

Vismianthus Mildbr.

by F.J. Breteler & J. Brouwer

History of the genus

Vismianthus was first described by Mildbraed in 1935 and based on *V. punctatus* Mildbraed. The generic name and the epithet refer to the conspicuous glandular dots and streaks in the flowers and the leaves of this species respectively. *Vismianthus* is, like *Burttia*, a shrub-treelet with unifoliolate leaves and monocarpellate flowers. Mildbraed (l.c.) remarked upon the similarity between these two genera, but found the presence of the glands and streaks in the flowers sufficient reason to create a new genus. *Vismianthus*, like *Burttia*, has always been treated as a monotypic genus, but in this paper the Asiatic genus *Schellenbergia* is put into its synonymy and the only species of this Asiatic genus is henceforth combined in *Vismianthus*.

Description of the genus

Vismianthus Mildbraed, 1935: 706; Schellenberg, 1938: 98; Brenan & Greenway, 1949: 169; Hemsley, 1956: 7.

Type species: *V. punctatus* Mildbr.

Schellenbergia Parkinson, 1936: 295; Schellenberg, 1938: 179. Type species: *S. sterculiaefolia* (Prain) Parkins., (= *Vismianthus sterculiifolius* (Prain) Breteler & Brouwer).

Shrub or small tree. *Leaves* unifoliolate, long-petioled, with glandular dots and streaks. Hairs generally two-armed. *Inflorescence* racemose, few to many flowered. *Pedicel* jointed. *Flowers* heterodistylous, with dark glandular dots and streaks. *Sepals* 5, (sub)equal, imbricate in bud, very shortly connate, persisting in fruit. *Petals* 5, free. *Stamens* 10, all fertile, shortly connate at base. *Carpel* solitary; ovary sessile, ovules hemitropous, attached near or above middle of ventral suture; stigma (sub)capitate, papillose. *Fruit* a (sub)glabrous, 1-seeded follicle, glandular dotted, dehiscing along ventral suture, inner and outer pericarp separating. *Seed* with chalazal sarcotesta, partly free; endosperm rudimentary or absent; cotyledons plano-convex.

Distribution: 2 species, one in south-eastern Tanzania, one in south-western Burma.

Note: According to R.G. van den Berg (pers.comm.) the pollen grains of the two species of *Vismianthus* (and the one of *Burttia*) are very much alike in shape, dimensions, type of apertures, etc. Slight differences in ornamentation, espe-

cially the coarseness of the reticulum, wall thickness and shape of apertures do occur however. These do not seem to be of use for taxonomic subdivisions. Furthermore, pollen grains sampled from short or long anthers and from flowers with short or long styles do not differ.

Key to the species

Leaves with 4-6 pairs of main lateral nerves and retuse, sometimes almost cordate at base; petals heavily dark glandularly streaked and dotted; follicle very shortly stalked; sarcotesta fringed. Southern Tanzania . . . **V. punctatus**

Leaves with 6-8 pairs of main lateral nerves and rounded, seldom retuse, at base; petals without or with a few dark glandular dots and streaks; follicle clearly stalked; sarcotesta with one long appendage only. Western Burma

. **V. sterculifolius**

Vismianthus punctatus Mildbr.

Fig. 180-181

V. punctatus Mildbraed, 1935: 706; Schellenberg, 1938: 98; Brenan and Greenway, 1949: 169; Hemsley, 1956: 7.

Type: Tanzania, Lindi District, Mlinguru, about 20 km south of Lindi, *Schlieben* 5757 (holo: B; iso: BM, BR, HBG, K, M, P, Z).

Shrub, up to 4.5 m, branching subradially. *Branches* grey or brownish with grey patches. Branchlets cylindrical, slightly grooved, tomentose when young with (un)equally two-armed hairs, glabrescent. *Leaves* usually crowded at end of shoots. Petiole 2-3.5 cm long, slender, terete to slightly grooved, densely villose when young, glabrescent, with many dark elongated glands, articulate at base of leaflet. Leaf blade herbaceous to papyraceous, ovate to almost cordate, 1.7 × 1.2 to 9 × 5 cm; apex acuminate to cuspidate, acumen 0.3-1.5 cm, base retuse to almost cordate; densely tomentose when young, becoming glabrous, persisting longest along main and secondary veins beneath; dotted and streaked with many small (0.3 mm) dark resinous glands; main lateral nerves 4-6 pairs. *Inflorescence* simple or compound (2)3-6 flowered; bracts and bracteoles elliptic to lanceolate or linear, keeled, 1.5-2 × 0.4-1 mm, densely ferruginously pubescent, caducous; peduncle 1-4.5 cm, densely pilose, glabrescent, with many dark glands. *Flowers* 5 mm long; pedicel 1-2.5 mm long, articulate, sparsely ferruginously hairy, sparsely dotted with dark resinous glands. *Sepals* elliptic-oblong, 2-3 × 1-1.8 mm, (somewhat) concave, apex obtuse, sparsely sericeous outside, each with approximately 8-20 dark-red resinous glands, concentrated along the axis and towards the base. *Petals* subequal, elliptic to oblong-obovate, 3-3.5 × 1.2-1.8 mm, apex obtuse, base truncate, glabrous, whitish yellow or white with many dark elongated glands, orientated lengthwise. *Stamens* 10, five epise-palous ones 1.6-3 mm long in long-styled flowers and 4.5 mm in short-styled ones, the five epipetalous stamens 1-1.7 mm and 2.5-2.8 mm long respectively;

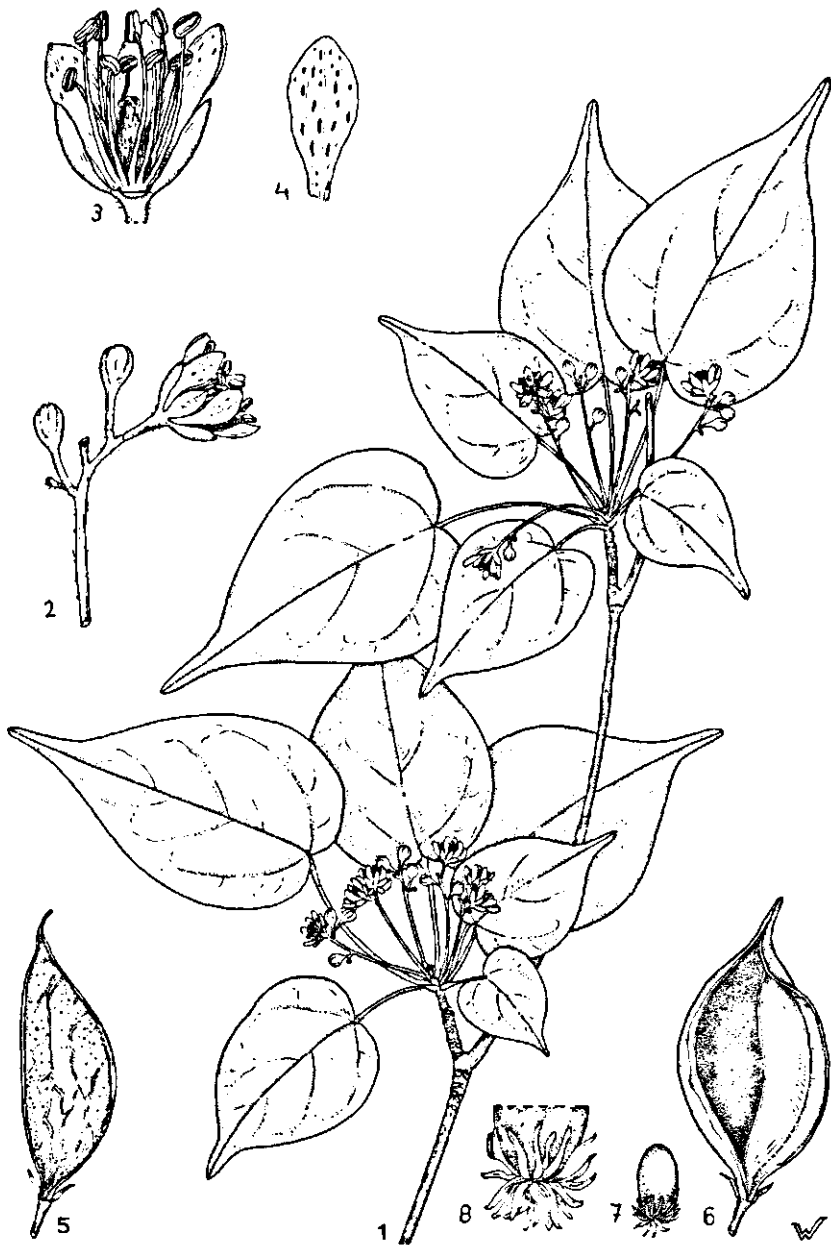


Fig. 180. *Vismianthus punctatus*: 1. flowering branch, $2/3 \times$; 2. detail of inflorescence, $2 \times$; 3. flower, sepals and petals partly removed, $4 \times$; 4. petals, $4 \times$; 5. fruit, $2 \times$; 6. open fruit, $2 \times$; 7. seed (immature) with sarcotesta, $2 \times$; 8. basal part of seed with hilum and sarcotesta, $4 \times$. (1-4. Eggeing 6402; 5-8. Semsei 647).

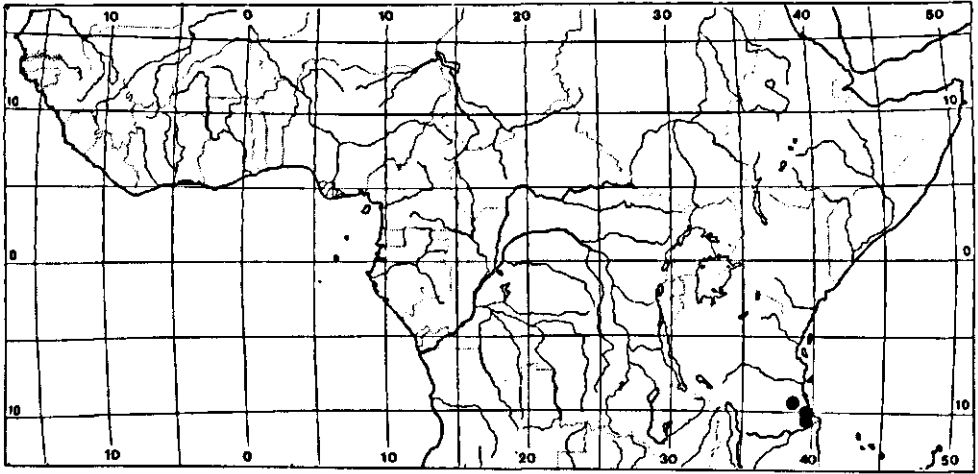


Fig. 181. Distribution of *Vismianthus punctatus*

filaments filiform, glabrous, very shortly connate at base; anthers ovoid, 0.4-0.6 mm long in long-styled and 1 mm long in short-styled flowers. *Pistil* 3-3.8 mm long in long-styled flowers, 2 mm in short-styled ones; style filiform, sparsely sericeous-villose, with a few dark glands or not; stigma (sub)capitate, more or less bilobed, papillose; ovary 0.5-1 mm long, ovoid-lenticular, densely ferruginously sericeous or villose with unequally two-armed hairs, and a few dark glands or not; ovules attached at or above middle of ventral suture, hemitropous. *Fruit* purplish brown 15-20 mm long, 6 mm wide, very shortly stalked, with rostrum of up to 3 mm, virtually glabrous when full-grown, prominently veined with many small glands. *Seed* (immature) ovoid, dark brownish, with fimbriate sarcotesta covering one end; endosperm very thin; cotyledons thin, wide, folded.

Distribution: S E Tanzania.

Ecology: Undershrub in forest or savanna shrub, between 250 and 800 m altitude.

Specimens examined:

Tanzania: Kilwa District (?) (fl. Nov.) *Crosse-Upcott 181* (K); Mchinjori (fl. Nov.) *Eggeling 6402* (BR, EA, K); Kitangari (fr. March) *Gillman 1315* (EA); Namula (fr. Aug.) *Ludanga 1334* (BR, C, EA, K); Mlinguru (fl. Dec.) *Schlieben 5757* (B, BM, BR, G, HBG, K, M, P, Z, type); Mchinjiri (fr. Feb.) *Semsei 647* (B, BR, K).

Notes: As observed by Hemsley (1956: 9), mature fruits are needed to see whether the suspensor mechanism of *V. sterculiifolius* is also present in this species.

The ovules in *V. punctatus* are not basal and anatropous, as stated by Mildbraed (1935: 707) and Schellenberg (1938: 98), but ventrally attached and hemitropous.

Vismianthus sterculiifolius (Prain) Breteler & Brouwer **comb.nov.**

Basionym: *Ellipanthus sterculiaefolius* Prain, 1890: 209, plate VIII.

Type: Burma, Diamond Island, *Prain s.n.* (holo: K; iso: BM).

Schellenbergia sterculiaefolia (Prain) Parkinson, 1936: 295, plate 23; Schellenberg, 1938: 179, as *S. sterculiifolia*.

Shrub or tree, up to 4-6 m high, branching subradially. *Branches* slightly grooved, cylindrical, with many lenticels. Branchlets angular, slightly grooved, becoming terete, densely ferruginously tomentose with unequally two-armed hairs when young, glabrescent. *Leaves* often crowded at end of shoots. Petiole 2-5.5 cm long, slender, channeled and shallowly grooved, ferruginously sericeous-villose when young, becoming glabrous, with occasional red glandular dot, articulate at base of leaflet. Leaf blade herbaceous-papyraceous, ovate-elliptic-oblong, 3.5 × 2 to 12 × 7.5 cm; apex acuminate, acumen 0.5-2 cm; base rounded, sometimes retuse; densely ferruginously tomentose when young, becoming glabrous, persisting longest beneath; dotted with many small dark resinous glands (in young leaves only noticeable near the leaf margin); main lateral nerves, 6-8 pairs, quite apparent. *Inflorescence* simple or compound raceme, 6-20 flowered; bracts oblong-elliptic, keeled, 3 × 1.5 mm, to lanceolate and up to 3 × 0.5 mm, densely ferruginously pilose or sericeous, caducous; peduncle 1.0-4.5 cm, densely ferruginously tomentose, glabrescent; bracteoles lanceolate, up to 0.8 mm long, densely to sparsely tomentose, caducous. *Flowers* 4.5-6.5 mm long, fragrant; pedicel up to 3 mm long, articulate, ferruginously sericeous-pubescent, with a few dark glands. *Sepals* elliptic to elliptic-oblong, 2-3 × 1.0-1.3 mm, apex obtuse, sericeous-pubescent outside, with ca 8-40 dark resinous glands per sepal, mostly in lower half. *Petals* white, with up to six dark glands, lanceolate, 3.5-4.5 × 1.0-1.5 mm, apex obtuse, base truncate, glabrous. *Stamens* 10(11), five episepalous ones 1.5-2 mm long in long-styled flowers and 5-5.2 mm in short-styled ones, the five epipetalous stamens 1.3-1.6 mm and 4-4.2 mm long respectively; filaments filiform, glabrous, very shortly connate at base; anthers ovoid, 0.4-0.8 mm long. *Pistil* 3.5-5 mm long in long-styled flowers, 3.7 mm in short-styled ones; style filiform, sericeous; stigma (sub)capitate, more or less bilobed, papillose; ovary 0.8 mm long, obliquely ovoid-lenticular, densely ferruginously sericeous with unequally two-armed hairs; ovules attached near middle of ventral suture, at first hemitropous. *Fruit* dark-brown, 35-40 mm long, 10 mm wide, clearly stalked (up to 7 mm), narrowing to slender rostrum of up to 6 mm long, virtually glabrous when ripe, prominently veined, with many small glands, with leathery outer pericarp, inner pericarp detached except along dorsal suture. *Seed* ovoid, 15 × 9 mm, with black pseudobaccate seed coat, basal end covered by yellow or reddish undulate sarcotesta with a 10 mm long appendage attached to the base of inner pericarp bringing it in a dangling position after dehiscence; hilum wedge shaped; endosperm rudimentary; cotyledons thick, plano-convex, containing albumen and oil.

Distribution: Burma.
Ecology: sublittoral forest.

Specimens examined:

Burma: Diamond Island (fr. Nov.) *Prain s.n.* (BM, K, type); Pinyinmadon, Thabaung, Bassein District (fl. March) *Range Officer (Comm. C.E. Parkinson) 2140* (DD, K).

Notes: Schellenberg (1938) separated this species (as *Schellenbergia sterculiifolia*) from *Vismianthus* (and *Burttia*) at an early phylogenetic stage, apparently because *Schellenbergia* has an Asiatic as opposed to African distribution. As a result the Asiatic taxon was placed in the tribe *Castanoleae* near *Ellipanthus* and the African *Vismianthus*, together with *Burttia*, in the *Byrsocarpeae*. This may be the reason why the strong congeneric characters of *Vismianthus* and *Schellenbergia* escaped Schellenberg's attention, probably also because of the supposed absence of resinous glands in *Schellenbergia*. They are present in this taxon, however, and can be observed in the leaves, flowers, and fruits. This character, together with the others as unifoliolate leaves, unisexual flowers with ten stamens, and similar fruit and seed characters makes the unification of the genera *Vismianthus* and *Schellenbergia* inevitable.

Parkinson's collection 8729, cited by him when publishing the new genus *Schellenbergia* has not been received on loan from DD where C.E. Parkinson's collection is kept. A request for a loan from two Rangoon herbaria (RAF and RANG) was not successful.