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Flowering plant detail of  
*Dendrobium lancilabium* subsp. *wuryae*

Contents:

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Page 1 – 6

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3

**Summary:** A new species of *Dendrobium* of section *Calyptrochilus* from Waigeo Island, Papua Barat, Indonesia, is described as *Dendrobium lancilabium* subsp. *wuryae*

**Keywords:** Raja Ampat, Papua Barat, sect. *Calyptrochilus*,  
*Dendrobium lancilabium* subsp. *wuryae*

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# A new subspecies of *Dendrobium lancilabium* (Orchidaceae) from Waigeo Island, Indonesia

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Waigeo is an island of about 3,155 km<sup>2</sup> in the Raja Ampat archipelago off the coast of the western tip of Indonesian New Guinea. During fieldwork on this island in February 2020, a team from West Papua's Natural Resources Conservation Centre of the Ministry of Environment & Forestry, Republic of Indonesia (BBKSDA Papua Barat) and staff from the Indonesia team of Fauna & Flora International visited its highest mountain, Mount Nok, an 880 m high extinct volcano. The summit zone of this mountain is the type locality of *Dendrobium azureum* SCHUIT., a striking, blue-flowered species that had not been seen for almost 80 years since it was first collected in 1938 by British entomologist Evelyn CHEESMAN. It was one of the highlights of the 2020 expedition to find this beautiful orchid (KNIGHT, 2022), although it had already, and for the first time, been photographed by FFI staff in the same locality in 2016. As observed in 2020, at least two other *Dendrobium* species of the same section, sect. *Calyptrochilus*, share the habitat with *D. azureum*: a white-flowered species which is possibly *D. aphanochilum* KRAENZL. (only photos seen by AS) and a bright red one that proved to be a new subspecies of the little-known *D. lancilabium* J.J.Sm. The latter is described below.

## Taxonomy

*Dendrobium lancilabium* J.J.Sm. subsp. *wuryae* SCHUIT., WANMA & HEATUBUN, **subsp. nov.** [sect. *Calyptrochilus*]. Type: Indonesia, Raja Ampat, Waigeo Island, Kampung Waifoi, Gunung Nok, 820 m, 20 February 2020, Yanuar Ishaq Dwi CAHYO & Maurits KAFIAR s.n. (holotype **MAN**; isotype **BO**).

**Diagnosis:** Differs from *D. lancilabium* subsp. *lancilabium* in the branching (vs. not branching) stems, narrowly lanceolate-oblong (vs. oblong to ovate) leaves, 5-veined (vs. 3-veined) petals, lip attached to the column-foot for 10 mm (vs. 4–7 mm), and possibly by the presence of a V-shaped callus on the lip (see discussion below).

Epiphytic herb. Roots 0.8–1.1 mm diam., not or sparsely branching, smooth. Stems red-brown, tufted,

erect, slender, sparsely branching, 16–19 cm long, 2.5 mm diam., slightly flexuose, many-leaved, internodes 0.8–1.0 cm long; the branches thinner, 1.3 mm diam., often rooting at the base, and with smaller leaves. Leaf sheaths tubular, smooth, dull dark purple, blackish punctate when dry. Leaves patent, not spreading in one plane with the stem, soon deciduous, mid-green, narrowly lanceolate-oblong, those on the branches distinctly smaller than those on the main stem, (0.7–1.7)3–3.2 cm × (2.1–



Flowering plant of *Dendrobium lancilabium* subsp. *wuryae*

Foto: © Yanuar Ishaq Dwi CAHYO



Flowers of *Dendrobium lancilabium*  
subsp. *wuryae*

3.2) 5–6 mm [measurements of branch leaves between brackets], often with a slight lateral notch between the middle and the apical third, margins glabrous, apex obtuse, minutely mucronate. Inflorescences arising laterally from near the middle or below the middle of the leafless stems, very short, 1-flowered, enveloped by c. 3 membranous, imbricating, tubular scales. Floral bracts dull purple, cupular, ovate, c. 7 × 3.3 mm, subacute, mucronate, membranous, smooth. Pedicel-with-ovary bright red, slender-clavate, c. 2.7 cm long, straight, semiterete. Flower 3.5 cm long, 3.2 cm wide; sepals and petals bright red, lip orange, the patent apical part red, column and anther orange. Dorsal sepal ovate, 16 × 5 mm, acute, 5–7-veined. Lateral sepals falcate-triangular, 15 mm long along upper margin, acuminate, 7-veined; mentum funnel-shaped,

19.5 mm long; apical tubular (closed) part narrowly cylindrical, 8 mm long, 2 mm wide, obtuse. Petals oblong-lanceolate, 12.5 × 4 mm, acute, margins smooth, 5-veined. Lip when flattened subspathulate, 28 × 4.2 mm, consisting of a 17 mm long, linear claw which broadens towards the blade, and an 11 mm long, subrhombic, acute blade, of which the apical half is abruptly curved away at right angles to the claw; claw adnate to the column-foot in the basal 10 mm, margins of the claw incurved in the apical 7 mm, a V-shaped callus may be present on the claw at c. 7 mm below the blade, but this could not be observed in all the flowers examined. Column short and stout, 2 mm long, with two short, truncate, 3.5 mm high marginal wings; back margin of clinandrium with a 1.1 mm long tooth and two lower, truncate, erose lateral lobes; column-foot linear, channelled,

c. 20.5 mm long. Anther almost square in outline, 2.3 mm wide; apex truncate. Pollinia narrowly oblong in outline, those of a pair slightly unequal, the longest 1.6 mm, the shortest 1.4 mm long. Fruit not seen. Description from rehydrated dried material and photographs.

**Distribution.** Indonesia, Papua Barat Province, Raja Ampat: Waigeo Island. Endemic. The typical subspecies (subsp. *lancilabium*) is found in most of the mountain ranges of the Vogelkop and Wandammen Peninsulas of western New Guinea.

**Habitat and ecology.** Epiphyte on trees 8–12 m above the ground in moss/mist forest, at 820 m altitude.

**Phenology.** Flowering observed in February.

**Etymology.** Named in honour of Hj. Wury Estu Handayani Ma'ruf Amin, wife of the Vice President of Indonesia, H.E. Ma'ruf Amin, for her contribution to stimulate and support conservation, preservation and sustainable utilization of local flora, orchids in particular, and development in general in West Papua province.

#### Notes

Despite its conspicuous, brightly coloured flowers, *Dendrobium lancilabium* subsp. *lancilabium* is poorly represented in herbaria, with currently only five known collections. We have been unable to find any photographs of living plants. It was first described by J.J. SMITH (1934: 198) based on a single specimen collected by the eminent biologist Ernst MAYR in July 1928 on Mt. Wondiwoi in the Wandamen Peninsula of northwestern New Guinea. It was later also found in the Nettoti, Tambrau and Tokhiri mountains in the Vogelkop Peninsula of western New Guinea and has been collected between 1000 and 1980 m elevation. Surprisingly, it has not yet been found in the Arfak Mountains, the largest mountain range in the area, although it may be expected to occur there. The flower colour is somewhat variable; it has been described as orange, orange-red, blood-red, brilliant red, or pinkish orange with a yellow lip tipped pinkish orange. The typical subspecies may be recognised by the

slender, unbranched stems, short and broad leaves with a distinct contraction in the upper half, one (sometimes two according to SMITH)-flowered inflorescences, and an oblanceolate-subspathulate, acute lip without a callus. The ovary is indistinctly triangular (semiterete?) in cross-section. Smith placed it in sect. *Oxyglossum* and in this he was followed by REEVE and WOODS (1989). DAUNCEY (2003) preferred to include it in sect. *Pedilonum*. We now know from molecular studies (CLEMETS, 2003; SCHUITEMAN and ADAMS, 2014) that sect. *Oxyglossum* and New Guinea species of sect. *Pedilonum* fall within a broader sect. *Calyptrichilus*; consequently, *D. lancilabium* is now considered a member of the last-mentioned section.

The specimens from Waigeo Island have flowers that are quite similar to those of subsp. *lancilabium*, differing only in the relatively minor details mentioned in the diagnosis. In at least one flower of the material from Waigeo, the lip had a distinct V-shaped callus on the claw, but this could not be seen on all the, sometimes damaged, lips examined. Such a callus has not been described from subsp. *lancilabium*, but it could similarly have been missing or overlooked. In living flowers of subsp. *wuryae*, the apical part of the lip is at almost right angles with the claw; it is not known if this is also the case in subsp. *lancilabium*. This is a character that may easily disappear in a pressed and dried flower.

The main differences between material seen of subsp. *lancilabium* and the material from Waigeo are the branching stems and much narrower leaves in the latter. The leaves on the branch-



Herbarium specimen of *Dendrobium lancilabium* subsp. *lancilabium*, VAN ROYEN & SLEUMER 8014 from Mt. Nettoti, 1700 m (L). Photo: Naturalis Bioportal (cropped and scale added).

es are much smaller than those on the main stems. Since having branching or non-branching stems appears to be an important and mostly reliable distinction between species in sect. *Calyptrichilus*, we prefer to treat the Waigeo material as a separate taxon. In view of the great similarities between the flowers of the two entities, and also taking into account the characteris-

tic contraction in the apical part of the leaf, which in a weaker form can also be seen in subsp. *wuryae*, we consider that the latter is not distinct enough to be considered a separate species but at the same time too different to be lumped with subsp. *lancilabium*. A status as a distinct subspecies for this attractive orchid seems appropriate.

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