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Indigofera vicioides Jaub. & Spach (Fabaceae): a new distributional record for the flora of the Eastern Ghats, India

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Abstract. *Indigofera vicioides* Jaub. & Spach (Fabaceae) is a paleotropical species and a rarely found legume of the Southern India. This was the first time it has been recorded in the Eastern Ghats of Tamil Nadu. This article provides a detailed description of this finding together with images and field notes.

Key words: *Indigofera*, leguminosae, southern India, Tamil Nadu

1. Introduction

The *Indigofera* L. belongs to the *Indigofereae* tribe and is the third largest genus in the Fabaceae family, with about 711 species in total (POWO 2022). They are widely distributed throughout the tropical and the subtropical regions of the world. However, the major centers of diversity are in Eastern, Central and Southern Africa (Schrire *et al.* 2009; POWO 2022). In India it is represented by 74 taxa (63 species and 11 varieties), of which 25 taxa are of endemic origin (Sanjappa 2020).

During the medicinal plant exploration in the Dharmapuri district of Tamil Nadu the authors collected an interesting species of *Indigofera,* growing in the rocky areas of the scrub forests. The attempt to ascertain the identity of the specimens using the regional floras (Gamble 1918; Britto 1983; Pullaiah *et al.* 2007; Krishnamurthy *et al.* 2014; Britto 2019) was unsuccessful. After a closer, careful examination of the respective literature (Gillett 1958; Gillett *et al.* 1971; Sanjappa 1995) it was identified as *Indigofera vicioides* Jaub. & Spach (Fig. 1). Furthermore, the specimens have been confirmed with the protologue (Jaubert & Spach 1856) and the herbarium specimens (including the virtual ones) at K and MH. In India it has been reported only in the southern Western Ghats districts such as Tirunelveli and Coimbatore of Tamil Nadu (Vajravelu 1983; Sanjappa 1995; Narasimhan & Irwin 2021) and the Idukki district of Kerala (Pradeep *et al.* 2009). The present collection from the Palacode reserve forest, in the Dharmapuri district of Tamil Nadu is the topic of the first report about this species in the Eastern Ghats. A brief description, phenological observations and other relevant notes, taken during the field research, have been provided for an easy identification of the species.

2. Taxonomic description

Indigofera vicioides Jaub. & Spach, Ill. Pl. Orient. 5(49): 91, t. 481. 1856; Sreemadh., Sci. & Cult. 33: 406.

1967; Sanjappa in Hajra *et al.,* Fasc. Fl. India 21: 154. *t.* 59. 1995; Pradeep *et al.,* J. Econ. Taxon. Bot. 33(4): 825. 2009. (Fig. 1a, 1c, 1d, 1e)

Decumbent herbs; branchlets: 10-12 cm high, slender, geniculate, adpressed pilose to glabrescent. Leaves; imparipinnate, *c.* 4 cm long; 5-11 leaflets; lateral leaflets oblong, 7-15 × 4-5 mm, rounded at base, entire – adpressed ciliate at margins, mucronate at apex; terminal leaflets: elliptic-oblong, 9-15 × 4-5 mm, obtuse at base, glabrous above, adpressed pilose

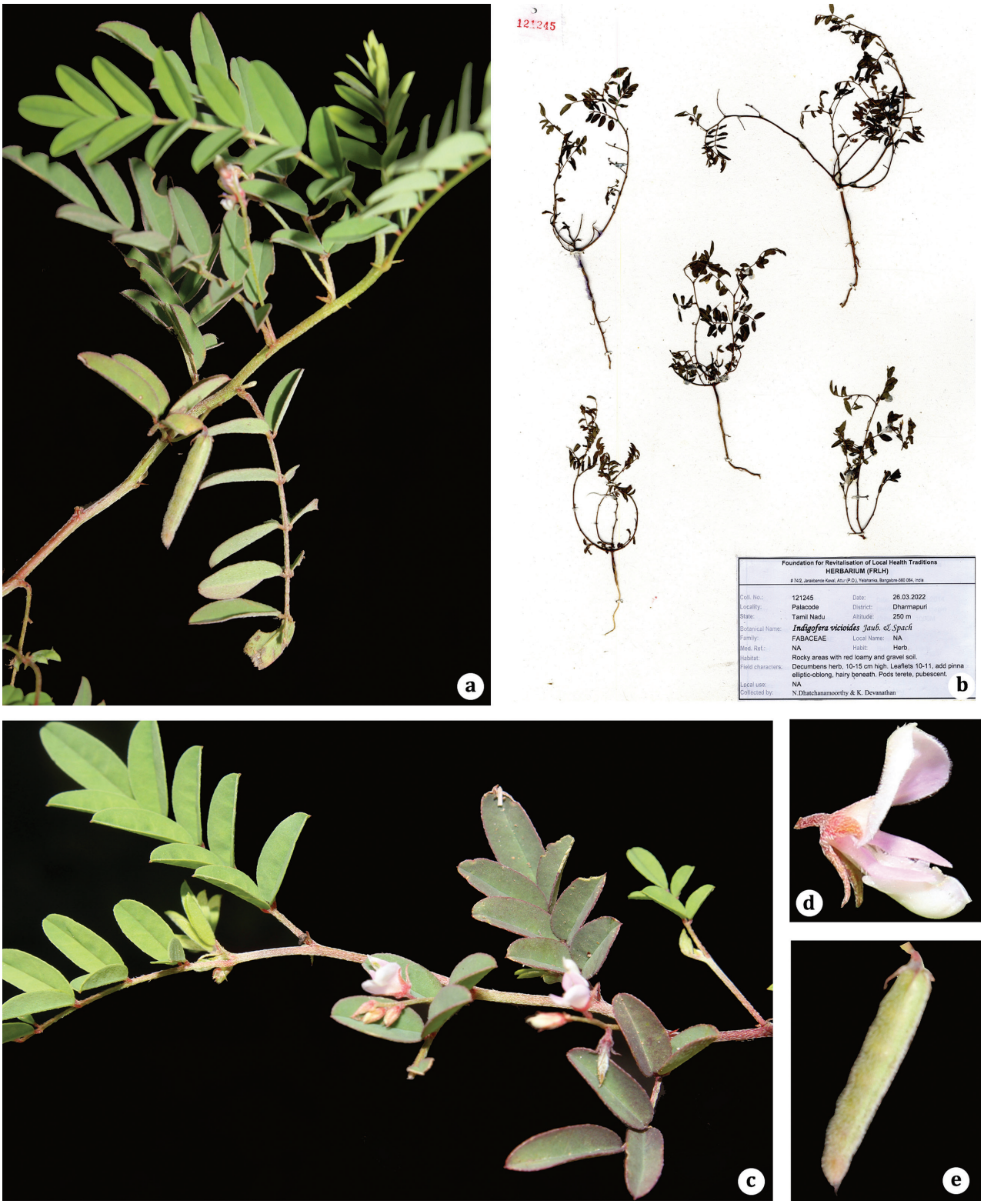

Fig. 1. Photo plate of *Indigofera vicioides*

Explanations: a – habit, b – voucher specimens, c – flowering twig, d – close-up of flowers, e – close-up of pod

beneath, canaliculate above; petioles: 3-4 mm long; petiolules: *c.* 1 mm long, strigose; stipules spreading, narrowly triangular or subulate-setaceous, 2-5 mm long, caducous. Racemes; axillary, 2-5 cm long, 4-8-flowered; peduncle: 1.5-2 cm long, pilose. Flowers; *c.* 4 mm long, reddish-purple; pedicel: *c.* 1.5 mm long, pubescent; bracts *c.* 1.5 mm long, ovate, strigose outside. Calyx; 5-lobed, adpressed pubescent; tube *c.* 1 mm long; equal lobes, *c.* 1.5 mm long, linear-lanceolate. Corolla exerted; standard ovate, *c.* 3.5 mm long, obtuse-mucronate at apex, adpressed pubescent outside; elliptic wings, *c.* 3.5 mm long, ciliate at margins, acute at apex; keels: *c.* 3.5 mm long, pubescent outside. Pods; sub cylindrical, 8-17 × 2-2.5 mm long, vaguely torulose with *c.* 0.5 mm wide sutures, pubescent. Seeds; 4-8, sub cylindrical, truncate, pale brown when young and dark brown when mature.

Phenology: This species' flowers and fruit setting lasts from September to March.

Ecology: *Indigofera vicioides* grows in rocky areas of dry scrub forests and it is associated with *Andrographis serpyllifolia* (Rottler ex Vahl) Wight, *Boerhavia diffusa* Sw., *Crotalaria angulata* Mill., *Cyanotis tuberosa* (Roxb.) Schult. & Schult.f., *Cyperus compressus* L., *Euphorbia antiquorum* L., *Euphorbia tortilis* Rottler ex Ainslie, *Indigofera glabra* L., *Oldenlandia umbellata* L. *Polygala arvensis* Willd. and *Senna italica* Mill.

Distribution: Global – Africa & India (Kerala and Tamil Nadu).

Specimen examined: ETHIOPIA, In Agris monhams pr. Dscha, 5000 ft., 28 Sep. 1854, *Hochstetter* 2243 (K000392729 image!). INDIA, Tamil Nadu, Dharmapuri district, Palacode RF, 250 masl, 26.03.2022, *N. Dhatchanamoorthy & K. Devanathan* 121245 (FRLH). (Fig. 1b).

Note: This species is often confused with *Indigofera arnottii* (Kuntze) Peter G. Wilson (syn. *I. karnatakana* Sanjappa). However, it can be easily distinguished from it by having adaxially glabrous leaflets, 5-8-flowered racemes and a short, densely spreading pubescent pod (Sanjappa 1995). The representation of this species in the Indian herbaria is rare. Sanjappa, Hooper, Ramaswami & Joseph collections of the Tirunelveli district and Shreemadhavan collections from the Coimbatore district of Tamil Nadu are just a few paradigmatic collections of this species. During the present study a single population, consisting of 10 individuals has been located.

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