



NOTES ON THE DISTRIBUTION OF TWO RARE *POGOSTEMON* SPECIES (LAMIACEAE) -IN SOUTH INDIA

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ABSTRACT: Distribution of two species of *Pogostemon* (Lamiaceae) found in Southern Western Ghats is discussed in detail based on the collection of *Pogostemon cruciatus* from Wayanad and *P. peethapushpam* from Chickmagalur. The collection of the latter species from Karnataka not only forms new record to the state but also first report outside its type locality.

Keywords: *Pogostemon cruciatus*, *P. peethapushpam*, Wayanad, Chickmagalur, South India, new distributional record.

INTRODUCTION

The genus *Pogostemon* Desf. (Lamiaceae) is globally represented by about 80 species, mostly in South and South East Asia and China [3]. In India, it is represented by 41 species, of which 19 are endemic [5,6]. As a part of a revisionary study of the family, we were collecting the plants from the southern part of Western Ghats. During such collections, we came across interesting populations of two rare *Pogostemon* species. In this manuscript we discussed on the distribution of these species in South India.

(A) *Pogostemon cruciatus* (Benth.) Kuntze is an elegant plant found in Nepal, India, China and Thailand. About its distribution in Peninsular India, Wight [7] mentioned doubtfully, ‘station uncertain, but I think Malabar’; Gamble [2] also stated, ‘West Coast, perhaps Malabar’. There is no recent collection of this species reported from any part of India or deposited at any major Indian herbaria. Bhatti & Ingrouille [1], did not mention its distribution in South India. In Indian herbaria the South Indian material of these species is represented only by the collection of *Keshavamurthy et al.* 5087(CAL). During the recent field works, we could collect an interesting population of this species from a shallow pond in the open places of deciduous forests in Western Ghats in Wayanad district of Kerala. Efforts were made to conserve this fast disappearing plant by introducing this species in the Calicut University Botanical Garden (CUBG).

***Pogostemon cruciatus* (Benth.) Kuntze, Rev. Gen. Pl. 2: 530. 1891 (“*cruciatum*”). (Fig. 1 A, B)**

Dysophylla cruciata Benth. in Wall., [Cat. no. 1541. 1829, *nom. nud.*] Pl. As. Rar. 1: 30. 1830; Lab. Gen. & Sp. 158. 1833 & in DC, Prodr. 12: 157. 1848; Hook. f., Fl. Brit. India 4: 639. 1885; Prain, Bengal Pl. 2: 850. 1903; Haines, Bot. Bihar and Orissa 739. 1922; Gamble, Fl. Pres. Madras 1137. 1924; Kanjilal *et al.*, Fl. Assam 3: 513. 1939; Mukerjee in Rec. Bot. Surv. India 14(1): 80. 1940.

Eusteralis cruciata (Benth.) Panigrahi in Phytologia 32: 478. 1976.

Anuragia cruciata (Benth.) Raizada, Suppl. Duthie’s Fl. Upper Gang. Pl. 218. 1976. *Type*: [Wallich Cat. no. 1541] NEPAL, anno 1821, Wallich *s.n.* (K-W!).

Mentha quadrifolia sensu D. Don, Prodr. Fl. Nepal. 113. 1825, *non* Roxb. 1832 *nec* *Dysophylla quadrifolia* Benth. 1830.

Dysophylla tetraphylla Wight, Icon. Pl. Ind. Or. 4: t. 1444. 1849. *Type*: Probably from Malabar, *Collector not mentioned (n.v.)*.

Perennial aquatic herb, 80–100 cm high, erect often ascending and rooting at nodes; stem herbaceous, solid, terete, pale green with pink spots and streaks all over, lower portion up to 1cm broad, hirsute to tomentose with dark fine hairs, internodes ca.1–2 cm long; tender portion terete, longitudinally 6 grooved, prominent below nodes, densely to minutely hirsute, nodes often slightly bulged, internodes ca.2–8 cm long, branches rare to 6 on nodes. Leaves in whorls of 4–6,

sometimes internodes towards tip highly reduced and 2 whorls of 6 leaves appear on node, sessile, linear to slightly lanceolate 2–6 × 0.3–0.8 cm, pubescent to hispid, base cuneate, apex obtuse to bluntly acute, margin entire, revolute, petiole highly reduced to absent. Inflorescence a terminal spike, up to 10 cm long, base up to 1 cm broad, peduncle up to 5 cm long, dense pubescent. Bracts linear-clavate or spatulate, ±2.3 × 0.3 mm, hispid on both sides with ± 0.7 mm long, with antrorse hairs. Calyx campanulate, 1.6–2.2 mm; fleshy, greenish, tube and teeth very hairy outside, inside glabrous, teeth 5, dark pink coloured, ciliate, triangular, ca. 0.5 × 0.5 mm, pedicel ±1 mm. Corolla up to 2.5 mm long, pinkish white, straight, tube ±2 mm long, lower lip ±1.2 × 0.7 mm, upper lip ±1.3 × 1 mm, central lobes 1 × 0.6 mm, deltoid, upper and lower lip hairy outside. Filaments all inserted at a height of ±1 mm in tube, ± 4.8–5 mm long, exerted portion ca. 4 mm long, pink, middle densely hairy with ±1.5 mm long, moniliform hairs, glabrous towards tip and base; anthers rounded, 0.3–0.4 mm broad, dark pink, open by a longitudinal slit; style ca. 6–6.3 mm long, pink towards tip; stigma lobes 1.7 mm long. Disc ca. 0.25 mm long. Nutlets 4, light brownish, 0.6 × 0.4 mm, oblong to ellipsoid, base protuberant, smooth.

Flowering & fruiting: August to February.

Habitat: Common in damp grassy lands, wet group, shallow pools or swampy places.

Specimens examined: INDIA, **Karnataka**, Chikmagalur District, Chikmagalur-Aldur road, 26.12.1978, Keshavamurthy, Sreenath and Ramesh 5087 (CAL). **Kerala**, Wayanad District, Sultan Bathery, Valluvady 16.01.2013, Jayesh P. Joseph & Sunojkumar 88156 (CALI).

(B) The species *Pogostemon peethapushpam* was described by Pradeep [4] as a rare endemic from Vellarimala in Kozhikode district of Kerala. Very small population of this species was found as undergrowth in a wet evergreen forest at an altitude of 1200m. There after this species has not been reported from anywhere in Kerala or outside. During our field trip to the Chikmagalur District in Karnataka state we have found another small population of this species almost in the same habitats. It is interesting that the new population is only the second locality for this rare plant, reported for the first time from Karnataka state. The new locality noticed is also facing lot of threats due to anthropogenic reasons conservation measures are to be initiated to save this taxon from extinction.

Pogostemon peethapushpam Pradeep, Candollea 523: 419. 1998. (Fig. 1C, D)

Type: INDIA, **Kerala**, Kozhikode District, Vellarimala, 12.01.1997 Pradeep 5489 (Holotype, CALI; Isotype, PBL).

Aromatic shrub up to 1.5 m tall; young stem green with purplish tinge, mature stem woody, glabrous with prominent leaf scars. Leaves ovate, 8–10 × 6–8 cm, acute at apex, petiole ca. 5–8 cm long. Inflorescence of few flowered axillary cymose panicle, bract caducous, bracteoles linear, 2–4 × 0.3–0.4 mm, margin entire, pubescent. Flowers semi-erect, pedicel ca. 1–6 mm long. Calyx tubular, ca. 7–9 mm long, tube ca. 5–6 mm long, hispid, prominently 5-nerved and nerves excurrent in teeth, mouth provided with long cilia turned towards centre; teeth 5, sub equal, ca. 2–3 mm long. Corolla yellow, funnel shaped, ±1 cm long, tube 5 mm long; upper lip 3-lobed, lobes 2 × 2 mm, glabrous inside and densely hispid outside; lower lip entire, ovate-lanceolate, 2.5 × 2 mm, subacute at apex, veins conspicuous. Stamens well exerted, upper pair ca. 16–18 mm long, lower pair ca. 11–13 mm long, densely hairy towards base; anthers yellow, reniform, <1 mm in diameter, unilocular. Disc up to 1 mm long, lobes not clear; ovary locules ca. 0.5 mm high, oblong, top rounded, densely long glandular hairy outside; style ca. 17–20 mm long, slender, equally bi-lobed; ±1 mm long.

Flowering & fruiting: January to April.

Habitat: Undergrowth of evergreen forest, usually along wet and semi shady places in association with *Strobilanthes* spp.

Specimens examined: INDIA, **Karnataka**, Chikmagalur District, on the way to Bababudangiri. 16.02.2013 K. Shinoj & Sunojkumar CU 290176 (CALI); **Kerala**, Kozhikode District, Vellarimala, 12.01.1997 Pradeep 5489 (CALI).

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Figure 1. A–B. *Pogostemon cruciatus* (Benth.) Kuntze: A. Habit; B. Inflorescence; C–D. *P. peethapushpam* Pradeep: C. Flowering twig; D. Inflorescence.

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