

STUDIES IN INDIAN EUPHORBIACEAE—II. THE GENUS *DORYXYLON* ZOLL.

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ABSTRACT

Doryxylon albicans (Bl.) Balak. comb. nov., treated as the correct name for *Sumbavia macrophylla* Muell.-Arg. is described with illustrations.

INTRODUCTION

The monotypic genera *Doryxylon* Zoll. and *Sumbavia* Baill. were described from Philippine Islands in 1857 and 1858 respectively. In 1918, Merrill showed that these two are congeneric and on priority merged these plants under *Doryxylon*.

In 1864, Mueller Argoviensis described a second species, *Sumbavia macrophylla* from Burma. J. J. Smith in 1910 described the monotypic genus *Sumbaviopsis* from Java based on *Adisca albicans* Blume. Recently Airy Shaw (1960) has proved that *Sumbavia macrophylla* and *Sumbaviopsis albicans* are conspecific and on priority retained the latter name.

Recent studies at Calcutta Herbarium showed that *Doryxylon spinosum* Zoll. differs from *Sumbaviopsis albicans* (Bl.) J. J. Smith only in the presence of spines, smaller nonpeltate, dentate leaves; shorter racemes and shorter pedicels in fruit. These minor differences do not justify independent generic rank. Hence both these genera are now treated as congeneric and under the earlier name *Doryxylon*.

The genus *Adisca* was defined by Blume (1826) as "Omnia *Rottlerae* sed flores plerumque monoeci, *stamina* non receptaculo inserta, basi tantum coalita; antherarum loculi apici filamentorum graniformi utrinque adnati. *Fructus* capsularis, 2-3 coccus, molliter echinatus. Arbores aut frutices. Folia alterna, longiter petiolata, indivisa, subpeltata. Flores in spicis racemisve axillaribus aut terminalibus simplicibus aut ramosis, solitarii glomerative, bracteolati. Capsulae pilis aut granulis flavis obsitae".

Out of the five species included by Blume in the genus, the first four have already been transferred to *Mallotus* and the last *A. albicans* forms the basonym of *Sumbaviopsis albicans*. As the oldest name, *Adisca* with the remaining solitary species *A. albicans* may seem to have a claim to be reinstated as the correct generic name for *Doryxylon*.

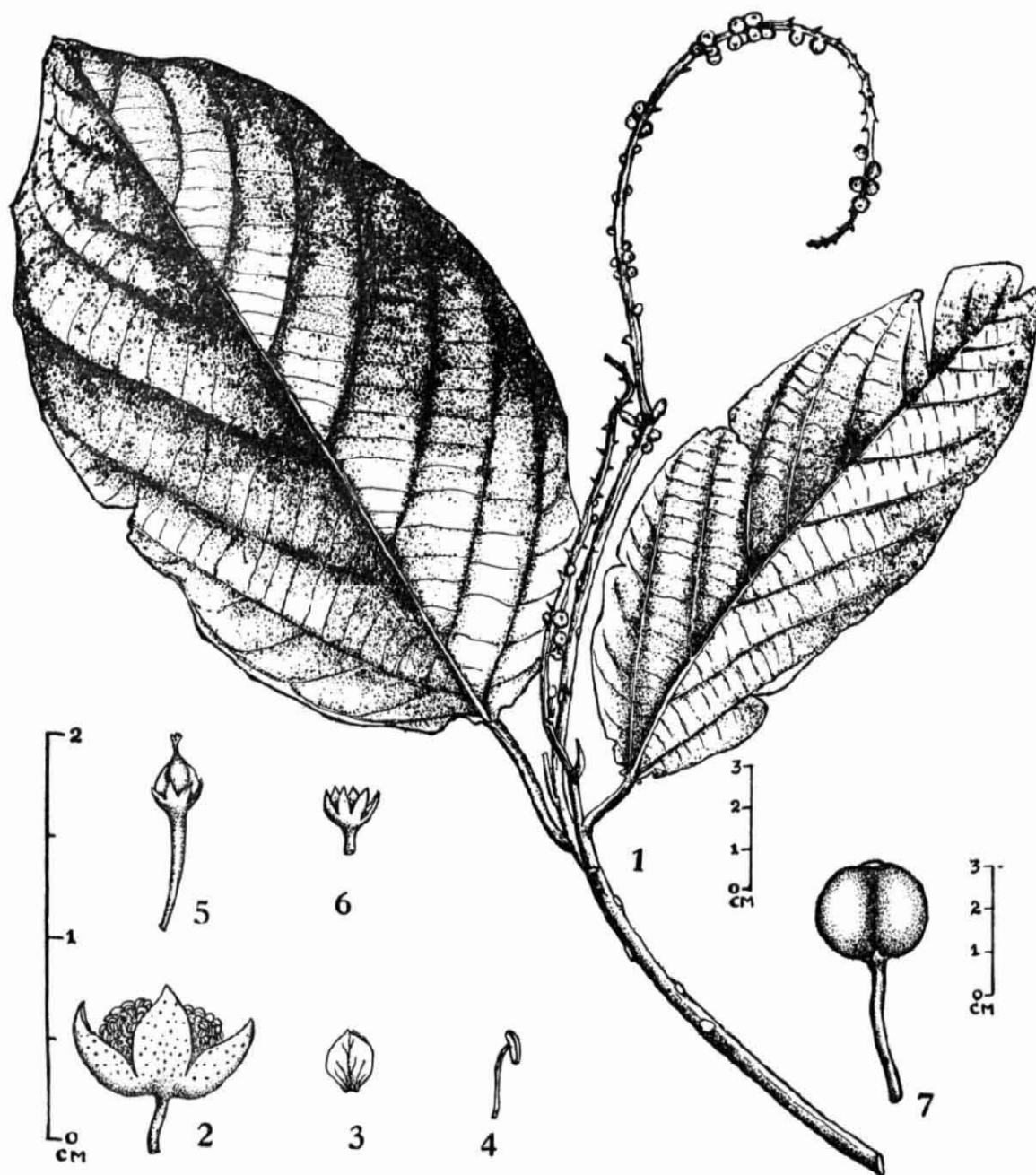
However, the characters, "Stamina non receptaculo inserta, basi tantum coalita" and "Fructus ... molliter echinatus", included in the generic diagnosis of *Adisca* are characteristics of *Mallotus* and never found in *Doryxylon*. Further, Blume cites *A. albicans* with a question mark indicating that he himself was doubtful of its exact position. Under the circumstances, *Adisca* can best be placed only in the synonymy of *Mallotus*. Though closely related to *Mallotus*, the genus *Doryxylon* differs mainly in the presence of petals in male flowers.

Doryxylon Zoll. in Nat. Tijdschr. Nederl. Ind. 14: 152, 1857 et in Linnaea 29: 469, 1859; Merrill, Sp. Blancoanae 221, 1918. *Sumbavia* Baill. Etud. Gen. Euph. 390, 1859; Muell.-Arg. in DC. Prodr. 15 (2): 727, 1866; Kurz, For. Fl. Brit. Burma 2: 376, 1877; Benth. in Benth. & Hook. f. Gen. Pl. 3: 304, 1880; Hook. f. Fl. Brit. Ind. 5: 408, 1887; Pax in Engler & Prantl., Pflanzenfam. 3, 5: 42, 1890 et in Engler, Pflanzenr. 57: 11, 1912; Pax & Hoffm. in Engler & Harms, Pflanzenfam. ed. 2. 19C: 89, 1931. *Mercadoa* Naves in Blanco, Fl. Filip. ed. 3. t. 463, 1880. *Sumbaviopsis* J. J. Smith in Meded. Departm. Landbouw 10: 13, 356, 1910; Pax, l.c. 13, 1912; Pax & Hoffm. l.c. 89, 1931.

Trees or large shrubs with stellate-tomentose branches. *Leaves* alternate, densely white tomentose beneath, glabrous above, long-petiolate; base 3 or more palmatinerved, peltate or epeltate; margins entire or distantly dentate; stipules minute. *Flowers* monoecious in spiciform, axillary or terminal bracteate racemes. *Male flowers* in fascicles of 3-5, in axils of bracts; calyx 5-partite, valvate, often connate; petals 5, short, imbricate, or valvate; disc 0 or very small, obsolete, dentate; stamens numerous, arranged on convex receptacle; filaments free, erect; anthers oblong, versatile, longitudinally dehiscent; pistillode 0. *Female flowers* solitary in each cluster of male flowers;

calyx 5-6-partite, lobes narrow, shortly imbricate; petals 0 or very minute and rudimentary; disc

small, annular; ovary 3-celled; styles 3, connate at base, recurved, entire or slightly bifid; ovules soli-



Doryxylon albicans (Bl.) Balak.

Figs. 1-7: 1. Flowering branch. 2. Male flower. 3. Petal. 4. Stamen. 5. Female flower. 6. Calyx. 7. Fruit.

tary in each cell. Capsule 3-celled, each cell 2-valved. Seeds subglobose, smooth or pitted-foveolate outside.

Type species: *Doryxylon spinosum* Zoll.
Distribution: 2 spp.; Assam, Burma, Malaya, Java, Sumatra and Philippine Islands.

Doryxylon albicans (Blume) Balak. comb. nov.

Adisca albicans Blume, Bijdr. 611, 1826. *Croton albicans* (Bl.) Reichb. f. & Zoll. in Verh. Naturk. Nederl. Ind. 1: 21, 1856. *Rottlera albicans* (Bl.) Moritzi ex Reichb. f. l.c. *Sumbavia macrophylla* Muell.-Arg. in Flora 47: 482, 1864 (Griffith 4791, Typus!) et in DC. Prodr. 15 (2): 727, 1866; Kurz, l.c. 408, Pax, l.c. 12; Pax & Hoffm. l.c. 89; Kanjilal et al. Fl. Assam 4: 199, 1940. *Cephalocroton albicans* (Bl.) Muell.-Arg. l.c. 769. *Sumbaviopsis albicans* (Bl.) J. J. Smith l.c. 357; Pax in Engler, l.c. 14; Merrill, Enum. Philip. Pl. 2: 428, 1923 et 4: 93, 1926; Gagnep. in Lecomte, Fl. Gen. Indoch. 5: 418-420, 1920; Henderson in Gard. Bull. Str. Settl. 7: 125, 1933; Airy Shaw in Kew Bull. 14(3): 357, 1960; Backer, Fl. Java 1: 477, 1963.

Evergreen tree, 8-12 m tall; branches sulcate, pale brown with scurfy-white tomentum; bark leathery, grey, very closely and finely fissured. *Leaves* 10-35 cm long, 5-16 cm wide, elliptic, ovate-oblong or lanceate; apex cuspidate-acuminate; base narrowly subpeltate, obtuse, rounded, biglandular; margins subentire, undulate or distantly dentate; glabrous, shining above, densely velvety white tomentose beneath; basal nerves 3, lateral 6-12 pairs, all curved like bows, prominent, raised beneath, transverse nervules parallel, distant, closely reticulate, faint; petiole 2-10 cm long, thickened at base and apex, sulcate, pale white stellate tomentose. *Inflorescence* in terminal or axillary, rusty tomentose, bracteate racemes, shorter than leaves, 6-22 cm long, pendulous; peduncle sulcate. *Male flowers*: in fascicles of 3-5, supported by small oblong-triangular bracts. *Pedicels* 4-5 mm long, pale white tomentose. *Calyx* 5-partite, subequal, \pm 5 mm

long, ovate-oblong, concave, stellate-tomentose on both sides, rather thick. *Petals* 5, shorter than stamens, \pm 2.5 mm long, obovate, orbicular, hyaline. *Disc* o. *Stamens* about 50, on a sparingly stellate-pubescent receptacle; filaments very short, slender; anthers linear-oblong, versatile, longitudinally dehiscent. *Pistillode* o. *Female flowers*: in each inflorescence about 12, solitary in the same cluster with male flowers. *Pedicels* \pm 0.75 cm long, becoming 2-4 cm long in fruit. *Calyx* 5-fid, lobes narrow, oblong-triangular, acute, stellate-pubescent, \pm 3 mm long. *Petals* 0 or rarely very minute, rudimentary. *Ovary* 3-lobed, ovoid-oblong, acute, stellate-pilose; styles 3 entire, \pm 1 cm long, connate at base, erect or recurved, spreading. *Capsule* globose, densely stellate-tomentose, \pm 2.5 cm wide, \pm 1.5 cm long. *Seeds* longitudinally pitted-sulcate, shortly narrowed at base, \pm 1.3 cm long, \pm 1 cm wide (Figs. 1-7).

Flowering: December-February. *Fruiting*: April.

Distribution: NEFA, Nagaland, Assam, Tripura, Burma, Malaya and Java up to an altitude of 500 m.

Type: 'in Sylvis Provinciae Tjanjor', Blume (non vidi).

Specimens examined: ASSAM: Darrang District—Gaboru, Kanjilal 4968; N. Cachar District—Maibang, Kanjilal 6847; Nowgong District—Diphu, G. K. Deka 13166; Lumding, Kanjilal 2911 (ASSAM); Dansiri, Kanjilal 3855; Sibsagar District—Rengma Reserve, Kanjilal 1726 (CAL, ASSAM). NAGALAND: Narum, Meebold 6401 (CAL). NEFA: Aka Hills, Bor 18921, 18982 (ASSAM). TRIPURA: Kawnpai, Deb 27331; Phuldungsai to Ananda Bazar, Deb 27338 (ASSAM). BURMA: Pegu, Kurz 2462; Katha, Rodger 810; Gohtel Valley, North Shan States, Rodger 832; without locality, Griffith 4791 (CAL).