

Philodendron joaosilvae, a New Species of *Philodendron*, subgenus *Philodendron*, section *Philodendron* (Araceae) from Brazil

Thomas B. Croat
P.A. Schulze Curator of Botany
Missouri Botanical Garden
P.O. Box 299, St. Louis, MO 63166
Thomas.croat@mobot.org

André Luiz de Rezende Cardoso
Museu Paraense Emilio Goeldi, Coordenação de Botânica
Av. Perimetral, 1901, Terra Firme
Belém-PA, Brazil

Joep Moonen
Emerald Jungle Village
French Guiana

ABSTRACT

A species of *Philodendron*, subgenus *Philodendron*, section *Philodendron* (Araceae) from Brazil, *Philodendron joaosilvae* Croat, A. Cardoso & Moonen is described as new.

KEY WORDS

Philodendron, subgenus *Philodendron*, Brazil, section *Philodendron*, Araceae.

INTRODUCTION

Philodendron subgenus *Philodendron* section *Philodendron* is the largest of three subgenera

of *Philodendron* with approximately 335 published species. The subgenus comprises ten sections: section *Baursia* Rchb., section *Calostigma* (Schott) H. Pfeiff, section *Campitogynium* Krause, section *Dolichogynium* Croat & Köster, section *Macrolonchium* Schott, section *Philodendron* (Jacq.), Schott, section *Philopsammos* G.S. Bunting, section *Polytomum* (Schott) Engl., section *Schizophyllum* Schott and section *Tritomophyllum* Schott. Section *Philodendron* comprises seven subsections: subsection *Achyropodium* (Schott) Engl., subsection *Canniphyllum* (Schott) Mayo, subsection *Macrobelyum* (Schott) Engl., subsection



Figure 1. A–D. *Philodendron joaosilvae* Croat, A. Cardoso & Moonen. A. Habit showing leaves, adaxial surface. B. Growth habit, petioles arising from stem with long internodes showing two or more clusters of leaves. C. Unearthed stem showing dense roots and with one inflorescence. D. Complete inflorescence showing staminate and pistillate portions cut open to expose spadix.

Philodendron (Schott) Engl., subsection *Platypodium* (Schott) Engl., subsection *Psoropodium* (Schott) Engl., and subsection *Solenosteryma* (Klotzsch ex Schott) Engl. The new species is placed in subsection *Philodendron*.

Philodendron joaosilvae Croat, A. Cardoso & Moonen, **sp. nov.** Type: BRAZIL. Pará: Município de Itaituba, Garimpo do Waldeci,

Floresta Nacional do Amaná, on plateau during the survey work for the management plan of Flona Amaná, run by the STCP Engenharia e Projetos, cultivated in Belém 05°37' 23.5"S, 57° 26' 22.1"W, 150 m, 6 Apr 2009 João F. Batista da Silva 3031 (holotype, MG-207180; isotypes, B, K, MO, NY, RB, US).

The species is closest to *Philodendron maguirei* G.S. Bunting but that species differs in having petioles which dry glossy yellow-brown and smooth, sagittately lobed, bicolorous blades (drying gray-brown above, reddish brown below) which lack cross-veins and have obvious laticifers. In the Lucid Philodendron Key *Philodendron joaosilvae* also tracks to *P. jodavisianum* G.S. Bunting from Central America and the western slopes of the South American Andes which differs in having blackish drying blades with a V-shaped sinus and stems with prominent fibrous persistent cataphylls.

Terrestrial; stem creeping over surface of soil, in dense shady forest on yellow latosol clay; **internodes** to 50 cm or more long, much shorter near apex on flowering plants, mostly 1–1.5 cm long, pinkish, matte; **cataphylls** to 7.3 cm long, narrowly very long-acuminate, thin, drying dark brown and persisting intact briefly then breaking up with only the bases persisting; **petioles** 45–52.5 cm long, 6–7 mm diam., medium green, densely short-dark-lineate, weakly glossy, terete midway, obtusely flattened toward apex with a faint medial rib, drying medium gray-brown, matte, 4–5 mm diam., finely ridged, short-pale-lineate, irregularly blackish-dotted and streaked; geniculum not apparent; **blade** narrowly triangular-sagittate-hastate, 19.2–39 cm long, 22–27 cm wide, broadest across the posterior lobes, sometimes with a marked constriction just below the petiole attachment, narrowly long-acuminate at apex, prominently lobed at base, dark green

and matte above with variegations of gray in a broad area midway between the midrib and the margin, subcoriaceous, moderately paler and semiglossy below, drying medium yellow-brown and matte above, scarcely paler, medium yellow-brown and weakly glossy below; **anterior lobe** 21.5–30.5 cm long, broadly concave along margins; **posterior** lobes slender and narrowly rounded at apex, somewhat spreading, departing midrib at a 125–135° angle, 12.2–17.3 cm long, 6.5–7.6 cm wide midway; **midrib** narrowly sunken and concolorous above, narrowly rounded, moderately paler and matte below, drying concolorous, broadly convex with a narrow medial groove, short-pale-lineate above, concolorous, narrowly rounded, finely and irregularly ridged, faintly short-pale-lineate below; **primary lateral veins** 4(5) pairs, arising at an acute angle then spreading at a 40–50° angle to the midrib, weakly quilted-sunken and concolorous above, narrowly rounded and weakly paler below, drying concolorous and narrowly sunken with a narrow medial vein above, narrowly rounded and concolorous, with marginally raised areas near the midrib, densely short-pale-lineate throughout below; **minor veins** moderately distinct; cross-veins moderately distinct both when fresh and when dried, all lateral veins prominently upturned near the margin and extending well upward along the margin in several series parallel to the margin; **upper surface** densely short-pale-lineate throughout; **lower surface** short-pale-lineate but mostly along the major veins; **sinus** parabolic, 9–11.5 cm deep, 7–9.5 cm wide, **basal veins** 4–5 pairs,

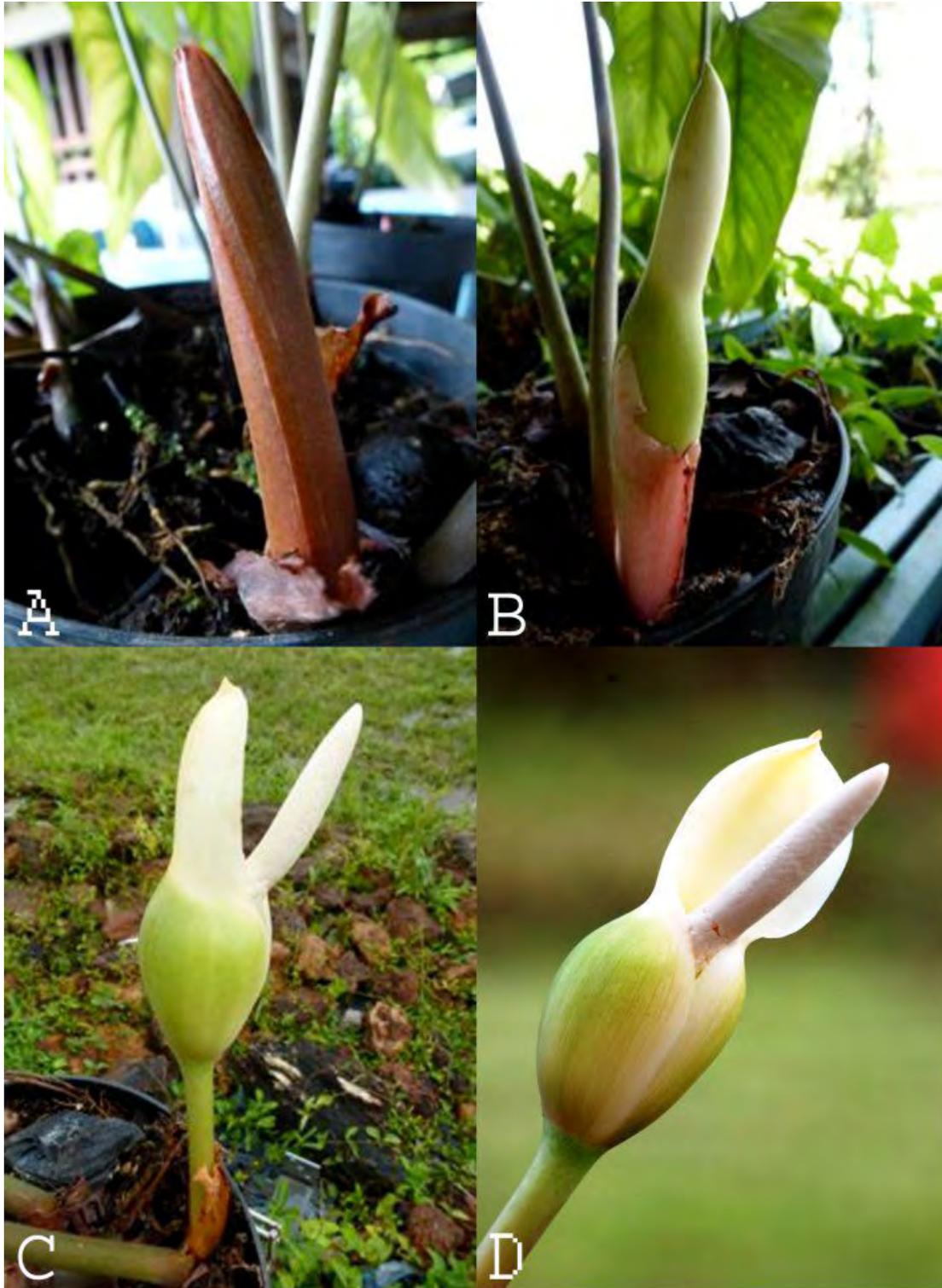


Figure 2. A–D. *Philodendron joaosilvae* Croat, A. Cardoso & Moonen. A. Newly emerged inflorescence still contained within prophyll. B. Newly emerged inflorescence emerging from prophyll. C. Complete inflorescence showing side view at anthesis. D. Complete inflorescence showing near face view at anthesis.

1st pair free to the base, 2nd pair fused to 2–3.3 cm, 3rd–4th (5th) pairs fused 4.5–7.8 cm, the 4th & 5th pairs sometimes fused to 8.3 cm; **posterior rib** nearly straight, naked for 1–1.5 cm. INFLORESCENCE solitary, surrounded by a pinkish, 1-ribbed prophyll; **peduncle** 3.5–4 cm long; 5 mm diam., semiglossy; **spathe** (6.7)8.6–10.1 cm long, wide, tube 3.5–5 cm long, 1.9–2.1–2.6 x 1.5–2.1 cm wide, dark yellow-green outside, pale whitish green and glossy inside; blade 3.2–4.3 cm long, 1.3 cm diam. just above tube, yellow-white to creamy, sometimes yellow-green medially outside, whitish and glossy inside with faint lines in tube; **spadix** stipitate 6–8 mm long, (6 x 7 mm diam.), 5.3–7.8 cm long; staminate spadix 4.1–5.3 cm long, 6–10 mm diam., pale cream (turning creamy brown in pickled condition); sterile staminate flowers, 7–10 mm long, 8–11 mm diam. at base 6–10 mm diam. at apex, creamy white, (yellowish brown in pickled condition); pistillate spadix pale yellow-green, 2.2–3.3 cm long, 8–10 mm diam. at base, 9–12 mm diam. midway, 9–11 mm diam. at apex, light yellowish green (dark brown in pickled condition); **pistils** 1.6–2.2 mm long, 1.0–2.3 mm diam.; style thick and broadly rounded at apex, conspicuously granular in pickled condition; stigma ca. 0.3–0.7 mm thick, 1–1.2 mm diam., broadly flattened; ovules 0.1–0.3 mm long, arranged along the axial margin of the locule, 10–12 per locule, funicles about as long as or slightly longer than ovules.

Philodendron joaosilvae is a member of subgenus *Philodendron*, section *Philodendron* subsection *Philodendron*, and is characterized

by its terrestrial creeping habit across the forest floor with leaves widely spaced except near the flowering apex of the stem, terete petioles, narrowly triangular-ovate-sagittate blades with the anterior lobe concave along margins and with narrow, more or less spreading posterior lobes as well as by the solitary greenish inflorescence. Another unusual feature of the species is that one side of blade usually has many more branches arising from the basal veins than on the other side, giving the blade an appearance of being inequilateral.

Philodendron joaosilvae is endemic to Brazil, known only from the type locality in the State of Pará, Município de Itaituba, in the Floresta Nacional do Amaná, at 150 m in a *Tropical moist forest* life zone (Holdridge, 1971).

The National Forest (Flona) of Amaná, or Amanã, consisting of 542, 620 hectares is a Conservation Unit, located in the state of Pará in the municipalities of Itaituba and Jacareacanga at the confluence of the Madeira and Tapajós rivers, bordering the state of Amazonas. The creation of this reserve in February 2006 has provided environmental protection in the region of the BR-163, a national road connecting the cities of Cuiabá in Mato Grosso to Santarém in Pará. It was created with the objectives of promoting sustainable multiple-use management of forest resources, the maintenance and protection of water and biodiversity resources, as well as supporting the development of methods for sustainable use of natural resources. Its

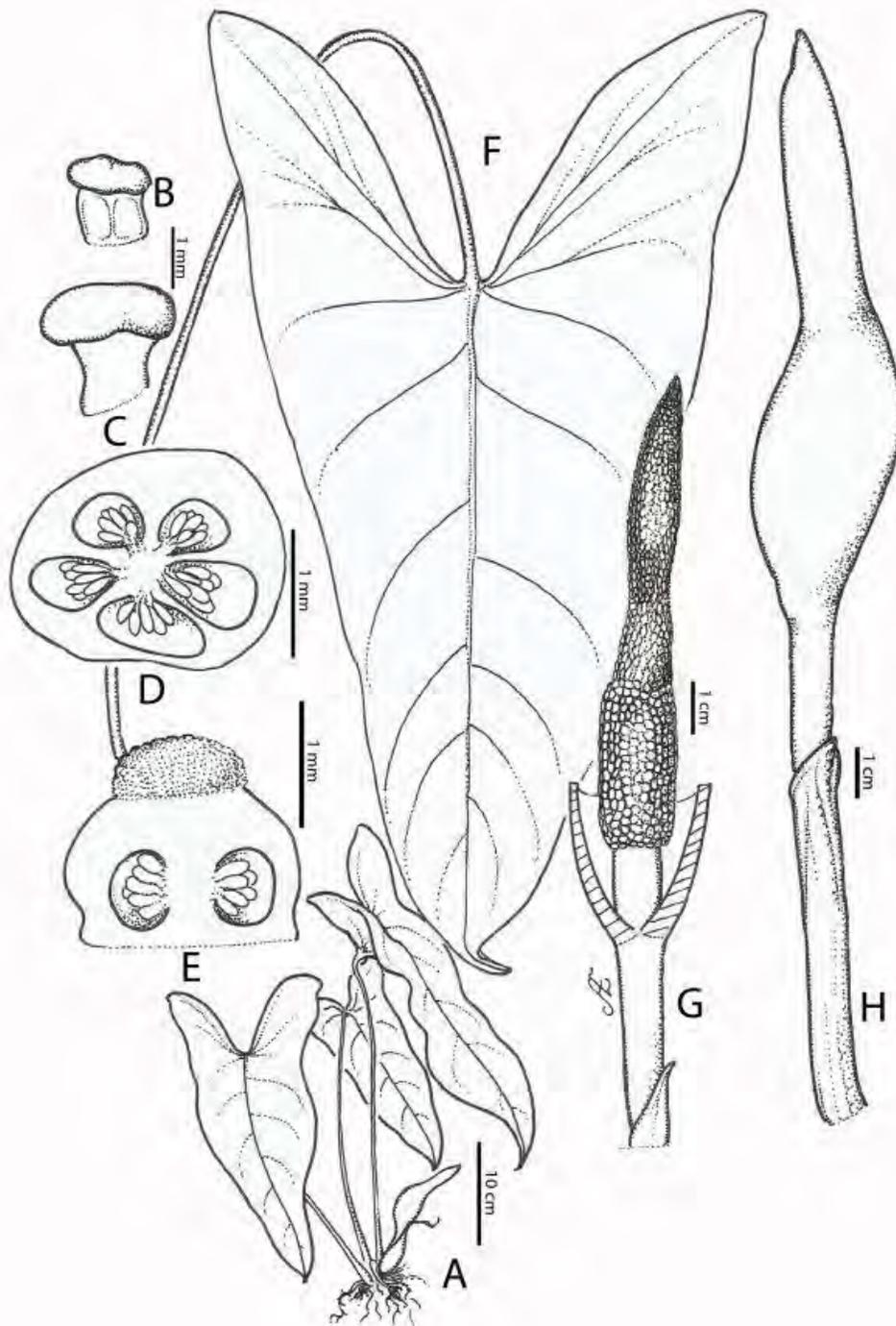


Figure 3. *Philodendron joaosilvae* Croat, A. Cardoso & Moonen. (Drawn by Elielson Rocha from JBF da Silva 3031.)

protection is carried out by the Chico Mendes Institute for Biodiversity Conservation (ICMBio) jointly with the Brazilian Forest Service (SFB) that coordinates the sustainable management of forests in the area.

The species is named for João Batista Fernandes da Silva who collected the type specimen. João Batista is one of the foremost plant collectors in Brazil and is frequently involved in inventories where his skills are required. He is the sort of collector that can be taken in by helicopter and can survive for days with little more than what he carries on his back. João Batista is also an accomplished photographer and has conducted research with Orchidaceae, having published two major books on the family in cooperation with Manoela Ferreira Fernandes da Silva.

He also has strong interests in Araceae and is now working toward a completion of a book on Araceae of the lowland Amazon basin with the assistance of André Cardoso and Tom Croat.

Paratype: BRAZIL. **Pará:** Garimpo do Waldeci, Floresta Nacional do Amaná, on plateau, in dense shady forest on yellow latosol clay, 5°37'22"S, 57°34'07", 150 m, 13 Aug 2011, T. B. Croat & J.B.F. da Silva 103090 (MO).

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