

**CATALOGUE OF THE AFRICAN
PLANTS COLLECTED BY
DR. FRIEDRICH WELWITSCH
IN 1853-61. PP. 785-1035**

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by Various

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VARIOUS

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CATALOGUE
OF THE
AFRICAN PLANTS

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DR. FRIEDRICH WELWITSCH
IN 1853-61.

DICOTYLEDONS, PART IV.
LENTIBULARIACEÆ to CERATOPHYLLÆ.

BY
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ROYAL BOTANIC GARDENS
HERBARIUM, Kew, Surrey

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Utricularia] 1896 XC. LENTIBULARIACEÆ.

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XC. LENTIBULARIACEÆ

The members of this family produce but little effect on the physiognomy of vegetation in Angola; they, however, especially *Gentisea africana*, adorn with their innumerable mostly purple flowers the humid pastures of the Huilla highlands. Most of the aquatic and even the amphibious species bear yellow flowers, while the strictly terrestrial species are red, violet, purple, or white. In the coast districts only two species are found, and these belong to *Utricularia*. The terrestrial species begin to appear about 3000 ft. above the sea-level in soils that are kept moist even in the dry winter season by the presence of Algae; they become more frequent and abundant both in species and individuals as the land rises in altitude, and they occur in the largest number of forms and species from 4500 to 5500 ft. The presence of the terrestrial species of *Utricularia* usually indicates a rich productive soil; and even where they grow on a sandy soil, as occasionally happens in Huilla and about Pungo Andongo, their appearance is mostly accompanied with some impregnation of the land with fertilizing materials. Heavy rains are apt completely to wash away the aquatic species, and many of the species suddenly disappear after a few hot and dry days.

1. **UTRICULARIA** L.; Benth. & Hook. f. Gen. Pl. ii. p. 987.

1. *U. stellaris* L. f. Suppl. Pl. p. 86 (1781); Oliv. in Journ. Linn. Soc. ix. p. 146 (12 Oct. 1855).

ICMOLO E BONGO.—In the Lagoa da Funda on the left bank of the river Bengo, in company with *Costalis stellaris* Salisb. and *U. exoleta*; fl. Sept. 1854. No. 268. In the extensive Lagoa de Quilunda, near Prata, in company with *C. stellaris* and *C. nagebia* Salisb., *Lemna*, and *Platia*; fl. end of Sept. 1854. No. 268b.

BARRA DO DANDE.—In the river Dande, the specimens probably grown in Lagoas de Bumbo and washed down; without fl. Nov. 1853. No. 268c. An aquatic herb, floating by means of little bladders; rhizome ample; flowers whitish violet or deep purple. In lakes on the left bank of the river Lifune, not far from Banza de Libongo, plentiful; fl. and fr. Sept. 1858. No. 268d.

2. *U. reflexa* Oliv., l.c., p. 146.

HUILLA.—Rhizomes densely crowded, covering broad tracts of a small river; flowers deep yellow or pale yellow; corolla inside yellow or pale yellow. In the river Quipunpuhime and most of the other gently flowing streams in Sobato de Humpata, about 4800 ft. elevation, very plentiful; fl. April 1860. No. 269. Same place and date; in fr. No. 269b.

3. *U. tricrenata* Baker ms. in Herb., sp. n.

U. sp. n. ?, aff. *U. gibbes* L., Oliv., l.c., p. 147.

Aquatic; submerged herb, floating by means of capillary segments bearing bladders; peduncle slender, naked, 1- or 2-flowered, 1 to 3 in. long; fruiting pedicels divaricate; bracts orbicular, amplexicaul, basifixed; calyx-segments ovate, equal, $\frac{1}{2}$ in. long; corolla $\frac{1}{2}$ in.

long; upper lip orbicular, entire; lower obscurely 2- to 3-crenate; spur as long as the lower lip.

HULLA.—Flowers orange-yellow. At the muddy shore of the great lake of Ivantilla where the river Cacolorar takes its rise, at an elevation about 4000 ft.; fl. end of Feb. 1860. No. 270.

4. **U. exoleta** Br. Prodr. p. 430 (1810).

U. diantha Schult. Mant. i. p. 169 (1822); Oliv., *l.c.*, p. 147; non Alph. DC.

COLO E BENGO.—Floating, densely caespitose; flowers small, pale yellow. In Lagon da Fonda, not far from the river Bengo, plentiful but not then seen elsewhere; fl. and fr. Sept. 1854. No. 267.

BARRA DO DANDE.—A tender, amphibious herblet, sometimes floating with a much branched rhizome laden with small bladders, sometimes growing on the damp mud with an abbreviated rhizome and without any bladders; flowers deep yellow. At the margins of the river Dande and in neighbouring lakes near Bombo, sparingly; fl. and young fr. Sept. 1858. No. 267b.

5. **U. diploglossa** Welw. ex Oliv., *l.c.*, p. 147.

HULLA.—Annual, amphibious, sometimes floating, sometimes terrestrial, with its rhizome and branches bearing crowded bladders and aggregated in the form of cushions; the bladders blackish green or livid purple, large in proportion to the size of the plant, compressedly ovoid, ramentaceous at the top; scape scarcely an inch long, bibracteolate in the middle. 1-flowered, erect at the time of flowering, bent downwards in fruit; corolla yellow, moderate in size; the upper lip 2- or 3-crenulate at the apex, not bifid; the lower lip longer than and twice as broad as the upper, bent downwards, sub-entire and reflected on the margin, as well as the broadly conical obtuse spur furnished beneath with thin scattered hairs; the palate very large and prominent; anthers inserted on the filaments below the apex. In spongy places by streams and in still bays of the streams, in Morro de Lopollo, at an elevation of 5300 ft., plentiful; fl. and fr. middle of May 1860. No. 271. At the banks of the river Monino. A more densely caespitose form. No. 271b.

6. **U. cymbantha** Oliv., *l.c.*, p. 147.

HULLA.—Corolla pale yellow or straw-coloured, small. Sometimes floating, sometimes terrestrial, in rather shallow pools and covered with various species of Algae, creeping along mud and forming broad spongy patches; in the more elevated wooded parts of Morro de Lopollo, seen nowhere else; fl. April 1860. No. 272.

This is the plant referred to as *U. scalaris* in Journ. Bot. xxxv. pp. 38, 77, 78, 79, 81, 86, 87, and cf. p. 146 (1857); it formed a harbour for the following fresh-water alga: n. 179; *Mongotia* (sp.), *Penium* (sp.), *P. varioletum* West, *P. minutum* Cleve, *Decidium trigeniferum* West, *Tetraspora granulata* Ralfs, *Micrasteris arcuata* Bail., var. *subplanatifida* West, and *M. tropica* Nordst., var. *crassa* West.

7. **U. subulata** L. Sp. Pl., edit. 1, p. 18 (1753); Oliv., *l.c.*, p. 148.

HULLA.—An annual insignificant little herb; leaves radical, spatulate-lingulate, greatly attenuate at the base; scapes few-flowered, setiform; pedicels spreading-divaricate; flowers yellow; capsules globose, red, resembling the sporogonia of mosses. In damp pastures near Empalme, on the Humpata plateau, in mossy places

among low bushes, at an elevation of 5500 ft.; fl. and fr. beginning of April 1860. No. 257.

8. *U. reticulata* Sm. Exot. Bot. ii. p. 119, t. 119 (1 Jan. 1808); Oliv., *l.c.*, p. 149.

HUILLA.—A terrestrial marsh herb; root fibrous, the fibres very slender; scape filiform, twining, 1 to 1½ ft. high, 2-flowered; flowers larger than usual, the largest among the Huilla species, deep blue verging on purple; the spur descending, acuminate, but little curved forwards. In marshy somewhat spongy meadows on the left bank of the river Quipumpunhine, in Sobato de Humpata, at an elevation of 4800 ft., very rare; fl. and fr. April 1860. No. 265.

9. *U. prehensilis* E. Mey. Comm. Pl. Afr. Austr. p. 282 (1837); Oliv., *l.c.*, p. 150, excl. var.

HUILLA.—An annual herblet; rhizome caespitose, slender, whitish, brittle, bearing little bladders and also leaves; leaves rather erect, lanceolate or lingulate, attenuate at the long base into the petiole, not uncommonly ending at the apex in a little bladder and there rooting; scapes 3 to 5 in. long, erect, usually aggregated, 1 to 3 together, 2- to 6-flowered; flowers saffron-yellow, the upper lip of the corolla somewhat emarginate at the apex, erect, appendaged at the base on each side at the insertion of the lower lip with a short pyramidal tooth; the lower lip obovate, patent, deeply marked with four channels on the disk, gibbose-crested; spur conical, somewhat curved forwards. In swampy spongy wooded places in the highest pastures of the Humpata plateau, and in Morro de Lopollo at an elevation of about 5400 ft., in company with *Xyris* and *Lycopodiaceæ*; fl. and fr. beginning of April 1860. No. 261.

10. *U. andongensis* Welw. ms. in Herb., sp. n.

U. prehensilis E. Mey., var. *β parviflora* Oliv., *l.c.*, p. 150.

PUNGO ANDONGO.—An annual, elegant herblet; rhizome bearing little bladders and intermixed with mosses and liverworts; leaves broadly linear or lanceolate-linear, obtuse, thinly fleshy, yellowish green; scapes erect, branched; flowers yellowish, unicolorous. In a swampy place at the banks of the rivulet Casalalé in the rugged part of Pedra Songue in the presidium, rare and observed only in one spot; fl. and fr. Feb., March, and April 1857. No. 264.

This is not identical with *U. parviflora* Br.

11. *U. tortilis* Welw. ex Oliv., *l.c.*, p. 150.

HUILLA.—Terrestrial; fibres of the root whitish, branched, somewhat fleshy; the branches sub-compressed, here and there terminating in little bladders; scape filiform, 2½ to 6 in. long, spirally twining round the stems of Cyperaceæ, 1- to 4-flowered; corolla yellowish; the upper lip entire, longitudinally purple-striate; the lower lip sub-entire, yellow at the gibbosity, whitish-yellowish at the circumference; the posterior lobe of the stigma wanting or obsolete; capsule quite covered by the calyx when nearly ripe. In marshy spongy places in Morro de Lopollo, among short grasses (*Panicum myosuroides* Br., etc.), always in company with mucilaginous algae and even growing upon them; fl. and young fr. 9 May 1860. No. 258.

12. *U. linarioides* Welw. ex Oliv., *l.c.*, p. 151.

HUILLA.—In habit remarkably resembling some Portuguese species of *Linaria*; leaves radical, obovate-spathulate; petiole long; scape

always strictly erect although weak; corolla deep purple; palate yellow-velvety. In spongy places by streams throughout the Lopollo country, appearing soon after the spring rains, at an elevation of 5000 to 5200 ft., plentiful; fl. and fr. 26 to 30 Oct. 1859. No. 266.

13. *U. Welwitschii* Oliv., *l.c.*, p. 152.

HUILLA.—Scape constantly dextrous on the fruiting portion; leaves loosely rosulate, elongate-spathulate, rarely surviving on the plant in flower; calyx-lobes yellowish, margined with red, obtuse, somewhat denticulate on the lower part; corolla yellow; both the upper and lower lips purplish; the palate orange in colour; the spur livid-purple, conical, acute, bent forwards and upwards. In swampy pastures, tolerably plentiful about Lopollo, in company with various species of *Eriocaulon*; fl. and fr. Nov. and Dec. 1859. No. 263.

14. *U. firmula* Welw. ex Oliv., *l.c.*, p. 152.

PUNGO ANDONGO.—An annual herblet; scape erect, simple or bifid, comparatively firm; leaves radical, rosulate, obovate-spathulate; upper lip of the corolla yellowish, bilobed; the lower lip orange-coloured; the palate deep orange-red; anthers didymous-constricted. In a damp wooded place among short grasses, near San-amanda, on the right bank of the river Cuanza, in company with *Lambertia oppositifolia*, rather rare and seen only in one place; fl. and fr. 1 May 1857. No. 262.

This is not identical with *U. Wallichiana* Wight (*v. firmula*), Oliv., *l.c.*, iii. p. 182 (1859).

15. *U. sanguinea* Oliv., *l.c.*, p. 153.

HUILLA.—Leaves spatulate, somewhat fleshy, brittle; flowers very bright blood-red purple. In swampy pastures and also in damp fields neglected after cultivation about Lopollo, at an elevation of about 5000 ft., very plentiful; fl. and fr. from Feb. to April 1860. No. 259.

16. *U. exilis* Oliv., *l.c.*, p. 154.

HUILLA.—An annual herblet; rhizome very tender, whitish, rooting; leaves spatulate-lingulate, somewhat fleshy, arranged in a rosette at the base of the scape or at each node of the rhizome; scape 1 to 2 in. high, 1- to 3-flowered, capillary, straight, dusky purple, simple or very rarely with 1 or 2 branchlets; calyx-segments broadly ovate-elliptical; corolla sometimes quite white, sometimes more or less violet-purple; the upper lip somewhat emarginate or shortly bifid, erect, yellowish, the lower lip gibbous and yellowish in the disk, which is almost quadrate and marked with 3 or 4 deep purple transverse lines on each side, reflected and violet-purple or white on the circumference; spur horizontal, ascending at the apex, pale purple. In pastures flooded by the spring and autumn rains at length drying up and somewhat spongy, on the Humpata plateau, at elevations of 4800 and 5000 feet, very plentiful, in company with species of *Nyssa*, *Eriocaulon lacteum* Rendle (Welw. Herb. 2452), Cyperaceæ, and *Isotles*; fl. 21 March and fr. end of March 1860. No. 253. A weak, terrestrial herb; leaves radical, narrowly spatulate; scape 1- or 2-flowered, 1 to 2 inches high, smooth, erect; calyx-segments broad; corolla white, the upper lip incumbent on the margin of the reflected broadly obcordate lower lip; spur straight, conical, obtuse; capsule globose, apiculate. In moist bushy sandy flooded places on the point of drying up, between Lopollo and the river Eme; fl. and fr. middle of April 1860. No. 252. It also occurred about Lagoa de Quibinda on watery mud, in company with *Rotala mexicana* subsp. *Hiermanni*; see note, p. 371.

Var. *bryoides* Welw. ms. in Herb.

An annual, erect herblet, 1 to 2 in. high; leaves radical, subsulate, obovate- or lanceolate-spathulate, somewhat fleshy, greatly attenuate at the base into the petiole; scape erect, 1- or few-flowered; flowers purple; corolla pale violet; the palate violet-purple; the disk prominent yellow and marked with purple lines radiating to the circumference. The patches of the plant in fruit resemble those of a fruiting moss.

PUNGO ANDONGO.—In spongy places among the more elevated rocks of Pedras de Guinga, in company with *Lysanthes andongensis* Hiern, var. ?; fl. and fr. Jan. 1857. No. 254. In masses rather loosely inserted on rich saturated turf in spongy marshy places, near Catete and Laxillo; fl. and fr. middle of Jan. 1857. No. 255.

Var. *nematoscapa*.

A filiform herblet with a slender capillary scape and white flowers.

PUNGO ANDONGO.—In sandy places among sparse herbage, by the lake of Quibinda; fl. and fr. March 1857. No. 256.

This is quoted by Oliver, *l.c.*, p. 153, in mistake as No. 257. It grew in company with *Polygala Welwitschii* Chodat; Welw. Herb. no. 1013.

2. **GENLISEA** A. St. Hil; Benth. & Hook. f. Gen. Pl. ii, p. 988.1. *G. africana* Oliv. in Journ. Linn. Soc. ix, p. 145 (1865).

HUILLA.—Habit eminently Primulaceous; leaves somewhat fleshy, all densely rosulate; flowers pale purple, turning blue when dried. In marshy meadows and swampy plains by the banks of the Lopelle river, at an elevation of 5000 to 5200 ft., in company with species of *Lobelia* (cf. *L. Welwitschii* Engl. & Diels, Welw. Herb. no. 1142, and *L. angolensis* Engl. & Diels, Welw. Herb. no. 1146), *Burmannia bicolor* Mart., var. *africana* Ridl. (cf. Welw. Herb. no. 6473), and Eriocaulonaceæ (cf. *Paspalanthus Wahlenbergii* Koern., Welw. Herb. nos. 2454-55); fl. and fr. Jan. and Feb. 1860. No. 260. Weaker forms, obtained at the same time and place. No. 260b.

The following No., represented in the British Museum set by a poor specimen, should be compared with this species, but the reference is very doubtful:—

PUNGO ANDONGO.—A herb scarcely an inch high, growing in a caespitose manner, apparently perennial; leaves erect-patent, somewhat fleshy, almost rosulate; peduncles longer than the leaves; fruit fallen. In rocky sandy-schistose places on the right bank of the river Cuanza; without fl. end of Jan. 1857. No. 6743.

XCI. GESNERACEÆ.

1. **STREPTOCARPUS** Lindl.; Benth. & Hook. Gen. Pl. ii, p. 1023.1. *S. monophyllus* Welw. in Archiv. Sc. Phys. & Nat. Genève, xi, p. 203 (1861), (*monophylla*).

S. benguelensis Welw. ex C. B. Cl. in DC. Monogr. Phan. v. 1, p. 150 (1883).

HUILLA.—A herb, apparently perennial; radical leaf solitary, very large, very broadly cordate-ovate or cordate-oblong, obtuse at the apex,