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Source: Willdenowia, 37(1) : 319-322

Published By: Botanic Garden and Botanical Museum Berlin (BGBM)

URL: <https://doi.org/10.3372/wi.37.37121>

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***Philodendron scherberichii* (Araceae), a new endemic species from a high mountain forest in southwestern Colombia**

Abstract

Croat, T. B., Mora, M. & Kirkman, R. W.: *Philodendron scherberichii* (Araceae), a new endemic species from a high mountain forest in southwestern Colombia. – Willdenowia 37: 319-322. – ISSN 0511-9618; © 2007 BGBM Berlin-Dahlem.

doi:10.3372/wi.37.37121 (available via <http://dx.doi.org/>)

Philodendron scherberichii of *P.* subg. *Philodendron*, from a high mountain forest in the Department of Nariño, is described as a species new to science and compared with *P. lentii*, a morphologically similar species. Both species are members of *P.* sect. *Macrobelum* subsect. *Macrobelum* ser. *Ecordata*.

Key words: aroids, taxonomy, primary cloud forest, Nariño, Nudo de los Pastos.

Introduction

Philodendron is a neotropical genus with about 700 species recognized (Croat 1997), but only about 400 of them have been described (Govaerts & Frodin 2002). Many of the species occur in Colombia, the richest country for *Araceae*, yet the aroid flora is the most poorly known.

An unidentified species of *Philodendron* collected in Colombia in 1995 was brought into cultivation at the Jardin Botanique de Lyon in France. Further study of its morphology revealed the plant to be a new species. It was originally collected in a montane primary cloud forest between Pasto, the capital city of the Department of Nariño, and Lake Guamués, best known as La Cocha, in southwestern Colombia. Although many of the areas in that region have been deforested, there are still some remaining forests protected as private or public reserves. Biogeographically the type locality of the species is very interesting because it is located at the Nudo de los Pastos, where the Andes in Colombia originate and split up into the three mountain chains in Colombia, the Cordillera Occidental, the Cordillera Central and the Cordillera Oriental. This region is considered a Pleistocene refuge having a high number of endemic species of both flora and fauna (Hernández-Camacho 1992).

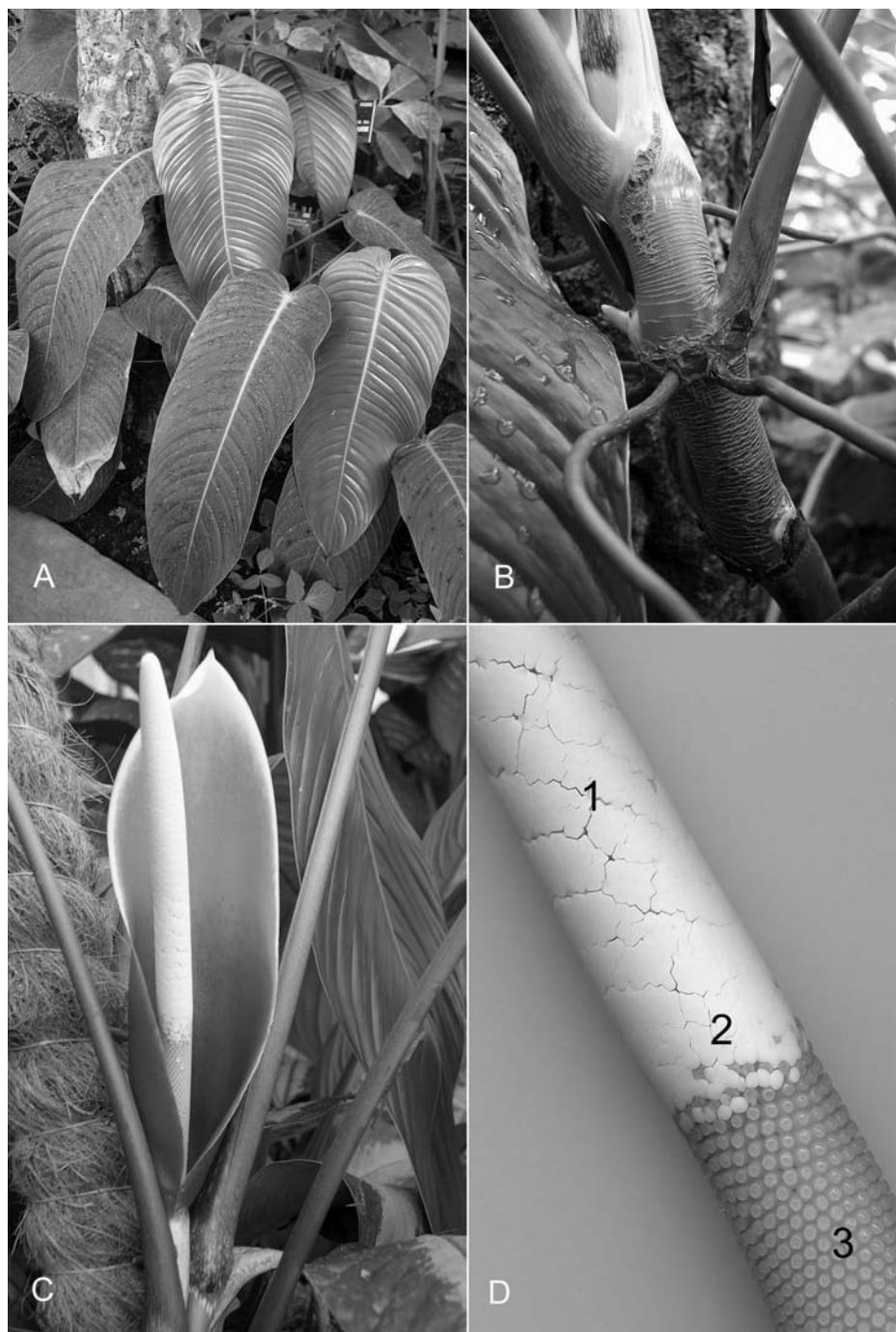


Fig 1. *Philodendron scherberichii* – A: habit; B: stem; C: inflorescence at anthesis; D: portion of the spadix showing the lower part of the fertile staminate portion (1), the sterile part of the staminate portion (2) and the upper part of the pistillate portion (3). – Photographs by D. Scherberich from plants cultivated at the Jardin Botanique de Lyon, France.

***Philodendron scherberichii* Croat & M. Mora, sp. nov.**

Holotype: Cultivated in the Jardin Botanique de Lyon from the wild source “Colombia, Nariño, Pasto - Lago Guamués (also known as La Cocha), c. 1°12'N, 77°12'W, c. 3000 m”, collected by Jérôme Merle in 1995, vouchers 8.3.2003, *D. Scherberich* 230 (MO 04872027-28; isotypes: B, COL, K, LYJB 00425-26, NCY, P, PSO, QCNE, US) – Fig. 1.

Planta hemiepiphytica, ad 1.5 m; internodia 1.2-15 cm longa, 1.2-2.5 cm diam.; cataphylla ad 38 cm longa, debiliter 1-costata ad apex; petiolus (14-)30-40 cm longus, 3-7 mm diam., teres; geniculum ad 4 cm longum, 9 mm diam.; lamina anguste ovata-elliptica, (27-)45-60 cm longa, (9-)16.5-27 cm lata; nervis lateralibus (11-)17-21 utroque; inflorescentia solitaria pedunculo 3-3.5 cm longo; spathe 15.5-19.5 cm longa, 6 cm lata per anthesis, rubroviolacea vel marronina, sine constrictio; spadix protrudens, ad 17.7 cm longus, parte pistillata 5.8-6.3 cm longa, parte staminata 8.5-11.5 cm longa, pistillis 4-6-locularibus ovulis 3-5 per loculum.

Hemiepiphyte to 1.5 m tall; internodes 1.2-15 cm long, 1.2-2.5 cm in diam., dark green, coarsely short-lineate on lower edge of nodes, with transverse fissures, epidermis turning brown and semi-glossy; roots dark brown, 3-5 mm in diam. *Cataphylls* to 38 cm long, 3 cm in diam. at the base, mostly unribbed but weakly 1-ribbed near the apex, green with reddish base and shortly pale-lineate, turning light yellow-brown, then dark brown, rigid and glossy, persisting \pm intact at upper nodes, eventually breaking off except for the persistent base. *Petioles* (14-)30-40 cm long, 3-7 mm in diam. at the middle, terete, dark green, semiglossy, weakly short-lineate to striate toward the apex, sheathed to 9 cm long; geniculum to 4 cm long, 9 mm in diam., paler on abaxial side, sometimes pale pink at point of insertion with the blade. *Leaves* pendant, then spreading-pendant from erect-spreading petioles; *blades* narrowly ovate-elliptic, (27-)45-60 \times (9-)16.5-27 cm, 2.4-3.2 times longer than wide, dark green, pinkish to reddish when young, semiglossy above, moderately paler and slightly glossier below, drying grey-green to brownish, with weakly visible resin canals on upper surface, yellowish grey-green to brownish with the cross-veins moderately visible on lower surface; gradually long-acuminate at apex, subcordate at base, the lobes sometimes unequal; sinus 2-2.5 cm deep, narrow; *midrib* prominent, rounded and moderately paler, yellow-green above, narrower and bluntly acute, almost concolourous below; *basal veins* in 2-3 pairs, all free to base; *primary lateral veins* (11-)17-21 per side, moderately sunken, sometimes weakly quilted and concolourous above, narrowly raised and concolourous below, arising at 65-75° angle, broadly arching to the margins; interprimary veins usually present; minor veins moderately obscure. *Inflorescence* solitary; *peduncle* 3-3.5 cm long, 8-12 mm in diam., pale green, semiglossy, faintly striate, especially toward apex; *spathe* 15.5-19.5 \times 6 cm at anthesis (flattening to 8.5 cm wide), clearly demarcated from the peduncle, reddish violet (B & K red purple $^{3/5}$; Berlin & Kay 1969) on tube outside, paler and reddish violet (B & K red purple $^{3/5}$) tinged toward apex, eventually whitish toward apex outside, dark maroon inside, only slightly paler toward apex, except whitish along the margin inside, lacking a constriction and opening nearly to the base at anthesis with most of the spadix fully exposed; *spadix* protruding forward at anthesis, to 17.7 cm long; the *pistillate portion* 5.8-6.3 cm long in front, 3.7-4.2 cm long in back, 1.2-1.4 cm in diam., pale yellow-green; *staminate portion* 8.5-11.5 cm long, 1-1.4 cm in diam. at base, 1.3-1.4 cm in upper $^{2/3}$ and 1 cm in diam. at 1 cm from the apex, lacking any obvious constriction above the sterile portion; *sterile staminate portion* scarcely distinguishable from fertile portion and with the flowers loosely grading into the pistillate portion with a few isolated sterile flowers mixed among the pistillate flowers; *pistils* 2 mm long, the stigma depressed-globose, 1 mm in diam., locules 4-6; ovules 3-5 per locule, along with the funicle 0.2-0.3 mm long, borne within a translucent envelope c. 0.6 mm long, the funicles about as long as the ovules, ovules well spaced along one margin of the envelope.

Eponymy. – The species is named in honour of David Scherberich, head of the living collections of *Araceae* at the Jardin Botanique de Lyon, France, who brought this stunning plant to our attention. David is a member of the International Aroid Society, is very knowledgeable about aroids

and has a superb website filled with aroids. He assisted in developing the wonderful aroid collection at the Nancy Botanical Garden before taking his job in Lyon.

Distribution. – *Philodendron scherberichii* is known only from the type locality in Nariño Department in Colombia at c. 3000 m, occurring in montane tropical wet forest transitional to montane tropical rainforest (terminology based on the life zone system of Holdridge 1967, see also Espinal 1977). *P. scherberichii* is probably the species of *Philodendron* that occurs in the highest elevation known so far.

Affinities. – *Philodendron scherberichii* is characterized by its hemiepiphytic habit, ovate-elliptic, long internodes, moderately subcordate, semiglossy blades with numerous primary lateral veins, and especially by the solitary, short-pedunculate, reddish violet spathe, which opens broadly to expose the protruding spadix to base. The species is also unusual in having no obvious constriction in either the spathe or the spadix. It is a member of *P.* sect. *Macrobelyum* subsect. *Macrobelyum* ser. *Ecordata* Croat, with 3-5 ovules born in a single translucent envelope in each locule.

The species is somewhat similar to *Philodendron lentii* Croat & Grayum, a species that ranges from Nicaragua to Ecuador, which has blade leaves subcordate at base with few pairs of basal veins free to base and numerous primary lateral veins. That species differs in having thicker and rather elliptic leaf blades, and proportionally shorter and deciduous cataphylls. Additionally, *P. lentii* occurs at elevations less than 1800 m, in contrast to *P. scherberichii*, which occurs at much higher elevations.

Acknowledgements

The authors wish to thank the Jardin Botanique de Lyon in France for providing herbarium material and to David Scherberich for taking pictures of the new species. David also contributed information on the habit and details of the stem.

References

- Berlin, B. & Kay, P. 1969: Basic color terms, their universality and evolution. – Berkeley.
- Croat, T. B. 1997: A revision of *Philodendron* subgenus *Philodendron* (Araceae) for Mexico and Central America. – Ann. Missouri Bot. Gard. **84**: 311-704. [[CrossRef](#)]
- Espinal, T., L. S. 1977: Zonas de vida o formaciones vegetales de Colombia. Memoria explicativa sobre el mapa ecológico, 2 vols. – Inst. Geogr. Augustin Codazzi **13(11)**. – Bogotá.
- Govaerts, R. & Frodin, D. G. 2002: World checklist and bibliography of *Araceae* (and *Acoraceae*). – Kew.
- Hernández-Camacho, J., Walschburger, T., Ortiz-Quijano, R. & Hurtado-Guerra, A. 1992: Origen y distribución de la biota suramericana y colombiana. – Pp. 55-104 in: Halffter, G. (ed.), La diversidad biológica de Iberoamérica I. – Acta Zool. Mexicana **Suppl.** (“volume especial 1992”).
- Holdridge, L. R. 1967: Life zone ecology. – San José, Costa Rica.

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