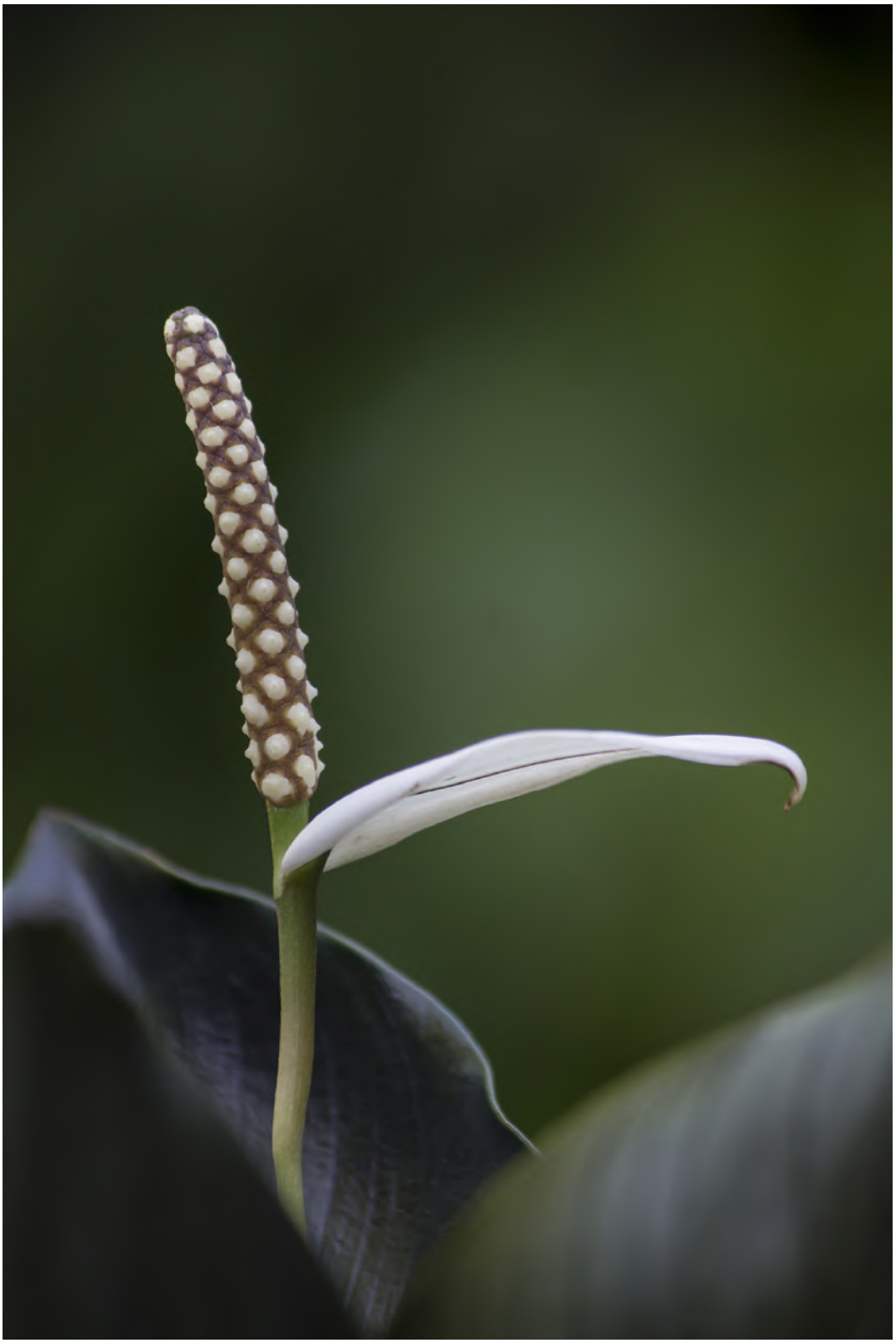
AROIDEANA

International Aroid Society, Inc.

Volume 43
Nos 3&4
December 31,2020
ISSN 2310-0745



A New Species of *Spathiphyllum* (Araceae) from the Ecuadorian Oriente

Thomas B. Croat
Missouri Botanical Garden
4344 Shaw Blvd.
St. Louis, MO 63110, U.S.A.

Nils Weessies
Kalmoesstraat 151
7322NM Apeldoorn
The Netherlands

ABSTRACT

A new species of *Spathiphyllum*, *S. ivanportillae* Croat & N. Weessies, is described from cultivated material originating from eastern Ecuador near the Peruvian border. The species is a member of section *Amomophyllum* and stands out for its extraordinarily dark leaves. It is seemingly most similar to *Spathiphyllum schomburgkii* Schott and *S. neblinae* G. S. Bunting, both of which are from the region of the Venezuelan Guayana and are moderately small plants with elliptic blades, two-locular ovaries with 2–5 ovules per locule.

KEY WORDS

Ecuador, *Spathiphyllum*, new species, sect. *Amomophyllum*.

INTRODUCTION

At present only 49 species of *Spathiphyllum* have formally been published (Boyce & Croat, 2020) with another 40 new species awaiting publication (Croat, in prep.), one of which is described here. The genus is largely neotropical and recent molecular studies have verified its monophyly (Zuluaga et al, 2015). A revision of the Central American species is completed and will soon be published (Croat & Ortiz, in prep.).

While some species in South America are wide ranging eg. *Spathiphyllum cannifolium* (Dryand. ex Sims) Schott, most species are relatively narrowly ranging or endemic and some are known only from type collections. Unlike several other aroid genera (*Adelonema*, *Anthurium*, *Monstera*, *Philodendron*, *Rhodospatha*, *Stenospermation*), which are most

Figure 1. Flowering plant in the field. Photographer unknown.

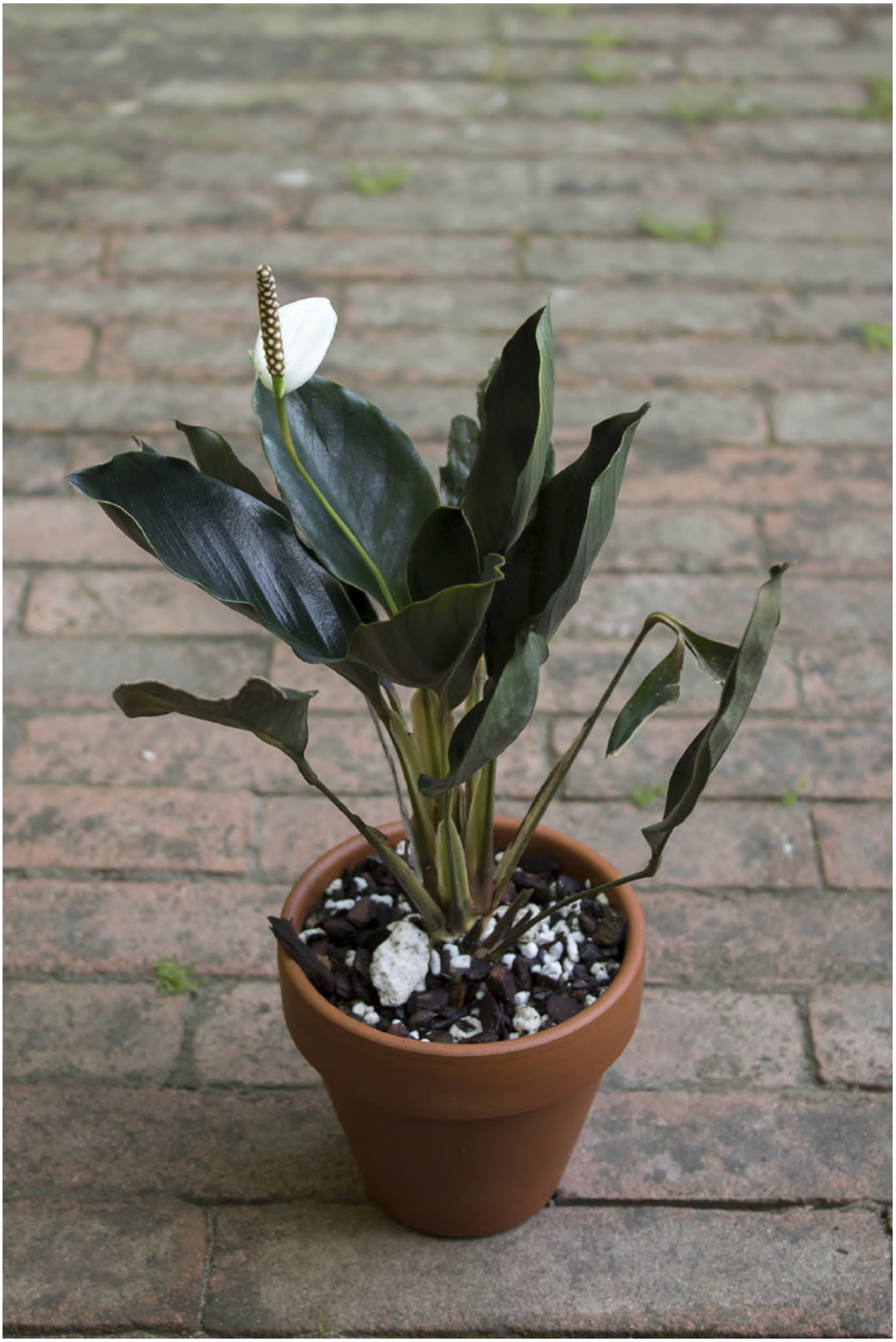


Figure 2. Potted plant in flower.

Figure 3. Adaxial blade surface showing dark green glossy surface.

Figure 4. Leaves showing weakly glossy abaxial blade surface and adaxially 3-ribbed petiole.

species-rich in the wetter forests of NW Ecuador, Colombia and Panama, *Spathiphyllum* is weakly represented there with only 5 species (*S. friedrichsthalii*, *S. floribundum*, *S. grandifolium*, *S. phryniifolium* and *S. wendlandii*) occurring in the very wet Chocó Biographical Region indicating a low presence for this genus in the wettest area of South America.

The South American species new to science are mostly known from the eastern slopes of the Andes into the middle Amazon basin. Relatively few *Spathiphyllum* are known from the Mata Atlantica in eastern Brazil or in the lower Amazon basin. Alternatively, the Guiana Highlands, the sandstone area of northeastern South America in Guyana and in Venezuela (Amazonas and Bolívar) is an area of high species diversity and is likely to contribute even more species once the area is more fully explored.

Within the past year an especially attractive species of *Spathiphyllum* has been introduced into cultivation by two of the plant dealers from Ecuador. The first specimen seen by the senior author was at the International Aroid Society's Annual Show and Sale in Miami in September, 2019. The same species became available in Europe at about the same time and co-author Nils Weessies acquired the plant as well. Correspondence between Croat and Weessies led to investigations which proved that the species was new to science. The senior author had just completed the Araceae treatment for Central America (Croat & O. Ortiz, in prep.) and in addition had just completed a thorough survey of South American species. The new species described here matched no other species. Here we describe *Spathiphyllum ivanportillae*, a recent discovery from the Morona-Santiago Province, Ecuador.

TAXONOMIC TREATMENT

Spathiphyllum ivanportillae Croat & N. Weessies, **sp. nov.** Type: Ecuador. Morona-Santiago: along road from Patuca to Puerto Morona, collector unknown, voucher prepared from cultivated collection (Missouri Botanical Garden 2019–1847), 10 Sep. 2019, *T. B. Croat & N. Weessies 107868* (holotype, MO-6941180; isotypes, COL, K, L, M, NY, QCNE, US). **Figures 1–8.**

Small solitary terrestrial herb to 25 cm tall; Stem erect; **internodes** 3–7 mm long, near apex, to 1.3 cm lower down, dark green, 7 mm diam. LEAVES with a rosulate habit with **petioles** (7.0–)7.6–10.5 cm long (avg. 7.5 cm), sheathed 0.6–0.84 its length; **sheath** 4.8–7.3 cm long, acute at apex, pale green, soon thin and scarious, frequently breaking up; free part 1.7–3.2 cm long, medium green, semiglossy, flattened adaxially with weakly raised margins, 3-ribbed abaxially, the sides subparallel, 1–2-ribbed; **geniculum** 6–9mm long, slightly thicker than petiole, weakly orange, 3-ribbed, ribs undulated; **blades** 9.6–12.8(–13.0) cm long (avg. 11.14 cm), with a width of 4.7–5(–6.7 cm) (avg. 5.76 cm) and 1.7–

2.2(–2.3) times longer than wide (avg. 1.9 times) elliptic, 1.15(–1.2)–1.82 times longer than petioles, acute to weakly short-acuminate at apex, attenuate at base, dark green and semiglossy above, moderately paler, semiglossy, greenish weakly tinged purplish below; **midrib** obtusely sunken and concolorous above, narrowly rounded and concolorous below; drying broadly rounded and concolorous above, sub-round-raised and mostly 3-ribbed, concolorous below; **primary lateral veins** 3–4 pairs, arising at a 35–40° angle, etched and weakly quilted-sunken above, weakly raised and concolorous below, drying scarcely discernable above, weakly raised and slightly darker below; interprimary veins etched above, weakly sunken below, drying scarcely raised and visible below; **upper surface** drying finely and closely striate; **lower surface** drying densely thick-granular and sparsely short-pale-lineate. INFLORESCENCES erect, up to three produced from different leaf axils in rapid succession with each inflorescence lasting from 2 to 3 weeks; peduncles 17.8(–20)–29 cm long, 1.5 mm diam., dark green, thicker 2 mm diam., purplish in apical 1.5 cm; **spathe** 3.6–4.5 cm long, 2.0–2.3 cm wide, weakly glossy on inner surface, glossy on outer surface, white on both sides, midvein dark green below, diverging at 80–90° from spadix; **spadix** 3.3–3.5 cm long, stipitate 7 mm long (stipe sometimes tinged purplish violet, 3 mm diam.); **flowers** 3–4 visible per spiral, 2.5 mm long, 2.3 mm wide; tepals 4, dark brown at pistillate anthesis to bright orangey red at staminate anthesis, lighter at apex, free to base; pistils 1.7 mm long; ovary 2-locular, 1.5 mm wide, tapering outward to thickened style; style mammiliform, 1 mm long, 2 mm wide, white, protruding 1 mm above tepals; stigma a narrow slit 0.5 mm long; **ovules** 3 per locule, basal, 0.6–0.8 mm long, funicle 0.4–0.6 mm long; stamens erect, weakly emerging above the edge of the tepals or sometimes with lower portion held by the subtending tepals; anthers white, ca. 1 mm long, thecae oblong-ellipsoid, not divaricate, extruding pollen in slender threads from the terminal pores; pollen white, pollen shed occurred for up to 20 days. INFRUCTESCENCE with dark green spathe persistent, ca. 0,9 cm diam., 4 cm long, dark green; **Berries** white, subrounded, ca. 5 mm long, ca. 6 mm diam., truncate-shallowly caviform at apex with raised style almost equaling the height of the rim, apex brownish; dried stigma black; Seeds 0–2 per berry, cochleate, medium dark brown, 3 mm long, 1,5 mm wide, 1,5 mm thick, prominently 7–9-ribbed, the ribs thickly tuberculate, the inner margin deeply sulcate.

Spathiphyllum ivanportillae is endemic to Ecuador, known only from Morona-Santiago Province at 200 m elevation in a *Tropical moist forest* life zone.

The species is placed in sect. *Amomophyllum* Engl. for its free perianth segments and subtruncate pistils . It is seemingly most similar to *Spathiphyllum schomburgkii* Schott and *S. neblinae* G. S. Bunting, both of which are from the region of the Venezuelan Guayana and are moderately small plants with elliptic blades,

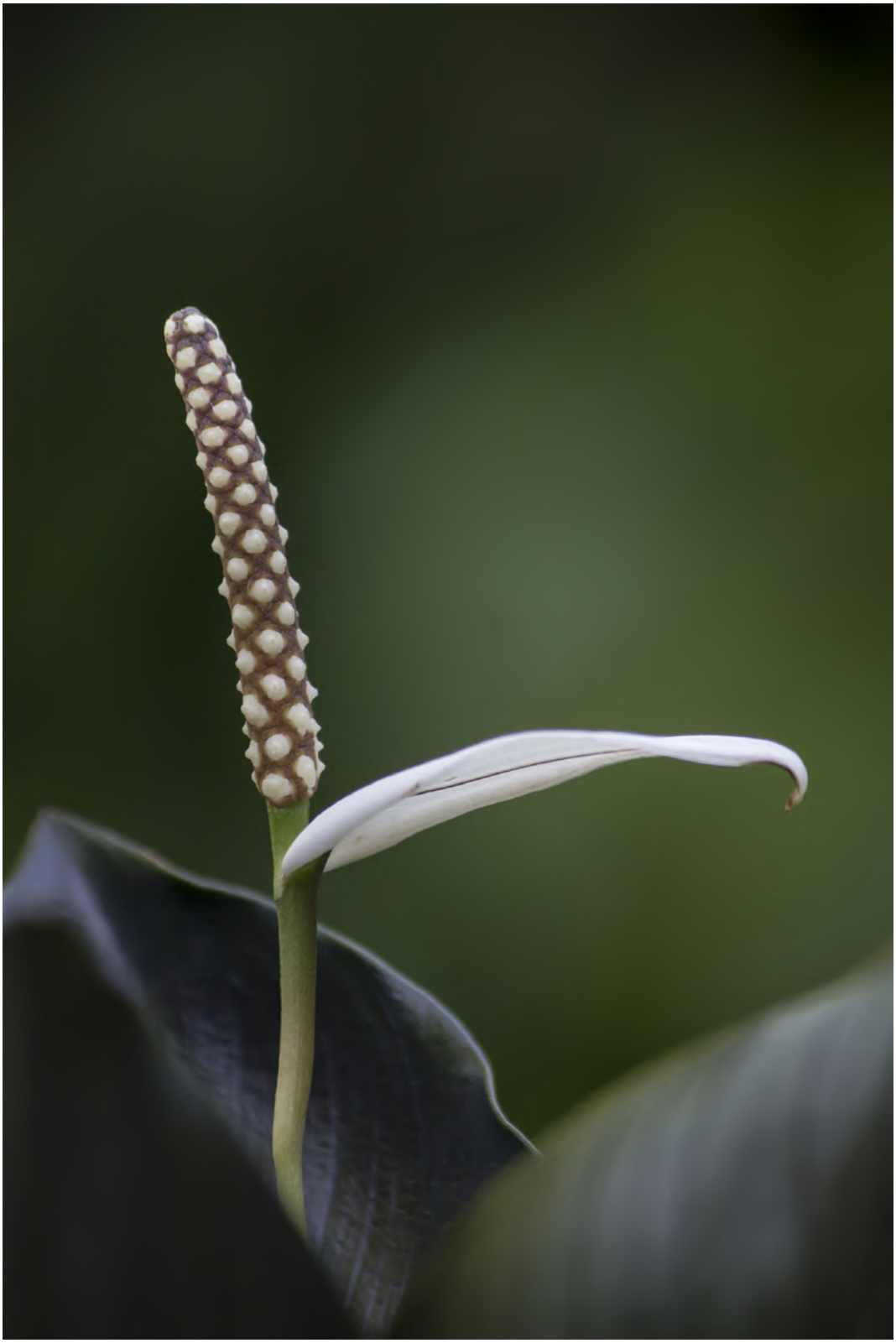


Figure 5. Inflorescence in side view at pre-anthesis, tepals lavender-purple and pistils whitish.

Figure 6. Spathe and spadix in face view at preanthesis.

Figure 7. Spadix at anthesis showing reddish violet purple tepals with anthers beginning to emerge.

Figure 8. Close up of spadix showing anthers shedding pollen in elongate clusters. All photos (except the first one) by Nils Weessies.

two-locular ovaries with 2–5 ovules per locule. It differs from *S. neblinae* G. S. Bunting by its wider, nearly black, weakly undulated leaves, inflorescence with a shorter stipe and persistent spathe. *S. schomburgkii* Schott differs from *S. ivanportillae* by its narrower leaves with primary lateral veins arising at a sharper angle and 5–6 tepals instead of 4.

Spathiphyllum ivanportillae is characterized by its small stature, tight rosulate habit, moderately short heavily sheathed petioles with the sheath acute at apex, pale green and soon scarious and frequently breaking up with the free flattened adaxially with weakly raised margins and 3-ribbed adaxially, the elliptic acute to weakly short-acuminate blades which are extraordinarily dark green (almost black) and weakly undulated when adult, 1.9–2.2 times longer than wide and 1.15–1.82 times longer than petioles with 3–4 pairs of weakly quilted-sunken primary lateral veins which are etche-sunken abaxially but inconspicuous adaxially as well as by its erect pedunculate inflorescence with a white, perpendicular spathe and the oblong faintly lavender purplish short-stipiate spadix, free tepals and a scarcely protruding white mammiliform style, a 2-locular ovary with 3 ovules per locule and white anthers with the thecae barely divaricate.

The species is named in honor of Ivan Portilla who provided us with the living plant that was used to prepare vouchers. Ivan works with Ecuagenera and leads the effort there in understanding the study of aroids.

REFERENCES

Boyce, P. C. & Croat, T. B. 2020. The Überlist of Araceae, totals for published and estimated number of species in aroid genera.

Bunting, G. S. 1960. Revision of *Spathiphyllum*, *Mem. New York Bot. Gard.* 10(3): 1–53.

Cardona, F. A. 2004. Synopsis of the genus *Spathiphyllum* (Araceae) in Colombia. *Ann. Missouri Bot. Gard.* 91(3): 448–456.

Cardona, F. A. 2005. Revisión taxonómica del género *Spathiphyllum* (Araceae), para la flora de Colombia. Trabajo de tesis para optar el título de magíster en Biología, Instituto de Biología. Universidad de Antioquia.

Croat, T. B., in prep. New species of *Spathiphyllum* from South America.

Croat. T. B. & O. O. Ortiz, in prep. A revision of *Spathiphyllum* (Araceae) for Central America.

Zuluaga, A., K. Cameron, T. B. Croat & M. Medecilo. 2015. Testing the monophyly of *Spathiphyllum*, and the relationship between Asian and tropical American species. *Aroideana* 38E(1): 107–115.