clustered, leafless except when very young, up to ¼ in. thick. Involucres creamy-white, about 1/6 in. diam., in dense sub-sessile terminal clusters ⅓-½ in. across. Capsule sub-globose, 3-angled, slightly over ¼ in. long.
Entebbe; Ankole; Toro; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Karamoja.

I include here Eggeling 38 and Chandler 1047 originally referred to E.tirucalli Linn., a closely allied but distinct Indian species.

EUPHORBIA NEGLECTA N.E.Br. Eggeling 3368.

Forest tree to 30 ft. Branches dark green, succulent, spiny, 3-5-angled, deeply constricted at intervals; spines

paired, up to $\frac{1}{8}$ in. long. Leaves oblong to oblanceolate, sessile, apex acute to rounded and apiculate; base gradually rounded (tapered from much above the middle).

Toro (Bwamba); Bugishu.

The latex is used as an ingredient of arrow-poison.

EUPHORBIA TEKE Schweinf. ex Pax Eggeling 133.

Forest shrub or tree to 20 ft. or more. Branchlets green, succulent, spiny, 4-angled; spines paired, up to 1/5 in. long, not connected by a horny border. Leaves fleshy, obovate, 3-12 in. long, 1-3 in. broad, apex obtuse to rounded, base gradually tapered from much above the middle; petiole up to $1\frac{1}{4}$ in. long. Cymes sessile, axillary, composed of 2-4 peduncle-like branches up to $1\frac{1}{4}$ in. long, each with two smaller branches terminating in solitary yellow involucres about $\frac{1}{3}$ in. diam.

Sesse.

EUPHORBIA VENENIFICA Trém. Eggeling 837.

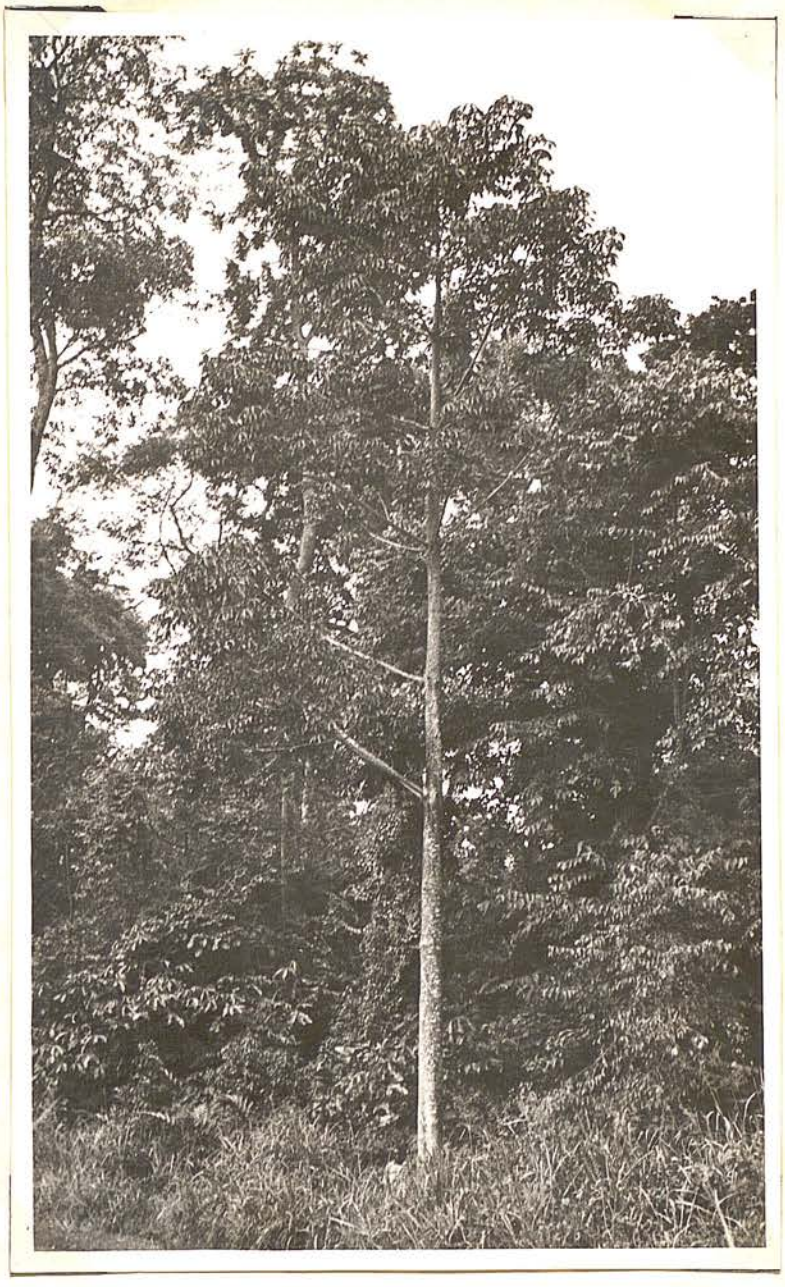
Spiny bush or cactus-like tree to 15 ft. Branchlets cylindrical, usually whorled, covered with spine-tipped tubercles. Spines simple, without a pair of basal prickles, $\frac{1}{4}$-$\frac{1}{3}$ in. long, much dilated or flattened at the base. Leaves deciduous, borne only for a short period and then only at the extremities of the branches, fleshy, glabrous, shortly pedunculate to sub-sessile, narrowly lanceolate to oblanceolate, 3-10 in. long, $\frac{1}{2}$-$1\frac{3}{4}$ in. broad, apex acuminate to subtruncate, base cuneate. Cymes solitary in the axils of the tubercles, $\frac{1}{2}$-$\frac{3}{4}$ in. long.

Chua (Agoro).

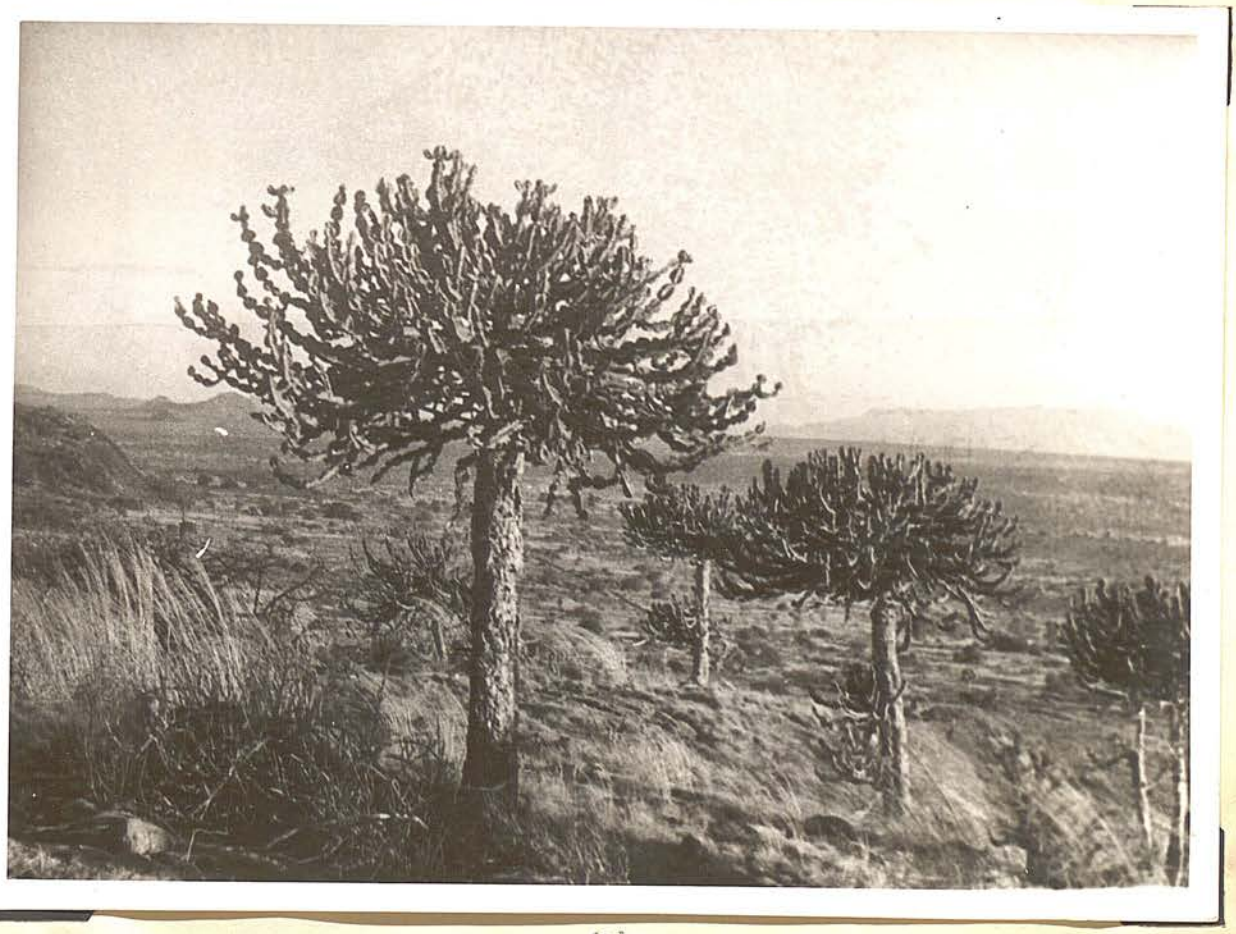
EUPHORBIA SP. (1). Thomas 2250.

Shrub or small tree forming large spreading clumps or thickets. Branches 3-angled, streaked with yellow-green.

Karamoja. Especially abundant on the Turkhana escarpment.



Phot.12. Ricinodendron africanum Muell.Arg. Young tree.



Phot.13. Euphorbia sp. (2). (Eggeling 2338.). Habit photo.

EUPHORBIA SP. (2). (Photo.13). Eggeling 1733, 2338.

Tree to 20 ft. Branches grey-green, succulent, 4-5-angled; spines in twos, with minute paired prickles at the base. Involucres shortly pedunculate.

Chua. On rocky hills.

(10) FLUGGEA

FLUGGEA VIROSA Baill. Eggeling 60,101,265,715,1793.

Synonym. F.microcarpa Blume

Lukandwa (Luganda); Lubwera (Lunyoro).

Shrub or tree to 40 ft. Leaves alternate, glabrous, elliptic to obovate, very variable in size, up to 2½ in. long and 1¼ in. broad, apex obtusely pointed, base cuneate. ♀ Flowers small, dioecious, creamy-yellow to yellow-green, sweet-scented, in axillary fascicles; pedicels slender, up to ⅓ in. long. Fruit an edible white berry about ¼ in. diam. Wood reddish-yellow, close-grained, said to be durable and to yield good fuel and charcoal.

Entebbe; Mengo; Masaka; Sesse; Ankole; Toro; Mubende; Bunyoro; Madi; Gulu; Teso; Karamoja; Busoga; Budama. In savannah and forest glades.

(11) GELONIUM

GELONIUM ZANZIBARENSE Muell.Arg. Eggeling 3048.

Glabrous monoecious understorey tree attaining 4½ ft. girth at breast height. Leaves entire or crenate, obovate-oblong, 2-4 in. long, ¾-2 in. broad, apex shortly ~~subsessile~~ cuspidate; base cuneate; petiole up to ¼ in. long. Flowers numerous in subsessile fasciculate cymes; sepals 5, each with a distinct gland on the back above the middle. Fruit globose, 1/5 in. diam.

Bunyoro (Budongo Forest).

Fig.24. Hymenocardia acida Tul. a. Male flower-spikes.
b. Fruits. All natural size.

(12) HYMENOCARDIA

HYMENOCARDIA ACIDA Tul. (Fig.24). Eggeling 728, 754, 117..

Ebilaboni, Eteregu (Luteso); Mutatabankubebe (Lunyoro); Okang (Acholi); Okang, Okango (Lango); Muhanaga (Lusoga).

Twisted savannah shrub or tree usually under 15 ft. high but sometimes as much as 30 ft. high. Bark whitish to rusty-orange. Leaves pubescent when young, becoming glabrous or nearly so, densely beset with gold-coloured glands beneath, elliptic-oblong, up to 3½ in. long and 1½ in. broad, apex obtuse to rounded, base obtuse; petiole slender, up to ¼ in. long. Flowers dioecious, more or less precocious. Male spikes up to 2½ in. long; calyx cupular, red; anthers creamy-white. Female flowers axillary on leafy lateral branchlets; calyx divided to the base; styles 2, crimson, spreading, about ½ in. long. Fruit compressed, winged, obcordate, 1 in. long and 1-1½ in. broad, Wood pale brown, darkening on exposure to orange, showing well-defined growth rings; very hard, very dense, very durable, highly resistant to termites, used for pestles and bark-cloth mallets; weight 55 lbs. per cu.ft. air dry.

Mengo; Bunyoro; Mubende; West Nile; Madi; Gulu; Chua; Lango; Teso; Bugwere; Bugishu; Budama; Busoga.

We include here Eggeling 1639 and Chandler 521 originally deter- as H.mollis Pax which appears to be only a pilose form of H.acida Tul.

~~The wood is used in Bunyoro for pestles and bark-cloth mallets.~~

(13) LEPIDOTURUS

LEPIDOTURUS LAXIFLORUS Benth. Eggeling 1623, 2516.

Understorey shrub or tree to 20 ft., sometimes scandent. Leaves crenate, palmately 3-5-nerved, ovate-elliptic, blade 3-7 in. long and 1½-3 in. broad, apex caudate-acuminate, base rounded and with a pair of stipel-like processes; petiole up to 2½ in. long. Flowers dioecious. Male spikes slender, borne on the old wood, 1½-3 in. long, precocious, many-flowered; stamens usually 8. Female spikes few-flowered, borne on the young shoots.

Bunyoro; Karamoja.

(14) MACARANGA

(14) MACARANGA

1. Leaves more or less distinctly lobed ..... 2.
   Leaves not lobed ..... 3.

2. Lobes separated by narrow sinuses ..... M.schweinfurthii
   Lobes separated by wide shallow sinuses..... M.angolensis

3. Leaves 3-nerved from the base or penninerved... 4.
   Leaves 5-7-nerved from the base ..... M.kilimandscharica

4. Leaves mostly entire ..... M.pynaertii
   Leaves toothed ..... M.monandra

MACARANGA ANGOLENSIS Muell. Arg. Eggeling 125.

Scandent shrub or tree to 30 ft. armed with blunt woody spines. Branchlets densely pubescent. Leaves obscurely dentate with thickened teeth, orbicular-ovate, 3-lobed, 4-8 in. long, up to 7 in. broad, 5-nerved from the shallow-cordate base; petiole pubescent, 3-6 in. long. Flowers in panicles, usually on bare branches from the axils of fallen leaves.

Mengo; Entebbe.

MACARANGA KILIMANDSCHARICA Pax Eggeling 3179, 3221.

Omushusha (Lunyoro, dialect of the Bakiga).

Tree usually 20-40 ft. high, occasionally up to 80 ft. high. Bark pale reddish-grey. Leaves ovate-lanceolate, usually 3-4½ in. long and 2-3½ in. broad, sometimes up to 8 in. long and 5½ in. broad, rounded to sub-cordate at the base, usually peltate; petiole 2-5 in. long. Panicles axillary up to 4 in. long; flowers greenish-yellow. Capsule globose, up to ¼ in. diam., thickly covered with yellow glands. Wood pink, straight-grained: weight 26 lbs. per cu.ft. air dry.

Kigezi; Ankole; Toro; Bugishu. On the edge of forests 5-10,000 ft. very common in the Kalinzu forest in Ankole.

We include here Dawe 602 originally determined as M.ruwenzorica Pax.

MACARANGA MONANDRA Muell.Arg. Eggeling 120.

Shrub or tree to 60 ft. Stem sometimes armed with woody spines; branchlets brown-pubescent. Leaves conspicuously glandular below, repand, broadly ovate to elliptic, 3-5 in. long, up to 3 in. broad, base cuneate to sub-truncate; petiole 1½-3 in. long. Flowers greenish-brown in dense axillary panicles up to 2½ in. long. Capsule globose, ¼ in. diam., densely covered with golden yellow scales; fruiting pedicel up to ½ in. long.

Mengo; Entebbe; Sesse; Masaka; Ankole; Kigezi.

MACARANGA PYNAERTII De Wild. Eggeling 95.

Tree to 35 ft. Stem frequently stilt-rooted. Bole and branches usually strongly armed with

(Straight on)

of the bole
the lower portion bearing aerial roots.

simple or bifurcate sharp woody spines up to 4 in. long, Leaves elliptic, up to 4 in. long and 1½ in. broad, rounded at the base; petiole up to ⅜ in. long. Flowers in axillary panicles up to 2 in. long. Capsule globose, ⅜ in. diam.

Ntebbe; Bessa; Masaka; Bunyoro.

MACARANGA SCHWEINFURTHII Pax Bagaling 3533.

Mwegunza (Uganda).

Tree usually 30 ft. high, sometimes attaining 80 ft. Branchlets glabrous, spiny. Leaves irregularly toothed, shallowly 3-lobed, usually 7-nerved from the base, ovate, up to 10 in. long and 10 in. broad, with a pair of glandular processes at the apex of the petiole, base deeply cordate; petiole up to 10 in. long. Flowers greenish-yellow; male panicles 3-6 in. long, fascicled in the axils of fallen leaves; female flowers in short axillary racemes. Capsule usually 3-lobed, about ½ in. diam.

Mensa; Bunyoro. Common in swamps and swampy forests.

(16) MICROCOELIA

MICROCOELIA EMINENS Pax Bagaling 1451.

Understorey shrub or tree to 30 ft. Leaves crenate or entire, elliptic to oblong, 3-5 in. long, 1¼-1½ in. broad, apex abruptly acuminate with the midrib running out to a hardened point, base broadly cuneate and unequal; petiole ¼-½ in. long. Flowers axillary, salmon-pink, on pedicels about ¼ in. long. Male flowers fasciculate; sepals 3; petals 3; stamens 3 inserted on a fleshy disk surrounding and adnate to the rudimentary ovary, the lobes of the disk protruding between the filaments. Female flowers few or solitary. Fruit a small red berry ¼ in. diam. Wood brown, hard, flexible, of very fine texture, taking a lustrous polish, suggested as a substitute for boxwood.

Bunyoro (Budongo Forest). In one Uganda specimen (Forest Dept. 1116) the inflorescence is paniculate due to galling. This abnormality is common in the case of the closely related M. puberula Pax to which Uganda specimens were originally assigned and which differs chiefly in the absence of the fleshy disk surrounding the rudimentary ovary in the male flowers.

(16) NEOBOUTONIA

Flowers large, the male up to [illegible] in. diam., the female up to $\frac{3}{8}$ in. diam.; leaves glabrous below except on the nerves and veins .... N. macrocalyx

Flowers smaller, the male about [illegible] in. diam., the female about [illegible] in. diam.; leaves closely and uniformly felty-tomentose below, the tomentum intermixed with small flat glands .... N. melleri

NEOBOUTONIA MACROCALYX Pax — Eggeling 1256.

Tree to 60 ft. Bark smooth and white. Leaves broadly ovate to orbicular-cordate, up to 15 in. long and [illegible] in. broad; petiole as long as the blade. Male flowers whitish, pedicellate, in large branched panicles 1 ft. or more in length; calyx densely stellate-pubescent. Female flowers in simple sparingly branched racemes much smaller than the male panicle. Capsule 3-lobed, about $\frac{1}{2}$ in. diam. Wood perishable, light, soft and white, reported as suitable for paper-pulp; weight 24-26 lbs. per cu.ft. air dry.

Toro; Budama; Bugishu. In swampy ground.

NEOBOUTONIA MELLERI (Muell.Arg.) Prain — Eggeling 388, 1650.

Synonyms. N. canescens Pax; Mallotus melleri Muell.Arg.

Kafunkula (Luganda).

Shrub or tree to 30 ft. Leaves broadly-ovate to orbicular-cordate, usually $3\frac{1}{2}$-6 in. long and 3-$5\frac{1}{2}$ in. broad; petiole $1\frac{1}{2}$-$2\frac{1}{2}$ in. long. Male flowers creamy-yellow, sessile or sub-sessile, in copious panicles 15 in. or more long; calyx usually sparingly hirsute towards the apex, sometimes glabrous. Female flowers greenish-white in branched racemes usually under 6 in. long. Capsule 3-lobed, densely pubescent, $\frac{1}{3}$-$\frac{1}{2}$ in. diam.

Mengo; Sesse; Ankole; Toro; Mubende; West Nile; Gulu; Budama.

(17) PHYLLANTHUS

1. Older branches pulviniform; capsule large and bladder-like .... P. inflatus

   Older branches not pulviniform; capsule not large and bladder-like .... 2.

2. Flowering branchlets fasciculate .... 3.

   Flowering branchlets not fasciculate .... 5.

3. Stamens 4 or 5, having 2 or 3 of the filaments connate ....

Stamens 5, having all the filaments free ..... P.floribundus

4. Stamens 4 .... P.guineensis

Stamens 5 .... P.reticulatus

5. Stamens 4; having all the filaments free to the base; disk of the male flower annular ..... P.discoideus

Stamens 5, having 3 or 5 of the filaments connate; disk of the male flower consisting of separate glands .... P.reticulatus

Note. As we have not seen the specimen we have not keyed or described Bagshawe 1483 (from the Budongo forest) which is regarded by Hutchinson (K.F.A.) as closely related to P.physocarpus Muell. Arg. and to P.polyanthus Pax .

PHYLLANTHUS DISCOIDEUS Muell.Arg. Eggeling 1793,3097,3460

Deciduous tree to 50 ft.. Bark thickly covered with lenticels when young, very stringy, fibrous and easily torn off; slash pinkish-purple. Branches pendulous, with lateral branchlets up to 2½ in. long. Leaves ovate-elliptic to obovate-lanceolate, 1-3½ in. long, ½-1½ in. broad, rounded to shortly acuminate at the apex, rounded to cuneate at the base. Flowers dioecious, greenish, the males numerous in the axils of the leaves or fallen leaves of the young branchlets, the female similarly arranged but only 2-3 in each fascicle. Capsule 3-4-lobed, ⅓in. diam., green, glabrous. Wood hard, heavy, brown to pale red, taking a good polish, suitable for cabinet work, not durable, said to be a good firewood.
Entebbe; Toro; Bunyoro; Madi; Gulu; Lango; Teso; Bugwere; Budama. In thickets in savannah and on the edge of forests. In Nigeria antelope appreciate the leaves, flowers and fruit of this species, and seeds put out to dry in Kenya have attracted bushbuck.

PHYLLANTHUS FLORIBUNDUS Muell.Arg. Eggeling 1641.

Rambling bush, woody climber, or occasionally a small straggling tree, armed with recurved spines. Leafy branchlets up to 7 in. long, thickened at the base. Leaves ovate to ovate-elliptic, 1½-3 in.

long, 1-1½ in. broad, shining above, glaucous below, apex usually mucronate, base rounded. Racemes slender, leafless, up to 2 in. long, fasciculate in the axil of a leafy flowerless shoot resembling a pinnate leaf; flowers pink, monoecious, clustered on the main axis of each inflorescence, 1 or 3 males surrounding a solitary female. Fruit a berry about ⅛ in. diam., shining red at first, eventually turning black.

Gulu.

PHYLLANTHUS GUINEENSIS Pax Eggeling 176, 2964.

Synonym. P.ugandensis Rendle

Usually a much-branched straggling bush, occasionally a tree up to 30 ft. high, armed with minute stipular prickles. Leaves pale green, oblong to oblong-elliptic, ⅓-⅔ in. long, up to ⅓ in. broad, apex truncate or rounded, often mucronate. Flowers monoecious, red, usually 4-6 males and 1 female in each fascicle. Fruit fleshy, about ⅙ in. diam., blue, resembling blueberries.

Entebbe; Masaka; Ankole.

PHYLLANTHUS INFLATUS Hutch. Uganda Forest Dept. 17.

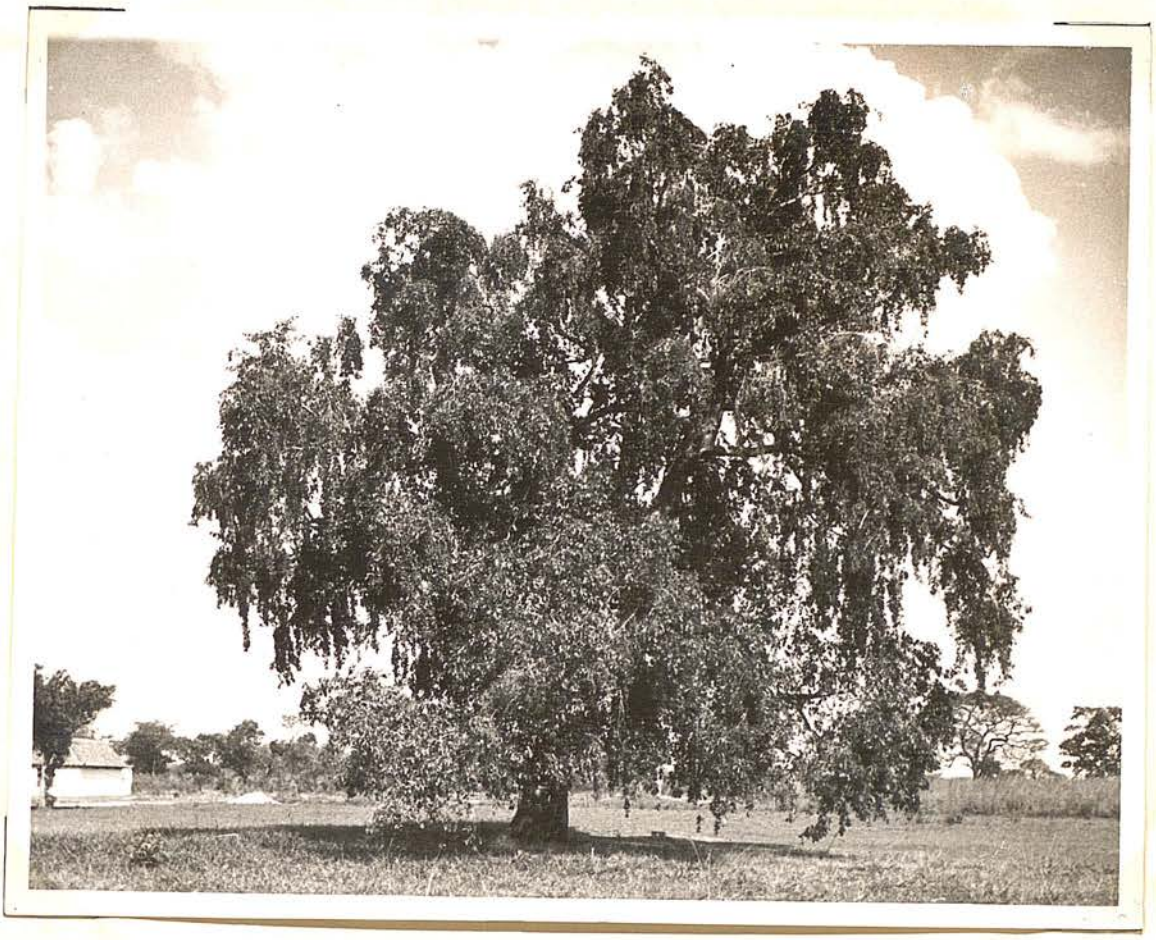
Much-branched tree 20-40 ft. high. Bark pale, small-scaled. Leafy branchlets (simulating pinnate leaves) 6-9 in. long, clustered at the ends of the woody twigs. Lower leaves orbicular to broadly obovate, ⅓ to ½ in. diam., apex truncate or emarginate, base rounded; upper leaves lanceolate to oblong-lanceolate, 1½-2 in. long, ½-⅔ in. broad, apex obtuse or subacutely acuminate, base cuneate; stipules filiform, persistent. Fruit about 1½ in. diam.

Bunyoro (Budongo forest).

PHYLLANTHUS RETICULATUS Poir. Chandler 990.

Shrub or small tree. Flowering branchlets sometimes produced in fascicles, more often solitary, up to 2½ in. long. Leaves oblong to elliptic, ½-1⅔ in. long, up to ½ in. broad, rounded at both ends. Flowers monoecious, 1 female and 3 male in each fascicle. Fruit fleshy, about ⅓ in. diam., black when ripe.

Toro. The typical species is slightly pubescent but a glabrous form (var. glaber Muell. Arg.) also occurs in Uganda.



Phot.15. Sapium ellipticum Pax . Habit photo of a park-grown tree.

Phot.14. Euphorbia calycina N.E.Br. Habit photo.

(18) PSEUDAGROSTISTACHYS.

G
PSEUDAGROSTISTACHYS UGANDENSIS (Hutch.) Pax & K.Hoffm. Kyffe 19,64.

Synonym. Agrostistachys ugandensis Hutch.

Small forest tree. Leaves repand-denticulate to subentire, up to 16 in. long (frequently about 10 in. long), 3-8 in. broad, glabrous; petiole about 1 in. long; stipules caducous, linear, acute, about $\frac{4}{5}$ in. long. Flowers axillary, the male densely fasciculate or subracemose, the female in solitary or subsolitary axillary racemes up to $2\frac{1}{2}$ in. long.

Masaka (Mamaldla Forest).

(19) RICINODENDRON

RICINODENDRON AFRICANUM Muell. Arg. (Photo. 12.). Eggeling 1181.

Musodo (Lunyoro); Kisongo (Luamba): CORKWOOD.

Deciduous forest tree to 150 ft. with ~~smooth~~ cylindrical bole. Branches whorled. Bark grey, smooth at first, becoming scaly; buttresses very short; slash reddish. Leaves alternate, digitately 3-5-foliolate; leaflets sessile or subsessile, glandular-denticulate, obovate to obovate-elliptic, 5-8 in. long, 1-3 in. broad, apex long-acuminate, base cuneate; petiole up to 8 in. long; stipules large, foliaceous, persistent, deeply toothed. Inflorescence yellow-tomentose; male panicles slender, up to 16 in. long and broad; female panicles smaller and stouter. Fruit 2-3-lobed, 3-3-celled, about $\frac{3}{4}$ in. long and $1\frac{1}{4}$ in. broad. Wood soft, white or yellow-white, coarse in texture, staining easily; weight about 25 lb. per cu.ft. air dry. Owing to the ease with which it is carved the wood is used by natives for spoons, plates, bowls, etc. The extraordinarily light sawdust has been suggested for use in life-saving belts and sun-helmets. Because of its extreme softness and lightness the wood is suitable for a number of specialised uses (e.g. pattern making). Sample consignments sent to London from Uganda in 1934 attracted attention and there are distinct possibilities of a limited export trade.

Toro; Bunyoro. A very fast-growing species which in West Africa bears fruit in the seventh to tenth year. It is light-demanding and regenerates freely on the forest-edge.

The seeds yield an oil which can be used for making varnish

Fig.25. Sapium ellipticum Pax a. Flowering shoot. b. Fruits.
Both natural size.

and soft soap but which is of low commercial value: in Rwanda they are cooked and eaten by the natives.

(20) SAPIUM

SAPIUM ELLIPTICUM Pax (Fig. 25; Photo. 15.) Eggeling 9-.

Synonym. Sapium mannianum Benth.

Musasa, Musanvuma (Luganda).

Tree usually 40-50 ft. high, somewhat reminiscent of birch in habit. Bark grey and rough. Leaves serrulate, elliptic to oblong-elliptic, 2½-5 in. long, 1-2 in. broad, dark above, paler below, turning dark red before falling, apex acute, base cuneate to rounded; petiole up to ⅓ in. long. Flowers yellow, in terminal spikes 1½-5 in. long; male flowers numerous, shortly pedicelled, borne towards the top of the spike; female flowers 1-3 (usually 2 or 3), borne at the base, the female pedicels about twice as long as the male. Capsule 2-lobed, ⅓-½ in. broad, carrying the persistent styles. Wood hard, used by natives for anvils on which bark-cloth is beaten: it is not durable.

Entebbe; Mengo; Sesse; Ankole; Toro; Mubende; Bunyoro; West Nile; Madi; Gulu; Chua; Budama; Busoga.

(21) SPONDIANTHUS

SPONDIANTHUS UGANDENSIS Hutch. Eggeling ~~1155~~ 3467.

Synonym. Megaberia ugandensis Hutch.

Meimbiri (Luganda); Mutambuzi (Luganda & Buddu).

Deciduous tree to 60 ft. Crown thick, heavily foliaged. Leaves clustered towards the ends of the branchlets, coppery-red when young, broadly elliptic to obovate, 6-11 in. long, 3½-6 in. broad, apex obtuse to shortly acuminate, base rounded; petiole ½-4 in. long. Flowers small, white; male panicles 6-8 in. long, crowded at the ends of the branches, the spikelets up to ½ in. long; female inflorescence a panicle of racemes. ~~Fruit red-brown, ellipsoid, about 1 in. long, with dark red-purple juice.~~ Seeds red and shining, about ½ in. long. Wood said to be similar to that of Uapaca guineensis. ~~used on Lake Nabugabo for dugout canoes.~~

Entebbe; Masaka; Bunyoro. The leaves and probably the fruits are poisonous although the latter are eaten by birds with impunity.

(22) SYNADENIUM

Perianth with linear, subulate or filiform lobes; leaves lanceolate, tapering for about ½ of their length into the petiole ..... S.cymosum

Perianth a rudimentary 3-crenate rim; leaves oblanceolate to obovate, tapering from above the middle into the petiole ..... S.grantii

SYNADENIUM CYMOSUM N.E.Br. Eggeling 3397.

Usually a multi-stemmed bush 6-10 ft. high, occasionally a small tree. Leaves fleshy, 3½-7 in. long, 1-2 in. broad, subentire or minutely serrulate, variegated in colour. Cymes axillary, 3-3½ in. long, 2-2½ in. broad, dichotomously much-branched, corymb-like or flat-topped; peduncles 1½-1¾ in. long. Involucres reddish.

Bunyoro (Butiaba Flats).

SYNADENIUM GRANTII Hook.f. Eggeling 3232.

Shrub or tree to 20 ft., branching from near the base, with main stem up to 18 in. girth. Leaves fleshy, 3-7 in. long, 1-2½ in. broad, entire or minutely toothed, grass-green, reticulately veined with darker green, often tinged with red on the prominent midrib. Cymes axillary, repeatedly forked, 2-4 in. long and broad; peduncles 1-2 in. long. Involucres red.

Gulu; Chua; Ankole.

Doubtfully indigenous, usually found in the vicinity of villages and old habitations. Both this and the preceeding species are commonly used as a live fence.

(23) TETRORCHIDIUM

TETRORCHIDIUM DIDYMOSTEMON Pax & K.Hoffm. Eggeling 104,105.

Synonym. Hasskarlia didymostemon Baill.

Dioecious shrub or tree to 40 ft. Bark light grey, generally smooth; latex rusty-white. Branchlets zig-zag, pendulous. Leaves alternate, pale yellow-green, glossy, entire or denticulate, oblong-elliptic to obovate, usually 3-5 in. long and 1-2 in. broad (occasionally up to 7 in. long and 4 in. broad), apex cuspidate-acuminate, base cuneate; petiole up to ½ in. long. Male inflorescence catkin-like, erect, leaf-opposed, with numerous bright yellow flowers.

Female flowers racemose or solitary. Capsule 3-lobed, ¼ in. diam.; Seeds red.

Entebbe; Sesse.

(24) UAPACA

Leaves 6-14 in. long, 2½-7 in. broad ---------- U.guineensis

Leaves 3-5 in. long, 1½-2 in. broad ---------- U.sansibarica

UAPACA GUINEENSIS Muell.Arg. Eggeling 105

Mukusu (Luganda, dialect of Sesse).

Forest tree to 60 ft. Crown dense, rounded. Bark reddish-grey, scaly; slash red. Prop or aerial roots prominent, leaving the bole as high as 8 ft. from the ground. Leaves bunched at the ends of the branchlets, ovate to oblanceolate, apex rounded or obtuse, base long-cuneate; petiole about 1 in. long. Male flower-heads scattered towards the ends of the branchlets, composed of numerous small yellow-green flowers surrounded by golden-yellow bracts. Female flowers similar in general appearance but with a single flower in place of the globose capitulum; styles fan-shaped, divided, recurved. Fruit indehiscent, yellow, ovoid, 2-4-celled, about 1 in. long, containing 2-4 pyrenes; pedicel up to 1 in. long. Wood pale red with a silver grain, lustrous when quartered, durable, easy to work, suitable for carpentry, a good firewood and a particularly good charcoal wood; weight 38 lbs. per cu.ft. air dry.

Entebbe; Sesse; Masaka. In swampy forest.

UAPACA SANSIBARICA Pax Eggeling 3420,3487.

Savannah tree to 40 ft., somewhat resembling a Terminalia in habit but with Ficus-like leaves. Branchlets stout, blackish. Aerial roots absent. Leaves tufted at the ends of the twigs, slightly rough on the upper surface, obovate to oblanceolate, apex rounded, base cuneate or obtuse (often unequal-sided); petiole ⅓-1 in. long. Flowers as in U.guineensis. Fruit indehiscent. yellow, elliptic-globose, glabrous, ¾ in. long, ½-¾ in. diam.; pedicel up to 2/5 in. long.

West Madi (Mt.Otze); Chua (Paranga). Rare.

Poles of this species are in demand at Paranga for hut-building.