

New locality record of the epiphytic orchid, from Bannerghatta National Park, Eastern Ghats, India

India with its diverse climatic zones and range of forest types is considered one of the major habitats for orchids across the world. Due to species richness and endemism, much of India's orchid literature has focused on the north-east, northwestern Himalaya, and the Western Ghats (Prasad et al. 2019). The Eastern Ghats contains 22 species of the 130 recorded endemic orchids found in Peninsular India (Jalal & Jayanthi 2012). However, despite this diversity, research on the orchids of India is predominantly biased towards "orchid-rich" regions of the country. Thus, leaving a lacuna of information regarding the diversity and richness of orchid species found in the Eastern Ghats.

This paper documents *Taprobanea spathulata* (L.) Christensen from a new locality around the Bannerghatta National Park, Eastern Ghats in Karnataka State of India. *Taprobanea spathulata* was originally described as 'Ponnampu-maravara' by van Rheede (1692) and Linnaeus



Taprobanea spathulata: A—Plants in bloom in Bannerghatta National Park in Karnataka, showing epiphytic habit exposed to the sun | B—Naturally borne fruit | C—Plants blooming in similar habitat in Hosur District of Tamil Nadu | D—Close up of a flowering plant | E—Close up of inflorescence | F—Close up of inflorescence | G—Close-up of a flower. A—© Jananee Mohan. | B—© Dilipkumar A.V. | C–G— © Shashidhar Sastry.

(1753) gave the binomials *Epidendrum spathulatum* based on the illustrations

(which now form the lectotype (Majumdar & Bakshi 1979) for this name) provided by

van Rheede. Sprengel (1826) transferred it to *Vanda* as *Vanda spathulata*, which was followed by Hooker (1890) and subsequent authors. Based on the presence of porate pollinia and the side lobes of the labellum that are not continuous with the midlobe but are adnate to the adaxial surface of the midlobe, Christenson (1992) advocated using the name *Taprobanea spathulata* for this plant. This idea of Christenson was supported further by DNA studies, where genus *Taprobanea* was not found to be nested within the *Vanda* clade (Gardiner et al. 2013).

Taprobanea spathulata belongs to the monotypic genus *Taprobanea* (Gardiner et al. 2013; Teoh 2022) and is named after the Greek name for Sri Lanka (Christenson 1992). Earlier information about its distribution was limited to the Western Ghats and Sri Lanka (Hooker 1980). However, current distributions by Prasad et al. (2019) indicate its presence in the Eastern Ghats of Tamil Nadu and Andhra Pradesh. With a possible presence in Maharashtra and Odisha as well (Pankaj Kumar pers. comm. 29 October 2023). Apart from published literature, the species has also been reported in iNaturalist approximately 11 km from the current location (https://www.inaturalist.org/observations?taxon_id=895349). However, it was not officially published. Our findings further illustrate the distribution range of this species which is wider than previously thought.

Taxonomy

***Taprobanea spathulata* (L.)** Christenson Lindleyana 7: 91 (1992).
≡ *Cymbidium spathulatum* (L.) Moon in Cat. Pl. Ceylon: 60 (1824); *Epidendrum spathulatum* L. in Sp. Pl.: 952 (1753); *Limodorum spathulatum*

(L.) Willd. in Sp. Pl., ed. 4. 4: 125 (1805); *Vanda spathulata* (L.) Spreng. in Syst. Veg., ed. 16. 3: 719 (1826). **TYPE:** India, Icon. in Rheede, Hort. Malab. 12:7, t.3. (1692) as *Ponnampu-maravara* [Lectotype (designated by Majumdar & Bakshi 1979)].

Description: A sun-loving epiphytic herb, monopodial, towering above the surrounding understory. Stem terete, approximately 30–60 cm in length, with black spotted internodes; internodes 2.5–3 cm long. Roots lateral, emerging from the lower parts of the stem. Leaves distichous, oblong to spathulate, 6×3 cm, unequally bilobed at the apex, leathery, red-speckled. Inflorescence lateral, tall, erect, peduncle 20–40 cm long, bearing up to 10 flowers arranged laxly towards the apex on a zig-zag rachis. Flowers bright yellow, opening widely, resupinate, up to 4 cm wide; dorsal sepal obovate, tapering towards the base, rounded at the apex; lateral sepals wider; petals spathulate, rounded at the apex; labellum 3-lobed with side lobes attached to the abaxial surface of the labellum, midlobe pointing forwards, side lobes erect on both side of the column; column short almost semi-terete; fruits.

Phenology: Plants flower from September to January.

Notes on ecology: We observed a group of plants on the 30 October 2023 in the north-west region of Bannerghatta National Park adjoining the A Rocha field study centre. The plants encompassed an area of approximately 20 m², at an elevation of 919 m and at an average height of six feet from the ground, within previously recorded ranges (Chaburn &

Khela 2014). The plant was exposed to full sun with no overstorey, and moderately tall trees found in the immediate area. The specimen was found along a slope comprising a mix of rocky outcrops and vegetation. The surrounding understory comprised dry-deciduous and scrub species such as *Senegalia chundra* & *Dendrocalamus strictus* and shrubs such as *Pavetta indica*, *Phyllanthus polyphyllus*, & *Acacia sinuata*. At the time of observation, the plant was in the fruiting phase, with pods measuring 6.5 cm from base to tip, with red speckles and ridges running along the side.

Notes on threats to this species: According to the IUCN Red List, this species is listed as 'Vulnerable' (Chadburn & Khela 2014). Some of the threats include habitat destruction and over-collection, so plants have been restricted to a narrow range (Decruse et al. 2003). Although plants are not observed popularly in trade, it is known to be used in making hybrids. This shrinking range is further threatened by habitat loss and fragmentation (Chadburn & Khela 2014). Given that *Taprobanea* is a monotypic genus, there is a threat that with the loss of this species, the phylogenetic diversity will be lost too. While our observation gives an insight into the expected range of species distribution, we encourage further phylogenetic and ecological studies to understand how to better conserve it.

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Sagarika Phalke¹, A.V. Dilip Kumar² & Avinash Krishnan³

¹ School of Biological Sciences, University of Hong Kong, Pokfulam Road, Hong Kong.

¹⁻³ A Rocha India, Kesserguppe, Bannerghatta, Bengaluru, Karnataka 560083, India.

Email: ³avinash.krishnan@arocha.org (corresponding author)

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