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Crotalaria leschenaultii DC. (Fabaceae): A poorly known species rare and endemic Legumes from the Eastern Ghats, Southern India

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ABSTRACT

Crotalaria leschenaultii DC., a rare and endemic species collected from Dharmapuri district of Tamil Nadu is reported for the first time from Eastern Ghats, India. Detailed description, notes on distribution and photographs are provided for easy identification.

Keywords: *Crotalaria leschenaultii*, endemic, new record, Eastern Ghats

1. INTRODUCTION

The genus *Crotalaria* is a member of the legume family (Fabaceae, Leguminosae), subfamily Papilionoideae, and tribe Crotalarieae (Polhill, 1981). *Crotalaria* L., comprises of approximately 710 species distributed mainly in tropics, with greatest diversity (c. 540 species) in Africa and Madagascar (POWO, 2019, Mabberley, 2019). In India, it is represented by 93 species, 1 subspecies, 17 varieties and 2 forma. Ansari, 2009) reported 38 endemic and conservatively prioritized species to India, distributed mainly in two centers of diversity (the Western Ghats and Eastern Ghats). The genus shows high degrees of endemism in India with 47% are endemic to Peninsular India (Ansari, 2008, Dhatchanamoorthy *et al*., 2016, Daimalu Baro *et al*., 2019).

During a survey of medicinal plants in Dharmapuri district of Tamil Nadu state, the author collected an interesting specimen of *Crotalaria*. After that critical study with relevant literature (Baker, 1876, Ansari, 2008, Ansari and Chauhan, 2020) has confirmed it as *Crotalaria lechnaultii*. Taxonomic identity was done by consultation of different herbaria (MH, RHT, BSID, FRLH), crosschecking of online specimens (K000591055!!) and web resources (FPI, 2019, DFEG, 2019) revealed taxonomic identity and global distribution. On screening the relevant taxonomic literature (Pullaiah and Sri Ramamurthy, 2007, John Britto, 2019) it was found that this species had no past record of its occurrence from anywhere in the Eastern Ghats. In this present report of *Crotalaria leschenaultii* a rare and less known endemic legume of addition to

Eastern Ghats. The voucher specimens are deposited at FRLH National Herbarium, Bangalore. Detailed description along with Phenology, photographs, updated nomenclature, its distribution and comparative characters was provided for better understanding of the species.

Systematic treatment

Crotalaria leschenaultii DC., Prodr. A. P. de Candolle 2: 125. 825. Wight &Arn., Prodr. 186. 1834; Baker in Hooker., Fl. Brit. India 2; 76. 1876; Gamble, Fl. Press. Madras 1: 207. 1957 (repr. ed.); Ansari, *Crotalaria* in India 270. 2009.

Description

(Fig. 1) Herb, up to 1 m high; stems terete, striate, c. 12, densely appressed-pubescent in fresh specimens and yellowish when dry materials; internode 1-2 cm long. Leaves simple, oblonceolate, 5–9.5 × 2.5-4.5 cm, narrowly cuneate at base, entire at margins, obtuse, apiculate mucronate at apex; lateral nerves c. 11, adaxial glabrous, abaxial densely silky pubescent; petioles c. 5 mm long, sparsely pubescent. Stipules small, linear or ovate or lanceolate, 1-2 cm long, acute-acuminate at apex, sparsely pubescent. Inflorescence racemes, terminal, 7-22 cm long. Flowers 14-25, c. 1.7 cm long; pedicle 4-10 mm long, minutely pubescent or glabrescent; bracts ovate, c. 6 mm long, reflexed, ciliate at margins, acuminate at apex, adaxial pubescent, abaxial glabrous or minutely pubescent; bracteoles linear-subulate, below the middle half of the pedicle, pubescent both sides. Calyx 5-lobed, tube c. 5 mm long, lobes ovate-lanceolate, acute-acuminate at apex, adaxial minutely, appressed-pubescent, abaxial glabrous. Corolla yellow, exserted; standard petals orbicular or broadly ovate-cordate, c. 2.5 cm across, tinged outside with red or brown with light yellow, inside purple striate, emarginate, notched at apex; wings broadly oblong, obtuse, 24 x 9 mm long at apex; keles oblong, 24 x 8 mm long, obtuse at apex, glabrous. Pods cylindric, oblong, 4-5 cm long, brownish black when mature, stalk thick, c. 10 mm long; seeds 6-21, reniform, brownish, c. 0.2 mm across, shiny, glabrous.

Habitat

In scrub forest; growing with *Achyranthes aspera* L., *Alternanthera ficoidea* (L.) Sm., *Anisomeles indica* (L.) O. Kuntze, *Crotalaria verrucosa* L., *Desmodium triflorum*(L.) DC.,*Ipomoea sepiaria* Koenig ex Roxb., *Malvastrum coromandelianum* (L.) Garcke, *Parthenium hysterophorus* L., *Sida spinosa* L., *Urena lobata* L., and *Vernonia cinerea* L.

Phenology

December-April

Distribution

Karnataka, Kerala, Maharashtra and Tamil Nadu, now it is addition to Eastern Ghats.

Specimen examined

INDIA, Tamil Nadu, Dharmapuri district, Kalasapadi village, Sitheri hills, N 11°44'12°08' E 78°15'78°45, 338 m, 5.02.2020, *Dhatchanamoorthy & Patturaj* 123784 (FRLH).

Ecological Note

The specimens were collected from open scrub and near to Paddy areas at Kalasapadi forest in stony areas, gravely soil and very less number of individuals are present. Cattle grazing and human intervention is the only threat observed for this species. Floristic exploration in other possible localities to assess exact conservation status in India is essential.

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Figure 1. *Crotalaria leschenaultii* DC. Explanations: a- Close-up view of habit, b- Close-up view of leaf, c- twig with inflorescence, d- twig with Infructescence and close-up view of pods.

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Authors Contribution

All authors have contributed equally to manuscript and have no any conflict of interest to declare.

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Ethical approval

The ethical guidelines for plants & plant materials are followed in the study for species collection & identification.

Conflicts of interest:

The authors declare no conflict of interest.

Data and materials availability

All data associated with this study are present in the paper.

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