



### ***Crotalaria globosa* (Fabaceae): An Overlooked Endemic Legume of India**

The genus *Crotalaria*, commonly known as ‘rattle pods’, is one of the more prolific genera in Fabaceae Lindl. (Adema, 2006; Kumar & Sane, 2003), with about 690 species distributed throughout the tropics (Van Wyk, 2005). In India, the genus is represented by 93 species (Ansari, 2008) and in Tamil Nadu 53 species (Vajravelu, 1983), of which five entities are endemic to Tamil Nadu: *C. digitata* Hook., *C. fysonii* var. *glabra* Gamble, *C. globosa* Wight, *C. kodaiensis* Debb. & Biswas. and *C. ramosissima* Roxb. var. *ramnadensis* A.A. Ansari. During the last decade, five new expressions, viz. *C. kurisumalayana* Sibichen & Nampy, *C. assamica* Benth. var. *keralensis* Krishnaraj, N. Mohanan & V.T. Antony, *C. retusa* L. var. *indica* Nampy & Sibichen, *C. sukhlalae* A.P. Tiwari & A.A. Ansari, and *C. willdenowiana* DC. subsp. *varmae* C.S. Reddy, Murthy, P.R.C. Prasad & V.S. Raju were described from India (Ansari, 2008; Krishnaraj *et al.*, 2011; Reddy *et al.*, 2007; Sibichen & Nampy, 2007; Sibichen *et al.*, 2002; Tiwari & Ansari, 2014). In connection with the documentation of legumes of Dindigul District for a doctoral dissertation by the first author, a few interesting specimens of *Crotalaria* were collected from Batlakundu and Ottanchathram hill ranges of Dindigul District. Critical study with relevant literature has confirmed it as *Crotalaria globosa* Wight. The type specimens, housed in the online herbaria of Kew and Edinburg, were also studied to ascertain identity of species.

This overlooked endemic legume was first collected by Robert Wight from Dindygul Hills and marked on the herbarium sheet as “*Crotalaria globulosa*” by mistake. Later, Wight (1834) published it as *C. globosa*. Since then it has not been recollected from any of the hill ranges in the Dindigul District (Fyson, 1932;

Kottaimuthu, 2014; Kottaimuthu & Vasudevan, 2012; Matthew, 1999; Pallithanam, 1957, 2001; Ramachandran, 1998; Ramachandran & Vijayalakshmi, 2011; Ravikumar, 1993; Sankar *et al.*, 2009; Sriganesan, 1984; Subramanyam & Henry, 1959). Moreover, it is represented by only a few collections in herbaria including the predominantly older collections (Ansari, 2008; Vajravelu & Daniel, 1983). Scrutiny of herbarium collections at the Madras Herbarium (MH) revealed that after Wight’s collection were made in 1834, this species has not been recollected from Dindygul Hills since then. Hence, the present collection from the type locality, after a period of 179 years, deserves special mention. The present report provides a detailed description and photographs.

***Crotalaria globosa*** Wight in R. Wight & G. A. W. Arnott, *Prodr. Fl. Ind. Orient.* 190. 1834.

**Herbs** prostrate; branchlets terete, much branched, silky-hairy. **Leaves** simple, alternate; petioles 1–2 mm long, exstipulate; blade ovate-orbicular, 0.6–2 × 0.6–2 cm, chartaceous, densely pilose beneath, sparsely hairy above, subcordate or sometimes rounded basally, obtuse apically, mucronulate; lateral nerves 3–4 pairs. **Inflorescence** a 1–3-flowered raceme, leaf-opposed; peduncle 1–4 cm long, pilose. **Flowers** ca. 1.5 cm across; pedicels 2–5 mm long; bracts setaceous, 1–2 mm long; bracteoles minute, above the middle of the pedicel. **Calyx** tube 3–5 mm long; lobes 5, lanceolate, 5–7 mm long, densely hairy, upper 2 basally connate, longer than the lower 3. **Corolla** papilionaceous, yellow, exerted; vexillum ovate-orbicular, ca. 7 mm long, prominently veined with a short, curved claw, becoming orange with age; wing petals oblong, 5–6 mm long, becoming reddish with age; keel petals slightly ventricose with a short twisted beak, 5–7 mm long, becoming reddish with age. **Stamens** 10, monadelphous, dimorphic; staminal sheath ca. 3.5 mm long; filaments 3–4 mm long; anthers dimorphic with longer anthers oblong, 1 mm long, shorter

anthers ovoid, 0.5 mm long. **Ovary** ovoid or ovoid-oblong, 3–5 mm long, sparsely pubescent; ovules 4–5; style filiform, 5–7 mm long, geniculate, pubescent on one side; stigma oblique, subcapitate. **Pods** globose, 5–8 mm across, brown, sessile, turgid, short, stiff, white-hairy. **Seeds** 3–5, ovoid or subreniform, 2 mm across, yellowish-brown obscurely striate.

**Taxonomic note:** *Crotalaria globosa* is closely related to *C. angulata* which is widely distributed in India and in other tropical countries. But the former can be easily distinguished from the latter in the field by the orbicular, abaxially pilose leaves and pods with 3-5 seeds.

**Flowering & Fruiting:** November-December.

**Specimens examined:** Tamil Nadu: Dindigul District; Ottanchatram-Palani Ghat road, 25 Nov 2012, 200 m, *R. Kottaimuthu 150670* (SNCH); Onan karadu, 1 Dec 2012, 180 m, *R. Kottaimuthu 150765* (SNCH).

**Distribution and habitat:** Endemic to India (Tamil Nadu). In the present investigation, we found that this species occurs in southern tropical thorn forests in association with such trees as *Acacia horrida* (L.) Willd., *A. planifrons* Wight & Arn., *Commiphora berryi* (Wight & Arn.) Engl., *Grewia villosa* Willd. With the following shrubs: *Cadaba fruticosa* (L.) Druce, *Euphorbia antiquorum* L. and *Clausena dentata* (Willd.) M. Roem. Among the herbs observed were *Chrysopogon orientalis* (Desv.) A. Camus, *Crotalaria angulata* Mill., *Indigofera linnaei* Ali, *Indigofera trita* L.f., *Perotis indica* (L.) Kuntze, and *Tragus roxburghii* Panigrahi.

Several species of *Crotalaria* have restricted distribution, consisting of small isolated populations. One such rare species is *C. globosa* and it was not included in Ahmedullah and Nayar's (1986) *Endemic Plants of Indian Region*. This overlooked endemic legume was earlier reported from Carnatic, Dindygul Hills and Courtallum (Hooker, 1876; Gamble, 1925). Later, some legume specialists in India cited Bihar, Karnataka and Tamil Nadu as areas of distribution for this species (Ansari, 2008; Ansari & Thothathri, 1988; Sanjappa, 1991). However, this species was not included in any of the publications related to flora of Bihar and Karnataka (Bhat, 1993; Cooke, 1903; Haines,

1924; Keshava Murthy & Yoganarasimhan, 1990; Mooney, 1950; Ramesh & Pascal, 1993; Rao & Razi, 1981; Ravikumar *et al.*, 2001; Saldanha, 1984; Sharma *et al.*, 1984; Singh, 1988; Singh *et al.*, 2001; Udayan & Ravikumar, 2003; Udayan *et al.*, 2004). In Tamil Nadu, apart from the Dindigul District, this endemic legume is distributed in the Velliangiri Hills (Fischer, 1924; Murugesan & Balasubramaniam, 2010), Gulf of Mannar (Daniel & Umamaheswari, 2001) and Tirunelveli (Manickam *et al.*, 2008) but nowhere it is common (Ansari & Thothathri, 1988). The overall population size and threatened status of this rare species is unknown. Hence it is crucial to conduct thorough field surveys in all parts of Tamil Nadu to establish the exact status of this species.

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