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843-10

Phalaenopsis lueddemanniana

Text by Franco Pupulin/Watercolor by Sylvia Strigari

Tribe CYMBIDIEAE
Sutribe AERIDINAE
Genus PHALAEOPSIS *Blume*

Phalaenopsis lueddemanniana Rchb.f., *Bot. Zeitung (Berlin)* 23: 146. 1865. *Phalaenopsis lueddemannii* Naves, *Novis. App.* 243. 1882, *sphalm. Polychilos lueddemanniana* (Rchb.f.) Shim, *Malayan Nat. J.* 36(1): 24. 1982. TYPE: Philippines. "This species first flowered at Mr. Lüddemann's in Paris[...], which introduced it from the Philippines", G. A. Lüddemann s.n. (holotype, W).

Heterotypic synonyms: *Phalaenopsis lueddemanniana* var. *delicata* Rchb.f., *Gard. Chron.* 1865: 434. 1865. *Phalaenopsis lueddemanniana* subvar. *delicata* (Rchb.f.) A.H.Kent in Veitch, *Man. Orch. Pl.* pt 7:31. 1891. *Phalaenopsis lueddemanniana* f. *delicata* (Rchb.f.) O.Gruss and M.Wolff, *Orchid Atlas* 328. 2007. TYPE: Philippines. Cultivated by G. A. Lüddemann s.n. (W).

Phalaenopsis lueddemanniana var. *ochracea* Rchb.f., *Gard. Chron.* 1865: 434. 1865. *Phalaenopsis lueddemanniana* subvar. *ochracea* (Rchb.f.) A.H.Kent in Veitch, *Man. Orch. Pl.* pt 7:31. 1891. *Phalaenopsis ochracea* (Rchb.f.) Carrière, *Rev. Hort.*, 44: 391. 1872. *Phalaenopsis lueddemanniana* f. *ochracea* (Rchb.f.) O. Gruss and M. Wolff, *Orchid Atlas* 328. 2007. TYPE: Philippines. Cultivated by G. A. Lüddemann s.n. (W).

Monopodial, epiphytic, erect-ascending to pendent *herbs* to 35 cm tall. *Stem* very short, stout, completely covered by the imbricating bases of the leaves. *Roots* thick, flexuous, white, green at apices, 3–6 mm in diameter. *Leaves* several (to 10), the new ones arching-patent, the older pendent, oblong-elliptic to elliptic-obovate, obtuse to subacute, contracted at the base into a short conduplicate petiole, coriaceous but flexible in texture, bright green, shiny on the upper surface, to 35 × 10 cm. *Inflorescences* several at a time, persistent, suberect, becoming arching to pendent with age, few-flowered (3–5) racemes or panicles produced from the axils of the lower leaves, usually longer than the leaves, up to 70 cm long, frequently producing rooting plantlets ("keikis") at the apical nodes; these in turn producing short, 1- to 3-flowered racemes; peduncle terete, stout, provided with several thick, subcarinate, triangular-ovate, acute, tight bracts to 5 mm long; lateral branches shorter, usually less than 15 cm long, few-flowered (to 5). *Floral bracts* ovate,

concave, subacute, distinctly shorter than the pedicel plus ovary, to about 5 mm long. *Flowers* spreading, fleshy, waxy, fragrant, long-lasting (up to two months), usually lightly facing down, to ca. 6 cm in diameter, the sepals and petals variously marked with transverse, narrow to bold, amethyst to purple-red to reddish brown, rarely ochre-yellow bars on a white to off-white or pale amethyst background, the margins white, the lip amethyst to magenta or white, marked with yellow on the basal callus and on the calli of the lateral lobes, the column white, flushed amethyst toward the base. *Dorsal sepal* elliptic to elliptic-lanceolate, acute, the margins sometimes slightly reflexed, to 3.3 × 1.6 cm. *Lateral sepals* obliquely elliptic-lanceolate to elliptic-ovate, asymmetrical, acute, slightly concave, the margins sometimes reflexed, to 3.4 × 2.0 cm. *Petals* elliptic-ovate, basally cuneate or from a short, more or less distinct, rectangular claw, obtuse to subacute, usually smaller than the sepals, to 3.0 × 1.5 cm. *Lip* trilobed with a short, obtuse claw, to 25 mm long, 15 mm wide across the lateral lobes; the lateral lobes erect, oblong, obliquely truncate, irregularly emarginate at apex, provided with a bright yellow, cushion-like callus along the inner margin; the midlobe variable, convex, mostly oblong to obtrullate, subacute to obtuse, irregularly lacerate-toothed along the central margins, with a central, erect keel, narrow at the base and expanding into a cushion-like, densely trichomatous, apical pad; the callus triseriate, the basal an ovate pad of fleshy, rather flattened, dense, short, triangular tubercles; the central of two superposed, flattened, triangular, bifid projections; the apical a bifid callus made by two narrowly conical, digitate projections. *Column* stout, arcuate, subterete, to 12 mm long, with two rectangular wings at the base; the stigma oval, broad, the rostellum bifid, the anther incumbent. *Anther cap* ovate, acute, basally notched, deeply cucullate, two-celled. *Pollinia* two, cleft, pyriform, subrounded in section, on an obtrullate, thin, hyaline stipe, incurving after removal, and a small, peltate, hyaline viscidium.

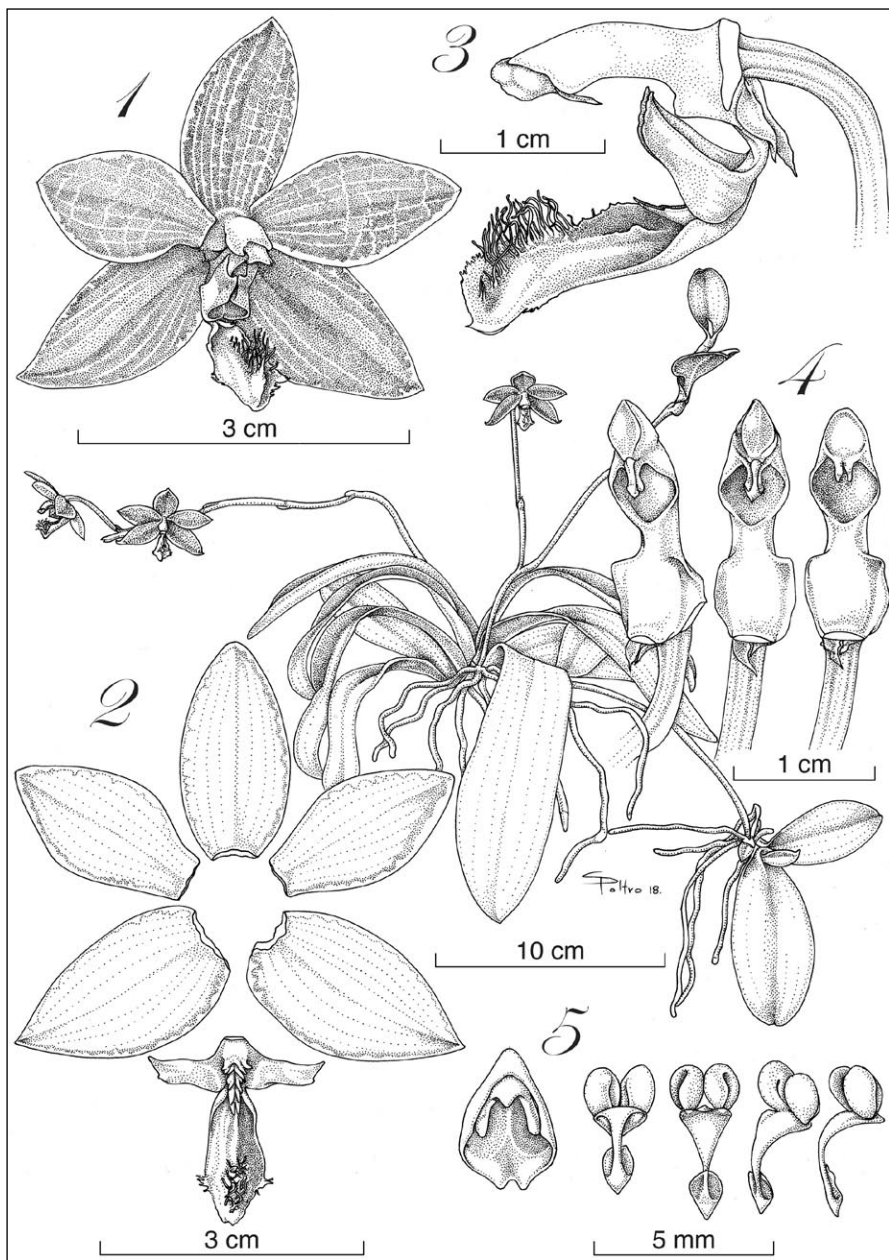
Phalaenopsis lueddemanniana was commercially introduced into cultivation by the firm of Hugh Low and Co., of Clapton, England, who received and sold to its customers several plants sent from the Philippines under the name of

Phalaenopsis equestris. They flowered and were simultaneously exhibited at the monthly meeting of the Royal Horticultural Society in the spring of 1865 (Bateman 1865). Nevertheless, the plant upon which Reichenbach (1865a) based his description was provided by Gustave Adolphe Lüddemann (1819–1884), who had been the orchid grower for the Luxembourgish-French Jean-Pierre Pescatore, owner of the greatest orchid collection in continental Europe in his castle of La Celle Saint Cloud near Paris. After the death of Pescatore in 1855, Lüddemann founded his own business in Paris, from where he maintained a warm friendship with Reichenbach, to whom he provided a flow of new orchid species. According to du Buysson (1878), Lüddemann had received plants of the new *Phalaenopsis* directly from the Philippines, where they had likely been collected by the great French botanist, conchologist and paleontologist Marius Porte.

Phalaenopsis lueddemanniana is in fact endemic to the Philippines, where it has been recorded from the northern island of Luzon, through Polillo, Palawan and Leyte, to Mindanao in the south. Populations are found in warm regions, from sea level to around 100 meters above sea level. It is a very variable species both in the size and color of the flowers. Sepals and petals are whitish with cross bars (rarely branched) of various thickness (to almost solid), varying from magenta to purple, amethyst or brownish red. The pigmentation is restricted to the adaxial side of the segments, while the back surface is silvery white. The lip is light carmine to deep magenta, yellow at the base and on the calli of the lateral lobes. The column is amethyst-colored with a greenish yellow anther.

The variability of the flowers favored the descriptions of several varieties, including var. *ochracea* Rchb.f. and var. *delicata* Rchb.f., which modern authors sometimes formally retain at the rank of formae. Previously included within a broad concept of *Phal. lueddemanniana*, the varieties *boxalli* Hort., *fasciata* Hort., *hieroglyphica* Rchb.f., *palawensis* Quisumb., *pallens* Burb., *pulchra* Rchb.f., *purpurea* Rchb.f., and *surigadensis* Hort. actually refer to taxa that modern taxonomists treat as different species.

In horticultural circles, the name "Mindanao" (also presented as var. Mindanao, a *nomen nudum*) denotes



Reichenbach, H. G. 1865b. New plants. *The Gardeners' Chronicle* 1865:410.

Phalaenopsis lueddemanniana. The plant.

1. flower.
2. dissected perianth.
3. column and lip, lateral view.
4. column, three quarters and ventral views (emasculate on the right).
5. Anther cap and pollinarium (several views).

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a race of *Phal. lueddemanniana* with rounder and more colorful flowers, the transverse purple bars sometimes covering almost completely the white background of sepals and petals with the exception of a thin white margin. Plants with these characteristics are allegedly native to the island of Mindanao, as opposed to the paler forms of populations from Luzon, but from the available photographs it is more probable that the darker individuals just represent the extreme of a continuum, which perhaps includes on the other end the pale form with fine amethyst stripes often referred to as forma *delicata*. This form was well illustrated by Walter H. Fitch in the *Curtis's Botanical Magazine* (Bateman 1865). Nevertheless, Ikedo (2011) mentions a series of ecological and

morphological differences between typical *Phal. lueddemanniana* and populations of var. *delicata*, mainly in the shape of the perianth, the midlobe of the lip and the structure of the callus, as well as in phenology, which perhaps deserve further research. According to Reichenbach's (1865a, 186b) description, the "Mindanao" phase probably represent the typical form of the species.

In the form *ochracea*, the anthocyanins are suppressed, and the flowers present transversal ochre-yellow to cinnamon striping on a white or off-white background, sometimes flushed pale rose at the base of the sepals and petals, while the midlobe of the lip is pure white.

Natural specimens of *Phal. lueddemanniana* that exhibit flowers with pale, irregular branched markings on the sepals and petals may be of hybrid origin, as the species overlaps in distribution with *Phalaenopsis hieroglyphica* in the islands of Palawan, Polillo, and Mindanao.

In its natural habitat, *Phal. lueddemanniana* is a thermophilic plant, which can be grown at high temperatures (68–86 F [20–30 C]), with a day/night differential of about 18 F (10 C). It requires partial shade and high levels of humidity (70–80%), with a reduction of watering for 3–4 months after the plants has completed its growing period. In cultivation, it blooms from January to March–April on both the old and new inflorescences, as well on the short racemes produced by the keikis.

References

Bateman, J. 1865. *Phalaenopsis lueddemanniana*. *Curtis's Botanical Magazine* ser. 3, 21: sub t. 5523.
 du Buysson, F. 1878. *L'orchidophile; traité théorique et pratique sur la culture des orchidées*. Paris, Auguste Goin Editeur.
 Ikedo, T. 2011. Classification and specificities of genus *Phalaenopsis*. *Lueddemanniana* Complex. Available on the Internet at: <http://www.ranwild.org/Phalaenopsis>. Consulted August 2018.
 Reichenbach, H. G. 1865a. Zwei neue *Phalaenopsis*. *Botanische Zeitung* 23:146–147.