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Dendrobium nafisae

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***Dendrobium nafisae* (Orchidaceae, Epidendroideae, Dendrobieae),
a new species from southwest Sumatra in Indonesia**

William CAVESTRO

Summary: A new *Dendrobium* from Sumatra is here described
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Keywords: Orchidaceae, *Dendrobium nafisae*, new species Sumatra

Three new species of Orchidaceae from Philippines _____ 7

Derek CABACTULAN, Jim COOTES, Miguel David DE LEON and Reynold PIMENTEL

Summary: Three new orchid species are here described, namely: *Aerides cootesii*, *Aerides turma*, and *Aerides turma* fma. *anniversarius*,
as new to science.

Keywords: Orchidaceae, *Aerides cootesii*, *Aerides turma*, *Aerides turma* fma.
anniversarius, new species, philippines

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Dendrobium nafisae (Orchidaceae, Epidendroideae, Dendrobieae), a new species from southwest Sumatra in Indonesia

William CAVESTRO

Dendrobium nafisae

Foto: © G. BENK

Dendrobium nafisae CAVESTRO sp.nov. (Orchidaceae, Epidendroideae, Dendrobieae, *Dendrobium* section *Pedilonum* BLUME

Type: Southwest Sumatra, Indonesia, Bukit Barisan, Mount Dempo; flowering in culture 10th December 2018 at Agus MARUP. W. CAVESTRO & Agus MARUP, s.n. (Holotype **Anda**).

DIAGNOSE: *Dendrobium nafisae* CAVESTRO nov. sp. *Dendrobium* *grastidioides* J.J. SM. simile sed obscure labello trilobo, oblongo (nec integro nec spathulato) et latiore, nullis lateralibus lamellis differt.

Dendrobium nafisae CAVESTRO sp.nov. is similar to *Dendrobium grastidioides* J.J. SM. but differs in obscurely trilobed, oblong (neither entire, nor spathulate) and wider labellum without lateral lamellae.

Type: Southwest Sumatra, Indonesia, Bukit Barisan, Mount Dempo, c. 1200 m, June 2016; flowering in culture 10th December 2018 at Agus MARUP, Jungle Orchid, Bandung, Java, Indonesia. W. CAVESTRO and Agus MARUP, s.n. (Holotype **Anda**).

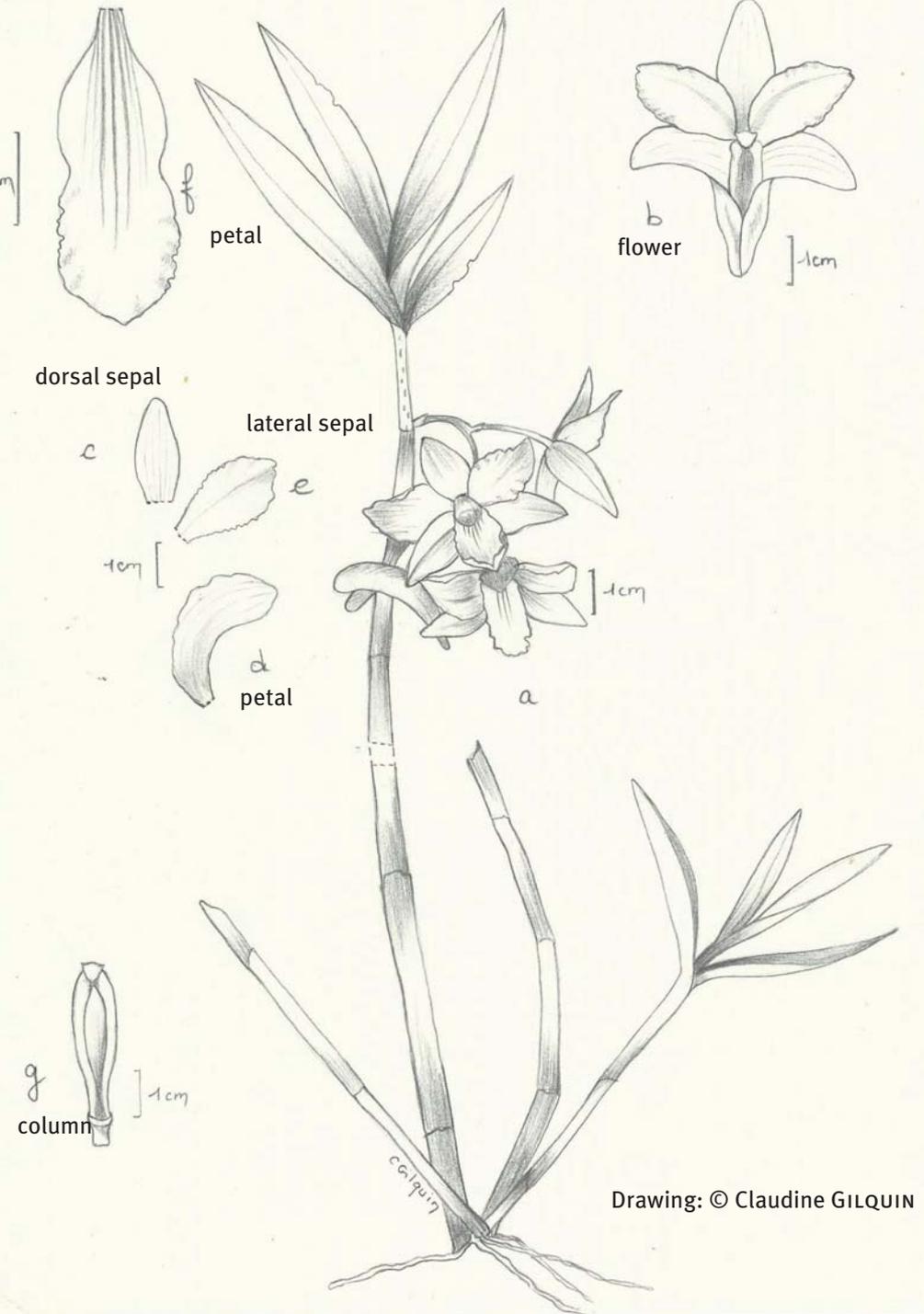
Etymology: named in reference to Nafisa, Agus MARUP's daughter.

INTRODUCTION AND DISCUSSION

After the publication of *Dendrobium brillianum* (CAVESTRO & ORMEROD 2005), *D. parnatatum* and *D. racieanum* (CAVESTRO 2002, 2003), three species of Irian Jaya, *Dendrobium candidissimum* from West Sulawesi (CAVESTRO & CHAMPION 2018), we present a new species named *Dendrobium nafisae* from Southwest Sumatra.

My friend Agus MARUP (named Gus BENK) living in Bandung (Java) drew my attention to this DENDROBIUM which first flowered in cultivation in December 2018. The remarkable flowers of

Dendrobium nafsae CAVESTRO
plant and inflorescence



Drawing: © Claudine GILQUIN

this *Dendrobium* grouped in racemes are white tinged with light purple. This *Dendrobium* named *D. nafsae* is part of the section *Calcarifera* J.J. Sm. whose type species is *D. pedicellatum*. This section has been transferred to *Pedilonum* BLUME section by A. SCHUITEMAN (Genera Orchidacearum, Vol 6, *Epidendroideae*, 2014). The *Pedilonum* section is characterized by glabrous roots or verrucose, cane-like stems, fleshy, laterally flattened, usually many-leaved, short-lived leaves with tubular sheath at base. Inflorescences one-to-many flowered, appear laterally or apically from the leafy or leafless stems. Flowers have a mentum elongate and spur-like. The flower of *Dendrobium nafsae* has the characteristics of the section *Pedilonum* whose label-

lum is attached to the apex of the column foot, the basal part linear and an V-shaped callus. These characters correspond to the description of the section *Pedilonum* BLUME and section *Calcarifera* J.J. SM. According to SCHUITEMAN (2014), the *Pedilonum* section comprises about 125 species, the majority are in Sumatra, Java, The Philippines and Borneo. COMBER (2001) indicated that the section *Calcarifera* J.J. SM. includes 17 species in Peninsular Malaysia, 10 species in Java, 29 in Sumatra and 22 in Borneo.

This species has affinities with several Sumatran *Dendrobium* belonging to the *Calcarifera* section: *D. acutifolium* RIDL., *D. annae* J.J. SMITH, *D. derryi* RIDL. and *D. hymenopterum* HOOK.F. However the closest species to *D. nafi-*

sae are *D. mutabile* (BLUME) LINDL. and *D. grastidioides* J.J. SM. *D. mutabile* was described in 1825 by BLUME as *Onychium mutabile*. In 1830, LINDLEY transferred this species to the genus *Dendrobium*. This species is found in western and central Java and in Sumatra (Sebesi and Krakatau). According to COMBER (2001), *D. mutabile* grows up to 700 m. This species has one meter long pseudobulbs, much longer than those of *D. nafsae*. The leaves of *D. mutabile* are twice as large. The labellum is spatulate and bilobed at the apex with a yellow blotch in the centre (SMITH, Die Orchideen von Java, Figurenatlas; COMBER 2001). In contrast, the labellum of *D. nafsae* is obscurely trilobed and oblong, not bilobed at apex with three longitudinal obvious keels attenuate at apex. *D. mutabile* and *D. nafsae* are two different species although they have some similarities.

D. grastidioides is a close species of *D. nafsae* described in 1920 by SMITH. These two species grow in the same region in southwest of Sumatra, South Province of Sumatra (Bukit Barisan, Kabupaten Lahat). According to SMITH (1920), *D. grastidioides* is found in Palembang region at an altitude of about 1,700 m.

The flowers of *D. grastidioides*, grouped 3–4 on a short peduncle, 3–4 mm long, are white with a yellow blotch in the center of the labellum. The flowers of *D. nafsae* are also grouped on a short peduncle. However, sepals and petals of *D. nafsae* are white tinged pale purple. The labellum is pale purple and bright yellow to light brown in the middle. The color of the flowers of *D. nafsae* and *D. grastidioides* is therefore different. The labellum of *D. grastidioides* is entire, spatulate and shallowly bilobed at apex with a small tooth between the lobes, the margins are rounded and slightly erose (SMITH, 1920; COMBER 2001). The labellum is 3.7 cm long and 1.7 cm wide. The labellum of *D. nafsae* is obscurely trilobed and oblong. It is as long as that of *D. grastidioides* but much wider (3.5–3.8 x 2.1–2.5 cm). The labellum of *D. nafsae* is not bilobed at the apex but en-

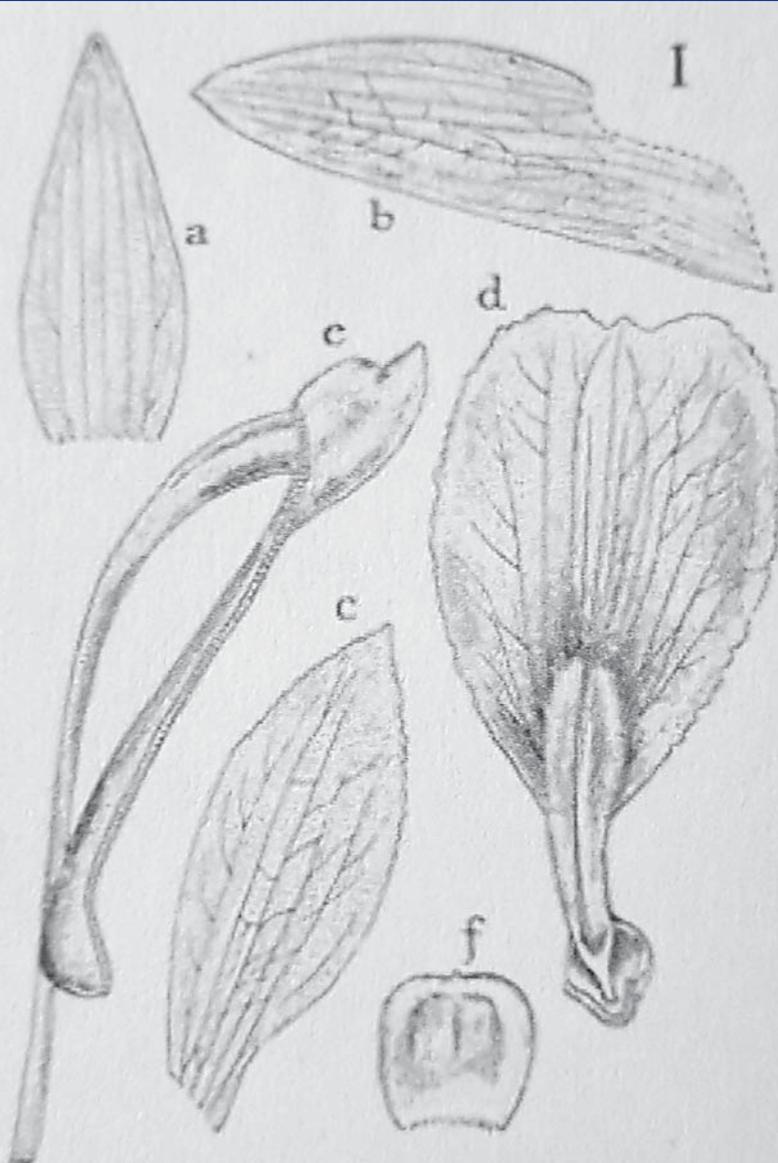


Dendrobium nafisae



Dendrobium nafisae

Dendrobium grastidioides J.J. SMITH,
 Icones Orchidacearum Malayensium I (1-2).



Dendrobium grastidioides



Dendrobium mutabile (BLUME) LINDL.,
in J.J. SMITH, Die Orchideen von Java,
Figurenatlas.

Lateral sepals 2.8–3.2 cm long and 1.4–1.6 cm wide, obliquely oblong-ovate, obtuse, forming a wide mentum at base; mentum 7 mm long and 4 mm wide at apex.

Petals 2.3–2.6 cm long and 1.5–1.7 cm wide, ovate, obtuse, margins undulate, irregularly bilobed at apex.

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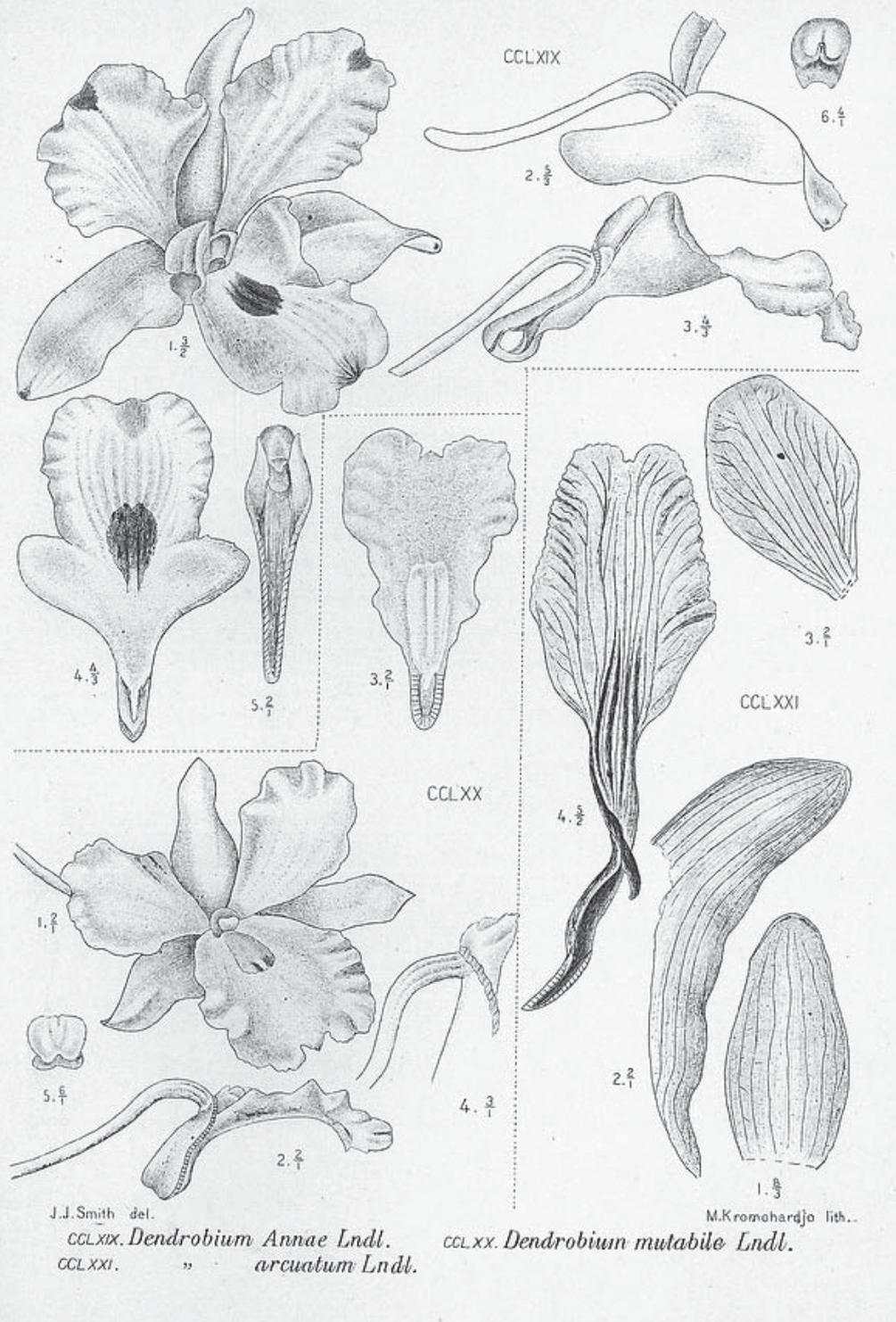
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J.J. Smith del.

CCLXIX. *Dendrobium Annae* Lndl.

CCLXXI. " *arcuatum* Lndl.

CCLXX. *Dendrobium mutabile* Lndl.

M. Kromahardjo lith.

tire with erose margins. According to Smith's description, the labellum of *D. grastidioides* has seven longitudinal keels and lateral laminae. *D. nafsae* has three prominent longitudinal keels and no lateral lamellae. These differences make possible to consider *D. nafsae* and *D. grastidioides* as two distinct species.

DESCRIPTION

Epiphytic plant with a short rhizome.

Roots smooth.

Pseudobulbs 12–25 cm long and 0.3–0.5 cm across, clustered, elongated, slender, cylindric, close together with 2.5–3.5 cm long internodes, partially covered by grey leaf sheaths.

Leaves 8–15 cm long and 1.5–3 cm wide, distichous, lanceolate, acute at apex, glabrous, glossy, green with a tubular and grey leaf sheath.

Inflorescence lateral, racemose, flowering in cluster of 3–8 flowers; peduncle lilac to pale purple enveloped by 2–3 scale bracts; pedicel 5 mm long, pale purple.

Flowers resupinate, 4.8–5.2 cm wide; sepals and petals white and tinged pale purple; labellum white to pale purple at apex, bright yellow to light brown in the middle; column white to pale purple.

Dorsal sepal 2–2.5 cm long and 1–1.2 cm wide, oblong-ovate, obtuse at apex.

Labellum 3.5–3.8 cm long and 2.1–2.5 cm wide, oblong, obscurely trilobed with erose margins; 3 parallel and prominent central keels from the base, then attenuate in the midlobe; side lobes oblong; midlobe ovate.

Column 3.2 cm long, stout, oblong, with a column foot, concave, forming 2 small lateral wings at apex.

Acknowledgements

The author thanks Agus MARUP for drawing my attention to this new species and photographs, Claudine GILQUIN for the drawing and Roland SCHETTLER for his very precious help.

William CAVESTRO published several books about orchids, a monograph on *Paphiopedilum* and another one

on *Laeliinae* and the genus *Cattleya*. He described many Asian orchids and *Paphiopedilum*.

Photographies: © Agus MARUP

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Aerides turma

Aerides cootesii



Aeridea turma fma. *anniversarius*

Three New Species of Orchidaceae from the Philippines

Derek CABACTULAN, Jim COOTES,
Miguel David DE LEON & Reynold PIMENTEL

Abstract: Three new orchid species are here described, namely: *Aerides cootesii*, *Aerides turma*, and *Aerides turma* fma. *anniversarius*, as new to science.

Studies by the Cootes Orchid Research Group (CORG) continue on the orchid species of the Philippines. Previously our studies centred on the orchid species found on Mindanao, but recently CORG has been invited to study the orchids of other regions in the Philippine archipelago, namely Palawan, and Luzon. Three species from these regions, long seen in cultivation, are described here as new to science. Studies of the relevant literature for the Philippines, and her neighbouring countries have

been conducted, and no matching epithets have been found. We hereby take this opportunity to name the following species as new to science.

Aerides cootesii D. CABACTULAN, M.D. DE LEON, & PIMENTEL **spec.nov.**

HOLOTYPE: Cultivated, MDL1907002 (July 1st, 2019), **CAHUP 73711 (September 6th, 2019)**

PLANT DESCRIPTION

Growth habit: Epiphytic, monopodial, upright to semi-pendulous. **Stems:** cylindrical, glabrous, to 1 cm in diameter, reaching lengths of over 2 metres; covered by imbricating basal leaf sheaths; up to seven smaller plants

can grow from the base of a mature plant. **Leaves:** distichous, sessile, oblong, glabrous, up to 30 to 35 cm long by 2.8 to 3.7 cm wide, leathery, flattened, arching, nerves absent on both sides, base conduplicate, apex distinctly and unequally emarginate. **Inflorescence:** axillary, long, cylindrical, racemose, pendulous, arching, glabrous, 20 to 30 cm long by 6.8 to 7 cm in diameter, bearing up to 37 musky-citrusy scented flowers, flower diameter 2.7 cm across lateral sepals. **Flower color:** base colour varies white, light to pale purple, with floral segments having purple blotches at the apex of the petals and sepals; lateral lobes are yellow, with minutely purple spots scattered interiorly on the background, minutely short pur-

Aerides cootesii



Aerides cootesii



Aerides cootesii

ple lines and spots interiorly scattered in the base; middle lobe is pale purple or white, with minute purple spots and bar lines anteriorly scattered on the background and two distinct purple lines running from the apex to the base. **Peduncle:** terete, glabrous, 20 to 22 cm long by 3.5 to 4 mm in diameter. **Bracts:** triangular, involute, persistent; five non-floral bracts, 1 cm long by 6 mm wide, floral bracts 3 mm long by 3.5 mm wide. **Pedicle and ovary:** terete, glabrous, up to 2.4 cm long by 1.5-2 mm in diameter. **Dorsal Sepal:** elliptic-ovate, flattened, slightly revolute, margins entire and minutely serrated towards the apex, up to 1.3 cm long by up to 1 cm wide, 9-nerved. **Petals:** elliptic-ovate, margins entire and minutely serrated towards the apex, slightly revolute, 1 cm long by 7.5 mm wide. **Lateral Sepals:** broadly ovate, adnate to the column foot, margins entire, slightly revolute, up to 1.2 cm long by up to 1.25 cm wide, 11-nerved. **Labellum:** trilobed; **lateral lobes:** truncate-flabellate, concave, margins entire, apex margins erose, anterior apex overlapping at the center, 1.3 cm long from apex to the base of the column foot, 7 mm long from apex to the base of the lateral lobes, 7 mm wide; **middle lobe:** upright, pandurate, margins lacerate, slightly revolute, apex bilobed, curved inwards and exposed outside and covering half of the anterior apex of the lateral lobes, apex bilobed, 8 to 13 mm long by 5 to 6 mm wide anterior, by 4.5 to 8 mm wide anteriorly when flattened, 3 mm wide when not flattened; **spur:** short, conical, curved upward, 14 mm long from column foot to apex, 11 mm long from the base of the midlobe to apex, 4.5 mm in diameter; **entrance to the nectary:** bears a pair of upper calli, triangular, enclosed, about 2.5 mm long, lower calli paired, discoid, about 0.8 mm in diameter, distally 2 mm long from the upper calli. **Column:** short, cylindrical, 3 to 3.5 mm long by 3.5 to 4 mm in diameter; rostellum lanceolate, paired, 1.5 mm long by 1.5 mm wide; a pair of oblong calli under the base of the rostellum about 0.30 mm in diameter; column foot rectangular, vertically decurrent, 13 to 13.5 mm long by 3.5 to 4 mm wide, mentum curved inwards about 0.4 mm long; anther cap triangular, concave by 4.5 mm long by 3.5

mm wide. **Pollinia:** prolate-spheroidal, unequally paired, 1.3 to 1.4 mm in diameter; stipe oblong, 2 mm long by 0.6 mm wide, viscidium oblong about 1 mm in diameter. **Stigma:** oblong, concave 1.5 to 2 mm in diameter. **Infructescence:** not seen.

Comparison: *Aerides cootesii* is most similar to *Aerides odorata* LOUREIRO, a widespread species in mainland and oceanic Southeast Asia, and *Aerides quinquevulnera* LINDLEY, a widespread species in the Philippines, but differs in the shape and orientation of the floral segments. The flowers of *Aer. cootesii* are slightly smaller than *Aer. odorata* and bigger than those of *Aer. quinquevulnera*. The shape of the midlobe of *Aer. cootesii* is pandurate, whereas in *Aer. odorata* and *Aer. quinquevulnera* the midlobe is oblong. The midlobe margins of the labellum of *Aer. cootesii* are lacerate, whereas in *Aer. odorata* they are serrulate and in *Aer. quinquevulnera* they are lacerate-serrulate. The shape of the column head of *Aer. cootesii* is short, cylindrical, and rounded with a pair of oblong calli under the base of the rostellum, whereas in *Aer. odorata* it is longer, cylindrical and trapezoid and in *Aer. quinquevulnera* it is shorter, cylindrical and rounded. The shape of the stigma of *Aer. cootesii* is rounded, whereas in *Aer. odorata* it is trapezoid and in *Aer. quinquevulnera* it is oblong. The apex of the anther cap of *Aer. cootesii* is narrowly triangular, whereas in *Aer. odorata* it is broader triangular and in *Aer. quinquevulnera* it is shortly triangular. The shape of the stipe of *Aer. cootesii* is oblong, whereas in *Aer. odorata* it is rectangular and in *Aer. quinquevulnera* it is oblong. The shape of the column foot of *Aer. cootesii* is strongly decurrent, long, base curved inwards, with mid triangular, flattened projection, whereas in *Aer. odorata* and *Aer. quinquevulnera* they are shallow decurrent, short, mentum straightened. The spur of *Aer. cootesii* is narrowly short incurved, whereas in *Aer. odorata* and *Aer. quinquevulnera* they are narrowly longer incurved. The upper calli in the lower labellum of *Aer. cootesii* is narrowly triangular, enclosing nectary, whereas in *Aer. odorata* it is widely emarginate and widely opened to the nectary and in *Aer. quinquevulnera* it is low retuse

and widely opened to the nectary.

Habitat and distribution: *Aerides cootesii* is only known from the south of the island of Palawan. It grows as an epiphyte, in plenty of bright light, often full sun for the whole day, in the branches of trees in secondary forest at 300 meters above sea level.

Etymology: The specific epithet honors James "Jim" E. COOTES, who has spent many years studying and writing about the orchids of the Philippines.

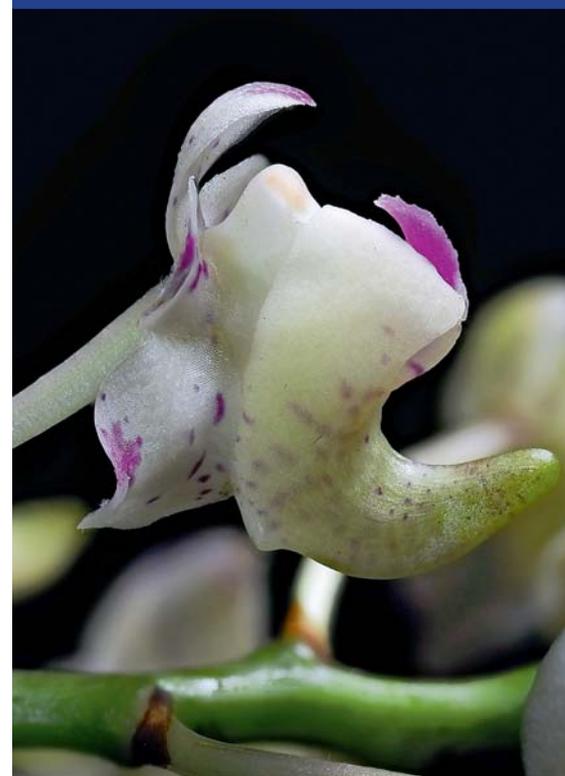
Aerides turma M.D. DE LEON, COOTES, D. CABACTULAN & PIMENTEL spec.nov.

HOLOTYPE: Cultivated, MDL1907004 (July 1st, 2019), CAHUP 73712 (September 6th, 2019)

PLANT DESCRIPTION

Growth habit: Epiphytic, monopodial, upright to semi-pendulous. **Stems:** cylindrical, reaching lengths of a metre by 8 mm in diameter; glabrous, covered by imbricating basal leaf sheaths, up to 5 smaller plants can grow from the base of a mature plant. **Leaves:** distichous, sessile, oblong, glabrous, up to 15 to 24 cm long by 1.8 to 2.7 cm wide, leathery, flattened, arching, nerves absent on both sides, base conduplicate, apex distinctly and unequally emarginate. **Inflorescence:** axillary, 5 to 16.5 cm long by 2.5 cm in diameter, cylindrical, racemose, pendulous, arching, glabrous, bearing up to 32 scented flowers; flower diameter 1.6 cm across lateral sepals. **Flow-**

Aerides turma





Aerides turma

er color: base colour white, with floral segments having uneven distribution of purple spots and purple blotches at the apex of the petals and sepals; lateral lobes are white; middle lobe is purple, with two distinct purple lines running from the base of lateral lobes to the base of the labellum. **Peduncle:** terete, glabrous, up to 15 cm long by 2.5 mm in diameter. **Bracts:** triangular, involute, persistent; three non-floral bracts, 4 mm long by 4.3 mm wide, floral bracts 3.5 mm long by 4.3 mm wide. **Pedicel and ovary:** terete, glabrous, up to 17 mm long by 1.5 mm in diameter. **Dorsal Sepal:** elliptic-ovate, 7 mm long by 5 mm wide, flattened, slightly revolute, margins entire and minutely serrate towards the apex, 9-nerved. **Petals:** elliptic-ovate, 7 mm long by 4.8 mm wide margins entire and minutely serrated towards the apex, slightly revolute. **Lateral Sepals:** broadly ovate, 7.5 mm long by 7.5 mm wide, adnate to the column foot, margins entire, slightly revolute, 11-nerved. **Labellum:** trilobed; **lateral lobes:** truncate-flabellate, concave, margins en-

tire, apex margins erose, anterior apex closed at the center, 10 mm long from apex to the base of the column foot, 6 mm long from apex to the base of the lateral lobes, 6 mm wide; **middle lobe:** upright, short, oblong, margins serrate, revolute, curved inwards and exposed outside and covering half of the anterior apex of the lateral lobes, apex bilobed, 6 mm long, 4 mm wide anteriorly when not flattened, 4.3 mm wide when flattened; **spur:** short, conical, curved upward, 8 mm long from column foot to apex, 6 mm long from the base of midlobe to the apex, 4 mm in diameter; **entrance to the nectary:** upper calli obcordate, about 0.5 mm high, lower calli paired, discoid, about 1 mm in diameter, distally 1 mm long from the upper calli. **Column:** short, cylindrical, 2.5 mm long by 3 mm in diameter; rostellum truncate, paired, 1 mm long by 0.5 mm wide, negative geotropic; a pair of rounded calli under the base of the rostellum about 0.3 mm in diameter; column foot rectangular, vertically decurrent, 6 mm long by 3 mm wide, mentum curved in-

wards about 0.3 mm long; anther cap triangular, concave, 3.8 mm long by 3.7 mm wide. **Pollinia:** prolate-spheroidal, unequally paired, 1 mm in diameter; stipe oblong, 1.5 mm long by 0.30 mm wide; viscidium oblong about 0.5 mm in diameter. **Stigma:** cordate, concave 1 mm in diameter. **Infructescence:** not seen.

Comparison: *Aerides turma* is most similar to *Aerides quinquevulnera* LINDLEY but differs in the size, shape and orientation of the floral segments and in its flowering season. The flowers of *Aer. turma* are smaller than those of *Aer. quinquevulnera*. The midlobe of *Aer. turma* is shorter and does not meet the column head, whereas the midlobe in *Aer. quinquevulnera* is longer and covering the column head. The lateral lobes of *Aer. turma* are truncate, whereas in *Aer. quinquevulnera* they are truncate-flabellate. The spur of *Aer. turma* is shortly curved, whereas the spur of *Aer. quinquevulnera* is narrowly curved upward. The distance of the basal callus in the lower labellum between the callus of *Aer.*

turma is distally spaced, whereas in *Aer. quinquevulnera* which is closed. The flowering season of *Aer. turma* starts from November through to January, whereas *Aer. quinquevulnera* starts to bloom from August through to October.

Habitat and distribution: *Aerides turma* is only known from the island of Luzon. It grows as an epiphyte, in cooler growing conditions, where it receives plenty of bright light, often full sun for the whole day in the branches of trees in secondary forest at 900 meters above sea level.

Etymology: The specific epithet honors the alumni of the University of

the Philippines College of Medicine - Batch 1995.

Aerides turma* fma. *anniversarius
M.D. DE LEON, COOTES, D. CABACTULAN & PIMENTEL **forma.nov.**

HOLOTYPE: Cultivated, MDL1907005 (July 1, 2019), **CAHUP 73713 (September 6, 2019)**

This is a color form of the previous species. The plant habit is the same as *Aerides turma* but the flowers are greenish white, without purple markings.

Habitat and distribution: *Aerides turma* fma. *anniversarius* is only known from the island of Luzon. It grows as

an epiphyte, in cooler growing conditions, where it receives plenty of bright light, often full sun for the whole day in the branches of trees in secondary forest at 900 meters above sea level.

Etymology: This rare forma celebrates the twenty-fifth anniversary of the University of the Philippines College of Medicine Class of 1995.

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