

Three Species of *Dendrolobium* in Malesia, Australia and Fiji (Leguminosae-Papilionoideae: Desmodieae)

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ABSTRACT: *Dendrolobium quinquepetalum* (Blanco) Schindl. is distinct from *Dendr. umbellatum* and is endemic to Luzon and Mindoro in the Philippines, although it was reported also from New Guinea and Australia (Queensland). The specimens from New Guinea and Australia are referable to *Desmodium arbuscula* Domin for which *Dendrolobium arbuscula* (Domin) H. Ohashi is proposed here as a new combination. This species is new to New Guinea and also is found in Fiji.

KEY WORDS: *Dendrolobium arbuscula*, *Dendr. quinquepetalum*, *Dendr. umbellatum*, Fiji, Leguminosae, New combination, New Guinea

INTRODUCTION

Merrill (1910) distinguished *Desmodium quinquepetalum* (Blanco) Merr. from *D. umbellatum* (L.) DC. by inflorescences and leaflets in the key, *i. e.*, umbels are "in terminal and axillary panicles" and leaflet-apex is "acuminate or acute" in the former against only axillary and "round, obtuse or very obscurely and broadly acuminate" in the latter. Van Meeuwen (1962), however, considered both to be difficult to distinguish, but separated them whether its keels were shorter than the wings in *D. quinquepetalum* or longer than the wings in *D. umbellatum*. She found three specimens of *D. quinquepetalum* from New Guinea (*Carr 11845*, L; *Barrett NGF 4228*, L; & *Brass 8789*, L) and one from Australia (Queensland. *Hubbard & Winders 6794*, L), because their keels are shorter than the wings. Ohashi (1973) treated them under genus *Dendrolobium* and among the genus characterized these two species by the lowest calyx-lobes which is not longer than the other lobes. *Dendrolobium quinquepetalum* (Blanco) Schindl. is considered to be close to *Dendr. umbellatum* (L.) Benth., but distinguished them from each other by differences in pods, keels in relation to wings, stipules, and leaflets.

Desmodium quinquepetalum had been considered to be endemic to the Philippines (Merrill, 1923), but van Meeuwen (1962) recorded the species not only from the Philippines, but also from New Guinea and Australia based on the specimens cited above. Verdcourt (1979) identified the New Guinea specimens cited by van Meeuwen as a small-leaved form of *Desm. umbellatum*.

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MATERIALS AND METHODS

This study is based mainly on critical examination of herbarium specimens kept in A, BO, GH, K, L, MO, PHN, SING, TAI, TI, and TUS. Field works on *Dendrolobium quinquepetalum* and *Dendr. umbellatum* were made in Luzon in the Philippines and Taiwan in 1993. Herbarium acronyms are followed those in Index Herbariorum Part I: The Herbaria of the World, 8th edition (Holmgren *et al.*, 1990).

RESULTS

The four specimens in K and L are neither *Dendrolobium quinquepetalum* (= *Desmodium quinquepetalum*) nor *Dendr. umbellatum* (= *Desm. umbellatum*). These specimens are referable to *Desm. arbuscula* Domin. This species was found by Domin near Chillagoe in North Queensland in 1910. He classified it into the section *Dendrolobium* and considered it to be close to *Desm. umbellatum*.

The three species are common in having the lowest calyx lobes not longer than the lateral ones, but, *Desm. arbuscula* resembles *Dendr. umbellatum* in general appearance and has leaflets of which the lateral nerves are not conspicuous below and glabrous or glabrescent pods, while it is similar to *Dendr. quinquepetalum* in having keels shorter than the wings as pointed out by van Meeuwen (1962). The leaflets of *Desm. arbuscula* are glabrous below (against densely appressed pubescent or sericeous below in *Dendr. quinquepetalum* and *Dendr. umbellatum*), elliptic or ovate with obtuse or acute apex (against narrowly ovate or ovate with acuminate apex in *Dendr. quinquepetalum* or elliptic with obtuse or acute apex in *Dendr. umbellatum*), usually smaller (2.5-6 cm long and 1-2.5 cm wide in the original description) than the remaining two, and the lateral veins of leaflets are hardly recognizable (as well as in *Dendr. umbellatum*, but, against well-developed and conspicuous in *Dendr. quinquepetalum*). The keels of *Desm. arbuscula* and *Dendr. quinquepetalum* are usually shorter than the wings, while those of *Dendr. umbellatum* are as long as the wing but distinctly broader; pods glabrous or glabrescent in *Desm. arbuscula* and *Dendr. umbellatum* against densely sericeous in *Dendr. quinquepetalum*.

Desmodium arbuscula, *Dendr. quinquepetalum* and *D. umbellatum* are distinguished in the following key.

Key to the taxa

1. Inflorescences compound, terminal and axillary, terminal one paniculate and axillary one racemose or sometimes umbellate; flowers umbellate at node. Pods densely appressed sericeous. Leaflets narrowly ovate, ovate or rarely broadly ovate, acuminate at apex; lateral nerves conspicuous below. Flowers larger (14-16 mm long); keels shorter than the wings 2. *Dendr. quinquepetalum*
1. Inflorescences simple or sometimes compound, axillary, simple umbellate or rarely racemose with umbellate flowers at node. Pods nearly glabrous or glabrescent. Leaflets obtuse or acute at apex; lateral nerves indistinct below. Flowers smaller (11-12.5 mm long)
 2. Leaves narrowly ovate or elliptic, glabrous below; leaflets usually smaller and less than 6 cm long in terminal one. Pods almost glabrous, 1-3-jointed; keels shorter than the wings 1. *Desm. arbuscula*
 2. Leaves elliptic, ovate to broadly ovate, densely appressed pubescent or sericeous below; leaflets larger and more than 5 cm long in terminal one. Pods 3-8-jointed; keels longer and broader than the wings..... 3. *Dendr. umbellatum*

1. *Dendrolobium arbuscula* (Domin) Ohashi, *comb. nov.*

木山蚂蝗 Figs. 1 & 2

Desmodium arbuscula Domin in Biblioth. Bot. 89: 211. 1926. Type: Nord-Queensland: in der Umgebung von Chillagoe, *Domin II. 1910.*

New Guinea: Papua. Port Moresby, sea shore; fls white, c. 8 ft. tall. *Carr 11845* (K, L); Port Moresby, dry coastal area; abundant in monsoon-forest, spreading to savannah-forests. *Brass 8789* (A, K, L); *Barrett NGF 4228* (L).

Australia: Queensland. Chillagoe, amongst limestone boulders on hill; tree 10-15 ft. high, leaves green, corolla white, standard with green blotch at base, alt. 1200 ft. *Hubbard & Winders 6794* (K, L).

Fiji: Yasawa Is., Waya I, coast W of Yalobi village, alt. ca. 5 m. *Gardner 6455* (TUS).

Distribution: New Guinea, N. Australia (Queensland) and Fiji. New to New Guinea and Fiji.



Fig. 1. *Dendrolobium arbuscula* (Domin) H. Ohashi. a. New Guinea (*Carr 11845*, L); b. New Guinea (*Barrett NGF 4228*, L).

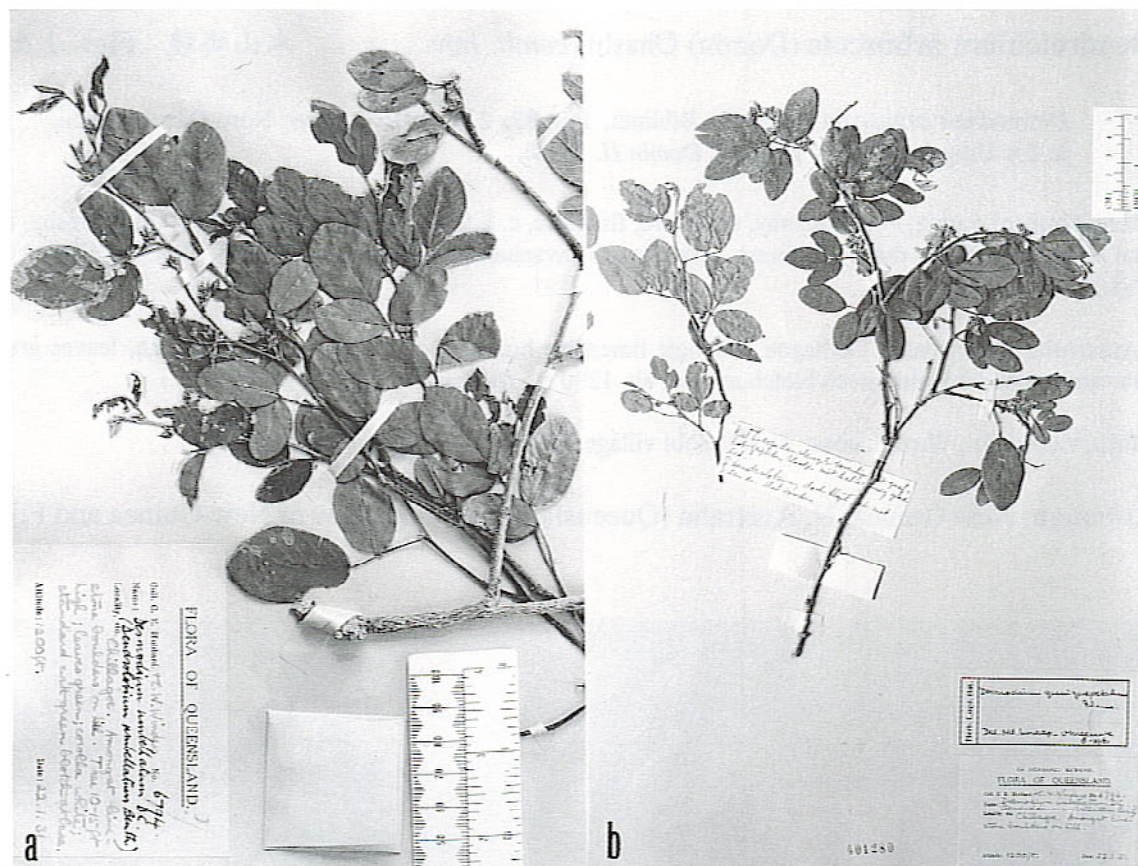


Fig. 2. *Dendrolobium arbuscula* (Domin) H. Ohashi from Queensland. Hubbard & Winders 6794 (a. K; b. L).

2. *Dendrolobium quinquepetalum* (Blanco) Schindl. in Repert. Spec. Nov. Regni Veg. 20: 278. 1924; Ohashi in Ginkgoana 1: 68. 1973, p. p., excl. distrib. New Guinea et Australia.

五瓣木山蚂蝗 Fig. 3

Cytisus quinquepetalus Blanco, Fl. Filip. 598. 1837.

Glycine cajanoioides Walpers in Nov. Act. Acad. Nat. Cur. 19, Suppl. 1: 324. 1843.

Cajanus quinquepetalus Blanco, Fl. Filip. ed. 2, 417. 1845.

Desmodium quinquepetalum (Blanco) Merr. in Bur. Govt. Lab. Manila Publ. 35: 20. 1905, in Phil. J. Sci. Bot. 5: 81. 1910, & Enum. Philip. Fl. Pl. 2: 288. 1923; Meeuwen in Reinwardtia 6: 256. 1962, p. p., excl. specim. cit. ex New Guinea et Australia.

Desmodium cephalotes auct. non Wight & Arn.: Nav. in Blanco, Fl. Filip. ed. 3, 4 Nov. App.: 61. 1880.

Philippines: Luzon. Bulacan. *Ridsdale & Reynoso* (=Ridsdale 1884) (A, L, MO, TUS), *Ridsdale & Reynoso* (=Ridsdale 1918C) (L, TUS); Benguet. *Ramos Bur. Sci.* 5573 (L); Mt. Arayat, Pampanga. *Vidal* 734d (A), *Lsohokka For. Bur.* 9613 (SING); San Mateo. *Vidal* 246 (A); Mt. San Isidro. *Fenix Bur. Sci.* 29888 (GH); Mt. Napu. *Edano PNH4673* (A); Angat. *Vidal* 2614 (A); Piddig. *McGregor Bur. Sci.* 43633 (A); Batangas. *Ramos & Deroy Bur. Sci.* 22662 (A, SING); Bosobaso. *Ramos Bur. Sci.* 1498 (GH), *Ahern's collector F. B.* 2154 (SING); San Mateo. *Ahern's collector For. Bur.* 1841 (SING); Zambales. *Curran For. Bur.* 5808 (SING). Mindoro. *Ebaló* 326 (PNH 57451)

Distribution: Philippines (Luzon and Mindoro). According to Merrill (1910), it is widely distributed in Luzon at low and medium altitudes in open thickets.



Fig. 3. Structure of inflorescences in *Desmodium quinquepetalum* (Blanco) Merr. a. Ramos & Deroy Bur. Sci. 22662 (A); b. Ramos Bur. Sci. 1498 (GH).

- 3. *Dendrolobium umbellatum* (L.) Benth.** in Miq., Pl. Jungh. 216 & 218. 1852; Schindl. in Repert. Spec. Nov. Regni Veg. **20**: 278. 1924; Ohashi in Ginkgoana **1**: 82. 1973; Huang & Ohashi in Fl. Taiwan **3**: 250, t. 570. 1977; Smith, Fl. Vit. Nov. **3**: 186. 1985; Polhill in Fl. Mascar. 80 Légum. 96, t. 33. 1990; Huang & Ohashi in Fl. Taiwan 2nd ed., **3**: 244, t. 116. 1993; Lock & Heald, Legum. Indo-China 68. 1994; Dy Phon in Fl. Camb. Laos Viet. **27**: 26. 1994; Ohashi in J. Jpn. Bot. **70**: 113. 1995; Yang & Huang in Fl. Reip. Pop. Sin. **41**: 7. 1995; Pedley in Rev. Fl. Ceylon **10**: 162. 1996. 白木蘇花

Hedysarum umbellatum L., Sp. Pl. 747. 1753. Type: Ceylon, Herb. Linne 921.28 (LINN).

Desmodium umbellatum (L.) DC., Prodr. **2**: 325. 1825; van Meeuwen in Reinwardtia **6**: 263. 1962; Verdcourt, Man. New Guinea Leg. 410. 1979; Sanjappa, Legum. Ind. 165. 1992.

A number of specimens have been examined, but, they were omitted to cite here to save the space.

Distribution: Africa, Asia, Australia, and Pacific islands. In Asia: Sri Lanka, South India, Burma (=Myanmar), Indo-China (Thailand, Cambodia, Vietnam), Malesia, South China, South Taiwan, and Ryukyu (Okinawa).

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馬來西亞、澳洲及斐濟之三種木山螞蝗屬植物
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摘 要

五瓣木山螞蝗(*Dendrolobium quinquepetalum* (Blanco) Schindl.) 是菲律賓之特有種，並與白木蘇花(*Dend. umbellatum*)有所區別，雖然它曾被處理為後者之異名並被報導，亦分布於新幾內亞及澳洲昆士蘭區。在新幾內亞及澳洲被誤認為是五瓣木山螞蝗之標本，應鑑定為木山螞蝗(*Desmodium arbuscula* Domin)，本文並將其學名新組合為 *Dendrolobium arbuscula* (Domin) H. Ohashi。木山螞蝗是新幾內亞之新紀錄種，同時亦分布於斐濟。

關鍵詞：木山螞蝗、五瓣木山螞蝗、白木蘇花、斐濟、豆科、新組合名、新幾內亞。

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