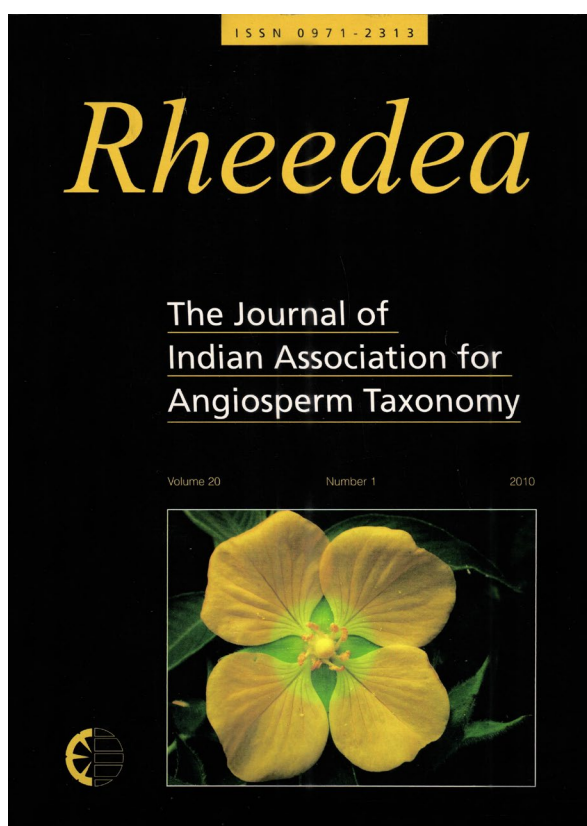




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Pogostemon raghavendranii (Lamiaceae), a new species from Anamalai hills, India

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Abstract

Pogostemon raghavendranii R. Murugan et Livingst., a new species from Akkamalai shola, Valparai, Coimbatore district, Tamil Nadu is described and illustrated. This new species can be placed under the section *Racemosus* (Benth.) Bhatti et Ingr. and subsection *Glabriusculus* (Briq.) Bhatti et Ingr., as it lacks moniliform trichomes on the filaments. Morphological differences among the species under subsection *Glabriusculus* are tabulated and a distribution map is also provided.

Keywords: Aromatic plant, Lamiaceae, New species, *Pogostemon*, Southern Western Ghats

Introduction

The genus *Pogostemon* Desf. is globally represented by 96 species (Mabberley, 2005). It is represented in South and Southeast Asia by 79 taxa (Bhatti & Ingrouille, 1997). India has the highest number of *Pogostemon* species in the world, is represented by 56 taxa (53 species and 3 varieties). Of which 22 taxa (19 species and 3 varieties) are endemic. During a botanical tour to collect *Pogostemon* species from Tamil Nadu, a distinct population of a *Pogostemon* was located at Akkamalai shola in Valparai, Coimbatore district. On critical study, it turned out to be a hitherto unrecognized species, which is described and illustrated here.

Pogostemon raghavendranii R. Murugan et Livingst., *sp. nov.* **Fig. 1**

Pogostemoni specioso et P. hedgei arte similis, surculis foliis calycibusque pilis minutis unicellularibus glandulosis, calycis lobis tubo aequilongis vel longioribus, filamentis stylisque quam speciebus ceteris longioribus differt.

Typus: INDIA, Tamil Nadu, Coimbatore district, Valparai, Akkamalai shola, 27.1.2007, R. Murugan 22 (Holotypus, CAL; Isotypii, MH, FRLH, MCCH).

Shrubs, 1 – 1.5 m high, strongly aromatic, puberulous; stems obtusely 4-angled, glabrous when old; trichomes glandular, 1-celled. Leaves opposite, ovate or orbicular, 3 – 8 × 2 – 6 cm, rounded to unequally subcordate at base, double-crenate at margin, acute to acuminate or obtuse (upper leaves) at

apex, glandular-punctate and puberulous on both surfaces; upper surface densely interspersed with 1-celled, glandular-trichomes and very sparsely with 3-celled, short non-glandular-trichomes; lower surface with densely 1-celled, glandular-trichomes; lateral nerves 5 – 7 pairs, raised and prominent beneath; petioles 2 – 5 cm long, puberulous with 1-celled, glandular-trichomes. Flowers in verticillasters, in terminal un-branched spikes, deflexed; 1 or 2 basal verticillasters interrupted. Bracts linear, 2 – 3 mm long, puberulous with 1-celled, glandular-trichomes. Calyx tubular, c. 6 × 1.5 mm, glabrous inside, puberulous outside with 1-celled, glandular-trichomes, 5-nerved, 5-lobed; lobes linear, subequal, 3 – 4 mm long, as long as or longer than tube, ciliate with 3-celled glandular-trichomes at margin. Corolla bilipped, c. 8 × 2 mm, exserted, pale green; upper lip 3-lobed, c. 2 mm long; lower lip entire, c. 1.5 mm long; lobes glabrous inside, puberulous outside. Stamens 4, subequal, exserted, white; filaments 12 – 13 mm long, adnate at different heights at the middle of corolla tube, glabrous at middle, villous at base. Styles 16 – 17 mm long, exserted, glabrous, white; stigma bifid, c. 1.5 mm long. Nutlets 4, orbicular, c. 1 mm, with stalked glands at apex, shiny, black.

Flowering & Fruiting: January.

Habitat: Partially shady and marshy places on streamsides in shola forests.

Etymology: The specific epithet is named to honour Dr. R. Raghavendra Rao for his remarkable contri-

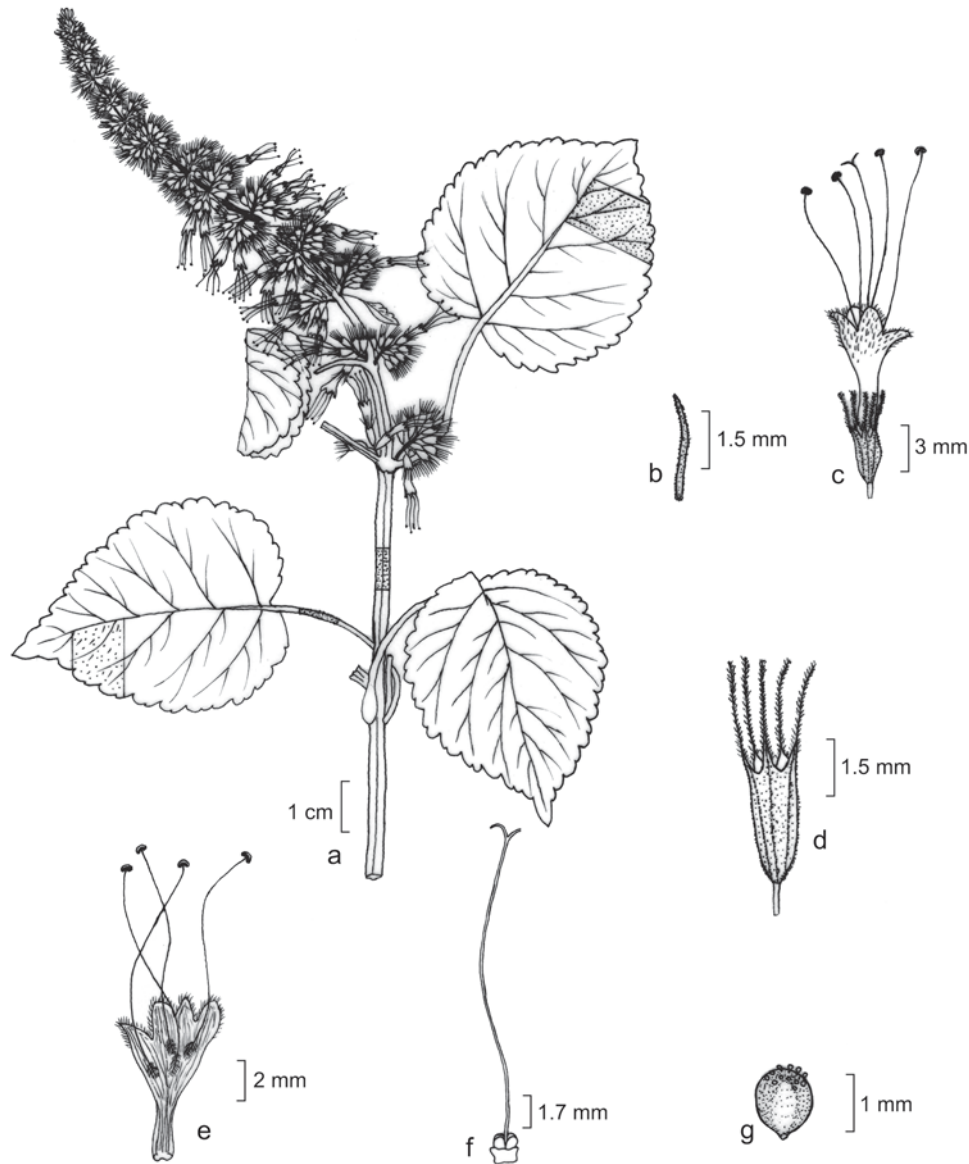


Fig. 1. *Pogostemon raghavendrarii* R. Murugan *et* Livingst., *sp. nov.*: a. Flowering twig; b. Bract; c. Flower; d. Calyx; e. Corolla split open with stamens; f. Style; g. Nutlet (from R. Murugan 22)

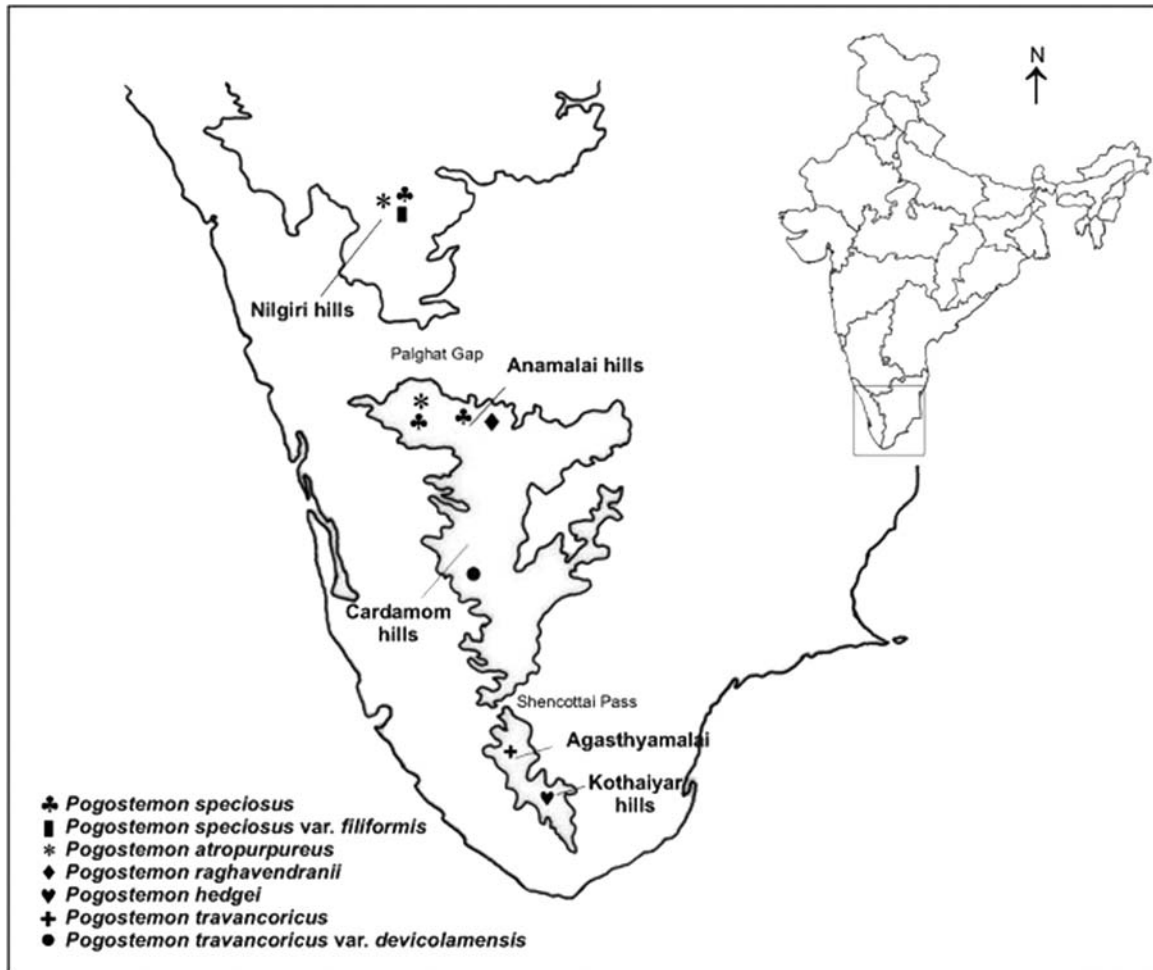
bution to the Flora of India, particularly Medicinal and Aromatic Plants.

Notes: The nature and distribution of indumentum and glands are the significant features of this genus. All species of *Pogostemon* have trichomes with more than 2 cells except *P. travancoricus* Bedd., which is glabrous. The new species is unique in this aspect as it has very short, 1-celled glandular-trichomes on young parts. *P. speciosus* Benth. has the same type of 1-celled trichomes along with 8-celled long trichomes. Type specimens of all species in the subsection *Glabriusculus* have been consulted. The new species distinctly differs from other species in the subsection *Glabriusculus* (Table 1).

Out of 6 species under the subsection *Glabriusculus*, 5 species and 2 varieties are distributed in Southern Western Ghats, India (Map 1), except *P. reflexus* Benth., which is endemic to Sri Lanka. The new species is confined to Valparai region of Anamalai hills, whereas, *P. atropurpureus* and *P. speciosus* Benth. are distributed both in Nilgiris and Anamalai hills and *P. speciosus* Benth. var. *filiformis* V.S. Kumar *et* B.D. Sharma is confined to Nilgiri hills. *P. hedgei* V.S. Kumar *et* B.D. Sharma and *P. travancoricus* Bedd. are strictly restricted to Kothaiyar and Agasthyamalai hills respectively in Southern Western Ghats. Whereas, *P. travancoricus* Bedd. var. *devicolamensis* B.V. Shetty *et* Vivek. is confined to Devicolam, Kerala.

Table 1. Comparison of morphological characters among the species of *Pogostemon* under the subsection *Glabriusculus*

Character	<i>P. raghavendranii</i> sp. nov.	<i>P. speciosus</i>	<i>P. hedgei</i>	<i>P. reflexus</i>	<i>P. atropurpureus</i>	<i>P. travancoricus</i>
Stem	Puberulous with minute 1-celled, glandular-trichomes	Hirsute with long 8-celled and minute 1-celled, glandular-trichomes	Hirtellous with 4 or 5-celled trichomes	Densely pilose with 5-celled trichomes	Densely tawny velvety with 5-celled trichomes	Glabrous, purple
Leaf	Puberulous with minute 1-celled glandular-trichomes and sparse, short 3-celled trichomes; base cordate; apex acute to acuminate or obtuse	Hirsute with long 8-celled trichomes and minute 1-celled glandular-trichomes; base cordate; apex acute or obtuse	Hirtellous with 4 or 5-celled trichomes; base cordate; apex acute	Densely pilose with 5-celled trichomes; base truncate; apex acute	Densely tawny velvet, with 5 or 6-celled trichomes; base cuneate to rounded; apex acute	Glabrous; base cuneate; apex acuminate; nerves purplish
Inflorescence	Flowers deflexed	Flowers horizontal	Flowers deflexed	Flowers deflexed	Flowers deflexed	Flowers deflexed
Bract	Linear, puberulous	Linear, hirsute	Linear to oblanceolate, hirtellous	Linear, villous	Linear, villous	Linear, glabrous
Calyx	Minutely glandular-hairy outside; lobes linear, 3 – 4 mm long, as long as tube or longer than tube	Sparsely hirsute and minutely glandular-hairy outside; lobes triangular-linear, 2 – 2.5 mm long, shorter than tube	Hirtellous outside; lobes triangular-linear, 2.5 – 3 mm long, shorter than tube	Villous outside; lobes triangular, 1.5 – 2 mm long, shorter than tube	Densely villous outside; lobes lanceolate, c. 1.5 mm long, much shorter than tube	Glabrous, dark purplish; lobes triangular, 1 – 1.8 mm long, much shorter than tube
Corolla	c. 8 mm long, pale green	6 – 7 mm long; tube white outside, pink inside	c. 8 mm long, pale green	c. 7 mm long, dark purple	c. 9 mm long, dark purple	c. 9 mm long, yellowish green
Filament	12 – 13 mm long	10 – 11 mm long	10 – 11 mm long	8 – 10 mm long	11 – 13 mm long	12 – 14 mm long
Style	16 – 17 mm long	12 – 14 mm long	11 – 12 mm long	11 – 12 mm long	14 – 15.5 mm long	15 – 16 mm long



Map 1. Geographical distribution of taxa of *Pogostemon* under the subsection *Glabriusculus* in Southern Western Ghats, India

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