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Research Article

Stachytarpheta cayennensis (Rich.) Vahl (Verbenaceae): A New Record for Karnataka State, India

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Abstract

A *Stachytarpheta* Vahl species was collected during field survey of the riparian vegetation of *Tungabhdra* River at Udagatti village of Ranebennur Taluk in Haveri District. It belongs to family Verbenaceae. After taxonomic investigations it was confirmed as *Stachytarpheta cayennensis* (Rich.) Vahl characters of pendent spikes and white flowers with 5-toothed calyx. It is an introductory collection for flora of Karnataka state. A detailed note on description, distribution, key and photographs are provided for easy identification of the species.

Keywords: *Haveri, Pendent spike, Riparian, Stachytarpheta, Tungabhdra.*

Introduction

The family Verbenaceae is globally represented with 32 genera and 800 species (Cardoso, *et al*., 2021). In India 105 species in 19 genera have been reported (Bala and Gupta, 2012). Karnataka have 9 genera 19 species (KBB, 2019). The *Stachytarpheta* Vahl is a genus native to Tropical America and South Mexico with ca 130 species distributed universally (Mabberley, 2017). Five species are recorded from Indian subcontinent (Rajendran and Daniel, 2002). Three species are documented from Karnataka namely, *Stachytarpheta jamaicensis* (L.) Vahl, *Stachytarpheta mutabilis* (Jacq.) Vahl and *Stachytarpheta urticifolia* Sims (KBB, 2019). The present collection *Stachytarpheta cayennensis* (Rich.) Vahl from 'The Riparian Vegetation of *Tungabhdra* River at Udagatti Village of Ranebennur Taluk, in Haveri District' is a new addition to the Flora of Karnataka State, India.

Taxonomic Treatment

Stachytarpheta cayennensis (Rich.) Vahl Enum. Pl. Obs. 1: 208. 1804; Rajendran and Daniel, Indian Verbenaceae. 2002.

Under-shrubs up to 1.5 m tall. Stem branched, branches terete, pale green-brown coloured, slightly pubescent. Leaves simple, opposite, ovate-elliptic 2.0-5.0 x 1.5-3.0 cm. long, pale green beneath densely pubescent on the nerves, dark green on the upper surface sparsely pubescent. apex acute often prolonged in to petioles, cuneate at leaf base petiole 0.5 cm long, crenate to serrate along margins. Spikes terminal and axillary up to 25.0 cm long, pubescent, slender, pendulous. Bracts linear-lanceolate 4 mm long, aristate, hyaline ciliate along the margins. Flowers white 7 mm long. Calyx tubular with acuminate apex, densely hirsute 5-toothed 4 mm long, tooth unequal. Corolla hypocrateriform 5-lobed, white, lobes suborbicular 2 mm broad, corolla 6-7 mm tube 4-6 mm long hairy at throat. Stamens 2, epipetalous, anthers 2 mm filaments very short included pubescent. Pollen grains are tricolpate in shape. Ovary oblong, 1-2 mm long, 2-loculed, Style filiform, 4 mm long, stigma capitate. Fruits oblong 4 mm long, glabrous with persistent calyx and style. **(Fig. 1).**

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Fig 1: ***Stachytarpheta cayennensis*** (Rich.) Vahl, **A**- Habit; **B**- Twig; **C& D**- Dorsal and Ventral view of leaf; **E**- Inflorescence; **F**-Dorsal & Ventral view of Bract; **G**-Flower; **H**- Calyx; **I**- Corolla; **J**- Anther; **K**- Enlarged tricolpate Pollen; **L**-Stigma; **M**-Fruit.

Ecology: Occasional in Roadsides, wastelands and riparian vegetation of Tungabhadra river. Common associates are *Senna tora* (L.) Roxb. *Alternanthera sessilis* (L.) R.Br. ex DC. *Cynodon dactylon* (L.) Pers. and *Mimosa pudica* L.

Flowering and Fruiting: April-September.

Specimen Examined: India, Karnataka, Haveri, Ranebennur, Udagatti, Bank of River Tungabhadra, GPS co-ordinates-14°41'35.8"N 75°44'12.2"E by *Ningaraj S. Makanur*. & *K. Kotresha*. Collector No.: 115,; Date of Collection: 13 April 2021. & GPS co-ordinates 14°41'32.7"N 75°44'11.2"E by *K. Kotresha* & *Ningaraj S. Makanur* Collector No.: 1126; Date of Collection: 07 August 2022; Voucher specimens are submitted to the Herbarium of Karnatak Science College, Dharwad-580 001 (HKSCD).

Distribution: Native range is South Mexico to Tropical America. In India: Andra Pradesh, Bihar, Karnataka (Present collection), Kerala, Orissa and West Bengal and it was reported from Kerala as an addition to the Flora of India (Nair, *et al*., 1982).

Uses: while reviewing the literature it was noted that *Stachytarpheta cayennensis* (Rich.) Vahl is a ethnomedicinally important plant, Penido, *et al*., in 2006 documented its anti-inflammatory, anti-ulcerogenic and gastroprotective properties. Traditionally it used as remedy for anti-allergic, bronchodilatory, digestion stimulating, antacid and antidiarrhea (Okoye, *et al*., 2014). Folk medicine practices in Brazil utilize the crushed leaves and roots as topical application in the treatment of skin lesions, antimalarial, hepatoprotective and laxative agent (Onofre, *et al*., 2015) and management of mental illness (Shah, *et al*., 2021).

Key to Species of *Stachytarpheta* Vahl in Karnataka

1. Plants less than 2 m tall; spikes less than 40 cm long, slender ……. 2
1. Plants more than 2 m tall; spikes more than 40 cm long, stout ……..*S. mutabilis*
2. Leaves glabrous; spikes erect; calyx distinctly 4-toothed ……..3
2. Leaves pubescent; spikes pendent; calyx distinctly 5-toothed …… *S. cayennensis*
3. Leaf blade not bullate; spikes terminal; bracts ciliate along margins …..*S. jamaicensis*
3. Leaf blade bullate; spikes terminal and axillary; bracts not ciliate along margins ……*S. urticifolia*

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