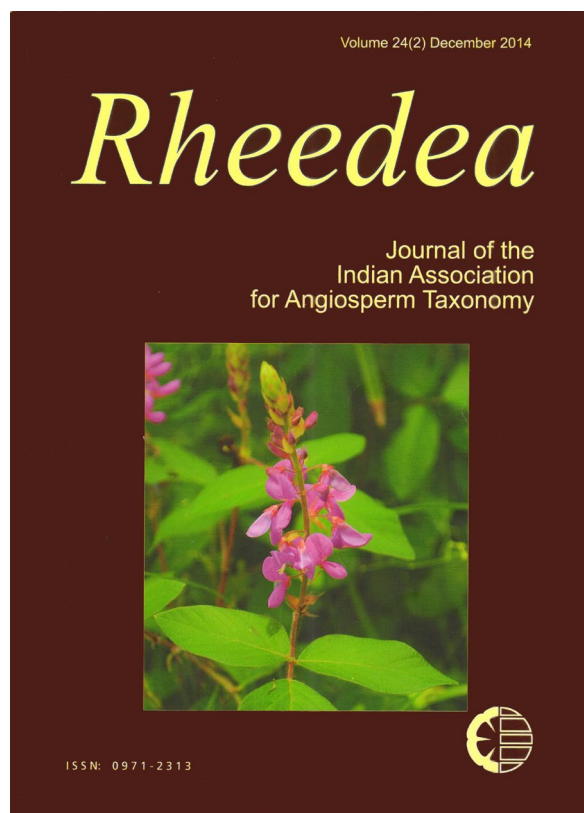




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Desmodium intortum (Fabaceae): A new record for India

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Abstract

Desmodium intortum (Mill.) Urb., a legume species native to Tropical American region is described here as a new record to India from Kerala state. A detailed description and photographs are provided for easy identification.

Keywords: *Desmodium intortum*, Fabaceae, India, Kerala, new record

Introduction

The genus *Desmodium* Desv. is widely distributed in the tropics and subtropics of the world and comprises 350–450 species (Ohashi, 1973). In India it is represented by 47 species, 7 subspecies and 5 varieties (Sanjappa, 1992) of which 24 species, 2 subspecies and 2 varieties are reported from Kerala (Nayar *et al.*, 2006). During the latter part of 1990's three species of *Desmodium* viz., *D. scorpiurus* (Sw.) Desv., *D. tortuosum* (Sw.) DC. and *D. uncinatum* (Jacq.) DC. were reported as new to India from Kerala (Tandyekkal & Mathew, 1995; Tandyekkal, 1997; Sasidharan, 1996). All of them are native to tropical American region. *D. uncinatum* may be introduced to Munnar by the authorities of Livestock department, animal farm at Mattupetty, Munnar. *D. scorpiurus* and *D. tortuosum* were reported from the plains of Southern Kerala.

During a floristic trip to the Cardamom hills of Idukki district the first author collected specimens of a species of *Desmodium* having similarities with *D. uncinatum* in general habit. This species is fast spreading especially along the road sides and cardamom plantations of Idukki district at an elevation of 1000–1200 m. On investigation these specimens turned out to be *D. intortum* (Mill.) Urb., a handsome herb popularly known as 'Greenleaf *Desmodium*' recorded for the first time from India. This species also might have been introduced as a fodder/cover crop along with *D. uncinatum*, escaped and got naturalized in several parts of Idukki District during the last two decades. A detailed description, photographs and relevant notes on habitat, phenology and distribution are

provided to facilitate its easy identification in the field.

Desmodium intortum (Mill.) Urb., Symbolae Antillanae seu Fundamenta Florae Indiae Occidentalis 8(1): 292. 1920; Verdcourt, B. Manual New Guinea Legumes. 1979; Polhill, R. M. Legumineuses. In: J. Bosser *et al.* Flore des Mascareignes, 80.1990. *D. trigonum* (Sw.) DC. Prodr. 2: 332. 1825. *D. hjalmarsonii* (Schindl.) Standl. Pub. Field Museum Natural History, Botanical Series 18(2): 534. 1937. *Hedysarum intortum* Mill., Gard. Dict., ed. 8.1768. *H. trigonum* Sw., Nova Genera et Species Plantarum seu Prodr. 107. 1788. *Meibomia hjalmarsonii* Schindl., Repertorium Specierum Novarum Regni Vegetabilis 20(561/576): 143. 1924. *M. intorta* (Mill.) S.F. Blake, Bot. Gazette 78(3): 286. 1924. *M. trigona* F.W. Gandara, Mem. & Rev. Soc. Cient. "Antonio Alzate" 51: 113, pl. 14. 1931. **Figs. 1, 2**

Herbs, c. 1 m long; stems erect or occasionally trailing, trigonous, striated, densely pubescent, reddish brown, root at nodes when in contact with the soil. Leaves trifoliolate, green, sometimes with reddish brown blotches on upper surface; stipules 5–7 × 2–5 mm, triangular, striate, acuminate or caudate at apex, sparsely pubescent outside, glabrous inside, caducous with age leaving a scar; stipels c. 3 × 1 mm, lanceolate, pubescent; petiole 3.5–6.5 cm long including 4–6 mm long; pulvinus retrorse pubescent; rachis 1–1.4 cm long; petiolules 3–5 mm long, densely pubescent; terminal leaflets 5–8.5 × 3–4.7 cm, ovate-rhomboid,

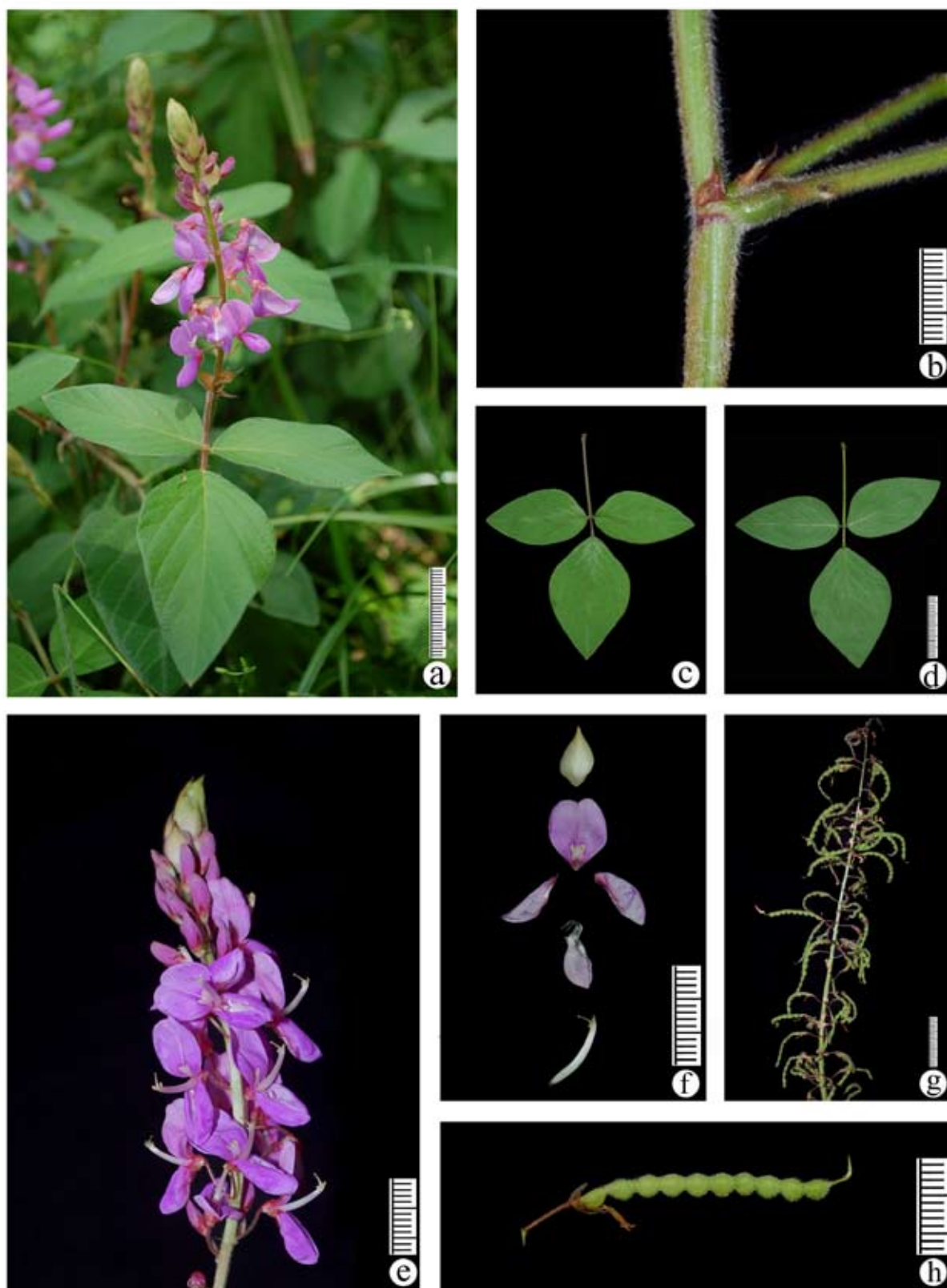


Fig. 1. *Desmodium intortum* (Mill.) Urb.: **a.** Habit; **b.** Stem with stipule; **c.** Leaf - upper view; **d.** Leaf - lower view; **e.** Inflorescence; **f.** Floral parts; **g.** Inflorescence; **h.** Pod.

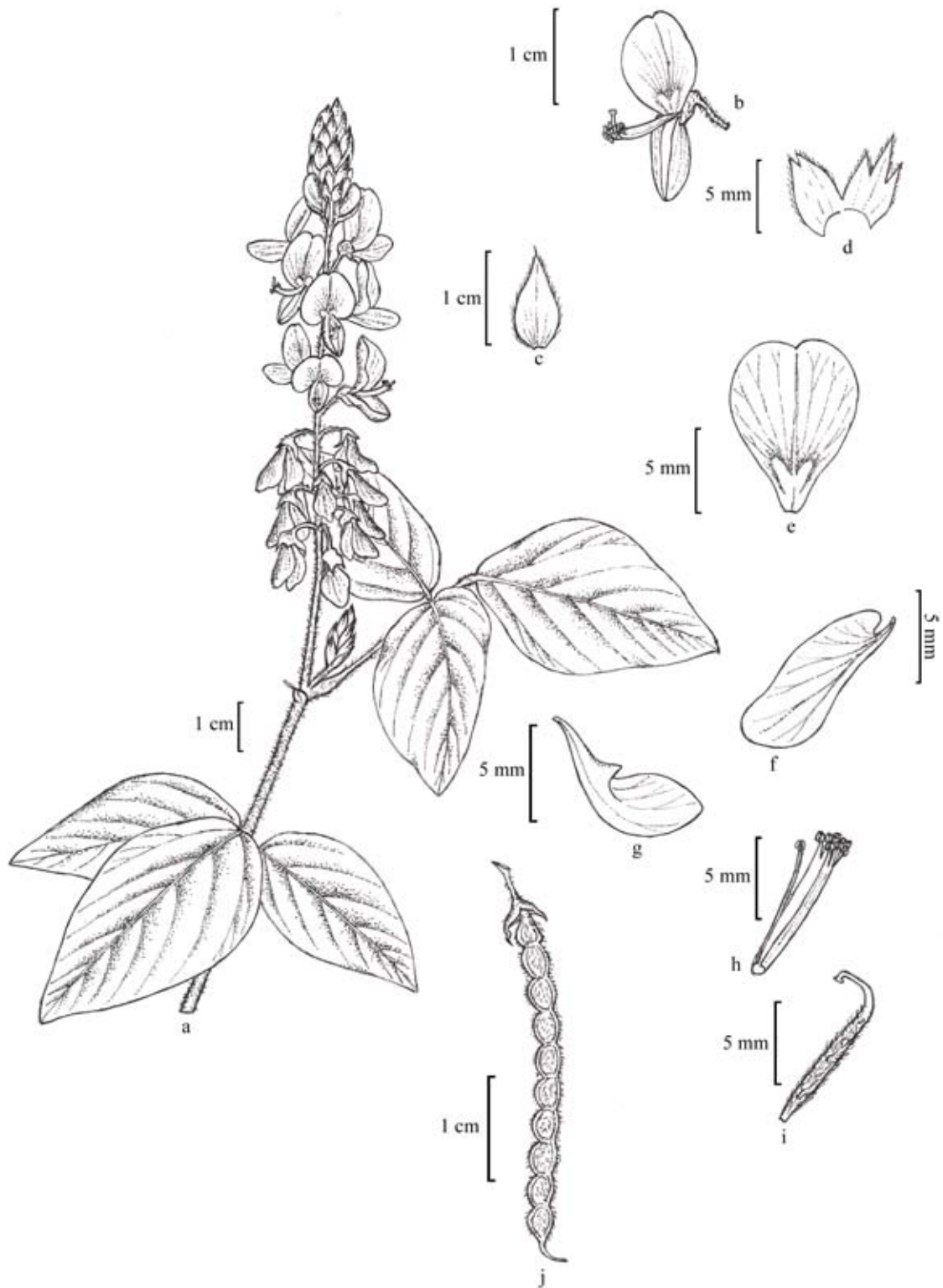


Fig. 2. *Desmodium intortum* (Mill.) Urb.: **a.** Habit; **b.** Flower; **c.** Bract; **d.** Calyx; **e** & **f.** Petals; **e.** Standard; **f.** Wing; **g.** Keel; **h.** Stamens; **i.** Pistil; **j.** Pod.

rounded to obtuse at base, obtuse and mucronate at apex, entire, pubescent above, more so below especially on veins, chartaceous, 7–8 pairs lateral veins; lateral leaflets slightly oblique, 3.5–6.5 × 2–3.6 cm. Pseudoracemes axillary and terminal, 11–19 cm long including 1–3.5 cm long pubescent peduncle, compactly-flowered. Flowers c. 1.3 cm long, in pairs at each node, 6–8 mm apart, deep pink-purple, turns to blue before falling; pedicels 6–8 mm long, filiform, sparsely pubescent; bracts c. 1 × 0.5 cm, ovate, acuminate, sparsely pubescent outside, scariose, caducous; bracteoles absent. Calyx campanulate, tube and lobes sparsely bulbous based hairy outside, tube c. 2 mm long, c. 3 mm wide, upper 2 lobes c. 2 × 2 mm, ovate, narrowly lobed at apex for 0.5 mm; lateral lobes c. 2 × 1.5 mm, ovate-acuminate with obtuse tip; lowest longest c. 3 × 1 mm. Corolla: standard c. 10 × 7 mm, obovate, retuse at apex, claw c. 1 mm long, convex callosities on either side of midline just above the claw, glabrous; wings c. 9 × 4 mm, obliquely obovate, obtuse at apex, claw c. 1 mm long, adherent to keel laterally, lateral callosities c. 4 mm long; keels c. 8 × 3 mm, obliquely obovate, claw c. 3 mm long, lateral callosities c. 3 mm long, connate along ventral margin. Stamens diadelphous, vexillary stamen free; sheath c. 6 mm long; filaments free for 1 mm long; anthers basifixed, c. 0.75 × 0.75 mm. Ovary c. 7 × 0.5 mm, sessile, densely with retrorse hairy; style c. 3 mm long, glabrous, thickened, stigma capitate, c. 0.5 mm dia. Infructescence 13–25 cm long: pods straight or curved towards the ventral suture, 5–10 jointed, 2.5–3.2 cm long, c. 2.5 mm wide, densely hooked hairy, dorsal suture thickened, slightly sinuate, ventral suture deeply indented between seeds making each joint conspicuously convex ventrally. Seeds c. 2.5 × 1.5 × 0.75 mm, ovate, smooth, shining, yellowish, strophiole circular, c. 0.25 mm long and wide.

Flowering & Fruiting: October – February

Habitat: Along road sides and open slopes of mountains between 1000 – 1250 m.

Specimens examined: INDIA, Kerala, Idukki District, Chinnakkal, 1250 m, 12 December 2010, A.P. Balan 20642 (MH); Udumbanchola, 1050 m, 02 November 2013, A.P. Balan 20682 (MH); Chemmannar, 1000 m, 24 December 2013, A.P. Balan & Harikrishnan 20690 (MH).

Distribution: Native to North America (United States: Arizona, Hawaii), Central America (Belize, Costa Rica, El Salvador, Guatemala, Mexico, Nicaragua & Panama), South America (Brazil, Colombia, Ecuador & Peru) and Caribbean (Dominican Republic, Guadeloupe, Haiti, Jamaica, Puerto Rico & Virgin Is); Introduced and naturalised in AUSTRALASIA (Australia & Papua New Guinea), Taiwan, Africa (Angola, Kenya, Malawi, Nigeria, Rwanda, Uganda, Zambia & Zimbabwe).

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