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MYOXANTHUS VITTATUS (ORCHIDACEAE), A NEW SPECIES FROM COSTA RICA

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ABSTRACT. The taxonomic position of *Myoxanthus* Poepp. & Endl. (Orchidaceae: Pleurothallidinae) is discussed and *Silenia* Luer is maintained as a subgenus of *Myoxanthus*. A new species of *Myoxanthus* is described and illustrated. *Myoxanthus vittatus* Pupulin & M.A. Blanco is apparently endemic to the low, tropical wet forests of central Pacific Costa Rica, where it has been collected in two different places. It differs from closely related species for the small size of the plant, the whitish flowers, longitudinally striped with purple, the densely pubescent ovary, and the ligulate, obtuse lip. The new combination *Myoxanthus tomentosus* (Luer) Pupulin & M.A. Blanco is proposed.

RESUMEN. Se discute la posición taxonómica de *Myoxanthus* Poepp. & Endl. (Orchidaceae: Pleurothallidinae) y se mantiene a *Silenia* Luer como subgénero de *Myoxanthus.* Se describe y se ilustra una nueva especie de *Myoxanthus*. *Myoxanthus vittatus* Pupulin & M.A. Blanco es aparentemente endémico de los bosques tropicales de bajura en el Pacífico Central de Costa Rica, donde ha sido recolectado en dos diferentes localidades. Difiere de las especies afines por el tamaño pequeño de las plantas, por sus flores blanquecinas con estrías longitudinales púrpura, por el ovario densamente pubescente y por el labelo ligulado y obtuso. Se propone la nueva combinación *Myoxanthus tomentosus* (Luer) Pupulin & M.A. Blanco.

KEY WORDS: Orchidaceae, Pleurothallidinae, *Myoxanthus*, *Myoxanthus* sect. *Silenia*, *Myoxanthus vittatus*, Costa Rica

The circumscription of genera within the largest tribes of the Orchidaceae has not yet reached a general agreement among taxonomists. The subtribe Pleurothallidinae, restricted to the tropics and subtropics of the New World, is perhaps the largest taxonomic orchid group, with 28 genera and an estimation of more than 3000 species (Dressler 1993).

The genus *Myoxanthus* was first described by Endlicher on *M. monophyllus* (Poeppig & Endlicher 1835), based on a plant collected in the Peruvian department of Huanuco by Poeppig. In 1847 another species currently assigned to *Myoxanthus* was identified as a distinct genus and described as *Duboisia* by Karsten (later renamed *Dubois-Raymondia* Karsten due to the priority of *Duboisia* R. Br. in the Solanaceae) (Karsten 1847, 1848). A third attempt to assign species of *Myoxanthus* to a new genus was made by Barbosa Rodrigues (1882), who described *Chaetocephala* to accommodate its former *Restrepia lonchophylla*. In the opinion of leading orchid taxonomists at that time, notably Lindley, Reichenbach, and Cogniaux, the criteria selected to define the new genera were insufficient to sustain the proposals, and *Myoxanthus* species were newly submerged into the conglomerate genus *Pleurothallis.*

It was not until 1982 when the genus *Myoxanthus* was resurrected by Luer who recognized 34 species sharing a combination of

characters sufficiently distinct to warrant generic recognition, among which the presence of tubular sheaths concealing the ramicaul, often bearing digitate trichomes, a leaf abscission layer without the "node" which may be found in racemose species of *Pleurothallis*, the fascicled inflorescence, and the often thickened apices of the petals, sometimes developed into osmophores (Luer 1982). The original circumscription of *Myoxanthus* was emended by Luer (1992) in his systematic monograph of the genus, with the description of subgenus *Silenia* to include the *P. aspasicensis* complex, encompassing 3 species with a fascicle of single, successive flowers borne terminally from the ramicaul, fleshy flowers externally short- pubescent, and ciliate anther cap. Eventually in 1995 Luer proposed to include *Myoxanthus* subgenera *Satyria* and *Silenia* in *Pleurothallis* subgenus *Acianthera* in order to restore a circumscription of *Myoxanthus sensu stricto* (Luer 1995).

The generic delimitation of *Myoxanthus* among other pleurothalloids is supported by a unique assemblage of morphological characteristics and anatomical features revised by Pridgeon and Stern (1982). The presence of two series of foliar veins and a medullated stele in the root is characteristic of *Myoxanthus* and may be found elsewhere in the Pleurothallidinae only in *Octomeria* and in the *Pleurothallis aspasicensis* complex. Spiral thickenings in hypodermal cells and mesophyll idioblasts, which are present in most pleurothallids, are notably absent from all the tissues of *Myoxanthus* and the *P. aspasicensis* complex (Pridgeon & Stern 1982).

In view of the diagnostic anatomical characters which allow recognition of evolutionary affinities in the Pleurothallidinae and to preserve the naturalness of *Myoxanthus*, we prefer to maintain the *P. aspasicensis* complex as *Myoxanthus* subgenus *Silenia* and we therefore propose the following *Myoxanthus* species new to science:

Myoxanthus vittatus Pupulin & M.A. Blanco, *sp. nov.* FIG. 1

TYPE: COSTA RICA. San José: Pérez Zeledón, El Brujo, near Río División, 450 m, 30 Jan. 2000, flowered in cultivation at Jardín Botánico Lankester, 3 June 2001, *M.A. Blanco 1324* (holotype, USJ!; isotype, SEL!).

Species Myoxantho aspasicensi (Rchb.f.) Luer similis, sed planta floribusque omnine minoribus, ovario pubescente, sepalis purpureo vittatis, interne laevis, synsepalo lanceolato, apice petalorum dorsaliter tuberculato, labello ligulato apice laevi differt.

Plant epiphytic, cespitose, up to 17 cm tall, roots coarse. *Ramicauls* stout, erect, 4-7 cm long, enclosed by 3-4 loose, tubular sheaths sometimes fragmented. *Leaf* erect, thickly coriaceous, narrowly lanceolate-elliptic, minutely emarginate, 7-10 cm long, 1.3-1.5 cm wide, cuneate below into a conduplicate, sessile base. *Inflorescence* a fascicle of single, successive flowers, at the apex of ramicaul, the peduncle sparsely pubescent, 8-13 mm long, subtended by a papyraceous spathe 1.4-1.6 cm long; pedicels 2-3 mm long; ovary less than 1 mm long, densely pubescent. *Flowers* small, whitish, longitudinally striped with purple, fleshy, densely short-pubescent externally, glabrous within. *Dorsal sepal* linear-oblanceolate, obtuse, 10-12 mm long, 3 mm wide, 5-veined. *Lateral sepals* connate into a lanceolate, shortly emarginate, concave synsepal, 10-13 mm long, 4-5 mm wide, each half 4-veined. *Petals* fleshy, linear-oblong, obtuse, minutely apiculate, adaxially provided with a tuft of short papillae near the apex, 4 mm long, 1 mm wide, 3-veined. *Lip* 3-lobed, ligulate, subacute, 4 mm long, 2.5 mm wide between lateral lobes; the apical lobe smooth, slightly undulate along the margins; the lateral lobes erect, narrowly uncinate, antrorse; the disc with an erect, narrow, low, channeled callus above the base, extending in front into a low keel just to near the lip apex, laterally provided with a pair of low lamellae extending to the apex, hinged on the end. *Column* arcuate, semiterete, 1.6 mm long, provided with narrow wings above the middle, the foot less than 1 mm long. *Anther cap* globose, with long hairs on the upper margin, 2-celled. *Pollinia* 2, obovoid, flattened, on a short caudicle.

ETYMOLOGY: from the Latin *vittatus*, "longitudinally striped", in reference to the stripes on sepals and petals.

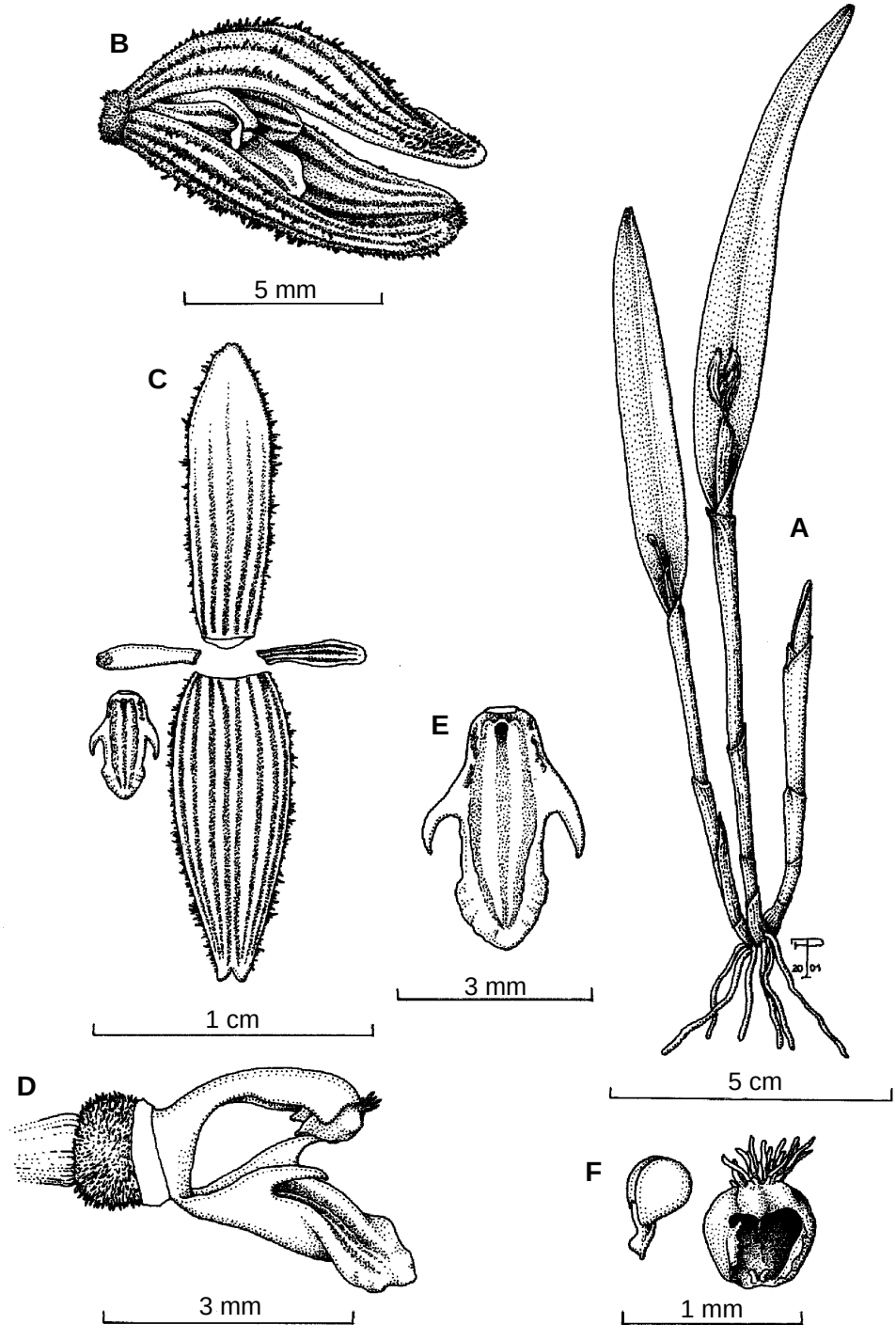

Figure 1. *Myoxanthus vittatus* Pupulin & M.A. Blanco. A - Habit. B - Flower. C - Dissected flower (petal to the left in abaxial view). D - Column and lip, lateral view. E - Lip, spread. F - Pollinarium and anther cap. ILLUSTRATION VOUCHER: *M.A. Blanco 1324* (USJ). Drawn from the holotype.

DISTRIBUTION AND ECOLOGY: Known only from two specimens from the same area in central Pacific Costa Rica, epiphytic in tropical wet forest, premontane belt transition, at 450 m elevation.

PHENOLOGY: Flowering occurs from March to June.

PARATYPE: COSTA RICA. San José: Pérez Zeledón, Viento Fresco del Brujo, 450 m, epiphytic on cultivated trees in the village, 21 Jan. 2001, flowered in cultivation at Gaia Botanical Garden, 13 June 2001, *F. Pupulin, D. Castelfranco & L. Elizondo 2878* (USJ, Spirit Coll.!).

Myoxanthus vittatus is closely related to *M. aspasicensis, Pleurothallis tomentosa, M. sempergemmatus* and *M. uncinatus*, but it is distinguished by the small size, the densely pubescent ovary, the whitish flower striped with purple, the sepals adaxially smooth, and the ligulate, obtuse lip.

Pleurothallis tomentosa Luer was described from a single Costa Rican collection made by Endres around 1867 and kept at Reichenbach's herbarium in Vienna, and it is supposed to be extinct (Luer 2000). This species may be easily distinguished from *M. vittatus* by the purple-black flowers with an oblong lip, rounded at apex. In order to avoid paraphyly in *Myoxanthus* as intended here, a new combination is required for Endres' species:

Myoxanthus tomentosus (Luer) Pupulin & M.A. Blanco, *comb. nov.*

Bas.: *Pleurothallis tomentosa* Luer, Orquideología 21(3): 337. 2000.

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