

Crotalaria lanceolata (Leguminosae - Faboideae): A new record for India

K. Ravikumar^{1*}, N.M. Ganesh Babu¹ and A.C. Tangavelou²

¹Centre for Conservation of Medicinal Resources, The University of Trans-Disciplinary Health Sciences and Technology, 74/2, Jarakabande Kaval, Attur P.O., Yelahanka via, Bengaluru, Karnataka – 560 064, India.

²Department of Plant Biology and Plant Biotechnology, Guru Nanak College (Autonomous), Guru Nanak Salai, Velachery, Chennai, Tamil Nadu – 600 042, India.

*Email: ravikumarfrlht@gmail.com

Abstract

Crotalaria lanceolata E. Mey., a pantropical species collected from Mandya district of Karnataka is reported for the first time from India. Detailed description, notes on distribution and photographs are provided for easy identification.

Keywords: *Crotalaria lanceolata*, India, Karnataka, new record.

Introduction

Crotalaria L., one of the largest genera of Leguminosae comprises c. 700 species, is chiefly distributed in tropical and subtropical regions of the world (Polhill, 1982; Mabberley, 2017). Ansari (2008) recorded 93 species, 1 subspecies, 17 varieties and 2 formae in India. In southern India, it is represented by 67 species and 8 infraspecific taxa (Sibichen & Nampy, 2007; Jabbar *et al.*, 2010; Krishnaraj *et al.*, 2011; Krishnaraj & Mohanan, 2012; Binu *et al.*, 2012). During a survey of medicinal plants in Mandya district of Karnataka state, the second author collected an interesting specimen of *Crotalaria* (only two individuals were found) with trifoliate, linear-lanceolate leaflets. Careful examination with the relevant literature (Baker, 1871; Drummond, 1972; Pope *et al.*, 2003; Ansari, 2008; Li *et al.*, 2010; Leverett & Woods, 2012; Garcia *et al.*, 2013; Tiwari & Ansari, 2014; Flores & Tozzi, 2018) and comparison with type specimens, it was identified as *Crotalaria lanceolata* E. Mey. and is reported here as a new record to India.

Crotalaria lanceolata E. Mey., Comm. Pl. Africa-Australia 1: 24. 1836; Baker in Oliver *et al.*, Fl. Trop. Africa 2: 36. 1871; R.B. Drumm., Kirkia 8(2): 218. 1972; Pope *et al.*, Fl. Zambesiaca 3(7): 140. 2003; J.Q. Li *et al.* in Z.Y. Wu *et al.*, Fl. China 10: 106. 2010; Leverett & Woods, Castanea 77(4): 371. 2012; Garcia *et al.*, R. Bras. Bioci., Porto Alegre 11(2): 214. 2013; A.S. Flores & Tozzi, Phytotaxa 346(1): 42.

2018. *C. mossambicensis* Klotzsch, Naturw. Reise Mossambique 6: 60, t.10. 1861. **Fig. 1.**

Annual herbs up to 1.25 m tall. Stems erect, branched, terete, ribbed, pilose when young, glabrescent when mature. Leaves 3-foliolate; petioles 3–5 cm long; petiolules 1–2 mm long; leaflets linear to linear-lanceolate, 4–14 × 0.5–1.5 cm, sparsely pilose or glabrous, cuneate at base, acuminate or mucronate at apex, entire along margins. Stipules absent. Inflorescence a terminal raceme, upto 20 cm long, 10–40-flowered. Pedicels 3–5 mm long. Bracts subulate to filiform, 0.5–3 mm long, expanded at base. Bracteoles subulate, narrow, 0.3–1 mm long inconspicuous, persistent, normally inserted at base of calyx or rarely on pedicels. Calyx sub-campanulate, c. 3 mm across, 5-lobed, pubescent; lobes triangular, c. 1 mm long, pubescent, shorter than tube. Petals 5, yellow with reddish-purple veining outside; standard petal broadly elliptic to orbicular, c. 1 cm long, with 2 appendages below; wing petals oblong, c. 1 cm long, marginally pilose at base; keel petals c. 1 cm long, rounded at apex, margins pubescent, beak long. Anthers dorsifixed, 1.3–1.6 mm long. Ovary 5–6 mm long, stipitate, glabrous; style curved. Pods oblong, narrowly cylindrical, curved at apex, 2–4 × 0.5–1.5 cm, glabrous, brown or black when mature; seeds c. 30, obliquely cordate, c. 2 × 2 mm; seed coat orange or red.

Flowering & fruiting: June–September.

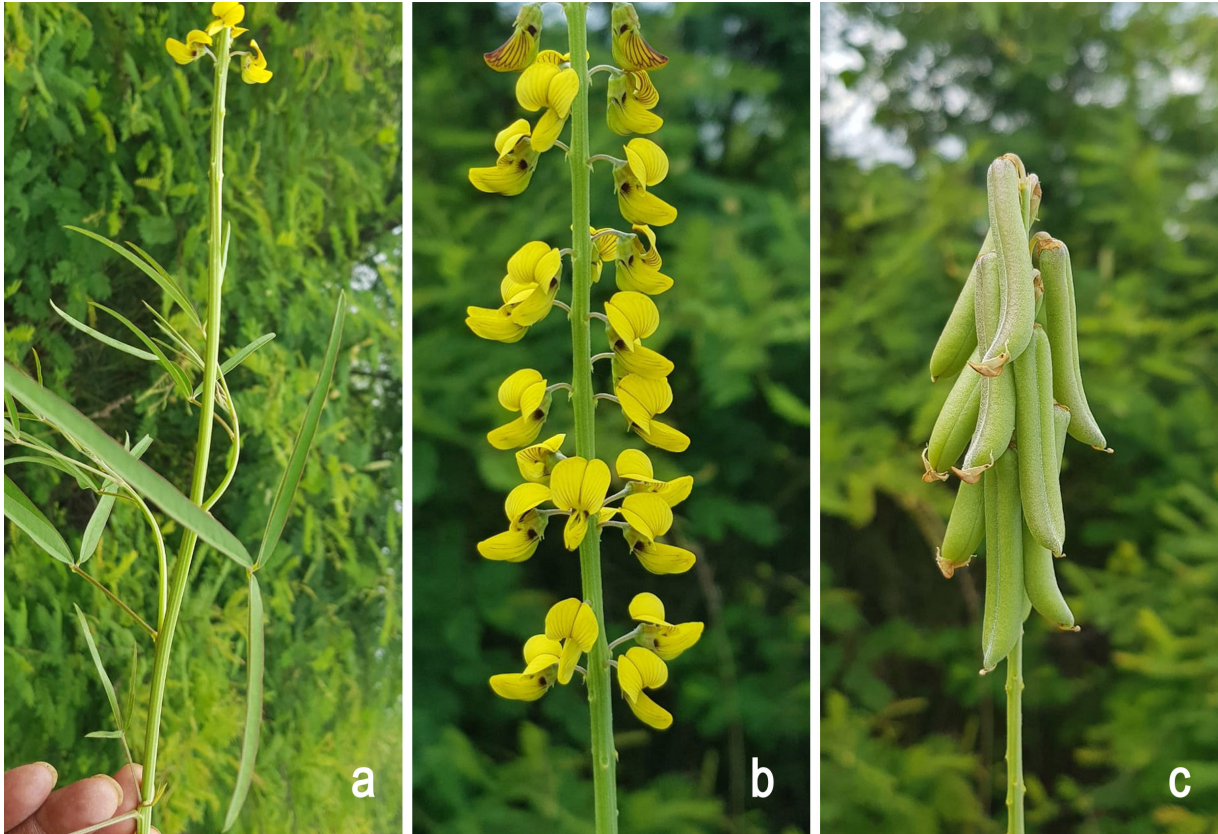


Fig.1. *Crotalaria lanceolata* E. Mey. **a.** A flowering branch; **b.** Closer view of Raceme; **c.** Closer view of Pods

Habitat: Growing in cultivated land at an altitude of 745 m along with *Balanites aegyptiaca* (L.) Delile, *Crotalaria pallida* Aiton, *Endostemon viscosus* (Roth) M.R. Ashby and *Solanum surattense* Burm.f.

Distribution: Native to Tanzania to South Africa, Madagascar. Introduced into Alabama, Bolivia, Brazil, China South-Central, China Southeast, Colombia, Florida, Honduras, Leeward Is., New South Wales, Paraguay, Queensland, South Carolina and Taiwan. (<http://www.plantsoftheworldonline.org>)

Notes: Authors could not locate any additional populations even after a careful search for this species in the vicinity, where the whole area is covered by a mono-dominant population of *Crotalaria pallida* Aiton. Most probably, this species might have entered the locality through horticultural trade, especially through the import of Water Melon [*Citrullus lanatus* (Thunb.) Matsum. & Nakai.] seeds from Sudan for cultivation in Mandya district of Karnataka.

Specimens examined: INDIA, **Karnataka**, Mandya district, Mallasandra, 12°54' 56.62" N; 78° 50'25.51" E., 745 m, 22.06.2018, N.M. Ganesh Babu, S.K. Manjunatha, V.J. Umesh & Hanumantharayappa 121203 (FRLH).

Acknowledgements

The authors are grateful to Shri Darshan Shankar, Vice Chancellor, TDU, Bangalore for providing facilities and support; Dr. A.A. Ansari (Botanical Survey of India) for confirming the identity and Prof. D. Narasimhan, Madras Christian College for critically going through the manuscript.

Literature Cited

- Ansari, A.A. 2008.** *Crotalaria* L. in India. Bishen Singh Mahendra Pal Singh, Dehra Dun.
- Baker, J.G. 1871.** Papilionaceae. In: Oliver et al. (eds.), *Flora of Tropical Africa*, Vol. 2. L. Reeve & Co., London. pp.1–258.
- Binu, T., Prabhu Kumar, K.M., Rajendran, A., George, S. & I. Balachandran 2012.** A new variety of *Crotalaria ramosissima* (Fabaceae) from Tamil Nadu, India. *Asian Pacific J. Trop. Biomed.* **2(3)**: S1412–S1414.
- Drummond, R.B. 1972.** A list of Rhodesian Legumes. *Kirkia* **8(2)**: 218.
- Flores, A.S. & A.M.G. Tozzi 2018.** A synopsis of the genus *Crotalaria* (Leguminosae) in Brazil. *Phytotaxa* **346(1)**: 31–58.

- Garcia, J.M., Kawakita, K., Miotto, S.T.S. & M.C. Souza 2013.** O gênero *Crotalaria* L. (Leguminosae, Faboideae, Crotalarieae) na Planície de Inundação do Alto Rio Paraná, Brasil. *R. Bras. Bioci., Porto Alegre* **11(2)**: 209–226.
- Jabbar, M.A., Krishnaraj, M.V. & N. Mohanan 2010.** *Crotalaria incana* subsp. *purpurascens* (Fabaceae), a new record for India. *Rheedea* **20**: 131–132.
- Krishnaraj, M.V. & N. Mohanan 2012.** A new combination in *Crotalaria multiflora* (Am.) Benth. (Fabaceae). *Phytotaxa* **44**: 58–62.
- Krishnaraj, M.V., Mohanan, N. & V.T. Antony 2011.** A new variety of *Crotalaria assamica* (Fabaceae: Papilionoideae) from the Western Ghats, India. *Rheedea* **21**: 153–156.
- Leverett, L.D. & M. Woods 2012.** The Genus *Crotalaria* (Fabaceae) in Alabama. *Castanea* **77(4)**: 371.
- Li, J.Q., Sun, H. Polhill, R.M. & M.G. Gilbert 2010.** *Crotalaria* In: Wu, Z.Y., P.H.Raven & D.Y.Hong (eds.), *Flora of China*, Vol. **10** (Fabaceae). Science Press, Beijing & Missouri Botanical Garden Press, St. Louis. pp. 105–107.
- Mabberley, D.J. 2017.** *Mabberley's Plant-Book: A portable dictionary of plants, their classification and uses, Fourth Edition*. Cambridge University Press, Cambridge.
- Polhill, R.M. 1982.** *Crotalaria in Africa and Madagascar*. Royal Botanic Garden, Kew.
- Pope, G.V., Polhill, R.M. & E.S. Martins 2003.** *Flora of Zambesiaca*, Vol. **3(7)** (Papilionoideae: Loteae, Galegeae, Viceae, Cicereae, Trifolieae, Podalyrieae, Crotalarieae & Genisteae). Royal Botanic Gardens, Kew, pp. 274.
- Sibichen, M.T. & S. Nampy 2007.** *Crotalaria kurisumalayana* Sibichen & Nampy (Fabaceae), a new species from India. *Candollea* **62(1)**: 105–108.
- Tiwari, A.P. & A.A. Ansari 2014.** *Crotalaria shuklae* A.P. Tiwari & A.A. Ansari (Fabaceae) – a new species from India. *Taiwania* **59(1)**: 54–58.

Received: 26.09.2018

Revised and Accepted: 24.12.2018