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## ***Crotalaria willdenowiana* DC. subsp. *varmae*, A New Taxon from Andaman, India**

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**Abstract:** A new subspecies, *Crotalaria willdenowiana* DC. subsp. *varmae* (Fabaceae) is described and illustrated from Andaman, India.

**Key words:** *Crotalaria willdenowiana*, Fabaceae, new taxon, subspecies, biodiversity, Andaman, India

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### INTRODUCTION

The genus *Crotalaria* L. is reported to have about 600 species in the tropical and subtropical regions of world (Polhill, 1982; Huang and Huang, 1987). In India, *Crotalaria* is the largest genus in Fabaceae (Papilionaceae) is represented by about 93 species and 11 infraspecific taxa, of which 9 are distributed in Andaman and Nicobar Islands (Gamble and Fischer, 1915-1935; Hajra *et al.*, 1999; Ansari, 2006). Forty-four taxa of *Crotalaria* are endemic to India (Sanjappa, 1992).

During our studies on the flora of Andaman as part of the project, Biodiversity characterization at landscape level using satellite remote sensing and Geographical Information System made an exhaustive collection of plant specimens throughout North Andaman Islands. Detailed studies of these specimens ended up in many interesting findings (Reddy and Raju, 2005; Reddy and Dutt, 2005). Some of the specimens appeared to be distinct from the hitherto known species of *Crotalaria*. Subsequently, after critical study the specimens confirmed to be of new subspecies of *Crotalaria willdenowiana* DC. and is here described and illustrated. *Crotalaria willdenowiana* DC. subsp. *varmae* C.S. Reddy, E.N. Murthy, P. Prasad et V.S. Raju subsp. nov. (Fig. 1).

*Crotalaria willdenowiana* subsp. *willdenowiana* Baker and *Crotalaria willdenowiana* subsp. *glabrifoliolata* Ellis affinis, sed differt in folia glandulosius barba super, folioliis 1×0.6 cm, 10-20 flore racemus, pedunculus 0.7-1 cm longis, corolla beccus haud varicose, staminal vestis 4 mm, legumen ca 1×0.5 cm.

It is allied to *Crotalaria willdenowiana* subsp. *willdenowiana* Baker and *Crotalaria willdenowiana* subsp. *glabrifoliolata* Ellis, but differs in presence of leaves with glandular hairs above, leaflets to 1×0.6 cm,

10-20 flowered raceme, peduncle 0.7-1 cm long, corolla beak not twisted, staminal sheath 4 mm, pod ca 1×0.5 cm.

The three subspecies can be identified based on the following key:

Key to the subspecies of *Crotalaria willdenowiana*:

- Erect herbs; leaves with glandular hairs above; leaflets to 1×0.6 cm; inflorescence 10-20 flowered; corolla beak not twisted; pod ca 1×0.5 cm ... subsp. *varmae*
- Suffruticose herbs or undershrubs; leaves glabrous or sericeous above; leaflets to 2×1 cm; inflorescence less than 10 flowered; corolla beak twisted; pod ca 0.5×0.4 cm ... 2
- Suffruticose herbs up to 30 cm tall; leaves glabrous above; keel petals 6×2 mm .... subsp. *glabrifoliolata*
- Undershrubs up to 1 m tall; leaves sericeous above; keel petals 8×4 mm .... subsp. *willdenowiana*

**Type:** India andaman Islands, North Andaman, Mohanpur to Austin No. 2, 100 m alt., 24-December-2001, Reddy and Prasad 2284 (Holo- KUH; Iso- CAL).

Annual, erect herbs, to 15 cm tall. Branchlets sericeous, leaves trifoliolate, leaflets oblanceolate, 1-1.6×0.6 cm, base cuneate, margin hairy, minute glandular hairs above, silky tomentose beneath, apex rounded or emarginate. Petiole pubescent, 1-2.5 cm; petiolule 1 mm. Racemes terminal or lateral, 10-20 flowered. Peduncle 0.7-1 cm. Pedicel 2-3 mm. Bracts minute, linear. Calyx 3 mm, tube pubescent, 2 mm, glabrous inside, hairy outside. Corolla papilionaceous, petals yellow in colour, standard 9×8 mm, wings 6×3 mm, keel 7×3 mm, beak not spirally twisted. Stamens 10, monadelphous, dimorphous, 5 big alternating with a small; big anthers conical while small anthers roundish. Staminal sheath 4 mm. Ovary sessile,

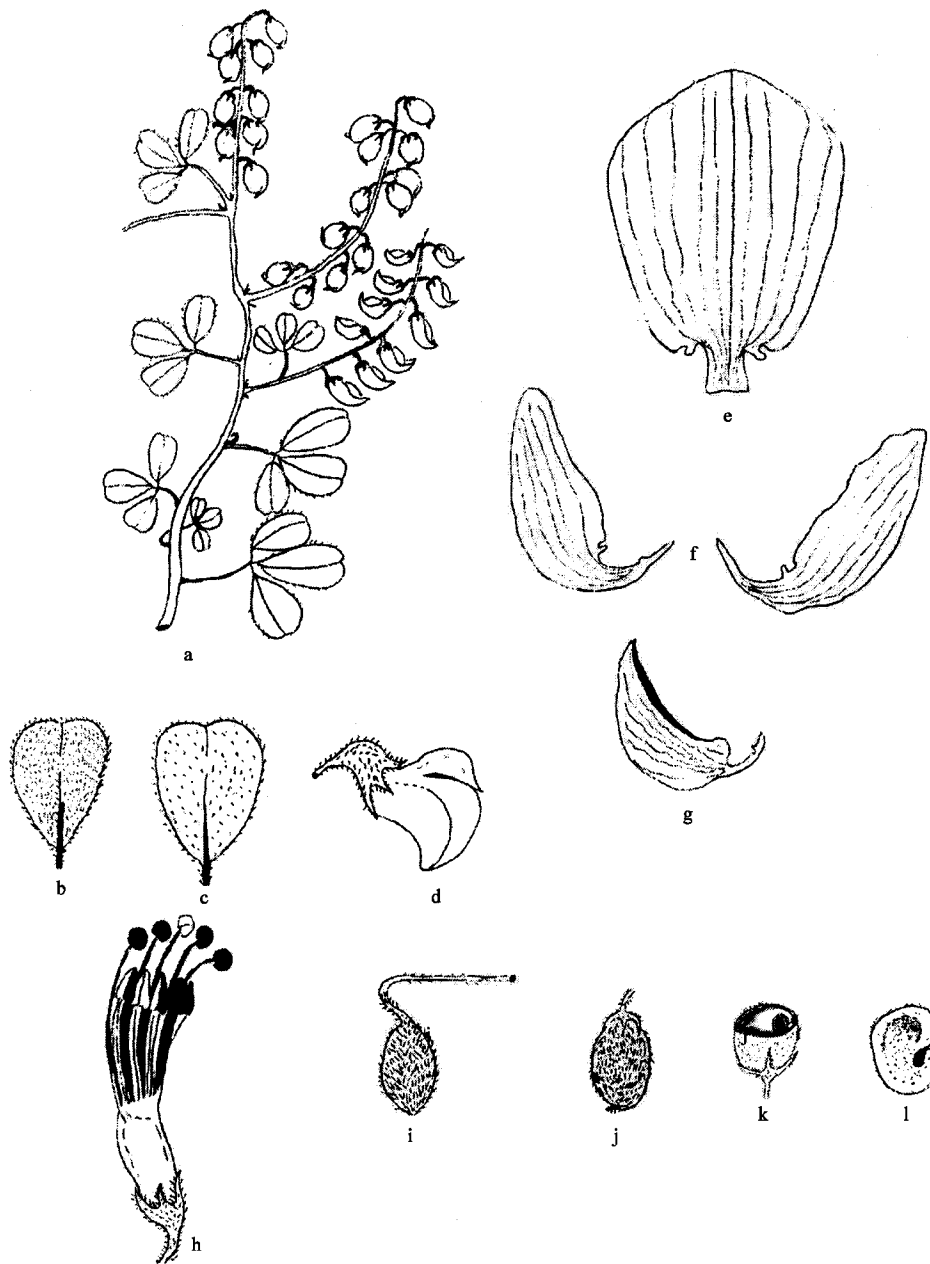


Fig. 1: *Crotalaria willdenowiana* DC. subsp. *varmae* subsp. nov. (a) Twing with racemes and pods; (b) Abaxial surface of the leaf; (c) Above the leaf with glandular hairs; (d) Flower; (e) Standard 9×8 mm; (f) Wings of 6×3 mm; (g) Keel 7×3 mm beak spirally not twisted; (h) Stamens 10, dimorphous with staminal sheath; (i) Ovary hairy, style incurved at base; (j) Tometose beaked pod; (k) Reniform seed with glandular hairs and (l) Reniform seed with glandular hairs

hairy. Style 5-7 mm long, incurved at base, hairy upwards. Pod *ca* 1×0.5 cm, subglobose with persistent calyx, beaked, tomentose, 2- seeded. Seeds reniform, brownish with glandular hairs.

**Flowering and Fruiting:** October to February.

**Habitat:** Rare, along riverine tracts of wet evergreen forests.

**Forest structure, physiognomy and associated species:**

Forest in type locality exhibit stratification with the top most layer occupied by gigantic trees like species of *Dipterocarpus alatus*, *D. turbinatus*, *Artocarpus chaplasha*, *Endospermum malaccense*, *Hopea odorata* growing to a height of 30-40 m. The middle layer is composed of trees, ranging from 20-30 m such as *Aglaia andamanica*, *Planchonia andamanica*, *Planchonella longipetiolata*, *Pometia pinnata*, *Canarium euphyllum*, *Mangifera andamanica*, *Xanthophyllum andamanicum* etc. The bottom most layer consists of smaller trees like *Baccaurea sapida*, *Dillenia andamanica*, *Macaranga tanarius*, *Maesa andamanica*, *Myristica andamanica*. The trees are intertwined by woody lianas (*Entada scandens*, *Calamus andamanicus*, *Dinorchloa andamanica*). The forest floor is occupied by herbs viz., *Colocasia virosa*, *Curcuma petiolata*, *Globba pauciflora*, *Molinaria latifolia*, *Strobilanthes glandulosus* etc.

**Etymology:** The specific epithet of the new taxon is named in honour of Prof. Y. Narsing Rao Varma, Post Graduate College of Science, Osmania University, Saifabad, Hyderabad, India in recognition of his contributions in the fields of Palynology and Palaeobotany.

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