

Yellow Vanda - *Vanda spathulata*, an uncommon Orchid from South India

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पीला वांडा – वांडा स्पाथूलाटा, दक्षिणी भारत से एक विरल आर्किड

सरत मिश्रा

सारांश

वांडा स्पाथूलाटा (लि.)स्प्रेंग., पीला वांडा, जो प्रायद्वीपीय भारत एवं श्रीलंका में पाया जाता है, वांडा की एक विरल जाति है। कोली पर्वत, मध्य तमिलनाडु से संग्रहित की गई जाति का आकारिकी एवं पारिस्थितिकी विश्लेषण लेखाचित्रों एवं छायाचित्रों के माध्यम से प्रस्तुत कर शोधपत्र में दिया गया है।

ABSTRACT

Vanda spathulata (L.) Spreng., the yellow Vanda, found in peninsular India and Sri Lanka, is an unusual species among the vandas. The morphology and ecology of this species collected from the Kolli hills of central Tamil Nadu, is enumerated here along with drawings and photograph.

Keywords: *Vanda spathulata*, Yellow Vanda, Peninsular India, Kolli hills

INTRODUCTION

Vanda spathulata (L.) Spreng., popularly known as Yellow Vanda, is a remarkable orchid, known for its horticultural and botanical importance. It bears beautiful flowers of immaculate bright yellow colour which remains in bloom for 60-75 days. And for this, it has drawn the interest of orchid breeders despite its small-sized flowers (Kumar & al.).

Vanda spathulata has several unique vegetative and floral features, not known in the genus *Vanda*. For example, the plant is slender, very tall and scandent; the leaves are short, flat, linear-oblong with obliquely bilobulate apices;

the flowers are simmering golden yellow. Moreover, it is either a tetraploid or a hexaploid, that is, the whole set of chromosomes in the nucleus is duplicated to four or six sets, in place of being a diploid, the normal condition with other orchids.

Christenson (1992) separated this entity from *Vanda* and placed it in a new monotypic genus *Taprobanea* Christ. Seidenfaden (1999) is of the opinion that the genus *Vanda* (*sensu lato*) needs monographic revision and therefore, it may be too early to separate out a single species to form a new genus.

This study is confined to a limited area, from the states of Tamil Nadu and Andhra Pradesh. I have not collected

plants from the field in Kerala, although I have access to plants from that area borrowed from nurserymen of Thiruvananthapuram. I have however, no access to plants from Sri Lanka, where it is said (Jayaweera, 1981) to be rather common.

Vanda spathulata (L.) Spreng., Syst. Veg. 3. 719. 1826; Lindl., Gen. Sp. Orch. Pl. 216. 1833; Wight, Icon. t. 915. 1844; Hook. f., Fl. Brit. India 6: 50. 1890; Fischer in Gamble, Fl. Pres. Madras 3(8): 1444. 1928; Pradhan, Ind. Orch. 2: 568. 1979; Abraham & Vatsala, Intro. Orchids: 438. 1981; Jayaweera in Dassanayake, Rev. Hand. Fl. Ceylon 2: 222. 1981; Joseph, Orch. Nilgiris: 129. 1982; Seidenfaden in Matthew, Fl. Tamil. Carn.: 1599. 1983; Ramakrishna in Pullaiah, Fl. Andhra Pr. 3: 958. 1997; Kumar & al. J. Orch. Soc. India 11(1&2): 85. 1997; Seidenfaden in Matthew, Fl. Palni hills: 1261. 1999; De & Hajra, J. Orch. Soc. India 18(1&2): 33. 2004. *Epidendrum spathulatum* L., Sp. Pl.: 1348. 1753. *Taprobanea spathulata* (L.) Christ., Lindleyana 7(2): 91. 1992; Ansari & Dwarakan, Bull. Bot. Surv. India 44(1-4): 14. 2002; Manilal & Kumar, Orch. Mem.: 225. 2004; Misra, Orch. India: 317. 2007; Narayanan & al. Orch. Fl. of Wayanad: 92. 2013.

Type: Rheede, Hort. Malab. 12: t. 3. 1703.

This species was first described and illustrated by Hendrik Adrian van Rheede, the Dutch colonial administrator and botanist from Malabar, Kerala, who named it in the regional language, *Ponampou maravara*.

MORPHOLOGICAL DESCRIPTION

Scandent or scrambling epiphytes of monopodial growth with leafy stems 60–200 cm long; stem woody, terete, c. 4 mm thick, rooting all along. Roots vermiform, ash-green, c. 4 mm thick. Leaves scattered, alternate, distichous, linear-oblong; apex entire, acuminate, or shortly obtusely and unequally cleft, or emarginate; more or less flat, fleshy, coriaceous, sessile, base sheathing the internodes above, which are 20–30 mm long. Inflorescence leaf-opposed, arising from upper-middle of the stem, sub-erect; peduncle robust, c. 30 cm long, 3.5 mm thick, terete, with four clasping, scarious, sterile bracts; raceme many (25)-flowered, c. 15 cm long, flowers close. Floral bracts porrect or deflexed, base clasping the pedicel, ovate, acute, fleshy, unequal in size, c. 8 × 5 mm, persistent. Pedicel and ovary c. 30 mm long, 2.75 mm thick, ribbed.

Flowers pure bright yellow (save the central light maroon patch on back of the sepals), inodorous. Perianth spreading or reflexed, flat, fleshy, 7-veined. Dorsal

sepal elliptic, acute, c. 15 × 8 mm; lateral sepals obliquely obovate, acute, c. 16 × 10.5 mm. Petals spathulate-ovate, obtuse. Lip c. 17 × 15 mm, 3-lobed, fleshy; lateral lobes much smaller than the mid-lobe, erect, upper part free, oblong, rounded, basal part immovably attached to foot of the column, with undulated edges, narrowing gradually to acuminate apices and decurrent on base of the mid-lobe; mid-lobe flabellate to sub-rhomboid, abruptly contracted towards base to a short claw; inner side ribbed fanwise, with three median, slender, longitudinal ridges, 3-veined, lateral veins much branched; somewhat 3-lobulate; lateral lobules large, obliquely trapezoid, deflexed lengthwise; mid-lobule very short, apex rounded; spur very short, conical, slightly compressed, 5–6 mm long, naked inside.

Column stout, c. 5.5 mm high, 4.5 mm broad, extending to a short, rather indistinct foot at base. Stigmatic cavity deep, wider and notched at base; rostellum short, pointed, deeply cleft. Anther terminal, operculate, c. 3.8 × 3.8 mm, imperfectly 2-lobed, front edge broad, emarginate. Pollinia 2, light yellow, depressed, each lobe c. 1.3 × 0.8 mm, obliquely cleft; stipe broad, spathulate; viscidium more or less rectangular, bifid. Fruit an obliquely oblong-fusiform capsule, with marcescent perianth, c. 45 mm long, 14 mm thick, strongly ribbed. (Fig. 1 a-m; Pl. 1)

Note: Plants growing in open condition have rather stiff leaves; leaves in plants growing in shade are not stiff and are narrower. Several authors like Fischer, Seidenfaden, Ramakrishna and De and Hajra report the leaves to be ovate or linear-oblong; Lindley mentions 'ovate-oblong'. I have never encountered plants with ovate leaves. Very rarely the leaves are only slightly gradually broadened to base. In our specimens the tubular sheaths of the leaves, but not the lamina, are often pigmented with dark purple. The inflorescence in our specimen was sub-erect, but not erect.

Flowering: June – August; November – December; 4–5 flowers in bloom at a time, each flower remaining fresh for about a week.

Habitat: In tropical moist deciduous hill forests between 1000 – 1200 m, perched on shrubs, occasionally on trees, sometimes scrambling over rocks. In open thin vegetation; or under shade in dense thickets. I have noticed at Semmedu, in Kolli hills, these plants born as terrestrials and attaching themselves to the low shrubs to become totally epiphytes. At Solakkadu, several of these plants grew on thickets in shade with their woody stems very close to the ground, indicating that these plants grew initially as terrestrials only. The terrestrial mode

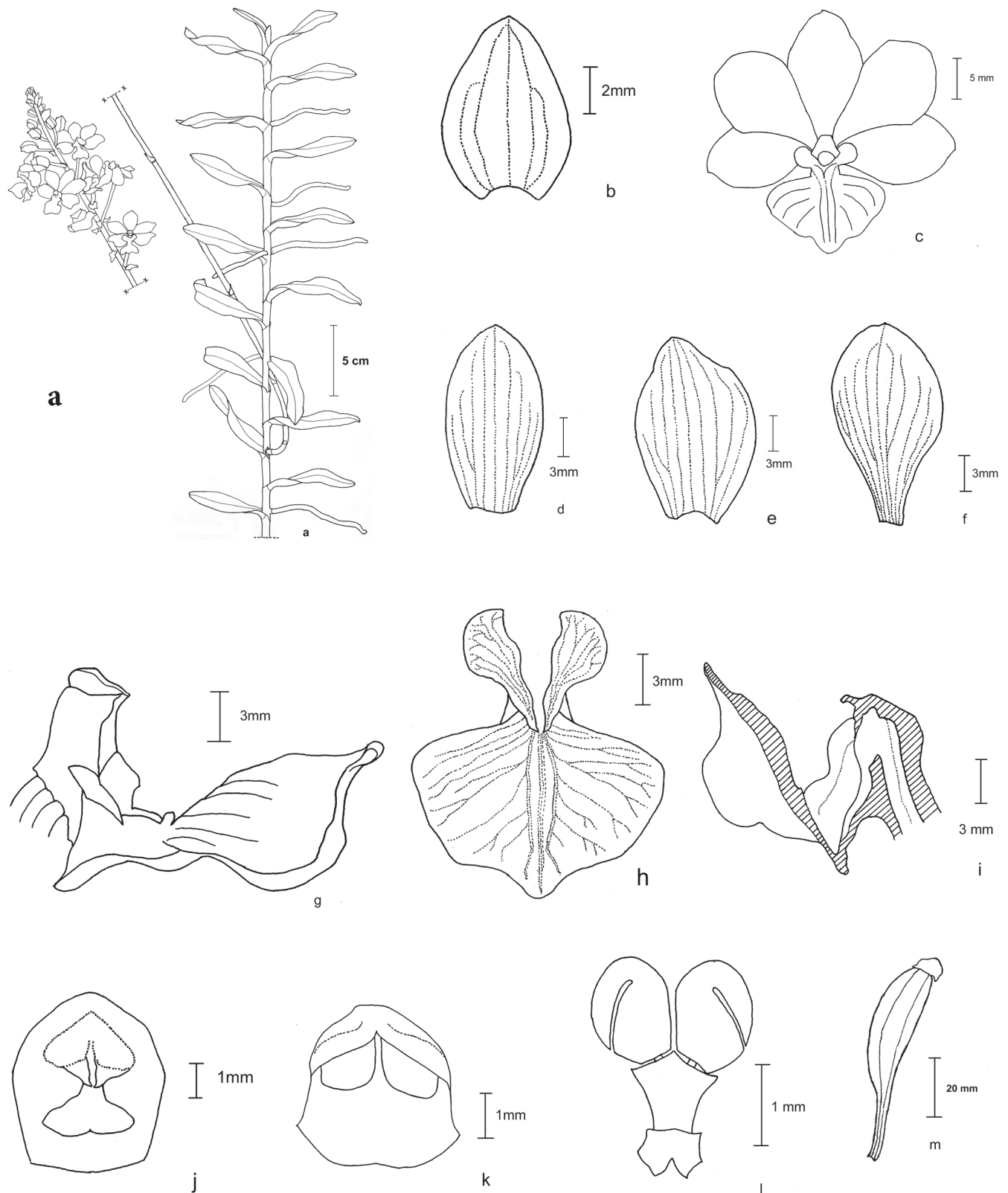


Fig-1: *Vanda spathulata* (L.) Spreng. a. habit; b. floral bract; c. flower; d. dorsal sepal; e. lateral sepal; f. petal; g. lateral view of lip in position; h. lip, spread out; i. long-section through column and lip; j. column, front view; k. anther, under-side, pollinia removed; l. pollinarium; m. capsule. (After S. Misra 2453; drawing and inking: S. Misra).



Plate 1. *Vanda spathulata* (L.) Spreng. Showing part of the inflorescence.

of growth at the beginning of life of this species has also been observed by Fischer (*l. c.*: 1444); De and Hajra (*l. c.*: 33) report habit of this species as terrestrial or epiphytic; Narayanan & al. (*l. c.*) report it to be terrestrial only. This is rather an unusual growth habit in *Vanda spathulata*, which I have not noticed for any other epiphytic orchid in India.

Specimens examined: INDIA. Tamil Nadu. Kolli hills, Solakkadu, c. 1200 m, inside Medicinal Plant Cultivation Area; occasional, 24. 07. 2006, S. Misra 2453, 2453 A-D; Semmedu, 1162 m; scarce; 25.07.2006, S. Misra 2453 E-F. Andhra Pradesh. Tirumallai hills, c. 900 m, scarce; S. Misra TOB 1170, 1171.

Distribution: INDIA. Andhra Pradesh. Nellore district, Sriharikota. Chittoor district, Chittoor; Tirumallai hills. Tamil Nadu. Coimbatore district. Jirganhali (Fischer 62 CAL); Chinnathadagam (Sebastine 467 CAL). Salem (north), (Krishnan s. n. DD); Varahamanadhi (Ramamurthy 85981 CAL). Nilgiri district, Upper Geddhai (Vajrav-elu 46358 MH); Kalakkad – Chengaltheri. Namakkal district, Kolli hills, Peria shola; Semmedu; Vasalur-patti - old mines. Kerala. Trivandrum district, Veli. Palghat district. Wayanad district, Kunchome. SRILANKA.

Ecology: *Vanda spathulata* has a recorded varied range of occurrence – at sea-level in Sriharikota of Andhra Pradesh and Veli in Kerala; semi-arid desert plains in the Western Ghats; foothills of Palni hills in Tamil Nadu; hills above 800m on degraded slopes of central Tamil Nadu; mixed deciduous forests on thickets of *Lantana* bushes along with patches of tall grasses; evergreen forests, both in Tamil Nadu; and the west coastal evergreen forests of Wayanad in Kerala. In Sri Lanka it is said (Jayaweera *l. c.*) to be common in several regions in the dry zone and mid-country, on succulent shrubs in open, rocky patches.

Status: This beautiful orchid, like many other orchids, is a victim of several factors, such as forest clearance, encroachment of forest land, forest fire, grazing etc. Information on status study specifically for this species is scarce. Abraham and Vatsala (*l. c.*) during their study came across this species only once. They however, mention that this species, once very common in Veli near Thiruvananthapuram in Kerala, disappeared from that locality consequent upon establishment of the Sarabhai Space Research Station there. Seidenfaden in Matthew (1999) mentions its occurrence as occasional. Ansari & al. (*l. c.*), who collected this species from Semmedu in Kolli hills growing on thickets in open deciduous forests, observed its complete disappearance due to man-made fire. Forest clearance, according to them,

for pineapple cultivation in the above hills, is yet another factor for habitat destruction of this species. Similar observation has been made by De & Hajra (*l. c.*). Protection of the habitats of this species from anthropogenic interference is essentially required.

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