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

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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 Rehb., section Calostigma (Schott) H. Pfeiff, section Camptogynium Krause, section Dolichogynium Croat & Köster, section Macrolonchium Schott, section Philodendron (Jacq.), Schott, section Philopsammus 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 Macrobium (Schott) Engl., subsection

Philodendron joaosilvae Croat, A. Cardoso & Moonen, sp. nov. Type: BRAZIL. Pará: Municipio de Itaituba, Garimpo do Waldeci, Floresta Nacional do Amana, on plateau during the survey work for the management plan of Flona Amana, 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).

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.
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 125–135º 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 40–50º 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.
1\textsuperscript{st} pair free to the base, 2\textsuperscript{nd} pair fused to 2–3.3 cm, 3\textsuperscript{rd}–4\textsuperscript{th} (5\textsuperscript{th}) pairs fused 4.5–7.8 cm, the 4\textsuperscript{th} & 5\textsuperscript{th} 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.

\textit{Philodendron joaosilvae} is a member of subgenus \textit{Philodendron}, section \textit{Philodendron} subsection \textit{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.

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

The National Forest (Flona) of Amana, 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 Amana, on plateau, in dense shady forest on yellow latosol clay, 5°37’22”S, 57°34’07”W, 150 m, 13 Aug 2011, T. B. Croat & J. B. F. da Silva 103090 (MO).

**REFERENCES**