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Two new distributional records of plants (*Stachytarpheta* and *Coleus*) from Andaman and Nicobar Islands, India

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Abstract

This study documents the first record of *Stachytarpheta cayennensis* (Rich.) Vahl (Verbenaceae) and *Coleus monostachyus* (P. Beauv.) A.J. Paton (Lamiaceae) from Andaman and Nicobar Islands, India. Presence of these species in this archipelago marks an extension of known distribution beyond mainland India. To facilitate accurate identification, detailed morphological descriptions along with colour photographic plates are furnished for easy and reliable identification.

Key words: *Stachytarpheta, Coleus, Indira Point, New distributional record, Great Nicobar*

Introduction

Great Nicobar Island is the southernmost and largest island of the Nicobar group in the Andaman and Nicobar archipelago, occupies a distinct geographical and ecological niche within the Bay of Bengal. The island covers approximately 1,044 km² and features a rugged topography characterized by undulating terrain, coastal plains and low hills that rise gently from the sea. Land use on Great Nicobar is largely governed by its status as a tribal reserve and protected forest area, with extensive tracts classified as reserved forests and minimal agricultural activity confined primarily to small settled zones around Campbell Bay. The island experiences a tropical maritime climate, marked by high humidity, uniform temperatures ranging from 23°C to 31°C and heavy annual rainfall exceeding 3,000 mm. The vegetation is exceptionally diverse, encompassing tropical evergreen forests, littoral mangroves, semi-evergreen forests and sub-montane forests. The interior lowlands and hill slopes support dense, multi-layered evergreen forests, while the coastal fringe is lined with salt-tolerant mangroves along creeks and estuaries. Sandy beaches harbour pioneering species such as *Ipomoea pescaprae* and *Casuarina equisetifolia*. The region falls within the globally recognized Sundaland Biodiversity Hotspot and over 85% of Great Nicobar is designated as Biosphere Reserve, attracting numerous naturalists and taxonomists to explore the island. Das and Sivaperuman (2023) reported 813 floral species belonging to 548 genera and 143 families from this Island.

During the recent field survey, interesting specimens of *Stachytarpheta* and *Coleus* were collected from Indira Point, Great Nicobar Island (Fig. 1). Upon critical examination following the taxonomic criteria of Nair *et al*., (1982), Prendas *et al*., (2013), Makanur and Kotresha (2022) and Prasad *et al*., (2022), the specimens were identified as *Stachytarpheta cayennensis* (Rich.) Vahl (family Verbenaceae), commonly known as White Porterweed and *Coleus monostachyus* (P. Beauv.) A.J. Paton (family Lamiaceae), commonly known as Monkey's Potato. Neither species has previously been recorded from the Andaman and Nicobar Islands. Thus, the occurrence of *Stachytarpheta cayennensis* and *Coleus monostachyus* represents a new distributional record for the flora of the Andaman and Nicobar Archipelago.

Taxonomic Treatment

1. Stachytarpheta cayennensis (Rich.) Vahl Enum. Pl. Obs. 1: 208. 1804, *Abena cayennensis* (Rich.) Hitchc. in Rep. (Annual) Missouri Bot. Gard. 4: 117. 1893, *Valerianoides cayennensis* (Rich.) Kuntze in Revis. Gen. Pl. 2: 510. 1891, *Verbena cayennensis* Rich. in Actes Soc. Hist. Nat. Paris 1: 105. 1792, *Zappania cayennensis* (Rich.) Mirb. in Hist. Nat. Pl., ed. 2, 15: 241. 1805 (POWO, 2026).

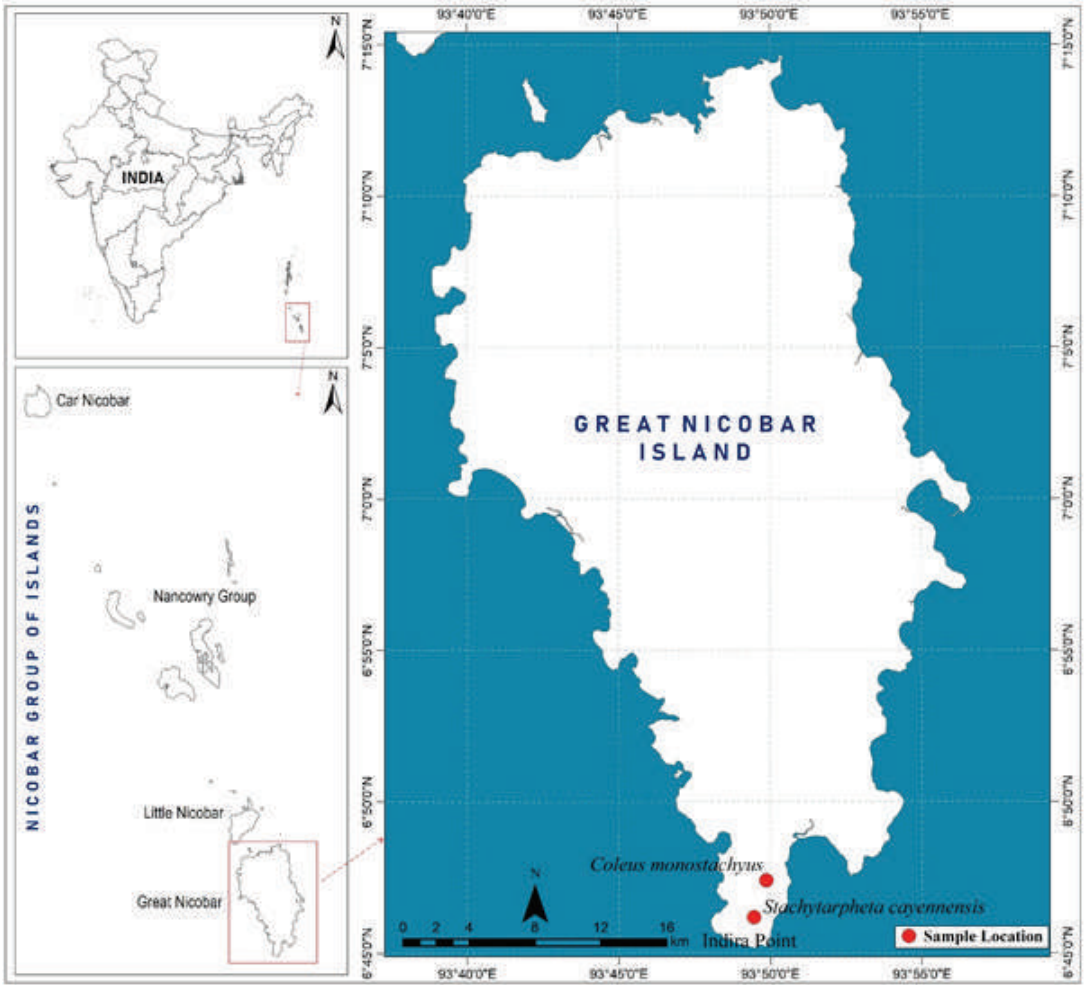

Fig. 1. Distribution of *Stachytarpheta cayennensis* (Rich.) Vahl and *Coleus monostachyus* (P. Beauv.) A.J. Paton, at Indira Point, Great Nicobar Island.

Plant perennial herb or subshrub, typically growing to a height of 0.5–1.5 m tall, sometime can reach up to 2.5 meters. Stem much branched, slightly pubescent, pale greenish-brown in colour. The stem often has a slightly woody base. The leaves are simple, oppositely arranged and decussate, ovate to elliptic in shape, measuring 2.5–6.0 × 1.5–3.5 cm. Leaf apex is acute and the base is cuneate to attenuate. Margin crenate-serrate toward the apex but entire near the base and is ciliate. The upper surface is rough or hairy, while lower surface is smooth to sparsely hairy. Petioles are 0.5-1.5 cm long. Inflorescence is a terminal, elongate, lax spike measuring 10-25 cm in length. Fowers is sessile and semi-immersed in depressions of the rachis. Bracts are linear-lanceolate, 3-5 mm long, with a glabrescent abaxial surface and a ciliate margin. Calyx 3-5 mm long, four-toothed, with a single adaxial sinus and is externally pubescent. Corolla is salverform 5-7 mm long and typically white, pale blue or lilac, with a tube 4-6 mm long and small lobes of about 2 mm. Stamens 2, epipetalous. Pollen grains are spheroidal to oblate in shape, with tricolpate types. Fruit a dry schizocarp, 3-4 mm long, which splits at maturity into two one-seeded pyrenes. It remains surrounded by the persistent calyx and style (Fig. 2).

Flowering & Fruiting: December - April.

Habitat: This perennial herb or subshrub thrives in seasonally in dry tropical biomes and was observed growing along the roadside and wastelands.

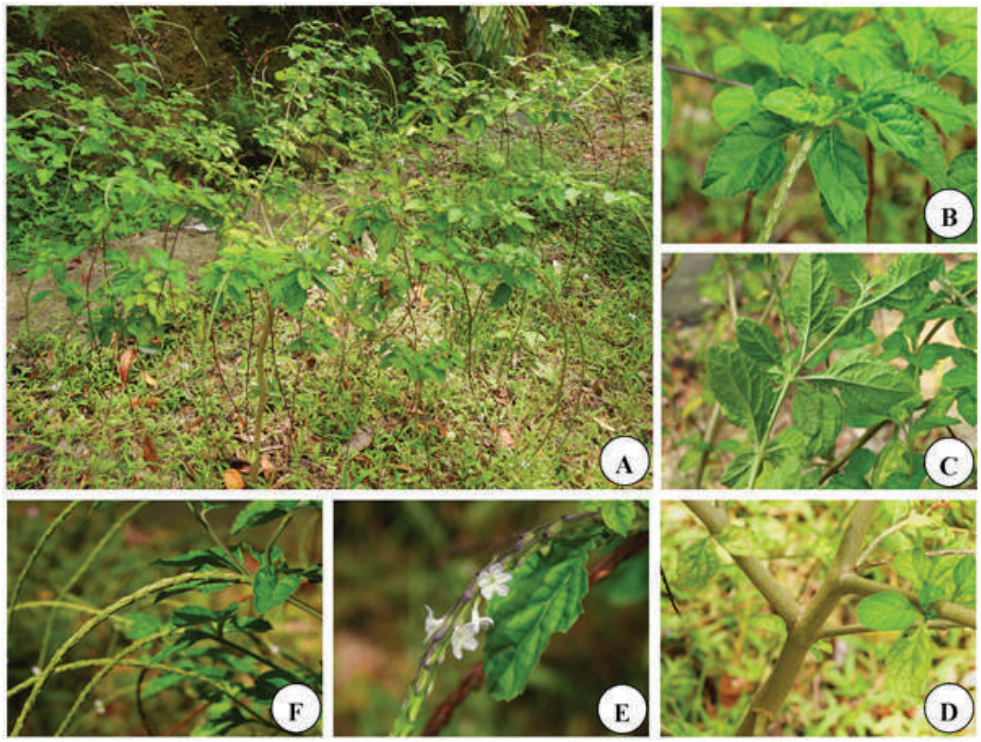

Fig. 2. ***Stachytarpheta cayennensis*** **(Rich.) Vahl (Verbenaceae): A- Habit; B- Ventral leaf blade; C- Dorsal leaf blade; D- Stem (Pale greenish-brown); E- Flowers in lax spike; F- Fruit (Dry schizocarp).** ***Photographs by A.K. Das*** **(A-F).**

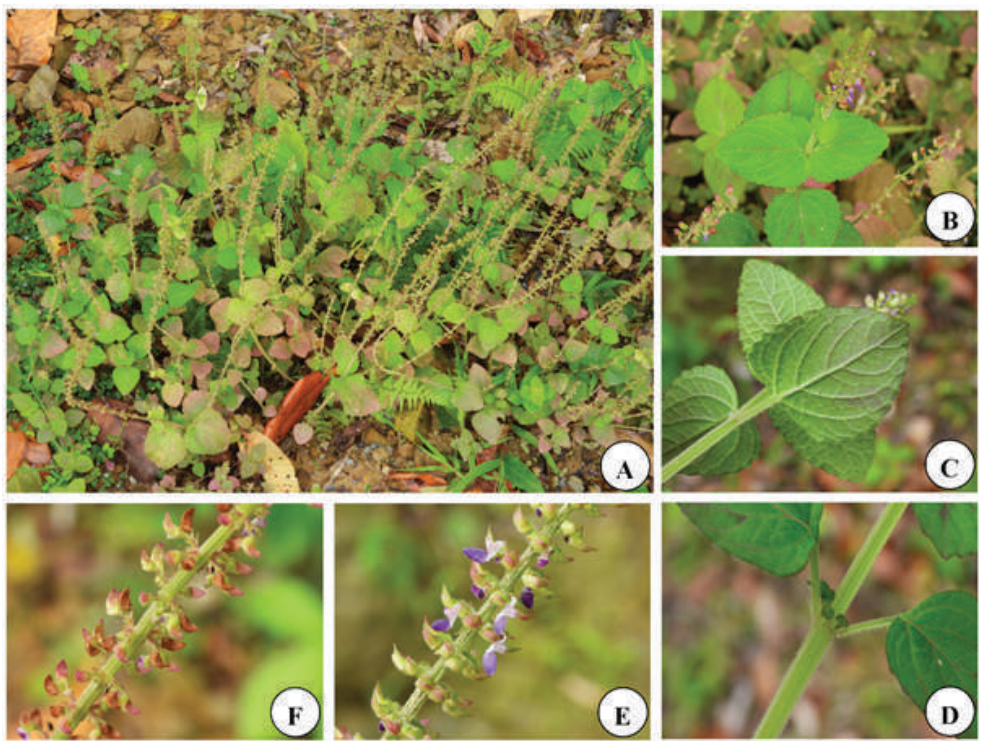

Fig. 3. ***Coleus monostachyus*** **(P. Beauv.) A. J. Paton (Lamiaceae): A- Habit; B- Ventral leaf blade; C- Dorsal leaf blade; D- Quadrangular stem; E- Flowers in lax spike with whorls; F- Fruits (Schizocarp).** ***Photographs by A.K. Das*** **(A-F).**

Distribution: According to POWO (2026) and Makanur and Kotresha (2022), *Stachytarpheta cayennensis* is native to a region extending from southern Mexico to tropical America. The species has been widely introduced across several regions, including India (present record from the Andaman and Nicobar Islands, as well as Kerala, Karnataka, Andhra Pradesh and West Bengal), Malaysia, Indonesia, Myanmar, Southeastern China, Oceania and Africa.

Specimens examined: India: Andaman and Nicobar Islands, Indira Point, Great Nicobar Island, 22nd April 2026, *A. K. Das* & *C. Sivaperuman* 005605 (PBL).

Location: Latitude: 06°46'25.58" N, Longitude: 93°49'40.26" E, Altitude: 43 m MSL.

Ethnomedicinal uses: Traditionally, the plant is employed to treat allergies, as a bronchodilator and to aid digestion, stimulate appetite and relieve acidity and diarrhea (Okoye *et al*., 2014).

2. Coleus monostachyus (P. Beauv.) A.J. Paton PhytoKeys 129: 76. 2019, *Ocimum monostachyum* P. Beauv. in Fl. Oware 2: 60. 1818, *Plectranthus monostachyus* (P. Beauv.) B. J. Pollard in Kew Bull. 56: 980. 2001, *Plectranthus palisotii* Benth. in Labiat. Gen. Spec.: 39. 1832, nom. illeg., *Solenostemon monostachyus* (P. Beauv.) Briq. in H. G. A. Engler & K. A. E. Prantl, Nat. Pflanzenfam. 4(3a): 359. 1897, *Solenostemon ocymoides* var. *monostachyus* (P. Beauv.) Baker in D. Oliver & auct. suc. (eds.), Fl. Trop. Afr. 5: 421. 1900 (POWO, 2026).

Plant an erect annual herb, grows up to 0.3–1.0 m. Stem is quadrangular with a green or greenish-purple coloration, hairy along the angles. Leaves simple, opposite and decussate. Lamina is broadly ovate, 2.5-13.5 × 2.0-11.5 cm. Leaf apex acute with a rounded tip, while the base is rounded to slightly truncate, shortly decurrent into the petiole. Margin is shallowly crenate to serrate. Leaf surface is membranous and may be marked with brownish or reddish patches on the upper surface, while the lower surface bears pubescence and sessile reddish glands. Petioles 2.0-9.0 cm long, narrowly winged in the upper third, grooved above and densely hairy on the angles. Inflorescence a terminal, unbranched, lax spike with whorls up to 40 cm long, bracts 5 mm long, ultimately reflexed and deciduous. Flowers are arranged in clusters of 3–5 per node (verticil) and are bisexual. Pedicel 2-4 mm in length. Calyx funnel-shaped, 2-3 mm long at anthesis, expanding to 3–5 mm in fruit. It is pubescent with brownish sessile glands. The upper lip is curved upward, ovate and acuminate. The two lower teeth are curved upward, fused, obovate, subentire or with two apiculate teeth, closing the throat. Corolla labiate (two-lipped), 4-7 mm long, typically blue or violet marked with white. The lower lip is 2-4 mm long. Stamens 4, didynamous, attached at base, anthers yellowish, bilobed, dorsifixed, 0.1-0.15 mm long, Ovary superior, 4-celled. Fruit a schizocarp composed of 4 ovoid nutlets. Each nutlet 1 mm long, brown in colour and speckled with darker markings. The nutlets are dry and indehiscent (Fig. 3).

Flowering & Fruiting: Throughout the year.

Habitat: It flourishes on rocky or sandy soils and naturally found in disturbed areas, such as roadsides, fallow fields, coconut plantation and open forests.

Distribution: *Coleus monostachyus* is native to tropical Sub-Saharan Africa. While highly concentrated in West and West-Central Africa, its distribution has expanded across the globe through naturalization and accidental introduction in regions such as India, Malaysia, Singapore and Indonesia (POWO, 2026).

Specimens examined: India: Andaman and Nicobar Islands, Indira Point, Great Nicobar Island, 22nd April 2026, *A. K. Das* & *C. Sivaperuman* 005606 (PBL).

Location: Latitude: 06°47'30.29" N, Longitude: 93°50'22.17" E, Altitude: 64 m MSL.

Ethnomedicinal uses: *Coleus monostachyus* is an aromatic plant traditionally valued for its diverse therapeutic properties. The leaf decoction is used by traditional healers to treat stomach ulcers, colic and digestive issues (Amazu *et al*., 2015).

Conservation Status

During a field survey conducted at Great Nicobar Island, we documented a small, localized population of

Stachytarpheta cayennensis and *Coleus monostachyus* along the roadside near Indira Point, the southernmost tip of the island. This species is widely recognised as a pantropical invasive weed, having been introduced and naturalised across many regions of the world, where it often outcompetes native vegetation. Despite its globally invasive status, the population observed in the Andaman and Nicobar Islands (ANI) appears to be limited in both number and spatial extent. Given the ongoing anthropogenic pressures in this region including habitat disturbance from human activities and large-scale holistic development projects this small population may face local decline or even extirpation. However, due to the complete absence of systematic surveys, population trend data and ecological impact assessments for this species within the ANI archipelago, we propose that the appropriate IUCN conservation status for *Stachytarpheta cayennensis* and *Coleus monostachyus* in this specific biogeographic region is Data Deficient (DD). This designation reflects the current lack of sufficient information to determine its local threat status, rather than implying global rarity or endangerment.

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