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Philodendron scottmorianum, a new species of *P.* sect. *Philodendron (Araceae)* from the Guianas

Abstract

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Philodendron scottmorianum from French Guiana is described as a species new to science and illustrated. The species is a member of *P.* subg. *Philodendron* sect. *Philodendron* subsect. *Philodendron* ser. *Philodendron* characterized by its thick stems, large ovate-sagittate blades and long-pedunculate green inflorescences. The species is closely allied and compared with *P. acutatum.*

Key words: aroids, *Philodendron acutum,* taxonomy, French Guiana.

Introduction

The second author has explored the vegetation of French Guiana for more than two decades and has been responsible for discovering many interesting and new species. This large and conspicuous new species described here previously eluded other botanists, including the first author, but thanks to the astute observations of Joep Moonen, this species came to be known. There are a number of cordate *Philodendron* species in the region of the Guianas, most notably *P. acutatum* Schott, *P. billietiae* Croat, *P. deflexum* Poepp. (treated as *P. megalophyllum* Schott in Mori & al. (1997) by the first author), *P. fragrantissimum* (Hook.) G. Don, *P. grandifolium* (Jacq.) Schott, *P. melinonii* Regel, *P. ornatum* Schott and *P. solimoesense* A. C. Sm. Of these only *P. acutatum* is easily confused with our new species and it is discussed in detail below.

Philodendron scottmorianum Croat & Moonen, **sp. nov.**
Holotype: French Guiana, Lotissement and Crique Banane in the commune Montsinéry-Tonnegrande, along unpaved road c. 3 km SW of PK 20 between Carrefour du Gallion and Tonate-Macouria on the coast, secondary forest and agricultural lands, 4°53'N, 52°32'W, 50 m, 25.12. 2003, *J. Moonen 309* (MO; isotypes: B, BSS, CAY, K, NY, U, US, VEN).

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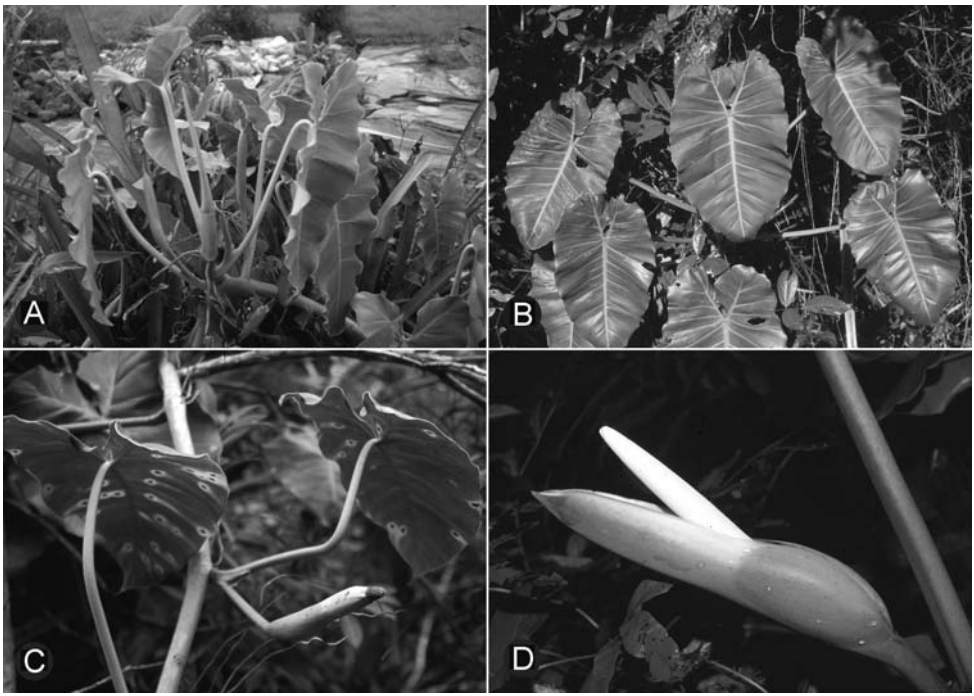


Fig. 1. Comparative images to show differences between *Philodendron acutatum* and *P. scottmorianum* – A: *P. acutatum,* habit of flowering plant; B: *P. scottmorianum,* habit; C: *P. acutatum,* stem with inflorescence; D: *P. scottmorianum,* showing an inflorescence at anthesis.

Planta hemiepiphytica; internodia (2-)3.5-7.2 cm longa, (3.1-)4-6.5 cm diam.; *cataphylla* 42 cm longa, acute 2-costata; *petioli* (38-)74-92 cm longi, 16-20 mm diam. ad apicem; *laminae* anguste ovato-sagittatae, (53-)78-93 × (28-)49-54 cm; *nervis primariis* lateralibus 6-10 utroque; nervis basalis 7-8 utroque; *inflorescencentiae* (1-)3-5 per axila; pedunculi 12-15.5 cm longi et 1.9-2.5 cm diam.; *spatha* 22.6-25.5 cm longa, 3.3 cm diam., viridis extus; tubo rubius intus; *spadix* 20-22 cm longus, parte pistillata 5.5 cm longa, 1.8 cm diam., parte staminata 14.7 cm longa, pistillae 8-9-loculares, 10-12-ovulatae.

Hemiepiphyte at (2-)10-25 m; *stem* with internodes (2-)3.5-7.2 cm long and (3.1-)4-7.2 cm in diam., the uppermost internode bright green, smooth, becoming silver-grey with some longitudinal or transverse markings or lines, then becoming finely fissured to give the surface a greyish, marbled appearance, eventually grey to brownish grey with minute irregular fissures. *Cataphylls* 35-42 cm long, to 8.5 cm wide, flattened, sharply 2-ribbed (one rib smaller), yellowish with vague purplish spots and short dark-lineate outside with 3 medium green longitudinal veins, milky white inside, deciduous while intact. *Petioles* (38-)74-92 cm long, averaging 83.7 cm, about as long as the blades (ranging from 0.8-1.1× the length of the blade), 16-20 mm in diam. at apex, 26-33 mm at base, ± oval in cross section, obtusely flattened to obtusely angular adaxially at apex, obtusely sulcate at base, dark green and contrasting prominently with the stem, becoming pale yellow to almost orange in full sun, vaguely purple-spotted, more greenish toward the base, more purplish toward apex, drying yellowish green and finely uniformly ridged; *blades* narrowly ovate-sagittate (53-)78-93 cm long, (28-)49-54 cm wide, averaging 83 × 51.5 cm, glossy and dark green above, semiglossy and slightly paler below, drying greenish grey on both surfaces, only slightly paler beneath; margins moderately sinuate and undulate; *midrib* broadly convex and moderately paler above, narrowly raised and paler below; *primary lateral veins* in

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Fig. 2. *Philodendron scottmorianum* – A: habit of plant in cultivation with Dr Scott Mori at Emerald Jungle Village, French Guiana; B: leaf blade showing adaxial surface; C: stem with bases of petioles and clusters of inflorescences borne in two different leaf axils; D: inflorescence cut open to expose the inner surface of spathe and the spadix (centimetre ruler to show scale).

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6-10 pairs, departing midrib at 60-70° angle, above concolourous to slightly paler, drying flat to weakly sunken and slightly darker, below narrowly raised and light green, paler than surface, drying greenish yellow, narrowly ridged and paler than surface; *anterior lobe* 53-60 cm long; *posterior lobes* ± rounded, directed up at an angle to midrib, prominently incurved and overlapping, 24.5-26 cm long, 23-25.5 cm wide, directed toward the base when flattened; *basal veins* in 7-8 pairs, 4-5 acroscopic, 2-3 basioscopic, the 1st and sometimes 2nd free to the base, the remainder ± equally spaced along the posterior rib, (4th-)5th and 6th fused for 13-19 cm; posterior rib straight to the apex of the lobe at 155° angle to the midrib, naked 2-3 cm; sinus 19-24 cm deep, closed with overlapping lobes; minor veins moderately visible, drying weakly raised and concolourous. *Inflorescences* (1-)3-5 per axil, erect, to 41 cm long; *peduncle* olive-green with minute deep red stripes, 12-15.5 cm long, 1.9-2.5 cm in diam., glossy medium green with fine reddish stripes and dark red spots, reddish towards base, often clearly demarked from the spathe; *spathe* 22.6-25.5 cm long, 3.3 cm in diam., weakly glossy outside, weakly constricted when furled, medium green, finely striped longitudinally with scattered dark red spots; spathe tube 2.6 × 3 cm wide when furled, medium green and pale whitish lineate-speckled outside, deep red inside throughout; the blade medium green, semiglossy, becoming pale green to whitish toward margins, tinged red in the tube inside, to 5 cm wide and 4 cm deep at anthesis, outer surface medium green, white toward the margins; *spadix* 20-22 cm long; pistillate portion 5.5 cm long, 1.5 cm in diam. at base, 1.8 cm in diam. midway, 1.6 cm in diam. at apex; fertile staminate portion 14.7 cm long, 1.5-1.8 cm in diam. at constriction, 1.7-1.8 cm wide at widest portion, matte, milky white with small reddish resin droplets; protruding weakly forward out of the spathe at anthesis, the sterile staminate portion to 2.5 cm long, 1.9-2.5 cm in diam., the sterile flowers scarcely distinguishable from the fertile flowers; *pistils* 5 mm long, narrowly ovoid, stigma depressed-globose, 0.4 mm high, 0.8 mm in diam.; *ovary* 1.9-2.1 mm long, 1-1.3 mm in diam., 8-9-locular, each with a gelatinous envelope in which are embedded 10-12 long-funiculate ovules; *ovules* 0.2 mm long, about half as long as the funicles, with axile placentation, the funicles all arising from an area encompassing the median portion of the axil wall, arising from one side of the gelatinous envelope near the middle, the gelatinous envelope attached to the ovary wall in the middle. – Fig. 1B, D, 2A-D.

Eponymy. – The species is named in honour of Dr Scott Mori, the Nathaniel Britton Curator at the New York Botanical Garden, whose magnificent publication "Flora of Central French Guiana" (Mori & al. 1997) has done so much for the understanding of the plants of French Guiana. Scott began his tropical career working for the Missouri Botanical Garden as Curator of Summit Herbarium and as our collector in Panama for the Flora of Panama. Later he worked extensively with plants of eastern South America, especially in Brazil and French Guiana, and has collected many interesting and new *Araceae*. For his accomplishments in the field of plant exploration, he was named the winner of the 2007 David Fairchild Award for Plant Exploration.

Distribution and ecology. – *Philodendron scottmorianum* is known only from French Guiana in the region between Cayenne and Montsinéry to the north at about 50 m elevation in what is probably Tropical wet forest (Holdridge 1967). The area around the Scholderman residence where the type was collected (4°53'N, 52°32'W) is endangered but *P. scottmorianum* is rather common along the RN 1 highway between Montsinéry and Cayenne.

Paratypes. – FRENCH GUIANA: Crique Banane, commune de Montsinéry, 4°53'N, 52°32'W, 10 m, 19.3.2005, *Granville 17007* (CAY, MO).

Relationship and delimitation. – The species is a member of *Philodendron* subg. *Philodendron* sect. *Philodendron* subsect. *Philodendron* ser. *Philodendron* and is most closely allied with *P. acutatum,* which is also distributed in French Guiana.

Philodendron acutatum has blades with a similar texture (Fig. 1A) as our new species (Fig. 1B, 2A-B) but is typically a much smaller plant with more slender stems (2.5-4 cm versus usually 4-7.2 cm in diam. for *P. scottmorianum*), typically longer internodes in flowering plants (usually

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3-4 cm or longer between each inflorescence produced). *P. acutatum* has typically 1-2 inflorescences per axil (Fig. 1C), whereas *P. scottmorianum* has rarely one and more frequently up to 5 inflorescences per axil, borne near the apex of the stem where the internodes are very short and typically much broader than long (Fig. 2C). In addition, *P. acutatum* has more slender, terete petioles (oval in *P. scottmorianum*), narrowly ovate, moderately glossy, usually greenish drying blades only rarely up to 63 cm long (in contrast, to mostly more than 60 cm long in *P. scottmorianum*) with a yellow-white, very contrasting margin (c. 1 mm wide). In contrast, the blades of *P. scottmorianum* are ovate-elliptic and more brownish drying with the upper surface only weakly glossy to matte and with the margins whitish green and not markedly contrasting. Other differences in the two species are reflected in the number of primary lateral veins, usually 9 pairs in *P. scottmorianum* and 5-6 pairs in *P. acutatum.* The ovules in *P. scottmorianum* have pistils with a single gelatinous envelope in each locule, within which are embedded 10-12 long-funiculate ovules with axile placentation and with the funicles all arising from an area encompassing the median portion of the axile wall, arising from one side of the gelatinous envelope near the middle. In contrast, the ovules of *P. acutatum* have 2-9 ovules per locule with subbasal placentation.

Philodendron scottmorianum is also similar in the shape and even the texture of the blade with *P. speciosum* Endl., but that species from southern Brazil, ranging to at least as far north as Minas Gerais *(Almeida & al. 2005),* is a member of *P.* subg. *Meconostigma,* which differs in having a more robust stem with conspicuous interpetiolar squamulae, a spadix with the sterile staminate portion equal to or longer than the fertile staminate portion, and staminate flowers much longer than broad, typical of all the members of that subgenus. In contrast, *P. scottmorianum* has stems moderately smooth in comparison, with interpetiolar squamulae lacking or inconspicuous and with staminate flowers only slightly longer than wide. In addition, the stamens of *P. speciosum* are at least 3 times longer than wide whereas those of *P. speciosum* are much less elongate.

Conservation status. – The conservation status for the species should be considered NT (Near threatened, IUCN 2001). Although the species is relatively common in the region where it was collected, it has not previously been collected in French Guiana or in adjacent countries.

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