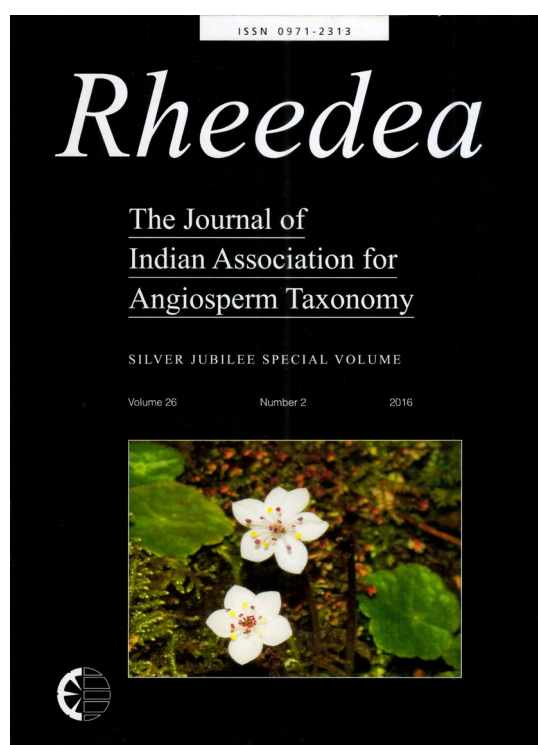




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Note on the occurrence of *Dunbaria punctata* (Leguminosae: Papilionoideae), a little-known legume from the Western Ghats, India

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Abstract

Dunbaria punctata (Wight & Arn.) Benth., a slender leguminous twiner has recently been collected from Kerala after a lapse of over 150 years. In India, the species is mainly distributed in the northeastern states and is known by only two collections from peninsular India made during the mid-19th century. Detailed description, illustration and a key to species of *Dunbaria* in India are provided to facilitate identification.

Keywords: *Dunbaria punctata*, Leguminosae: Papilionoideae, Rediscovery, Western Ghats

Introduction

The genus *Dunbaria* Wight & Arn. is represented by c. 20 species, and distributed mainly in tropical Asia and Australia (Maesen, 1998). In India, the genus is represented by 6 species (Sanjappa, 1992), of which *D. ferruginea* Wight & Arn. and *D. glandulosa* (Dalzell & A. Gibson) Prain are from the Western Ghats.

While exploring the legumes of Kerala state, the authors have collected specimens that resemble *D. debilis* Baker (1876) in twining habit and solitary axillary flowers but differ in having stipellate leaves and membranous leaflets. Upon critical study, they were identified as *D. punctata* (Wight & Arn.) Benth., a species mainly distributed in the northeastern states of India and the only available record of its occurrence in the peninsula is that of Maesen (1998) based on two specimens (Kerala, Quilon, Wight 765 pp [K] and Tamil Nadu, Anamalai hills, Beddome s.n. [BM]). The present collection from Idukki district of Kerala state is a rediscovery of the species from the peninsular region after more than 150 years and also confirms its occurrence in the Western Ghats. A detailed description, illustration and a key to the species of *Dunbaria* in India are provided here for precise identification.

Dunbaria punctata (Wight & Arn.) Benth. in Miq., Pl. Jungh.: 242. 1852; Maesen, Agric. Univ. Wageningen Pap. 98(1): 76. 1998. *Dolichos punctatus*

Wight & Arn., Prodr. Fl. Ind. Orient. 1: 247. 1834. *Indigofera rotundifolia* Lour., Fl. Cochinch.: 458. 1790. *Dunbaria rotundifolia* (Lour.) Merr., Philipp. J. Sci. 15: 242. 1919; Sanjappa, Legumes India: 169. 1992. *D. conspersa* Benth. in Miq., Pl. Jungh.: 241. 1852, nom. illeg.; Baker in Hook.f., Fl. Brit. India 2: 218. 1876.

Figs. 1,2

Twiner. Stems downy grey-pubescent; branches filiform. Leaves pinnately 3-foliolate; stipules ovate-lanceolate, 1.5–2 × c. 0.5 mm, downy-pubescent outside, persistent; stipels setaceous, c. 1 mm long, pubescent; petioles 1–1.5 cm long, canaliculate above, pubescent; rachis 3–5 mm long; petiolules c. 1 mm long, pubescent; terminal leaflet rhomboid, 1.6–3 × 1.2–2.6 cm, cuneate at base, obtuse-acute, mucronulate at apex, membranous, glabrescent above, pubescent and copiously dotted with orange-red vesicular glands beneath; secondary veins 3 or 4 pairs; lateral leaflets obliquely ovate, 1.2–2.5 × 0.8–2.2 cm. Pseudoracemes axillary; peduncles 1–2 mm long, pubescent. Flowers solitary or rarely in pairs on short peduncle, c. 8 mm long, pale yellow; pedicels 2–3 mm long, downy-pubescent, glandular; bracts lanceolate, c. 1.5 × 0.5 mm, pubescent and glandular outside; bracteoles absent. Calyx glandular-pubescent outside; tube campanulate, c. 3 mm long; upper lobe connate except at extreme tip; laterals lanceolate, c. 1.5 mm long; lower lobe 2.5–3 mm long. Standard suborbicular, c. 8 mm; claw c. 2 mm long, auriculate with two callosities at base; wings



Fig. 1. *Dunbaria punctata* (Wight & Arn.) Benth.: a. Habit; b. Leaf-upper and lower surfaces; c. Pod; d. Pod after dehiscence.

obovate, c. 6×2.5 mm, auriculate near claw; claw c. 2 mm long; keels boat-shaped, c. 6×3 mm; claw c. 3 mm long. Stamens diadelphous; vexillary stamen free; sheath 6–7 mm long; filaments 3–4 mm long, equal; anthers uniform, basidorsifixed. Ovary sessile, linear, c. 3×1 mm, glandular and silky-villous, 6–8-ovuled; style 6–7 mm long, curved, glabrous except at base; stigma terminal, oblique. Pods sessile, flat, linear-oblong or subfalcate, $4\text{--}4.5 \times 0.6\text{--}0.7$ cm, beaked, glabrescent, copper brown when mature, valves twisted after dehiscence, 6–8-seeded; seeds suborbicular, c. 4

mm, dark brown; strophiole divided, c. 2×1 mm; funicle persistent.

Flowering & Fruiting: September–December.

Habitat: Grows on shrubs and grasses in wet, rocky hillslopes at 1000 m elevation in association with other legumes such as *Smithia blanda* Wall., *Tephrosia tinctoria* Pers., *Vigna radiata* (L.) R. Wilczek var. *sublobata* (Roxb.) Verdc. and grasses such as *Apluda mutica* L., *Cymbopogon flexuosus* (Nees ex Steud.) Will. Watson, *Pennisetum polystachyon* (L.) Schult. and *Themeda triandra* Forssk.

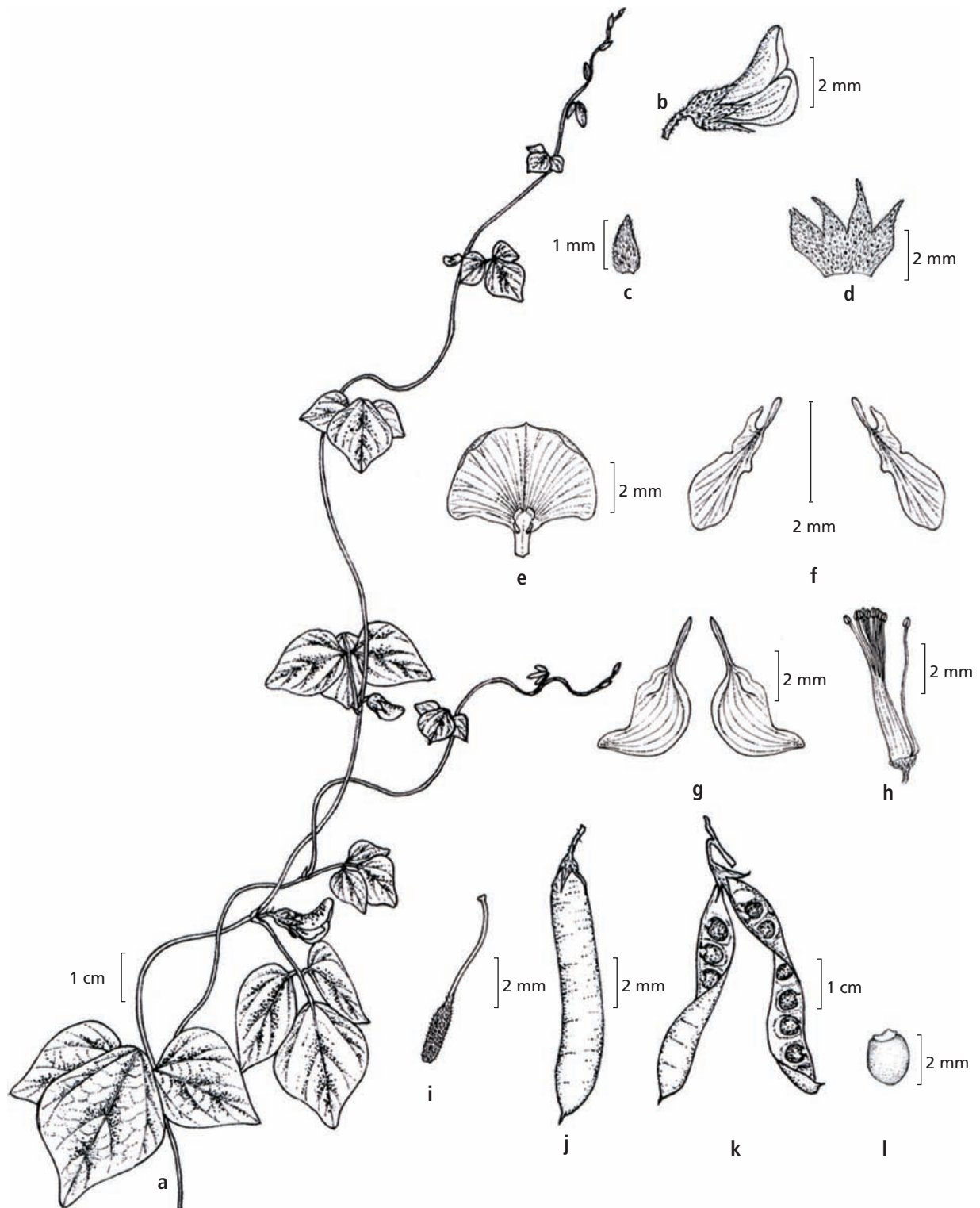


Fig. 2. *Dunbaria punctata* (Wight & Arn.) Benth.: a. Habit; b. Flower; c. Bract; d. Calyx; e. Standard; f. Wings; g. Keels; h. Stamens; i. Pistil; j. Pod; k. Pod after dehiscence; l. Seed.

Distribution: Australia, Bangladesh, China, India (Assam, Kerala, Manipur, Meghalaya, Sikkim, Tamil Nadu, Tripura and West Bengal), Indonesia, Laos, Myanmar, Nepal, Philippines, Thailand and Vietnam.

Specimens examined: INDIA, **Kerala**, Idukki district, Kallar dam site, 09°83' N, 77°15' E, ± 1000 m, 12.11.2009, S.V. Predeep & A.P. Balan 20984 (MH); *ibid.*, 12.10.2016, A.P. Balan 20998 (MH).

Key to the species of *Dunbaria* in India

1. Pods distinctly stipitate; stipe 0.5–2 cm long ... 2
1. Pods sessile or subsessile (<2 mm long) 3
2. Pseudoracemes 2–4-flowered, c. 3 cm long; pods c. 8 cm long, 8–11-seeded **D. podocarpa**
2. Pseudoracemes 12–20-flowered, 5–20 cm long; pods c. 5 cm long, 5 or 6-seeded ... **D. circinalis**
3. Pseudoracemes 1 or 2-flowered, c. 1 cm long ... 4
3. Pseudoracemes 12–20-flowered, 10–30 cm long.... 5
4. Leaflets rhomboid, almost as long as wide, membranaceous; stipels present; pedicels 2–3 mm long **D. punctata**
4. Leaflets narrowly elliptic, much longer than wide, coriaceous; stipels absent; pedicels 4–7 mm long **D. debilis**
5. Pods c. 4.5 cm long, 3–5-seeded ... **D. ferruginea**
5. Pods 7–8.5 cm long, 8–10-seeded **D. glandulosa**

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