

Two new species of *Philodendron* (Araceae) from Amazonian Peru

Thomas B. Croat
Missouri Botanical Garden
P.O. Box 299, St. Louis, MO 63166-0299
Thomas.croat@mobot.org

David Scherberich
Jardin Botanique de la Ville de Lyon
Mairie de Lyon
69205 Lyon Cedex 01, France
david.scherberich@mairie-lyon.fr

Geneviève Ferry
Nancy Botanical Garden
Conservatoire et Jardins Botaniques de Nancy
100, rue du Jardin botanique
54600 Villers-lès-Nancy, France
jpcferry2@wanadoo.fr

M. Marcela Mora
Dept. of Biological Sciences
Box 870345
The University of Alabama
Tuscaloosa, AL 35487-0345
araceae@gmail.com

ABSTRACT

Two new species of *Philodendron*, *P. bicolor* and *P. pierrelianum* (Araceae) are described and illustrated.

KEY WORDS

Araceae, Loreto Department, new species, Peru, *Philodendron*.

INTRODUCTION

During the course of work at the Nancy Botanical Gardens by the senior author and by Marcela Mora, two new species were discovered in the collection of plants originally collected by French botanist, Serge Barrier in 1979 and 1980, during his studies with indigenous populations in northern and eastern Loreto Department of Peru. Barrier's original living collections have been at the Nancy Botanical Garden under the care of Geneviève Ferry since

they were accessioned in 1979. Marcela Mora is a specialist with *Philodendron*. She visited the aroid collection in Nancy in 2006 while she was writing the Lucid key to *Philodendron* (Mora, 2008) during an internship at Kew Gardens. David Scherberich, who has had a long association with the Nancy Botanical Garden, first brought the plants to the attention of the senior author. He is now manager of tropical collections in Lyon Botanical Garden in Lyon, France where both species are also in cultivation. Geneviève Ferry has not only managed to keep these rare species alive all these years but was responsible for studying and vouchering the plant collections.

Philodendron bicolor Croat, Scherberich, M. M. Mora & G. Ferry, **sp. nov.** Type: Cultivated under the number 1979.4.101 in the Jardin Botanique du Montet, Nancy (France) and flowered 26 June 2001, from wild source "PERU, Loreto:



Fig. 1. A–D. *Philodendron bicolor* Croat, Scherberich, M. M. Mora & G. Ferry. A. Habit with inflorescence. B. Habit showing newly opened violet-purple leaf. C. Blade, abaxial surface. D. Blade base and petiole.

Colonia, Pebas”, originally collected by Serge Barrier in 1979, G. Ferry s.n. (holotype, NCY; isotypes K, LYJB, MO, P, US, USM). Figs. 1 A–D and 2 A–B.

The species is similar to *Philodendron burlemarxii* G. M. Barroso, which differs in having blades drying yellow-brown with less prominent primary lateral veins and with both blade surfaces short-pale-lineate,

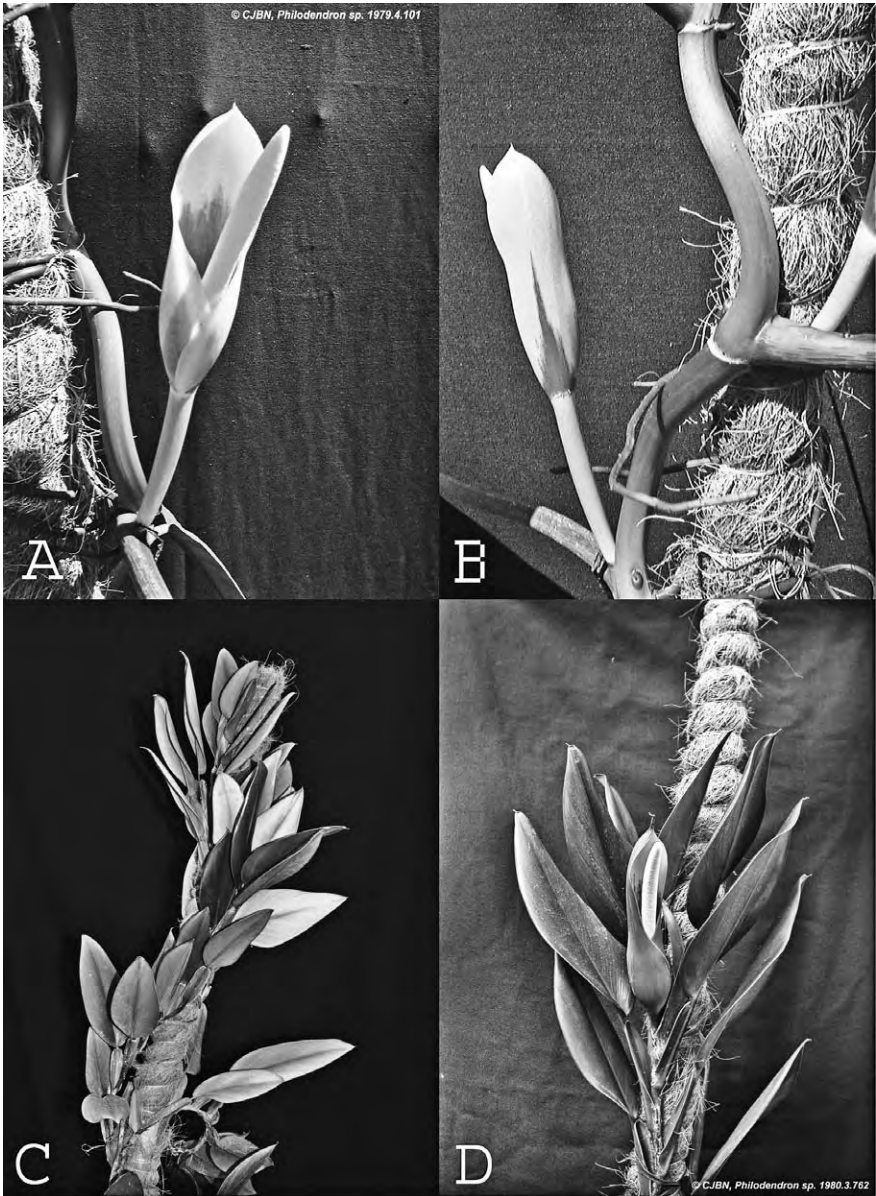


Fig. 2. A–B. *Philodendron bicolor* Croat, Scherberich, M. M. Mora & G. Ferry. A. Inflorescence at anthesis, front view. B. Inflorescence, back view. C–D. *Philodendron pierrelianum* Scherberich, Croat. M.M. Mora & G. Ferry. C. Habit. D. Habit with inflorescence.

a more cordulate leaf base and less prominently long-acuminate blade apex as well as cataphylls which are acutely 2-ribbed.

Hemiepiphyte to 2 m tall in cultivation; **internodes** 0.7–10 cm long, 0.5–1 cm in

diam., medium green stained red, somewhat scabrous at first then becoming smooth, semiglossy, epidermis turning light brown and matte with age; **roots** semiglossy, dark brown, wiry and very long, 2–3 mm in diam., scaly, active part

yellow-brown, occasionally very densely and shortly hairy; **cataphylls** to 21 cm long, 2.5 cm large at the base, very weakly two-ribbed, pinkish red with greenish base and conspicuously short-dark-lineate throughout, rigid and glossy, early deciduous; **petioles** 5.7–15 cm long, 8–14 mm in diam. at one third, erect-spreading, forming an angle of about 60° with the stem, subterete, conspicuously swollen and spongy, broadly and obtusely sulcate adaxially, flattened toward the apex and distinctly curved before geniculum, markedly bicolorous, medium to dark-green adaxially and conspicuously dark purplish violet on abaxial side, dark lineate, bearing a distinct purplish ring at the junction with the blade, drying dark yellow-brown, matte, longitudinally and irregularly folded-ridged, minutely and densely transverse-fissured; **blades** extending from petioles at ca. 90° angle, linear-oblong, 21–50.8 cm × 3–7.3 cm, medium green when fresh turning dark green with age, bicolorous, semiglossy, conspicuously dark purplish violet abaxially, drying grayish brown and matte above, grayish yellow-brown and matte below; straight, slightly carinate, long-acuminate at apex, obtuse, subcordate to cordulate at base; **midrib** convex and medium green above, prominently raised and dark purplish violet below, more or less hemispherical in cross section, drying deeply sunken and concolorous above, thicker than broad, cinnamon-colored and acutely and irregularly ridged below; **primary lateral veins** 3 to 9 pairs per side, arising at about 40–55° angle, barely sunken above but distinctly raised below, drying weakly sunken and concolorous above, narrowly acute and irregular, paler below; **interprimary veins** few; **minor veins** numerous, moderately obscure, drying blackened; **upper surface** drying uniformly minutely and densely punctiform except on the obtusely raised minor veins; **lower surface** drying uniformly and densely pale-punctiform except on minor veins below; INFLORESCENCES erect-spreading, 1 per axil; **peduncle** ca. 8 cm long, 5–10 mm diam., uniformly light green; **spathe** 10 cm long, to 3 cm wide at

anthesis (1–1.2 times longer than peduncles), clearly demarcated from the peduncle, barely or not at all constricted above tube, the tube yellow to greenish-yellow outside, strongly stained purplish violet at the base with a distinct pointed purplish violet marking on the back, purplish violet inside extending well onto the blade, the rest of the blade yellow to greenish-yellow; **spadix** protruding forward at anthesis, to 10.4 cm long, 8–9 mm diam., shortly stipitate, the stipe 8 mm in front and 5 mm in rear; **pitillate portion** 2.7–3 cm × 7–8 mm, pale yellow, the **staminate portion** 6.3 cm long with a short 2 mm sterile portion, cylindric for the proximal 2/3 then shortly tapered, rounded to bluntly acute at apex, creamy white; **ovary** 6-locular; **ovules** 1 per locule with basal placentation, contained within translucent, gelatinous ovule sac.

Philodendron bicolor is known only from the type locality in Peru, Loreto Department at less than 200 m elevation in a *Tropical moist forest* life zone.

Philodendron bicolor is a member of *Philodendron* subgen. *Philodendron* sect. *Macrobelyum* subsect. *Glossophyllum* ser. *Glossophyllum*.

The species is characterized by the dark green linear-oblong pendent blades which are typically 7.8–8.8 times longer than wide and 3–3.5 times as long as petioles, with a much paler midrib with 3 to 9 pairs of inconspicuous primary lateral veins and the dark purplish violet color of the abaxial side of the leaves.

Philodendron paxianum K. Kr., a Bolivian species, is also similar to *P. bicolor* but has blades much less longer than broad (4 times longer than broad), merely rounded at the base and with the minor veins much more closely spaced and concolorous with the surface, not blackened as in *P. bicolor*.

The epithet “bicolor” refers to the distinctly different colors of the leaf blade with the upper surface dark green and the lower surface dark violet-purple.

Philodendron pierrelianum Scherberich, Croat, M. M. Mora & G. Ferry, **sp. nov.** Type: Cultivated under the

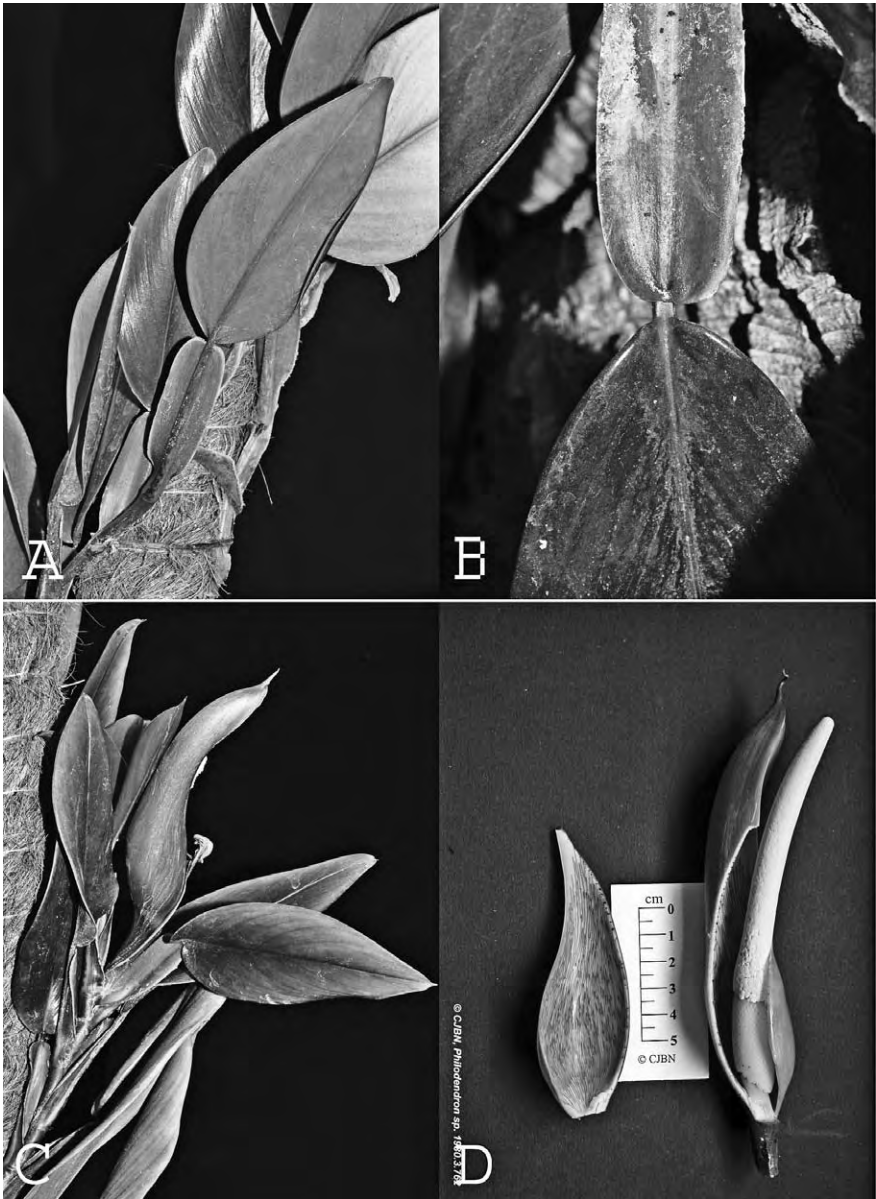


Fig. 3. A–D. *Philodendron pierrelianum* Scherberich, Croat, M. M. Mora & G. Ferry, A. Plant with full leaf. B. Petiole and blade base. C. Flowering plant at anthesis, side view. D. Inflorescence opened showing spadix and resin canals in spathe tube.

number 1980.3.762 in the Jardin Botanique du Montet, Nancy (France) and flowered 10 Sept. 2007, from wild source “PERU, Loreto: Colonia, Pebas”,

originally collected by Serge Barrier in 1980, *Croat 100400* (holotype, NCY; isotypes K, LYJB, MO, P, US, USM). Figs. 2 C–D and 3 A–D.

The species is similar to *Philodendron pteropus* Schott which differs in having petioles that are markedly inequilateral and winged to the base of the blade; blades that are longer and more narrowly long-acuminate at the apex and have primary lateral veins that are scarcely or not at all visible on either surface. In addition the spadix dries more slender and is prominently protruded out of the spathe.

Hemiepiphytic vine to 3 m tall in cultivation; **anchoring roots** present at distal nodes, to ca.1.5 mm in diam.; **internodes** 2–6.5 cm long, 0.3–0.9 cm in diam., dark green, smooth, semiglossy, slightly flattened on one side; **petioles** 3.8–11.3 cm long, conspicuously sheathed throughout most of length, the sheath distinctly flattened 3.2–10.5 cm long and 1.2–3.2 cm wide, with a pale margin, prolonged distally, the free portion of petiole 1–10 mm, adaxially dark green, conspicuously purplish violet linear punctate on wings and purplish violet streaked on petiole on abaxial side when young, erect to erect-spreading, forming an angle of about 20° with the axis of the petiole; **blades** elliptic-lanceolate, 8.1–19.3 cm × 3–8.3 cm, 2.3–2.7 times longer than wide, 1.7–2.1 times longer than petioles, dark green, pinkish to reddish when young, distinctly glossy above, semiglossy and much paler below, drying pale gray-green above, orange-brown below; slightly inequilateral, one side –3 mm wider than the other, convex, the margins distinctly revolute, apiculate at apex, the base rounded, very coriaceous; **midrib** conspicuously sunken above, raised below; **primary lateral veins** 3 to 4 pairs per side, arising at about 20° angle or less, barely distinct from interprimary veins, all slightly sunken above and undistinct below. INFLORESCENCES single or in pairs; **peduncle** about 4.3 cm long, 10 mm diam., dark green to brown, faintly striate toward apex; **spathe** 15.5 cm long, 3.5 cm wide at anthesis, clearly demarcated from the peduncle, barely constricted above tube, acuminate, uniformly dark green outside with faint dark linear-punctate markings, the inner surface greenish white, with conspicuous vertical sub-parallel reddish brown resin canals in the

lower 2/3; **spadix** exerted, 13.8–14.5 cm long, shortly stipitate, the stipe 10–12 mm long in front, 5 mm in rear; **pistillate portion** 3–3.2 cm × 14–15 mm, pale yellow-green, the **staminate portion** with a slightly swollen sterile section proximally, 1–1.5 cm long, the fertile section 8–9 cm long, gradually tapered, creamy white.

Philodendron pierrelianum is known only from the type locality in Peru, Loreto Department at less than 200 m elevation in a *Tropical moist forest* life zone.

Philodendron pierrelianum is a member of *Philodendron* subg. *Pteromischum* sect. *Pteromischum* and is characterized by its scandent hemiepiphytic habit with short internodes, the stiffly erect-spreading leaves with nearly fully winged petioles, by the elliptic-lanceolate coriaceous glossy blades with revolute margins and a weakly acuminate apex as well as in having one or two inflorescences per axil with short peduncles, a dark green spathe which is barely constricted above the tube and has the inner surface greenish white inside with abundant resin canals in the lower 2/3 of the spathe.

The species is named in honor of Romaric Pierrel, former Director of the Botanical Garden in Nancy, France and a person who took great interest in promoting the development of the aroid collection in Nancy which during his tenure became one of the finest in Europe. The senior author's first association with the Nancy Botanical Garden was when Romaric Pierrel sent a box full of pickled inflorescences, herbarium specimens and slides of the aroid collection to the Missouri Botanical Garden for determination. Later he traveled to Nancy to consult with the grower, Madame Ferry and they have since done joint field studies.

LITERATURE CITED

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