

**CATALOGUE OF THE  
AFRICAN PLANTS;  
DICOTYLEDONS,  
PART II, PP. 337-510**

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**WILLIAM PHILIP HIERN & FRIEDRICH WELWITSCH**

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CATALOGUE  
OF THE  
AFRICAN PLANTS

COLLECTED BY  
DR. FRIEDRICH WELWITSCH  
IN 1853-61.

DICOTYLEDONS. PART II.  
*COMBRETACEÆ TO RUBIACEÆ.*

BY  
WILLIAM PHILIP HIERN, M.A., F.L.S.

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## LII. COMBRETACEÆ. GARDEN

Combretaceæ, whether as climbers often with their grand inflorescence, or as moderate-sized trees, constitute one of the greatest ornaments of the tropical landscape, making a splendid show with their variously-coloured leaves and winged fruits; by the abundance of their flowers, especially in the case of the species which have red blossoms, they produce a wonderfully magnificent effect: they mostly bloom in winter. *Combretum flammæum* Welw., a climbing shrub, which is frequent about Sange in Golungo Alto, has its petals and sepals and even its bracts coloured bright red, ultimately turning dark blood-red, and thus presents the appearance of a burning bush. Few species give from dried specimens any adequate idea of the beauty of the plants in a growing state. Some species occur only as herbs or undershrubs, others as trees even to the height of 80 ft., others again either as small shrubs or mighty climbers; some have a very wide distribution, as for instance *C. constrictum* Laws., which occurs on both the western and eastern sides of the African continent, and which in Angola is diffused in different forms in the interior, and is represented in Pungo Andongo by a closely allied species.

Six species of trees or erect shrubs adorn the forests about Pungo Andongo, and of these one with large glossy leaves and clusters of blood-red fruits is conspicuous, inhabiting the forests of the Cuanza valley from Sansamanda to Quisonka, a distance of at least 75 to 80 geographical miles; *Combretum constrictum* Laws., an officinal shrub, occurs very abundantly near Candumba; the scandent species with flaming-red flowers are rarer than in Golungo Alto and Cazengo; but *C. racemosum* P. Beauv. with its silky-glossy leaves and scarlet-red flowers produces a splendid contrast. Several species, which are found in masses in Golungo Alto, occur in Pungo Andongo singly, and so exercise but little effect as a feature in the physiognomy of the vegetation.

Most species show a considerable variation between the leaves of their young shoots and those of the older flower-bearing branches, both in shape and indumentum, so that it is often very difficult to classify forms of the same species which have sprung from the same stock but at different periods or have attained a greater age; frequently even the densest tomentum on the radical shoots becomes obsolete on the flowering shrub. The pubescence, which is often silky or like felt, and which is whitish or greyish on the living plant, assumes on dried specimens a tawny or ferruginous colour, rendering the descriptions taken from herbarium specimens mostly erroneous and occasioning wrong diagnostic characters. For instance, *C. holosericeum* Sond. is described by its author as clothed with tawny hairs, while in nature it shines with a silvery-white pubescence on its leaves and branches, and the wings of its fruit, described as yellowish, are really of a blood-red colour.

The colour of the petals is remarkably constant in the same

species; Welwitsch never noticed in Angola whitish or yellow petals in the typically red-flowering species, nor red petals in the typically white or yellowish species.

The wood of several species of *Terminalia* and of the arborescent *Combretum* is very valuable and held in high estimation by the colonists, as for instance that of the Múeia and the Gusúsu. The roots and bark of some species are used as yellow and black dyes; and those of others as an astringent in skin diseases and diarrhoea. *T. Catappa* L., which has been long cultivated in the Cape de Verde Islands and in St. Thomas and Prince's islands, is a capital tree for avenues and moreover supplies well-flavoured seeds. *Laguncularia racemosa* Gaertn. f. is well suited for making dams to prevent the washing away of the beach on the sea-shore; it grows almost exclusively and thrives well in salt water, in company with *Arcicennia* and *Rhizophora*; in some negro villages the bruised leaves are employed for tanning and dyeing brown fishermen's nets, either alone or mixed with the leaves of *Chryso-balanus Icaeo* L. The Mube, *Combretum holosericeum* Sond., supplies the people of Loanda with excellent firewood, and on that account has become rarer and rarer in that neighbourhood. The flowers of most species afford ample food for bees.

1. **TERMINALIA** L.; Benth. & Hook. f. Gen. Pl. i. p. 685 (excl. syn. *Bucida* L.).

1. **T. Catappa** L. Mant. Pl. ii. p. 519 (1771); Welw. Apont. p. 567 sub n. 164; Laws. in Oliv. Fl. Trop. Afr. ii. p. 416; Ficalho, Pl. Uteis, p. 182 (1884).

*Bucerus Bucida* Crantz, Indst. i. p. 133 (1766).

ISLAND OF ST. THOMAS.—Coast region, in the ascent to Fazenda do Monte Caffé; fl. without fr. end of Dec. 1860. Cultivated under the name of "Amendoeira das Westindias," but a native of the East Indies. No. 4293b and COLL. CARP. 19.

CAPE DE VERDE ISLANDS.—A handsome tree, about 25 ft. high. Cultivated in S. Iago, in Valle de S. Domingo, in gardens, etc., and called "Amendoeira da India" (the Indian almond tree); fl. and fr. Jan. 1861. No. 4293. Ripe fr. Jan. 1861. "Amendoeira das Westindias." COLL. CARP. 547.

Welwitsch recommended that this tree should be introduced in Angola. (See Welwitsch, *l.c.*)

2. **T. sericea** Burch. ex DC. Prodr. iii. p. 13 (1828); Laws., *l.c.*  
Var. **angolensis**.

*T. angolensis* Welw. ex Ficalho in Bol. Soc. Georg. Lish., ser. 2, p. 708 (Feb. 14, 1882), and Pl. Uteis, p. 182 (1884); Elliot in Journ. Linn. Soc. xxx. p. 79 (1894); ? O. Hoffmann in Linnaea xliii. p. 131 (1881).

AMBACA.—A sparingly leafy tree, 15 to 20 ft. high; trunk straight; head widely spreading; leaves thinly coriaceous, evergreen, greenish-glaucous, rather bright, paler beneath; flowers white. In mountainous rocky places near the cave at Puri-Cacarambola, at an elevation of about 3000 feet, not abundant; fl. middle of Oct. 1856. No. 4339.

**PUNGO ANDONGO.**—In dry thin open woods near Caghuy; fl. Nov. 1856, fr. May 1857. No. 4286. A tree of 12 to 20 ft., occurring throughout Angola, with very hard and durable wood, and known by the name of "Mueia," wonderfully variable as to the indumentum of its branchlets foliage and inflorescence; flowering branches, petioles, rachis of the racemes, and calyx usually pubescent-hirsute; petioles not exceeding  $\frac{1}{2}$  to  $\frac{2}{3}$  in. long, sometimes almost obsolete; leaves when old mostly more or less glabrate or thinly puberulous, almost always oblong-oblanccolate, always deep-green above, canescent or whitish-glaucous with midrib purplish beneath; flowers white, arranged in simple racemes shorter than the leaves; stamens 10; drupes  $1\frac{1}{2}$  to 1 in. long, borne on a stipes of  $\frac{1}{2}$  to  $\frac{1}{4}$  in. long, and surrounded with a rather rigid wing elliptical in outline and more or less emarginate at the apex, thinly tomentellous or pubescent on the surface. Abundant, on rocky hills and at the borders of forests near the fortress; fl. and fr. Oct. 1856. No. 4340. A moderate-sized tree with a narrow head, and affording excellent timber; flowers white. In open rocky woods near Caghuy; fl. Nov. and Dec. 1856. No. 4341. An evergreen tree, 15 to 20 ft. high. In the thickets of the fortress near the river Luxillo; fr. May 1857. No. 4342.

**HULLA.**—A small tree of 8 to 12 ft.; branches and branchlets sparse, deep-purple, glabrous; leaves alternate, subsessile, oblanccolate, apiculate, glabrous on both sides, bright-green above, glaucous beneath. In hilly tall-bushy places between Lopollo and Humpata, at 5000 to 5500 feet altitude; fr. end of May 1860; a glabrate form. Nos. 4285 and 4343. COLL. CARP. 59.

**Var. huillensis.**

Foliage pallid, clothed on both sides with appressed inconspicuous pubescence.

**HULLA.** A small tree, of a grey colour, with pallid head and white flowers. In hilly, bushy, somewhat stony, dry and barren situations between Lopollo and Nene, at an elevation of 5000 ft.; fl. Dec. 1859, young fr. Feb. 1860. Nos. 4294 and 4338.

The mucia (pronounced mu-ci-a) has a trunk rarely exceeding 18 in. diameter; the wood is compact, of tolerably fine grain, yellowish colour and great hardness, and suitable for the construction of various agricultural implements, carts, and domestic utensils. See Welwitsch, Apont. p. 568 under n. 164, and Synopsis, p. 18, n. 45.

**3. T. benguellensis** Welw. ms. in Herb., sp. n.

An inelegant shrub, sub-arborescent, 4 to 6 ft. high or occasionally higher, remarkable for the hardness of its wood and rigidity of its ramifications; branches virgate, subterete, glabrate below, shortly pubescent or felted above, the older ones subspinescent in consequence of the stiff pin-like character of the patent alternate lateral branchlets, which are leafy in a fasciculate manner at the apex; indumentum pallid; leaves alternate scattered or mostly crowded at the tips of the branchlets, obovate, rounded and often apiculate or emarginate at the apex, more or less wedge-shaped at the base, thinly coriaceous, deep-green and glabrescent or obsoletely tomentellous above, pallid and felted beneath, entire, 1 to  $2\frac{1}{4}$  in. long by  $\frac{1}{2}$  to  $1\frac{1}{8}$  in. broad; petiole  $\frac{1}{3}$  to  $\frac{1}{2}$  in. long, hairy or subglabrate; inflorescence in the axils of the uppermost leaves; fruits racemose, bright blood-red, oval-



oblong, glabrate, drupaceous, surrounded by a broad flat purplish wing,  $1\frac{3}{4}$  to 2 in. long by  $\frac{3}{4}$  to 1 in. broad, emarginate at the apex, somewhat narrowed towards the base; central portion bony, very hard, 1-seeded; fruiting racemes 1 to  $2\frac{1}{2}$  in. long, pedicels ranging up to  $\frac{1}{4}$  in. long.

BENGUELLA.—In bushy places at the sea coast near the city; fr. June 1859. Nos. 4290 and 4344.

Var. *ovalis*.

Fruit oval in outline,  $1\frac{1}{2}$  to  $1\frac{3}{4}$  in. long by 1 to  $1\frac{1}{8}$  in. broad, deep blood-red; leaves rather oblanceolate, nearly glabrescent except the veins beneath.

MOSSAMEDES.—In sandy thickets, near the town, at Boea do Rio Bero, on the sea coast; fr. July 1859. Nos. 4291 and 4337. COLL. CARP. 106 and 548.

HULLA.—In bushy, hilly, rather dry places between Lopollo and Nene; fl. Dec. 1859, young fr. Feb. 1860 (fr. April). No flowers have been preserved. No. 4292.

4. *T. brachystemma* Welw. ms. in Herb., sp. n.

A tree, 15 to 20 feet high, glabrous throughout except the very young leaves pedicels bracteoles and part of the flowers, with the habit of an *Anacardium*; head very broad; branches patent; leaves alternate, scattered on the barren shoots, crowded at the extremities of the flowering branches, sessile or at length shortly petiolate, obovate or obovate-elliptical, rounded obtuse or emarginate and abruptly acuminate cuspidate apiculate or mucronate at the apex, gradually attenuated towards the base, deep-green above, whitish-glaucous beneath,  $2\frac{1}{2}$  to  $6\frac{1}{2}$  in. long by  $1\frac{1}{8}$  to  $2\frac{3}{8}$  in. broad, entire, thinly coriaceous; venation inconspicuous; flowers polygamo-dioecious,  $\frac{1}{16}$  in. diam., on short pubescent pedicels, arranged in spike-like shortly pedunculate racemes 1 to 2 in. long; bracteoles lanceolate, about equalling the pedicels, pubescent outside, deciduous; calyx yellowish-green or whitish, puberulous or glabrescent, 5-cleft; lobes deltoid at the base, with a prolonged tip; stamens shorter than or scarcely exceeding the calyx; ovary pilose; style prolonged, glabrescent; fruit glaucous-purple, glabrate, oval, somewhat compressed, surrounded with a broad wing, emarginate at the apex, somewhat narrowed or nearly rounded at the base, 1 to  $1\frac{5}{8}$  in. long by 1 to  $1\frac{1}{8}$  in. broad.

HULLA.—In open woods, in rocky places, at an elevation of 5000 to 5600 ft., between Lopollo and Empalanea; fl. Oct. 1859; fr. May 1860. Nos. 4287 and 4345. Cf. COLL. CARP. 86.

2. *GUIERA* Juss.; Benth. & Hook. f. Gen. Pl. i. p. 687.

1. *G. senegalensis* Lam. Tabl. Encycl. ii. p. 486, t. 360, fig. sup. (1793); Pers. Syn. Pl. i. p. 470 (1805); Poir. Encycl. Méth. Suppl. ii. p. 861 (1811); Guill. & Perr. Fl. Seneg. p. 282, t. 66, fig. 2 (1833); Laws. in Oliv. Fl. Trop. Afr. ii. p. 418.

*G. glandulosa* Sm. in Rees, Cycl. vol. xvii. (1811). *Gujera senegalensis* Gmel. Syst. ii. p. 675 (1791).

MOSSAMEDES.—A robust shrub, climbing high and widely, becoming hoary; leaves opposite, densely tomentose beneath and also white-punctate above. Abundant in tall thickets in Mata dos Carpenteiros; without either fl. or fr. July 1859. Nos. 4289 and 4346.

3. **LAGUNCULARIA** Gertn. f.; Benth. & Hook. f. Gen. Pl. i. p. 688.

1. **L. racemosa** Gertn. f. Fruct. iii. p. 209, t. 217, f. 3 (1805); Welw. in Proceed. Linn. Soc. ii. p. 328 (1854); Lawson in Oliv. Fl. Trop. Afr. ii. p. 419.

LOANDA.—A shrub standing erect, or a small tree of 5 to 7 ft.; flowers white. Abundant and nearly always in company with *Rhizophora* and *Avicennia*, at the muddy sea-shore, near the city of Loanda; at Zamba grande, frequently inundated by the sea; fl. July 1854. No. 4347. Abundant also in like company on the island of Loanda, at Cabo Lombo, etc.; fl. from Oct. to Dec. 1853.

4. **COMBRETUM** Loefling, Iter, p. 308 (1758); L. Syst. edit. 10, p. 999 (1759); Benth. & Hook. f. Gen. Pl. i. p. 688.

1. **C. Klotzschii** Welw. ex Laws. in Oliv. Fl. Trop. Afr. ii. p. 422, quoad specim. Welw.

GOLUNGO ALTO.—A gigantic shrub, climbing high; sarmentose branches 20 to 25 ft. long; leaves thick, not coriaceous, fallen at the time of the flowers; flowering branches often 2½ ft. long, as well as the whole inflorescence, except the petals, glandular-viscid; calyx nerved-striate, pale-greenish, almost yellow-greenish; petals of a deep red-scarlet colour; styles far exceeding the 10 stamens. In the more elevated thickets and on sparingly-leafy trees at the skirts of forests, on the north-east side of the mountains of Serra de Alto Queta; fl. and fr. July 1859. No. 4300.

2. **C. xystachyum** Welw. ex Laws., *l.c.*, p. 422.

BUMBO.—A shrub, 3 to 5 ft. high, softly pubescent throughout, sparingly and patently branched; branches sometimes elongate-sarmentose; leaves alternate or opposite; flowers scarlet, arranged in acutely conical spicate racemes 2½ to 3 in. long, terminating the branches and branchlets; calyx-teeth long, acute, gradually acuminate; petals lanceolate, acuminate, rigid, hairy outside; stamens 10; fruit 5- or 4-winged. In rocky tall-bushy places near Quitibe de Cima, at an elevation of 2000 to 2500 ft., sparingly; only one shrub seen in fl. and (very few) fr.; June 1860. No. 4309.

3. **C. celastroides** Welw. ex Laws., *l.c.*, p. 422.

HUILLA.—A much-branched shrub, 4 to 7 ft. high, very rarely arborescent but scarcely scandent, or frequently a bush with a trunk and more or less climbing branches, with the habit of a *Celastrus*; leaves lepidote beneath; flowers yellow, tetramerous; calyx densely lepidote; disk present; fruit densely lepidote. In hilly places amongst tall bushes from Mumpulla up to Lopollo, especially in Morro de Lopollo; fl. bud Oct., fl. Dec. 1859, fr. March 1860; also in rocky places, fr. end of March 1859; and in forests above Lopollo, Dec. 1859. Nos. 4370, 4389. Cf. COLL. CARP. 557 (part).

4. **C. grandiflorum** G. Don in Edinb. Phil. Journ. 1824, p. 346; Laws., *l.c.*, p. 423.

*C. Afzelianum* G. Don, Gen. Syst. ii. p. 666 (1832).

SIERRA LEONE.—A climbing shrub, 4 to 6 ft. high; shoots 6 to 10 ft. long, scandent in all directions or pendulous-nodding; leaves glossy, blackish-green, coriaceous; flowers sanguine-red, brilliant, very handsome. In elevated forests at the cataract of Sugar-loaf Mountain above Freetown; fl. Sept. 1853. No. 4311.

AMBRIZ.—Sporadic, in rocky thickets alongside streams between Ambriz and Quizembo; fl. Nov. 1853. No. 4310.

5. *C. constrictum* Laws. in Oliv. Fl. Trop. Afr. ii. p. 423; Ficalho, Pl. Uteis, p. 183 (1884).

LOANDA.—A large shrub, 5 to 7 ft. high, with stems in some cases erect, in others climbing amongst other shrubs or decumbent; leaves deciduous at the flowering season; flowers whitish; anthers brick-red. Abundant in moist thickets between Quicuxe and Mutollo, but rarely flowering; at Quicuxe with leaves and without fl. April and July 1854. Native name "Mafucama-hóje" or "Muhondongolo." No. 4302.

TCOLO E BONGO.—By thickets in rocky situations near Prata; fl. Sept. 1854. Native name "Muhondongolo." No. 4304.

LIDONGO.—A small shrub, mostly only 1 to 3 ft. high, rarely attaining 3 to 5 ft., mostly but not always leafless at the time of flowering; branchlets virgate-sarmentose; leaves opposite, membranous but rather fleshy, quickly dropping in the course of drying; calyx-limb glabrescent; petals elongate-spathulate, obtuse, rather shaggy, whitish; stamens 10, with red anthers. In dense thickets at the edges of forests in the more elevated parts of the district, at the banks of the river Lifune; fl. without leaves Sept. 1858. Native name "Muandongolo." No. 4303.

GOLUNGO ALTO.—A climbing shrub, 3 to 5 ft. high, with sarmentose branches variously curved or elongate-straight; petals of a pale sulphur colour, woolly-ciliate. In rocky thickets near Cambondo and Cabanga Cacahunga, sporadic; fl. and young fr. Oct. 1855, ripe fruit Jan. 1855. Native name "Muhondongolo" or "Mochondongolo." Nos. 4282 and 4305. A low scandent shrub; leaves grass-green, pendulous by reason of the weak petioles being always bent and twisted in various ways; odour of the bruised branches and foliage resembling that of *Prinos Pulus* L., not noticed in the root, which is recommended by the natives as an excellent remedy in the case of worms (*Ascariides*) in children. In thickets about Sange, sporadic; without either fl. or fr. beginning of June 1855. Native name "Muhondongolo." No. 4306.

AMBACA.—A sarmentose shrub, 2 to 4 ft. high, with numerous stems, mostly leafless at the time of flowering; leaves membranous but rather rigid; flowers white except the brick-red anthers, decandrous; calyx rather shaggy, with a campanulate limb and 5 teeth; petals elongate-spathulate or lanceolate-spathulate, shaggy, whitish, erect, far exceeding the calyx-limb. Not uncommon but sporadic, in bushy rocky places near Puri-Cacarambola; fl. and also leafy branches Oct. 1856. Used officinally by the natives. This No. is referred in Welwitsch's herbarium, to Lawson's variety  $\beta$ , though the next species, *C. rigidifolium* Welw., better suits Lawson's description. No. 4307.

A decoction of the root or a tepid infusion of the bark is administered to children suffering from intestinal worms (*Ascariides*); it is usually leafless at the time of flowering. Another form of the native name is "Muandongolo." The green leaves when rubbed give off the smell of cyanic acid.

6. *C. rigidifolium* Welw. ms. in Herb.

An erect shrub, 3 to 4 ft. high; stem with a few subterete