FLACOURTIACEAE

1. Perianth spiral, sepals gradually passing into the petals ..... (6) Rawsonia

   Perianth cyclic, differentiated into sepals and petals or the latter absent ..... 2.

2. Petals present ..... 3.

   Petals absent ..... 6.

3. Branchlets armed ..... (5) Oncoba

   Branchlets unarmed ..... 4.

4. Petals the same number as the sepals ..... (7) Scolopia

   Petals more numerous than the sepals ..... 5.

5. Flowers small; fruit prickly; seeds 1 or few ..... (4) Lindackeria

   Flowers large; fruit not prickly; seeds numerous.. (1) Caloncoba

6. Sepals imbricate; styles more or less spreading; seeds glabrous ..... (3) Flacourtia

   Sepals scarcely imbricate; styles erect or sub-erect; seeds often villous ..... (2) Dovyalis

(1) CALONCOBA

CALONCOBA SCHWEINFURTHII Gilg (Fig.26). Eggeling 1152, 1820, 2204.

Muhekeheke (Lunyoro).

Deciduous tree or shrub to 30 ft.. Bark pale grey to pale brown. Branchlets lenticellate. Leaves entire, elliptic, 5-7 in. long, 2½-3½ in. broad, apex acuminate, base rounded, midribs and lateral nerves prominent below; petiole very variable, 1-4 in. long. Flowers terminal or axillary, solitary or fascicled, 3-4 in. across, white, fragrant, borne while the tree is leafless; sepals 3; petals about 13; stamens numerous, yellow. Fruit globose, beaked, about 2 in. diam., at first green mottled with white, becoming orange when ripe. Seeds white.

Toro; Mubende; Bunyoro; West Nile; Madi; Lango. Usually on the margin of forests, frequently associated with Maesopsis. A species well worth cultivating in gardens for its handsome flowers.

Fig.26. Caloncoba schweinfurthii Gilg . a. Leaf. b. Flower c. Stamens. d. Flower-buds. e. Developing ovary. All natural size.

(2) DOVYALIS *

Fruit about ½ in. diam. .... D.abyssinica

Fruit about 1½ in. diam. .... D.sp.prob. new

DOVYALIS ABYSSINICA (A.Rich.) Warb. Eggeling 3015.

Synonym. Aberia abyssinica Clos

Dioecious tree to 30 ft. Bark on young wood with numerous raised brown lenticels. Spines straight, 1-1½ in. long, Leaves crenate-undulate or entire, ovate-lanceolate to oblong, 1-3½ in. long, ¼-1½ in. broad, glabrous or slightly pubescent, apex obtuse to sub-acute. Flowers green, the males clustered, the females solitary; petals somewhat fleshy; stamens dirty white. Fruits apricot-coloured, edible but very acid, excellent for jam.

West Nile; Bugishu.

We include here Snowden 1004 originally determined as D.engleri Gilg .

DOVYALIS SP. ~~[illegible]~~ NOV.? Eggeling 2113.

Shrub or tree to 20 ft. or more. Bark and spines as above. Leaves ovate-elliptic to oblong, 1-3½ in. long, ¼-1½ in. broad, sparingly pubescent below especially on the nerves, usually glabrous above. Female flowers yellow-green. Fruit compressed-globose.

Bunyoro. On forest edges.

* D. macrocalyx Warb. is not included. It is never more than a low shrub.

(3) FLACOURTIA

Leaves pubescent, ~~softly hairy to the touch~~.... F.hirtiuscula

Leaves glabrous .... F.ramontchi

FLACOURTIA HIRTIUSCULA Oliv. Eggeling 1482.

Synonym. Flacourtia kirkii Burtt Davy (ined.).

Spreading tree to 30 ft.. Bark dark brown, rough. Branches armed with short sharp axillary spines. Leaves denticulate-serrate or irregularly toothed, orbicular to ovate-elliptic, 1½-2½ in. long, 1-1¾ in. broad. Flowers small, yellow-green, with numerous yellow stamens. Fruit about ½ in. diam., edible.

Bugishu (Elgon; 6,500-7,500 ft.).

FLACOURTIA RAMONTCHII L'Hérit. Eggeling 1539,1540,1909.

Tree to 25 ft. Branchlets armed with spines up to 2 in. long. Leaves shining, broadly crenate to crenate-serrulate, broadly elliptic to obovate, 2½-5 in. long, 1¼-2½ in. broad; midrib and lateral nerves prominent above. Inflorescence a few-flowered raceme. Flowers small, creamy, fragrant, with a mass of yellow stamens. Berry red, edible, ½-1 in. diam..

Ankole; West Nile; Teso; Both this species and F.hirtiuscula have a superficial resemblance to Pygeum africanum Hook.f. (Rosaceae).

(4) LINDACKERIA*

* Only one species attains tree-size in Uganda. L.bukobensis Gilg and L.schweinfurthii Gilg are shrubs.

LINDACKERIA MILDBRAEDII Gilg Uganda Forest Dept.632,726.

Understorey tree or shrub. Leaves crenate-serrulate, ovate to elliptic-oblanceolate, usually 5-6 in. long and 1-2½ in. broad, apex acuminate, midrib and lateral nerves very prominent beneath; petiole up to 1½ in. long. Flowers white, ½ in. diam., in clusters on the upper part of the axis of the inflorescence; sepals densely pubescent. Fruit spherical, prickly, ⅓-½ in. long.

Sesse; Bunyoro.

(5) ONCOBA

ONCOBA SPINOSA Forsk. Eggeling 1246.

Shrub or tree to 20 ft. Bark pale. Branchlets lenticellate, strongly armed with straight sharp spines up to 3 in. long. Leaves often wine-red when young, serrulate or crenate-serrate, elliptic, up to 4 in. long and 2 in. broad (usually 2-3 in. long and about 1½ in. broad), apex shortly acuminate. Flowers 2 in. diam., white, handsome, sweet-scented, somewhat resembling a wild rose; calyx usually persistent. Fruit woody, globose, 2-2½ in. diam., smooth with longitudinal rib-like markings, red-brown when ripe. Wood hard, pale brown, taking a good polish, suitable for inlay and cabinet work.

Ankole; Toro; Madi; Budama; Busoga. Usually in fringing forest. A handsome plant well worth a place in gardens.

We include here Dawe 650/h determined as O. brachyanthera Oliv. and Uganda Forest Dept. 388 originally identified as O.routledgei Sprague, the specimens differing from typical O.spinosa only in the more strongly serrate leaves.

(6) RAWSONIA

RAWSONIA UGANDENSIS Dawe & Sprague Dawe 506.

Shrub or small tree. Leaves serrate, oblong to oblong-obovate, 3-5½ in. long, 1¼-2 in. broad, apex acutely acuminate, base cuneate. Racemes axillary, 5-10-flowered, ½-1 in. long. Sepals and petals (together) about 15; stamens about 20.

Bunyoro (Bugoma Forest).

We include here Bagshawe 1083(b) originally determined as Oncoba spinidens Hiern .

(7) SCOLOPIA

SCOLOPIA RIGIDA R.E.Fries Eggeling 653.

Synonym. S.ankolensis Bullock (ined.).

Shrub or tree to 20 ft., armed with stout woody spines up to 2 in. long. Leaves shining above, ovate, 1½-2½ in. long, ¾-1½ in. broad, apex obtuse or rounded, base cuneate. Flowers yellow, in short axillary racemes; stamens white, numerous, borne on a flat disk.

Ankole. Usually associated with Rhus and Acacia.

Phot.16. Strychnos innocua Del. Fruiting branch.

Phot.17. Oxytenanthera abyssinica Munro . Habit photo.

GRAMINEAE

1. Stamens 3 ..... (1) Arundinaria

Stamens 6 ..... 2.

2. Spikelets in distichous dense glomerules on the branches of a large panicle; filaments free ..... (2) Oreobambos

Spikelets in dense globose axillary clusters sometimes crowded into a continuous or broken spike-like panicle; filaments united at the base .....(3) Oxytenanthera

(1) ARUNDINARIA

ARUNDINARIA ALPINA K.Schum. Eggeling 2472.

Banda (Luganda); Museke (Lutoro): BAMBOO.

Hollow-stemmed perennial mountain bamboo to 50 ft. (rarely 65 ft.) with diam. of 2-4 in. at the base; rhizome woody. Leaf-sheath large, straw-coloured, up to 20 in. long, sparsely covered with purplish hairs. Leaves up to 8 in. long and ⅓ in. broad. Spikelets in dense panicles 4-5 in. long. After fruiting the plant dies. Kigezi; Toro (Ruwenzori); Bugishu (Elgon). Gregarious but not growing in clumps; 7,500-11,000 ft.. Widely used for building purposes.

(2) OREOBAMBOS

OREOBAMBOS BUCHWALDII K.Schum. Eggeling 2084.

Musekeseke (Lunyoro): BAMBOO.

Hollow-stemmed forest bamboo to 40 ft. usually spreading, rarely erect. Leaves about 9 in. long and 1½ in. broad.

Bunyoro. In forest swamps amongst Calamus rattan cane.

(3) OXYTENANTHERA

OXYTENANTHERA ABYSSINICA Munro (Photo. 17). Eggeling 3416.

Kŏŏ (Acholi); Odra (Lugwara): BAMBOO.

Solid-stemmed bamboo growing in dense clumps. Stems thick-walled, 3-4 in. diam. at base. Leaves oblong to oblong-lanceolate, up to 6 in. long and 1 in. broad (on barren shoots up to 10 in. long and 2 in. broad), apex acutely acuminate, base rounded. Spikelets narrowly

lanceolate, acutely acuminate, about 1 in. long, in clusters 2-2½ in. diam..

West Nile; Madi; Lulu; Chua; Karamoja; Mt. Elgon. Usually on dry rocky hillsides but also in savannah. In great demand for building purposes, bridge-making, etc. Best propagated by root-division.

GUTTIFERAE

Stamens free; style absent; ovule solitary in each cell..(1) Garcinia

Stamens connate basally to the anthers in five bundles; style distinct, well developed; ovules 2 or more in each cell ..... (2) Symphonia

(1) GARCINIA

GARCINIA BUCHANANII Baker. Hepper 80, 810.

Musali (Luganda); Msali (Lusoga).

Understorey tree to 40 ft. with thick evergreen crown casting a dense shade. Bark dark grey. Leaves simple, opposite, elliptic-oblong to oblong-oblanceolate, 3-6½ in. long, 1-1½ in. broad, apex obtusely acuminate; intra-marginal nerve well-developed. Flowers fascicled in the leaf-axils, polygamous, orange, ½ in. across when fully expanded; stigma large, very sticky. Fruit orange-yellow, edible, about 1 in. diam. Wood brown or pinkish, hard, difficult to saw, planing and turning well, taking a good polish; weight about 53 lbs. per cu.ft. air dry.

Entebbe; Sesse; masaka; Kadi; Teso; Bugishu; Busoga.

(2) SYMPHONIA

SYMPHONIA GLOBULIFERA Pierre var. MICRANTHA Hutch.& Dalz. Hepper 3196, 1397.

Synonym. S.globulifera Linn.f.var.africana Vesque

Munankwasi, Mkwasi (Lukonjo); Muyanja, Muvanja (Luganda); Musandasanda (Lunyankole).

Forest tree to 100 ft. Crown small; upper branches short, horizontal, drooping at the tips; lowermost branches horizontal near the trunk but suddenly bending upwards almost at right angles and forming secondary crowns similar to the main one. Bole up to 60 ft. long, straight and clean, tapering rather quickly, rarely exceeding 10 ft. in girth at breast height or 5 ft. mid-girth. Bark smooth, grey with rusty-orange tinging. Slash hard, yellow-white, exuding minute globules of bright yellow sticky resin which eventually turns red-brown. Leaves simple, opposite, elliptic-oblanceolate, 3-5 in.long, ¾-1½ in. broad, apex obtusely-acuminate. Flowers hermaphrodite, bright red, waxy, globose in bud, ½-1 in. across when fully open, clustered on short lateral shoots on the upper sides of the branches, liable to be mistaken for fruits; sepals much smaller than the petals,

exposing them in bud; petals inflexed. Fruit ellipsoid to depressed-globose, red-brown, ½-1 in. diam.; seeds usually 1-2, large, flat-sided. Wood yellow-brown to brownish-red, varying in colour from tree to tree, rather coarse-grained, fairly hard, easily worked, taking nails well, polishing to a good finish, rather liable to insect attack; weight about 45 lbs. per cu.ft. air dry.

Entebbe; Mweeka; Kigezi; Arkole; Zoro; Bunyoro. Abundant in a number of forests in the Western Province, rare in Entebbe and Bunyoro. Generally found near the edges of watercourses or on the margin of swampy forest.

The resinous sap is used for fixing tools and spears to the shaft.

HAMAMELIDACEAE

TRICHOCLADUS MALOSANUS Bak. Eggeling 532, 2675.

Synonym. T.ellipticus var. latifolius Schweinf.

Scandent shrub or thicket-forming tree to 35 ft. Leaves simple, alternate, elliptic to oblanceolate, 2-5 in. long, 1¼-2 in. broad, lower surface silver-buff with darker dots of rust-coloured stellate tomentum, upper surface glabrous, apex acute, base cuneate. Flowers axillary, sweet-scented, yellow, in solitary globose heads ¼ in. diameter. Wood hard and tough, used in the round for hut-building. Mengo; Masaka; Karamoja; Bugishu. Common in the wetter parts of Juniperus - Podocarpus forest on Mt. Elgon and in the swampy Podocarpus forests of S.Buddu.

HYPERICACEAE

1. Petals glabrous on the inner face; fruit a many-seeded capsule .....(2) Hypericum

   Petals hairy on the inner face; fruit a berry or drupe ..... 2.

2. Leaves densely stellate-pubescent below; fruit a 2-4-seeded drupe .....(1) Harungana

   Leaves glabrous or tomentose below; fruit a berry(3) Psorospermum

(1) HARUNGANA

HARUNGANA MADAGASCARIENSIS Lam. Eggeling 32, 1551, 2182.

Synonyms. Haronga madagascariensis Choisy; Haronga paniculata (Pers.) Lodd. ex Steud .

Mulirira (Luganda).

Shrub or tree to 40 ft. Bark red-brown, scaly. Slash white, slowly exuding an orange-red jiuce; sap blood-red. Branchlets covered with ferruginous stellate hairs. Leaves simple, opposite, elliptic to ovate-lanceolate, 3-7 in. long, 2-3½ in. broad, apex acute to shortly acuminate, base rounded, upper surface dark green, lower surface pale brown; petiole ½-1¼ in. long. Flowers very small, sweet-scented, in large dense rusty-pubescent terminal corymbose cymes up to 8 in. across; petals white, dotted with black glands; stamens in 5 phalanges of 3-4. Fruit small, orange or yellow-brown, edible. Wood pinkish-yellow, light in weight, liable to insect attack, fairly durable in the ground, used in pole-size for hut-building in Kigezi.

Mengo; Entebbe; Sesse; Masaka; Ankole; Kigezi; Toro; Bunyoro; Madi; Gulu; Budama; Bugwere; Bugishu; Busoga. A pioneer species common on the edge of forest and in secondary scrub, frequently associated with Maesopsis and Trema. It is reputed to be soil-improving.

(2) HYPERICUM

1. Leaves pinnately and reticulately veined ..... H.leucoptychodes

   Leaves parallel-veined ..... 2.

2. Flowers orange, large and glandular ..... H.bequaertii

   Flowers yellow, smaller and more expanded ..... H.ruwenzoriense

Fig.27. Hypericum leucoptychodes Steud. Flowering branch, natural size.

HYPERICUM BEQUAERTII De Wild. Eggeling 1328.

Shrub or tree to 30 ft. Leaves narrowly lanceolate, up to 1½ in. long and ⅓ in. broad. Flowers bell-shaped, about 2 in. diam. when expanded, solitary at the ends of short leafy branchlets; sepals ovate-elliptic, about ½ in. long; petals obovate-oblong, about 1 in. long.

Toro (Ruwenzori; 11,500-12,500 ft.).

Together with H.leucoptychodes Steud. and H.ruwenzoriense De Wild, this plant has frequently been incorrectly referred to H.lanceolatum Lam. It is perhaps only a high-elevation form of H.ruwenzoriense De Wild.

HYPERICUM LEUCOPTYCHODES Steud. (Fig.27.) Eggeling 933.

Shrub or tree to 40 ft. Bark brown, scaly. Leaves pale green, lanceolate, usually ½-¾ in. long and 1/10-⅕ in. broad. Flowers clear golden, solitary and terminal.

Kigezi; Bugishu (Elgon). 7,800-9,000 ft.

This is the Hypericum lanceolatum Lam. of F.T.A. and F.W.T.A.

HYPERICUM RUWENZORIENSE De Wild. Eggeling 1343,2460.

Shrub or tree to 40 ft. Leaves lanceolate to narrow-lanceolate, ¾-1¼ in. broad, 1/10-¼ in. broad. Flowers yellow, solitary and terminal Wood said to be very durable.

Toro (Ruwenzori); Bugishu (Elgon) 9,000-12,000 ft.

(3) PSOROSPERMUM

Branchlets, sepals and leaves glabrous or only slightly pubescent ..... P.campestre

Branchlets, sepals and underside of leaves rusty-tomentose ..... P.febrifugum

PSOROSPERMUM CAMPESTRE Engl. Eggeling 144, 180

Omomo (Luteso).

Savannah bush or tree to 15 ft. Bark grey, corky, corrugated. The slash exudes a dark red resin. Leaves oblanceolate-elliptic to broadly elliptic, up to 2½ in. long and 1½ in. broad, upper surface glossy dark green, lower surface paler with scattered black dots.

Fig.28. Psorospermum febrifugum Spach . Fruiting branch, natural size.

Flowers corymbose, white. Berry red.

Mengo; Entebbe; West Nile; Chua; Teso; Budama.

PSOROSPERMUM FEBRIFUGUM Spach (Fig.28.) Eggeling 1521, 1783.

Savannah shrub or tree to 20 ft. Bark corky. Leaves elliptic to lanceolate or oblanceolate, up to $3\frac{1}{2}$ in. long and $1\frac{3}{4}$ in. broad. Flowers white or pinkish-white, in terminal cymes.

Masaka; Ankole; Bunyoro; West Nile; Madi; Busoga.

ICACINACEAE

Petals free ..... (1) Apodytes

Petals united to beyond the middle into a slender tube ..... (2) Leptaulus

(1) APODYTES

APODYTES DIMIDIATA E.Mey. Eggeling 1832.

Munyamadzi (Luganda of Buddu): WHITE PEAR.

Evergreen forest tree to 70 ft. Bole slightly fluted. Bark smooth, grey-white. Leaves ovate to oblong, 2½-5 in. long, 1¼-2¼ in. broad, drying black; petiole up to 1¼ in. long. Flowers small, white, fragrant, in terminal many-flowered panicles; anthers black. Fruit black, ¼ in. long. Wood hard, perishable, easy to saw and plane, liable to borer-attack; weight 40-45 lb. per cu.ft. air dry. Masaka; West Nile.

In South Africa the wood is used by wheelwrights for hubs and felloes, for which purpose it is more suitable than any other wood.

(2) LEPTAULUS

LEPTAULUS DAPHNOIDES Benth. Eggeling 1160.

Understorey shrub or tree to 35 ft. Leaves oblong-elliptic to oblanceolate, 3-7 in. long, up to 2½ in. broad, apex acuminate, base cuneate; petiole up to ½ in. long. Flowers numerous, tubular, white, fragrant, ⅓-½ in. long, in sessile or subsessile extra-axillary clusters; calyx persistent. Fruit 1-1½ in. long, more or less pointed. Wood hard, uniform in texture, not unlike box.

Entebbe; Sesse; Bunyoro.

LAURACEAE

TYLOSTEMON

TYLOSTEMON UGANDENSIS Stapf Eggeling 53,590,3199,3219.

Synonym. Beilschmiedia ugandensis Rendle

Mukalata (Lunyankole); Mwasa (Luganda).

Forest tree to 90 ft. Leaves elliptic, 3-4 in. long, 1½-2 in. broad, apex obtuse to obscurely acuminate, base obtuse or rounded; petiole ⅓-½ in. long, shallowly channelled above. Flowers small, fleshy, pinkish-brown, crowded in axillary panicles up to 4 in. long and 2½ in. broad. Fruit purple-brown, ellipsoid, about 1 in. long, with deep red-purple juice. Wood durable.

Entebbe; Masaka; Ankole; Toro. Usually near streams or lakes or in swampy forest.

Timber in the round has been used in Ankole for mine work. Dug-out canoes of this species are used on Lake Nabagabo.

We include here Eggeling 590 originally determined as Spondianthus ugandensis Hutch.

LILIACEAE

ALOË

ALOË SP. Eggeling 3234.

Tree to 25 ft. with branched or unbranched stems bearing a cluster of fleshy leaves at the top. It has been aptly described as resembling a pineapple on the top of a pole. Flowers red. Leaves sharp-pointed, tapering from a broad clasping base, 9-24 in. long, 2-4 in. broad at the base, very strongly and sharply toothed.

Ankole. Chiefly near water; recorded from the banks of the Ruizi and Kagera rivers and from near Lugaga.

LOGANIACEAE (228)

LOGANIACEAE

1. Corolla-lobes 6-16, much contorted ---------- (1) Anthocleista
   Corolla-lobes 4-5, imbricate or valvate --------- 2.

2. Anther-cells confluent at the apex ---------- (3) Lachnopylis
   Anther-cells distinct ---------- 3.

3. Leaves 3-5-nerved from the base; fruit indehiscent (4) Strychnos
   Leaves not 3-5-nerved from the base; fruit capsular ---------- (2) Buddleja

(1) ANTHOCLEISTA

1. Branches armed ---------- A. nobilis
   Branches unarmed ---------- 2.

2. Inflorescence 9-15 in. long ---------- A. pulcherrima
   Inflorescence less than 7 in. long ---------- 3.

3. Leaves about twice as long as broad, subsessile - A. schweinfurthii
   Leaves about three times as long as broad; petiole up to 1 in. long ---------- A. insulana

ANTHOCLEISTA INSULANA S.Moore — Bagshawe 638.

CABBAGE TREE.

Glabrous forest tree. Leaves oblanceolate-obovate, 8-22 in. long, 3-8 in. broad, apex rounded, base cuneate; petiole up to 1¼ in. long. Flowers white, in stiff inflorescences about 5 in. long; calyx ⅓ in. diam.; calyx-lobes ⅓-½ in. long; corolla nearly 2 in. long. Fruit ovoid, ¾-1 in. long, ½-¾ in. diam.

Sesse (Buvuma Island).

I have not seen a specimen. Bagshawe 122 from Ankole, originally determined as A. inermis Engl., may be the same plant.

ANTHOCLEISTA NOBILIS G. Don — Eggeling 1858,3666.

CABBAGE TREE.

Tree to 40 ft. Branches armed with small paired axillary woody spines. Foliage bunched at the top of the sapling and at the ends of the branches to give a "cabbage" effect. Leaves sessile or

or petiolate, elongate-obovate, 12-24 in. long and 6-12 in. broad on mature trees, up to 5 ft. long on saplings; petiole up to 3 in. long. Flowers white tinged with flesh-colour, in stiff erect cymes 8-12 in. long; calyx ½ in. long; corolla 1½ in. long. Fruit ellipsoid, up to 1½ in. long; seeds red. Wood yellow-white, light, soft, easy to cut, finishing smoothly, perishable.

Ankole; West Nile. In swamp forest.

ANTHOCLEISTA PULCHERRIMA Gilg Eggeling 1257,3647.

CABBAGE TREE.

Tree to 40 ft. Leaves usually sessile, elongate-oblanceolate to elongate-obovate, generally about 18 in. long and 7 in. broad, sometimes 3 ft. long and 1 ft. broad or even more. Flowers white, fragrant, in large terminal cymes; calyx ½ in. long; corolla up to 2 in. long, the tube up to twice as long as the lobes.

Ankole; Toro; In swampy forest; 5-7,000 ft.

ANTHOCLEISTA SCHWEINFURTHII Gilg Eggeling 89.

Mugabagaba (Luganda); CABBAGE TREE.

Spreading tree to 60 ft. Leaves obovate-oblanceolate, usually 8-14 in. long and 4-7 in. broad (sometimes as much as 3 ft. long and 1½ ft. broad), attenuate to the base. Cymes compounding; flowers white; calyx ½-¾ in. long; corolla twice as long as the calyx when in bud, the tube about the same length as the lobes. Fruit obovoid-oblong, 1-1½ in. long, 2/3 - 1 in. diam.

Sesse; Masaka. A common tree on the Islands.

(2) BUDDLEJA

BUDDLEJA POLYSTACHYA Fresen. Eggeling 2441,2748, 2858.

Usually a shrub 12-15 ft. high, occasionally a tree to 40 ft. Branchlets pale brown, tomentose. Leaves entire or obscurely serrate, lanceolate, up to 4 in. long and 1 in. broad, dull green above, pale brown to almost white below, acute at the apex; petiole ¼-½ in. long. Inflorescence a long subspicate panicle composed of numerous small cymes, the lowermost of which are subtended by small

leaves; flowers deep orange; corolla-tube twice as long as thelobes. Karamoja(Mt. Debasien and Mt. Moroto); Bugishu (Elgon). In mountain forest; 7,500 - 9,000 ft.

(3) LACHNOPYLIS

Leaves ternate, about 3-times as long as broad; ovary densely villose ---------- L. congesta

Leaves usually opposita, at least 5-times and frequently 7-8-times as long as broad; ovary glabrous ---------- L. floribunda

LACHNOPYLIS CONGESTA (R.Br.ex Fresen.) C.A.Sm. Eggeling 927,2382,2661, 2736.

Tree usually 15-35 ft. high, sometimes attaining 70 ft. Bark rough, blackish. Branchlets 3-6-sided. Leaves elliptic to oblanceolate-oblong, 3-5 in. long, $\frac{3}{4}$-$1\frac{3}{4}$ in. broad, apex obtuse, base cuneate; petiole $\frac{1}{2}$-$\frac{3}{4}$ in. long. Inflorescence a dense terminal panicle of cymes; flowers white, fragrant, borne in great profusion. Wood soft, white.

Kigezi; Ankole; Chua; Teso; Karamoja; Bugishu. On the edge of forest; 5,000 - 9,500 ft.

I include here Eggeling 2382,2261 originally determined as Lachnopylis (Nuxia keniensis T.C.E. Fries).

LACHNOPYLIS FLORIBUNDA (Benth.) C.A. Sm. Eggeling 2634,2960.

Tree usually 15-20 ft. high, occasionally up to 40 ft. high Branchlets frequently drooping, giving the tree a willow-like appearance. Leave usually paired, sometimes ternate, usually crenate, narrowly oblong-lanceolate, 3-5 in. long, $\frac{1}{2}$-$1\frac{1}{2}$ in. broad, apex obtuse or retuse, base long-cuneate. Flowers creamy, in lax terminal panicles of cymes.

Teso; Karamoja.

The timber is used by wheelwrights in S. Africa for spokes and felloes.

(4) STRYCHNOS

1. Inflorescence always terminal; branchlets usually armed with axillary spines ---------- S. spinosa

Fig.29. Strychnos innocua Del. a. Flowering-branch(leaves removed). b. and c. Leaves showing variation in shape. d. Fruit.

LOGANIACEAE (228)

Inflorescence axillary (rarely also terminal); branchlets unarmed ---------- 2.

2. Leaf-apex rounded; savannah species ---------- S.innocua

Leaf-apex acute or a uminate; high-forest species ---------- S.sp.

STRYCHNOS INNOCUA Del. (Photo.16; Fig.29). Eggeling 1667,1680,2629.

Synonyms. S.burtoni Bak.; S.triclisioides Bak.; S.unguacha A.Rich.; S.xerophila Bak.

Ekwalakwala (Gang, Teso dialect); Lumboro (Madi); Akwakwalo, Alikwalo (Gang).

Shrub or tree usually less than 20 ft. high but sometimes attaining 40 ft. Branchlets powdery pale grey-green or stone-grey to almost straw colour. Leaves broadly-elliptic to oblong or obovate-oblong, 2½-5½ in. long, 1-2½ in. broad, glabrous or slightly pubescent beneath (occasionally rather densely pubescent beneath, especially when young), 3-nerved from the base. Cymes short, few-flowered; corolla ¼ in. long, pale green with a ring of white hairs in the throat. Fruit woody, globose, 1¾-2 in. diam. (slightly smaller than a tennis ball), blue-green at first, ripening to orange; pulp edible. Mubende; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Karamoja; Bugwere; Budama; Busoga.

I include here Bagshawe 828 originally determined as S.sp. near S.barteri Solered.; Maitland 470, 625 originally determined as S.sp. near S.densiflora Baill.; and Usher 114 originally determined as S.sp. near S.sennensis Bak.

STRYCHNOS SPINOSA Lam. Eggeling 1509,1715,2583.

KAFFIR ORANGE.

Savannah shrub or tree usually 15-20 ft. high, occasionally attaining 30 ft. Bark smooth, pale brown. Slash yellowish with green edges. Thorns about ⅓ in. long, paired, slightly recurved, pale with black tips, widely spaced on the branches and twigs. Leaves broadly obovate to suborbicular, 1¼-3 in. long, ¾-2½ in. broad; 3-nerved from the rounded base, obtuse or sub-acute at the apex. Flowers greenish-white in short dense compound cymes; corolla 1/6 in.

long, with a ring of white hairs in the mouth of the tube. Fruit woody, globose, 4-5 in. diam. (larger than a cricket ball), green at first, yellow-orange when ripe, containing numerous flat round poisonous seeds 1½-2½ in. diam.; pulp yellow-brown, edible. Wood yellow-white, hard, close-grained, picking up a little under the plane, finishing to a smooth surface; weight 65 lbs. per cu.ft. air dry.

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

Eggeling 1715 from Chua has silky-pubescent leaves and is referable to the var. pubescens Bak.

STRYCHNOS SP. Eggeling 1253,3344,3378.

Forest tree to 80 ft. Bark grey-brown. Slash white. Leaves opposite, 3-nerved from the base (the basal lateral nerves scarcely as distinct as the pair above them), simple, entire, glabrous, glossy above, ovate to elliptic or sub-rhomboid, 2-3½ in. long, ¾-1¾ in. broad, apex bluntly to acutely acuminate, base broadly to narrowly cuneate; petiole up to 1/5 in. long. Inflorescence axillary, about ½ in. long; flowers not seen. Fruit ellipsoid, about ¾ in. long and 2/3 in. diam., yellow when ripe.

Toro; Bunyoro; Madi (Zoka Forest); Karamoja (Mt. Napak).

MELASTOMACEAE

SAKERSIA

SAKERSIA LAURENTII Cogn. Uganda Forest Dept. 880.

Tree to 50 ft. with bole 7½ ft. girth at breast height. Branchlets brittle, with bristly nodes. Leaves setulose above, ovate-elliptic, up to 5 in. long and 2 in. broad, 5-nerved from the rounded base, the nerves re-joining at the acute apex; ~~upper surface setulose;~~ petiole up to ½ in. long. Panicle lax; flowers numerous, rose-coloured; calyx cupular, shortly toothed or lobed, $\frac{1}{3}$ in. long; petals [illegible] in. long; anthers equal; anther-connective long-produced at the base with two spur-like appendages in front; ovary adherent by ribs to the calyx-tube; bracteoles 2, caducous.

Kigezi; Ankole; Toro. Highly ornamental when in flower.

MELIACEAE

1. Leaves simple ..... (9) Turraea
   Leaves pinnate ..... 2.

2. Fruit drupaceous ..... (2) Ekebergia
   Fruit capsular ..... 3.

3. Seed not winged ..... 4.
   Seed winged ..... 6.

4. Anthers exserted from the staminal-tube ..... (8) Trichilia
   Anthers included in the staminal-tube ..... 5.

5. Fruit 4-5 in. diam. ..... (1) Carapa
   Fruit 1½-2 in. diam. ..... (4) Guarea

6. Seed winged all round ..... (5) Khaya
   Seed with a long terminal wing ..... 7.

7. Fruit-valves membranous ..... (6) Lovoa
   Fruit-valves woody ..... 8.

8. Leaflets entire; capsule pendulous .....(3)Entandrophragma
   Leaflets undulately toothed; capsule erect...(7)Pseudocedrela

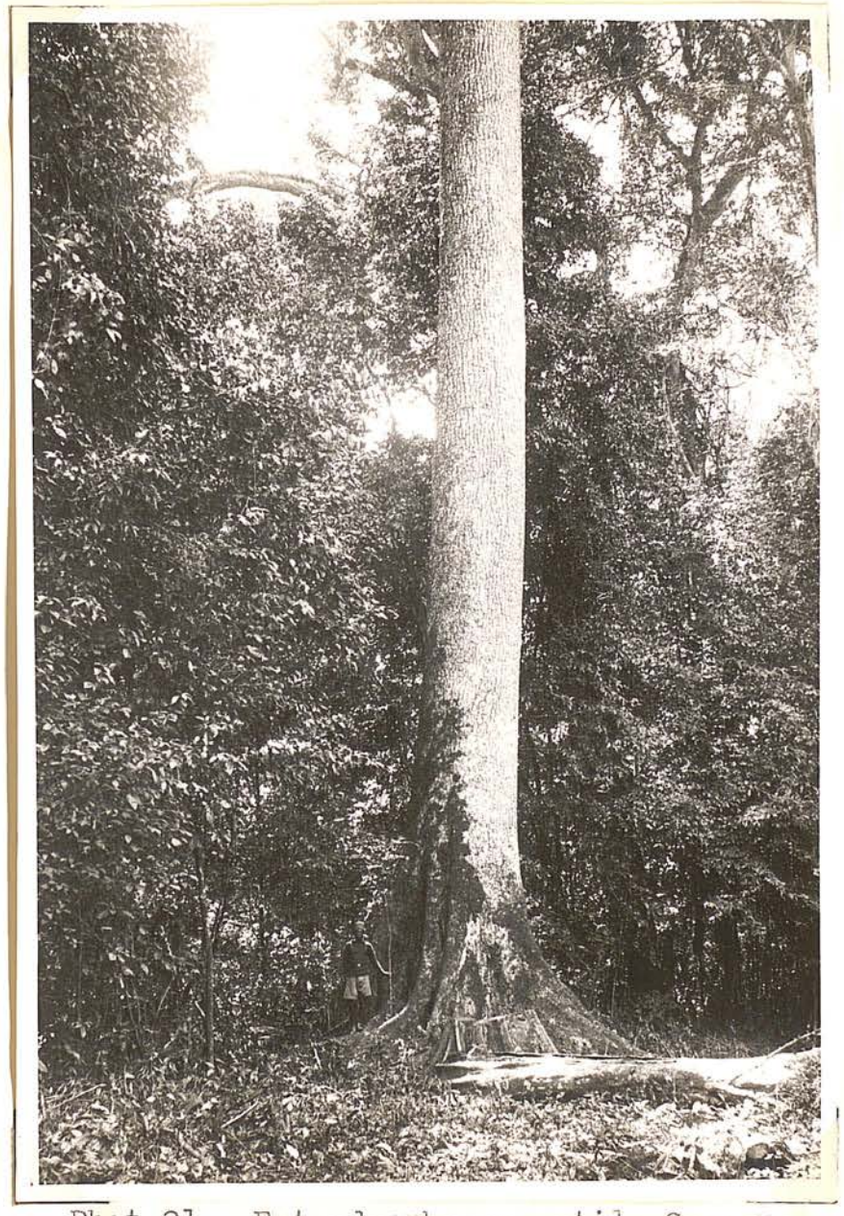
(1) CARAPA

CARAPA GRANDIFLORA Sprague Eggeling 709, 3098, 3099.

Mujogo (Lutoro); Mutongana (Lunyankole): UGANDA CRABWOOD or CRABNUT.

Forest tree usually 30-50 ft. high, occasionally attaining 80 ft. Bole low-branched, seldom straight, generally fluted. Bark thin, pale pinkish-brown to grey, flaking in oblong patches. Slash red. Leaves odd-pinnate, tufted at the ends of the branchlets, attaining 4 ft. in length, bright red when young; petiole swollen at base; leaflets usually 5-7 pairs, opposite or sub-opposite, ovate-oblong to elongate-oblong, usually 4-12 in. long and 2-4 in. broad, apex shortly acuminate. Inflorescence up to 18 in. long; flowers creamy-white with orange-red centres, waxy, fleshy, fragrant; sepals

Phot.20. Entandrophragma angolense (Welw.) C.DC. Habit photo.



Phot.21. Entandrophragma utile Sprague. Lower bole.

5; petals 5; anthers 10; ovary ovoid. Fruit sub-woody, 5-valved, 5-6 in. long; containing about 10 shining chestnut-brown, pitted, 4-sided seeds slightly more than 2 in. long; seeds normally 2 per loculus. Wood red, heavy, fairly dense and hard, recommended for interior carpentry, furniture, ornamental panelling and inlay work. Unfortunately only small logs are available.

Entebbe; Kigezi; Ankole; Toro. A very common understorey tree in the Kalinzu forest in Ankole and in parts of the Kibale forest in Toro.

(2) EKEBERGIA

1. Ovary 2-celled ---------- - E.rueppeliana
   Ovary 3-5-celled ---------- 2.

2. Leaflets velvety pubescent or tomentose beneath ----- E.sp. (1)
   Leaflets glabrous to sparingly pubescent beneath ---- 3.

3. Flowers glabrous ---------- E.sp. (4)
   Flowers not glabrous ---------- 4.

4. Leaflets puberulous to sparingly pubescent beneath -- E.sp. (2)
   Leaflets glabrous beneath or practically so -------- E.sp. (3)

EKEBERGIA RUEPPELIANA Fresen. ex A.Rich. Eggeling 2380, 2426.

Synonyms. E.petitiana A.Rich; E.petitiana var.australis Bak.

Forest tree to 80 ft. or more. Bark grey. Branchlets glabrous or nearly so, drying purplish, dotted with small pale brown lenticels. Leaves odd-pinnate, grouped chiefly near the ends of the branches, 6-12 in. long; rhachis reddish, glabrous, compressed, sharp-edged; leaflets 5-11, coriaceous to firmly membranous, glabrous, pale ~~beneath~~ beneath, elliptic to ovate-lanceolate, 2-5 in. long, 1-1½ in. broad, ~~broad~~ apex acute or acuminate, base cuneate; petiolules of lateral leaflets up to 1/5 in. long; petiolule of terminal leaflet up to 1 in. long. Panicles axillary, shorter than the leaves; flowers white, sometimes faintly tinged with pink, fragrant. Fruit fleshy, globose, about 1 in. diam. Wood tough, easy to work, polishing well, non-durable, suitable for interior carpentry, panelling, etc.; weight 32-40 lbs. per cu.ft. air dry.

Kigezi; Chua; Karamoja; Bugishu (Elgon). Confined to mountain forest; 6,000 - 9,000 ft.

I include here Eggeling 2426, originally determined as E. mildbraedii Harms.

EKEBERGIA SP. (1). Eggeling 1959.

Savannah tree to 50 ft. Young branches fulvous-tomentose. Leaves mostly 8-12 in. long; rhachis tomentose, not compressed; leaflets 11 or 13, subsessile, sparingly pubescent above, pale grey-green beneath, ovate to ovate-oblong, 1½-3 in. long, 1-1½ in. broad, apex obtuse to shortly and obtusely acuminate, base unequal-rounded. Panicles tomentose, 4-6 in. long; flowers creamy; ovary 3-4-celled. Fruit globose, beaked.

West Nile. On rocky hills near Uleppi.

EKEBERGIA SP. (2). Chandler 556.

Spreading savannah tree to 50 ft. Branchlets pale grey-brown, fulvous-pubescent when young. Bark on older branches corky. Leaves bunched at the ends of the twigs, mostly 5-10 in. long; rhachis puberulous to shortly tomentose, compressed, sharp-edged; leaflets 9-15, subsessile, softly but sparingly hairy beneath, puberulous above, much paler below than above, ovate-lanceolate to oblong, 1-2½ in. long, ½-1 in. broad, apex acuminate and mucronate, base unequal-cuneate. Panicles up to half as long as the leaves; flowers white. Fruits deep rose with darker streaks, oblong-ellipsoid, ¾-1 in. long, ½-¾ in. broad, 4-celled in our only fruiting specimen, stated to be edible.

Entebbe; Teso; Budama.

This plant is very probably only a pubescent variety of the savannah form of Ekebergia sp. (3).

I include here Dawe 221 originally determined as E. sp. near E. senegalensis A. Juss.

I have not seen Bagshawe 600, from Buvuma Island, the type of Ekebergia complanata Bak. to which species our specimens should perhaps be referred.

EKEBERGIA SP. (3). Eggeling 284,589,673, 3216, 3488,3504.

Tree to 90 ft. in savannah and on the edge of forest. Bole straight, often clear of branches for 30-40 ft. in forest-grown specimens. Crown rounded, with pendulous branchlets. Bark grey, cracking in squares. Leaves variable, usually 6-10 in. long in savannah specimens, up to 2½ ft. long on young trees growing in forest; rhachis flattened, sharp-edged, puberulous when young; leaflets 9-17, glabrous above, ovate-elliptic to oblong-lanceolate, 1½-4 in. long, ¾-1¾ in. broad, apex obtuse and mucronate (occasionally rounded), base unequal-cuneate to rounded; petiolules less than 1/10 in. long. Panicles puberulous, 2½-6 in. long in the savannah form, up to 12 in. long in the forest form; flowers white, often tinged with lilac; ovary 3-4-celled (rarely 2-celled and never so in more than a few flowers in each panicle). Fruit not seen.
Entebbe; Masaka; Ankole; Bunyoro; Teso; Budama.

I have not seen Bagshawe 378, originally determined as E. senegalensis A.Juss var. coriacea C.DC., but from the description it probably belongs here.

Eggeling 2162, 3524 (same tree) and Cree 37 are savannah specimens intermediate between the rather pubescent Ekebergia sp. (2) and the more or less glabrous forest form of Ekebergia sp. (3).

EKEBERGIA SP. (4). Eggeling 3818.

Tree 35 ft. high in the garden of the Director of Agriculture in Entebbe. Leaflets glabrous, usually 9, very obliquely ovate, 3½-6½ in. long, 2-2½ in. broad, apex acuminate, base unequal-rounded. Panicles slender, glabrous, up to 5 in. long; flowers greenish-white.
Entebbe. Possibly exotic.

Fig.30. Entandrophragma spp. Leaflets of (a.) E. angolense (Welw.) C.DC., (b.) E.utile Sprague . Seed-wing (outline of seed shown by dotted line) of (c.) E. angolense, (d.) E.utile. All natural size.

(3) ENTANDROPHRAGMA

1. Capsule 5-6 in. long; valves separating first from the base ..... 2.

   Capsule 6-10 in. long; valves separating first from the apex ..... 3.

2. Capsule cylindrical with obtuse or rounded ends, the valves falling singly ..... E.cylindricum

   Capsule thickest towards the apex and tapered to the base, the valves falling together in the form of a calyptra ..... E.angolense

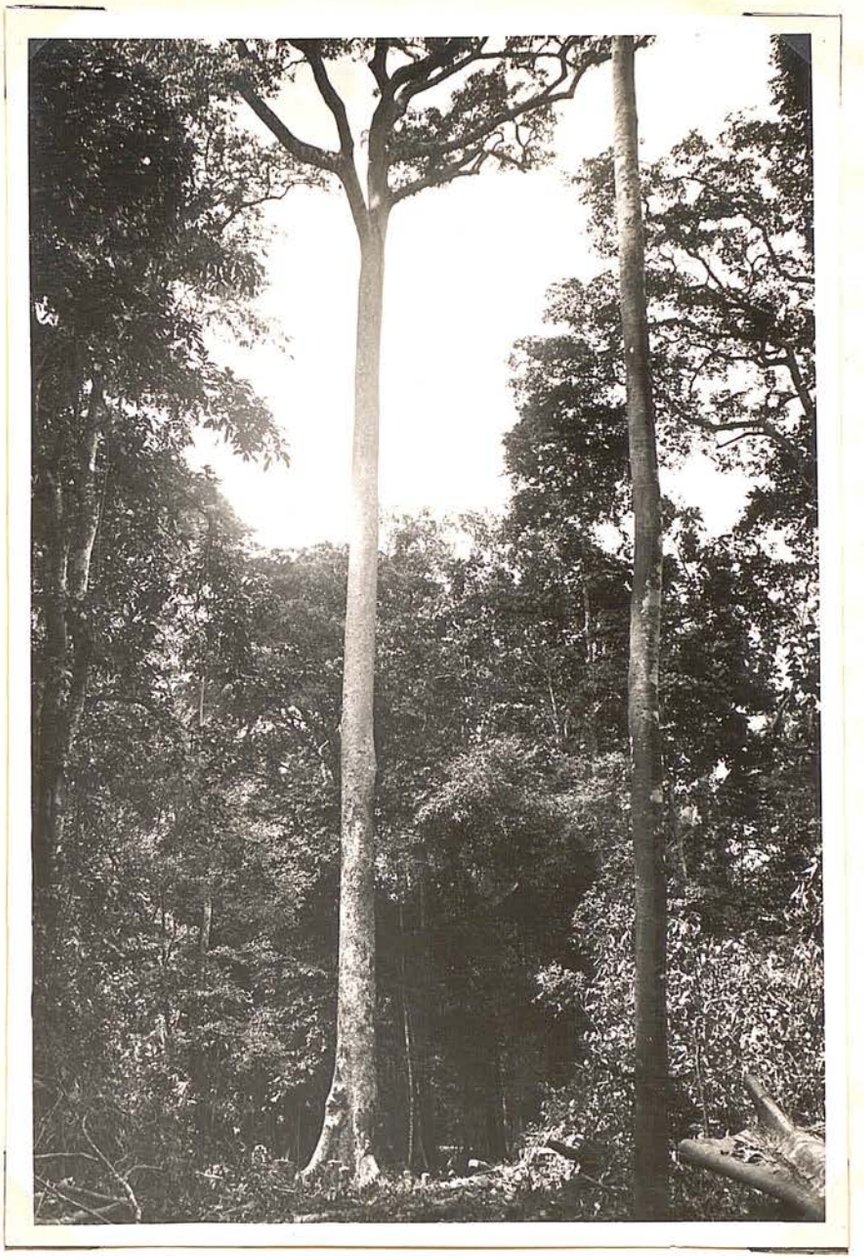
3. Capsule attenuate to the apex, usually beaked; valves thin, recurving ..... E.excelsum

   Capsule rounded or obtuse at the apex, not beaked; valves thick, not recurving ..... E.utile

ENTANDROPHRAGMA ANGOLENSE (Welw.) C.DC. (Photo.20; Fig.30.) Eggeling 145, 1402, 2135, 3030.

Mukusu (Luganda); Muyovu (Luganda; Lunyoro; Lutoro): GEDU NOHUR (Trade name); MUKUSU; BUDONGO MAHOGANY.

Deciduous forest tree to 160 ft., with clean bole to 80 ft. Branches usually few, frequently steeply ascending. Buttresses generally only moderately strong but somtimes prominent and extending as much as 20 ft. up the stem. Bark smooth, pale grey-brown with pinkish or rusty-orange patches, scaling in large or small irregular flakes which leave concave scars. Slash red. Leaves usually 10-14 in. long, sometimes much larger; leaflets 10-16 (generally 12), oblong to broadly oblong-lanceolate, about twice (never more than three times) as long as broad, central leaflets 2½-6 in. long, 1½-2¼ in. broad; lateral nerves about 10 pairs. Flowers white, in stiff panicles up to 12 in. long. Capsule woody; seed 3-4 in. long including the wing. Sapwood pale pink; heartwood with a wide colour-range, the normal varying from dull uniform dark red or purple-brown to a pale pink very similar to the sapwood. In dark-coloured wood the cells are heavily infiltrated with gum; in light-coloured wood the gum is almost entirely lacking. The darker wood is appreciably denser, and has rather better working qualities and takes longer to season than the light-coloured wood, which is woolly and more difficult to saw. In both types the grain is broadly interlocked and produces a rather wide and often



Phot.18. Entandrophragma cylindricum Sprague . Height to first branch 104 ft. The tree on the right is Celtis soyauxii Engl.

Phot.19. Cross-cutting a log of Entandrophragma cylindricum in the Budongo Forest.

irregular stripe on the quarter-cut surface, this figuring comparing unfavourably with that of E.cylindricum. The timber seasons slowly in air with a marked tendency to warp, and some splitting and checking must be expected; kiln-seasoning is also slow. The wood weighs about 36 lb. per cu.ft. air dry, which is almost the same as Honduras Mahogany but it is 10-20 % harder than that species. Air-dry timber is about 10% easier to work than that of E.utile, cuts fairly readily and cleanly with suitable saws, and has little dulling effect on the teeth; it planes readily and finishes smoothly on flat-sawn surfaces but picks up, sometimes to a considerable extent, on quarter-sawn surfaces, owing to the interlocked grain. The timber can be drilled, recessed and mortised reasonably cleanly, turns readily, nails well, stains and finishes satisfactorily but requires a grain filler before polishing; it is only moderately resistant to decay. Entebbe; Mengo; Toro; Bunyoro; Madi (Zoka Forest).

ENTANDROPHRAGMA CYLINDRICUM Sprague (Photos.18 & 19; Fig.31)
Eggeling 204, 1401, 2169.

Synonym. Pseudocedrela cylindrica Sprague

Muyovu (Luganda; Lunyoro): SAPELE (Trade name); MOYOVU.

Deciduous forest tree to 180 ft. or more. Stem exceptionally tall and straight, clean boles 80-90 ft. long being common, and specimens 100-110 ft. long not unusual. The species is probably the tallest of all African trees. Crown medium-sized, usually rounded. Buttresses small, seldom extending more than 12 ft. up the stem. Bark brown and smooth at first, turning grey and flaking towards the base in irregular scales on mature trees. Slash pale pink, with a characteristic resinous odour. Leaves usually 8-16 in. long, tufted at the ends of the branches; leaflets 10-16, ovate to oblong-lanceolate, 3-4½ in. long, ¾-1½ in. broad (i.e. 3-4 times as long as broad); lateral nerves 6-9 pairs. Flowers white, in lax axillary panicles about 12

(Straight On)

Fig.31. Entandrophragma spp. Leaflets of (a.) E.excelsum Sprague, (b.) E.cylindricum Sprague . Seed-wing (outline of seed shown by dotted line) of (c.) E.excelsum, (d.) E. cylindricum. All natural size.

in. long. Capsule woody, dehiscing into 5 valves; seed 2½-4 in. long including the wing. Sapwood white or pale yellow; heartwood pink when freshly cut, darkening to reddish-brown, lustrous, usually (usually strongly cedar-scented,) banded with alternate dark and light stripes or with a "roey" grain, ~~mottling and figuring are common in the larger trees. Timber often strongly cedar-scented, close-grained and~~ (frequently mottled and figured in the case of large trees. Wood close-grained,) even-textured, tough and strong, not difficult to season, easy to work with all tools, finishing well and taking a high polish; ~~W~~eight 39-44 lb. per cu.ft. air dry.

Mango; Bunyoro.

The wood is of particular value for panelling, ~~work~~ and is recommended also for decorative veneers, flooring, cabinet-work, furniture-making, etc.

~~[illegible]~~.

ENTANDROPHRAGMA EXCELSUM Sprague (Fig.31.) Eggeling 3128,3159,3284.

Synonym. Pseudocedrela excelsa Dawe & Sprague

Muyovu (Lunyankole); Omuyove (Luchiga, Kinyaruanda).

Deciduous forest tree to 140 ft. with clean bole to 80 ft. Buttresses generally strongly developed, extending 12-15 ft. up the stem. Bark thick, grey and smooth on young stems, becoming pale brown or tinged with pink or orange and scaling in flat sheets as in the case of E.angolense but the residual patches not so markedly concave. Slash pink. Leaves pinnate, attaining a length of over 3 ft; leaflets 8-20 (generally about 14), elliptic-oblong, 6-8 in. long, 2½-3½ in. broad (i.e. 2-3-times as long as broad); lateral nerves usually 10-11 pairs. Flowers white, half an inch or more across, in stiff axillary panicles 14-22 in. long. Capsule woody, ~~7-10 in. or more~~ 7-12 in. long, dehiscing from the apex into 5 reflexing valves which fall either singly or united with the central column. Seed 3-5 in. long including the wing.

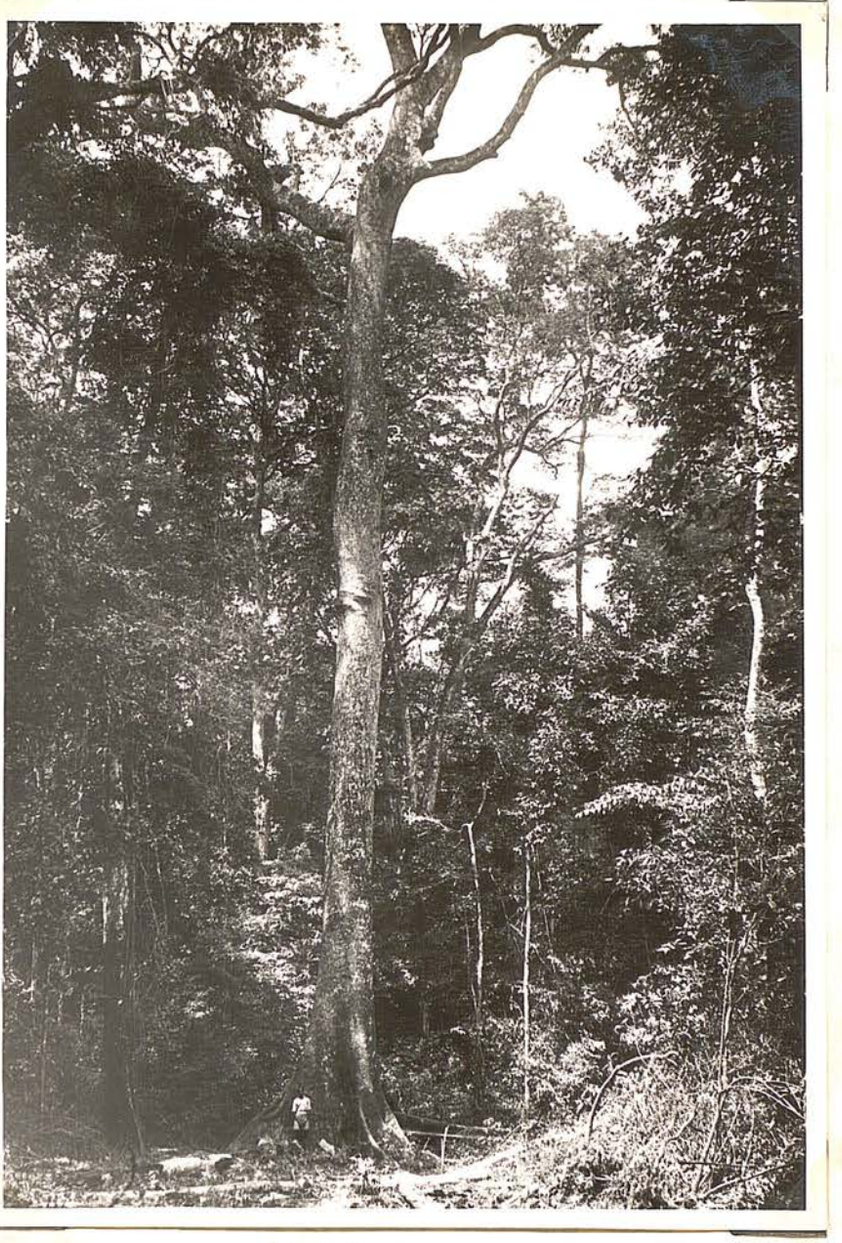
Kigezi; Ankole; Toro.

ENTANDROPHRAGMA UTILE Sprague (Photo 21; Fig. 30) Eggeling 527, 1243, 2086, 3004.

Synonym. Pseudocedrela utilis Dawe & Sprague

Mufumbi (Lunyoro); Muyovu (Luganda, Lunyoro): MUFUMBI; BUDONGO HEAVY MAHOGANY.

Very large deciduous forest tree to 170 ft. with clean bole to 80 ft. and average mid-girth of 9-12 ft. Bole straight, extremely cylindrical; buttresses rounded, comparatively small. Branches very brittle, shattering into small pieces when the tree is felled. Bark grey, deeply channelled and cross-cut into squares or rectangles. Slash pink. Leaves usually 12-13 in. long, tufted at the ends of the branches; leaflets usually 18-22, ovate to oblong, 3-4-times as long as broad, central leaflets 4-5 in. long and 1-1¾ in. broad; lateral nerves 12-16 pairs. Flowers white, in erect axillary panicles 6-8 in. long. Capsule woody, 6-8 in. long, dehiscing from the apex into 5 valves, the valves and axis falling together; seed 2½-4 in. long including the wing. Sapwood pink; heartwood fairly uniform red- or purple-brown, similar to the dark type of E.angolense but somewhat denser; weight about 41 lb. per cu.ft. The timber seasons well but fairly slowly in air, and the amount of splitting and distortion is not excessive: in the kiln it seasons well and fairly rapidly with very little tendency to check and split. There is usually slight warpage in the case of material cut from spiral-grained logs, which must be expected to twist rather severely unless restrained by weighting. The timber is heavier than Honduras mahogany and, as in the case of E.angolense, is appreciably superior to that timber in practically all mechanical properties. The grain is interlocked, but not so pronouncedly as in E.angolense, and there is consequently less distortion in seasoning. The timber saws



Phot.22. Khaya anthotheca (Welw.) C.DC. Habit photo.

Phot.23. Top log and crotch of large Khaya anthotheca showing "pock-marked" bark.

~~of figured wood, the results repay this. Weight 35-40 lb. per cu.ft. air dry.~~

~~Musaka. A rare tree in Uganda.~~

(5) KHAYA

1. Leaflets oblong to oblong-elliptic, 3-4-times as long as broad ..... K.senegalensis

   Leaflets elliptic to ovate-elliptic, about twice as long as broad ..... 2.

2. Flowers and fruits usually 4-merous; leaflets rounded or sub-truncate, rarely slightly acuminate, 3-6 in. long and 1½-2½ in. broad, with usually 6-9 pairs of lateral nerves ..... K.anthotheca

   Flowers and fruits usually 5-merous; leaflets shortly and abruptly acuminate, 5-7 in. long and 2-4 in. broad, with about 12 pairs of lateral nerves ..... K.grandifoliola

KHAYA ANTHOTHECA (Welw.) C.DC. (Photos.22 & 23; Fig.32.). Eggeling 2168.

Kirumbo (Luamba); Munyama (Lunyoro): AFRICAN MAHOGANY (Trade name); UGANDA MAHOGANY.

Deciduous forest tree attaining 150 ft. Stem heavily buttressed to a height of about 12 ft. from the ground, usually only moderately straight, frequently with a slight "wave". Bark fairly smooth, ash-brown to very pale grey, flaking in small circular scales to give a characteristic "pock-marked" appearance. Slash reddish-brown, a yellow gum-resin exuding. Leaves usually about 12 in. long; leaflets 6-10, broadly elliptic to ovate-elliptic (basal leaflets mostly ovate). Flowers white, in stiff axillary panicles up to 1 foot long. Fruit an erect, globose, grey-brown, 4-valved, woody capsule about 2½ in. diam., conspicuous on the crown of the tree and persisting for a considerable period after the seed has been shed. Seed flat, 1¼-1¾ in. long and 1-1¼ in. broad including the narrow surrounding wing. Sapwood pale; heartwood pink when freshly cut, darkening to mahogany brown on exposure, fairly coarse in texture, typically with interlocked grain (only a small proportion is straight-grained), with a characteristic but not conspicuous stripe in quarter-sawn boards. The wood works fairly readily with both hand and machine tools,

has little dulling effect on cutting edges, and ~~when clean and straight grained~~ although finishes to a moderately good surface is liable to ~~pick up~~ pick up ~~of the interlocked grain particularly~~ in quarter-sawn material and ~~of the cross-grain~~ in the vicinity of knots. ~~end-grain surfaces give a somewhat rough finish.~~ The timber can be kiln-seasoned fairly rapidly with extremely little degrade but the rate of drying of different pieces is not uniform. It has a tendency to split at the end as it comes off the saw but this can be overcome to a considerable extent by nailing a strip of wood across the end of the board, if ~~any signs of splitting appear~~ there is any sign of splitting, directly the saw is far enough in the log to permit of this being done. The strip must be removed later, as soom as the timber has been piled for seasoning. The timber is only moderately durable to ~~rot~~ decay, and is extremely resistant to impregnation. Weight about 44 lb. per cu.ft. in the green state, about 33 lb. per cu. ft. air dry.

Toro; Bunyoro.

The ~~wood~~ timber is slightly harder than Honduras mahogany but is somewhat inferior in other mechanical properties. It can be classed as a good grade of African mahogamy suitable for superior joinery, decorative furniture and cabinet making, handrails, mouldings, turnery, and for good class plywood. The compressive strength is too low to admit of its use for standard air screws.

KHAYA GRANDIFOLIOLA C.DC. (Photo 24; Fig.32.). Eggeling 899,1247,1673, 1842.

Synonym. K.dawei Stapf

Eri (Madi); Mario (Lugbara); Munyama (Lunyoro); Tido (Acholi): AFRICAN MAHOGANY (Trade name); BIG-LEAF MAHOGANY.

Medium-sized to large deciduous tree in gallery forests or on the edge of streams in savannah. Stem usually crooked. Bark pale grey, fairly smooth towards the top of the bole, cracking into irre-

(Straight on)

Fig.32. Leaflets of (a.) Khaya senegalensis (Desr.) A.Juss., (b.) K.grandifoliola C.DC., (c.) K.anthotheca (Welw.) C.DC. Seed-wings of (d.) K.senegalensis, (e.) K.grandifoliola, (f.) K.anthotheca. The position of the seed is indicated by a dotted line. All are natural size.

irregular scales towards the base. Slash dark red with lighter streaks. Leaves shiny, up to 20 in. long; leaflets 6-10, broadly elliptic to ovate-elliptic. Flowers white with an orange-red disc around the ovary, in rather stiff axillary panicles up to a foot long. Capsule 5-valved, about 2½ in. diam. Seed flat, 1¼-1½ in. long and ¾-1 in. broad, including the wing.

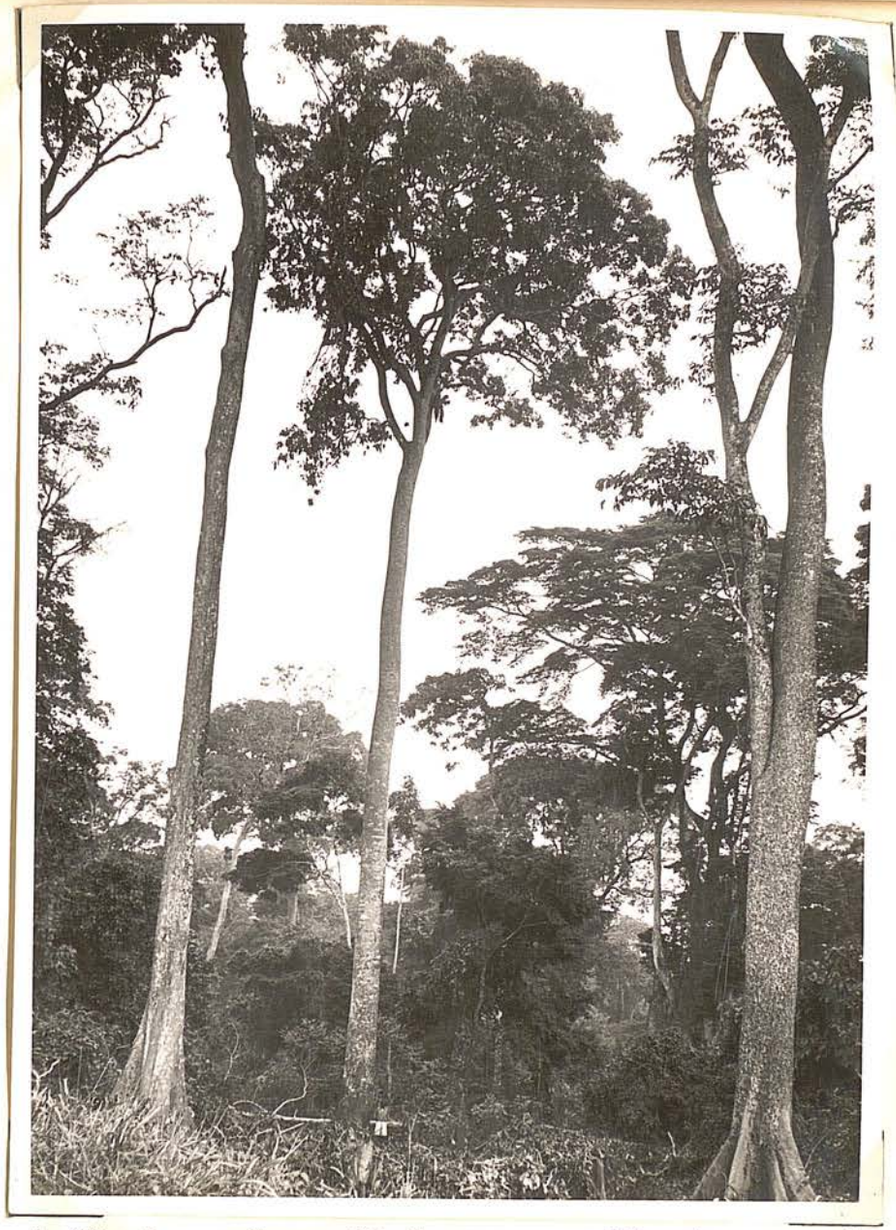
Bunyoro; West Nile; Madi; Gulu; Chua.

KHAYA SENEGALENSIS ~~(Perr.) A. Juss.~~ (Desr.) A. Juss. (Fig.32.). Eggeling 848,1499,1774. Eri (Madi); Mirai (Kakwa); Mahogo (Luganda); Tido (Acholi): SENEGAL MAHOGANY.

Deciduous tree 60-90 ft. high, with clean bole 30-50 ft. long. Buttresses slight or absent. Bark dark grey, with small thin scales. Slash bright crimson, a red sap exuding. Leaves 6-14 in. long, pale in colour; leaflets 6-10, oblong to narrowly oblong-elliptic, usually 2-4 in. long and 1-1½ in. broad (2-3-times as long as broad). Flowers tetramerous, white with an orange-red disc around the ovary, in lax axillary panicles up to 8 in. long. Capsule 4-valved, about 2 in. diam.. Seed flat, about 1½ in. long and ¾ in. broad including the wing.

Phot.24. Khaya grandifoliola C.DC.

Habit photo.



Phot.25. Lovoa brownii Sprague. The tree on the left is Cola cordifolia R.Br.; that on the right Khaya anthotheca C.DC.

West Nile; Madi; Gulu; Chua.

(8) LOVOA

Leaf-rhachis glabrous; fruit-valves dehiscing first from the base .... L.brownii

Leaf-rhachis pubescent; fruit-valves dehiscing first from the apex .... L.swynnertonii

LOVOA BROWNII Sprague (Photo.22.). Eggeling 92, 1408, 2008.

Synonyms. L.brachysiphon Sprague; L.budongensis Sprague

Nkoba (Luganda, Lunyoro); Mukusu (Lutoro): NKOBA; UGANDA WALNUT.

Forest tree to 150 ft.. Buttresses short, seldom extending over 6 ft. up the stem. Surface roots with conspicuous yellow lenticels strongly developed. Bark brownish-grey to black, fairly smooth, flaking towards the base. Slash dark red, strongly resinous. Leaves 5-7 in. long, glabrous; rhachis flattened or winged above, the back and front edges of the wings alternating between each pair of leaflets; leaflets 6-10, oblong-lanceolate, $1\frac{1}{2}$-3 in. long, $\frac{1}{2}$-1 in. broad; lateral nerves about 10 pairs. Flowers small, white, tetramerous, in erect panicles 8-12 in. long. Capsule small, pendulous, about 2 in. long and $\frac{1}{2}$ in. thick, with 4 membranous valves which dehisce first from the base, later from the apex and fall either singly or in a strip of 2-4 together. The central column of the capsule persists on the tree for a long period. Seed ovoid, compressed, with an oblong membranous wing slightly over an inch long. Sapwood whitish; heartwood very pale brown when freshly cut, darkening to pale golden-brown, medium hard, fairly even in texture, tough, moderately flexible, durable, easy to work and sea-



Fig.33. Pseudocedrela kotschyi (Schweinf.) Harms . a. Leaf. b. Flower. c. Open capsule (one valve removed). d. Seed. e. Fibre-network between two valves. All natural size except the flower which is x 5.

season; it turns, glues and nails well, and takes a good polish. Weight 35-37 lb. per cu. ft. air dry. As a cabinet wood the light-brown lustrous surface with well defined stripe in quarter-sawn stock is extremely handsome in unstained furniture.

Mengo; Entebbe; Sesse; Toro; Bunyoro.

The timber is well known to native carpenters in the Lake Victoria area, where it is widely used for furniture, doors, windows, etc., and canoes.

LOVOA SWYNNERTONII Bak.f. Eggeling 3107.

Mukusu (Lunyoro, Toro dialect)

Forest tree to 150 ft. Bark grey-brown with rusty patches, resembling that of Entandrophragma angolense but lacking the concave scars. Slash red. Leaves 6-12 in. long, pubescent when young; rhachis angular; leaflets 6-16 (usually 12-16), subopposite or opposite, oblong, $2\frac{1}{2}$-4 in. long, apex subacuminate, base cuneate. Panicles grey-pubescent when young; flowers white. Capsule about 2 in. long; valves 4, semi-stiff, recurving first from the apex and remaining attached at the base for some time before falling. Seed $1\frac{1}{4}$-$1\frac{3}{4}$ in. long including the wing. Sapwood dull white; heartwood deep grey-brown, handsome, frequently cross-grained and difficult to work, very durable, untouched by insects.

Toro (Kibale Forest).

(7) PSEUDOCEDRELA

PSEUDOCEDRELA KOTSCHYI (Schweinf.) Harms (Fig.33.). Eggeling 758, 1501.

Eputu (Lango); Oput (Acholi); Eputon (Luteso).

Savannah tree to 40 ft.. Crown oblong or pyramidal, with steeply ascending branches. Bark thick, silver-grey to blackish, fairly regularly fissured. Slash bright crimson. Leaves 12-16 in. long, tufted towards the ends of the branches, reddish when young. Leaflets usually 2-4 in. long and 1-$1\frac{1}{2}$ in. wide, softly pubescent. Flowers white (orange at the base of the tube), fragrant, in panicles 6-8 in. long. Capsule erect, 4-6 in. long; valves 5, dehiscing from the apex almost to the base but remaining connected by a fibrous network. Seeds pendulous, 5 per loculus,

about 3 in. long including the oblong wing. They have a distinct onion flavour. Sapwood pale brown, narrow, well defined; heartwood red-brown, moderately hard, medium fine and even in texture. Weight 46-58 lb. per cu.ft. air dr. An ornamental timber suitable for high-class joinery, resembling mahogany but harder and heavier. West Nile; Madi; Lulu; Chua; Lango; Teso; Bugishu.

A species which would respond well to fire-protection. It regenerates profusely from seed but most of the seedlings are killed by fire.

(3) TRICHILIA

1. Leaflets rounded and enarginate at the apex .... T.emetica

   Leaflets more or less pointed or acuminate at the apex ..... 2.

2. Petals ¾-1 in. long ... . T.reducta

   Petals ¼-⅓ in. long ..... 3.

3. Leaflets pubescent below; inflorescence half as long to as long as the leaves ..... T.buchananii

   Leaflets glabrous below or pubescent only on the nerves; inflorescence up to about a quarter as long as the leaves ..... 4.

4. Leaflets 5-9 (rarely 11); filaments united throughout their length ..... T.prieuriana

   Leaflets 11 or more; filaments free towards the top .....T.heudelotii

TRICHILIA BUCHANANII C.DC. Eggeling 1133,1209,3816.

Synonym. T.volkensii Guerke

Understorey tree or shrub to 35 ft.. Young parts pinkish-pubescent. Leaves 3-15 in. long; leaflets 5-11, paler below than above, elliptic to oblong-lanceolate or oblanceolate, 2-8 in. long, 1½-2½ in. broad, apex acuminate, base obliquely attenuate to rounded; petiolule up to ¼ in. long. Racemes usually 5-10 in. long; flowers sub-sessile, yellow-white. Fruit ovoid. Wood white, hard, fine-textured.

Kigezi; Toro; West Nile; Bugishu. A species of mountain forest, seldom found below 5,000 ft.; often associated with Arundinaria bamboo.

Fig.34. Trichilia emetica Vahl (~~small~~ savannah form). a. Portion of leafy flowering spray. b. Young fruits. Both natural size.

TRICHILIA EMETICA Vahl (Fig.84.). Eggeling 681, 1468, 1644, 2892, 3157

Mukalu (Lugungu).

Tree usually 15-40 ft. high, occasionally attaining 90 ft.. Young parts yellow-pubescent. Bark grey, scaly. Leaves up to 18 in. long, in terminal clusters; leaflets 7-11, subsessile, pubescent below, 1½-7 in. long, ½-2½ in. broad, increasing in size from below upwards, oblong to oblong-elliptic, the basal pair sometimes nearly round, the terminal leaflet often obovate; midrib prolonged below the cleft tip. Racemes stout, up to 4 in. long; flowers pedicellate, yellow-white; calyx 5-partite; petals 5, strap-shaped with incurved tips, ½-¾ in. long, about 5 times as long as the sepals; stamens joined for half their length; filaments 2-fid at the apex (a lateral tooth at each side of the anther). Capsule 4-valved, globose, about 1 in. diam., crimson when ripe; seeds brown with a scarlet or orange-red aril. Wood soft, straight-grained, easy to work, polishing well, requiring careful seasoning to avoid discolouration; weight 32-36 lb. per cu.ft. air dry.

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

Two distinct forms occur, one a small erect tree in savannah-lands away from water, the other a much larger spreading tree on river banks or seepage lines.

The seeds yield an oil which was at one time exported from East Africa for soap-making.

TRICHILIA RUDDLOTII Planch. Eggeling 330, 1141, 3214.

Mugaba (Lunyoro).

Understorey shrub or tree to 40 ft.. Leaves up to 18 in. long, reddish when young; leaflets 11-15, oblong to obovate, up to 5 in. long and 2½ in. broad, apex acutely acuminate, base attenuate to broadly cuneate; nerves very prominent below; petiolule ¼-½ in. long. Racemes usually 3-5 in. long, occasionally up to 8 in. long; flowers subsessile, yellow-white, fragrant, ⅓ in. long; filaments entire at the apex. Fruit obovate-globose, ½ in. diam., green tinged with pink; seeds shining black with an orange-red aril. Sapwood pinkish-white; heartwood red-brown, hard, light, of medium

texture, fairly durable.

Mengo; Entebbe; Masaka; Ankole; Bunyoro.

I include here Eggeling 1141, originally determined as T. rubescens Oliv.

TRICHILIA PRIEURIANA A.Juss. Eggeling 2320, 2525, 2444,

Muraliki (Lunyoro).

Gregarious understorey tree to 30 ft., solitary in savannah. Bark pale brown, stringy, scarcely scaling. Bole very deeply fluted. Slash dark yellow. Leaves up to 10 in. long; leaflets 5-11, elliptic to oblong or oblanceolate, $2\frac{1}{2}$-4 in. long, $1\frac{1}{4}$-2 in. broad, apex shortly and obtusely acuminate, base rounded to cuneate; petiolule up to $\frac{1}{4}$ in. long. Racemes axillary, up to about 4 in. long; flowers very fragrant, creamy inside, greenish-white tinged with pinkish-purple outside. Fruit globose; seeds black with a white aril. Sapwood white; heartwood red, hard, heavy, close-grained, yielding a good charcoal.

Bunyoro; Chua; Lango; Teso.

There is considerable disparity between forest-grown specimens from Bunyoro and savannah-grown specimens from other districts and it is possible that two species are involved.

TRICHILIA REDACTA Bullock (ined.) Eggeling 159, 1502, 1924.

Sekoba, Sesambya (Luganda).

Forest tree to 70 ft. Bark smooth. Leaves up to 12 in. long; rhachis pubescent; leaflets usually 7 or 9, glabrous, shiny, petiolulate, elliptic-oblong to obovate-elliptic, usually 3-5 in. long and $1\frac{1}{2}$-2 in. long, apex usually acute but occasionally rounded or emarginate, base cuneate to rounded; midrib prominent below, impressed above. Racemes axillary, few-flowered, rarely exceeding 2 in. in length; flowers creamy-white, fragrant; petals strap-shaped, $\frac{3}{4}$-1 in. long, about six times as long as the sepals; filaments 2-fid, free towards the top. Fruit 4-lobed, obovoid-globose, red; seeds black with a red aril.

Entebbe; Masaka; Ankole; Bunyoro; West Nile; Bugishu; Busoga.

We include here Fyffe 97 of 1913, originally determined as T. megalantha Harms.

(9) TURRAEA

1. Petals 1½-2 in. long ..... T.floribunda
   Petals less than 1 in. long ..... 2.

2. Flowers solitary or few together; leaves usually sinuate-lobate or undulate ..... T.heterophylla
   Flowers subumbellate; leaves usually entire..... 3.

3. Pedicels less than ¼ in. long ..... T.fischeri
   Pedicels ½-1 in. long ..... 4.

4. Leaves glabrous below or finely pubescent only on the nerves ..... T.vogelii
   Leaves densely pubescent below ..... T.robusta

TURRAEA FISCHERI Guerke Eggeling 2396.

Low-branched tree to 20 ft. on rocky hillsides. Leaves glabrous, ovate to rotundate-ovate, 2-2½ in. long, 1½-2 in. broad, apex acuminate, base narrowed; petiole short. Flowers precocious, creamy-white; petals spathulate about 1 in. long, at least ten times as long as the calyx; staminal-tube almost as long as the petals, the teeth of the tube blunt or 2-fid, half as long as the anthers; peduncle sessile. Fruit 10-locular.

Chua (Mt.Rom; 5,500 ft.).

TURRAEA FLORIBUNDA Hochst. Eggeling 1144, 2266.

Tree to 35 ft., on the edge of forest. Leaves entire, elliptic to ovate-elliptic, pubescent on both surfaces, 2-6 in. long, 1½-2½ in. long, apex acute to acuminate, base cuneate to rounded; petiole up to ½ in. long. Flowers precocious, sub-umbellate; petals green, linear-spathulate; staminal-tube creamy-white, the teeth filiform, twice as long as the anthers; peduncle subsessile; pedicels ¼-½ in. long. Fruit globose, splitting into 10 reflexing sub-woody valves each about ⅝ in. long; seeds dull red, crillate.

Bunyoro (Budongo Forest).

TURRAEA HETEROPHYLLA Sm. Eggeling 148.

Understorey shrub or tree to 15 ft. Leaves oblong to obovate,

3-5 in. long, 1-1½ in. broad, usually pubescent on the nerves below; apex acuminate; base attenuate; petiole ¼ in. long or less. Flowers white, on very short pedicels; calyx deeply lobed; petals linear-spathulate, about 1 in. long; staminal-tube almost as long as the petals, scarcely toothed. Fruit about ½ in. diam., splitting into 5 reflexing valves; seeds black, with a red aril.

Entebbe; Bunyoro.

TURRAEA ROBUSTA Guerke Eggeling 741.

Scandent shrub or understorey tree to 30 ft.. Bark grey. Slash white. Leaves broadly elliptic to obovate, 3-4 in. long, 1½-2½ in. broad, apex obtuse to rounded, base cuneate; petiole ¼-½ in. long. Flowers white; petals strap-shaped, about 3 times as long as the calyx; staminal-tube little more than half as long as the petals, acutely toothed, the teeth exceeding the anthers; peduncle and pedicels up to ½ in. long.

Mengo; Ankole; Teso; Bugwere; Budama; Busoga.

I include here Webb 18 originally determined as T. randii Bak. f.

TURRAEA VOGELII Hook.f. Eggeling 37,173.

Scandent shrub or understorey tree to 20 ft. Leaves ovate-elliptic, up to 5½ in. long and 3½ in. broad, apex acuminate, base rounded; petiole ¼-½ in. long. Flowers white; petals spathulate; staminal-tube about three-quarters as long as the petals, the filamentous teeth about as long as the anthers; peduncle up to 2 in. long; pedicels ½-1 in. long. Fruit globose, ½ in. diam., splitting into 10 recurving valves; seeds black with an orange aril.

Mengo; Entebbe.

MELIANTHACEAE

BERSAMA

This genus is in a state of great confusion and the following grouping must be regarded as provisional: it will almost certainly require modification when the type specimens of the species mentioned have been scrutinised.

1.	Leaves villous or pubescent all over the lower surface ----------	B. ugandensis
	Leaves glabrous; at most pubescent on the midrib and nerves beneath ----------	2.
2.	Racemes sparsely flowered, very long and slender; pedicels not more than ¼ in. long --	B.? volkensii
	Racemes densely flowered and stout, or if sparsely-flowered then pedicels more than ¼ in. long ----------	3.
3.	Style exserted ----------	5.
	Style not exserted ----------	4.
4.	Leaflets entire ----------	B.? holstii
	Leaflets denticulate ----------	B. sp. (1)
5.	Style stout, densely tomentose throughout ----	B. sp. (2)
	Style slender, glabrous or only sparingly hairy in the upper part ----------	6.
6.	Stamens scarcely exserted ----------	B. sp. (3)
	Stamens long-exserted ----------	B. sp. (4)

BERSAMA UGANDENSIS Sprague — Eggeling 1127.

Tree usually about 35 ft. high, rarely attaining 60 ft., with bole up to 4 ft. in girth. Bark grey. Branchlets tomentose when young, becoming glabrous. Leaves 8-24 in. long; rhachis grey-pubescent (especially towards the base) when young, becoming glabrous, winged between the upper internodes (broadest wing ¼-⅓ in. broad); leaflets 11-17, sessile or subsessile, denticulate or subentire, oblong-lanceolate, 2-5 in. long, ¾-2 in. broad, apex acuminate, lateral leaflets rounded at the base, terminal leaflets cuneate at the base. Racemes 8-12 in. long; rhachis subtomentose to pubescent; bracts filiform, up to ⅓ in. long; calyx ¼-⅓ in. long; petals

white, about twice as long as the calyx; stamens usually 4, exserted; style exserted, glabrous; pedicels up to ⅓ in. long. Capsule up to 1¼ in. long, reddish-tomentose. Wood white, very soft.

Masaka; Kigezi. On the edge of forest.

I have seen only two examples of this species from Uganda — Dawe 382 (type), from Koki, Masaka District and Eggeling 1127 from the base of Mt. Sabinio in Kigezi.

Bagshawe 398 originally determined as B.paullinioides Baker has since been referred to B.ugandensis var. serrata Baker.

BERSAMA ? HOLSTII Guerke — Uganda Forest Dept. 112.

Tree on forest edge. Leaves up to 2 ft. long; rhachis slender, puberulous at first, soon becoming glabrous, not winged; leaflets 15-21, glabrous, subcoriaceous, oblong, 2-5 in. long, ¾-1¼ in. broad, apex acuminate and mucronate, base unequal-rounded or cuneate; petiolule of terminal leaflet about ½ in. long; petiolules of lateral leaflets up to 1/5 in. long. Racemes densely flowered, up to 12 in.long; pedicels stout, up to ¼ in. long.

Bunyoro (Budongo Forest).

Thomas 6 from Sesse is probably this plant. The specimen differs from Forest Dept. 112 in the slender pedicels up to ½ in.long and in the subsessile terminal leaflet.

I have not seen Bagshawe 379 from Koki (Masaka District) but from the description it would appear to belong here too.

BERSAMA ? VOLKENSII Guerke — Snowden 953,1021.

Tree 30-60 ft. high. Branchlets glabrous or nearly so. Leaves 8-24 in. long; rhachis glabrous, unwinged or winged; leaflets usually 9 or 11, glabrous, membranous, entire or minutely denticulate, ovate-lanceolate to oblong-lanceolate, 2½-6 in. long, 1-2½ in. broad, apex bluntly acuminate, base unequal-rounded to cuneate; petiolules of lateral leaflet 1/10 in. long; petiolule of terminal leaflet up to ¼ in. long. Racemes 10-18 in. long; flowers white; bracts less than 1/10 in. long.

Bugishu (Mt. Elgon; 6-7,000 ft.).

Eggeling 3130 from a tree in an avenue at Fort Portal may possibly belong here too.

BERSAMA SP. (1). Eggeling 175.

Tree to 25 ft. on forest edge. Leaves up to 18 in. long; rhachis pubescent to glabrous, usually unwinged, sometimes with very small wings between the uppermost nodes; leaflets 15-21, denticulate, subsessile or shortly petiolate, glabrous (sometimes pubescent on the midrib below), very variable in size, mostly 2-4 in. long and ¾-1¼ in. broad, apex acute, base unequal cuneate or obtuse. Racemes stout, many flowered, up to 18 in. long; bracts small; pedicels stout, ¼ in. long.

Entebbe.

I include here Maitland 568 determined as B. sp. near B. paullinioides Baker.

BERSAMA SP. (2). Uganda Forest Dept. 382.

Straggling tree to 40 ft. Leaves up to 2 ft. long; rhachis puberulous at first, soon becoming glabrous, unwinged or with very narrow wings between the upper nodes; leaflets 13-17, glabrous or practically so, subcoriaceous, entire or sparingly and irregularly denticulate, oblong to elliptic oblong, 2-4½ in. long, ¾-1½ in. broad, apex obtuse and mucronate, base unequal-cuneate; petiolules of lateral leaflets up to 1/5 in. long; petiolule of terminal leaflet up to ½ in. long. Racemes up to 18 in. long, bracts small; flowers white; petals reflexed; pedicels up to ⅓ in. long.

Ankole; Toro.

I include here Forest Dept. 382 determined as B. oligoneura von Brehm.; also Bagshawe 1113 determined as B. abyssinica Fresen.

BERSAMA SP. (3). Eggeling 1804, 1836, 3009.

Tree to 30 ft. on forest edge. Branchlets fulvous-tomentose. Leaves up to 18 in. long; rhachis tomentellous at first, becoming glabrous, winged in the top two-thirds; leaflets about 15, coriaceous, glabrous, crenate-dentate, shortly petiolulate, ovate to lanceolate or oblong-lanceolate, 1½-3½ in. long, ¾-1¼ in. broad, apex acuminate and mucronate; base unequal-rounded. Racemes 8-12 in. long, tomentose; pedicels stout, ⅓ in. long; petals white, tinged with pink, reflexed; bracts filiform.

West Nile; Madi.

MELIANTHACEAE (202)

I include here Eggeling 1804 determined as B.oligoneura von Brehm.

BERSAMA SP. (4). Eggeling 1910,2584.

Tree to 40 ft. on forest edges. Leaves 8-24 in. long; rhachis tomentellous to sparingly puberulous, usually winged in the upper third; leaflets 11-17 (usually 15 or 17), entire to coarsely dentate, usually pilose on the midrib and nerves below, lanceolate to oblong-lanceolate, mostly 2-4 in. long and 2/3 - 1⅓ in. broad, apex acute to acuminate, base unequal-cuneate to rounded. Racemes very densely flowered, fulvous-tomentose; bracts filiform, up to 1/5 in. long; pedicels stout, up to ⅓ in. long; petals reflexed. Fruit globose, ¾-1 in. diam., silver-tawny; seeds red.

Mengo; Toro; West Nile; Karamoja; Bugishu.

Perhaps only a variety of the preceding.

I include here Eggeling 2584 and Uganda Forest Dept. 1264/ determined as B.engleriana Guerke; Bagshawe 1074 determined as B.andongensis var. ugandensis Bak.f.; and Snowden 830 determined as B.sp. cf. B.abyssinica Fresen.

MIMOSACEAE (147)

MIMOSACEAE

1. Flowers in large club-shaped heads, the upper flowers bisexual, the lower staminate or neuter; calyx-lobes imbricate ---------- (7) Parkia

   Flowers in spikes or racemes or small globose heads; calyx-lobes valvate ---------- 2.

2. Filaments united into a short or long tube --- 3.

   Filaments free or united only at the base ---- 4.

3. Fruit circinate and jointed ---------- (4) Cathormion

   Fruit flat, not jointed ---------- (2) Albizzia

4. Stamens more than twice as many as the petals--(1) Acacia

   Stamens as many as or up to twice as many as the petals ---------- 5.

5. Branchlets armed with spines; upper flowers of the spike bisexual, the lower neuter; fruits twisted ----------(5) Dichrostachys

   Branchlets unarmed; all the flowers bisexual; fruits not twisted ---------- 6.

6. Fruit dehiscent ---------- 7.

   Fruit indehiscent ---------- 8.

7. Fruit breaking up into 1-seeded segments and leaving the continuous thickened persistent sutures ----------(6) Entada

   Fruit not breaking up into 1-seeded segments---(8) Piptadenia

8. Fruit with a wing-like ridge along the back of each valve ----------(10) Tetrapleura

   Fruit without a wing-like ridge along the back of the valves ---------- 9.

9. Fruit 4-sided ---------- (3) Amblygonocarpus

   Fruit subcylindrical, slightly compressed ----- (9) Prosopis

(1) ACACIA

1. Flowers in spikes ---------- 2.

   Flowers in globose heads ---------- 8.

2. Stipules spinescent; spines straight --------- 3.

   Stipules not spinescent; spines infrastipular, recurved ---------- 4.

3. Pod contorted ---------- A. albida

   Pod flat ---------- A. lahai

4. Spines in threes ---------- A. senegal

   Spines paired ---------- 5.

5. Pinnae 2 pairs; leaflets 1 pair -------- A. mellifera

   Pinnae 5-40 pairs; leaflets 8-50 pairs-- 6.

6. Pinnae 5-8 pairs ---------- A. eggelingii

   Pinnae 15-40 pairs ---------- 7.

7. Leaflets more than ¼ in. long --------- A. hecatophylla

   Leaflets less than ¼ in. long --------- A. campylacantha

8. Inflorescence a terminal much-branched panicle ---------- 9.

   Inflorescence a simple or sub-simple axillary peduncle ---------- 10.

9. Stipules spinescent; branchlets without scattered prickles between the nodes; flowers golden yellow -------- A. buchananii

   Stipules not spinescent; branchlets with numerous scattered prickles between the nodes; flowers white ---------- A. pennata

10. Flowers golden yellow ---------- 11.

    Flowers white or cream-coloured ------- 13.

11. Pod falcate, compressed ---------- 12.

    Pod cylindric or spindle-shaped, turgid - (A. farnesiana).x.

.x. A. farnesiana (L.) Willd. A bush or small tree with fragrant flowers, sometimes cultivated in Uganda as a garden plant and occasionally encountered as an escape. It is probably American in origin.

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12. Spines long and white, frequently galled; peduncles about 1½ in. long ---------- A. seyal

    Spines usually short and brownish, never galled; peduncles usually less than 1 in. long ---------- A. stenocarpa

13. Fruit-valves thick and woody ---------- A. sieberana

    Fruit-valves coriaceous or membranous -------- 14.

Fig.35. Fruits of (a.) Acacia albida Del., (b.) A.campylacantha Hochst. ex A. Rich., (c.) A.eggelingii Bak.f., (d.) A.hecatophylla Steud. ex A.Rich., (e.) A.lahai Steud.& Hochst. ex Benth., (f.) A.mellifera Benth., (g.) A.senegal (L.) Willd. All natural size.

14. Pod strongly curved or spirally twisted .... 15.
Pod straight or only slightly curved ..... 17.

15. Pod strongly curved ..... 16.
Pod spirally twisted ..... A. spirocarpa

16. Pod acute; some spines always galled ..... A. drepanolobium
Pod obtuse or subacute; spines never galled. A. hebecladoides

17. Margin of pod indented ..... 18.
Margin of pod unindented ..... 19.

18. Pod moniliform or sub-moniliform ..... A. mildbraedii
Pod crenate ..... A. subulata

19. Margin of pod compressed or winged ..... A. orfota
Margin of pod not compressed or winged ..... 20.

20. Pinnae 1-10 pairs ..... 21.
Pinnae 20-50 pairs ..... A. xiphocarpa

21 Spines paired, some long and straight, others short and recurved; involucel at or above the middle of the peduncle -- .... A. etbaica
Spines paired, all small and recurved; involucel at or below the middle of the peduncle ..... A. sp.

ACACIA ALBIDA Del. Eggeling 684, 946, 2355.

APPLE-RING ACACIA.

The largest of the Uganda Acacias, attaining 80 ft. Bark dull grey, fissured and scaly. Slash pale brown, fibrous. Branchlets white. Spines thick and straight, frequently directed slightly downwards, white with brown bases, up to ½ in. long. Leaves grey-green; pinnae 3-10 pairs; leaflets 6-20. Flowers creamy-white, fragrant, in spikes 3-4 in. long. Pod (Fig.85.) indehiscent, orange-yellow, 3-6 in. long, ½-1 in. broad, concave on one side, convex on the other; seeds dark brown. The fruits twist into strange shapes as they ripen, frequently forming hoops or spirals which give the tree its common name. Sapwood dirty white; heart-wood yellow-white, soft, easy to work, finishing smoothly under the plane, seasoning well in dry air but liable to discolouration if allowed to become damp, prone to attack by borers and termites. Weight 35 lb. per cu.ft. air dry.

Ankole; Chua; Karamoja. On flood plains and low-lying land near streams.

The bark of the main trunk contains about 29% tannin; the pods contain 5% tannin.

ACACIA BUCHANANII Harms Eggeling 1237,1777,1918,2199.

Synonym. A.prorsispinula Stapf

SHINY-LEAVED ACACIA.

Savannah tree usually about 20 ft. high, occasionally attaining as much as 40 ft., Bark grey-brown, fissured and scaly. Slash dull red. Spines straight or slightly curved, ¼-½ in. long, grooved on the upper side. Leaves large, drooping, very shiny; pinnae 10-20 pairs; leaflets 20-40 pairs, not contiguous. Panicles up to 18 in. long; involucre in the middle of the peduncle. Pod (Fig.36) dark red-brown, flat, oblong, 3-5 in. long, ½-¾ in. broad, persisting on the tree for a long period; seeds 8-12. Sapwood yellow with orange streaks; heartwood reddish with black and brown streaks, hard, straight-grained and easily split, difficult to plane. Weight 65 lb. per cu.ft. air dry.

Mengo; West Nile; Madi; Culu; Chua; Lango; Teso; Bugwere; Budama; Bugishu; Busoga. A solitary species; it is sometimes only very weakly armed.

We include here all the numerous Uganda specimens originally determined as A.macrothyrsa Harms. The two species may not be distinct.

ACACIA CAMPYLACANTHA Hochst. ex A.Rich. Eggeling 675,678,912,1948.

Synonym. A.catechu Oliv.

Kibere (Luganda); Mugu (Lunyoro, Lunyankole); Egirigiryoi (Luteso); Mukongoliko (Lusoga); Odurakot (Lango): AFRICAN CUTCH; FALCONS CLAW ACACIA.

Fast-growing flat-topped gregarious tree to 40 ft. usually found on the banks of streams or at the edge of marshes, but sometimes growing on dry stony hillsides. Bark ash-grey to pale yellow, rough with yellow-brown scales. Slash red with white streaks, granular and fibrous. Thorns up to ¾ in. long, strong, recurved, with a swollen decurrent base, brown with black tips, resembling

Fig.36. Fruits of (a) Acacia buchananii Harms, (b.) A.drepanolobium Harms ex Sjôstedt, (c.) A.etbaica Schweinf., (d.) A.hebecladoides Harms, (e.) A.mildbraedii Harms, (f.) A.orfota (Forsk.) Schweinf., (g.) A.pennata Willd.,(h.) A.seyal Del., (i.) A.sieberiana DC., (j.) A.spirocarpa Hochst.ex A.Rich., (k.) A.stenocarpa Hochst. ex A.Rich., (l.) A.subalata Vatke, (m.) A.xiphocarpa Hochst. ex Benth., (n.) A.sp. (Eggeling 2921).
All natural size.

falcons claws. Leaves usually 4-10 in. long; pinnae 15-30 pairs; leaflets 25-40 pairs. Flowers creamy-white, in spikes 4-5 in. long. Fruit (Fig.35.) broadly linear, 4-6 in. long, ½-¾ in. wide, flat, persistent; seeds about 6, dark brown, showing through the pod. Sapwood white; heartwood red with black streaks, hard, difficult to saw, with long fibres which pick up badly under the plane, taking a good polish. The heartwood is infiltrated with resin and is therefore more durable and less liable to borer and termite attack than that of Acacias in general.

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

The tree yields a pale yellow to reddish-brown soluble or semi-soluble gum giving a good adhesive mucilage suitable for confectionery but inferior to that of A.senegal, A.sieberiana or A.seyal. The bark and pods contain a high percentage of tannin.

ACACIA DREPANOLOBIUM Harms ex Sjöstedt Tanaeling 746.

BLACK-GALLED ACACIA OR WHISTLING THORN.

Bush or tree to 15 ft. forming pure stands in seasonal swamps of black cotton soil. The stem is generally almost devoid of proper branches although usually densely beset with slender horizontal twigs 1-2½ ft. long. Bark blackish-brown, rough. Spines straight, slender, white, up to 3 in. long. Galls numerous, soft at first and grape-purple in colour, later hardening, turning black, and becoming inhabited by ants. Leaves glaucous, 1-3½ in. long; pinnae 4-10 (usually 5-8) pairs; leaflets 18-30 pairs. Flower-heads small, relatively few-flowered; involucel at the base of the peduncle. Pod (Fig.36.) red-brown, narrow-lanceolate, about 2 in. long, glabrous or nearly so.

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

The galls at the base of the spines of A.drepanolobium and A. seyal are said to be formed with the express purpose of providing a harbourage for ants, to discourage grazing animals. When wind blows through a stand of these trees it whistles in the galls, hence the name Whistling Thorn.

ACACIA EGGELINGII Bak.f. Eggeling 1328,1371,1803,2487.

Savannah tree usually 15-20 ft. high, but sometimes as much as 50 ft. high. Crown flat-topped. Bark brown, scaling in vertical strips which recurve first from the ends and remain attached at the middle, giving a ragged look. Thorns few, small, recurved, grey-brown with black tips. Pinnae 4-6 pairs; leaflets 8-12 pairs, not contiguous. Flower-spikes 1-2 in. long, in clusters of 2-4 together; flowers precocious, appearing pink at a distance but actually consisting of a dark red corolla and numerous white stamens. Pod (Fig.35.) thin, flat, oblong, 3-7 in. long, ½-1 in. broad, pale brown, persistent, dehiscing on the tree; seeds 8-9, dark brown. Sapwood white; heartwood hard, dark brown, said to be strong and durable.

West Nile; Chua; Bugishu. (4,500-6,500 ft.). Usually gregarious. A decorative species, distinctly worthy of cultivation.

ACACIA ETBAICA Schweinf. Eggeling 2360,2483,2970,2976.

Flat-topped gregarious tree to 40 ft. Bark pale brown to brownish-black, very deeply furrowed. Slash creamy-yellow, fibrous. Branchlets red-brown. Spines ~~[illegible], straight, slender, sometimes as much as 2 in. long, more usually small and inconspicuous. Pinnae~~ paired, brownish-white, some of them straight and slender and up to 2 in. long, others small and recurved. Pinnae 2-10 pairs; leaflets 10-20 pairs. ~~[illegible] the middle or above the middle of the peduncle.~~ Pod ~~straight~~ (Fig.36.) shining red-brown, straight, linear-oblong, 2-4 in. long, ⅜-½ in. broad, obtuse, ~~red-brown, shining,~~ dehiscing on the tree ; ~~about 8 seeded.~~ seeds about 8.

Chua (Rom); Karamoja. Only in the very driest savannahs.

ACACIA HEBECLADOIDES Harms Eggeling 601,748,2201,2421.

Muninya, Munyinya (Luganda); Mutongoli (Lunyankole).

Gregarious savannah tree to 40 ft. Crown flat-topped, umbrella-shaped or irregular. Bark grey-brown, fissured, rough. Branchlets grey-brown, softly tomentellous, the bark tending to split to expose an underlying rusty-red layer. Thorns grey-brown with brown tips, usually small but sometimes as much as 2 in. long, straight or recurved. Pinnae 4-10 pairs; leaflets 10-20 pairs.

Flowers white, often with a faint pinkish tinge; involucel at or near the base of the peduncle. Pod (Fig.34.) pale brown, ashy-pubescent, 2½-4½ in. long and about ½ in. broad, dehiscing on the tree; seeds 4-7.

Mengo; Ankole; Kigezi; Toro; Chua; Lango; Karamoja; Bunyoro.

We include here Dyer 371 originally determined as A.serrardi Benth., a species to which A.hebecladoides is very closely allied.

ACACIA HECATOPHYLLA Steud.ex A.Rich. Eggeling 1215,1364,1788; 1964.

Savannah trees to 50 ft.. Branchlets hoary-tomentose. Slash red. Prickles up to ½ in. long, recurved, brown with darker tips. Leaves glaucous, paler below, up to 5 in. long; rhachis sometimes weakly armed on the lower side; pinnae 8-20 pairs (usually 10-15 pairs); leaflets 15-40 pairs (usually 30-40 pairs), not contiguous. Flower-spikes 3-5 in. long; flowers white. Pod (Fig.35.) coriaceous, oblong, 5-8 in. long, 1-1 in. broad, 3-7-seeded.

West Nile; Madi; Bulu. Solitary or in twos and threes on stony hillsides; never gregarious.

ACACIA KIRKII Steud.& Hochst.ex Benth. Eggeling 2477.

RED THORN.

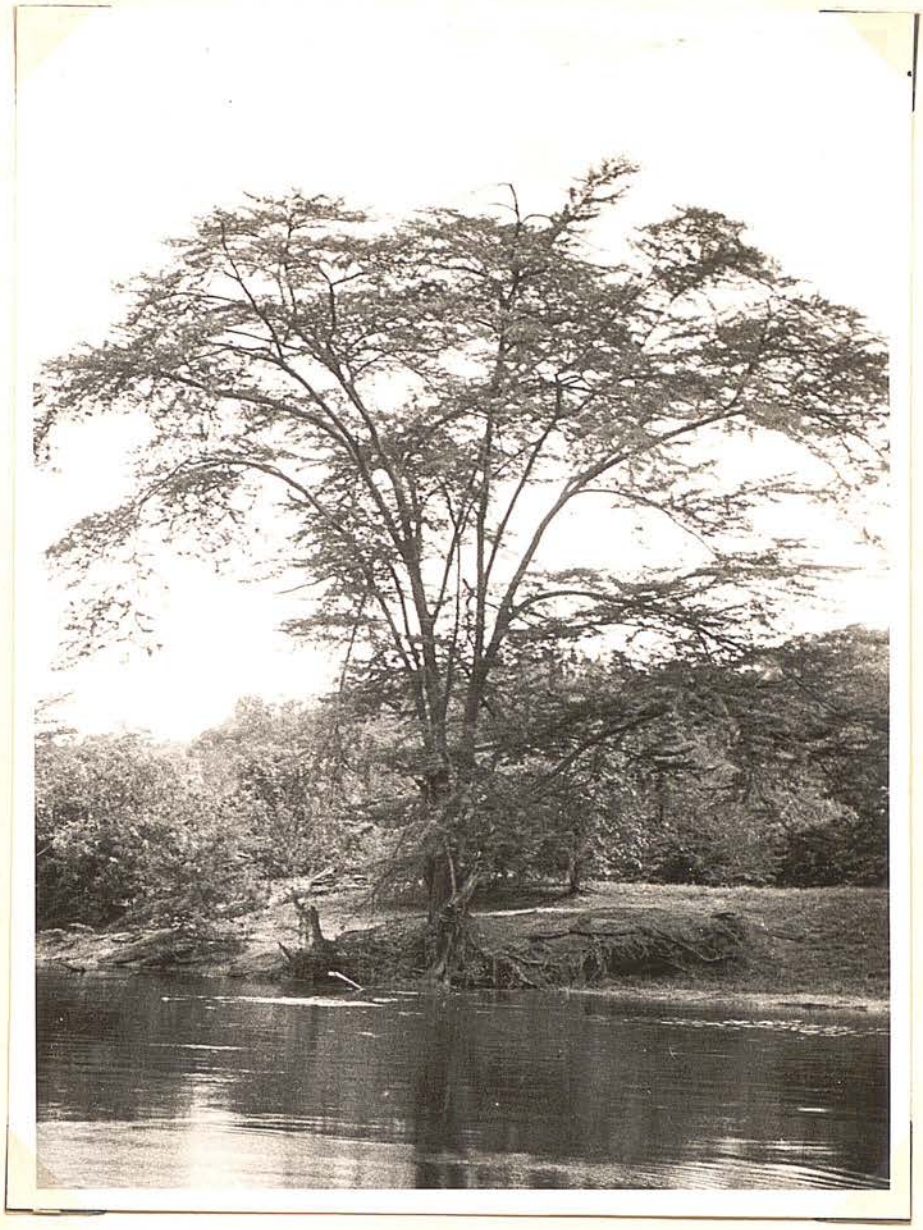
Flat-topped tree to 20 ft. Bark grey-brown, fibrous. Branchlets glabrous. Spines flattened on the upper side, white, straight, up to 2 in. long. Pinnae 7-15 pairs; leaflets 18-25 pairs. Flower-spikes axillary, 2-4 in. long. Pod (Fig.35.) ovate to broadly oblong, slightly curved, 1½-2½ in. long, ½-1½ in. broad, obtuse, ~~minutely apiculate,~~ glabrous, coriaceous, brown, shining. Wood red, very hard, durable.

Bugishu (Kaburon; 6,500 ft.).

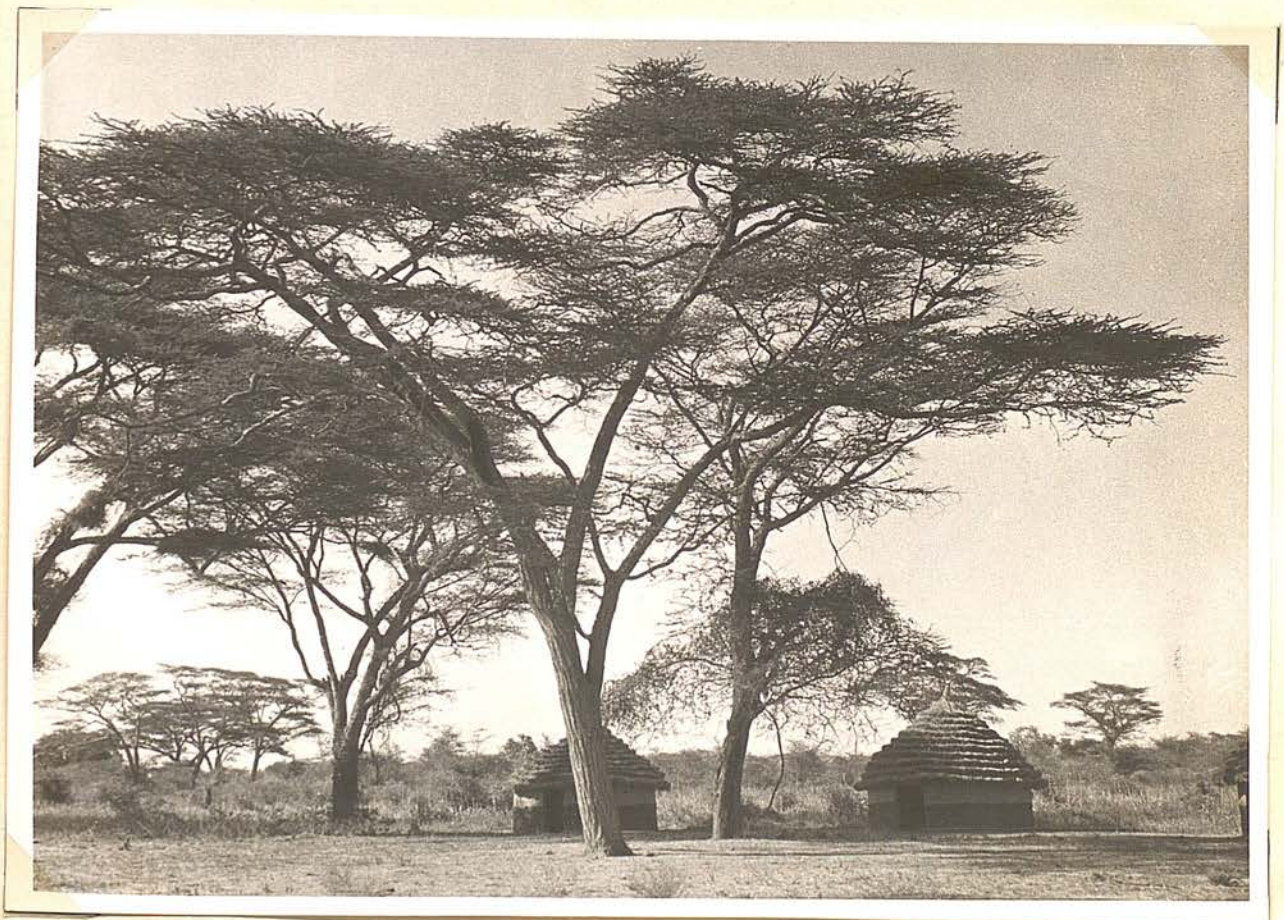
ACACIA SENEGAL Benth. Eggeling 2489, 3511.

WAIT A BIT THORN.

Glabrous shrub or tree to 25 ft., only found in the very driest savannahs. Branchlets ashy-grey to pale brown. Thorns



Phot.26. Acacia mildbraedii Harms. Habit photo.



Phot.27. Acacia spirocarpa Hochst. ex A.Rich.var. major Schweinf. Habit photo.

paired, sharply recurved, about ¼ in. long, grey with black tips. Leaflets obovate, ½-¾ in. long, about ⅓ in. broad, very unequal-sided at the base, very pale below. Flowers white, in spikes 1-1½ in. long. Pod (Fig.35.) reticulate, flat, oblong, 1½-2 in. long, ¼-¾ in. broad; seeds 2-4. Karamoja; Chua (Agoro).

ACACIA MILDBRAEDII Harms (Photo. 26.) Eggeling 441, 775, 2424, 3880

Mukinga (Luganda).

Flat-topped tree to 50 ft., often associated with Phoenix palm. The flat spreading crown and delicate leaf-tracery make the tree extremely handsome. Bark smooth, thin, shining, pale green. Slash bright red. Spines straight, slender, flattened above, grey-brown or white with dark tips, up to 3 in. long. Pinnae 5-12 pairs; leaflets 15-25 pairs. Flowers with red corolla and white stamens; involucel at or near the base of the peduncle. Pod (Fig.36.) glabrous, reticulate, pale brown, 3-4 in. long, ¼-½ in. broad, with an appendage over each of the 5-9 seeds.

Mengo; Entebbe; Mubende; Ankole; Kigezi; Toro; Bunyoro; Gulu; Chua. In swamps and on the margins of rivers and lakes; usually gregarious.

ACACIA ORFOTA (Forsk.) Schweinf. Eggeling 2844, 2951.

Usually a shapeless savannah shrub, with branches radiating in all directions, occasionally a small tree. Bark grey-white. Spines straight, stout, grey-white with brown tips, usually ¼-⅔ in. long. Pinnae 3-12 pairs; leaflets 5-15 pairs. Flower-heads 2-3 together; flowers dirty white, very fragrant; involucel at or below the middle of the peduncle; pedicels about ½ in. long. Pod (Fig.36.) pale yellow, longitudinally striate, linear-elliptic, 2-4 in. long, about ½ in. broad, pointed at both ends. Seeds 5-10, olive-green. Karamoja. In the driest savannahs.

ACACIA PENNATA Willd. Eggeling 405,844.

Lofty climber on forest edges, scandent thicket-forming shrub or tree to 15 ft. in dry savannah. Prickles numerous or sparse,

compressed, recurved, brownish, frequently present on the leaf-rhachis and inflorescence as well as on the stems. Pinnae 8-20 (usually 10-15) pairs; leaflets 30-70 pairs, contiguous. Flower-heads yellow-white, shortly pedunculate. Pod (Fig.36.) flat, reddish, coriaceous, linear-oblong, 2½-7 in. long, ¾-1¼ in. broad, sometimes undulate or faintly constricted between the seeds; seeds 3-9.

Mengo; Entebbe; Bessa; Kigezi; Toro; Bunyoro; Chua; Teso; Karamoja; Busoga.

The stems yield a strong fibre used as rope.

ACACIA SENEGAL (L.) Willd. Eggeling 706, 773.

Synonym. A.verek Guill.& Perr.

SUDAN GUM ARABIC.

Savannah bush or tree usually less than 15 ft. high, occasionally attaining 30 ft., frequently forming thickets. The stem is usually low-branched at first but a short bole is finally produced; the crown is flat-topped. Bark pale brown or grey, scaly on the older parts. Slash mottled red and white. Thorns in threes at the swollen nodes, up to ¾ in. long, the centre one sharply recurved, the other two more or less straight and directed forward. Pinnae 3-6 pairs; leaflets 10-20 pairs, grey-green. Flower-spikes 2-4 in. long, solitary or two or three together, usually precocious; flowers creamy-white (red in bud). Pod (Fig.35.) flat, papery, sand-coloured, oblong, 1½-4 in. long, ¾-1 in. broad, sometimes constricted owing to abortion of some of the seeds, prominently reticulate. Seeds 1-5, greenish-brown. Wood white.

Mengo; Ankole; Toro; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Karamoja; Bukedi. In low-lying dry savannahs.

A.senegal yields the gum arabic of present-day commerce having replaced that of A.arabica Willd., which was probably the original source. 'Tapping' consists solely in tearing off a long strip of bark and allowing the gum to exude. Trees bear gum from 4-18 years of age, and are said to yield only when they are in an unhealthy state owing to poor soil, lack of moisture, etc. The best gum areas in the Sudan have an annual rainfall of 10-14 inches.

ACACIA SEYAL Del. (incl. var. FISTULA Oliv.). Eggeling 705,826,2200.

SHITTIM WOOD: WHITE-BARKED/ACACIA or YELLOW-BARK THORN.

Gregarious savannah tree to 30 ft., on flats of black cotton soil or on stony ground at the base of hills. Crown flat-topped. Stem smooth, covered at the time of new growth with either a creamy-yellow or a rusty brown or brick red mealy powder which comes off when rubbed to expose the very thin bright green bark below. The bark is shed annually, scaling off very regularly in rectangles. Thorns white with grey flecking and brown tips, straight, strong, and sharp, and up to 2½ in. long on the lower parts of the twigs, replaced by short recurved prickles towards the extremities. In the white-barked form (var. fistula Oliv.) some of the thorns are galled, the base becoming greatly swollen. The writer has never seen galls on the red-barked form, though they are said to occur occasionally. Pinnae 3-6 pairs; leaflets 10-25 pairs. Flowers very fragrant, usually precocious, borne in great profusion; involucel at or below the middle of the peduncle. Pod (Fig.95.) flat, curved, brown, 3-5 in. long, up to ½ in. broad, slightly constricted between the seeds, dehiscent; seeds 6-10. The pods are usually borne in clusters and persist on the tree for a considerable period. Wood white to yellow-brown, finely striated with brown, coarse-grained, soft, easy to work, giving a rough finish under the plane, polishing well, liable to discolour with mould, susceptible to insect attack. Weight 50 lb. per cu.ft. air dry.

Mengo; Ankole; Madi; Chua; Lango; Karamoja. In dry savannah.

The tree yields an edible gum of good quality but inferior to that of A.senegal. A great improvement in colour, taste, etc., results from systematic tapping. The fibre-yielding bark contains 18-20% of tannin and yields a red-coloured liquid extract.

/

ACACIA SENEGALENSIS DC. Eggeling 683,914,1685,2419.

Asa, Asaro (Lugwara); Lasa (Madi); Acara, Okuto-lacar (Acholi); Etiriri (Luteso); Munyinya, munimya (Lutoro); Muwawa, Mweramenyo (Luganda, Lunyoro); Mutiaza (Lunyankole); Mufuwanduzi (Lusoga).

Savannah tree to 50 ft. Crown flat-topped, umbrella-shaped,

or irregular. Bark yellow-brown, scaly. Branchlets pale to dark, glabrous to pubescent, the bark scaling to expose a powdery yellow surface. Slash reddish-yellow with a red margin. Thorns strong, straight, white, up to 4 in. long. Leaf-rhachis glabrous to pubescent; pinnae 10-30 pairs; leaflets 15-40 pairs. Flowers fragrant; involucel sometimes below the middle of the peduncle, more often above the middle or at the very top. Pod (Fig.36) indehiscent, brown, linear-oblong, 4-8 in. long, ¾-1 in. broad, about ½ in. thick, straight or slightly curved, containing 12-15 brown seeds. Wood yellow-white, very subject to discolouration from mould, soft, coarse, easy to work, planing to a rough finish, liable to attack from borer; weight 45 lbs. per cu.ft. air dry.

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

The tree yields a clear gum of good quality, very similar to that of A.campylacantha.

I place here all the numerous Uganda specimens originally determined as A.nefasia Schweinf., A.purpurascens Vatke, A.rehmanniana Schinz, A.woodii Burtt Davy and A.verugera Schweinf.

I also include here, with hestation, Snowden 2028, 2029, 2070 from Ankole. When fruit becomes available this plant may prove to be distinct.

A.sieberiana is a very variable species, the plants at one extreme (A.verugera Schweinf.; Syn. A.nefasia Schweinf.) having glabrous leaf-rhaches and peduncles and glabrous straw-coloured branchlets, and those at the other extreme (A.sieberiana DC. typica) having the same parts densely hairy and darker in colour. There is considerable variation in the number of pinnae and leaflets.

.x.

ACACIA SPIROCARPA Hochst.ex A.Rich.var MAJOR Schweinf. (Photo.27).
Eggeling 2512, 2776.

.x.

Note. Two varieties of this species occur-A.spirocarpa var. minor Schweinf., a stemless obconical shrub to 15 ft., with numerous branches rising from a common centre; and A.spirocarpa var. major Schweinf., a handsome flat-topped tree to 40

ft. with clean bole to 20 ft.. The shrubby form has paler bark, slightly shorter leaves and spines, and is generally more pubescent than the large form, which is that described here.

Gregarious, wide-spreading, flat-topped or umbrella-shaped tree to 40 ft. Branchlets pubescent, red-brown. Spines mixed, some straight, slender, white, and up to 3 in. long, others sharply recurved, grey with black tips, very small. Pinnae 4-10 pairs; leaflets 7-15 pairs. Flower-heads white; involucel below or near the middle of the peduncle. Pod (Fig. 36) puberulous, yellow-brown, contorted or spirally twisted, slightly constricted between the seeds, circular in cross-section, 3-6 in. long, $\frac{1}{4}$ - $\frac{1}{3}$ in. thick, longitudinally nerved. Wood white.

Karamoja.

[illegible]

ACACIA STENOCARPA Hochst. ex. A. Rich. Eggeling 376, 447, 581, 1177.

Mugando (Lutoro); Okuto-Oryang (Acholi); Oli, Ali (Madi, Lugbara); Kasana (Luganda); Kasone (Lusoga); Ekisim (Luteso).

Shrub or tree usually 15 ft. high, occasionally attaining 40 ft. Crown flattened. Bark of the main stem greenish-brown, peeling in papery rolls; that of the branchlets red-brown. Thorns rather weak, straight, brownish, usually less than 1 in. long, sometimes absent. Pinnae 4-12 pairs; leaflets 10-20 pairs. Flowers golden-yellow; involucel at the base or towards the middle of the peduncle. Pod (Fig. 36) narrow-linear, strongly curved, scarcely or not at all constricted, up to 4 in. long and $\frac{1}{4}$ in. broad, dehiscing on the tree.

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

According to Schweinfurth this species at one time afforded some of the gum arabic of commerce.

ACACIA SUBALATA Vatke Eggeling 2363, 2368, 2502, 2715.

Savannah tree usually 10-15 ft. high, occasionally 30 ft. high. Bark dark brown to almost black, cracking on the branchlets to expose an underlying rusty red layer. Young branchlets, leaf-rhaches, pods, etc., cinereous-tomentose. Spines slender, sharp, straight, directed slightly downwards, brownish-white with darker tips, up to 2½ in. long. Leaves glabrous; pinnae 4-8 pairs; leaflets 12-20 pairs. Involucel at or below the middle of the peduncle. Pod (Fig. 36) subalate, jointed, straight or slightly curved, oblong, 4-6 in. long, ½-¾ in. broad, ¼-½ in. thick, rounded at both ends, indehiscent; it is purple-brown in colour with a whitish hairy bloom, and is soft-skinned and wrinkled and exudes a gum when squeezed. Seeds 8-15.

Bugishu; Karamoja; Chua (Rom). Solitary in the driest savannahs, usually on gravelly soils.

We include here two specimens (Eggeling 2363, 2368) originally determined as A. benthamii Rochebr.

The pods have a high tannin content and might be used locally for tanning.

ACACIA XIPHOCARPA Hochst. ex Benth. (Photo 28.) Eggeling 813, 2475, 2486.

Gregarious flat-topped tree to 50 ft., in mountain savannah. Crown obconical, the bole dividing into a number of more or less equal sized limbs which rise steeply to the same height. Bark brown, fissured. Spines straight, sharp, brownish-white, usually short but sometimes as much as 2 in. long. Branchlets villose. Pinnae 30-50 pairs, very short in comparison with the length of the leaf, generally less than 1 in. long; leaflets 30-40 pairs, very small. Flowers white (red in bud); involucel near the base of the peduncle. Pod (Fig. 36) red-brown, toughly coriaceous, linear-oblong, straight or very slightly curved, 2½-4 in. long, about ½ in. wide, shortly and broadly pointed at the apex, prominently veined; seeds 6-12.

Kigezi; Chua; Karamoja; Bugishu. 5,500-7,500 ft.

We include here all the numerous Uganda specimens originally determined as A. abyssinica Hochst. ex Benth.

MIMOSACEAE (147)

ACACIA SP. Eggeling 2921.

Obconical bush; possibly sometimes a flat-topped tree to 30 ft. Branchlets grey-purple. Spines paired, sharply recurved, grey with black tips, up to 1/5 in. long. Leaves very small ($\frac{1}{2}$-$\frac{3}{4}$ in. long in our specimens); pinnae 1-2 (usually 2) pairs; leaflets 6-10 pairs. Pod (Fig. 36) red-brown, straight, flat, linear-oblong, $1\frac{1}{4}$-2 in. long, about $\frac{1}{4}$ in. broad, obtuse.

Karamoja (Kanamugit). In very dry savannah.

Our only specimen was identified by Kew as A. misera Vatke but according to Baker (Leg. Trop. Afr.), this species has spirally twisted pods.

(Straight on)

(2) ALBIZZIA

1. Staminal tube much exserted from the corolla-tube ..... 2.

   Staminal tube included in the corolla-tube or only slightly exserted ..... 5.

2. Bracts conspicuous ..... A.grandibracteata

   Bracts inconspicuous ..... 3.

3. Pinnae usually 2-3 pairs ..... A.zygia

   Pinnae usually 5-8 pairs ..... 4.

4. Leaflets and flowers glabrous; calyx 1mm. long ..... A.brachycalyx

   Leaflets and flowers puberulous; calyx 3-5 mm. long ..... A.gummifera

5. Leaflets 25-35 pairs ..... A.sericocephala

   Leaflets less than 22 pairs ..... 6.

6. Leaflets unequal-sized, the distal much larger than the proximal; midribs more or less central..... 7.

   Leaflets more or less equal-sized or if unequal-sized then the midrib diagonal..... 10.

7. Leaf-rhachis shortly and closely pubescent.... A.versicolor

   Leaf-rhachis glabrous or at most puberulous... 8.

8. Pinnae usually 1 pair; leaflets usually 3 pairs; pod less than 1 in. broad ..... A.anthelmintica

   Pinnae usually 2-4 pairs; leaflets 3-9 pairs; pod more than 1 in. broad ..... 9.

9. Leaflets obliquely rhomboid, acute at the apex ..... A.eggelingii

   Leaflets oblong to oblong-obovate, rounded at the apex ..... (A.lebbek)

A.lebbek Benth. Exotic (Indian) timber tree planted for ornament at Arua, Serere and perhaps elsewhere, now seeding itself in and around these stations.

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10. Midrib diagonal ..... A.maranguensis

    Midrib more or less central ..... 11.

Fig.37. Leaflets of (a.) Albizzia anthelmintica Brongn., (b.) A. coriaria Welw., (c.) A.ferruginea Benth., (d.) A. grandibracteata Taub., (e.) A.gummifera (Gmel.) C.A. Sm., (f.) A.sericocephala Benth., (g.) A.malacophylla Walp. var. ugandensis Bak.f., (h.) A.maranguensis Taub. (i.) A.versicolor Welw.ex Oliv., (j.) A.zygia (DC.) Macbride.; all natural size; also (k.) A.eggelingii Bak.f., about ½ natural size.

11. Leaf-rhachis glabrous or puberulous ..... A.coriaria
Leaf-rhachis densely tomentose ..... 12.

12. Tomentum rust-coloured ..... A.ferruginea
Tomentum ash-grey ..... A.malacophylla var. ugandensis

ALBIZZIA ANTHELMINTICA Brongn. Eggeling 840, 1713, 2364.

Glabrous bush or tree to 15 ft. Bark grey. Pinnae 1-4 pairs; leaflets (Fig.37.) reticulate, 1-5 pairs, pale below, obliquely obovate to suborbicular, ¾-1¼ in. long, almost as much in breadth, apex obtuse and mucronate. Flowers precocious; calyx and corolla pale green; stamens white; peduncles solitary or clustered, usually from leafless nodes on the older wood. Pod papery, straw-coloured, oblong, 3-6 in. long, ½-¾ in. broad, tapered at both ends; seeds 3-5. Wood hard, red-brown.
Chua; Karamoja. In very dry savannah.

ALBIZZIA BRACHYCALYX Oliv. Bagshawe 219.

Tree to 30 ft. Leaflets similar to those of A.gummifera but slightly smaller; leaf-rhachis glabrescent. Flower-heads clustered in the upper axils; corolla white; staminal-tube red.
Ankole.

The plant is closely related to A.gummifera Sm., and perhaps not specifically distinct (see note under A.gummifera). We have not seen a specimen.

ALBIZZIA CORIARIA Welw. Eggeling 871,1159,1717,1891.

Musita (Lusoga); Mugavu (Luganda); Musisa (Lunyoro); Etekwa (Luteso).

Deciduous tree attaining 60 ft. in savannah and 120 ft. in forest. Bark red-brown to brownish-black, scaling raggedly. Buttresses short and blunt. Slash yellow-white, hard. Pinnae 3-4 pairs; leaflets (Fig.37.) 5-12 pairs, narrowly oblong, ½-1¼ in. long, up to ½ in. broad, rounded at the apex. Corolla white; upper half of stamens red. Pod glossy brown, straight, flat, coriaceous, oblong, 5-8 in. long, about 1½ in. broad, apiculate, few-

seeded. Sapwood soft, white; heartwood hard, walnut-brown with darker streaks, lustrous, cross-grained, difficult to plane smooth, otherwise working well with tools, nailing well, taking a fine polish. Weight 45-47 lb. per cu.ft. air dry.

Mengo; Entebbe; Masaka; Ankole; Kigezi; Toro; Mubende; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Karamoja; Teso; Bugwere; Bugishu; Busoga.

An excellent wood for heavy furniture, much in demand among the Asiatic residents of Uganda because of its resemblance to the Lebbek Wood of India.

ALBIZZIA EGGELINGII Bak.f. Eggeling 1935,3511,3512,3615

Flat-topped deciduous tree to 60 ft. in fringing forest or on forest edges. Pinnae 3-4 pairs (rarely 5 pairs); leaflets (Fig.37). usually 5-7 pairs (occasionally 4 pairs), terminal leaflets up to 2 in. long and $\frac{3}{4}$ in. broad, basal leaflets about half this size. Flowers white on slender pedicels about $\frac{1}{8}$ in. long. Pod rich red-brown, flat, coriaceous, oblong, up to 9 in. long and $1\frac{1}{2}$ in. broad, base shortly cuneate, apex rounded to truncate; ~~at the apex;~~ seeds 6-12.

Bunyoro; West Nile; Budama.

~~This plant was~~ The specimens cited were originally determined as A.sp. near A.glabrescens Oliv. var.angolensis Bak.f.

ALBIZZIA FERRUGINEA Benth. Eggeling 1153, 1240.

Mucholi (Lunyoro).

Deciduous forest tree to 120 ft., rusty-tomentose on all young parts except the fruit. Bark red-brown, scaly. Pinnae 3-9 pairs; leaflets (Fig.37.) dark above, paler below, oblong (top pair ob-ovate or orbicular), $\frac{1}{4}$-$\frac{3}{4}$ in. long, about $\frac{1}{4}$ in. broad, rounded to broadly acuminate at the apex, often mucronulate. Flowers white tinged with green. Pods papery, pale brown, glabrous, obtuse, linear-oblong, very variable in size, usually 6-8 in. long and $1\frac{1}{2}$-$1\frac{3}{4}$ in. broad, 3-7-seeded. Sapwood pale brown; heartwood dark red-brown, medium light and hard, working well with tools, with no special qualities but suitable for interior carpentry.

Bunyoro; Madi (Zoka Forest).

ALBIZZIA GRANDIBRACTEATA Taub. Eggeling 163,825,1207, 1906.

Nongo, Mulongo (Lunyoro, Luganda, Lusoga); Owak (Acholi).

Deciduous tree to 65 ft. on the edge of forest and on the banks of streams. Crown usually flat-topped. Leaf-rhachis shortly pubescent; pinnae 2-4 pairs; leaflets (Fig.37.) 2-9 pairs, glabrous except the midrib and nerves, very unequal-sized (the topmost pair the largest, the lowest pair the smallest), oblong to elliptic, usually somewhat falcate, the largest pair 1¼-2½ in. long and ½-1¼ in. broad, apex more or less acuminate, base truncate to attenuate; midrib more or less central. Flowers white tinged with pink, the staminal tube and anthers dark red; peduncles subtended by petaloid reddish bracts. Pod reticulate, flat, papery, pale brown, shortly pubescent when young, linear-oblong, 3-4 in. long, ½-¾ in. broad, usually mucronate at the apex; seeds 5-8. Wood similar to that of A.gummifera, very perishable.

Mengo; Entebbe; Sesse; Kigezi; Toro; Mubende; Bunyoro; West Nile; Chua; Bugwere; Budama; Busoga.

ALBIZZIA GUMMIFERA (Gmel.) C.A.Smith Eggeling 81,679,690,1054,3205.

Synonyms. A.ealaensis De Wild.; A.fastigiata Oliv.; A.sassa Macbride

Mushabeya (Lunyankole): FLAT CROWN.

Deciduous tree attaining 40 ft. in savannah, and occasionally attaining 100 ft. in forest. Crown flat-topped or umbrella-shaped. Buttresses slight. Bark grey, often tinged with red, smooth, finely fissured or corrugated. Slash brown, granular. Pinnae 3-8 pairs; leaflets (Fig.37.) 8-16 pairs, sub-equal, rhomboid (one corner rounded) to falcate, usually ⅓-½ in. long, considerably less than ¼ in. broad, truncate at the base; midrib diagonal. Flowers numerous in fascicled corymbose heads; calyx-tube 3-5 mm. long,* puber-

* Note. One of our specimens (Eggeling 1054) has the calyx-tube only 1 mm. long, as in A.brachycalyx, but the flowers are puberulous, not glabrous as is usual in that species. The occurrence of such

intermediate forms lends colour to the suggestion that the two plants are not specifically distinct.

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ulous outside; corolla white; staminal tube white, usually tipped with scarlet, occasionally (Eggeling 697) white tipped with green. Pod thin, reticulate, straw-coloured, oblong, 4-8 in. long, 1-1½ in. broad; seeds 8-14. Sapwood yellow-white; heartwood golden-yellow to pale brown, medium strong, easy to work, not very durable, liable to be attacked by termites. Weight 34-38 lb. per cu.ft. air dry.
Sesse; Masaka; Ankole; Kigezi; Toro.

Typical Albizzia gummifera (the Flat Crown of South Africa) is found in Uganda in Ankole, Kigezi and Toro (Mt. Ruwenzori). Eggeling 81 and 690, from the Sesse Islands and Kabula on the Masaka-Ankole border respectively, are referrable to the form A.ealaensis De Wild. which appears to be intermediate between A.gummifera (Gmel.) C.A.Sm. and A. zygia Macbride. A.ealaensis differs from A.gummifera chiefly in the fewer (usually 5) pairs of pinnae, and the fewer (5-9) pairs of larger, falcate, unequal-sized leaflets. We follow Baker (Leg.Trop. Afr.) in treating the plant as a form of A.gummifera, but it is possible that it is really a distinct species.

ALBIZZIA MALACOPHYLLA Walp.var.UGANDENSIS Bak.f. Eggeling 1221,1514, 1530,1960.
Eturubango (Luteso).

Savannah tree usually about 15 ft. high, occasionally attaining 30 ft. Branchlets pale brown. Pinnae 3-5 pairs; leaflets (Fig.37.) 6-9 pairs, puberulous above, softly tomentose below, obtuse to emarginate, oblong to oblong-ovate, usually ⅜-1¼ in. long and ¼-½ in. broad, apex usually mucronate. Flowers conspicuous, white, sweet-scented. Pod oblong, 5-6 in. long, 1-1¼ in. broad.
Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Budama.

ALBIZZIA MARANGUENSIS Taub. forma Eggeling 1484,1723,1925,3495.
Ober (Acholi).

Flat-topped tree to 60 ft. Branchlets golden-tomentose when young. Pinnae 3-8 pairs; leaflets (Fig.37.) 7-22 pairs, dark above, paler below, glabrous to puberulous, sub-falcate to oblong-subrhomb-

oid, $\frac{1}{3}$-$\frac{3}{4}$ in. long, up to $\frac{1}{4}$ in. broad. Flowers white; calyx grey-puberulous. Pods very numerous, papery, pale brown, oblong, 7-12 in. long, 1-1$\frac{3}{4}$ in. broad, rounded at the apex, acute at the base, persisting on the tree for a considerable period; seeds numerous. West Nile; Chua. Gregarious and often dominant in riparian forest, 5,500-6,500 ft.

ALBIZZIA SERICOCEPHALA Benth. Eggeling 657,1712,2382,3491.

Deciduous acacia-like savannah shrub or tree. Crown rounded. Bark dark brown, fissured. Slash pink with red edges, fibrous. Branches grey-brown. Leaf-rhachis usually pubescent; pinnae 10-20 pairs; leaflets (Fig.37) linear, 2-4 mm. long, thinly silky. Flowers precocious, white tinged with pink, fragrant; peduncles fascicled at the nodes of short lateral branches. Pod papery, pale brown, linear-oblong, 5-8 in. long, $\frac{3}{4}$-1$\frac{1}{2}$ in. broad. Wood hard and strong.

Ankole; Chua; Karamoja; Teso.

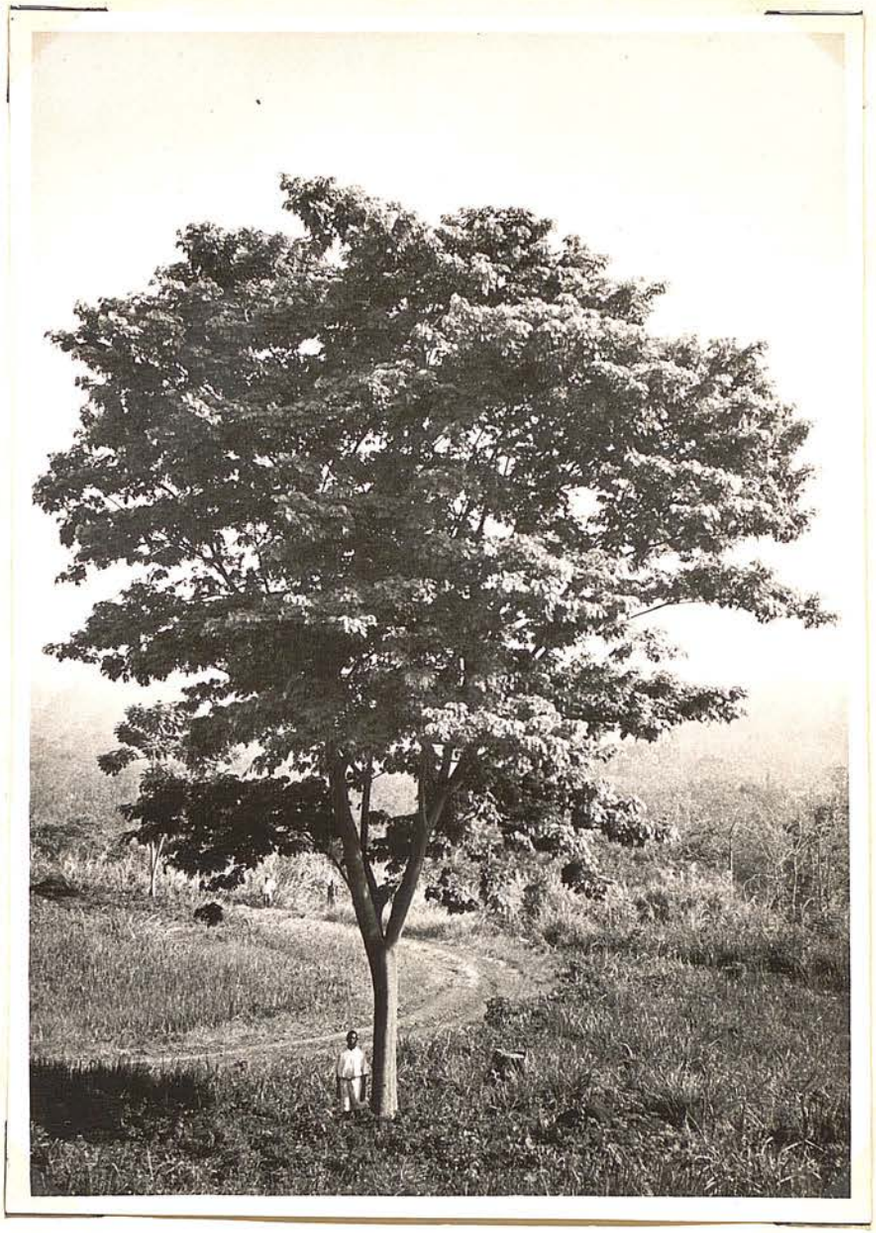
We include here all the numerous Uganda specimens originally referred to A.amara Boiv., and a single specimen (Chandler 523) originally determined as A.sp. aff. A.struthiophylla Milne-Redhead.

A form of A.sericocephala with fewer and larger leaflets than usual is occasionally encountered. Eggeling 3491 with an average of 17 pairs of pinnae each bearing 12-28 pairs of sub-falcate leaflets $\frac{1}{6}$-$\frac{1}{3}$ in. long is an example of this form. The plant approaches A.julibrissin Durazz., which does not occur wild in Uganda, although it is occasionally cultivated.

ALBIZZIA VERSICOLOR Welw. ex Oliv. Eggeling 685.

Low-branched savannah tree to 20 ft. Bark dark red-brown. Pinnae 2-4 pairs; leaflets (Fig.37.) 3-6 pairs, pubescent above, velvety golden-tomentose below, obliquely obovate-elliptic to sub-orbicular, 1-2 in. long, $\frac{3}{4}$-1$\frac{1}{2}$ in. broad; apex broadly obtuse, usually mucronate. Flowers white. Pod flat, straight, thin, papery, brittle, red-brown, oblong, 6-10 in. long, 1-2 in. broad; seeds 4-6.

Ankole (Nsongezi). On stony hillsides.



Phot.29. Albizzia zygia (DC.) Macbride. Habit photo.

Phot.28. Acacia xiphocarpa Hochst. ex Benth, Habit photo.

ALBIZZIA ZYGIA (DC.) Macbride (Photo.29.) Eggeling 1249, 1659, 1789, 1947, 3044.

Synonym. A.brownei Oliv.

Nongo, Mulongo (Luganda, Lusoga, Lunyoro); Owak (Acholi); Ebata (Luteso).

Spreading deciduous tree attaining 120 ft. in forest and 40 ft. in savannah. Buttresses small to medium-sized. Bole smooth, grey-brown, often with orange patches, usually scarred on forest-grown trees where elephants have ripped the bark. Slash orange-brown, granular. Leaf-rhachis glabrous or puberulous; pinnae 2-5 pairs; leaflets (Fig.37.) 3-8 pairs (usually 3-6 pairs), strongly nerved, obliquely obovate-elliptic to rhomboid (terminal pair falcate), very unequal-sized, the distal the largest (usually 1½-2½ in. long and ¾-1¼ in. broad), the proximal the smallest; midrib more or less central. The leaflets of forest-grown trees are usually smaller and more numerous than those from savannah trees. Inflorescence a corymbose raceme; female flower white, solitary in the centre of the head and surrounded by males, consisting of a 5-lobed calyx and corolla and a large number of radiating white styles with black stigmas; male flower smaller, white with a red staminal column (rarely, as in Eggeling 1789, with a white staminal column) and black anthers. Pod flat, pale brown, usually 4-6 in. long and 1 in. broad, sometimes as much as 12 in. long and 1¼ in. broad; seeds 9-12. Sapwood pale yellow-red; heartwood yellow-brown to brown, usually with red streaks, easy to work, finishing smoothly, taking a good polish, fairly durable, not termite-proof. It is a useful timber for indoor construction and has been used in West Africa as a substitute for Chlorophora (Muvule). Weight 42-48 lb. per cu.ft. air dry.

Mengo; Entebbe; Sesse; Toro; Mubende; Bunyoro; West Nile; Madi; Gulu; Chua; Teso; Budama; Busoga.

We include here all Uganda specimens originally determined as A.welwitschii Oliv.

Fig.38. Leaflets of (a.) Amblygonocarpus obtusangulus (Welw.ex Oliv.) Harms, (b.) Entada sudanica Schweinf., (c.) Parkia filicoidea Welw., (d.) Prosopis africana Taub., (e.) Tetrapleura tetraptera Taub., (f.)(For comparison) Burkea africana Hook. (Caesalpiniaceae), (g.) (For comparison) Cordyla richardii Planch. ex Milne-Redhead (Papilionaceae). All natural size.

(3) AMBLYGONOCARPUS

AMBLYGONOCARPUS OBTUSANGULUS (Welw. ex Oliv.) Harms Eggeling 1114, 1340

Synonyms. A. schweinfurthii Harms; Tetrapleura nilotica Taub.

Spreading savannah tree usually 20-40 ft. high, occasionally attaining 70 ft. Dark grey-black to blackish-brown, scaling raggedly to leave red scars. Pinnae 3-4 pairs, opposite or subopposite; leaflets (Fig. 33) 12-18, alternate, grey-green, glabrous, broadly obovate-elliptic, ⅜-½ in. long, ¼-½ in. broad, apex truncate or emarginate. Racemes usually paired, 1-3 in. long; flowers crowded, creamy-yellow to white, scented. Fruit woody, 4-8 in. long, 1-1½ in. broad, glossy dark brown, pendant on a 3-inch stalk; seeds 6-10, about ¾ in. long, lying across the pod. Sapwood grey-white; heartwood red-brown, very hard, difficult to saw and plane, capable of taking a fine polish. Weight 60 lb. per cu. ft. air dry.

West Nile; Madi.

(4) CATHORMION

CATHORMION ALTISSIMUM (Oliv.) Hutch. & Dandy Eggeling 1430, 3466.

Synonym. Pithecolobium altissimum Oliv.

Mucholi (Lunyoro).

Flat-topped spreading deciduous forest tree to 80 ft. Leaf-rhachis rusty-pubescent; pinnae 5-7 pairs, opposite; leaflets 12-25 pairs, opposite, glabrous, oblong-lanceolate, ¼-½ in. long, apex obtuse, base truncate. Flowers white; peduncles shortly pubescent, up to 1 in. long, solitary or fascicled or shortly racemose on lateral branchlets. Fruit compressed, 6-10 in. long, ½-¾ in. broad; seeds 14-20. Wood pale yellow-brown with darker streaks, easy to work, taking a fine polish, said to be comparable with beech and usable as such.

Bunyoro; West Nile. On the banks of rivers.

(5) DICHROSTACHYS

Leaflets linear, less than ⅓ in. long; spikes solitary or paired ..... D. glomerata

Leaflets linear-oblong, ⅓-½ in. long; spikes fasciculate ..... D. nyassana

<u>DICHROSTACHYS GLOMERATA</u> (Forsk.) Chiov. <u>Eggeling</u> 103, 250.

<u>Synonym</u>. <u>D. nutans</u> Benth.

<u>Muwanika</u> (Luganda); <u>Etiiri</u> (Ateso).

Acacia-like shrub or tree usually 10-15 ft. high, occasionally (on the margins of <u>Elgeic</u> swamps in Bwamba) attaining over 40 ft. Branchlets armed with sharp woody spines which terminate the lateral twigs; the spines are modified branches and bear leaves. Leaf-rhachis pubescent; pinnae 8-15 pairs, with a rod-like gland between each pair; leaflets 15-30 pairs, variable in size, usually less than ¼ in. long, but never more than $\frac{1}{10}$ in. broad. Flower-spikes pendulous, the shape of an acorn in its cup, 1½-3 in. long; distal (functional) flowers composed of a pistil and 10 short yellow stamens; proximal (neuter) flowers composed of 10 long pink or mauve stamens. Pods indehiscent, glabrous, dark brown, about 4 in. long, twisting to form strangely shaped bundles which remain on the tree for several months before falling; seeds about 4. Sapwood pale brown or yellow with dark lines; heartwood dark brown to almost black, close-grained, very hard, very tough, suitable for tool handles.

<u>Mengo</u>; <u>Entebbe</u>; <u>Ankole</u>; <u>Toro</u>; <u>Mubende</u>; <u>Bunyoro</u>; <u>West Nile</u>; <u>Chua</u>; <u>Lango</u>; <u>Teso</u>; <u>Karamoja</u>; <u>Budama</u>; <u>Busoga</u>. Usually on the edge of forest. The plant attains its optimum development in damp sites but occurs in stunted form in the very driest savannahs.

<u>DICHROSTACHYS [illegible]</u> Taub. <u>Eggeling</u> 304.

Savannah tree to 20 ft. Leaf-rhachis puberulous to pubescent; pinnae 6-8 pairs; leaflets 10-23 pairs, up to $\frac{1}{6}$ in. broad. Flower-spikes up to 4 in. long, resembling those of <u>D. glomerata</u>.

<u>Ankole</u>.

(8) <u>ENTADA</u>

Pinnae 10-18 pairs; leaflets 20-50 pairs; midrib in the middle or near the middle of the leaflet. . <u>E. abyssinica</u>

Pinnae 4-8 pairs; leaflets 14-20 pairs, midrib near the upper margin of the leaflet . . . . <u>E. sudanica</u>

<u>ENTADA ABYSSINICA</u> Steud. <u>Eggeling</u> 155,806,1057.

<u>Mwolola</u> (Luganda).

Deciduous unarmed acacia-like savannah tree usually 15-30 ft. high. Bark dark grey to dark brown, scaling irregularly. Leaflets linear, up to $\frac{1}{2}$ in. long, mucronate. Racemes erect, slender, creamy-white, 4-8 in. long, solitary or in clusters of 2-4 from just above the axils of the upper leaves or in terminal panicles. Pod flat, straight or slightly curved, undulate, 6-14 in. long, $1\frac{1}{2}$-$2\frac{1}{2}$ in. broad.

<u>Mengo</u>; <u>Entebbe</u>; <u>Masaka</u>; <u>Ankole</u>; <u>Kigezi</u>; <u>Toro</u>; <u>Mubende</u>; <u>Bunyoro</u>; <u>West Nile</u>; <u>Chua</u>; <u>Budama</u>; <u>Busoga</u>. Usually in elephant-grass savannah, especially near forests; also in shorter grass on hill-sides.

<u>ENTADA SUDANICA</u> Schweinf. <u>Eggeling</u> 1406,1497,1500.

Low-branching deciduous savannah tree to 30 ft. Bark pale grey, fissured, peeling in long strips. Slash crimson with narrow white streaks. Leaflets (<u>Fig</u>.33) $\frac{1}{2}$-$1\frac{1}{4}$ in. long, obtuse or emarginate at the apex, pale green above, glaucous below, waxy, copper-tinged when young. Racemes 4-8 in. long, creamy-white fading to yellow-brown, fragrant, supra-axillary, usually in clusters of 3-4. Pod flat, undulate, up to 15 in. long and 2 in. broad; seeds 12-15. Wood pale red, rather soft, easy to work and plane; weight 50 lb. per cu.ft. air dry.

<u>West Nile</u>; <u>Lango</u>; <u>Gulu</u>.

(7) <u>PARKIA</u>

<u>PARKIA FILICOIDEA</u> Welw. <u>Eggeling</u> 156.

<u>Joge</u> (Luganda); <u>Mujojo</u> (Lunyoro): AFRICAN LOCUST BEAN.

Spreading flat-topped forest tree to 60 ft.. Buttresses small, rounded. Bark dark brown to grey, scaly or fissured. Slash brick red, fibrous. Pinnae 5-9 pairs, opposite or subopposite; leaflets (<u>Fig</u>.33) usually 15-30 pairs, tri-nerved from the base (one of the nerves short and indistinct), oblong, slightly curved, $\frac{1}{2}$-$\frac{2}{3}$ in. long, about $\frac{1}{4}$ in. broad, auriculate at one side at the base, shiny, reddish

when young. Flower-heads brick-red, pendulous, club-shaped, 6-9 in. diam., strongly and unpleasantly scented; peduncles up to 12 in. long. Pods clustered, dark brown to purple-black, 6-18 in. long, ½-1 in. broad; stipe about 2 in. long. Seeds black, much sought after by birds, embedded in a dry mealy sweet-tasting yellow pulp. Wood either undifferentiated and uniform pale yellow to bluish-white, or the sapwood dirty yellow and the heartwood dull brown, easy to work, finishing smoothly, of little value. Weight 52 lb. per cu.ft. air dry.

Menge; Entebbe; Bessse; Bunyoro. Usually near water.

In Uganda the Locust Tree is found only in closed forest and its many products are scarcely used by the natives. In West Africa the tree is one of the type species of the park savannah and owing to its great importance as a food in populous regions, is often the only tree which is not felled. The leaves, being rich in nitrogen and ash, are a valuable manure, the pods are used as cattle-fodder and the pulp and seeds form the basis of numerous dishes for human consumption. The seeds contain a high percentage of fat and protein, and the fruit-pulp is rich in easily assimilable carbohydrates of which a little less than half is sugar. The bark can be used in tanning as it contains 12-14 % of tannin and a red-brown colouring matter absorbable by the hide and producing a dark-coloured leather.

(3) PIPTADENIA

Calyx, corolla and ovary glabrous or minutely puberulous; seeds broadly winged, attached near the middle ..... P.africana

Calyx and corolla pubescent; ovary pubescent or villose; seeds narrowly winged, attached near one end ..... P.buchananii

PIPTADENIA AFRICANA Hook.f. Engeling 1230, 2248.

Mpewere (Luganda); Muchenche (Lutoro); Mugeye (Lunyoro); Mukunga (Luchiga).

Very large flat-topped deciduous forest tree to 150 ft. or more. Branches wide-spreading, storeyed. Bark smooth, grey. Sharp-edged plank buttresses strongly developed, extending 10-15 ft. up the stem

and as much outward. Slash creamy-yellow. Foliage feathery, forming a delicate tracery; pinnae 10-16 pairs; leaflets 30-60 pairs, auriculate at the base, contiguous, linear, up to ¼ in. long. Flower-spikes 1½-4 in. long, borne in great profusion; flowers creamy-white fading to orange-brown. Pod broadly linear, usually about 12 in. long and 1-1½ in. broad, coriaceous, dehiscing by one suture only; seeds 6-8, flat, rich nut-brown, about ¾ in. long including the wing. Sapwood yellow-white to reddish-yellow; heartwood pale brown to dark golden brown, variable in weight and hardness, strong, stiff, moderately tough, planing well, taking nails easily, of good appearance when polished. Seasoned heartwood is said to be durable against termites. Weight 30-50 lb. per cu.ft. air dry.

Mengo; Entebbe; Toro; Bunyoro. A common and very characteristic species of the forests of the Lake Victoria belt, never found very far from water.

The timber is sometimes used in West Africa as a substitute for Chlorophora (Muvule) and was at one time marketed as African Greenheart. It has distinct possibilities as a structural timber for local use, and as a sleeper wood; being durable in fresh water is is suitable for piles.

PIPTADENIA BUCHANANII Baker Eggeling 83, 3227.

Mpewere (Luganda); Mutole (Lunyankole); Mukunga (Lukiga).

Tree very similar to the preceding. Leaflets about ½ in. long. Flower-spikes up to 6 in. long. Pods about 8 in. long and ¾ in. broad. Sapwood white to pale grey-brown; heartwood brown or red-brown, moderately hard and heavy, easy to saw, bending readily, taking nails well, polishing highly when filled, not recommended for moulding or turning. Boards must be carefully piled and sticked or there will be considerable warpage.

Sesse; Maseka; Ankole; Kigezi.

The timber has been used in Kenya for cabinet work and waggon-building, but in Tanganyika its chief use has been for sleepers for which purpose it is said to be very suitable. The wood is widely used by natives in the Lake Victoria region in the construction of sewn (Sesse) canoes.

(9) PROSOPIS.

PROSOPIS AFRICANA Taub. Eggeling 868,1483,1686,2216.

Synonym. P. oblonga Benth.

Dingilli (Madi).

Savannah tree to 40 ft. Buttresses slight, rounded. Bark rough with ragged blackish scales which leave pale brown patches when they fall. Slash red-brown to orange, hard. Leaves grey-green, drooping; rhachis swollen at the base. Pinnae 2-4 pairs; leaflets (Fig.38) 6-12 pairs, mucronate, lanceolate to narrowly elliptic, 3/4-1 1/4 in. long, up to 1/3 in. broad. Flowers creamy-white, fragrant, in dense solitary axillary spikes 2-3 in. long. Pod indehiscent, persistent, woody, dark purple-brown, smooth and shiny, 3-6 in. long, pointed; seeds about 10, embedded transversely in a dry cream-coloured spongy pulp, separated by thin transparent membranes, rattling in the ripe pod. Sapwood pale yellow-red to pale brown; heartwood dull yellow-brown to rich dark red-brown with paler streaks, very hard, strong, tough, cross-grained, difficult to saw and plane, requiring to be finished with glass-paper, not taking nails. When seasoned the wood acquires a dark wine-red tint and takes a beautiful polish. It is very durable and is immune to borers and termites. Weight 60 lb. per cu.ft. air dry.

West Nile; Madi; Gulu; Chua; Teso.

A first class timber suggested for use in cabinet and wheelwright work, for boat-building (especially for ribs), for turnery, handles of carpenters tools, etc. It is very suitable for work exposed to weather and is recommended for street paving blocks and for sleepers. It yields a very fine quality charcoal.

The bark contains 14-16% of tannin and a colouring matter which gives a reddish tint to the leather.

The tree, which is considerably drought-resisting when established, may be propagated by seed but grows slowly. Owing to the fact that it produces a long tap-root it transplants badly and should be sown at stake.

(10) TETRAPLEURA

MIMOSACEAE (147)

TETRAPLEURA TETRAPTERA Taub. Eggeling 136, 1137.

Deciduous forest tree to 90 ft. Buttresses small and sharp. Bark grey tinged with red, smooth and thin. Pinnae 5-9 pairs, opposite or sub-opposite; leaflets (Fig.38) 6-12 pairs, alternate, sub-sessile, oblong to oblong-elliptic, $\frac{1}{4}$-$\frac{1}{2}$ in. long, up to $\frac{1}{3}$ in. broad, rounded at both ends, often emarginate at the apex. Racemes axillary, solitary or paired, 2-3 in. long; flowers yellow-brown to orange-yellow. Pod dark reddish-purple to almost black, glabrous, glossy, 4-sided, 6-9 in. long; it has two hard woody ~~sentured~~ sutural ridges and two other rather similar wing-like ridges, one on the back of each valve, ~~the~~ these latter wings filled with a soft sugary edible pulp with a peculiar caramel-like odour which is especially noticeable after the fruit has fallen and lies rotting on the ground. Seeds small, rattling in the ripe pod. Sapwood white; heartwood pale red, darkening to dark yellow-red or brown, fine in texture, medium hard, easy to work, of medium durability, ~~it is~~ suitable for ordinary carpentry and for wheel-wright work.

Mengo; Bunyoro.

The tree is sometimes planted as a shade for coffee.

MONIMIACEAE

<u>XYMALOS</u> <u>MONOSPORA</u> (Harv.) Baill. <u>Eggeling</u> 408,3281,3286,3557.

LEMON WOOD.

Understorey tree or shrub usually less than 30 ft. high but occasionally attaining 50 ft. Bark rough. Leaves coarsely serrate, elliptic to oblanceolate, 4-8 in. long, 1½-2½ in. broad, apex short-ly acuminate, base attenuate; main nerves looping well inside the leaf-margin; petiole up to 1 in. long. Inflorescences dioecious, 1-2 in. long, grey-pubescent; flowers greenish-white. Fruit ovoid or ellipsoid, ½-¾ in. long. Wood greenish-brown, with a silver grain when cut on the quarter, easy to work, giving a good polish; weight 38 lb. per cu.ft. air dry.

<u>Mengo</u>; <u>Entebbe</u>; <u>Ankole</u>; <u>Kigezi</u>; <u>Toro</u>.

MORACEAE

1. Stamens reflexed in bud..... 2.

   Stamens erect in bud ..... 4.

2. Male flowers densely crowded on a top-shaped receptacle; female flower solitary, embedded among the males .....(9) Trymatococcus

   Flowers in dense spicate or capitate inflorescenses ..... 3.

3. Leaves pinnately nerved; style simple or with a very short branch, slightly lateral on the ovary .....(3) Chlorophora

   Leaves trinerved; style terminal, divided from the base into two branches .....(5) Morus

4. Ovule erect from the base of the ovary-cell.. 5.

   Ovule pendulous from the apex of the ovary-cell 6.

5. Male flower with 1 stamen; sepals united; style long; stigma brush-like; leaves divided almost to the base into numerous (usually 12-15) spreading segments .....(6) Musanga

   Male flower with 2-4 stamens; sepals free; style short; stigma broad, lanceolate; leaves digitately 5-7-foliolate .....(7) Myrianthus

6. Flowers arranged on the inside of a hollow nearly closed receptacle (fig) with a small mouth at the top .....(4) Ficus

   Flowers arranged on the outside of a fleshy globose receptacle; fruits buried in the fleshy part of the receptacle, forming a syncarp .....(8) Treculia

   Flowers arranged inside an open receptacle and often exserted from it ..... 7.

7. Receptacles unisexual, male flowers capitate, female solitary .....(1) Antiaris

   Receptacles bisexual, male flowers covering the inner face, female solitary and sunk in the middle .....(2) Bosqueia

(1) ANTIARIS

ANTIARIS TOXICARIA (Rumph.ex Pers.) Lesch. Eggeling 187,702,880, 1681,3519.

Synonyms. A.africana Engl.; A.usambarensis Engl.; A.welwitschii Engl.; Ipo Toxicaria Rumph. ex Pers.

Kirundo (Luganda); Ripi (Madi); Olwaa (Gang): FALSE MUVULE or MVULE; FALSE IROKO ; UPAS TREE.

MORACEAE (167)

Straight-boled deciduous tree to 150 ft. Crown rounded to flat-topped; branchlets frequently pendulous. Buttresses small to medium-sized. Bark smooth, pale grey. Slash brown to yellow-white, exuding a latex the colour of milky tea. Branchlets longitudinally wrinkled, densely rusty-tomentose. Leaves on flowering shoots entire, usually scabrid above, usually scabrid-pubescent below, obovate to obovate-elliptic, 2½-5 in. long, 1-3 in. broad, apex obtuse to rounded, base unequal-rounded; lateral nerves 6-13 pairs; vein-network prominent to faint. Leaves on saplings and coppice-shoots denticulate, setose-scabrid above, setose-pilose below, elliptic to obovate-elliptic, 4-9 in. long, 1½-3½ in. broad, apex acutely acuminate, base unequal-subcordate. Flowers dioecious or sub-monoecious, precocious. Male receptacles yellow-green, flattened, ⅛-½ in. diam.; peduncle slender, ¼-½ in. long. Female flowers shortly pedicellate; style with 2 sub-filiform lobes. Fruit drupaceous, ellipsoid, ½-¾ in. long, scarlet and velvety when ripe, single-seeded, much appreciated by birds, monkeys and antelope. Wood white to yellow-white, the sapwood and heartwood scarcely differentiated, very light, readily attacked by termites. Mengo; Entebbe; Masaka; Toro; Mubende; Bunyoro; Madi; Gulu; Chua; Lango; Budama; Busoga. The tree has a superficial resemblance to Chlorophora with which it is often confused, the Gang name, for instance, being the same for the two trees. The bark yields a strong white cloth, preferred in Chua to that of Ficus and used for sacks and blankets but regarded in Buganda as inferior to true barkcloth. In forest the tree attains a very large size but in savannah, where it is usually confined to rocky sites, it seldom exceeds 60 ft. in height. The wood is used in Buganda for making beer-canoes.

(2) BOSQUEIA

BOSQUEIA PHOBEROS Baill. Eggeling 1554,2163,3063,3101.

Katomatoma (Lunyoro); Nsabi (Lunyoro,Toro dialect).

Understorey tree attaining 100 ft., somewhat resembling

Phot.30. Chlorophora excelsa (Welw.) Benth. & Hook.f. Habit photo of a male (forest-grown) tree.

Phot.31. Ficus mucuso Welw. ex Ficalho. A specimen with very large buttresses.

Celtis soyauxii in the clean straight bole, small crown and drooping branchlets. Bark grey, smooth. The slash exudes a white latex, and this, taken in conjunction with the texture and general appearance of the leaves, might cause the tree to be mistaken for a species of Ficus. Leaves tough and leathery, glossy above, oblong-elliptic to oblanceolate-elliptic, 2½-4½ in. long ¾-1¼ in. broad, base obtuse or rounded, apex obtusely long-acuminate; stipules caducous, the terminal one enclosing the young bud. Receptacles axillary and solitary, enclosed when young by a cupular deciduous bract rising from the base of the peduncle. Male flowers numerous, creamy-white fading to purple. Fruit obliquely-ellipsoid, 2/3 in. long. The wood is perishable. Mengo; Masaka; Ankole; Toro; Bunyoro.

(3) CHLOROPHORA

CHLOROPHORA EXCELSA (Welw.)Benth.& Hook.f.(Photo.30).Eggeling 1987, 2004,2030,2039,2044.

Muvule (Luganda);Mvule (Kiswahili); Mutumba (Lunyoro: Olwaa (Gang) ; Mbala (Kuamba) ; Vundi (Madi) : IROKO (Trade Name); MUVULE or MVULE.

Large deciduous tree occurring both in forest and savannah. In forest it frequently attains 160 ft. with a straight cylindrical bole 50-80 ft. long; in savannah it rarely exceeds 100 ft., usually branching within 40 ft. of the ground. Crown large, composed of a few stout widely-spreading limbs; ultimate branchlets often pendulous, especially in male tree. Buttresses small or absent. Surface roots usually well-developed, red-brown with conspicuous yellow lenticels. Bark thick, pale ash-grey to dark-brown or almost black, scaling slightly at the base. Slash yellow with red-brown spots, a white latex exuding. Leaves very variable, those on flowering shoots entire, very shortly acuminate, oblong-elliptic, 5-6 in. long, 3-4 in. broad; those on young trees and coppice shoots serrate, much larger, usually long-acuminate. The leaves generally fall in January or February, the tree being completely leafless for a

month or more. Flowers green,unisexual, the sexes borne on separate trees. The sex of a tree cannot be distinguished with certainty except when flowers or fruits are present. Male flower-spikes pendulous, slender, up to 6 in. long; female spikes erect, stout, closely packed, rarely more than 2 in. long. The fertilised female inflorescence develops into a green mulberry-like syncarp of which the individual fruits are small achenes. The timber of male and female trees is practically identical; sapwood yellow-white; heartwood yellow to yellow-brown when freshly cut, darkening to deep golden or russet-brown, sometimes marked with darker streaks, becoming deep brown if repeatedly oiled or if treated with lime. The wood is somewhat variable in hardness and weight; it is fairly coarse in texture and has a typically interlocked, sometimes wavy, grain. That of male trees is very slightly denser than that of female trees and is consequently slightly more difficult to saw. The timber cuts fairly easily and cleanly with suitable types of saw, and planes with moderate ease to a smooth finish when flat-sawn although the interlocking grain causes quarter-sawn material to pick up, sometimes to a considerable extent. It has only 12% of the dulling effect of teak (Tectona grandis)on cutting edges, planed under identical conditions. The timber moulds fairly readily and drills, recesses, and mortises cleanly. It turns easily, material from the denser male trees giving the best results, bends moderately, nails well, and takes a fine polish. The best finish for the timber is its natural colour with wax polish. Weight about 39 lbs. per cu.ft. air dry; 63-68 lbs. per cu.ft. when green. Wounds in savannah trees caused by fire or wind frequently contain a calcareous deposit or "stone" which is liable to break saw-teeth during conversion.

Mengo; Entebbe; Sesse; Masaka; Mubende; Toro (Bwamba); Bunyoro; West Nile; Madi; Gulu; Lango; Teso; Bugwere; Bugishu; Budama; Busoga.

A rare tree in the wild state in West Nile, Gulu and Lango

Districts, apparently absent from Toro (except Bwamba) and from Ankole and Kigezi; it has its maximum abundance in Busoga.

Muvule is a tree of great importance to the timber trade of Uganda, and there is a strong local demand for the wood, which is usually the first choice of African and European carpenters and builders. This is due not only to its lasting qualities and strength, but also to its attractive appearance. It is widely used for construction, but should by right be confined to positions calling for permanency and high strength. Owing to its beauty the wood is much used for furniture, but it is heavy for this purpose. It is very durable, practically termite- and teredo-proof, resistant to water and exceptionally resistant to fungoid diseases. In Europe it is extensively employed in ships, for railway-waggon construction, as a flooring material, etc., and it can be used profitably for all purposes for which teak has hitherto been almost exclusively employed. It is recognised by the London County Council as fire resistant.

Logs of this species normally produce a high yield of sawn material, which shows only a slight tendency to split and distort during conversion, and which seasons well with only a slight tendency to warp. Sawn material from 5 typical logs sent for test from Uganda to the Forest Products Research Laboratory at Princes Risborough gave an exceptionally satisfactory yield of first quality timber, when graded in accordance with the Grading Rules and Standard Sizes for Empire Hardwoods. Ninety-five per cent of the cut volume conformed with the requirements of "Prime Grade", the remainder being of lower grade and smaller material. The principal waste in conversion was reported to lie in the removal of sapwood and of "stone" deposits.

The yield from the one log in this consignment which was cut from a dead tree, and the quality of its timber, was noticeably superior to that from the other logs, both in

respect of the sawn finish and in ease of sawing.

This suggests that ring-barking of standing trees some years before felling would lead to the production of better timber.

Because of its value, Muvule is perhaps the most widely planted timber species in the country but owing to the fact that young trees are nearly always severely attacked by the gall insect (Phytolyma lata Scott) and are heavily browsed by game, a really satisfactory method of regeneration has yet to be found.

In West Madi the fruits are an article of diet, the juice, extracted by pressure, being used to flavour millet porridge.

(4) FICUS

This genus contains a greater number of trees than does any other in Uganda but, because specimens are troublesome to press, it is usually neglected by collectors with the result that information regarding many of our species is regrettably scanty.

More than forty species of fig are here recorded as occurring in the Protectorate but careful collecting would undoubtedly reveal a number of others. The majority start life as epiphytes, becoming self-supporting after the death of their host whose end is usually hastened by their strangulating embraces. Practically all the species exude a white latex when cut and, as far as is at present known, the wood of all of them is very similar—brownish-white, soft and of little worth.

The following key is adapted from that in F.T.A.VI: 2-:

1. Mouth of fig with several bracts visible from the outside and spreading transversely across the orifice ..... 2.

   Mouth of fig pore-like and more or less 2-lipped, all the bracts descending abruptly into the fig and not visible from outside (Subgenus I.BIBRACTEATAE)..... 15.

2. Bracts arranged in a single whorl at the base of the fig, none either on the peduncle or on the surface of the fig ..... 3.

   Bracts scattered on the peduncle and over the surface of the fig, sometimes very small (Subgenus II.SYCIDIUM) ..... 12.

3. Male flowers usually with two stamens; leaves often toothed, usually scabrid or hairy (Subgenus III.SYCOMORUS)..... 4.

   Male flowers with a single stamen; leaves always entire, rarely scabrid or hairy (Subgenus IV.UROSTIGMA) ..... 9.

4. Figs in panicles on the main stem or older branches, less commonly a few of them in the axils of the leaves ..... 5.

   Figs axillary and solitary, on or towards the base of the young shoots ..... 8.

5. Leaves lanceolate to ovate or ovate-elliptic....F.capensis

   Leaves suborbicular to elliptic-orbicular..... 6.

6. Mature fig usually tomentose ..... F.sycomorus

   Mature fig usually glabrous or puberulous ..... 7.

7. Lateral nerves about 5 pairs, the basal pair extending well above the middle of the leaf.. F.mucuso

   Lateral nerves about 10 pairs, the basal pair not extending above the middle of the leaf... F.sp.

8. Leaves orbicular to ovate, scabrid, subentire or obtusely serrate, cordate at the base; figs densely tomentose ..... F.gnaphalocarpa/b

   Leaves very broadly ovate, smooth, mostly coarsely repand-dentate, rounded at the base; figs puberulous .....F.vallis-choudae

9. Leaves lanceolate to lanceolate-elliptic.... F.verruculosa

   Leaves elliptic, oblong or ovate ..... 10.

10. Leaves obtuse or only slightly acuminate at the apex, deeply cordate to rounded-truncate at the base ..... F.ingens

    Leaves acuminate at the apex, rounded at the base ..... 11.

11. Leaves smooth on both surfaces, oblong to oblong-elliptic, abruptly and shortly acuminate at the apex; figs glabrous..... F.pretoriae

Leaves scabrid above, scabrid or pubescent below, elliptic to oblong-elliptic, caudate-acuminate at the apex; figs puberulous or pubescent..... F. dissanostyla

12. Leaves nearly all opposite, often with 3-dentate tips but otherwise entire..... F. capreaefolia

Leaves alternate, entire or variously toothed or lobed, never only 3-dentate at the apex.... 13.

13. Leaves usually less than 6 in. long, mostly asymmetrical, the midrib dividing the blade into two unequal halves ..... 14.

Leaves 6-12 in. long, symmetrical, the midrib dividing the blade into approximately equal halves ..... F. variifolia

14. Leaves rounded to shortly acuminate at the apex, finely toothed, very scabrous ..... F. exasperata

Leaves caudate-acuminate at the apex, repand-dentate or laciniately lobed, scabrid ..... F. urceolaris

15. Figs in the axils of the young shoots, rarely extending to the two-year-old wood, usually solitary or paired (Sect. I. Axillares)..... 16.

Figs borne on short leafless arrested branchlets or in clusters on the main trunk or branches remote from the leaves (Sect. II. Fasciculatae).. 37.

16. Stpules mostly large and conspicuous, persistent during the flowering and fruiting periods.. 17.

Stipules falling on the unfolding of the young leaves ..... 19.

17. Figs covered with large prominent warts; leaves less than $1\frac{1}{2}$ in. broad; lateral nerves spreading at right angles, nearly straight, looping to form a crenate line close to the margin of the leaf..... F. stipulifera

Figs not warted or only slightly so; leaves usually more than $1\frac{1}{2}$ in. broad, lateral nerves not spreading at right angles ..... 18.

18. Figs thick-walled, ellipsoid, $1\frac{1}{4}$-2 in. long, $\frac{3}{4}$-1 in. diam. ..... F. cyathistipula

Figs thin-walled, globose, up to $\frac{3}{4}$ in. diam. ... F. namalalensis

19. Leaves $\frac{1}{2}$-1 in. long..... F. depauperata

Leaves more than $1\frac{1}{2}$ in. long ..... 20.

MORACEAE (167)

20. Leaves obtriangular, apex broadly truncate or retuse ..... F.pilosula

Leaves not obtriangular, apex not truncate... 21.

21. Figs sessile or sub-sessile ..... 22.

Figs pedunculate ..... 27.

22. Figs invested when young by large and often calyptriform persistent basal bracts..... 23.

Figs not invested by the basal bracts, the latter usually small and often deciduous... 24.

23. Leaves more than 5 in. long, shortly and obtusely acuminate at the apex, rounded at the base ..... F.dawei

Leaves less than 4 in. long, rounded at both ends ..... F.kitubalu

24. Leaves glabrous on both surfaces ..... 25.

Leaves hairy below, at any rate on the midrib 26.

25. Leaves oblong to ovate-oblong, cordate at at the base..... F.glumosa var.glaberrima

Leaves obovate-elliptic to oblong-elliptic, more or less narrowed to an obtuse or rounded (occasionally sub-cordate) base.... F.thonningii

26. Leaves ovate-orbicular to sub-orbicular, rounded at the apex; figs villous..... F.sonderi

Leaves oblong to ovate-oblong, rounded and very obtusely and shortly acuminate at the apex; figs finely pubescent to glabrous.... F.glumosa

27. Leaves mostly cordate at the base, often broadly ovate or sub-orbicular..... 28.

Leaves not cordate at the base, mostly broader above the middle ..... 33.

28. Leaves usually caudate-acuminate at the apex.. 29.

Leaves rounded or very shortly and obtusely pointed at the apex ..... 30.

29. Leaves oblong to oblong-elliptic,rounded at the base ..... F.brachypoda

Leaves broadly ovate, cordate or truncate at the base ..... F.populifolia

30. Peduncles ½-1½ in. long ..... F.platyphylla

Peduncles usually less than ½ in. long .... 31.

31. Leaves glabrous below ..... F.discifera

Leaves usually hairy below (sometimes glabrous in F.congensis) ..... 32.

32. Peduncle ⅓-½ in. long ..... F.congensis

Peduncle much less than ¼ in. long ..... F.vasta

33. Leaves pubescent .....F.sp.nr.F.rhodesiaca

Leaves glabrous ..... 34.

34. Leaves more than 1½ in. broad ..... F.pseudomangifera

Leaves usually less than 1½ in. broad..... 35.

35. Figs about ½ in. diam., wrinkled when dry.. F.natalensis

Figs less than ⅓ in. diam., not wrinkled when dry ..... 36.

36. Leaves chartaceous; lateral nerves few and appreciably distant ..... F.dekdekena

Leaves membranous; lateral nerves very numerous and closely spaced ..... F.persicifolia

37. Leaves ovate to ovate-oblong, cordate at the base ..... F.polita

Leaves elliptic or oblong or obovate,not cordate at the base ..... 38.

38. Fig about ½ in. diam., not or scarcely wrinkled when dry ..... F.lukanda

Fig 1-2 in. diam., mostly deeply wrinkled like a prune when dry ..... 39.

39. Lateral nerves 11 or fewer on each side of the midrib, directed forward; leaves broadly rounded at the base ..... F.brachylepis

Lateral nerves very numerous, spreading from the midrib almost at right angles; leaves slightly narrowed or rounded to an obtuse base ..... F.kisantuensis

MORACEAE (167)

FICUS BRACHYLEPIS Welw. ex Hiern Eggeling 2150, 2299.

Synonyms. F.gossweileri Hutch.; F.ugandensis Hutch.

Spreading forest tree to 120 ft., epiphytic at first. Branchlets grey, glabrous. Leaves entire, glabrous, elliptic to oblong-elliptic, 2-7 in. long, 1-3¼ in. broad, acuminate at the apex; petiole ¾-3½ in. long. Figs puberulous, green mottled with red-purple, elliptic-globose, 1-1½ in. long, peduncle ¾-1 in. long.

Sesse; Masaka; Bunyoro.

FICUS BRACHYPODA Hutch. Eggeling 1881,2322, 3579.

Mkokowe, Kokowe (Luganda); Nserere (Luganda,Buddu dialect); Mukoko (Luganda, Bugwere dialect).

Tree usually about 25 ft. high, occasionally attaining 60 ft. Leaves entire, 5-10 in. long, 2-6 in. broad, shortly acuminate to caudate-acuminate at the apex, lower surface glabrous to pubescent (always slightly pubescent on the midrib); lowest pair of lateral nerves more steeply-ascending than the remainder; petiole 1½-4 in. long. Fig oblong-elliptic, ¾-1 in. long ½-¾ in diam., puberulous; peduncle about ¼ in. long.

Mengo; Entebbe; Masaka; Ankole; Toro; Mubende; Chua; Teso; Bugwere; Busoga.

The tree is cultivated in Ankole and Masaka for the sake of its poles which are used for hut-building, the stems being barked and dried before use.

I include here Eggeling 1881 originally determined as F.sp. aff. F.vasta Forsk.; Scott Elliot 7271, Dummer 100 and Snowden 764 determined as F.ovata Vahl.; and Chandler 1137 determined as F.sp. near F.ovata Vahl.

FICUS CAPENSIS Thunb. Eggeling 727,1919,1441,1694,3019, 3057,3108,3438.

Synonyms. F.mallotocarpa Warb.; F.riparia Hochst.ex A.Rich.

Kabalira (Luganda); Edulo (Gang, Teso dialect).

Savannah or forest tree, usually about 30 ft. high, sometimes attaining 60 ft. Bark pale-brown, with small grey

Fig. 39. Ficus capensis Thunb.. A. Leaf with repand-dentate margin. b. Leaf with entire margin. Both natural size.

scales. Slash pale-red. Sap watery-viscid. Leaves (Fig.39) entire to repand-dentate, 3-6 in. long, 1-3 in. broad, glabrous to slightly pubescent, apex obtuse to shortly acuminate, base shortly cuneate to rounded or sub-cordate; petiole ½-1½ in. long. Panicles clustered, up to 1½ ft. long; figs yellow-red, glabrous to tomentose, obovoid ¾-1½ in. long, edible but rather watery and tasteless; ostiole prominent; peduncle ⅓-¾ in. long.

Mengo; Entebbe; Masaka; Ankole; Toro; Mubende; Bunyoro; West Nile; Gulu; Chua; Lango; Teso; Bugishu. Very common in Bunyoro, Gulu, Chua, Lango and Teso.

Two forms of this very variable species can be recognised. The first of these (F.mallotocarpa Warb.) has tomentose figs and pubescent, entire or occasionally repand leaves. The second (F.riparia Hochst. ex A.Rich.) has glabrous figs and entire glabrous leaves (in the typical species the leaves are mostly repand-dentate), and the petioles are red-brown when dry.

The wood is used in Masaka District for making the mortars in which flour is ground.

FICUS CAPREAEFOLIA Del. Eggeling 3354,3574.

Willow-like shrub or tree to 20 ft., lining or filling the beds of rivers. Bark pale grey. Leaves scabrid, lanceolate to oblong-lanceolate, 1½-4 in. long, ¾-1½ in. broad, apex obtuse or 3-fid, base obtuse; petiole up to ⅓ in. long. Figs solitary, scabrid, edible, sub-globose, ½-¾ in. diam.; peduncle ¼-¾ in. long; basal bracts 3-4, usually scattered but sometimes more or less whorled; ostiole broad and gaping.

Gulu; Chua.

FICUS CONGENSIS Engl. (Sensu lato) Eggeling 252,1642,3022.

Synonym. F.buddulensis Hutch.

Oduru (Gang); Kaboga (Luganda).

Gregarious spreading tree to 50 ft., usually in or at the edge of swamps. Branchlets drooping. Leaves (Fig.42)

entire, broadly ovate to ovate-elliptic, 3-6 in. long, 2½-4½ in. broad, glabrous on the upper surface, pubescent to glabrous beneath, rounded to slightly cordate at the base; petiole usually 1-2 in. long. Figs paired, glabrous to pubescent, reddish, globose, up to 1 in. diam.; ostiole 2-lipped, protruding.

Mengo; Entebbe; Masaka; Mubende; West Nile; Gulu.

I include here Eggeling 252 originally determined as F.umbellatus Vahl.

FICUS CYATHISTIPULA Warb. Eggeling 445, 3170.

Synonym. F.nyanzensis Hutch.

Forest shrub or tree to 30 ft., usually overhanging streams or lakes. Leaves (Fig.44) glabrous, prominently reticulate below, oblanceolate to elliptic-oblanceolate, 3-8 in. long 1¼-3½ in. broad, apex shortly and obtusely acuminate, base cuneate; stipules red-brown, imbricate, lanceolate to ovate-lanceolate, ½-1½ in. long, ¼-½ in. broad, acute or sub-acute; petiole ½-¾ in. long. Figs pale green with whitish spots, spongy, strongly laticiferous, very shortly stipitate within the basal bracts; peduncle up to ¾ in. long.

Entebbe; Sesse; Masaka; Ankole; Chua.

I include here Thomas 891 originally identified as F.kirkii Hutch.

FICUS DAWEI Hutch. Eggeling 1882, 3525.

Tree to 40 ft. usually in damp situations near the edge of forest. Crown low, wide-spreading, umbrella-shaped. Branchlets stout, densely yellow-tomentose or pilose-pubescent. Leaves broadest about the middle, elliptic to oblong-elliptic, 6-14 in. long, 2-6 in. broad, glabrous above, pilose chiefly on the midrib and lateral nerves below; petiole 2-6 in. long. Figs yellow, finely long-pilose, crowded towards the apex of the shoots, depressed-globose, ½-1 in. diam., much relished by green pigeons.

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

I include here Chandler 1155 originally determined as F.sp. near F.dawei Hutch.; Eggeling 1882 and Thomas 827 determined as F.zobiaensis De Wild.; Dummer 877 determined as F.eriobotryoides Kunth. and Bouché; and Eggeling 102 determined as F.sp. near F.eriobotryoides Kunth. and Bouché.

The plant is named after Mr.M.T.Dawe, who was Officer in Charge of the Forestry and Scientific Department of Uganda during the early years of the century.

FICUS DEKDEKENA A.Rich. Chandler 639.

Synonym. F.iteophylla Miq.

Savannah or forest tree to 30 ft., usually epiphytic at first. Leaves entire, oblanceolate, usually 2-5 in. long and 1-1¼ in. broad, apex rounded to very shortly and obtusely acuminate, base narrowed; petiole ¾-1½ in. long. Figs pale yellow, paired or crowded, globose, ¼-⅓ in. diam., glabrous to pubescent; peduncle up to ⅓ in. long.

Teso.

FICUS DEPAUPERATA Sim Eggeling 2085,3080.

Namalagala (Luganda).

Usually a small bushy epiphyte, occasionally (as at Bwambara Rest Camp, Kigezi) a small erect tree 12 ft. or more high, with straight bole, neat spherical crown and box-like foliage. Leaves entire, glabrous, oblanceolate to obovate-elliptic, rounded at the apex, narrowed to an obtuse base; midrib forked below the apex of the blade; petiole very short. Figs paired, pedunculate, globose, 1/6 in. diam., glabrous.

Masaka; Kigezi; Bunyoro.

I include here Maitland 316 originally determined as F. lingua Warb., which differs from F.depauperata only in the semi-persistent stipules and which may not be distinct.

FICUS DICRANOSTYLA Mildbr. Eggeling 1714,2333.

Savannah tree to 60 ft. Branchlets densely tomentose

Fig. 40. Leaves of (a.) and (b.) Ficus exasperata Vahl (two types from the same branchlet), (c.) F.dicranostyla Mildbr., (d.) F.thonningii Blume, (e.) F.verruculosa Warb. All natural size.

at first, becoming puberulous or glabrous. Leaves (Fig.40) 2½-3½ in. long, 1¼-3¾ in broad; petiole ½-¾ in. long. Figs yellow-pink, axillary, solitary, subglobose, about 1½ in. diam., with a smooth shiny patch surrounding the ostiole; peduncle about ¼ in. long.

Bunyoro; Madi; Gulu; Chua; Lango; Karamoja; Bugwere; Busoga.

FICUS DISCIFERA Warb. Dawe 935.

Medium-sized to large tree. Branchlets stout, glabrous; leaf-scars orbicular to horseshoe-shaped, ¼ in. diam. Leaves entire, deeply cordate at the base (with a narrow sinus and overlapping auricles), very shortly and obtusely acuminate at the apex, very broadly ovate to suborbicular, 4-8 in. long, 3-6½ in. broad, 9-nerved from the base (the basal pair with several branches on the lower side); petiole 1¾-3½ in. long. Figs pedunculate, slightly depressed-globose, ½-¾ in. diam., glabrous; ostiole not or only very slightly prominent.

Entebbe.

I have not seen a specimen of this plant which is probably synonymous with F.abutilifolia Miq.

FICUS EXASPERATA Vahl Eggeling 184.

Luwavu (Luganda).

Forest tree usually about 30 ft. high, occasionally attaining 80 ft. Bark smooth, reddish. Sap watery, viscid. Leaves (Fig.40) elliptic to obovate-elliptic, 2½-4 in. long, 1¼-1¾ in. broad, almost always 3-lobed on coppice shoots and often so on lower branches, base rounded to cuneate, usually unequal-sided; lateral nerves 3-5 on each side of the midrib, the lowermost pair ascending to the middle or beyond the middle of the blade, petiole usually ¼-½ in. long. Figs axillary, solitary or paired, obovoid to subglobose, up to ½ in. diam., red when ripe, not edible; basal bracts usually scattered, occasionally gathered together towards the base of the peduncle, never whorled; peduncle short, rarely as much as

Fig. 41. Leaves of (a.) Ficus glumosa Del., (b.) F.gnaphalocarpa A.Rich., (c.) F.populifolia Vahl. (a.) and (b.) natural size, (c.) x $\frac{1}{2}$.

$\frac{1}{3}$ in. long.

Mengo; Entebbe; Masaka; Toro; Mubende; Bugwere; Budama; Busoga.

The leaves are used as sandpaper for polishing gourds, sticks, spear-shafts, etc.

FICUS GLUMOSA Del. Eggeling 1682, 1690.

Ebyong (Gang, Teso dialect).

Savannah tree to 30 ft. Leaves (Fig.41) entire, 1-3 in. long, $\frac{3}{4}$-$1\frac{3}{4}$ in. broad, cordate at the base, at first pubescent above, permanently shortly pubescent below except in the var. glaberrima Martelli, in which the leaves are glabrous below when mature; lateral nerves 6-7 on each side, the basal pair ascending more steeply than the remainder; petiole usually $\frac{1}{2}$-$1\frac{1}{2}$ in. long. Figs paired, globose, red, sweet and fairly succulent; ostiole small but prominent.

In dry localities, usually among rocks. The variety has the same distribution as the type.

Bunyoro; Gulu; Chua; Lango; Teso.

FICUS GNAPHALOCARPA A.Rich. Eggeling 1236,1691.

Synonym. F.trachyphylla Fenzl

Mukunyu (Luganda; Lunyoro); Olam (Gang); Elio (Lugbara).

Savannah tree to 60 ft. Branchlets pilose when young. Bark on young stems pale green with a soft powdery covering; bark on older stems grey-green, fairly smooth, with scattered grey scales and light brown patches where scales have fallen. Slash pale pink. Leaves (Fig.41) 2-5 in. long, $1\frac{1}{2}$-4 in. broad, rounded at the apex; lateral nerves 4-6 pairs, the basal pair ascending at a much steeper angle than the remainder to above the middle of the blade; petiole usually $\frac{1}{2}$-$\frac{3}{4}$ in. long. The leaves dry up with extraordinary rapidity when picked. Figs yellow-red to reddish-purple, pear-shaped to globose, $1\frac{1}{4}$-2 in. long, borne directly behind the leaves; basal bracts whorled at the apex of the peduncle, rarely scattered over the fig;

Fig. 42. Leaves of (a.) Ficus congensis Engl., ~~buddensis Hutch.~~ (b.) F. ingens Miq. Both natural size.

peduncle ¼-¾ in. long.

West Nile; Madi; Gulu; Chua; Lango; Teso; Bugwere; Bugishu; Busoga. A common tree in West Nile, Madi, Gulu, Chua and Lango Districts, especially abundant in valley of the Nile. The figs are succulent and edible, and are much relished by green pigeons.

The tree has been used successfully in Senegal as a stock for grafting the common cultivated fig.

FICUS INGENS Miq. Eggeling 2350.

Erere (Gang, Teso dialect).

Spreading savannah tree to 40 ft. Bark grey. Leaves (Fig.42) entire, oblong to oblong-ovate, 3-6 in. long, 1½-3½ in. broad, often unequal-sized at the base; petiole ½-1½ in. long. Figs axillary, mostly paired, sessile or shortly pedunculate, glabrous or puberulous, wrinkled when dry; peduncle up to ¼ in. long.

Gulu; Chua; Teso; Budama.

The leaves have a conspicuous pinkish-mauve colouration when young.

FICUS KISANTUENSIS Warb. Eggeling 142, 528.

Forest tree to 80 ft. Bark grey. Slash red. Leaves shiny, slightly obliquely oblong-lanceolate, 4½-7 in. long, 1¼-2¼ in. broad, apex very shortly and obtusely acuminate (less commonly rounded); lateral nerves looping to form a crenate line close to the margin; petiole stout, ½-1 in. long, rather abruptly contracted into the midrib. Figs paired or clustered on the older wood, obovoid, 1¼-2 in. long, greenish-yellow, wrinkled like a prune when dry; peduncle 1-2 in. long.

Entebbe; Mengo.

FICUS KITUBALU Hutch. Eggeling 3185.

Forest tree to 50 ft. Leaves entire, oblong to elliptic, 3-4 in. long, 1½-2½ in. broad, glabrous above or at most

slightly pubescent on the midrib, glabrous to softly pubescent below; midrib very prominent on the underside of the leaf, very broad at the base, gradually tapered towards but bifurcate below the apex of the blade; lateral nerves looped to form a crenate line near the margin; petiole 1-2 in. long. Figs pubescent to tomentose, paired, globose, up to ¾ in. diam., yellow-green with reddish spots, thin-walled, tending to crumble when dry.

Masaka; Ankole; Toro.

The Luganda name Kitubalu which has been adopted as the specific name of this plant is probably applied to several distinct species of Ficus.

The tree yields an inferior bark-cloth.

I include here Eggeling 3185 originally determined as F. thonningii Blume.

FICUS LUKANDA Welw.ex Ficalho Scott-Elliot 7515.

Shrub or tree to 50 ft. Buttresses slight. Bark dusky-grey. Sap watery, viscid. Leaves entire, elliptic to obovate-elliptic, sometimes slightly oblique, 3-5 in. long, 1¼-2¼ in. broad, apex subcaudate-acuminate, base obtuse to rounded; lateral nerves 4-5 on each side of the midrib, the basal pair extending to above the middle of the blade; petiole 1-3 (usually 2-3) in. long. Figs glabrous, 1-3 together, ellipsoid-globose, yellow; peduncle up to ¾ in. long.

Mengo; Masaka.

The plant may be synonymous with the West African F. ottoniaefolia Miq.

FICUS MUCUSO Welw. ex Ficalho (Photo.31). Eggeling 2029,3526.

Mukunyu (Lunyoro).

Forest tree to 120 ft. Crown open, composed of a few wide-spreading limbs. Bark smooth, scarcely scaling, cinnamon-brown. Slash white or pinkish. Buttresses

usually prominent, plank-like, triangular, sometimes extending as much as 15 ft. up the bole and running as far outwards. Branchlets villous with dark brown hairs near the leaf bases, villous all over on coppice shoots. Leaves puberulous to softly pubescent below (scattered pilose on the midrib and lateral nerves), broadly ovate to suborbicular or occasionally obovate-panduriform, 2-6 in. long, 2-5 in. broad (usually 3-5 in. long and 2½-4½ in. broad), entire (denticulate on coppice shoots), slightly scabrous on both surfaces, apex shortly and rather abruptly acuminate, base cordate; tertiary nerves parallel, prominent below, petiole 1-2 in. long. Figs orange, pear-shaped, 1¼-2½ in. diam.; ostiole very prominent with several bracts exserted from the mouth; peduncle ½-1 in. long.

Mengo; Masaka; Toro; Bunyoro; Busoga.

When mature this is one of the largest of the forest trees of Uganda. The trunks are used in Buganda for making the canoe-like troughs in which beer is brewed.

I include here Eggeling 2029 originally determined as F.gnaphalocarpa A.Rich.

FICUS NAMALALENSIS Hutch. Eggeling 2126.

Epiphyte; perhaps eventually self-supporting. Branchlets usually glabrous. Leaves entire, oblong to oblanceolate-elliptic, 4-7 in. long, 1½-2½ in. broad, apex shortly acuminate to caudate-acuminate, base slightly narrowed; lateral nerves 4-6 on each side of the midrib, looped well within the margin; ultimate venation reticulate, very prominent below; petiole ½-1½ in. long; stipules acute, lanceolate, ¾-1 in. long, half encircling the shoots. Figs depressed-globose, about ¾ in. diam., slightly warted, otherwise glabrous; peduncle up to ¼ in. long.

Masaka; Bunyoro.

Fig. 43. Leaves of (a.) Ficus natalensis Hochst., (b.) F.persicifolia Welw. ex Warb. (Small-leaves form), (c.) F. pilosula De Wild., (d.) F.vallis-choudae Del. All natural size; the leaf of F.vallis-choudae is rather smaller than most.

MORACEAE (167)

FICUS NATALENSIS Hochst. Eggeling 199,1985,2298.

Mutuba (Luganda); Mutoma (Lunyoro,Ankole dialect); BARKCLOTH TREE.

Tree or epiphyte to 40 ft., frequently with aerial roots depending from the base of the major limbs. Bole short, usually 6-10 ft. long. Crown thick, heavily foliaged. Bark grey, smooth. Leaves entire,oblanceolate to obovate-oblanceolate, $1\frac{3}{4}$-$3\frac{1}{2}$ in. long, $\frac{3}{4}$-$1\frac{1}{4}$ in. broad, apex obtusely pointed or rounded, base narrowed; petiole glabrous, $\frac{1}{4}$-1 in. long. Figs obovoid-globose, yellow, wrinkled when dry except the large smooth ostiolar prominence; peduncle up to $\frac{1}{4}$ in. long.
Entebbe; Sesse; Masaka; Ankole; Toro; Mubende; Bunyoro; Busoga.

In the wild state the Mutuba is a forest species usually found as an epiphyte but, owing to its importance as the chief source of bark-cloth and its widespread use as a live fence and as a shade-tree for coffee, it is cultivated all over the Protectorate and is now to be found growing as an independent tree (raised from stakes) in all types of country in and around villages and on the site of old habitations.

For the preparation of cloth the bark is removed in a single sheet by means of two horizontal cuts and one vertical cut. The cylinder of bark is then softened in steam for an hour or two before being beaten out on a wooden anvil with a set of grooved wooden mallets. The anvil is usually a log of Musanvuma(Sapium ellipticum Pax) in Mengo and Entebbe Districts and a log of Mutambuzi (Spondianthus ugandensis Hutch.) in Masaka District. The mallets are generally made from Nzo (Teclea nobilis Del.)

During the cloth-making process the original width of the bark is increased some five times and its length by about a tenth, so that a strip of bark 10 ft. long and 2 ft.

broad will yield a sheet of cloth 11 ft. long and 10 ft. broad.

After the beating operation is completed the cloth is spread out in the sun, darkening in a few days to a rich red-brown, the depth of the tint depending on the period of exposure. When it has coloured sufficiently the cloth is damped and kneaded by hand till soft and is then frequently decorated with stencilled patterns.

Bark is not usually harvested till a tree has attained a girth of at least 18 in., the first crop of bark being inferior to later gatherings. It is said that a well-tended tree will survive as many as 40 annual strippings, the great essential being that the naked stem is protected from the sun as soon as the bark is removed. The general practice is to wrap the trunk in green banana leaves immediately after stripping, this covering being replaced in a few days by a plaster of wet cow-dung which is left on the tree till it flakes off naturally.

In the heyday of barkcloth making in Uganda, before the advent of cheap woven goods, over 50 varieties of Mutuba were recognised in Buganda alone. Of these, Sango (from a place of that name in Buddu) was reputed to yield the best cloth, Butana being another good strain.

FICUS PERSICIFOLIA Welw. ex Warb. Eggeling 119,1692,2217, 3465.

Tree or epiphyte to 50 ft. Crown dense. Branches dropping. Bark pale grey. Leaves (Fig.43) narrowly oblong-oblanceolate, 2½-5 in. long, ¾-1½ in. broad, gradually acuminate at the apex, gradually narrowed to an obtuse base; petiole ⅓-1¼ in. long; stipules usually persistent on leafy shoots, caducous on flowering shoots, linear-lanceolate, acute, ⅓-¾ in. long. Figs yellow, axillary or from the axils of fallen leaves, usually paired, sometimes crowded, globose, up to ⅓ in. diam.; peduncle up to ¼ in. long.

Entebbe; Sesse; Bunyoro; Chua; Lango; Bugishu.

Eggeling 1692 from Chua is a small-leaved form with leaves rarely more than 2 in. long and $\frac{5}{4}$ in. broad.

I include here Eggeling 119, originally determined as F.dekdekena A.Rich.

FICUS PILOSULA De Wild. Eggeling 3640,3747.

Tree to 40 ft. Branchlets pale brown to straw-yellow, angular when dry. Leaves (Fig.43) glabrous, $1\frac{1}{2}$-$3\frac{1}{2}$ in. long, $\frac{3}{4}$-$1\frac{1}{2}$ in. broad, cuneate at the base; midrib forked below the apex of the blade; petiole $\frac{1}{4}$-$\frac{1}{2}$ in. long. Receptacles paired, sessile, depressed-globose, $\frac{1}{4}$-$\frac{1}{3}$ in. diam., permanently pilose. Masaka; Ankole; Kigezi. In or near swamps, or on the banks of streams.

FICUS PLATYPHYLLA Del. Eggeling 1751,1753,2334,3576.

Ebulai (Gang, Teso dialect).

Savannah tree to 60 ft., often epiphytic at first. Crown large, spreading. Bark rusty orange with large grey-brown patches where scales have dropped. Slash pink. Surface roots often prominent. Branchlets very stout, bearing prominent horseshoe-like leaf-scars. Leaves entire, broadly elliptic to subpandurate, 6-12 in. long, 3-8 in. broad, glabrous above, minutely puberulous below, deeply cordate at the base; lateral nerves prominent, red when young; petiole up to 5 in. long. Figs reddish, numerous, in clusters of 2-5 together towards the tips of the branchlets, subglobose, $\frac{1}{2}$-1 in. diam., pilose to glabrous, often warted; peduncle $\frac{1}{2}$-$1\frac{1}{2}$ in. long. Wood heavy, pale brown.
Gulu; Chua; Teso; Karamoja; Busoga.

FICUS POLITA Vahl Eggeling 1979.

Forest tree to 120 ft., usually epiphytic at first. Leaves glabrous, 3-6 in.long, 2-$4\frac{1}{2}$ in. broad, apex acuminate to caudate-acuminate; petiole up to $4\frac{1}{2}$ in. long. Figs purple-green, very numerous, borne on thick woody outgrowths

from the old wood, depressed-globose, 1½-2¼ in. diam., wrinkled when dry; peduncle ⅓-¾ in. long.

Mengo; Entebbe; Bunyoro.

Reputed to be one of the best of shade trees and widely planted as such in West Africa.

FICUS POPULIFOLIA Vahl — Eggeling 1726.

Tree to 60 ft., sometimes epiphytic at first. Branchlets pendulous. Bark smooth, grey or yellow. Leaves (Fig.41) yellow-green when dry, entire, glabrous, broadly ovate, 2-6 in. long, up to 6 in. broad, 5-9-nerved from the base, apex acutely acuminate, base widely cordate; petiole slender, up to 3½ in. long. Figs 2-4 together, axillary or from the axils of fallen leaves, yellow-brown when dry, globose, ⅓ in. diam., glabrous or puberulous, usually ribbed or reticulate; peduncle up to ¾ in. long.

Chua.

FICUS PRETORIAE Burtt Davy — Eggeling 2407, 3483.

Tree to 20 ft. Branchlets glabrous, purplish. Leaves reticulate, 1½-3½ in. long, ¾-1¾ in. broad; lateral nerves scarcely more prominent than the tertiary nerves; petiole ⅓-¾ in. long. Figs pale straw-colour, crowded towards the ends of the branchlets, shortly pedunculate or subsessile, globose, about ⅓ in. diam.

Chua. Among rocks on small hills in savannah.

FICUS PSEUDOMANGIFERA Hutch — Eggeling 2263.

Spreading forest tree to 90 ft. Leaves entire, leathery, oblong to oblong-elliptic, 3-6 in. long, 1½-2½ in. broad, apex acuminate, base rounded; petiole ½-1 in. long. Figs solitary, yellow, subglobose, about ⅓ in. diam., glabrous; peduncle up to 1/6 in. long; ostiole 2-lipped, prominent.

Bunyoro (Budongo Forest).

Fig. 44. Leaves of (a.) Ficus cyathistipula Warb., (b.) F.stipulifera Hutch., (c.) F.urceolaris Welw. ex Hiern . All natural size.

FICUS SONDERI Miq. Eggeling 730.

Savannah tree to 40 ft. Branchlets shaggy-villous at first, becoming shortly pubescent. Leaves entire, 1½-3 in. long, 1-2 in. broad, usually hirsute on both surfaces (chiefly on the midrib and lateral nerves), base cordate or sub-cordate; petiole ⅓-1 in. long. Figs crowded at the ends of the young branchlets, paired, subglobose, ¼-½ in. diam.

Teso; Bugwere; Bugishu; Busoga.

The plant is very closely allied to F.glumosa Del. and is probably nothing more than a variety. It is best distinguished from F.glumosa by the spreading hairs on the young shoots, on the undersides of the leaves, on the petioles and on the figs.

FICUS STIPULIFERA Hutch. Eggeling 3452.

Spreading forest tree to 120 ft., probably epiphytic at first. Bole deeply fluted. Leaves (Fig.44) entire, lanceolate to linear-lanceolate, 4-7 in. long, ¾-1½ in. broad, entire, glabrous on both surfaces, apex gradually and obtusely acuminate, base narrowed; petiole ½-¾ in. long; stipules lanceolate, acute, up to 1½ in. long, very noticeable on the young shoots, dropping early. Figs subglobose, about 1 in. diam.

Entebbe; Masaka; Bunyoro.

I include here Eggeling 3452 originally determined as F.sp ? barteri Sprague.

FICUS SYCOMORUS Linn. Eggeling 1728.

Mukunyu (Lunyoro); Olam (Gang).

Spreading savannah tree to 80 ft., usually found near streams. Bark yellow-grey. Young branchlets glabrous or almost so except for a ring of long slender hairs just below each node. Leaves drying pale, 2-5 in. long, 1¼-3½ in. broad, glabrous on both surfaces or minutely puberulous below or sometimes somewhat scabrous, apex rounded to obtuse, base

cordate to rounded; lateral nerves as in F.gnaphalocarpa; tertiary nerves not prominent; petiole ¾-1 in. long. Figs obovoid to obovoid-globose, ¾-1 in. diam., sometimes stipitate at the base; ostiole prominent, with numerous exserted suberect bracts; peduncle ¼-¾ in. long.
Toro; Bunyoro; Gulu; Chua.

FICUS THONNINGII Blume Eggeling 1657,1700,1899,3020,3580.

Forest or savannah tree to 40 ft., generally epiphytic at first, usually low-branched. It is often fluted or multistemmed owing to the rooting of the aerial roots which form thick masses on the upper stem and dangle from the base of the branches. Bark smooth, grey. Leaves entire, dark green, glabrous, 2-5 in. long, 1-2½ in. broad, acute at the apex; petiole ¾-1½ in. long. Figs puberulous or glabrous, mostly paired, globose to ovoid-globose, ¼-⅓ in. diam. (rarely ½ in. diam.); ostiole often umbonate.
Mengo; Entebbe; Toro; West Nile; Gulu; Chua; Teso; Bugishu; Bugwere; Budama; Busoga.

The species is frequently grown as an avenue tree and is much planted by natives for shade and as a live fence. Barkcloth is obtained from the bast, the tree being decorticated ~~decorticated~~ in the same way as F.natalensis by two horizontal cuts and one longitudinal, the whole cylinder of bark being removed. The tree recovers by throwing out many slender red adventitious roots which unite to form a matted covering over the wound.

Owing to the fact that the tree is propagated by stakes a number of forms have developed, some of which closely resemble similarly propagated forms of F.natalensis, from which F.thonningii is best distinguished by its sessile receptacles.

I include here Eggeling 3020 originally determined as F.petersii Warb.; Thomas 329 determined as =F.sp. near F. natalensis Hochst.;

natalensis Hochst.; and
Eggeling 1657, with semi-persistent stipules, determined as F.sp. near F.lujae De Wild., this latter specimen matching Snowden 272 (Ficus busogensis' — nomen) and Snowden 276 ('Ficus bukediensis' — nomen).

FICUS URCEOLARIS Welw. ex Hiern Eggeling 127, 1884.

Synonym. F.storthophylla Warb.

Shrub or tree to 15 ft., usually on the edge of forest. Leaves obliquely elliptic to obliquely obovate-oblanceolate, 3-7 in. long, 1-2 in. broad, base cuneate to obtusely rounded; petiole ¼-½ in. long. Figs edible, orange-red, solitary or 2-3 together, subsessile, globose, ¼-⅓ in. diam., minutely scabrous to densely setose; ostiole large.

Mengo; Entebbe; Masaka; Ankole; Toro; Mubende; Bunyoro; West Nile.

FICUS VALLIS-CHOUDAE Del. Eggeling 121, 134, 1729.

Kidodwe (Lusoga).

Spreading tree to 60 ft., generally on the edge of forest in damp situations but occurring also on the banks of streams in savannah. Bark rough, grey, or pale brown. Leaves (Fig.43) obtuse, more or less rhomboid, 5-8 in. long, 4-7 in. broad, glabrous on both surfaces or rarely shortly pubescent below; lateral nerves opposite or subopposite, the lowermost pair ascending to above the middle of the lamina; tertiary nerves subparallel; petiole 1¼-2½ in. long. Figs solitary, succulent, edible, pear-shaped or subglobose, 1½-2½ in. long; peduncle stout, woody, ¼-½ in. long; ostiole large, slightly protruded. Wood straight-grained, taking stain easily, suitable for cheap furniture and office fittings.

Mengo; Entebbe; Masaka; Toro; Mubende; Bunyoro; Chua; Busoga.

FICUS VARIIFOLIA Warb. Thomas 1476.

Synonym. F.sciarophylla Warb.

Shrub or tree to 30 ft. with trunk up to 4 ft. in girth.

Bark reddish.

MORACEAE (167)

Bark reddish. Leaves sometimes entire, sometimes pinnatifid or pinnatilobed (lobes usually entire), usually scabrous on both surfaces, usually with only a few scattered setose hairs on the upper surface, but pilose on the midrib and lateral nerves below (occasionally villous or pilose on both surfaces), elliptic or oblong to oblong-elliptic, 6-13 in. long, 2¼-7 in. broad, base shortly cordate, apex and lobes caudate-acuminate; petiole 1-1¾ in. long. Figs unknown.

Ankole; Toro; Bunyoro.

Possibly only a form of F.exasperata Vahl.

FICUS VASTA Forsk. Eggeling 1727,3500.

Pwoyo (Acholi).

Spreading savannah tree to 50 ft. with rounded crown. Young branches thick, softly and densely tomentose. Leaves entire, softly pubescent below, very broadly ovate to suborbicular, 5-10 in. long, 5-8 in. broad, apex obtuse or rounded, base deeply cordate; petiole 2½-3½ in. long. Figs 2-3 together, subglobose, pubescent, ostiole gaping.

Bunyoro; Chua.

The fruits make good eating gathered freshly fallen and half-dried in the sun. They can also be dried completely, stored and eaten stewed.

FICUS VERRUCULOSA Warb. Eggeling 248.

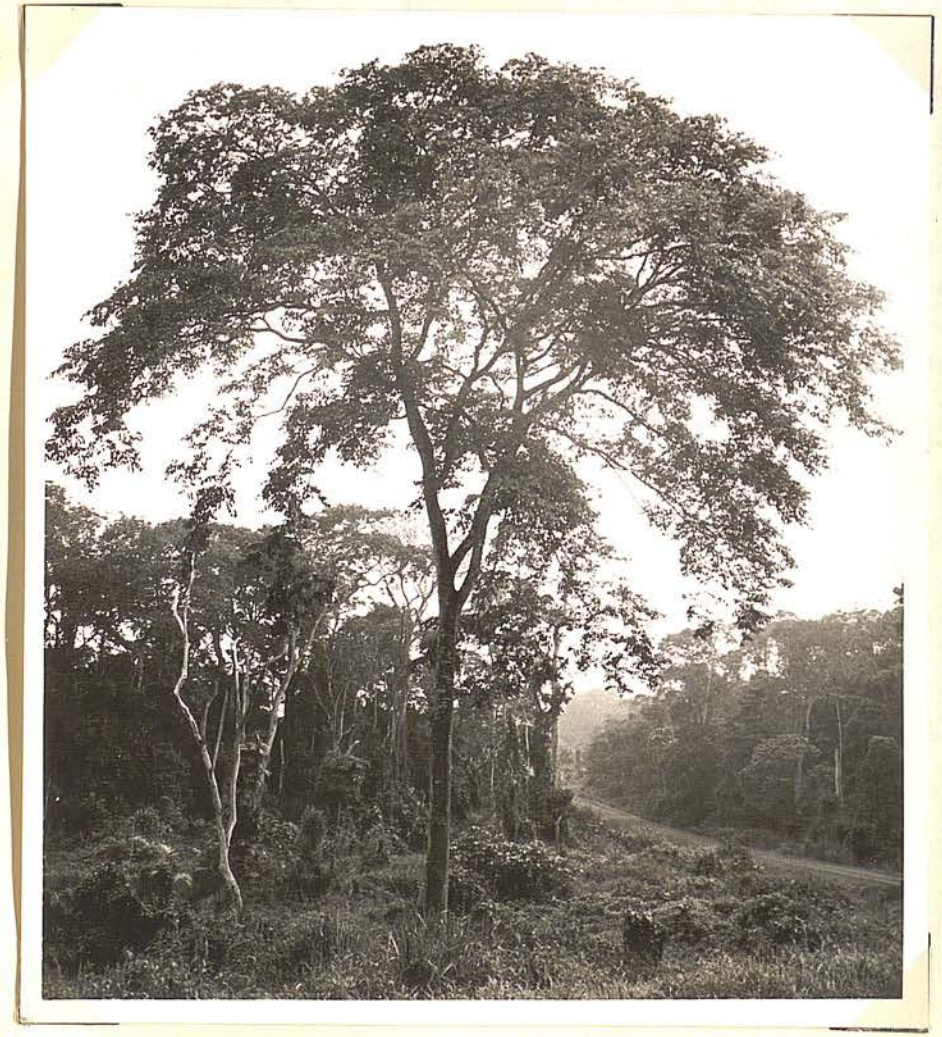
Shrub or tree to 25 ft., usually in swamps. Leaves entire, 3-6 in. long, ¾-1½ in. broad, obtuse at both ends; petiole up to ½ in. long. Figs reddish, solitary or paired, globose, about ⅓ in. diam., glabrous or sometimes minutely pubescent towards the ostiole; peduncle up to ¼ in. long.

Mengo; Entebbe; Bunyoro; Bugishu.

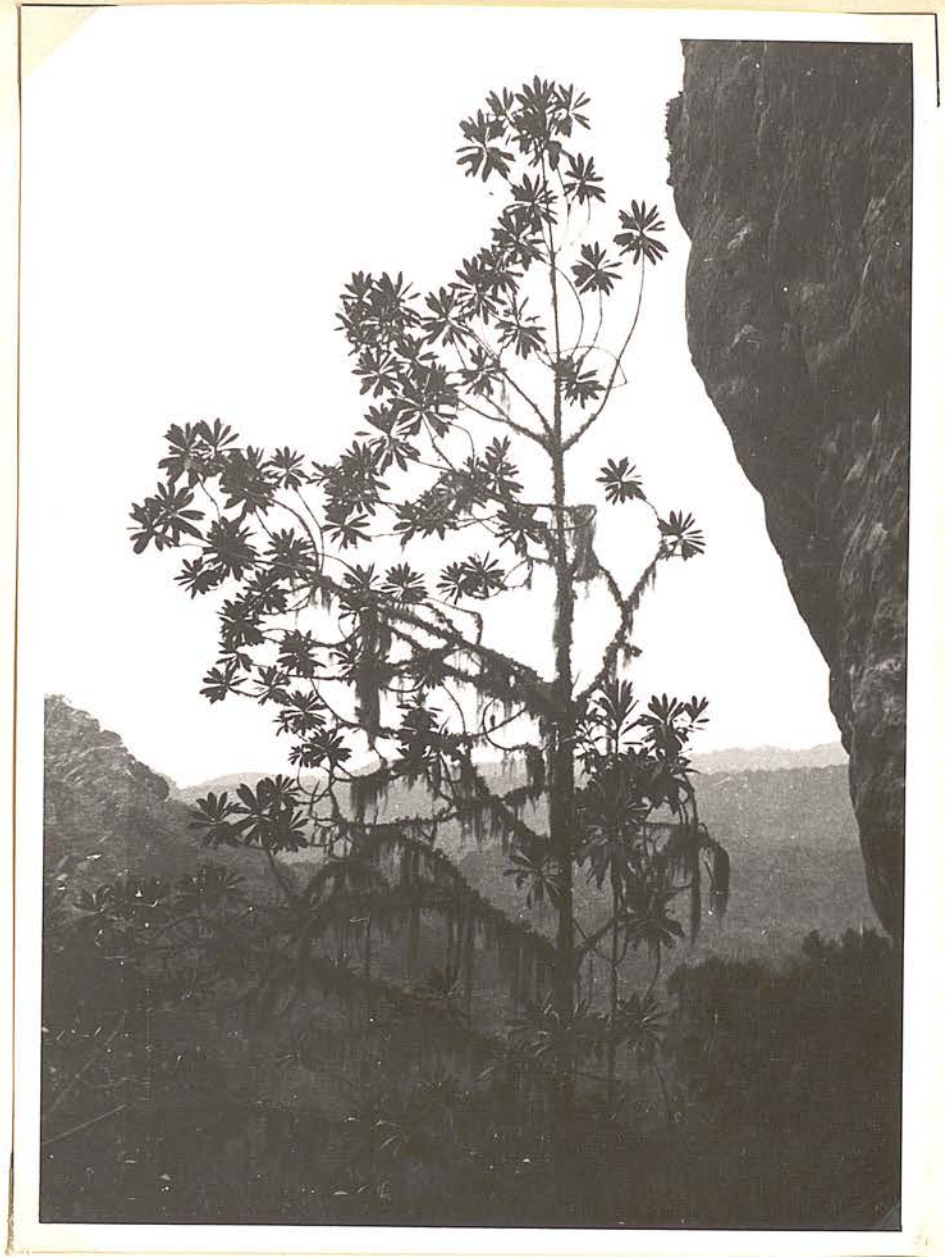
FICUS SP. near F.RHODESIACA Warb. Eggeling 654.

Tree to 30 ft. Leaves entire, oblong to elliptic, 2-3 in. long, 1-1¼ in. broad, rounded at both ends; petiole ½-¾ in. long. Figs pendulous, globose, about ½ in. diam., finely pubescent; peduncle ¼-⅓ in. long.

Ankole (Mpororo Hill; 5,250 ft.).



Phot.32. Morus lactea (Sim) Mildbr.
Habit photo.



Phot.33. Rapanea neurophylla (Gilg) Mez
Habit photo.

MORACEAE (167)

FICUS SP. Eggeling 2151.

Savannah and forest tree to 70 ft. Bole smooth, greenish-brown. Leaves orbicular-oblong, about 5 in. long and 4 in. broad, sparsely puberulous, apex usually rounded and apiculate, base cordate; petiole about 2 in. long. Figs elliptic-globose, about 1¼ in. long; peduncle ½ in. long. Bunyoro.

(5) MORUS

MORUS LACTEA (Sim) Mildbr. (Photo.32). Eggeling 1182.

Synonym. Celtis lactea Sim

Nyakatoma (Lunyoro): Uganda MULBERRY

Deciduous understorey tree to 80 ft. Bole 20-40 ft. long, rarely much over 6 ft. in girth, seldom very straight. Crown umbrella-shaped. Branchlets red-brown, pendulous. Bark smooth, pinkish-grey with white blotches (the blotching especially noticeable on the major limbs), characteristically marked with vertical lines of large lenticels. Slash yellow, exuding copious white latex. Leaves (Fig. 73) tri-nerved from the base, unequal-sided, crenate-serrate, pale green, very thin, ovate to broadly elliptic, 2-3½ in. long, 1¼-2¼ in. broad, base rounded to shallowly cordate, apex abruptly caudate-acuminate; petiole ¼-1 in. long. Flowers dioecious; male cathkinate; female capitate, the heads solitary or 2-3 together on arrested shoots; peduncles ½-1 in. long. Syncarp green, dry. Sapwood white; heartwood vivid yellow when freshly cut, slowly turning brown on exposure, hard, fine-grained, perishable; weight about 49 lbs. per cu. ft. air dry. Kigezi (Marabigambo Forest); Bunyoro (Budongo Forest).

The exceptional colour of the fresh timber attracted attention at the Building Trades Exhibition at Olympia in 1934 but no special uses for the wood have been suggested.

I include here Dawe 785, 1023 originally determined as

MORACEAE (167)

Celtis sp.

(6) MUSANGA

MUSANGA SMITHII R.Br. Eggeling 168, 3206, 3716.

Kaliba (Luganda); Kigere, Kikumbu (Kuamba); UMBRELLA TREE.

Fast-growing, short-lived, ornamental, deciduous forest tree to 90 ft. with straight cylindrical bole and umbrella-shaped crown. Bark pale grey to pale brown, smooth, noticeably lenticellate. Leaf-scars prominent on the pithy branchlets, The slash exudes large quantities of drinkable water. Prop-roots occur. [leaf-segments entire, up to 25 in number, green and shining above, grey-tomentose below, up to 18 in. long and 6 in. broad, shortly acuminate at the apex; lateral nerves numerous, conspicuous; petiole up to 2 ft. long, flattened and villous at the base, densely ferruginous-tomentose in the upper part and especially at the apex; stipules connate, deciduous, densely red-pubescent on the outside, silky with straw-coloured hairs within. Male inflorescence a repeatedly forked peduncle about 4 in. long with numerous small round pink flower-heads terminating the ultimate branches. Female inflorescences yellow-green, succulent, 2/3-¾ in. long, about ¼ in. thick, usually paired; peduncles 2-5 in. long. Wood white (slightly pink when fresh), exceptionally light, soft, coarse-grained, easily worked, said to be very strong if properly seasoned. Weight 14 lbs. per cu.ft. air dry.

Mengo; Entebbe; Ankole (Kalinzu Forest); Toro (Bwamba). Chiefly in secondary forest and on forest edges.

In Southern Nigeria this species reproduces by layering from the prop-roots which arise from the lower part of the trunk. In Uganda these roots are not strongly developed and vegetative reproduction has not been observed.

The wood has been used for making paper pulp in West Africa.

MORACEAE (167)

(7) MYRIANTHUS

MYRIANTHUS ARBOREUS P.Beauv. Eggeling 68,3127,3204,3713,3763.

Kiruhura (Lunyoro,Ankole dialect); Mugunga (Luganda); Mwebende (Lunyoro, Toro dialect); Musinyamuro (Lunyoro); Mufe (Lunyoro, dialect of the Bakiga): GIANT YELLOW MULBERRY.

Deciduous understorey tree to 30 ft. Bole short, dividing close to the ground into several steeply-ascending limbs. The tree is generally carried on stout stilt-roots a foot or two in length, being one of the few members of the tree flora of Uganda to exhibit this character. Bark brown. Leaves digitate or deeply digitately lobed, red when young; leaflets 5-7, sessile, serrate, obovate-elliptic, the median segment usually about 10 in. long and 3½ in. broad (sometimes up to 30 in. long and 9 in. broad), the outer segments about half as long as the median, upper surface smooth, lower surface cobwebby-puberulous between the raised brown veins, apex acute, base obtuse; petiole generally shorter than the blade. Inflorescences usually paired; male inflorescence a paniculate cyme about 4 in. long with the ultimate forks densely clothed in numerous small flowers; female inflorescence globose, yellow, about ¾ in. diam., shortly pedunculate. Compound fruit cone-like (somewhat resembling a soursop), bright yellow when ripe, hard, rough, spherical, 1½-3 in. diam.; seeds surrounded by a slightly acid edible pulp. Wood yellow-white, soft, fibrous, difficult to work, perishable. Mengo; Entebbe; Masaka; Ankole; Kigezi; Toro; Mubende; Bunyoro. Chiefly in secondary scrub and on the edge of forests, especially in damp sites.

The trees in Toro, Kigezi and Ankole are usually more slender in habit and have smaller leaves and fruits than those in Buganda and Bunyoro. They may possibly represent a different species.

(8) TRECULIA

TRECULIA AFRICANA Decne. Eggeling 333,3520.

Muzinda (Luganda): AFRICAN BREADFRUIT.

MORACEAE (167)

Forest tree to 80 ft. Bole cylindrical, fluted at the base. Bark smooth, pale grey. Slash exuding copious white latex. Branchlets grey-purple, pitted. Leaf-buds long, sharp-pointed. Leaves simple, alternate, glabrous, shiny above, elliptic to ovate-elliptic, usually 8-10 in. long and 3-5 in. broad (sometimes as much as 18 in. long and 8 in. broad), apex shortly and obtusely pointed, base unequal-rounded; petiole very short. Flowers dioecious, male heads globular, the size of a tennis ball, brownish-yellow, very shortly pedunculate. Fruits spherical, up to 18 in. diam. and 35 lbs. in weight, subsessile on the trunk and main limbs, covered with coarse spine-like tubercles; seeds very numerous (sometimes over 1500 in a single fruit), smooth, ellipsoid, resembling large orange-pipe, buried in spongy pulp. Sapwood yellow-white; heartwood yellow to yellow-brown, dense, flexible, somewhat heavy. The timber has been marketed on the West Coast as African Boxwood and is said to be suited for furniture, carving, turnery and inlay work.

Mengo; Masaka; Bunyoro.

Rather a rare species in Uganda, usually found near streams or in swampy forest. The seeds are edible and are said to be very good cooked, ground to a meal and used in soups. They may also be eaten peeled as a dessert nut, either boiled or roasted; or they may be fried in oil.

(9) TRYMATOCOCCUS

TRYMATOCOCCUS KAMERUNIANUS Engl. Eggeling 3827.

Understorey tree or shrub to 20 ft. Leaves glabrous, shiny above, dentate in the upper half, variable in size and shape, usually 3-4 in. long and 1-2 in. broad, subtruncate with a caudate-acuminate tip, cuneate at the base; stipules semi-persistent. Flower-heads shortly pedunculate, axillary, 1-4 together, densely clothed with short white hooked hairs. Fruiting receptacle obovoid, bluntly lobed, $\frac{1}{3}$-$\frac{1}{2}$ in. diam.

Mengo; Bunyoro. Rare.

MYRICACEAE

MYRICA

Flowers monoecious, male and female on the same inflorescence; leaves attenuate to the base ..... M. kandtiana

Flowers dioecious; leaves rounded or subacute at the base ..... M. salicifolia

MYRICA KANDTIANA Engl. Eggeling 207.

Nkokimbo (Luganda).

Bushy shrub or tree to 15 ft. usually found in swamps, generally amongst papyrus. Branchlets purple-brown, lenticellate, slightly pubescent when young. Leaves dark and glossy above, pale beneath, densely glandular when young, subsessile or shortly petiolate, coarsely serrate in the upper half, oblanceolate to obovate-lanceolate, 2-3½ in. long, ¾-1¼ in. broad, apex subacute and usually mucronate; petiole up to ⅛ in. long. Flowers greenish-yellow. Spikes axillary, solitary or a few together, a little shorter than the nearest leaves; the lower third of the spike consists of male flowers, the upper two-thirds of female flowers. Fruit densely warted, ellipsoid, ⅛ in. diam., purple-black, often with a white waxy covering.

Mengo; Entebbe; Kigezi; Toro. 3,500-8,000 ft.

MYRICA SALICIFOLIA Hochst. ex A.Rich. Eggeling 968, 1043, 2719.

Synonyms. M. kilimandscharica Engl.; Macaranga dawei Prain

Shrub or tree attaining 50 ft., never found in swamps. Branchlets grey-brown, puberulous-glandular when young, glabrous when mature. Bark rough, dark blackish-brown. Leaves undulate or dentate-serrate in the upper half or two-thirds, oblong to elliptic-lanceolate, usually 1½-5 in. long and ¾-1¾ in. broad, glandular with small golden glands on both surfaces but especially below, apex obtuse and often mucronate; petiole ¼-½ in. long. Flowers yellow, fragrant, dotted with oil glands. Male spikes axillary, crowded, very densely flowered, up to 1 in. long; rhachis yellow-tomentose. Fruiting spike up to 1½ in. long. Fruit warted, ellipsoid-globose, about ⅛ in. diam., purplish, often with a white waxy covering.

Kigezi; Karamoja (Mt. Debasien); Bugishu (Mt. Elgon). A tree of mountain forest, 8-10,000 ft.

I include here Eggeling 2719 originally determined as M. sp. ? mildbraedii Engl.

MYRISTICACEAE

PYCNANTHUS

PYCNANTHUS KOMBO Warb. Eggeling 93.

Synonym. P.schweinfurthii Warb.

Lunaba (Luganda): FALSE or AFRICAN NUTMEG.

Forest tree to 90 ft. with straight slender cylindrical bole rarely over 8 ft. in girth. Crown small, composed of whorls of short branches borne at right angles to the stem and usually drooping at the tips. Bark grey or reddish-grey, regularly but shallowly fissured. Slash granular, reddish, exuding a honey-coloured juice which soon darkens to blood red. Buttresses small or absent. All the young parts are covered with an orange-brown velvety tomentum of branched hairs. Leaves oblong, usually 5-8 in. long and 1½-2¼ in. broad (sometimes as much as 12 in. long and 4 in. broad), almost invariably riddled with insect-holes, apex abruptly acuminate, base cordate; lateral nerves 20-30 on each side of the midrib, looped near the margin; petiole up to ½ in. long. Male panicles 2-6 in. long, axillary or from the axils of fallen leaves; ~~[illegible]~~ flowers small, brownish-orange, borne in clusters on the short secondary branches of the panicle. Fruits densely clustered, ovoid, 1-1¾ in. long, ¾-1¼ in. diam., ~~borne in close clusters~~, dehiscing longitudinally, containing a single nut; kernel longitudinally ribbed, brown outside, white in cross section with a few brown lines, enclosed in a fleshy pink aril (mace). Both the seed and the aril are aromatic but less so than those of the true nutmeg. Sapwood and heartwood scarcely differentiated, grey-white to yellow-white, darkening to brown, soft, non-durable, quickly attacked by borer and fungus. Weight about 34 lb. per cu. ft. air dry.

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

Chiefly in secondary forest and on the forest edge.

The seeds will burn like a candle when threaded and an oil extracted from them is used in West Africa as an illuminant and for making soap. It has been suggested that the wood might prove suitable for paper pulp.

Fig.45. Maesa lanceolata Forsk. Fruiting branch. Natural size.

MYRSINACEAE

1. Calyx adnate to the ovary ---------- (2) Maesa
   Calyx free from the ovary ---------- 2.

2. Flowers racemose; petals free ---------- (1) Embelia
   Flowers fasciculate; petals united at the base into a short tube ---------- (3) Rapanea

(1) EMBELIA

Leaves, branchlets and calyx pubescent or tomentose ---------- E. nilotica
Leaves, branchlets and calyx glabrous ------- E. schimperi

EMBELIA NILOTICA Oliv. Speke & Grant s.n.

Erect tree 30 in. in girth. Branches densely ferruginous-tomentose. Leaves obovate, 3-4 in. long, 2-3 in. broad, apex obtuse but with a small cusp, base cuneate; midrib red; petiole $\frac{1}{4}$-$\frac{1}{3}$ in. long. Racemes less than 1 in. long, simple, one from the axil of each leaf; peduncle and rhachis densely ferruginous-tomentose. Flowers white; lower pedicels the same length as the flowers, spreading or deflexed. Gulu.

The sole Uganda record of this species is the type specimen, collected by Col. Grant. I have not seen the plant.

EMBELIA SCHIMPERI Vatke Eggeling 1355.

Tree about 20 ft. high. Leaves oblong-oblanceolate to obovate, 2-5 in. long, $\frac{3}{4}$-2 in. broad, apex obtuse or rounded, base cuneate or obtuse; midrib red; petiole $\frac{1}{4}$-$\frac{1}{2}$ in. long. Racemes simple, one from the axil of each leaf or from the axils of fallen leaves on the shoots of the previous year. Flowers cream-coloured, the petals dotted with black; pedicels spreading or deflexed, up to $\frac{1}{3}$ in. long; stamens longer than the petals.

Sesse (3,900 ft.); Toro (Ruwenzori; 8,700 ft.).

(2) MAESA

MAESA LANCEOLATA Forsk. (Fig. 45). Eggeling 25, 128, 1901.

Synonym. M. rufescens A.DC.

Kiwondowondo (Luganda); Omuhanga (Lunyoro, Ankole dialect).

MYRSINACEAE (223)

Shrub or tree to 30 ft. Bark red-brown. Leaves crenate or serrate, ovate-elliptic to lanceolate-elliptic, 3-6 in. long, 1½-2½ in. broad, apex acute, base rounded or cuneate; petiole ¾-1½ in. long. A dark brown resin exudes from the veins when the leaves are broken across. Flowers numerous, yellow-white, in shortly pedunculate axillary panicles, ½-¾ as long as the leaves; petals united at the base into a short tube; stamens much shorter than the corolla. Fruits yellow, globose, up to 1/6 in. diam., in pendant bunches. Mengo; Entebbe; Sesse; Masaka; Ankole; Kigezi; Toro; Mubende; Bunyoro; West Nile; Chua; Bugishu; Busoga. Very common in the Victoria Region, chiefly in secondary scrub and on the edge of forest.

In the typical plant the leaves and branchlets are usually glabrous; in the var. rufescens (A.DC.) Bak. they are pubescent or pilose with reddish hairs. It is very questionable if the variety is worth retaining.

(3) RAPANEA

Leaves with numerous translucent streaks ---------- R. neurophylla

Leaves never with translucent streaks though sometimes gland-dotted near the margin ---------- R. pulchra

RAPANEA NEUROPHYLLA (Gilg) Mez (Photo. 33). Eggeling 1320, 3603.

Synonyms. Myrsine melanophloeos Bak.; M. neurophylla Gilg.

Shrub or tree to 40 ft. Branchlets purple-red, glabrous. Leaves glabrous, rhododendron-like, clustered at the ends of the branches, obovate-oblanceolate, 3-9 in. long, 1¼-3 in. broad, apex obtuse or acute, base gradually acuminate; midrib red. Flowers very small, in clusters of 4-6 in the axils of or below the leaves; corolla-lobes with black longitudinal markings; pedicels about 1/5 in. long. Fruit globose, purple, up to 1/5 in. diam. Wood decorative, having a florid beech-like grain, brittle, perishable, subject to attack by borer.

Toro; Chua. In mountain forest; 8,500 - 12,500 ft.

I include here Dawe 548 and Fishlock & Hancock 58 both originally determined as Myrsine rhododendroides Gilg (Rapanea rhododendroides (Gilg) Mez).

MYRSINACEAE (223)

RAPANEA PULCHRA Gilg & Schellenb. Eggeling 1064, 2453.

Tree to 50 ft. Trunk straight, slender. Bark grey-white, finely fissured. Branchlets dark brown to purplish. Leaves glabrous, subsessile or shortly petiolate, crowded towards the ends of the branchlets, oblong-lanceolate to oblanceolate, 2½-6 in. long, ¾-1½ in. broad, apex obtuse to subacuminate, base long-cuneate; midrib reddish; petiole up to ½ in. long. Flowers 1-12 together on a sort of cushion in the axil of or below the leaves; petals yellow-white, generally puberulous and ciliolate; pedicels up to ⅓ in. long. Fruit purple-black, about ¼ in. diam.

Kigezi (Virunga Volcanoes; 10,000 ft.); Bugishu (Elgon; 8-11,000 ft). A characteristic tree of the Mt. Elgon forests, usually associated with Podocarpus.

I include here Liebenberg 1655 originally determined as Myrsine simensis Hochst. (Rapanea simensis (Hochst.) Mez).

MYRTACEAE

Flowers solitary or fasciculate in the axils of the leaves; sepals distinct; petals falling off separately.....(1) Eugenia

Flowers in terminal cymes; calyx more or less truncate; petals more or less calyptrate, and falling off together .....(2) Syzygium

(1) EUGENIA

EUGENIA BUKOBENSIS Engl. Eggeling 117, 712.

Shrub or tree to 15 ft. Leaves opposite or sub-opposite, elliptic to ovate-elliptic or obovate-elliptic, 1½-3 in. long, ¾-1¾ in. broad, apex shortly and obtusely acuminate, base rounded to shortly cuneate; petiole very short. Flowers white flushed with pink, in axillary clusters of 2-4 together; fruiting pedicels up to ¼ in. long; calyx sessile on the ovary. Fruit ellipsoid, carrying the enlarged persistent calyx.

Mengo; Entebbe; Sesse; Masaka; Ankole. On the edge of forest.

We include here Liebenberg 1518 originally determined as E.salicifolia Laws. (E.salacioides Laws. ex Hutch. & Dalz.); Dawe 375 originally determined as E.sp.cf.E.calophylloides DC.; Dawe 297 originally determined as E.sp.nr.E.nyassensis Engl.; and Eggeling 713 originally determined as E.sp. nov.

A specimen with a long calyx-tube collected by Maitland (Mait. 780 ?) on the Sesse Islands is certainly not E.bukobensis but the material is insufficient to enable us to give it a name. The plant may be a shrub.

(2) SYZYGIUM

Young branches acutely quadrangular, almost winged; leaves sessile or subsessile, rounded at the apex, cordate at the base .....S. cordatum

Young branches cylindrical or obscurely angled; leaves petiolate, acuminate at the apex, cuneate at the base .....S. guineense

SYZYGIUM CORDATUM Hochst. ex Sond. Eggeling 77(a),77(b),229,2483.

Synonym. Eugenia cordata Laws.

Kalunginsanvu (Luganda).

Fig.46. Syzygium guineense (Willd.) DC. a. Branchlet showing leaves and flower-buds. b. Flowers c. Flowers from which stamens have dropped. d. Fruits. All natural size.

Compact shrub or tree, ~~often with ringed branches~~, usually growing in swamps or near water. Branchlets densely leafy. Leaves glabrous, coriaceous, shining, often clasping the stem at the base, broadly elliptic, 1-3 in. long, ¾-1½ in. broad. Flowers white, in short dense terminal cymes or erect sparingly-branched panicles 1-3 in. long. Fruit reddish-purple, ovoid. The timber weighs 38 lb. per cu.ft. air dry.

Mengo; Entebbe; Sesse; Masaka; Ankole; Kigezi; Chua; Bugishu. A common species in the Victoria Region, especially in Buddu and on the Sesse Islands, where it seldom exceeds 25 ft. in height. In swampy ground in Kigezi, on the Imatong Mts. in Chua and on Mt.Elgon the tree attains 50 ft. at an altitude of 6,500-7,500 ft.

SYZYGIUM GUINEENSE (Willd.) DC. (Fig.46). Eggeling 324,629,883,1656, 3217.

Synonyms. S.owariense Benth.; Eugenia guineensis Willd; E.owariensis P.Beauv.

Kano (Acholi); Kalunginsanvu (Luganda); Eramori (Luteso).

Tree usually 20-35 ft. high, sometimes attaining 60 ft. Bark dark brown to almost black, fairly smooth, scaling in rectangular flakes. Slash crimson, fibrous. Branchlets sometimes drooping. Leaves opposite, tough, smooth, waxy grey-green, fragrant when crushed, lanceolate to ovate-elliptic, 3-7 in. long, 1½-2½ in. broad, apex shortly acuminate, base cuneate (occasionally rounded); petiole ¼-1½ in. long. Flowers white, sweet-smelling, sessile or sub-sessile, borne in terminal panicles in such great profusion that the tree becomes a mass of bloom and a focus for innumerable insects; calyx 4-toothed, persistent; petals 4; stamens numerous, ¼ in. long. Fruits ovoid, ½-1 in. long, 2-3-celled, in bunches of 20-30, edible, purple-black and juicy when ripe, much appreciated by birds. Wood pale red turning darker on seasoning, hard, strong, easy to work, very durable.

Mengo; Entebbe; Masaka; Sesse; Ankole; Kigezi; West Nile; Madi; Gulu; Chua; Teso; Bugishu; Busoga. Usually riparian or in swampy forest, but sometimes found in dry savannahs far removed from water.

We include here Snowden 829 originally determined as S.intermedium Engl. & von Brehm.

Fig.47. Lophira alata Banks a. Fertile branch snowing flower-bud, flowers and two young leaves. b. Flower, vertical section. c. Fruit. All natural size.

OCHNACEAE

Sepals unequally enlarged and wing-like in fruit, the latter nut-like; stamens numerous, dehiscing longitudinally ..... (1) Lophira

Sepals not or only slightly enlarged in fruit, the latter drupaceous and deeply lobed on an enlarged torus; stamens numerous, dehiscing longitudinally or by pore-like slits ..... (2) Ochna

(1) LOPHIRA

LOPHIRA ALATA Banks (Fig. 47). Eggeling 859.

Liku (Madi); Oteng (Acholi): MENI OIL TREE.

Savannah tree usually 30-40 ft. high but sometimes attaining 50 ft. The branches ascend steeply to form a long narrow crown. Bark ashy-grey to black, thick, corky, deeply fissured, scaling slightly at the base. Slash red with a yellow edge. Leaves clustered near the ends of the branches, reddish when young, strap-shaped with wavy margins (resembling the fronds of the hart's-tongue fern), 6-24 in. long, 1½-4 in. broad (usually about 12 in. long and 2½ in. broad), apex retuse or obtuse, base gradually or abruptly narrowed. Flowers fragrant, 1-1½ in. diam., borne in lax terminal panicles 6-10 in. long and broad; sepals 5, free, unequal (usually 3 broadly ovate and obtuse, 2 narrow and acute); petals 5, white; stamens numerous, yellow. unequal, After pollination of the flower 2 of the sepals enlarge unequally into wings, the larger one eventually attaining 3-4 in. in length, the smaller attaining 2-2½ in. Fruit bottle-shaped, bifid at the apex, 1-1½ in. long. Sapwood sharply defined, pink; heartwood dull red to chocolate-brown, ornamental, extremely hard and heavy (known as Red Ironwood in parts of West Africa), rather coarse and uneven in texture, too tough to carpenter satisfactorily, too heavy for furniture, very impervious both to insects and marine borers. Weight 56-71 lb. per cu.ft. air dry.

West Nile; Madi; Gulu; Chua. Always associated with the Shea Butter tree (Butyrospermum) with which it is liable to be confused at a distance but from which it is easily distinguished at close quarters by the smooth shining strap-shaped delicately veined leaves, by the fissured bark, and by the absence of latex.

Because of its great durability (it is said to be the most durable timber in West Africa), the timber could be used locally for bridge-work, mine timbers, etc., but unfortunately the supplies available are scanty. In strength the timber is about equal to the best Burma teak but is rather more than twice as hard. It has double the strength of teak in shear, and almost thrice its strength in tension perpendicular to the grain.

The seeds contain an oil which analysis has suggested as suitable for soap-making but they are apparently not used for any purpose by the natives of Uganda.

Owing to the great beauty of the flowers the tree is worth cultivating for decorative purposes in the drier parts of the Protectorate. The wood is used by the Acholi for making stools and chairs.

(2) OCHNA *

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* In addition to the four species described we have records of the following shrubs -:

Ochna monantha Gilg, Eggeling 1222, 1608.

Ochna ovata F.Hoffm., Eggeling 2965.

Ochna sp.nov.(2), Eggeling 2265.

It is improbable that the third of these ever becomes anything more than a bush but the other three may possibly sometimes become small trees. Partly because of absence of definite information on this point and partly owing to the inadequacy of the material at our disposal we have neither described them nor included them in the keys.

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1. Racemes compound, not terminating short lateral branchlets ..... O. tenuissima

   Racemes simple, terminating short lateral branchlets ..... 2.

2. Pedicels less than 1 in. long; flowers white.. O.sp.(2)

   Pedicels 1-2 in. long; flowers yellow ..... 3.

3. Leaves coriaceous; midrib straw-coloured, very prominent ..... O.sp.(1)

   Leaves membranous; midrib not especially prominent ..... 4.

4. Pedicels articulated very near the base ..... O.mossambicensis

Pedicels articulated considerably above the base ..... O.sp. nov. (1).

OCHNA MOSSAMBICENSIS Klotzsch Eggeling 3539.

Tree to 60 ft., in mountain forest. Branchlets pendulous. Leaves apple-green, oblanceolate, 2¼-4½ in. long, ¾-1½ in. long. Flowers probably yellow (our specimen is in fruit), in racemes ¾-1 in. long on the older wood; fruiting sepals red, ½ in. long, ¼ in. broad; fruiting pedicels 1-1½ in. long, articulated about 3/16 in. from the base, leaving slender pegs on the axis after falling; fruiting carpels black.

Chua (Imatong Mts.; 7,500 ft.).

OCHNA TENUISSIMA Stapf Maitland 454.

Small forest tree. Leaves (in the single specimen seen) oblong-oblanceolate, 3½-4½ in. long, 1-1¾ in. broad. Racemes terminal and lateral, up to 4 in. long; fruiting calyx red, with 5 broadly rounded lobes, ¼ in. long; fruiting pedicels ¼-⅓ in. long.

Mengo; Toro.

There are several records of this species from Uganda but we have only seen Maitland's fruiting specimen, which was originally identified as O.sp. near O.holstii Engl.

According to Kew, Dawe 478 belongs here; it was originally determined as O.sp. near O.afzellii R.Br. var. warneckei Engl.

OCHNA SP. NOV. (1). Eggeling 137(a), 137(b).

Forest tree to 40 ft. Leaves oblanceolate, 2½-5 in. long, 1-1½ in. broad. Flowers probably yellow (our specimens are in fruit), crowded in numerous very short corymbose racemes on short branchlets on the older wood. Fruiting calyx red; fruit-sepals about ⅜ in. long and 3/16 in. broad; fruiting pedicels slender, ¾-1 in. long. Ovary deeply lobed, lobes 1-celled, cells 1-ovuled; fruiting carpels black, drupaceous, separate on the enlarged torus.

Mengo; Entebbe; Bugishu (4,500 ft.).

OCHNA SP. (1). Eggeling 1504, 1956.

Tree 15-20 ft. high. Bark thick, corrugated, grey-brown. Branchlets pale. Leaves tough, leathery, obovate, 3-7 in. long, 1-2 in. broad, apex rounded to very obtusely acuminate, base long-cuneate; lateral nerves more prominent above than below. Flowers numerous, precocious, borne in corymbose racemes $\frac{1}{4}$-$\frac{1}{2}$ in. long; petals yellow, soon falling; sepals persistent, yellow-green at first, becoming straw-colour with a pink tinge, probably eventually turning red; pedicels slender, $1\frac{1}{4}$-$1\frac{3}{4}$ in. long, articulated at the base. Fruiting carpels black, $\frac{1}{3}$ in. long and broad.

West Nile (Uleppi, on rocky hillsides; Paida, among Oxytenanthera bamboo at 4,800 ft.).

OCHNA SP. (2). Eggeling 1962, 1963.

Tree to 25 ft. Bark smooth, grey-brown. Branchlets dark brown with numerous small grey lenticels. Leaves only seen in the young state, membranous, elliptic-oblanceolate, probably usually $2\frac{1}{2}$-$4\frac{1}{2}$ in. long and $\frac{3}{4}$-1 in. broad. Racemes very short; flowers precocious; pedicels articulated at the base. Fruit not seen.

West Nile (Uleppi, on rocky hillsides).

Fig. 48. Ximenia americana Linn. a. Flowering branch, natural size. b. Flower x 3. c. Fruit, natural size.

OLACACEAE

Flowers fasciculate; sepals and petals 5; ovary and fruit inferior; branchlets unarmed..... (1) Strombosia

Flowers subumbellate; sepals and petals 4; ovary and fruit superior; branchlets spiny ..... (2) Ximenia

(1) STROMBOSIA

STROMBOSIA GRANDIFOLIA Hook.f. Eggeling 3096,3174.

A second Strombosia (S.toroensis S.Moore) has been recorded from Uganda, the type number being Bagshawe 1098 from the Kibale Forest, Toro. Our material of this plant does not differ appreciably from our specimens named as S.grandifolia Hook.f. and it is almost certain that only one species is involved.

Synonym. S.scheffleri Engl.

Munyankono (Lunyankole).

Forest tree to 90 ft. Bark yellow-green, flaking to leave paler patches as on the London Plane. Branchlets pendant. Leaves broadly elliptic, 4-8 in. long, 2-3½ in. broad, apex acuminate, base rounded to broadly cuneate; lateral nerves 5-7 pairs; petiole ½-¾ in. long. Flowers small, yellow-white, clustered on sessile cushions; pedicels short. Fruit long-stipitate, subglobose, ¾-1 in. diam., with a circular hollow or flattening on top in which stands the withered style. Wood yellow-white, hard, durable, close-grained, resembling boxwood, taking a very smooth finish and a high polish. Weight about 50 lb. per cu.ft. air dry.

Sesse; Ankole; Toro; Bunyoro.

Common in the Ankole and Toro forests, uncommon in Bunyoro.

(2) XIMENIA.

XIMENIA AMERICANA Linn. (Fig. 48). Eggeling 379,750,1702,1739,1809.

Alelemo (Acholi); Olima (Lango); Elamoi (Luteso): WILD PLUM.

Scrubby deciduous savannah bush or tree to 20 ft. Bark dark brown to black with small rectangular scales. Slash crimson, fibrous. Spines straight, sharp, slender, ¼-½ in. long. Leaves tending to

fold up along the midrib, narrowly elliptic, 1½-3 in. long, ¾-1½ in. broad, apex emarginate or obtuse; petiole short. Flowers white, fragrant, about ½ in. diam. in umbellate racemes; petals densely bearded inside; style sharp, persisting as a pointed tip to the fruit. Fruit yellow, thin-skinned, plum-like, edible, about 1 in. diam., containing a single large stone. Wood yellow to yellow-red, hard, heavy, fine grained, scented, resembling boxwood.

Sesse; Mengo; West Nile; Madi; Gulu; Chua; Lango; Teso; Karamoja; Bugishu.

The ripe fruit is very refreshing, having a sweet acid taste. Stewing is not a success as the flesh does not separate from the stone.

OLEACEAE

1. Petals free or nearly so ..... (1) Linociera

   Petals united into a short or long tube.. 2.

2. Corolla-lobes induplicate-valvate;fruit drupaceous ..... (2) Olea

   Corolla-lobes imbricate; fruit a 2-valved, woody capsule ..... (3) Schrebera

(1) LINOCIERA

Lateral nerves hairy in the axils below;bracts, sepals and branches of inflorescence glabrous or very sparingly hairy..... L.johnsonii

Lateral nerves with a conspicuous gaping almost glabrous pit in the axils below; bracts, sepals and branches of inflorescence appressed tomentose ..... L.nilotica

LINOCIERA JOHNSONII Baker Eggeling 3387,3823.

Synonym. L.angolensis Baker

Forest shrub or tree to 40 ft. Branchlets pale. Leaves broadly elliptic to narrowly oblong, usually 5-9 in. long and 1½-3 in. broad, apex bluntly acuminate, base cuneate; petiole swollen, up to 2/3 in. long. Flowers creamy white, fragrant, in axillary panicles up to 2½ in. long; petals about ¼ in. long. Fruit rosy purple, ellipsoid-globose, ½-¾ in. long, up to ½ in. diam.

Entebbe; Masaka; Toro; Bunyoro.

I include here Dawe 968 originally determined as L.sp. cf. L. congesta Baker.

LINOCIERA NILOTICA Oliv. Eggeling 887,1652,1675,1805.

Shrub or tree to 60 ft. Bark grey-black. Leaves dark above, paler below, oblong, 4-5½ in. long, 1-1¾ in. broad, apex gradually and broadly acuminate, base cuneate. Flowers creamy white, fragrant, in short axillary panicles up to 1½ in. long, frequently from leafless nodes; petals up to 1/5 in. long. Fruit ellipsoid, 4/5 in. long, ½ in. broad. Wood pale brown, exceptionally even-grained and tough.

West Nile; Madi; Gulu; Chua. In scrub on the banks of streams in savannah.

(2) OLEA

1. Lower surface of leaf scaly with silvery-white or golden glandular scales; inflorescences all lateral ..... O.chrysophylla

   Lower surface of leaf not scaly; inflorescences terminal and lateral ..... 2.

2. Petiole ½-¾ in. long; filaments as long as the anthers..... O.hochstetteri

   Petiole ¾-1¼ in. long; filaments much shorter than the anthers ..... O.welwitschii

OLEA CHRYSOPHYLLA Lam. Eggeling 2762.

BROWN or WILD OLIVE.

Much-branched spreading tree usually 20-30 ft. high but sometimes attaining 50 ft. Bole fluted. Bark rough, dark-brown. Slash white. Leaves opposite, elliptic-lanceolate, 1½-3¼ in. long, ½-¾ in. broad, gradually narrowed at both ends, apex frequently mucronate; petiole ¼-⅓ in. long. Flowers small, white, numerous, in scale-covered axillary panicles 1-2¼ in. long; corolla-tube much shorter than the lobes; filaments much shorter than the anthers; style short but distinct. Drupe subglobose, ¼-⅓ in. long, purple when ripe, edible and sweet. Wood golden brown with dark figuring, very hard, strong, very durable, difficult to work but planing and polishing to a beautiful finish, recommended for fancy furniture, cabinet work, turnery and panelling; weight 65-70 lbs. per cu.ft. air dry.

Ankole; Karamoja; Elgon.

The tree yields a superlative firewood, very large quantities of which have been used in Kenya for railway fuel. The calorific value of the fuel is said to be about half that of Welsh coal.

Round poles are extremely durable in the ground and are especially suitable for hut-building.

OLEACEAE (229)

OLEA HOCHSTETTERI Baker. Eggeling 623, 1358.

EAST AFRICAN OLIVE (Trade name).

Tree 20-30 ft. high. Crown dense, composed of steeply ascending branches. Bark smooth, grey-white. Leaves opposite, olive-green above, paler below, elliptic to elliptic-lanceolate, 3-4 in. long., 1-1¾ in. broad, apex acuminate, base cuneate. Panicles 2-4 in. long; flowers small, white; corolla-tube much shorter than the lobes; stigma sessile or subsessile. Drupe ellipsoid, about ¾ in. long. Heartwood pale brown with irregular grey-brown markings which give it a very handsome appearance, slightly oily, not particularly lustrous; sapwood whitish-brown, lacking the characteristic figure of the heart. The wood is even and very fine in texture, and has a slightly interlocked grain; it is very strong in bending and compression, and is highly resilient and resistant to shock. The main disadvantage of the timber is a tendency to split and it thus requires special care in nailing, especially when seasoned. It converts without difficulty when green but becomes very hard after seasoning, saws and planes well, finishes to a very smooth surface, polishes easily and well, turns excellently and requires little sanding. Care is needed in seasoning, both in the air and in the kiln. The wood is perishable in the ground. Weight about 56 lbs. per cu.ft. air dry.

Ankole; Toro.

In Uganda this is a small tree but in Kenya, where it is known as Musharagi, it attains a height of 60 ft. with a girth of 6 ft. Owing to its hardness and decorative character, the wood is very suitable for high-class parquet flooring and it machines well for this purpose both on the surface and in the joints. Material in flooring sizes attains air dry condition in Nairobi in 4-5 months. The wood is used for floor-boards and footboards in carriages, panelling, carbodies, spokes in carts, bolsters, platform barrows and tool handles. It is a first class turning wood and for small fancy articles should prove a satisfactory substitute for European Olive (Olea europaea

L.), whilst its handsome appearance fully justifies an extended trial for panelling and cabinet work.

Musharagi timber is unfortunately almost unknown in Uganda, where the tree is rare.

OLEA WELWITSCHII (Knobl.) Gilg & Schellenb. Eggeling 1420.

Synonyms. Mayepea welwitschii Knobl.; Steganthus welwitschii Knobl.; Linociera welwitschii (Knobl.) Baker

ELGON OLIVE.

Forest tree to 90 ft. Crown small. Bole straight, cylindrical or slightly tapered. Bark pale grey to nearly white, vertically channelled, very similar to that of young Maesopsis. Leaves opposite, lanceolate-oblong, 3-6 in. long, 1½-2 in. broad, long-acuminate at the apex, cuneate at the base. Flowers white, borne in great profusion in panicles 1½-3½ in. long; corolla-tube half as long as the lobes. Drupe ellipsoid, more than ⅓ in. long (ripe fruits not seen). Sapwood yellow-white; heartwood yellow-brown to pale red-brown with darker streaks, fairly heavy, hard, very strong, extremely durable, resistant to termites, not easy to saw and plane owing to its hardness and a liability to "pick up", capable of giving a very fine finish. It takes nails fairly well when green but resists them when dry, polishes well without filling and stains successfully; weight about 50 lbs. cu. ft. air dry.

Mengo; Masaka; Ankole; Bunyoro. Usually on the edge of forest.

The timber is recommended for bridge-beams and decking, sleepers, flooring blocks, heavy furniture, etc.

Round poles are extremely durable in the ground and are suitable for supports in constructional work.

(3) SCHREBERA

Leaves pinnately compound ..... S.alata

Leaves simple ..... S.macrantha

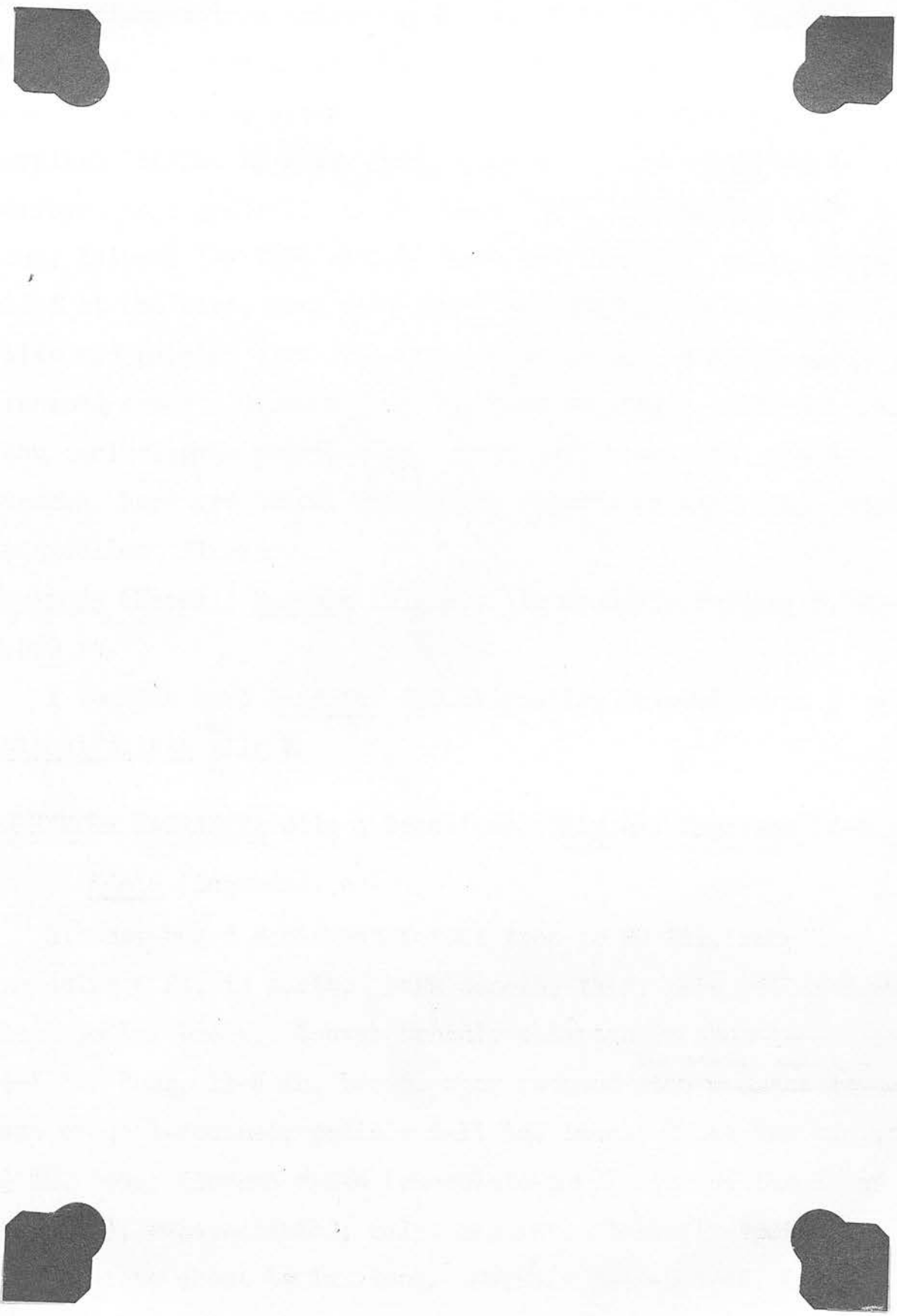


Fig.49. Schrebera macrantha Gilg & Schellenb. a. Fruiting branch. b. Portion of inflorescence. c. Fruit-valve. d. Seed. All natural size.

OLEACEAE (229)

SCHREBERA ALATA (Hochst.) Welw. Eggeling 2486.

Deciduous tree attaining 90 ft. Bole fluted. Bark smooth, dark grey. Leaves imparipinnate; petiole narrowly winged at the base. Leaflets 5, ovate-elliptic to oblanceolate-oblong; terminal leaflet 2½-5 in. long, 1-1¾ in. broad, acute at the apex, narrowed very gradually to the base, with a petiolule about ¼ in. long; lateral leaflets smaller than the terminal, often unequal-sided at the base, with very short petiolules. Flowers small, white and purple, very fragrant, borne in lax terminal much-branched cymes. Capsule obovoid, 1-1⅓ in. long; seeds ¾-1 in. long including the papery wing. Wood pale brown with violet streaks, hard and heavy, reasonably durable in the round, making an excellent firewood.

Karamoja (Napak); Bugishu (Elgon). In mountain forest; 6,500-7,500 ft.

I include here Sangster 420 originally determined as S. sp. ? S. obliquifoliata Gilg ex Engl.

SCHREBERA MACRANTHA Gilg & Schellenb. (Fig. 49). Eggeling 1245, 1606, 3464.

Ndela (Luganda).

Slender-boled deciduous forest tree to 90 ft., rarely exceeding 8 ft. in girth. Bark smooth, thin, pale yellow-brown. Slash yellow-brown. Leaves broadly elliptic to obovate-elliptic, 2½-5 in. long, 1½-3 in. broad, apex rounded and shortly acuminate, base unequal-rounded; petiole ¾-1¼ in. long. Cymes lax, about 2½ in. long; flowers white (chocolate-purple in the throat of the tube), sweet-scented; calyx cupular, shallowly toothed; corolla-tube about ½ in. long. Capsule pear-shaped, 2-2½ in. long, dark purple-brown with scattered pale brown lenticels. Wood pale red-brown, fine-grained, similar to wild plum, of about the same hardness as hornbeam and sawing much the same as the latter wood but planing more easily; it works fairly well to give a bone-like surface. There is a slight figure, as in birch, but the wood has little decorative value. It is non-fissile, does not nail without being bored, turns fairly well and takes a

good polish; weight about 53 lbs. per cu. ft. air dry.

Mengo; Masaka; Bunyoro; Madi (Zoka Forest).

The wood is very suitable for tool-handles.

OLINIACEAE

OLINIA

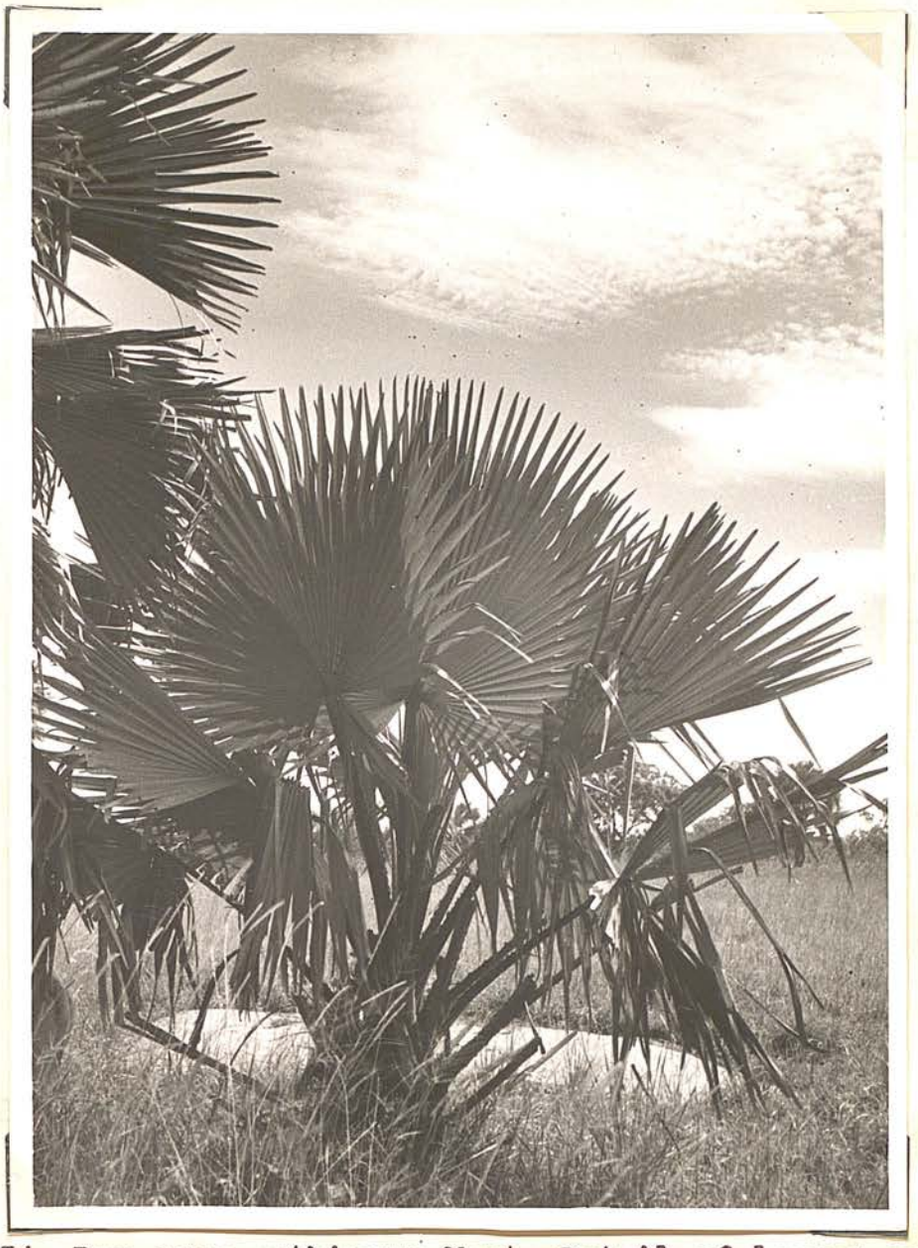
OLINIA USAMBARENSIS Gilg — Eggeling 2484, 2873.

Synonym. O.macrophylla Gilg

Usually a small tree or shrub, occasionally a tall tree to 90 ft. Branchlets quadrangular. Leaves opposite, reddish when young, elliptic-oblong to oblanceolate, 2-3 in. long, ¾-1½ in. broad, apex obtuse or rounded (often emarginate), base long-cuneate; petiole grooved above, up to ⅓ in. long. Infloresence globose or pyramidal, 1½-2 in. diam., composed of very many shortly pedicellate or subsessile pinkish-white flowers, each about ⅓ in. long. Drupe pink. Wood heavy, pale brown, often with the "fiddleback" grain of English sycamore, liable to warp in drying unless carefully stacked. Weight about 50 lb. per cu.ft. air dry.

Toro (Ruwenzori); Karamoja (Mt.Moroto); Bugishu (Elgon). Usually on the edge of mountain forest, 5,500-9,500 ft.

The numerous strongly scented bunches of whitish flowers (fading through pink to brown, make a tree in full bloom an exceptionally decorative sight.



Phot.34. Borassus aethiopum Mart. Detail of leaves on young plant.

Phot.35. Borassus aethiopum Mart. Habit photo.

PALMAE

1. Leaves palmately divided ---------- (1) Borassus

   Leaves pinnately divided ---------- 2.

2. Leaf-segments induplicate in bud (v-shaped in cross section) ---------- (3) Phoenix

   Leaf-segments reduplicate in bud (∧-shaped in cross section) ---------- 3.

3. Pericarp of fruit composed of imbricate reflexed scales ---------- (4) Raphia

   Pericarp of fruit not composed of scales ------ (2) Elaeis

(1) BORASSUS

BORASSUS AETHIOPUM Mart. (Photos.34 and 35). Eggeling 1968.

Synonym. Borassus flabellifer Linn.var aethiopum Warb.

Ntunku, Ntungo (Luganda); Itu (Madi); Tugu (Gang); Nyadokanet (Karamojong) : BORASSUS PALM; DELEB PALM; AFRICAN FAN PALM; PALMYRA PALM.

The tallest of the Uganda palms, attaining 80 ft. Bole straight, spindle-shaped (the thickest portion above the middle). Old stems are smooth, young stems are clothed in the persistent clasping leaf-bases. Leaf-scars very prominent when fresh, gradually fading. Bark grey. ~~fan-shaped, up to 12 ft. long including the petiole, divided~~ Leaves fan-shaped, up to 12 ft. long including the petiole, divided to about the middle into numerous segments; leaf-segments reduplicate in bud, linear-lanceolate, about 1¼ in. broad at the base; petiole jagged on the margins, flat above. Flowers dioecious, green. Male spadix 3-6 ft. long, branching from the base, the branches poker-like, about 12 in. long and 1¼-2 in. thick; calyx 3-lobed, divided to the middle; petals 3; stamens 6. Female spadix 4-8 ft. long, unbranched. Fruit orange, subglobose, about 6 in. long and 5 in. broad, cupped in the enlarged calyx, containing 3 seeds ~~with hard fibrous coats. Kernels edible,~~ surrounded by edible fibrous pulp. Wood hard and heavy, apt to splinter into separate fibres but very resistant to termites and fungi. The heart of the female palm is said to be looser than that of the male so that only the outside of the stem is really serviceable.

Kigezi; Toro; Mubende; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Karamoja; Teso; Budama.

A gregarious savannah palm with curious (unexplained) distribution, found in belts and patches in most districts of Uganda, though there are wide areas of apparently suitable country where it does not occur. Elephant, which are very partial to the fruit, are an important factor in the spread of the species.

The fruit is an important article of diet among Nilotic tribes; it is usually eaten raw. The immature seeds contain a sweet jelly, which is pleasant and refreshing like the meat of a tender cocoanut.

The leaves are used for making mats, baskets, etc.

The fresh sap is a pleasant drink and on fermentation yields the best kind of palm wine and the richest in sugar. It is tapped by natives on the plains at the south end of Lake Albert.

The swollen part of the stem of fallen trees is hollowed out by the Madi for use as a food store. The swelling is said to appear when the tree is about 50 years of age.

A possible use for the palm is for the demarcation of forest reserves.

(2) ELAEIS

ELAEIS GUINEENSIS Jacq. Eggeling 3369.

Mba (Luamba); Esa (Luambona): OIL PALM.

Forest palm 30-40 ft. high. Young stems clothed with the persisting leaf-bases, which are shed between the age of 13 and 20 years. Leaves 10-15 ft. long, borne in a terminal crown of 12 or more together; leaflets sword-shaped, 50 or more in number, 1½ ft. or more long, 1½-2 in. broad; petiole 4 ft. long, widened at the base, spiny on the margins. Spadices 8 to many, the male borne above the female. Male spadices multibranched, 4-6 in. long; flowers densely imbricate. Female spadices peduncled, the branches congested into a globose capitulum; they appear at a different season to the male. Seed obliquely ovoid, 1¼-1¾ in. long, enveloped by the reticulately branched raphe. Wood perishable, eaten by termites.

Toro (Bwamba). Gregarious in swampy forest.

Owing to the value of the oil obtained from the seeds, the palm is of considerable importance in world trade, and the tree, which is

Phot.36. Cassia mannii Oliv. Flowering spray.

Phot.37. Phoenix reclinata Jacq. A clump.

native to Africa, is now cultivated in many parts of the world. As produced by native methods in West Africa, where it is used as a food ~~for cooking~~, and as an ingredient of medicines, the oil varies in consistence from thick fluid to tallow and in colour from orange-yellow to dirty red; in its purest forms it is a yellow fat. In Europe its chief uses are in soap and candle manufacture, in the tin-plate industry, and in the preparation of margarine. It is also used as a lubricant for heavy machines and as a source of motor fuel.

In West Africa a palm wine is obtained by tapping the stalk of the male inflorescence, the immature infructescence, or the growing point of the palm; or from a young tree felled and tapped below the crown of leaves, the flow being stimulated by fire. Immature trees sustain serious damage when tapped and old trees will yield either fruit or wine but not both. ~~The male palm yields the best and most potent wine.~~

In Uganda the tree is found wild only in Bwamba, where the inhabitants use the seed and tap the tree in the same way as do the natives in West Africa. Planting of the species is being encouraged.

(3) PHOENIX

PHOENIX RECLINATA Jacq. (Photo. [illegible]). Eggeling 2192.

Lukindu (Luganda); Musansa (Lusoga); Itchi (Madi): WILD DATE PALM; MAKINDU PALM.

Palm with creeping stock, forming clumps on the edges of swamps and along lines of seepage. Stem cylindrical, straight or curved, encircled by leaf scars, 15-30 ft. long, 8-10 in. diam. Leaves up to 9 ft. long, tufted at the top of the stem; petiole flat above, convex beneath, expanded at the base into a fibrous sheath. Leaflets linear-lanceolate, very acute; central leaflets about 1 ft. long and 1 in. broad; lower leaflets spinescent. Flowers dioecious, arranged in a close panicle of wavy spikes, the inflorescence at first enclosed by a rigid spathe. Drupes yellow-brown, edible, oblong-ellipsoid, about 1 in. long, resembling small dry dates; seed about ½ in. long, deeply grooved down one side. Wood very durable, much used for building, resisting termites and fungi,

Found in every District in the Protectorate, 3-10,000 ft.

In the past the tree was tapped for wine in Buganda but the practice appears to be dying out. The leaves are widely used for making baskets, sleeping mats, etc.

(4) RAPHIA

RAPHIA MONBUTTORUM Drude Eggeling 1939.

Kibo (Luganda): RAPHIA PALM.

Gregarious palm of swampy forest, attaining 50 ft. Stem usually short but sometimes up to 40 ft. long. Leaves pinnate, up to 25 ft. long; midrib very large; leaflets up to 1¼ in. wide. The tree is monoecious and produces a large pendulous terminal inflorescence and then dies, the majority of the adult trees in a district flowering and dying in the same year. Fruit cone-like, ellipsoid, about 4 in. long, covered with about 12 rows of closely-fitting shiny brown scales.

Mengo; Entebbe; Masaka; Ankole; Bunyoro. Common in the wetter forests of the Victoria Belt; very rare in Ankole and Bunyoro.

The leaves of this and other species of Raphia are the source of raphia fibre (long thin strips obtained from the upper surface of the young leaflets), an article which was at one time exported to Europe from Buganda and which is still widely used locally for basket work. The midribs of the leaves are valued as rafters and for making native bedsteads, chairs, ladders, etc. A wine is obtained from raphia palms in West Africa by piercing the base of the terminal bud; the wine is said to taste like ginger beer when fresh.

PANDANACEAE

AN
PANDUS

AN
PANDUS CHILIOCARPUS Stapf Eggeling 3061.

Biskere (Lutoro): SCREW PINE.

Tree 15-30 ft. high with branching stem. Prop- roots well developed, numerous. Leaves toothed, broadly linear, up to 10 ft. long, about 6 in. broad at the base, gradually attenuate to the acuminate apex; midrib prominent, spiny below. Inflorescence spicate. Syncarp ovoid, 12-15 in. long, 6-8 in. diam.; drupes 1,000 to 2,000 per syncarp, 1- or 2-locular.

Toro; Bunyoro; Madi (Zoka Forest). Very local; gregarious in the beds of streams.

PAPILIONACEAE

1. Stamens free or nearly free from each other --- 2.

   Stamens all (or all but one) united into a tube or sheath or into two bundles ------ 5.

2. Stamens 10; petals 5 (Tribe SOPHOREAE) ---- (1) Baphia

   Stamens numerous (more than 10); petals 6, 1 or 0 (Tribe SWARTZIEAE ------ 3.

3. Leaves 1-foliolate; petals present; ovary sessile ---------- (2) Baphiopsis

   Leaves pinnate; petals absent; ovary and fruit stipitate ---------- 4.

4. Calyx entire in bud, splitting into 3 (rarely 2) subequal lobes as the flower expands; fruit 4-5-seeded ---------- (9) Mildbraediodendron

   Calyx entire in bud, splitting into 4 or 5 irregular divisions as the flower expands; fruit 2-3-seeded ---------- (3) Cordyla

5. Fruit jointed, constricted between the seeds (Tribe HEDYSAREAE) ---------- 6.

   Fruit not jointed ---------- 8.

6. Calyx bilabiate ---------- (15) Smithia

   Calyx subregularly 5-toothed ---------- 7.

7. Fruits circinately coiled ---------- (7) Herminiera

   Fruits not circinately coiled ---------- (12) Ormocarpum

8. Fruit indehiscent (Tribe DALBERGIEAE) ----- 9.

   Fruit dehiscent, exceptionally (Mundulea) indehiscent ---------- 11.

9. Leaves stipellate; anthers medifixed, opening by longitudinal slits ---------- 10.

   Leaves exstipellate; anthers basifixed, opening by a horizontal slit ---------- (5) Dalbergia

10. Leaflets alternate; fruit winged ---------- (13) Pterocarpus

    Leaflets opposite; fruit not winged ------- (8) Lonchocarpus

(Straight on)

11. Leaves pinnately 3-foliolate; pod moniliform or submoniliform (Tribe PHASEOLEAE)..... (6) Erythrina

Leaves pinnately compound, with more than 3 leaflets; pod usually continuous (Tribe GALEGEAE) → 12.

12. Fruit indehiscent .....(11) Mundulea

Fruit at length dehiscent ..... → 13.

13. Leaflets less than ½ in. broad and never more than 1½ in. long; flowers yellow .....(14) Sesbania

Leaflets over ½ in. broad and usually well over 1½ in. long; flowers pink, purple or white .. → 14.

14. Leaflets opposite .....(10) Millettia

Leaflets alternate ..... (4) Craibia

(1) BAPHIA

Flowers racemose, the racemes forming an ample many-flowered panicle; inflorescence and ovary densely hairy; vexillum about ⅓ in. long ..... B.multiflora

Flowers solitary or in very short condensed racemes; inflorescence not densely hairy; ovary glabrous; vexillum about ¾ in. long ..... B.wollastonii

Eggeling 3372.

BAPHIA MULTIFLORA Harms

Scandent shrub or tree to 15 ft. Leaves ovate to oblong-lanceolate, 1½-4½ in. long, ¾-2 in. broad, apex bluntly pointed, base rounded; midrib and lateral nerves very prominent below (the former frequently slightly produced beyond the apex of the blade), covered with golden-brown hairs when young; petiole ½-1½ in. long, glabrescent, swollen at base and apex. Inflorescence up to 4 in. long; flowers white; calyx 2-fid or split down one side; anthers shorter than the filaments. Pod oblanceolate, about 2 in. long, very sharply pointed and sharply bent at the apex, cuneate at the base. Toro.

We include here Bagshawe 1278 and Liebenberg 1107, originally determined as B.polygalacea Bak..

BAPHIA WOLLASTONII Bak.f. Eggeling 1191, 1593.

Murungurungu (Lunyoro).

Forest shrub or tree to 30 ft.. Leaves 1-foliolate, dark green,

oblong-lanceolate to oblong-oblanceolate, 1½-3 in. long, ¾-1 in. broad, apex long-acuminate but with an obtuse tip ultimately obtuse, base rounded; petiole up to ¼ in. long. Flowers white; calyx 2-fid or split down one side; anthers shorter than the filaments. Pod linear, 2¼-3½ in. long, ½-¼ in. broad, long-pointed and slightly recurved at the apex, dark brown.

Toro; Bunyoro.

(2) BAPHIOPSIS

BAPHIOPSIS STUHLMANNII Taub. Eggeling 3638, 3736.

Synonym. Baphia radcliffei Bak.f.

Mutoke (Luganda).

Forest shrub or tree to 40 ft. Bark smooth, reddish brown. Leaves broadly elliptic to ovate-elliptic or obovate-elliptic, 3-5 in. long, 1-2¼ in. broad, apex acuminate, base rounded to broadly cuneate; petiole dark in colour, swollen at base and apex, ¼-1 in. long. Flowers white, in umbels or short axillary racemes; axis of inflorescence slender, up to ½ in. long; pedicels very slender, up to ⅔ in. long; vexillum ovate-oblong, shortly clawed, ¼-⅓ in. long. Pod broadly oblong, 1¼-1¾ in. long, bent to a sharp point, single-seeded; seed very large, filling the whole pod.

Masaka; Ankole.

(3) CORDYLA

CORDYLA RICHARDII Planch. ex Milne-Redhead Eggeling 846, 870, 3508.

Malindi (Madi).

Savannah tree to 40 ft. Bark rough, dark brown on the trunk, pale brown to grey-brown on the branchlets. Leaves odd-pinnate; leaflets 19-27, glabrous to puberulous, pale grey-green or glaucous, subopposite to nearly alternate, ovate-oblong, 1-2 in. long, ½-¾ in. broad, rounded at both ends, often emarginate at the apex; rhachis and petiolules pubescent. Flowers precocious, in rather dense woolly-tomentose racemes 2-4 in. long, borne chiefly on the older twigs; calyx pale green; stamens white, numerous, ¾-1 in. long, nearly free; pedicels about ⅓ in. long. Fruit edible, yellow, long-stipitate, ellipsoid, about 2 in. long; seeds black, kidney-shaped.

Wood brown, hard, difficult to split owing to the twisted grain, resistant to weathering, suitable for carpentry and furniture. It is strikingly similar to that of Mildbraediodendron excelsum. Large stems are used in West Madi for dugout canoes.

Madi; Chua. Local on rocky hillsides.

The numerous white stamens and the long-stipitate fruit might cause confusion with Capparidaceae but the yellow fruit-pulp has the characteristic bean-pod smell of Leguminosae.

I include here Eggeling 846, 870 and Uganda Forest Dept. 309 originally identified as C. africana Lour.

(4) CRAIBIA

Inflorescence racemose; flowers about 4/5 in. long; ovary tomentose or silky ---------- C. brownii

Inflorescence paniculate; flowers $\frac{1}{3}$-$\frac{1}{2}$ in. long; ovary glabrous or nearly so ---------- C. laurentii

CRAIBIA BROWNII Dunn — Brown 440.

Understorey tree 20-30 ft. high. Leaves 3-6 in. long; leaflets usually 7, subopposite or alternate, ovate-oblong, 2-4 in. long, $\frac{1}{4}$-$1\frac{1}{2}$ in. broad, apex acuminate, base obtuse; petiolule $\frac{1}{8}$ in. long. Racemes terminal; flowers creamy white tinged with pale pink or mauve; ovary sessile, 4-ovulate. Fruit obovate, 2-$2\frac{3}{4}$ in. long, caudate-acuminate at the apex, long-cuneate at the base, usually single-seeded.

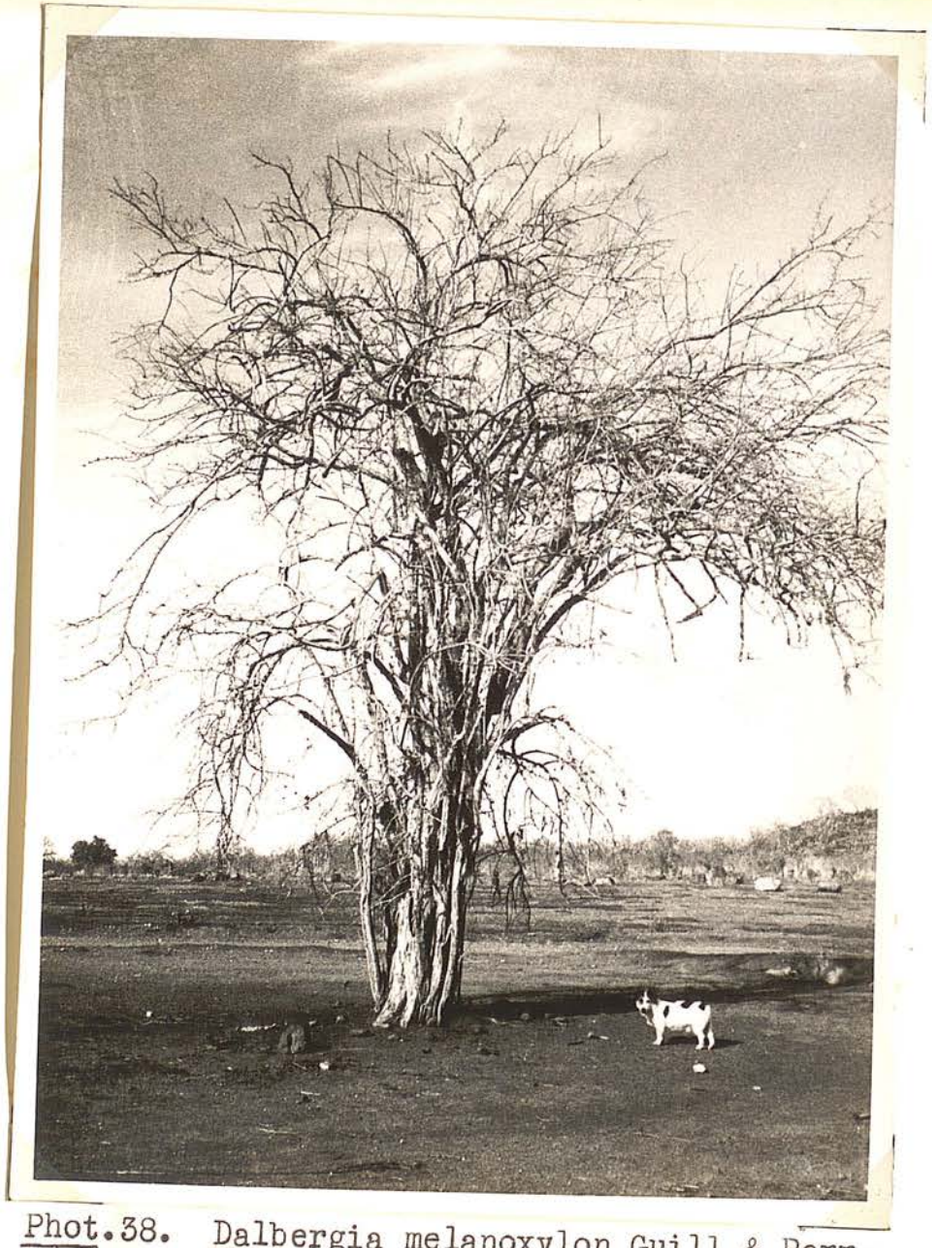
Mengo (Mabira Forest); Busoga.

Named after Mr. E. Brown, one of the first officers in the Uganda Forestry and Scientific Department.

CRAIBIA LAURENTII De Wild. — Eggeling 1252, 1803, 1824, 2349, 2591.

Shrub or tree to 35 ft. Leaves 6-9 in. long; leaflets 5-7, oblong to oblong-oblanceolate (basal leaflets sometimes ovate), $2\frac{1}{2}$-5 in. long, 1-$1\frac{3}{4}$ in. broad, apex shortly acuminate, base rounded. Panicles numerous, many-flowered, stoutly branched, up to 9 in. long and broad; flowers white, with two green streaks on the inside of the standard; rhachis and branches of inflorescence densely & rusty-tomentose. Pod obovate to rhomboid, $3\frac{1}{2}$-$4\frac{1}{2}$ in. long, about $1\frac{1}{4}$ in. broad, tapered to base and apex, usually single-seeded; seed dark brown, beaked, about $\frac{3}{4}$ in. diam.

West Nile; Madi; Chua; Teso; Karamoja.



Phot.38. Dalbergia melanoxylon Guill.& Perr.
Habit photo of a leafless tree.

Phot.39. Protea madiensis Oliv. Flowers.

(5) DALBERGIA

Stamens 9, monadelphous, the tube split down one side ..... D. melanoxylon

Stamens in two phalanges of 5 ..... D. nitidula

(Photo. 38).

DALBERGIA MELANOXYLON Guill. & Perr. Eggeling 882,1226,1745,2491.

Mufunjo (Lunyoro); Motangu (Luganda); Poyi (Madi); AFRICAN BLACKWOOD; AFRICAN EBONY.

Much-branched deciduous savannah tree or shrub 10-25 ft. high. Trunk short, rarely cylindrical, rarely over 1 ft. diam., usually multi-stemmed. Branchlets spinose, the spines being the hardened tips of short branches and often bearing leaves and flowers. Bark pale grey to grey-brown, thin, smooth, flaking irregularly. Slash yellow-white. Leaves odd-pinnate, 3-8 (usually 3-4) in. long; leaflets 9-13, alternate, oblong to obovate or obovate-elliptic, $\frac{1}{5}$-$1\frac{1}{3}$ in. long, $\frac{1}{3}$-$\frac{3}{4}$ in. broad, apex truncate and emarginate. Flowers white, sweet-scented, in many-flowered panicles about as long as the leaves; calyx funnel-shaped, 5-toothed; corolla much longer than the calyx; central stamen longer than the rest. Pod indehiscent, flat, oblong to elliptic-lanceolate, about $1\frac{1}{2}$ in. long, containing 1-4 small reniform seeds. Sapwood yellow-white, very narrow; heartwood purple to brownish-black, not always uniform throughout, usually more purple or brown than black, very hard, very heavy, close-grained, of fine texture, polishing extremely well, very durable. The timber is usually seasoned in the log and if stacked under cover and dried with care it seasons slowly but satisfactorily, although heartshakes appear inevitable. Weight 82 lbs. per cu.ft. air dry.

Bunyoro; West Nile; Madi; Gulu; Chua; Karamoja; Bugishu. In dry savannah at elevations below 3,000 ft.

Volume for volume, Blackwood is the most valuable wood in East Africa. The wood is used in Europe for brush-backs, walking sticks, and other small articles, but especially for musical instruments and inlay work. It is highly prized by ornamental turners and has been selected as the premier Empire hardwood for turning qualities.

In Uganda straight logs of good diameter are scarce and the wood is not exported but there is a small local trade in carved figures, walking sticks, chessmen, etc.

DALBERGIA NITIDULA Welw. ex Bak. Uganda Forest Dept. 791.

Savannah tree to 35ft. Branchlets grey-velvety. Leaves pinnate, 4-5 in. long; rhachis pubescent; leaflets about 11, sub-opposite, pubescent below, ovate or ovate-oblong to elliptic-lanceolate, 1½-1¾ in. long, about ½ in. broad, apex obtuse or slightly emarginate (often with a short mucro), base rounded; petiolule very short. Flowers white, in very dense, short, many-flowered axillary clusters or on the older twigs below the leaves.

Ankole.

(6) ERYTHRINA

1. Calyx tubular, split down one side ..... 2.

   Calyx spathaceous or 2-lipped ..... 3.

2. Calyx with 5 filiform teeth, ½-1 in. long ..... E.abyssinica

   Calyx sub-entire or with very short obtuse teeth under ⅓ in. long ..... E.bagshawei

3. Calyx spathaceous, deeply bifurcate at the apex E.excelsa

   Calyx 2-lipped, the lower lip narrow, the upper composed of 4 or 5 teeth joined in two lobes E.mildbraedii

ERYTHRINA ABYSSINICA Lam. Engelina 3, 131, 319, 1045, 3028.

E. eggelingii Bak.f.

Synonyms. E.beguaertii De Wild.; E.tomentosa R.Br.ex A.Rich.;

Kiyirikiti, Jirikiti, Muirikiti (Luganda, Lusoga); Mudo, Mudoti (Lunyoro); Locoro, Kisoro, Oding (Acholi); Olwo (Lugbara); Olawu (Madi); Emuko (Lunyankole); Engosorot (Lutese): UGANDA CORAL; RED-HOT POKER TREE.

Tree to 40 ft. in savannah or secondary scrub. Bark yellow-brown, thick, corky, deeply fissured, often armed with blunt woody spines. Branchlets stout, armed with strong recurved thorns, densely tomentose when young. Petiole armed or unarmed, grey-tomentose when young, becoming glabrous or nearly so. Leaflets usually sparingly pubescent above, densely grey-tomentose below, very broadly ovate to suborbicular; terminal leaflet up to 8 in. broad, usually broader than long, blunt at the apex, broadly rounded to cordate at the base; midrib armed or unarmed. Flowers precocious, coral-red to scarlet (there is also a rare yellow-flowered form), in dense erect poker-like inflorescences 2-6 in. long; calyx densely tomentose, 1-2 in.

long (including the lobes), split down the underside almost to the base and divided on the upperside into 5 whip-like lobes; standard as long as or slightly longer than the calyx, about ½ in. broad. Pod woody, velvety, 4-5 in. long, moniliform, consisting of about 6 closely spaced globes ½-¾ in. diam.; seeds vermilion and black, very shiny. Found in every District in the Protectorate. A very common and familiar species.

The tree is well worth cultivating for the beauty of its flowers and is said also to be a good shade for coffee. It is easily propagated from large cuttings.

E.eggelingii Bak.f. appears to be only a strongly armed form.

ERYTHRINA BAGSHAWEI Bak.f. Bagshawe 137.

Shrub or tree with girth of 8 ft. at breast height. Branches grey, armed with short black-tipped thorns. Leaflets nearly glabrous except on the nerves, ovate-lanceolate to suborbicular, up to 8 in. long, apex acute, base rounded. Racemes axillary; peduncle brownish-tomentose. Flowers precocious, crimson; calyx up to 1½ in. long; standard about as long as the calyx and more than twice as long as the wing petals.

Masaka; Mengo.

We have not seen a specimen of this plant, though we have searched for it in the type locality. It is probably only a variety of E.abyssinica.

ERYTHRINA EXCELSA Baker Eggeling 150,166, 699, 1533.

Synonym. E.serettii De Wild..

Mubajangabo (Luganda).

Tree in swampy forest, attaining 100 ft. Bole up to 60 ft. long, armed with strong woody conical spines. Bark smooth, pale. Branchlets and petioles glabrous, armed or unarmed. Leaflets usually 4-7 in. long, 2½-5 in. broad, sometimes prickly on the nerves and midribs; lateral leaflets obliquely ovate; terminal leaflet broadly elliptic to broadly ovate. Racemes many-flowered, stiff,

up to 6 in. long; flowers precocious, dull orange to salmon-red, in twos and threes on the axis of the raceme; calyx glabrous, 1½-1⅝ in. long. Seeds scarlet and black. Wood yellow-white, soft, open-grained.

Mengo; Entebbe; Bunyoro; West Nile.

The species is quick-growing and has been suggested as a shade tree for coffee. It can be propagated from branch-cuttings.

ERYTHRINA MILDBRAEDII Harms E.Brown 430.

Tree with rose-coloured flowers. Calyx 1⅓ -2 in. long; standard 1½-1⅓ in. long.

Mengo (Mabira Forest); Sesse.

Perhaps not distinct from E.excelsa. We have not seen a specimen.

(7) HERMINIERA

HERMINIERA ELAPHROXYLON Guill. & Perr. Eggeling 10, 123.

Synonym. Aeschynomene elaphroxylon Taub.

Mulindi (Luganda): MPATCH.

Tree or shrub to 20 ft. growing in water on lake and river edges and in swamps. Stem short, swollen, quickly tapered (often almost conical), spiny. Bark smooth, green. Branchlets densely hispid, armed with upcurved brown prickles up to ⅓ in. long. Leaves paripinnate, 2-4 in. long, the rhachis frequently prickly; leaflets 10-20 pairs, opposite or alternate, oblong, usually ⅓ - ⅔ in. long, open emarginate and mucronate. Flowers conspicuous, handsome, orange-yellow, 2-3-together in short axillary racemes; calyx up to 1 in. long, scabrid-pubescent; corolla more than 1½ in. long; peduncles about ⅓ in. long, densely bristly. Fruits bristly. Wood white or brownish-white, spongily soft, lighter than cork, with very broad medullary rays.

Mengo; Entebbe; Sesse; Masaka; Kigezi; Toro; Bunyoro; West Nile; Madi; Gulu; Busoga.

The wood is of no commercial value but the uses to which it is put by natives are of interest. On Lake Albert and Lake Victoria

Fig.50. Lonchocarpus laxiflorus Guill.& Perr. a. Upper part of leaf showing all leaflets. b. Portion of inflorescence. c. Pods. d. Seed. All natural size.

It is used for floats for fishing nets and lines. On Lake Nakivali and at Katunguru on the Kazinga Channel, the Banyankole fishermen fix a torpedo-shaped lump of Ambatch wood to the shafts of their fish spears. "This does not materially impede the spear's passage through the water but causes it to bob up to the surface again in the event of a miss". (Worthington, S. & E.B., Inland Waters of Africa)

On the Nile large blocks of the wood are attached by rope to the spears used for harpooning hippopotami and serve as buoys.

Schweinfurth (The Heart of Africa) gives an excellent description of the plant:- "The Ambatch is distinguished for the unexampled lightness of its wood, if the fungus-like substance of the stem deserves such a name at all. The weight of this fungus-wood is so insignificant that it really suggests comparison to a feather. Only by taking it into his hands could anyone believe that it were possible for one man to lift on his shoulders a raft made large enough to carry eight people on the water. The plant shoots up with great rapidity by the quiet places on the shore, and since it roots merely in the water, whole bushes are easily broken off by the force of wind or stream, and settle themselves afresh in other places. This is the true origin of the grass barriers so frequently mentioned as blocking up the waters of the Upper Nile and in many places making navigation utterly impossible."

Sir Harry Johnston (The Uganda Protectorate) gives further details of this formation of sudd. He describes how the Ambatch trees "swell as they grow, and finally make quite a wall or breastwork of pithy wood, behind which masses of floating vegetation collect". Further, "on many of the northern creeks of the Victoria Nyanza, protected from the waves of the open lake, this sudd or vegetable growth is gradually creating a soil and filling up the bays with what some day may be a land surface of peat, perhaps afterwards coal."

(8) LONCHOCARPUS

LONCHOCARPUS LAXIFLORUS Guill.& Perr. (Fig.50). Eggeling 373,761,2372.

Olwedo (Acholi).

PAPILIONACEAE (148)

Deciduous savannah tree to 40 ft. Bark rough, dark grey. Slash white or yellow-white, exuding a blood-red resin. Leaves imparipinnate, about 1 ft. long; leaflets 5-7, opposite, grey-green, elliptic, tapering at both ends, 2-6½ in. long, ¾-2 in. broad, decreasing in size from above downwards. Panicles many-flowered, up to 2 ft. long, at first erect, later drooping; flowers very decorative, appearing with or before the leaves; calyx dark purple, toothed, shortly pubescent outside; petals pinkish-lilac with a pale yellow splash on the inside of the standard. Pod membranous, flat, thin, pale brown to straw-colour, 2-4 in. long, ½-¾ in. broad. Wood hard.
Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Karamoja; Bugishu; Busoga.

In the absence of flower and fruit, the tree is liable to be confused with Stereospermum kunthianum Cham. (Bignoniaceae). In the latter species, however, the leaf-rhachis does not extend beyond the topmost pair of leaflets; in Lonchocarpus it does.

(9) MILDBRAEDIODENDRON

MILDBRAEDIODENDRON EXCELSUM Harms Eggeling 1241, 1407, 1567.
[x]Nkoba (Lunyoro).

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[x] Known to African Forest Rangers in Bunyoro as Nkoba No.2 to distinguish it from Lovoa brownii Sprague (Meliaceae) which has the same vernacular name and is known as Nkoba No.1. The name Muyati has been suggested as an alternative, to avoid confusion.

Spreading deciduous forest tree to 170 ft. Bole thick and straight, with little taper. Buttresses small, rounded. Bark grey-brown, somewhat resembling that of Entandrophragma utile in the regular patterning of the rectangular scales, which, however, are smaller and thinner than those of the mahogany. Leaves drooping, pale yellow-green when young; leaflets 12-16 pairs, glandular-punctate, alternate to opposite, lanceolate to oblong (rarely ovate-oblong), 1-2½ in. long, ½-¾ in. broad, apex obtuse,

obtuse, base rounded. Flowers usually precocious, in racemes or short panicles from the axils of the lower leaves; stamens about 16, borne on the margin of the fleshy disc; ovary oblong, containing 7-8 ovules; stipe long, rather thick. Fruit yellow, about the size of a tennis ball, containing a soft yellow-brown pulp which tastes of pea pods, much relished by elephants. Wood handsome, brown with paler figuring, hard, very similar to that of Cordyla richardii, very durable both in the ground and in water. It has a strong odour of broad-beans when freshly cut. Kigezi (Malabigambo Forest); Bunyoro; Madi (Zoka Forest).

A timber of great possibilities.

I include here Dawe 797 originally determined as Dracontomelum sp.

(10) MILLETTIA

1. Pod glabrous; leaflets usually 6-10 pairs .... 2.
   Pod densely hairy; leaflets usually 4-6 pairs .. M. sp. near M. lucens
2. Leaflets more or less oblong, pubescent or puberulous beneath ... ... M. dura
   Leaflets ovate to elliptic, glabrous or almost glabrous beneath ... ... M. sp.

MILLETTIA DURA Dunn — Eggeling 676, 3132.

Synonym. M. ferruginea Harms, perhaps also of Hochst. Fast-growing shrub or tree to 35 ft. Bark ashy-grey, longitudinally striate. Slash brown. Branchlets lenticellate, shortly pubescent when young. Leaves imparipinnate; rhachis ferruginous-pubescent at first, becoming glabrous; leaflets ferruginous-pubescent on both surfaces when young, becoming glabrous above and puberulous below (the nerves usually remaining pubescent), usually oblong to oblanceolate-oblong, 1½-3½ in. long, ½-1¼ in. broad, apex acuminate and usually mucronate, base unequal-rounded; stipels filiform. Panicles pendant, 4-8 in. long; flowers lilac, wistaria-like, borne in clusters of 3-4 together on the rusty-pubescent rhachis of the panicle; calyx ¼-1⅓ in. long; corolla

about

about 1 in. long; pedicel up to ½ in. long. Pod usually 5-8 in. long and 2/3 - ¾ in. broad, broadest in the upper half, bluntly pointed; seeds dark brown, flat, 2/3 in. diam. Wood tough, suitable for axe- and hoe-handles.

Ankole; Kigezi; Toro.

A handsome species usually found in secondary scrub or on the edge of forest. It is frequently planted in gardens.

MILLETTIA SP. near M. LUCENS Dunn Bagshawe 856.

Leaves imparipinnate, rhachis sericeous; leaflets glabrous above, appressed-sericeous beneath, linear-oblong to lanceolate or oblong-oblanceolate, 1½-4 in. long, 2/3-1¼ in. broad, apex attenuate and usually mucronate, base cuneate to rounded. Pod broadest about the middle, usually about 4½ in. long and 1 in. broad.

Bunyoro (Waki River).

MILLETTIA SP. Eggeling 3381

Understorey tree to 30 ft. Leaves imparipinnate; rhachis glabrous or practically so when mature; leaflets glabrous on both sides or with a few scattered hairs towards the base of the midrib beneath, ovate to ovate-elliptic, 1½-3½ in. long, 1-1¼ in. broad, apex bluntly long-acuminate (the tip of the midrib sometimes projecting as a tiny mucro), base unequal-rounded; stipels short, filiform. Flowers not seen. Pod broadest in the upper third, 5-6 in. long, up to ¾ in. broad, sub-woody, dark brown, with numerous small pale lenticels.

Toro (Bwamba). An understorey tree in Cynometra forest; also found on forest-edges.

(11) MUNDULEA

MUNDULEA SERICEA (Willd.) A. Chev. Eggeling 2340.

Synonym. Mundulea suberosa Benth.

Shrub or tree to 25 ft., usually with straight stem and bushy rounded crown. Bark greenish-brown and smooth at first, becoming yellow and corky and fissured in age. Branchlets

softly

softly tomentellous. Leaves up to 6 in. long; leaflets 12-20, glabrous above, appressed-pubescent below, oblong to oblong-lanceolate, up to 2 in. long and ½ in. broad. Flowers crowded in terminal leaf-opposed racemes up to 6 in. long; calyx-teeth linear; corolla purple-pink, about ¾ in. long, the standard pubescent. Pod flat, indehiscent, pale brown to yellow, 2-3 in. long, about ½ in. broad, finely tomentose; seeds 6-8.
Chua. On rocky hills in savannah.

The seeds, leaves and bark of this tree are used in India and in various parts of Africa as a fish-poison. The bark and roots have been suggested for use in insecticides.

(12) ORMOCARPUM

ORMOCARPUM TRICHOCARPUM (Taub.) Harms Eggeling 686, 789, 884, 1779, 2365, 2500.

Deciduous savannah tree or shrub usually 5-8 ft. high, occasionally attaining 20 ft. Branchlets grey or white, villose at first, becoming glabrous. Leaflets 11-21, pale grey-green, oblong, up to ½ in. long, base rounded, apex rounded and mucronate. Flowers axillary, solitary or paired; corolla up to ¾ in. long, blue-white, thickly mottled and streaked with purple, persistent. Pod bristly, 1-2 in. long.
Ankole; West Nile; Madi; Chua; Karamoja; Bugishu.

(Straight on)

(13) PTEROCARPUS

PTEROCARPUS ABYSSINICUS Hochst. ex A.Rich. Eggeling 1151, 1829.

Deciduous savannah tree to 60 ft. Bark smooth. Slash exuding blood-red drops. Leaflets 3-7, glabrous, oblong to elliptic, 1¼-2½ in. long, up to 1¼ in. broad, apex rounded and emarginate, base rounded. Inflorescence a lax raceme up to 6 in. long, borne with or before the leaves; calyx pale green, distinctly lobed; corolla pale yellow, up to ½ in. long; pedicels slender, up to ¾ in. long. Pod stipitate, broadly ovate to obovate, up to 2 in. long and 1 in. broad, straw-coloured, single-seeded. Wood white to yellow white.

Bunyoro; West Nile; Madi; Chua.

Probably only a variety of P. lucens Guill. & Perr.

(14) SESBANIA

Very fast-growing short-lived shrubs or small trees found on the edges of watercourses or in swamps. They are valuable as a green manure and as a temporary shade for coffee. In all the Uganda species the flowers are yellow (the standard usually mottled or streaked with reddish-brown or purple or black); the leaflets oblong; and the pods sub-cylindrical, 4-10 in. long and ⅓-⅓ in. broad.

The vernacular names Mubimba (Luganda), Olili (Acholi) are generic.

1. Flowers 1-1¼ in. long ..... S.dummeri
   Flowers about ½ in. long ..... 2.

2. Branchlets permanently pubescent or villose .... S.pubescens
   Branchlets finally glabrous (often pubescent towards the extremities when young) ..... 3.

3. Stems, leaf-rhaches and peduncles armed with weak prickles ..... 4.
   Stems, leaf-rhaches and peduncles unarmed ..... S.aegyptiaca

4. Flowers few on a very short inflorescence ..... S.aculeata
   Flowers numerous on a long inflorescence ..... S.macrantha

SESBANIA ACULEATA Pers. Eggeling 456, 2355.

Synonym. S.sesban (L.) Merr.

Shrub or tree to 20 ft. Stems fairly thick, soft and pithy. Leaves up to 12 in. long; leaflets 18-55 pairs, ½-¾ in. long. Inflorescence 2-8-flowered, 1-3 in. long.

Mengo; Masaka; Chua; Teso; Karamoja.

The stems yield a strong fibre which is especially durable under water.

SESBANIA AEGYPTIACA Poir. Eggeling 1, 11, 852, 2588, 2601.

Shrub or tree to 20 ft. Leaf-rhachis more or less pilose, rarely glabrous, 2-4 in. long; leaflets 9-20 pairs, up to 1 in. long. Inflorescence about as long as the leaves.

Entebbe; Sesse; Kigezi; Toro; Mubende; Chua; Karamoja; Bugishu.

In ~~swampy~~ areas where fuel is scarce the tree is sometimes planted to provide firewood and a height growth of 15 ft. in 12 months has been recorded. It is grown in Toro as a shade for coffee.

The stems yield a useful fibre.

SESBANIA DUMMERI Stapf ex Phill.& Hutch. Eggeling 425, 471.

Shrub or tree to 20 ft. Leaves up to 12 in. long; leaflets 9-30 pairs, up to 1¼ in. long. Racemes 3-8-flowered, up to 6 in. long.

Mengo.

SESBANIA MACRANTHA Welw. ex Phill.& Hutch. Eggeling 202, 3651.

Shrub or tree to 15 ft. Stems and lower part of inflorescence usually very noticeably prickly (much more so than in the other species of Sesbania occurring in Uganda). Leaflets 5-40 pairs, about ½ in. long. Inflorescence 6-20-flowered, up to 8 in. long.

Mengo; Ankole.

SESBANIA PUBESCENS DC. Maitland 979.

Shrub or tree to 20 ft. Leaves 3-4-times as long as the inflorescence; leaflets 12-20 pairs, up to 1 in. long.

Toro; Bunyoro; Lango; Busoga.

(15) SMITHIA

SMITHIA KOTSCHYI Benth. Eggeling 14, 1584.

Ekibundibunzi (Lunyankole).

Usually a bush 6-12 ft. high, occasionally a tree to 25 ft. Branchlets aromatic, densely clothed with weak yellow viscid bristles. Stipules persistent, ovate-lanceolate, up to ½ in. long. Leaves 1-2¼ in. long; leaflets 15-25 pairs, linear, the largest about ⅓ in. long. Flowers orange, in very short axillary racemes; calyx ⅔ in. long, bristly on the back, the upper lobe entire, the lower deeply 3-cleft; corolla about as long as the calyx; pedicel ¼ in. long with a pair of rigid persistent lanceolate bracteoles at the apex. Pod glabrous, with 7-8 rounded articulations.

Mengo; Entebbe; Sesse; Kigezi; Ankole. Usually in damp sites, attaining its maximum growth on the edges of swamps.

The stems are used in Ankole for building-poles.

PASSIFLORACEAE

BARTERIA

BARTERIA FISTULOSA Mast. Eggeling 100.

Synonym. B. acuminata Bak.f.

Tree or shrub to 20 ft. Branchlets cylindrical, striate, hollow, frequently inhabited by ants. Leaves two-ranked, leathery, oblong, 9-15 in. long, 3-5 in. broad, apex obtuse or shortly pointed, base rounded to broadly cuneate; petiole stout, grooved, ⅓-½ in. long, decurrent at the base. Flowers sessile, 2-4-together in a line in the axil of the leaf, surrounded by numerous shiny-brown imbricating bracts; sepals 5, brown on the outside, white within, 1-1¼ in. long, ⅓-½ in. broad; petals white, mucronate, shorter than the sepals; stamens numerous; stigma large, yellow, globose. Fruit spherical.

Sesse; Masaka.

We include here Bagshawe 93 originally determined as B.nigritiana Hook.f. but later described as a new species - B.acuminata Bak.f.

PITTOSPORACEAE

PITTOSPORUM

Calyx divided to the base or almost to the base into 5 more or less equal lobes ..... P.abyssinicum

Calyx divided about half-way to the base into 5 very unequal-sized lobes..... P.spathicalyx

PITTOSPORUM ABYSSINICUM Del. Eggeling 155,395,1833,1908, 3655.

Shrub or tree usually less than 30 ft. in height but attaining up to 70 ft. in mountain forest. Leaves oblanceolate, 3-7 in. long, 1¼-2 in. broad, apex acuminate, base long-cuneate. Inflorescence paniculate, up to 5 in. long, pubescent at first, finally glabrous; flowers fragrant, white or yellow-white; petals 5, usually coherent at the base, glabrous or sparsely puberulous; pedicels about ⅓in. long. Capsule orange-yellow, opening in two spreading valves; valves orbicular, transversely rugose inside, up to ⅓in. long, capped by the divided style; seeds with a gelatinous ~~sticky~~ scarlet covering. Mengo; Entebbe; Masaka; Ankole; Kigezi; Mubende; West Nile; Bugishu. Usually on the edge of forest.

PITTOSPORUM SPATHICALYX De Wild. Thomas 1151.

Shrub or tree to 30 ft. Leaves oblanceolate, 2-4½ in. long, ¾-1¾ in. broad, apex acuminate, base very long-attenuate. Inflorescence terminal, paniculate, up to 3½ in. long, very densely red-pubescent. Flowers yellow-white or greenish; petals as in P.abyssinicum; pedicels about ⅛in. long; capsule as in P.abyssinicum. Kigezi. In scrub on lava plain.

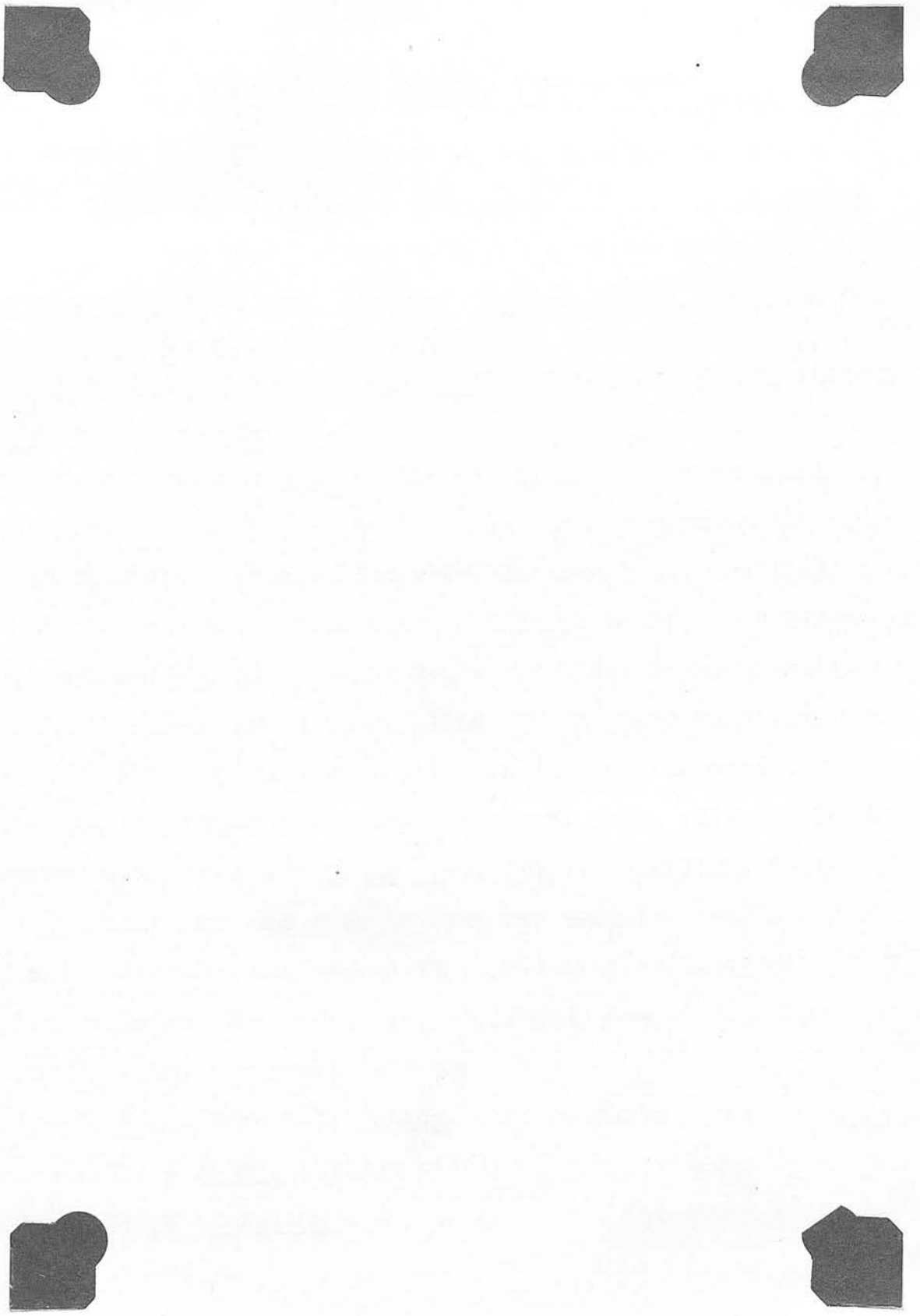

Fig.51. Podocarpus milanjianus Rendle a. Leaves. b. Young seed with fleshy receptale and bracts. c. Mature seed with receptacle drying up. Podocarpus gracilior Pilger d. and e. Leaves, snowing variation in size. f. Seed. g. Male cone. All natural size. Figures b., c., f. and g. are after Shaw in Burtt-Davy & Chalk, Some East African Coniferae and Leguminosae.

PODOCARPACEAE

PODOCARPUS

Leaves 2½-6½ in. long, ¼-½ in. broad; female cones with a well-developed fleshy receptacle .....P.milanjianus

Leaves usually ¾-2 in. long (up to 3½ in. long on young plants), always less than ¼ in. broad; female cones without a fleshy receptacle .....P.gracilior

PODOCARPUS GRACILIOR Pilger (Fig.51). Eggeling 2474,2479,2704,3249, 3251.

Synonym. P.dawei Stapf

Musenene (Luganda); Omuhulizi (Luchiga); Obwipe (Lukonjo): PODO; E.AFRICAN YELLOW-WOOD.

Evergreen forest tree up to 100 ft. high. Bole cylindrical. Bark pale grey to pale brown, horizontally and longitudinally fissured, scaling in squares. Leaves linear to linear-oblong, confined to the ends of the branchlets. Male cones axillary, solitary or 2-3-together, slender, catkin-like, pinkish-purple, about 1 in. long. Fruit (this is actually the seed) green to purplish with a glabrous bloom, ovoid, ½-¾ in. long, about ½ in. diam.; seed-shell hard and woody. Wood undifferentiated, creamy-white to pale brown, soft, slightly harder and stronger than red deal (Pinus sylvestris), odourless, tasteless, straight-grained, fine and even in texture, easy to work, staining patchily, taking paint satisfactorily, polishing well, tending to split when nailed at the ends, very perishable, ~~but~~ easily impregnated. Weight about 31 lb. per cu.ft. air dry.

Masaka (South Buddu Forests); Kigezi (Impenetrable Forest); Chua (Imatong Mts.); Karamoja (Mt.Debasien); Bugishu (Elgon).

P.dawei Stapf (Eggeling 2704) is a form of the above with the seed up to 1 in. long.

PODOCARPUS MILANJIANUS Rendle (Fig.51). Eggeling 1259,2465,2470,3245, 3247.

Musenene (Luganda); Omuhulizi (Luchiga); Obwipe (Lukonjo): PODO; E.AFRICAN YELLOW-WOOD.

Evergreen forest tree to 80 ft. Bark very similar to that of Cedar (Juniperus procera), thin, pale brown to dark brown, fibrous,

cracking and peeling in long narrow strips. Leaves linear-oblong, smelling strongly of yew. Male cones catkin-like, flesh-pink, about 1 in. long. Fruits (seeds) usually 2-together, glaucous green, globose, ½-⅔ in. long, attached to a large fleshy scarlet receptacle. Wood as in P.gracilior but slightly darker.

Masaka (South Buddu Forests); Kigezi (Impenetrable Forest); Toro (Ruwenzori); Bugishu (Elgon).

Uganda specimens are referrable to the arborescent form - f. arborescens Pilg.

Both Uganda species of Podocarpus are essentially montane, attaining their optimum development between 7,000 and 9,000 ft. altitude and extending to 10,000 ft. in stunted form. Both, however, are also found in swampy forests in S.Buddu near the mouth of the Kagera River at 3,750 ft. and this curious occurence has never been satisfactorily explained.

The seeds of both species are much appreciated by monkeys and birds.

Both P.gracilior and P.milanjianus are regarded in Kenya as high-class softwoods considerably superior to European deals. Suitably manufactured and conditioned they produce a joinery wood suitable for such purposes as panel framing and panels (figured stock), shop and counter fittings, display cabinets, shelving, drawer linings (especially on account of its smoothness), and for handicraft work in schools and technical institutes. The wood is suited for the better class of foodstuff containers and for the manufacture of bakery boards and confectionery trays for which non-tainting wood is required; also for cupboard shelving or fittings where a bright clean-coloured wood is desirable. From box-jointing tests there would appear to be no reason why it should not be quite suitable for the packing of fruit and the carriage of foodstuffs, especially as its colour and smoothness permit containers to be painted and stencilled without difficulty. The wood has a tendency to warp, which may be regarded as its greatest fault, but this may be counteracted by suitable conversion and seasoning. Tests on the acid resistance of the timber indicate that it is likely to prove suitable for

battery separator work. P.gracilior has been tested for the manufacture of plywood, and results indicate that this ~~is~~ is likely to be suitable for general utility purposes.

In Uganda the only accessible stands of Podo are those in Buddu, which were worked in the past by the Public Works Department. Recently the tendency in Uganda has been to regard Musizi (Maesopsis eminii) as a better timber than Podo with a resultant drop in the output of the latter.

Fig.52. Securidaca longipedunculata Fresen. a. Flowering branch. b. Fruiting branch. Both natural size.

POLYGALACEAE

SECURIDACA

SECURIDACA LONGIPEDUNCULATA Fres. (Fig. 51). Eggeling 487, 647, 648, 1166.
Nkondwe (Lunyoro); Laliya, Laliya (Acholi); Elilyoi (Luteso); Lilo (Luganda); Elila (Lango); Lilyo (Ludama): VIOLET TREE.

Savannah tree or shrub usually 10-15 ft. high but sometimes attaining as much as 30 ft. Branchlets slender, erect or drooping, pubescent. Bark pale brown, yellow-brown or grey, rough with very small dark-coloured scales. Slash yellow. Leaves minutely pubescent below, oblong to oblong-lanceolate, 1-2¼ in. long, ½-¾ in. broad, rounded at the apex, lying more or less parallel to the twigs. Flowers reddish-purple to pink, very fragrant (smelling of violets), borne in loose racemes; sepals 2; petals 3, the lower one concave with an appendage, the other two smaller; stamens 8. Samara about 2 in. long, yellow-green to red, usually in bunches of 6-8. Wood pale yellow, the annual rings distinctly marked in dark brown, the dry wood parting at these rings into a series of concentric cylinders. Weight 55 lb. per cu.ft. air dry.

Mengo; Entebbe; Masaka; Ankole; Mubende; Bunyoro; West Nile; Madi; Gulu; Chua; Lango; Teso; Budama. A very common savannah species, extremely decorative when in flower.

The young stems yield a very strong and durable fibre especially used for making fishing nets.

The stems are reputed to be durable and are used for hut-building in Acholi.