

Vanda furva – partly resolved

Vanda furva as interpreted by JJ Smith (not *V. furva* (L.) Lindl.) is described and illustrated by PETER O'BYRNE and JAAP VERMEULEN as *Vanda metusalae*, a new species from Indonesia

IN OCTOBER 2005, A *VANDA* from the Singapore Botanic Garden (SBG) collection flowered for the first time in Singapore. The thickened column base and the general flower structure immediately suggested relationships with *Vanda merrillii* (Philippines) and *V. bindsii* (New Guinea, Australia), but the relatively small flowers and unusually large lip meant the plant did not match any species currently in cultivation. We tried to match it to obscure and little-known species, and found an illustration in the JJ Smith archive that appeared to be our species. The illustration was labelled: *Vanda furva* Lindl., Ambon, near Koeleho.

The correct identity of *Vanda furva* is one of the great unresolved orchid mysteries of southeast Asia. This was one of the 36 orchid species from the Indonesian island of Ambon described in the 17th century by Georg Eberhard Rumph, invariably referred to as Rumphius, in his *Ambonese Herbal*. These descriptions (which pre-date the Linnaean system of using binomials to name plants) were the first written descriptions of tropical orchids published in a European language. Rumphius called the plant *Angraecum octavum sive Furvum*. In 1763, Carolus Linnaeus validated the name as *Epidendrum furvum*. In 1805 Carl Ludwig Willdenow transferred it to *Cymbidium*, and in 1833 John Lindley transferred it to *Vanda*. All of these changes were merely nomenclatural transfers.



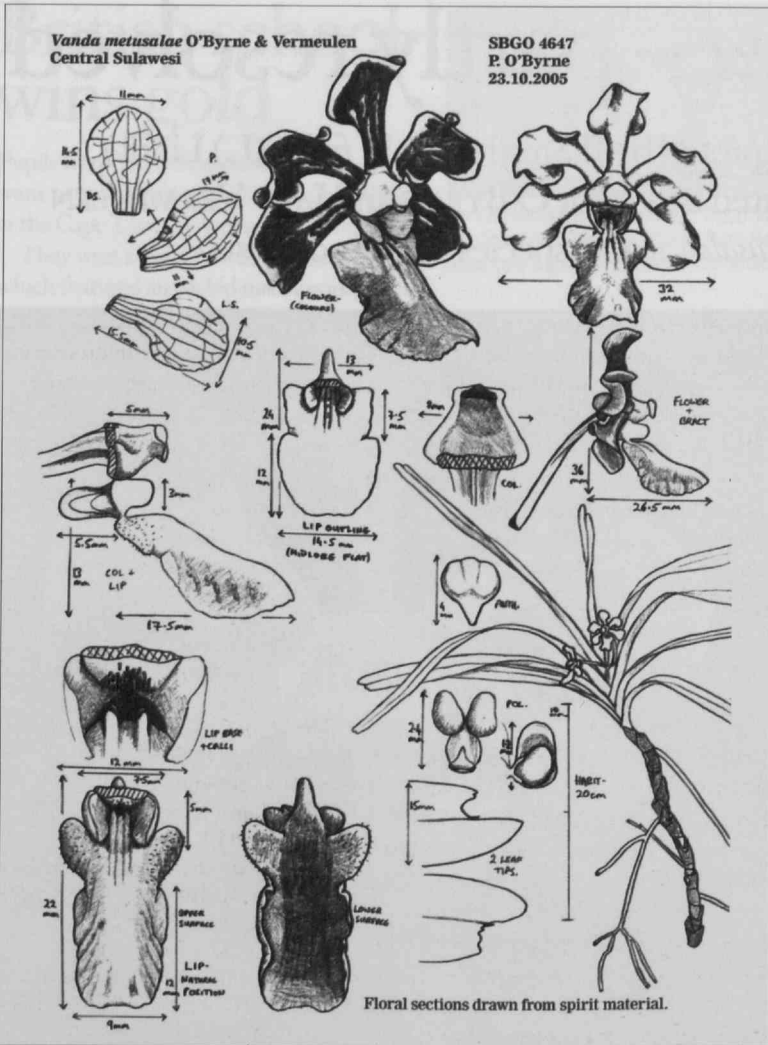
A flower of *Vanda metusalae* on a plant from Central Sulawesi

Further confusion

Rumphius' description of *Angraecum octavum sive Furvum* is lacking in basic descriptive detail and the woodcut illustration is no better. The following text, modified from Beekman's 2003 translation, contains the core of the description. We have added modern terms to aid understanding:

'The flowers (are) fashioned from five leaflets (sepals and petals), opened

wide, curved like half moons; some are also curled, yellowish on the outside, dark inside, russet or a smoky color, yellow at the edges, with a sweet though faint odor that has a hint of dog in it. In the centre is a leaflet like a tooth (lip), pale yellow, with two white little flaps below (mid-lobe auricles), ending at the bottom in a short purse (spur); in front of these is a little pillar or anvil (column), also yellow, and between



A flower of *Vanda metusalae* on a plant from Buton Island

Description

Roots few from stem base, occasionally from nodes along stem, 4mm diameter, frequently branching, white. **Stem** erect, unbranched (in all specimens seen), 50cm tall (or more), 12–15mm in diameter, slightly compressed, leafy in the upper half, internodes 9–17mm, sheaths persistent. **Leaves** with bases crowded and overlapping, <45cm x 2cm, strap-shaped, deeply V-shaped in proximal third, sharp-keeled underneath, green, leathery but not thick. Apex unequally bilobed; minor lobe truncate to obtuse or falcate, inner margin toothed or erose; major lobe c.10mm longer, falcate to broadly rounded to obtuse; median nerve sometimes projects as a brief bristle.

Inflorescences axial, spreading horizontally, 10–30cm long, <9-flowered; peduncle 4–6cm, 0.2cm diameter, cylindrical, rachis green, slightly zigzag, flowers 2–3cm apart. Pedicel with ovary cylindrical, 2.8–3.2cm long, pedicel cream, ovary slightly decurved, brownish-yellow, 6-winged. **Bract** ovate, 2.5mm long, obtuse. **Flowers** 36 x 32mm, stiff, waxy and shiny, slightly fragrant when young; sepals and petals externally yellow with red-brown markings near margins and along median, internally

them two white leaflets (side lobes).'

Karl Ludwig Blume was, in 1849, the first to interpret the species. His drawings of *Vanda furva* in *Rumphia 4* show one of the forms of *V. limbata*, a species that Blume described elsewhere in the same publication. In 1905, JJ Smith gave yet another interpretation of the species, equally dissimilar to Rumphius' taxon. His drawings and description refer to a taxon identical to *V. metusalae*, described below. *V. metusalae* differs from Rumphius' concept not only in the flower colour but in the absence of distinct auricles

at the base of the mid-lobe. Furthermore, it is difficult to reconcile Rumphius' 'leaflet like a tooth' with the rather flat lip in *V. metusalae*.

Vanda metusalae P. O'Byrne & J.J. Vermeulen, *sp. nov.*

Vanda furva auct. non (L.) Lindl., J.J. Sm. Orch. Ambon: 98 (1905).

A *Vanda merrillii* labello sepalo dorsali fere 50% longiore, ubi complanato trans epichilium latissimo, basi sine auriculis differt. Type: Indonesia, Central Sulawesi. *O'Byrne* SBGO 4647 (holotype SING).

Photography: Bobby Salva Nugraha; Illustration: Peter O'Byrne

red-brown with yellow margins and longitudinal streaks; lip base, spur and side lobes white with some yellow around spur entrance and red marks inside side lobes; white callus between the side lobes has a red stripe along each lateral margin; mid-lobe pale yellow at base graduating to pinkish-brown or orange-brown on epichile; yellow keels on hypochile are separated by faint red streaks; column white, sometimes with red marks near stigma; anther white. **Sepals and petals** wide spreading, spatulate on a short broad claw, margins in proximal half strongly recurved, lamina in distal half raised along the median, otherwise depressed with spreading and slightly undulating margins. **Dorsal sepal** erect, 14–15 x 11mm, claw 4 x 4mm, lamina almost circular, margins irregular, apex rounded and minutely apiculate.

Lateral sepals obliquely descending, 15–16 x 10–11mm; claw 6 x 4mm, broadening towards apex; lamina unequally ovate-elliptic, margins irregular to erose, apex blunt. **Petals** obliquely widespread, 15–17 x 11–12mm; claw 5 x 5mm, broadening towards apex; lamina unequally elliptic, apex rounded and minutely apiculate. **Lip** 3-lobed and spurred at base, 19–21mm long (excluding spur); side lobes obliquely porrect, rectangular, 3–4 x 3–4mm; lip base back wall of similar size, with scattered hairs around spur opening; spur oblong, 3–5mm long, laterally compressed, apex rounded; mid-lobe subporrect, 19–21mm long, when not flattened the furrowed sides in distal two-thirds declined so mid-lobe appears 3-lobed with an auriculate base; when flattened indistinctly divided into a hypochile and an epichile; hypochile 7–8 x 12–13mm, transversely rectangular, pilose near margins, proximal corners rounded; epichile 12 x 13–15mm wide, broadly

ovate, margins irregular, apex truncate; keels: a transverse callus lying across spur opening at base of mid-lobe; this has 2 lateral ridges that continue on to mid-lobe where they are joined by a third, lower median ridge; all 3 ridges extend to centre of epichile where they become less distinct; in some fresh flowers the lateral ridges are still visible at lip apex. **Column** 5mm long, stout, base thickened with prominent lateral ridges, apex blunt; anther 4mm long, beaked; pollinia four in two adnate, highly unequal pairs, 1.2mm long; stipe elliptic, 1.4mm long. **Capsule** tapering from base, otherwise cylindrical with six acute wings, 92mm long, 18mm wide including 4–5mm wings, apex abrupt and blunt, green. Described from living plants and spirit specimens.

V. metusalae occurs on trees in riverine forest in Central Sulawesi at about 500m altitude, and in lowland forests on Buton Island in South-East Sulawesi. Historical evidence indicates that it also occurs on the island of Ambon in Maluku. All the plants of *V. metusalae* that we have seen are small and rather spindly for the genus; they lack the robustness that is usually associated with *Vanda* species and the leaves are only 2cm wide when flat. The inflorescence, which is much shorter than the leaves, is also rather slender for the genus. *V. metusalae* is close to *V. merrillii* but differs in having a lip which is almost 50 percent longer than the dorsal sepal, and when flattened is broadest across epichile and lacks distinct auricles at the base. In *V. merrillii* the lip is shorter than the dorsal sepal, and when flattened is broadest across the auriculate base.

Flowering recorded from February to June and October to November (cultivated plants in Java and Singapore),

each flower lasting about 7–10 days.

The species is named for Destario Metusala, who is cultivating this species in Java and assisted us with the description. ■

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ACKNOWLEDGEMENTS

The authors would like to thank Dr JF Veldkamp for assisting with the Latin diagnosis; and Bobby Satya Nugraha for giving permission to use his photograph of the Buton Island flower.