

ACCOUNT OF EFULENSIA (PASSIFLORACEAE)

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SUMMARY

The genus *Efulensia* C. H. Wright comprises two species in Equatorial Africa. One species, *E. clematoides* C. H. Wright, occurs in lowland forest from southern Nigeria to the eastern Congo basin, a second species, *E. montana*, here described as new, occurs in a restricted montane area in E. Zaïre and W. Uganda. Genus and species descriptions, synonyms, key to the species, figures, and distribution map.

INTRODUCTION

With the preparation of the family *Passifloraceae* for the Flora of Tropical East Africa a second, new, species was found among the material of what was currently known as *Deidamia clematoides* (C. H. Wright) Harms. In a separate article (Blumea 22, 1974: 37) I have come to the conclusion that the material from Equatorial Africa, originally described in the genus *Efulensia* C. H. Wright, should be regarded as a genus separate from *Deidamia* Thouars from Madagascar. *Efulensia* resembles *Deidamia* very much in habit by the 3- or 5-foliolate leaves. *Efulensia* differs, however, from that genus by the five stamens which are connate at the base and by the absence of an extrastaminal disk. *Deidamia* has 5—8 free stamens and a distinct, extrastaminal, annular disk.

EFULENSIA

Efulensia C. H. Wright in Hook. f., Ic. Pl. 6 (1897) tab. 2518; Hutch., Gen. Fl. Pl. 2 (1967) 373; De Wilde, Blumea 22 (1974). — *Deidamia* (non Thouars) Harms in E. & P., Nat. Pfl. Fam. 3, 6a, Nachtr. 1 (1897) 254; Bot. Jahrb. 26 (1899) 239. — *Deidamia* sect. *Efulensia* Harms in E. & P., Nat. Pfl. Fam. ed. 2, 21 (1925) 487. — T y p e: *E. clematoides* C. H. Wright.
Giorgiella De Wild., Feddes Rep. 13 (1914) 384. — T y p e: *G. congolana* De Wild.
[*Sematanthera* Pierre ex Harms, Notizbl. Bot. Gart. Berl.-Dahl. 8 (1923) 291; in E. & P., Nat. Pfl. Fam. ed 2, 21 (1925) 487 (nom. in synonym. sub *Deidamia*). — T y p e: *S. klainei* Pierre (in sched.).]

Liana to 40 m, glabrous. Tendrils simple, axillary or replacing the central flower of the inflorescences, (incl. peduncle) 4—25 cm. Leaves 3- or 5-foliolate; petiole distinct; leaflets obovate or elliptic to oblong, entire, distinctly petiolulate. Glands on petiole 1 pair sub-opposite, situated near the base; on leaflets (sub)marginal, small, or absent. Inflorescences axillary, cymose, 2—100-flowered; peduncle distinct. Flowers hermaphroditic or functionally male, glabrous. Stipe distinct, jointed to short pedicel. Hypanthium saucer-shaped, 2—3 mm wide. Tepals reflexed in anthesis; sepals 5, free; petals 5, free. Corona single, 3.5—8 mm high, composed of threads connate at base into a short fleshy tube; threads near base inside with a zone of hair-like appendages c. 0.5 mm long. Androgynophore c. 0.5 mm. Stamens 5; filaments 3—10 mm, united at base into a broad cup 1—1.5 mm high, in *E. clematoides* sometimes at the bottom of the cup with 5 small teeth alternating with the stamens; anthers dorsifixed, versatile, ellipsoid(=oblong), apiculate or not. Disk, besides small teeth, absent. Gynophore 0.5—1 mm. Ovary subglobose to ellipsoid, 1-locular, with 3 (or 4) parietal placentas. Styles 3 (or 4), free or up to over half-way connate; stigmas subglobose,

glabrous, 1—1.5 mm diam. *Fruits* 1—6 per inflorescence, capsular, woody, 3 (or 4)-valved, subglobose, depressed globose, or ellipsoid, 1.5—4 cm long. Seeds 4—12 per capsule, subellipsoid, 6—8 mm, coarsely pitted.

Distribution: Equatorial Africa, from S. Nigeria to W. Uganda.

KEY TO THE SPECIES

- a. Leaves 3-foliolate, petiolules in sicco distinctly jointed to the petiole. Inflorescences (2—)10—100-flowered. Fruits depressed globose or subglobose; valves 1.5—2 mm thick at sutures **1. *E. clematoides***
- b. Leaves 5-foliolate, petiolules in sicco not jointed to the petiole. Inflorescences 2—6(—8)-flowered. Fruits ellipsoid, top acute to obtuse; valves 2.5—3 mm thick at sutures
2. *E. montana*

1. *Efulensia clematoides* C. H. Wright. — Fig. 1a-b; 2.

E. clematoides C. H. Wright in Hook. f., Ic. Pl. 6 (1897) tab. 2518. — *Deidamia clematoides* Harms in E. & P., Nat. Pfl. Fam. 3, 6a, Nachtr. 1 (1897) 254; ed. 2, 21 (1925) 487; Bot. Jahrb. 26 (1899) 239. — Type: Bates 422 (BM).

[*Deidamia triphylla* Harms, Bot. Jahrb. 23 (1897) 540, *nom. nud.*; 26 (1899) 239, *nom. nud.* (sub *D. clematoides*). — Type: Zenker 1158 (B †, n.v.).]

Giorgiella congolana De Wild., Feddes Rep. 13 (1914) 384. — *Deidamia congolana* Harms in E. & P., Nat. Pfl. Fam. ed. 2, 21 (1925) 487. — Synonyms: *De Giorgi* 47, 1547 (BR).

[*Sematanthera klainei* Pierre ex Harms, Notizbl. Bot. Gart. Berl.-Dahl. 8 (1923) 291 (*nom. in synonym. sub D. clematoides*). — Synonyms: *Klaine* 2477, 2479 (P, n.v.).]

Liana to 40 m. Tendrils (incl. peduncle) 4—25 cm. *Leaves* 3-foliolate; leaflets obovate or elliptic to oblong, top obtuse or mostly acute, or up to 1 cm acuminate, sometimes ± retuse, c. 1 mm mucronate, base broadly rounded (obtuse) to acute, 3—12 by 1.5—7.5 cm; petiole 2—8 cm; petiolules 0.3—1.8 cm, when dry distinctly jointed to the petiole. *Glands* on petiole 1—3 mm diam., situated in the lower 1/10-th (i.e. up to 5 mm from the base) of the petiole; glands on leaflets absent or minute (c. 0.2 mm diam.), 1 or 2(—5) on each side on the margin or submarginal. *Inflorescences* (2—)10—100-flowered; peduncle 3—20 cm. *Flowers* hermaphroditic (though only a part of the flowers develops into fruits). Stipe 10—20 mm. Sepals 6—10 by 2—3 mm, obtuse (to subacute). Petals 5—8 by 1.5—3 mm, obtuse to acute. Corona 4—8 mm; threads 3—7 mm, tube 0.7—1.5 mm. Filaments 6—10 mm, united at base into a broad cup 1—1.5 mm high; in specimens from Cameroon inside at the bottom of the cup with 5 teeth-like appendages c. 0.5 mm long alternating with the stamens. Anthers 2—2.5(—3) mm, up to 0.5 mm apiculate. Ovary subglobose to ellipsoid, 2—3 by 1.5—2.5 mm. Styles 3(4), length 2.5—3 mm, nearly free (in certain specimens from Cameroon) or connate for 0.5—2 mm (free style arms 0.5—3 mm). *Fruits* 1—6 per inflorescence, subglobose or mostly depressed globose (flattened at top and base), rarely globose-ellipsoid with rounded ends, (excl. the 0.2—1 cm long gynophore) 1.5—2.5 by 1.7—3 cm; valves 1.5—2 mm thick at sutures. Seeds 4—12 per capsule, (7—)8 mm, with c. 4 pits across the length.

NIGERIA. Western. Ijebn (S. of Ibadan): *Emwiogbon* 44263 (K.). — Eastern. Degama: *Talbot* 3755 (BM); Oban: *Talbot* 410, 1288 (BM).

CAMEROON. Dépt. Fommban, Mapou: *Letouzey* 7754 (P, WAG). Dépt. Nanga-Éboko, N. of Ndemba II: *Leeuwenberg* 5958 (WAG). Dépt. Sangmélina, Oveng: *Breteler* 2714 (BR, K, WAG), 3021 (seedlings cult. WAG), *De Bruyn s.n.* (seedlings cult. WAG). Dépt. Abong-Mbang, NW. of Doumé: *Breteler* 2141 (BR, K, WAG). Dépt. Kribi, SW. of Éseka: *Leeuwenberg* 5052 (WAG); Bipindi: *Zenker* 1158 (BM, K), 3663 (K); Efulen: *Bates* 422 (BM, type *D. clematoides*; BR). Dépt. Batouri, Bertoua: *Breteler* 706 (BR, K, WAG).

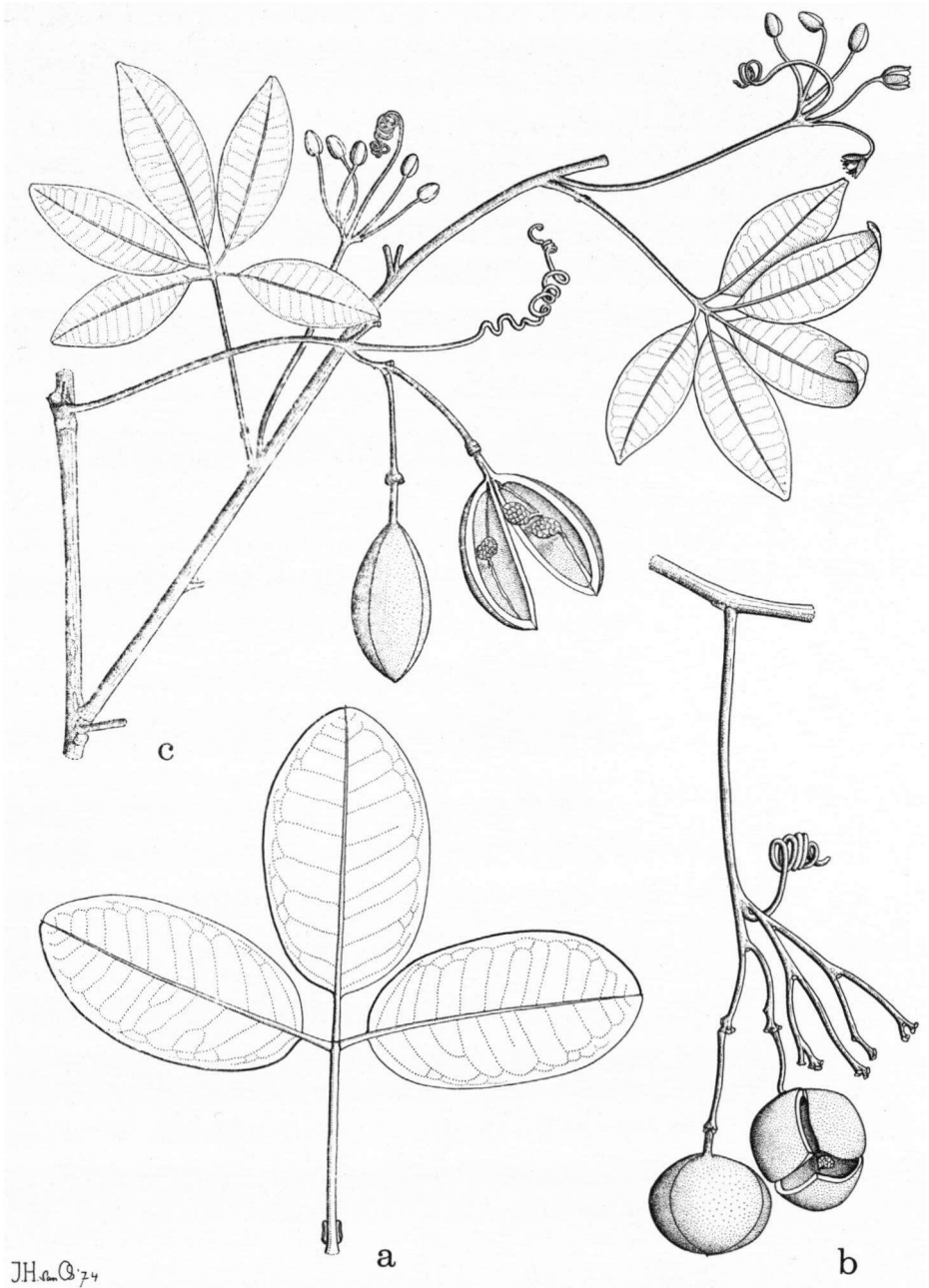


Fig. 1. a—b: *Efulensia clematoides* C. H. Wright. a. leaf (*Louis 13665*); b. infructescence (*Louis 7971*). — c. *E. montana* de Wilde, branch with flowers and fruits (*Lebrun 5574*, type). All $\times \frac{1}{2}$.

Dépt. Yaoundé, Bitye: *Bates 1080* (BM, BR); N'Kolbisson: *De Wilde & De Wilde-Duyffes 1238, 1308* (WAG), 2122 (K, WAG); 23 km W. of Yaoundé: *Breteler 1558* (BR, K, WAG), 3000 (seedlings cult. WAG); Yaoundé to Masok: *Leeuwenberg 6300* (WAG). Dépt. Éseka, Kelé R.: *De Wilde & De Wilde-Duyffes 1308A* (WAG). Dépt. Akonolinga, Rég. d'Ayos: *Leeuwenberg 5721* (WAG), *De Wit 7930* (WAG). Dépt. Edéa, Douala to Edéa: *Leeuwenberg 6314* (WAG).

RIO MUNI. *Tessmann 656* (K).

GABON. Libreville: *Klaine s.n.* (BR, P), 2828 (K, P), 3228 (BR, P); Woleu-Ntem: *Le Testu 9297* (BM, P); Latourville (Haut Ogooué): *Le Testu 7036* (BM, P); Mayombe: *Le Testu 1458* (BM, P).

CONGO: no collections seen.

ZAÏRE. Mayumbe (II), Luki: *Donis 2162, 2192* (BR). Bas Congo (III), Gimbi Plateau: *Toussaint 807* (BR). Kasai (IV): *Flamigni 6179* (BR), *Liben 2696* (BR), *Luja s.n.* (BR), *Sapin s.n.* (BR), *Vanderyst 17270* (BR). Bas Katanga (V): *Liben 1836, 2941* (BR), *Mullenders 2265* (BR). For. Central (VI), Equateur: *Evrard 152, 4782* (BR), *De Giorgi 47, 1547* (BR, syntypes *Giorgiella congolana*), *Dewanckel 176* (BR), *Dubois 525* (BR), *Lebrun 1946* (BR). Léopoldville: *Jans 716, 928* (BR), *Centil s.n.* (BR), *Gillet 2917* (BR). Orientale: *Van den Brande 282, 705* (BR), *Reygaert 768* (BR), *Robijns 1322* (BR, K), *De Wulf 995* (BR); Yangambi and vicinity (Terr. Isangi): *Germain 24* (BR), *Louis 2286* (BR), 2664 (BR, K), 2809, 3004, 4250, 6388 (BR), 6487 (BR, K), 6558, 7971, 9567, 11136, 11466 (BR), 12115 (BR, K), 12893 (BR), 13042 (BR, K), 13600, 13665 (BR), 13788 (BR, K), 16755, 16916 (BR). Kivu: *Bamps 513* (BR), *Bequaert 6564* (BR), *Léonard 5927* (BR).

Ecology: Rain forest; in Zaïre frequently reported from marshy forest; 0—800 m.

Notes. 1. Specimens from Cameroon (*De Wilde 1308, De Wit 7930, Breteler 2141*) have 5 appendages in the staminal cup. These appendages can be regarded as of staminodial origin (see *De Wilde, Blumea 22, 1974: 39, fig. 3b*).

2. In specimens from Cameroon (*De Wilde 1308, De Wit 7930*) the styles are nearly free. In other material from Cameroon and all the specimens from Zaïre checked the styles are connate for up to 2/3rd.

3. The species, and hence the genus, occurs in S. Nigeria, but is not mentioned in Hutch. & Keay, *Flora of West Tropical Africa*.

4. In seedlings the first several leaves are opposite, later on the leaves become spirally arranged.

2. *Efulensia montana* De Wilde, *sp. nov.*; *Blumea 22* (1974) 47, fig. 3c — Fig. 1c; 2.

Type: *Lebrun 5574*, Zaïre, Lac Edouard (IX), between Mushweri and l'Vrega (BR).

Scandens usque ad 20 m alta. Cirrhi 8—25 cm longi. *Folia* quinquefoliolata; petiolus 1.5—8 cm longus. Foliola elliptica usque oblonga, 1.5—10 cm longa; petioluli in sicco cum petiolo haud articulati. *Glandulae* ad 1/5—1/3 supra basin petioli insertae. *Inflorescentiae* 2—6(—8)-florae. *Flores* hermaphroditae vel functionally masculini. *Sepala* 7—10 mm longa. *Coronae* fila 2—4 mm longa, tubo 1.5—2 mm alto. *Antherae* 2.5—3.5 mm longae. *Ovarium* ellipsoideum, 3—3.5 mm longum; styli c. 1.5 mm longi, per 0.5—1 mm connati. *Fructus* ellipsoideus apice basique obtusus usque subacutus, 2.2—4 cm longus, 1.5—2.3 cm latus; valvae ad suturus 2.5—3 mm crassae. *Semina* c. 6 mm longa.

Liana to 20 m. Tendrils (incl. peduncle) 8—20(—25) cm. *Leaves* 5-foliolate, palmate to imparipinnate, lowest pair of leaflets inserted at a distance of up to 3 mm from top leaflets; leaflets elliptic to oblong, top mostly acute, up to 0.5 cm acuminate, rarely subobtuse, up to 1 mm mucronate, base subobtusely to acute, (1.5—)2.5—10 by (0.7—)1.2—3.5 cm; petiole (1.5—)2—8 cm; petiolules 0.3—1.2 cm, when dry not jointed to the petiole. *Glands* on petiole 0.5—2 mm diam., situated at 1/5—1/3rd (i.e. 0.5—2.5 cm) from the base of the petiole; glands on leaflets (0 or) 1 (or) 2, c. 0.5 mm diam., at each side on the margin close to the base. *Inflorescences* 2—6(—8)-flowered; peduncle 5—13 cm. *Flowers* hermaphroditic or functionally male. Stipe 7—25 mm. *Sepals* 7—10 by 2.5—3 mm, obtuse. *Petals* 7—9 by 2—2.5 mm, acute to obtuse. *Corona* 3.5—6 mm; threads 2—4 mm, tube 1.5—2 mm. *Filaments* 3—6 mm, united at base into a broad cup c. 1 mm high. *Anthers* 2.5—3.5 mm,

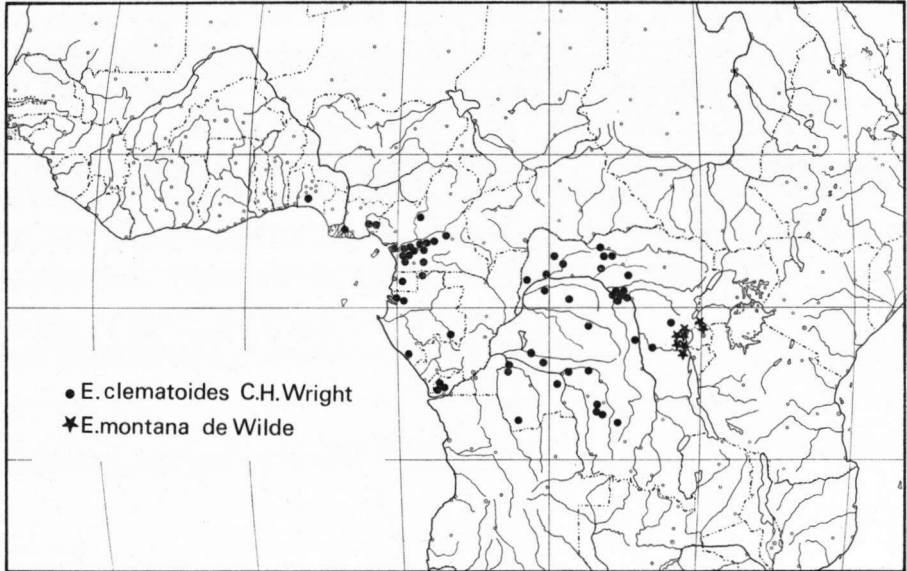


Fig. 2. Localities of *Efulensia*.

c. 1 mm apiculate or not. Ovary in male flowers much reduced, 1.5—2 mm; in hermaphroditic flowers ellipsoid, 3—3.5 by *c.* 1.5 mm. Styles 3, length *c.* 1.5 mm, connate for 0.5—1 mm (free style arms 0.5—1 mm). Fruits 1—4 per inflorescence, ellipsoid, obtuse to subacute at both ends, (excl. the 0.5—1 cm long gynophore) 2.2—4 by 1.5—2.3 cm; valves 2.5—3 mm thick at sutures. Seeds 6—12 per capsule, *c.* 6 mm, with 3 or 4 pits across the length.

ZAIRE. For. Central (VI). Vallée de la Nzibi, 9 km tracé vers Belanzovi: *Michelson 851* (BR). Terr. Walikale: *Léonard 1838, 2790* (BR). Terr. Kalehe: *Léonard 2926, 3241* (BR). — Lac Édouard (IX). Terr. Shabunda, Kimbili: *Léonard 3869* (BR); between Mushwéri and l'Vrega: *Lebrun 5574* (BR, type). UGANDA. U₂. Kigezi: *Eggeling 4193A* (K), *Purseglove 2652* (EA, K).

Ecology: Montane forest; 900—2000 m.