

Revision of *Anthurium* Sect. *Interrupta* Delannay & Croat (Araceae)

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ABSTRACT

Following recent molecular studies that indicated it is a distinct lineage, *Anthurium* Sect. *Interrupta* was formed out of the previously known but polyphyletic *Anthurium* Sect. *Xialophyllum* (Schott) Engl. The new section comprises six species, of which two are new. All six species are fully described. Both a dichotomous and a separate unpublished Lucid Key have been prepared. The Lucid Key to *Anthurium* Sect. *Interrupta* will be published later online.

Key Words: Araceae, *Anthurium*, *Interrupta*, new section, new species.

INTRODUCTION

Along with Sect. *Stipitata* Delannay & Croat (Delannay & Croat, 2025, in this issue), *Anthurium* Sect. *Interrupta* Delannay & Croat was separated from *Anthurium* Sect. *Xialophyllum* following a recent molecular study conducted by Mónica M. Carlsen of the Missouri Botanical Garden (Carlsen & Croat 2013, Carlsen & Croat 2019, Carlsen & Croat, in preparation) which indicated that they were phylogenetically distinct (Delannay & Croat, in press). Besides mapping to a separate clade, the species of Sect. *Interrupta* are distinguished from Sect. *Xialophyllum* and Sect. *Stipitata* by having subcoriaceous blades drying mostly blackish. The type species for this new section is *A. interruptum* Sodiro (Sodiro 1901). The species from the molecular analysis included in this section are *A. carnosum* Croat & R.A. Baker (Croat & Baker 1979) and *A. interruptum* Sodiro. Two species that had originally been considered to belong to Sect. *Decurrentia*, *A. correae* Croat (Croat 1986) and *A. guayaquilense* Engl. (Engler 1898), were also moved to this section based on the molecular analysis and on the blackish drying coloration of their blades. Morphological studies of the former Sect. *Xialophyllum* species also indicated that two species published here as new, *Anthurium aldavei* Croat and *Anthurium sobeliae* Delannay & Croat, are also likely to be part of Sect. *Interrupta* based on their similar blackish-drying subcoriaceous blades.

Thus, Sect. *Interrupta* consists of six species at this time, two of which are new: *Anthurium aldavei* Croat, *A. carnosum* Croat & R.A. Baker, *A. correae* Croat, *A. interruptum* Sodiro, *A. guayaquilense* Engl. and *A. sobeliae* Delannay & Croat

Anthurium interruptum was included by Sodiro in his sectional classification *Anthurium* Sect. *Integrifolia* Sodiro, Series *Pinnatinervia* Sodiro (Sodiro 1901).

TAXONOMY

Anthurium sect. *Interrupta* Delannay & Croat, **sect. nov.** — Type species: *Anthurium interruptum* Sodiro.

Terrestrial or epiphytic; stems usually elongated, sometimes very short (*A. correae*); internodes thin, usually elongated, sometimes very short; cataphylls ultimately deciduous. **LEAVES** with **petioles** subterete to terete, convex adaxially, rounded abaxially; **blades** subcoriaceous, sometimes somewhat succulent (*A. carnosum*), elliptic, oblong, obovate, oblanceolate or spatulate (*A. sobeliae*), usually widest above the middle, obtuse or acute and short-acuminate at apex, acute, obtuse or rounded at base, drying blackish green, blackish brown or black above, medium to dark brown below; midrib prominent, broadly convex or round-raised above, broadly convex or round-raised or flat below; primary **lateral veins** often obscure, never prominent; tertiary veins inconspicuous. **INFLORESCENCE** with **spathe** green to greenish; **spadix** cylindroid or tapered, green or yellow-green, stipe usually short, sometimes long (to 9 cm). **INFRUCTESCENCE** with fruits orange, reddish, red, pinkish or purple.

Comments — Sect. *Interrupta* comprises six species ranging from Central America to Peru.

Links to Species Description

- [Anthurium aldavei](#)
- [Anthurium carnosum](#)
- [Anthurium correae](#)
- [Anthurium guayaquilense](#)
- [Anthurium interruptum](#)
- [Anthurium sobeliae](#)

KEY TO SPECIES OF SECTION *INTERRUPTA*

- 1a. Species found in Central America..... 2
- 1b. Species found in South America..... 4
- 2a. Stems very short, internodes short, leaves arising in tight clusters at the base; species known only from Panama..... *A. correae* Croat
- 2b. Internodes elongated (alternating with very short internodes in *A. interruptum*), leaves scattered along the stem 3
- 3a. Blades subcoriaceous; spadix short-stipitate (0–2 mm), fruits red; species ranging from Central America to Colombia and Ecuador on the Pacific slopes of the Cordillera
.....*A. interruptum* Sodiro
- 3b. Blades succulent; spadix long-stipitate (5–8 mm), fruits orange; species found only in Costa Rica and Panama.....*A. carnosum* Croat & R.A. Baker

- 4a. Species found on the Pacific slopes of the Cordillera in Colombia and Ecuador..... 5
 4b. Species found on the Eastern side of the Cordillera in Ecuador or Peru 6
- 5a. Internodes 8–33 cm long, alternating with very short internodes; blades 5–21 cm long
 *A. interruptum* Sodiro
 5b. Internodes 1–8 cm long, blades 18–40 cm long *A. guayaquilense* Engl.
- 6a. Blades spatulate; species known only in Napo Province of Ecuador
 *A. sobeliae* Delannay & Croat
 6b. Blades oblong-oblongeolate, species known only in Junín Department of Peru.....
 *A. aldavei* Croat

SPECIES DESCRIPTIONS

Anthurium aldavei Croat, **sp. nov.** — Type: PERU. Junín: Chanchamayo Province; Distrito Pichanaqui, Bosque Protección Pui Pui, sector Hito; 11°15'17"S 74°53'32"W, 1700 m, 13 February 2011, R. Vásquez, M. Aldave & C. Mateo 36985 (holotype, MO-6479098; isotypes, HOXA, HUT, MOL, USM).

Diagnosis: *Anthurium aldavei* is characterized by its terrestrial scandent habit, elongated internodes, mostly deciduous cataphylls, long-petiolate leaves with sulcate petioles and narrowly oblanceolate-elliptic, blackish-drying, gradually acuminate blades with an acute to subattenuate base, a single pair of collective veins arising from the primary lateral veins in the lower ¼ of the blade and numerous obscure primary lateral veins as well as a long-pedunculate inflorescence with an oblong-lanceolate, green, spreading spathe, a very long-stipitate, dark purple-violet, narrowly oblong spadix and violet-purple berries.

Terrestrial, scandent habit; internodes 2–5 cm long, 6 mm diam; cataphylls 8 cm long, deeply keeled, persisting briefly semi-intact, finally deciduous. **LEAVES** erect; **petioles** 12.0–13.5 cm long, drying 2 mm diam., C-shaped, short-pale lineate, with sharp margins adaxially; geniculum obscure; **blades** oblong-oblongeolate, 16.0–18.5 cm long, 4.0–5.5 cm wide, 3.0–3.7 times longer than wide, widest above the middle, gradually acuminate at apex, acute to subattenuate at base, subcoriaceous, drying blackish and glossy, short pale-lineate and granular above, slightly paler, dark brown, dark-speckled and semiglossy below; midrib broadly convex and concolorous above, convex, weakly ribbed and darker brown below; primary **lateral veins** 10–15 per side, difficult to discern, departing midrib at 30–40°; collective vein arising from one of the lower primary lateral veins, 2–3 mm from margin. **INFLORESCENCE** 30–37 cm long; peduncle 15.0–16.7 cm long, terete, drying dark brown, almost black; **spathe** 4.5–5.5 cm long, 6–10 mm wide, greenish, narrowly oblong-elliptic, acuminate, drying almost black; **spadix** stipitate 8–9 cm, the spadix proper 6.2–13.5 cm long, 2 mm diam., dark violet-purple, drying almost black; **flowers** 3 visible per spiral, 2.0–2.3 mm long, 1.6–1.8 mm wide; tepals granular, matte; lateral tepals 1.6–1.8 mm wide, inner margin broadly rounded, outer margin obtusely 2- or 3-sided; stamens withdrawn beneath tepals; anther 0.5 mm long, 1 mm wide; thecae broadly rounded, scarcely divaricate. **INFRUDESCENCE** 22.5 cm long, 5–7 mm diam.; berries 3–4 mm diam., subglobose, white in lower 2/3, dark violet-purple toward apex.

Figure 1.



Figure 1: *Anthurium aldavei* (Vásquez et al. 36985, MO-6479098). Holotype showing stem, petioles, leaf blades (adaxial and abaxial surfaces) and inflorescences.

Distribution and ecology — *Anthurium aldavei* is endemic to Peru, known only from the type locality in Junín Department, Chanchamayo Province at 1700 m in a *Lower montane rain forest* life zone.

Comments — *Anthurium aldavei* resembles *Anthurium interruptum* Sodiro which also has the blades drying blackish above and dark brown below. It differs from the latter in lacking alternating long and short internodes, in having short pale-lineations on the upper blade surfaces, and in having a much longer stipe (8–9 cm vs. 0–2 mm for *A. interruptum*). Also, *Anthurium interruptum* grows from Central America to the Pacific coast of Colombia and Ecuador, while *A. aldavei* is found only in Junín Department of Peru.

Etymology — The species is named in honor of Peruvian botanist M. Aldave who, along with Rodolfo Vásquez and Carlos Mateo, collected the type specimen.

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Anthurium carnosum Croat & R.A. Baker, Brenesia 16 (Supl. 1): 36. 1979. — Type: COSTA RICA. San Jose and Cartago Provinces: along InterAmerican Highway near Trinidad and Km 72 (about 20 km SE of El Empalme), cut over area, 09°40'N 83°53'W, 2600–2800 m; *W.C. Burger & R.A. Baker 9545* (holotype, F- 1831851; isotype, MO- 2385461).

Epiphytic vine, rarely terrestrial; stems slender, cane-like, erect or trailing, to 1 m or more long, 5–7 mm diam., with a thin, grayish, smooth periderm; internodes 2–9 cm long, shorter near apex; roots slender, elongate, frequently branching; cataphylls moderately thick, 2.0–6.5 cm long, with a subapical apiculum 2–3 mm long, encircling stem, persistent at upper nodes, drying thin, dark brown, deciduous except for a few pale threadlike fibers. **LEAVES** with **petioles** 3–12 cm long, 2–3 mm diam., weakly sulcate; geniculum 1–2 cm long; **blades** coriaceous, succulent, lanceolate-elliptic, narrowly elliptic or sometimes oblanceolate-elliptic, gradually long-acuminate at apex, obtuse to rounded at base, (7)9–15(17) cm long, (1.7)2.0–5.0(7.0) cm wide, 3.0–3.5 times longer than wide, widest at or about the middle; both surfaces semiglossy, the lower surface slightly paler; drying blackish above, medium brown below; midrib convexly raised above, diminished and sunken before the distal two thirds, raised throughout its length below; primary **lateral veins** 9–13(20) per side, departing midrib at 25–50°, weakly sunken above, obscure below, lesser veins inconspicuous above, obscure below; collective vein arising from near the base, 2–7(12) mm from the margin, obscure to weakly sunken above, slightly raised below. **INFLORESCENCE** spreading, equaling leaves; peduncle 7–13 cm long, ca. 2 mm diam., 2/3 to 2 times longer than petioles; **spathe** thin, pale green, broadly lanceolate to oblong, 2.5–4.3 cm long, 8–14 mm wide, broadest in the lower third, acuminate at apex, obtuse to weakly lobed at base, inserted at ca. 45° on peduncle; **spadix** green, becoming yellowish and finally orange in fruit, (2.5)3.0–5.5 cm long, 3–4 mm diam. at base, 1.5–3.0 mm diam. at apex, stipe 5–8 mm long in front, 2–5 mm long in back, ca. 2 mm diam., green; **flowers** rhombic to 4-lobed, to 4 mm long, to 1.5 mm wide, the sides

sigmoid; 1–2 flowers visible in the principal spiral, ca. 2 flowers visible in the alternate spiral; tepals dark green, the lateral tepals (1.5)2.5–3.5 mm wide, the inner margin convex; pistil emergent, green; stigma ellipsoid, ca. 0.3 mm long; stamens held just above tepals, the anthers yellowish-white, 0.3–0.5 mm long, 0.7–0.8 mm wide; thecae broadly ovate to suborbicular, weakly divaricate; pollen yellowish-white, drying white. **INFRUCTESCENCE** pendent, **spathe** persisting; **spadix** 6–10 cm long, 8–10 mm diam.; berries ovoid, acute at apex, pale green when young, becoming bright orange, 9–11 mm long, 6–8 mm diam.; mesocarp thick, gelatinous, pale orange; seeds usually 2, sometimes 3 or 4, broadly ovate, rounded on both ends, flattened, ca. 3 mm long, 2 mm wide, 0.8 mm thick.. **Figures 2–4.**

Distribution and ecology — *Anthurium carnosum* ranges from Costa Rica to Panama at (700)1500–2600(3000) m in *Premontane rain forest*, *Lower montane wet forest*, *Lower montane*, and *Montane rain forest* life zones.

Comments — *Anthurium carnosum* is most closely related to *A. interruptum* Sodiro. *A. carnosum* differs from *A. interruptum* in its long-stipitate spadix, orange (vs. red) berry color, shorter internode length, and not having alternating long and short internodes.

Other specimens seen: **COSTA RICA.** no further locality, *A.C. Brade* 2357 (BR); Cerro de las Hueltas, 09°36'00"N 83°45'36"W, 3000 m, Jan. 1897, *H. Pittier* 10513 (US); Cartago & San Jose. Near Trinidad, along the Interamerican Hwy, 09°39'36"N 83°52'48"W, *W.C. Burger & R.G. Stolze* 5227 (CR, F). **Alajuela:** Along road between San Ramón and Bajo Rodríguez, vicinity of Km markers 11–12, ca. 7 km NW of Los Angeles, 11–12 km NW of San Ramón, 10°10'40"N 84°34'10"W, 1025–1100 m, 3 September 1996, *T.B. Croat* 78876 (MO); **Cartago:** El Paramo, 09°39'36"N 83°40'12"W, *H. Pittier* 10534 (CR); Near „El Jardín“, cerro de la Muerte, Cordillera de Talamanca, 20 May 1956, *L.O. Williams & A. Molina R.* 20235 (EAP, MO); El Guarco. En robledal en La Trinidad, al sureste de El Empalme, 09°39'36"N 83°52'48"W, 2500 m, 29 July 1964, *A. Jiménez M.* 2199 (CR, F); Southeast of El Empalme on the Interamerican Highway, 09°43'48"N 83°56'24"W, *J.F. Uteley & K. Burt-Uteley* 1698 (F, CR); About 2 km northeast of El Empalme along a dirt trail, remnant forests and pastured slopes, 09°44'24"N 83°56'24"W, 2350 m, 22 February 1978, *K. Burt-Uteley* 5803 (MO); Near La Sierra, about 25 km south of Cartago, Cordillera de Talamanca, 09°44'24"N 83°57'36"W, 2000 m, 23 January 1965, *L.O. Williams, A. Molina R, T.P. Williams & D.N. Gibson* 28115 (AEP, F); Near El Cañón, 40 km south of Cartago, Cordillera de Talamanca, 09°40'48"N 83°54'36"W, 2500 m, 26 January 1965, *L.O. Williams, A. Molina R, T.P. Williams & D.N. Gibson* 28247 (F); Reserva Forestal Río Macho, Cordillera de Talamanca, camino del ICE, alto del Gallo, camino La Esperanza del Guarco para adentro, 09°40'48"N 83°58'48"W, 2400 m, 2 February 1995, *M.M. Chavarria* 635 (CR, MO); Paraíso. Northwest slope of Cerro de la Muerte, Cordillera de Talamanca, along Interamerican Highway between the summit and Empalme, disturbed remnants of primary forest, 09°39'00"N 83°50'24"W, 1800 m, 23 May 1976, *T.B. Croat* 35416 (MO); Steep slopes about 15 km south of Tapantí along the new road, on the east slope above the Río Grande de Orosi near the concrete bridge, 09°42'00"N 83°46'48"W, 1500 m, 12–17 December 1969, *W.C. Burger & R.L. Liesner* 6724B (F); Turrialba. Volcán Turrialba, 10°00'36"N 83°45'36"W, *J.F. Uteley* 151 (DUKE). **Limón:** Parque Internacional La Amistad, Vallé de Silencio, 09°06'04"N 82°58'04"W, 2510 m, 9 February 2012, *A.K. Monro, D. Santamaría & N.A. Brummitt* 7119 (MO); Parque Internacional La



Figure 2: *Anthurium carnosum* (Burger & Baker 9545, MO- 2385461). Holotype showing stem, petioles, leaf blades (adaxial and abaxial surfaces) and inflorescence.



Figure 3: *Anthurium carnosum* (Croat 69041). Live plant showing stem, petioles, leaf blades (adaxial surface) and infructescence with green immature berries. — Photo T.B. Croat..



Figure 4: *Anthurium carnosum* (Croat 69041). Live plant showing stem, petioles, leaf blades (abaxial surface) and infructescence with orange mature berries. — Photo T.B. Croat.

Amistad, Vallé de Silencio- 'laguna', 09°06'33"N 82°57'27"W, 2400 m, 11 February 2012, *A.K. Monro, D. Santamaría & N.A. Brummitt* 7153 (MO); Cordillera de Talamanca, Atlantic slope, Valle de Silencio, along the Río Terbi, 0.5-1.5 airline km W of the Costa Rican-Panamanian border, 09°08'N 82°57'W, 2300-2400 m, 9 September 1984, *G. Davidse, G. Herrera Ch. & M.H. Grayum* 28736 (MO); Limón. Almirante. Cerro Chiquí. Subiendo desde la base por el flanco norte, 09°33'00"N 83°13'48"W, 1700 m, 18 August 1995, *G. Herrera Ch. & W. Gamboa E.* 8607 (CR, MO); Pococí. 10 km NW of Guápiles, 10°16'48"N 83°50'24"W, 65 m, August 1982, *L.D. Gómez P.* 18505 (MO, US); Talamanca. P.N. Cordillera de Talamanca; Cordillera de Talamanca. Cerro Carguicacha. Entre Ujarrás y San José Cabécar, 09°24'00"N 83°10'48"W, 2250 m, 1 April 1993, *Á. Fernández* 978 (CR); P.N. Cordillera de Talamanca; Cordillera de Talamanca. Cima a la derecha unión Ríos Lori y Coén. Entre Ujarrás y San José Cabécar, 09°24'00"N 83°13'12"W, 1600 m, 4 April 1993, *Á. Fernández* 1027 (CR); Cerro la Nevera Bosque nuboso, 09°21'52"N 83°13'06"W, 2100-2160 m, 21 February 2007, *D. Santamaría* 5762 (CR); P.N. La Amistad. Cuenca del Sizacola, 09°21'52"N 83°13'06"W, 2100-2160 m, 21 February 2007, *D. Santamaría & A.K. Monro* 5762 (CR, MO); Valle del Silencio, Sendero el Alto; colectado en bosque, 09°06'03"N 82°58'03"W, 2440-2440 m, 20 June 2003, *E. Alfaro* 4596 (CR, MO); Bratsi, Amubri, Alto Lari, Kivut, Fila divisoria entre Ríos Lari y Dapari, cabeceras de ambos, 09°22'12"N 83°06'00"W, 1900 m, 25 March 1992, *G. Herrera Ch.* 5486 (CR); P.N. Cordillera de Talamanca. Flanco NE y cumbre Cerro Biricuacua. Entre Ujarrás y San José Cabécar, 09°23'24"N 83°09'36"W, 2600 m, 2 April 1993, *G. Herrera Ch.* 6170 (CR, MO); P.N. Ka Amistad. Tararia. 0.5 km N de Cerro Kasir, 09°11'56"N 83°03'28"W, 2972 m, 17 April 2002, *L.A. González, E. Alfaro & A. Garita* 1656 (CR, MO). **Puntarenas:** Parque Internacional La Amistad, el Valle de Silencio, Pacific slope of Cerro Hoffmann, 09°05'15"N 82°58'40"W, 2050 m, 19 February 2012, *A.K. Monro, D. Santamaría, N.A. Brummitt & T. Simpson* 7353 (MO); Cordillera de Talamanca; Cerro Frantzius to Valle de Silencio, 09°04'30"N 82°58'30"W, 2000-2500 m, 7 September 1984, *G. Davidse, G. Herrera Ch. & M.H. Grayum* 28553 (MO); Foothills of the Cordillera de Talamanca, around Tres Colinas, 09°07'N 83°04'W, 1800-1850 m, 20 March 1984, *G. Davidse, G. Herrera Ch. & R.H. Warner* 25624 (MO); Puntarenas-Limón border: Cordillera de Talamanca, Cerro Bekom, 11 airline km SSW of the peak of Cerro Kámuk, 09°10'30"N 83°03'45"W, 2600-2750 m, 21 March 1984, *G. Davidse, G. Herrera Ch. & R.H. Warner* 25702 (CR, MO); Buenos Aires. R.I. Ujarrás; Cordillera de Talamanca. Fila bajando a Quebrada Dorora, por Sendero de Ujarrás a San José Cabécar, 09°18'00"N 83°15'00"W, 1700 m, 10 April 1993, *Á. Fernández* 1073 (CR, MO); R.I. Ujarrás; Cordillera de Talamanca. Sendero de Quebrada Dorora a Río Lori. Entre Ujarrás y San José Cabécar, 09°18'36"N 83°15'00"W, 1600-1900 m, 12 March 1993, *Á. Fernández* 634 (CR); P.N. La Amistad. Cuenca Terraba-Sierpe. Puesto Tres Colinas. Sendero Casa Tipo A, 09°09'36"N 83°03'36"W, 2550 m, 15 September 1996, *B. Gamboa R. & A. Picado* 572 (CR, MO); Sendero a valle del silencio, sector entre el albergue y la línea divisoria de aguas, 09°04'00"N 82°59'00"W, 2100-2200 m, 20 February 2006, *D. Santamaría* 3918 (MO); P.N. La Amistad. Cuenca Terraba-Sierpe. Las Tumbas, 09°04'12"N 82°58'48"W, 2279 m, 1 June 1996, *F.J. Quesada* 1618 (CR, MO); R.I. Ujarrás; Cordillera de Talamanca. Cuenca Superior Río Ceibo, 09°21'00"N 83°16'12"W, 2200-2600 m, 5 October 1989, *M. Valerio* 181 (CR, MO); Coto Brus. Las Mellizas, cabeceras del Río Negro, 08°55'30"N 82°45'40"W, 1700 m, 14 August 1989, *A. Chacón* 311 (CR, KYO, MO); Cuenca Terraba-Sierpe. Zona Protectora Las Tablas, Finca La Neblina. Finca de William Gamboa, 08°54'00"N 82°45'00"W, 2050 m, 1 March 1997, *B.*

Gamboa R. 1125 (CR, MO); Cuenca Térraba-Sierpe. Zona Protectora Las Tablas, Cerro Pando, 08°55'12"N 82°43'12"W, 2465 m, 21 September 1996, *E. Navarro* V. 472 (CR, MO); Z.P. Las Tablas. Cuenca Térraba-Sierpe. La Neblina, colectado en bosque y potrero, 08°54'58"N 82°45'29"W, 1800 m, 15 February 1999, *E. Alfaro* 2037 (MO); Z.P. Las Tablas. Cuenca Térraba-Sierpe. Zona Protectora Tablas. Cerro Panto, 08°54'00"N 82°45'00"W, 2100 m, 20 November 1996, *E. Alfaro*, *B. Gamboa* R. & *A. Picado* 937 (CR, MO); P. I. La Amistad. Cordillera de Talamanca. Estación Altamira. Cerro Biolley. Bosque primario, 09°01'48"N 83°00'36"W, 1766 m, 10 April 1995, *L. Angulo* 148 (MO). **San José:** Cerro del Roble. Copey, 09°36'00"N 83°54'00"W, *A. Tonduz* 11829 (CR); Cartago border region. Pan Am Hwy, Km 66, 09°39'36"N 83°52'48"W, 2500 m, 3 June 1984, *H. Murphy* 1406 (F); N of Santa Maria de Dota, 09°39'00"N 83°57'36"W, *P.C. Standley* 43087 (US); N of Santa Maria de Dota, 09°39'00"N 83°57'36"W, *P.C. Standley* 43096 (US); N of Santa Maria de Dota, 09°39'00"N 83°57'36"W, *P.C. Standley* 43100 (US); Lake Chonta. NE of Santa Maria de Dota, 09°42'00"N 83°56'24"W, *P.C. Standley* 42161 (US); Lake Chonta. NE of Santa Maria de Dota, 09°42'00"N 83°56'24"W, *P.C. Standley* 42307 (US); Lake Chonta. NE of Santa Maria de Dota, 09°42'00"N 83°56'24"W, *P.C. Standley* 42313 (US); Lake Chonta. NE of Santa Maria de Dota, 09°42'00"N 83°56'24"W, *P.C. Standley* 42364 (US); Lake La Escuadra. NE of Copey, 09°39'00"N 83°52'48"W, *P.C. Standley* 41956 (US); Lake La Escuadra. NE of Copey, 09°39'00"N 83°52'48"W, *P.C. Standley* 42060 (US); Lake La Escuadra. NE of Copey, 09°39'00"N 83°52'48"W, *P.C. Standley* 42061 (US); Río Parrita Chiquita. N of Santa Maria de Dota, 09°41'24"N 83°59'24"W, *R.W. Lent* 3911 (CR, F); 1.5 km SSE of El Empalme on Pan-American Highway (CR 2); near Km 52, 09°44'N 83°57'W, 2400 m, 11 January 1984, *S.A. Thompson* & *J.E. Rawlins* 1248 (MO); Acosta. Fila Bustamante. Hcda. Tiquires. río y potreros en el camino a Fila Aguabuena, cabeceras Río Tiquires, 09°42'36"N 84°10'48"W, 1600–1800 m, 2 June 1995, *J.F. Morales* 4272 (CR, MO); Desamparados. San Cristobal Norte, semi-open pasture with isolated trees containing numerous epiphytes, 09°46'16"N 84°00'23"W, 2500 m, 8 October 1978, *T.M. Antonio* 692 (MO); Dota. Border of San José and Cartago Provinces, collections in and around a mountain bog 1–2 km southeast of El Empalme on the Interamerican Highway (C.R. #2), 09°43'01"N 83°56'59"W, 6 April 1974, *J.F. Utley* & *K. Burt-Utley* 856 (CR, F); Near Finca La Cima, above Los Lotes, north of El Copey, 09°40'12"N 83°54'00"W, 2100–2400 m, 21–22 December 1925, *P.C. Standley* 42635 (US); Near Finca La Cima, above Los Lotes, north of El Copey, 09°40'12"N 83°54'00"W, 2100–2400 m, 21–22 December 1925, *P.C. Standley* 42682 (US); Near Finca La Cima, above Los Lotes, north of El Copey, 09°40'12"N 83°54'00"W, 2100–2400 m, 21–22 December 1925, *P.C. Standley* 42732 (US); Near Finca La Cima, above Los Lotes, north of El Copey, 09°40'12"N 83°54'00"W, 2100–2400 m, 21–22 December 1925, *P.C. Standley* 42747 (US); Near Laguna de la Escuadra, northeast of El Copey, 09°39'00"N 83°52'48"W, 2000–2200 m, 16 December 1925, *P.C. Standley* 41990 (US); Provinces of San José and Cartago, montane forest formation with open landslides and road cuts and small swamps, about 22 km southeast of Empalme, along the Interamerican Highway, 09°39'36"N 83°49'48"W, 2500–2600 m, 9 August 1971, *W.C. Burger* 7978 (CR, F); Leon Cortes Castro. Leon Cortez, sector O del Cerro Abejonal, 09°42'30"N 84°03'00"W, 1850–1900 m, 12 June 2004, *J.F. Morales* 10676 (CR, MO); Pérez Zeledón. R.F. Los Santos. Cuenca del Savegre. A orilla de la carretera y margenes del río Savegre, 09°34'50"N 83°48'00"W, 2100 m, 17 April 1998, *A. Rodríguez*, *L.D. Vargas* & *P. Hurtado* 3285 (MO); R.F. Los Santos. Cuenca del Savegre. San Gerardo de Dota, falda SO de Cerro Bara, 09°33'00"N 83°47'42"W, 2500–2700 m, 19 June 2004, *J.F. Morales* 10754 (CR, MO); Tarrazu, San Carlos, Alto San Jeronimo. Bosques aledaños al camino, 09°36'22"N 84°07'49"W,

1600–1700 m, 31 July 2003, *A. Rodríguez, J.Á. González R, A. Estrada & A. Quesada* 8150 (B, CR, MO). **PANAMA. Bocas del Toro:** Caribbean slopes of Cerro Fábrega at foot of “Falso Fábrega” in Palo Seco Reserve, second northernmost tributary (on map) of Culubre river: Pavón Camp, 09°09'51"N 82°39'41"W, 1300 m, 22 March 2005, *A.K. Monro & S. Cafferty* 4883 (BM, CR, MEXU, MO, PMA); Campamento La Pata del Cedro como a 800 m hacia arriba. Bosque nuboso muy húmedo, 09°03'58"N 82°43'56"W, 1525 m, 10 March 2004, *E. Alfaro & A.K. Monro* 5476 (BM, CR, MO); Cordillera de Talamanca, headwaters of the Río Culubre, 6 airline km NW of the peak of Cerro Echandi on the Costa Rican-Panamanian international border, 09°05'00"N 82°50'30"W, 2450–2600 m, 2–3 March 1984, *G. Davidse, L.D. Gómez P, G. Herrera Ch, R. Chacón, I.A. Chacón G. & A. Chacón* 25172 (MO); Along trail on divide separating Chiriquí and Bocas del Toro, 08°45'53"N 82°12'40"W, 1150 m, 22 October 1985, *G. McPherson* 7245 (MO); Along trail from near Boquete to Cerro Pate Macho and into Bocas, 08°50'N 82°24'W, 1950–2220 m, 7 February 1986, *G. McPherson & M. Merello* 8327 (MO); Bocas Del Toro-Chiriquí border. Elfin forest at divide on Chiriquicito-Calderas Trail, 08°49'54"N 82°15'12"W, 20 April 1968, *J.H. Kirkbride, Jr. & J.A. Duke* 991 (MO); NW ridge of Cerro Pate Macho from summit to Finca Serrano, 08°50'N 82°24'W - 08°52'N 82°25'W, 1200–2100 m, 27 May 1981, *K.J. Sytsma, S. Knapp & L. Andersson* 4964 (MO); NW slopes of Cerro Bine, Fábrega massif, 09°06'11"N 82°53'52"W, 2800–3000 m, 8 March 1984, *L.D. Gómez P, I.A. Chacón G, G. Davidse & G. Herrera Ch.* 22663 (MO); Prov. Cerro Colorado, 9.2 miles W of Chamé; along trail E of road which leads down to stream, 08°35'N 81°50'W, 1450–1480 m, 6 July 1988, *T.B. Croat* 69041 (MO); Valle de Silencio. Specimens collected coming down from Valle de Silencio towards Costa Rica, 09°05'N 82°56'W, 6000–8000 ft, 8–10 August 1979, *T.M. Antonio* 1688 (MO); Valle de Silencio, 09°05'N 82°56'W, 8–10 August 1979, *T.M. Antonio* 1618 (MO); 7.2 miles beyond Campamento Chami (12 miles from Río San Félix), 08°30'30"N 81°48'30"W, 1500 m, 20 June 1986, *W.G. D'Arcy* 16323 (MO); Changuinola. Area de la Hidroelectrica Bonyic, 09°19'11"N 82°38'47"W, 378 m, 30 September 2013, *O. Ortiz, A. Zapata & A. de Sedas M.* 1640 (MO, PMA). **Chiriquí:** 7 km NW of Cerro Punta. Las Nubes region, 08°54'N 82°37'W, 7200 ft, 11 February 1978, *B.E. Hammel* 1427 (MO); 10 km beyond Los Planes de Hornito on road to Fortuna, up ridge to E of road, 08°41'N 82°13'W, 1350 m, 25 April 1991, *D.R. Hodel & L. Hooper* 1124 (MO); On trail to Cerro Horqueta, 08°50'N 82°27'W, 6000–6500 ft, 15 May 1971, *G.R. Proctor* 31917 (LL); Above Guadalupe at STRI cabin. Forest, 08°50'N 82°35'W, 2200 m, 6 June 1986, *G. McPherson* 9351 (MO); On path up northern slope of Volcan Baru, starting along impassable road formerly linking Boquete and Cerro Punta, 08°50'N 82°30'W, 1750–1900 m, 28 July 1987, *G. McPherson* 11342 (MO); Fortuna Dam Site, above Gualaca. Forested slopes c. 8 km past dam on road towards Chiriquí Grande, 08°45'N 82°15'W, 1130 m, 8 March 1985, *G. McPherson* 6697 (MO); Cerro Pate Macho, 08°49'N 82°24'W, 2100 m, 17 January 1986, *G.C. de Nevers & G. McPherson* 6837 (MO); Around Los Sigüas Camp, southern slope of Cerro de la Horqueta, 08°49'N 82°27'W, 1700 m, 17–19 March 1911, *H. Pittier* 5736 (US); Northeastern ridge leading to Cerro Horqueta. Cloud forest, 08°50'N 82°27'W, 1800–1900 m, 25 May 1973, *J.L. Luteyn* 3778 (MO); Northeastern ridge leading to Cerro Horqueta. Cloud forest, 08°50'N 82°27'W, 1800–1900 m, 25 May 1973, *J.L. Luteyn* 3782 (MO); Cerro Colorado; road along top, border of Chiriquí-Bocas del Toro provinces, 08°32'19"N 81°48'42"W, 1500–1750 m, 13 August 1977, *J.P. Folsom, G. Small & R. Robbins* 4721 (MO); Fortuna Dam Site, top of mountain above camp to south, 08°44'N 82°15'W, 1700 m, 13 September 1977, *J.P. Folsom, R.L. Dressler & K.*

Dressler 5413 (MO); Path from Linares farm circa 1400 m to top of Cerro Hornito at 1750 m, 08°49'N 82°27'W, 1400–1750 m, 27 December 1977, *J.P. Folsom, R.L. Dressler & R.B. Channell 7255* (MO); E of Guadeloupe along the Río Chiriquí Viejo about 2 miles NE of Cerro Punta, 08°52'N 82°33'W, 6500 ft, 13 January 1971, *R.L. Wilbur, J.A. Teeri & R.B. Foster 13082* (MO); Chiriquí Bocas del Toro Border. Summit and ridge to N of Cerro Pando, 08°55'N 82°44'W, 2400–2500 m, 15 October 1981, *S. Knapp 1625* (MO); Trail to Cerro Pate Macho, headwaters of the Río Palo Alto, above Palto Alto, 08°47'N 82°22'W, 1700–2100 m, 24 April 1982, *S. Knapp & R.J. Schmalzel 4806* (MO); Southern slopes of Cerro Pate Macho along Río Palo Alto, 08°47'N 82°22'W, 1300–1800 m, 11 November 1981, *S. Knapp, A. Herre & L. Coley 2081* (MO); Ridges and summit of Cerro Hornito, above Los Planes de Hornito. Elfin forest, 08°42'N 82°06'W, 2100 m, 14 March 1982, *S. Knapp, W.J. Kress & B.E. Hammel 4221* (MO); Ridges and summit of Cerro Hornito, above Los Planes de Hornito. Elfin forest, 08°42'N 82°06'W, 2100 m, 14 March 1982, *S. Knapp, W.J. Kress & B.E. Hammel 4222* (MO); Trail to Cerro Pate Macho, headwaters of Río Palo Alto, above Palo Alto, 08°47'N 82°22'W, 1700–2100 m, 15 March 1982, *S. Knapp, W.J. Kress & B.E. Hammel 4257* (MO); Las Nubes, 5 km NW of Cerro Punta, 08°53'N 82°36'W, 6000–6500 f, 19 July 1975, *S.A. Mori & A. Bolten 7236* (MO); Cerro Hornitos, 40 km NW of Gualaca, 08°39'00"N 82°11'00"W, 2070 m, 26 July 1975, *S.A. Mori & A. Bolten 7462* (MO); Cerro Hornitos, 40 km NW of Gualaca, 08°39'00"N 82°11'00"W, 2070 m, 26 July 1975, *S.A. Mori & A. Bolten 7464* (MO); North of San Félix at the Chiriquí-Bocas del Toro border, on Cerro Colorado copper mine road along continental divide, 08°32'26"N 81°49'24"W, 5000–5500 ft, 5 May 1975, *S.A. Mori & J.A. Kallunki 5950* (MO); North of San Félix at the Chiriquí-Bocas del Toro border, on Cerro Colorado copper mine road along continental divide, 08°32'26"N 81°49'24"W, 5000–5500 ft, 5 May 1975, *S.A. Mori & J.A. Kallunki 5971* (MO); Cerro Horqueta. Cool humid Cord. de Talamanca above Boquete. On W-facing slopes of south flank of Cerro Horqueta along high trail to summit, 08°49'N 82°29'W, 1750–2100 m, 2 January 1975, *T.S. Cochran, B.A. Cochran & R.R. Kowal 6270* (MO, WIS); Cerro Colorado, along road to copper mine development N of San Félix, 20.5 mi N of the bridge near San Félix, 8.3 mi beyond Chame and turnoff to Escopeta, 08°32'19"N 81°48'41"W, 1630 m, 30 March 1993, *T.B. Croat 75036* (MO); Cerro Pate Macho, along the Continental Divide, on trail which leads to Finca Serrano NE of Boquete ca. 5 miles above Boquete, 08°49'30"N 82°23'30"W, 2200 m, 23 November 1979, *T.B. Croat 48520* Vicinity of Monte Azul, 1.4 miles N of Entre Ríos on E slopes of Cerro Punta, 3 miles by road from town of Cerro Punta, 08°53'12"N 81°34'48"W, 2250 m, 25 November 1979, *T.B. Croat 48619* (MO); Cerro Hornito, S facing slope approached from Los Planes de Hornito, 08°41'N 82°10'W, 1750–1900 m, 22 September 1987, *T.B. Croat 67970* (MO); Las Nubes near Cerro Punta, 08°53'N 82°36'W, 2000 m, 7 August 1974, *T.B. Croat 26413* (MO); Gualaca-Chiriquí Grande, vicinity Lago Fortuna, along trail to meteorological station on Río Hornito departing from highway N side, ca. 0.5 km S of Centro de Científicos, 08°45'N 82°18'W, 1000 m, 24 July 1994, *T.B. Croat & Guang Hua Zhu 76415* (MO); Cerro Colorado, near continental divide, 08°32'07"N 81°49'02"W, 1500 m, 26 July 1979, *T.M. Antonio 1514* (MO); Cerro Colorado, near continental divide, 08°32'07"N 81°49'02"W, 1500 m, 26 July 1979, *T.M. Antonio 1515* (MO); Boquete. Boquete region, Horqueta, 08°49'30"N 82°26'45"W, 6500–7000 ft, 23 April 1940, *C. von Hagen & W. von Hagen 2035* (MO); End of road up SW side of Horqueta, 08°49'42"N 82°27'12"W, 5600–7400 ft, 19 March 1979, *W.G. D'Arcy, B.E. Hammel & J.E. Averett 12686* (MO); Bugaba. Slopes of Cerro Punta, 08°52'30"N 82°35'29"W, 2000 m, 11

September 1972, *A.H. Gentry* 5894 (MO); Slopes of Cerro Punta, 08°52'30"N 82°35'29"W, 2000 m, 11 September 1972, *A.H. Gentry* 5895 (MO); Cerro Punta. Cloud forest, trees to 15 m tall, but frequently less, 08°52'N 82°33'W, 2200 m, 23 January 1985, *H. van der Werff & J. Herrera* 6280 (MO); Cerro Punta. From STRI house to edge of mountain across the river, 08°52'N 82°33'W, 2200 m, 24 January 1985, *H. van der Werff & J. Herrera* 6308 (MO); Road to ridge top, near Raul Castro's house, Guadalupe, above Cerro Punta, 08°52'N 82°34'W, 6000–7000 ft, 22 October 1977, *James P. Folsom* 6033 (MO); Above Guadalupe, ca. 2 km N of Cerro Punta, 08°53'N 82°33'W, 2000 m, 18 October 1980, *P.J.M. Maas & R.L. Dressler* 4849 (MO); Gualaca. Reserva Forestal Fortuna. Sendero Samudio, 08°44'04"N 82°14'57"W, 1205 m, 6 November 2013, *O. Ortiz, J. Batista & F. Miranda* 1763 (MO); Renacimiento. Jurutungo. Filo entre La Quijada del Diablo y la cima de Cerro Pando. Bosque nuboso, 08°54'N 82°43'W, 2315 m, 25 September 1996, *C. Galdames, J.E. Aranda B, L. Guillén, B. Araúz & A. Fuentes* 3398 (MO); Jurutungo. De la Fca. Los Quetzales hasta 1 km bajando por la carretera. Bosque nuboso, 08°54'N 82°44'W, 1935–1870 m, 23 September 1996, *J.E. Aranda B et al.* 3194 (MO); San Felix. Comarca Gnobé Bugle km 0 al 10 entre Hato Chami y Hato Ratón, 27–37 km N de Interamericana, 08°29'41"N 81°46'16"W, 1386–1576 m, 20 May 2001, *C. Galdames et al.* 4689 (MO). **Coclé:** Above Cope. Forested slopes, 08°38'N 80°35'W, 700–750 m, 27 November 1985, *G. McPherson* 7679 (MO); Alto Calvario along summit of Continental Divide, 5.5 mi N of El Copé; 3.5 mi N of Escuela Barrigón, 08°40'11"N 80°35'37"W, 850 m, 13 September 1987, *T.B. Croat* 67565 (MO); La Pintada. Vicinity El Copé, Alto Calvario, ca. 6 mi N of El Copé, 08°39'45"N 80°35'26"W, 770 m, 12 July 1994, *T.B. Croat & Guang Hua Zhu* 76776 (MO). **Veraguas:** Parque Nacional Santa Fe. Bosque cercano al Piragual, al borde del río Santa Maria, 08°40'57"N 81°04'38"W, 452 m, 20 November 2012, *O. Ortiz* 1041 (MO, PMA). Santa Fe, "Cerro Tute" ridge up from former Escuela Agrícola, Santa Fe, 08°35'N 81°05'W, 1300–1500 m, 20 February 1983, *C.W. Hamilton & R.L. Dressler* 3102 (MO); Cerro Tute; ca 10 km NW of Santa Fe., on ridgetop in cloud forest (lower montane rain forest), 08°30'44"N 81°07'41"W, 1000 m, 19 May 1975, *S.A. Mori* 6251 (MO, PMA, US); Cerro Tute, ca. 10 km NW of Santa Fe, on ridgetop in cloud forest, 08°28'56"N 81°05'53"W, 1000 m, 19 June 1975, *S.A. Mori* 6779 (MO).

[Return to species list](#)

Anthurium correae Croat, Monogr. Syst. Bot. Missouri Bot. Gard. 14: 68, f. 46. 1986. — Type: PANAMA. Panamá: 11–12 km above Pan-American Hwy. on road from El Llano to Carti-Tupile, 09°16'32"N 78°55'49"W, 200–350 m, *H. Kennedy & R.L. Dressler* 2936 (holotype, MO 2162459, isotypes; F, K, NY, PMA, US).

Epiphyte; stems 1–5 cm long, less than 1 cm diam.; roots dense, internodes very short; cataphylls ca. 2 cm long, drying brown, weathering into fibers, ultimately deciduous. **LEAVES** held in tight clusters at the base; **petioles** 1.0–3.5 cm long, 2–3 mm diam., sulcate; **blades** subcoriaceous, oblanceolate, acuminate to abruptly acuminate at apex, attenuate at base, 7–17 cm long, 2.0–3.7 cm wide, 3.5–4.6 times longer than wide, widest above the middle; drying blackened and semiglossy above, medium to dark brown and semiglossy below; midrib raised above and below; primary **lateral veins** 6–8 per side, departing midrib at ca. 45°, obscure above and below; straight to collective vein; interprimary veins usually obscure; collective vein

arising from the lowermost primary lateral veins, 2–5 mm from margin, drying obscure above and below, weakly to prominently loop-connecting primary lateral veins. **INFLORESCENCE** erect; peduncle 2.5–6.5 cm long, 2–3 mm diam., weakly 1-ribbed, much longer than petioles; **spathe** pale green, lanceolate, 2.5–3.5 cm long, 7–9 mm wide, broadest near base, acute at apex and base, decurrent to ca. 1 cm, inserted at 70° on peduncle; stipe 3–6 cm long; **spadix** green, 2–3 cm long, 3–4 mm diam. near base, 2–3 mm diam. at apex; **flowers** rhombic, 2.5–3.2 mm long, 1.5–2.0 mm wide, the sides straight to slightly sigmoid, 2–4 flowers visible in either spiral; lateral tepals ca. 2 mm wide, the inner margin more or less straight; pistils weakly raised; stamens emerging from the base, held at edge of tepals; anthers held inward over pistil, ca. 0.3 mm long, 0.5 mm wide; thecae ovoid, slightly divaricate. **INFRUCTESCENCE** pendent; spathe persistent; spadix to 4 cm long, 2.0–2.5 cm diam. (with berries exserted); berries obovoid-ellipsoid, rounded at apex, green becoming black-purple, somewhat paler toward base, 9–10 mm long, 6–7 mm diam.; pericarp moderately thick; seeds 1 or 2, tan, discoid to ellipsoid, 6.0–7.5 mm long, 4.5–5.0 mm wide, 1.2 mm thick. **Figure 5.**

Distribution and ecology — *Anthurium correae* is endemic to Central Panama on both sides of the canal at 300–450 m in *Tropical moist forest*, *Tropical wet forest* and *Premontane rain forest* life zones.

Comments — Prior to the recent molecular analysis indicating that it belongs to Sect. *Interrupta*, the sectional placement of the species had been uncertain, and it had been provisionally placed in Sect. *Decurrentia*. *Anthurium correae* is similar to *A. llanense* Croat, which also has the blades held in tight clusters at the base, but the latter has larger blades drying a much lighter color (medium brown above and light brown below instead of blackish for *A. correae*).

Other specimens seen: **PANAMA. Coclé:** Along trail from Río Blanco del Norte to Caño Sucio, 08°37'12"N 80°35'54"W, 400–500 m, 21 February 1982, *S. Knapp 3748* (MO); Los Pedregales, ridge between Río Blanco del Norte and Río Caño Sucio, the ridge eventually leads to Cerro Tife and the Continental Divide, 08°43'12"N 80°36'48"W, 500 m, 22 February 1982, *S. Knapp & R.L. Dressler 3796* (MO); Between Caña Susio and waterfall at base of Cerro Tife, ca. 4 hour hike. Caña Susio is 1 hour W of the Río Blanco which is 5 hours N of the the Continental Divide above El Cope & El Petroso sawmill, 08°42'30"N 80°37'24"W, 13 December 1980, *K.J. Sytsma, W.J. Hahn & T.M. Antonio 2538* (MO); Foothills of Cerro Pilón, near El Valle, 08°38'N 80°07'W, 900 m, 25 October 1967, *J.A. Duke & M.D. Correa A. 14694* (MO). **Colón:** Santa Rita Ridge Road, 20–22 km from Transisthmica Highway, 09°23'30"N 79°39'30"W, 1000–1200 ft., 25 September 1980, 09°23'30"N 79°39'30"W, *K.J. Sytsma 1375* (MO); Santa Rita Ridge Road, 20 km from Transisthmica Highway, 09°24'N 79°39'W, 100–1200 ft, 12 September 1980, *K.J. Sytsma 1093* (MO); South approach to Cerro Bruja from Río Escandaloso, ridge top, 09°27'45"N 79°34'20"W, 2400 ft, 20 May 1978, *B.E. Hammel 3191* (MO); Santa Rita ridge, 09°19'N 79°39'W, 1 March 1971, *T.B. Croat 13934* (MO); Upper Río Piedras headwaters, along trail from end of Santa Rita Ridge Road, ca. 11 km SW of Cerro Bruja, 09°25'N 79°38'W, 600–700 m, 2 May 1981, *K.J. Sytsma, L. Andersson & R.L. Dressler 4308* (MO); Donoso, Area de concesión del Proyecto Minera Cobre Panamá S. A. Botija. MSA area 40, 08°50'59"N 80°39'40"W, 151 m, 2 December 2015, *I. Vergara-Pérez 1041* (MO); Denoso, Sendero Botija, detras vivero FCD, cerca de quebrada Botija y Río Botija, 08°49'27"N 80°38'42"W, 250 m, 14 May 2015, *J. Batista 13631* (MO, PMA); East Santa Rita Ridge, lumber road, 09°19'N 79°39'W, 16 January 1969, *M.D. Correa A. & L. Dressler 638* (MO); 26–28 km from Transisthmian Highway on the Santa Rita Ridge



Figure 5: *Anthurium correae* (Kennedy & Dressler 2936, MO 2162459). Holotype showing stem, petioles, leaf blades (adaxial and abaxial surfaces) and inflorescences.

Road, 09°23'30"N 79°38'30"W, 250–400 m, 23 May 1982, *S. Knapp & R.J. Schmalzel* 5266 (MO); Upper Río Piedras headwaters, along trail from end of Santa Rita Ridge Road, ca. 11 km SW of Cerro Bruja, 09°25'N 79°38'W, 600–700 m, 2Darié May 1981, *K.J. Sytsma, L. Andersson & R.L. Dressler* 4307 (MO). **Darién:** Rancho Frío, 07°58'N 77°42'W, 600 m, 2 August 1986, *J.F. McDonagh et al.* 588 (BM); **Panamá:** El Llano-Cartí Rd. c. 18 km from Pan Am Hwy, 09°20'N 79°00', 400 m, 28 December 1982, *B.A. Stein* 1018 (MO); 8.2 miles from the Pan-American Highway on the El Llano-Cartí Road, 450 m, 2 July 1982, *S. Knapp* 5926 (MO); Chepo, El Llano-Cartí Road, Tropical moist forest, 09°16'N 78°58'W, 1000 ft, 6 September 1980, *K. Sytsma* 995 (MO); Chepo, El Llano-Cartí Road; 10 km from Inter-American Highway, 09°16'10"N 78°55'41"W, 4 October 1974, *S.A. Mori & J.A. Kallunki* 2262 (MO); El Llano-Cartí Rd, 10–12 km from junction with Inter-American Hwy, 09°16'22"N 78°55'45"W, 410 m, 31 October 1974, *S.A. Mori & J.A. Kallunki* 2904 (MO); 14 km N of Panamerican Highway on El Llano to Carti Road under canopy, 09°16'12"N 80°55'38"W, 29 January 1979, *J.P. Folsom & L. Collins* 1521 (MO); 8.2 miles (on new road, 8.6 on old road) from Pan American Highway on the El Llano-Cartí Road, 09°14'N 79°00', 450 m, 24 March 1982, *S. Knapp & M.J. Huft* 4416 (MO). **San Blas** Trail along Continental Divide, 09°20'N 78°56'W, 400 m, 22 July 1986, *J.F. McDonagh* 283 (BM); Boundary trail on Llano- Cartí road, 09°19'N 78°58'W, 350 m, 27 January 1986, *G. McPherson & M. Merello* 8177 (MO); Nusagundi, on El Llano to Cartí road., forest to E of road, 09°20'N 078°54'W, 325 m, 1 July 1984, *H.W. Churchill* 4670 (MO); El Llano-Cartí Road, 17.4 km from Interamerican Highway, 09°18'30"N 78°57'00"W, 350 m, 27 September 1984, *G.C. de Nevers, H. Herrera & B. González* 3927 (MO); Trail to Cerro Óbu (Habu of maps) from Río Urgandi (Río Sidra), 09°23'N 78°48'W, 100–300 m, 24 June 1986, *G.C. de Nevers, H. Herrera & E. Gernado* 7985 (MO); Cerro Habú, trail from Río Sidro, primary forest, 09°23'N 78°49'W, 1400–2000 ft, 20 December 1980, *K.J. Sytsma, T.M. Antonio & R.L. Dressler* 2764 (MO).

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Anthurium guayaquilense Engl., Bot. Jahrb. Syst. 25(3): 373. 1898. — Type: ECUADOR. Guayas: in silvis ad sinam Guayaquil prope Balao, 16 Nov. 1890, *Sodiño* 16 (holotype, B).

Anthurium gracillimum Engl., Bot. Jahrb. Syst. 25(3): 371. 1898. — Type: COLOMBIA. Valle del Cauca: Buenaventura, Aug. 1884, *F.C. Lehmann* 3826 (lectotype, B, designated here).

Epiphytic; stems short to scandent; internodes 1–8 cm long, 5–20 mm wide, semiglossy, medium green to gray, drying grayish to light brown; cataphylls 5.5–10.0 cm long, medium green, deciduous. LEAVES erect; **petioles** 6.0–20.5 cm long, 2.0–4.0 mm in diam., obtusely C-shaped, medium green, sometimes pale striate, drying dark gray to dark brown; geniculum slightly swollen and darker than petiole, drying darker; **blades** coriaceous to subcoriaceous, oblanceolate, acuminate at apex, acute to cuneate at base, 18.5–40.0 cm long, 4.5–12.0 cm wide, (2.7)3.5–4.1(5.5) times longer than wide, widest above the middle; upper surface glossy, dark green, with numerous short white raphides (visible under 10X magnification), drying semiglossy and grayish or blackish brown; lower surface glossy, paler; midrib convex to round-raised, slightly paler on both surfaces; primary lateral veins 40–48 per side, departing midrib at

40–50°, straight to collective vein, moderately obscure to barely raised on both surfaces, drying with a stitched appearance; tertiary veins obscure; collective veins 3–7 mm from margin, originating at base. **INFLORESCENCES** erect to spreading; peduncle 15.5–35.0 cm long, 3–4 mm in diam., longer than petiole, pale green, drying dark brown, sometimes ribbed or striate; **spathe** spreading to reflexed, medium green, often with maroon streaks, tapered, 4–13 cm long, 7–15 mm wide; **spadix** sessile, cylindrical, gradually tapered, 7.5–18.0 cm long, 4–5 mm diam. near base, 2–3 mm diam. near apex, light green, drying gray; **flowers** square, 2.0–2.8 mm long, 1.7–2.6 mm wide; tepals with numerous short white raphides on the sides; pistils paler than tepals, early-emergent; thecae oval, 0.1–0.2 mm long. **INFRUCTESCENCE** 7.0–29.5 cm long; berries early emergent, green becoming yellow, orange to red-orange at maturity. **Figures 6 & 7.**

Distribution and ecology — *Anthurium guayaquilense* ranges along the Pacific slopes of Colombia (Antioquia, Cauca, Chocó, Risaralda, Valle del Cauca) and Ecuador (Bolívar, Guayas, Los Ríos) in *Premontane wet forest*, *Tropical wet forest* and *Tropical wet forest* transition to *Premontane* life zones, usually from sea level to 750 m (to 1650 m in Risaralda Department). The species can often be found growing close to streams.

Comments — Prior to the recent molecular analysis indicating that it belongs to Sect. *Interrupta*, *Anthurium guayaquilense* had been assigned to Sect. *Decurrentia*. The species resembles *Anthurium incomptum* Madison which grows in the same area, but the latter is distinguished by its blades drying medium reddish brown rather than grayish or blackish brown as in the case of *A. guayaquilense*. Its blades are also widest near the middle rather than above the middle for *A. guayaquilense*.

Engler (1898) separated *Anthurium gracillimum* Engl. from *A. guayaquilense* on the basis of the former having globose berries with depressed apices and the latter having globose berries with acute apices. However, the type material for these two species does not differ except in size (*A. gracillimum* is smaller). The extremes in size for various plant parts and in the shape of the berry apices for both species can be seen within single collections. Therefore, it is concluded that they are equivalent.

Additional specimens seen: **COLOMBIA. Antioquia:** Murri La Blanquita, Río Murri hills above village, mature cloud forest, 06°35'N 76°50'W, 950 m, 29 February 1992, *A.H. Gentry, C.E. Barbosa & D. Cárdenas* L. 75925 (MO); Frontino, Corregimiento La Blanquita, Región de Murri, vía Nutibara-La Blanquita, 14.5 km W of Nutibara, 15–16 km from Alto de Cuevas-La Blanquita, 06°45'N 76°25'W, 890–900 m, 13 July 1988, *R. Callejas et al.* 6721 (MO). **Cauca:** Dindo area, Bajo Calima, pluvial forest, 03°59'N 76°58'W, 100 m, 20 July 1984, *A.H. Gentry* 48407A (MO); 10 August 1884, *Anonymous* s.n. (MO); Ad arbores in silvis densis humidis, August 1884, *F.C. Lehmann* 3826 (MO); Bajo Calima, Concesión Pulpapel/Buenaventura, 03°55'N 77°00'W, 100 m, 24 August 1986, *M. Monsalve* B. 1109 (MO); Bajo Calima; Concesión Pulpapel/Buenaventura, 03°55'N 77°00'W, 100 m, 5 September 1984, *M. Monsalve* B. 348 (MO); Concesión Pulpapel/Buenaventura, 03°53'36"N 77°04'11"W, 100 m, 14 August 1986, *M. Monsalve* B. 1062 (MO); Concesión Pulpapel/Buenaventura, Carretera Nacional, 03°53'36"N 77°04'11"W, 100 m, 1 August 1989, *M. Monsalve* B. 3148 (MO). **Chocó:** New road being built from S of Yuto to Lloro, mature pluvial forest being semi-selectively logged, 05°29'58"N 76°35'36"W, 100 m, 17 August 1976, *A.H. Gentry & M.E.*



Figure 6: *Anthurium guayaquilense* (Croat 57562). Herbarium specimen showing stem with adventitious roots, petioles, leaf blades (adaxial and abaxial surfaces) and inflorescence.



Figure 7: *Anthurium guayaquilense* (Ceron 17996). Herbarium specimen showing stem, petioles, leaf blades (adaxial and abaxial surfaces) and inflorescence.

Fallen 17834A (MO); Hoya del Río San Juan, Río Bicordó, afluente del Río San Juan. Alrededores de Noanamá, 04°42'N 76°55'W, 20 m, 5 April 1979, *E. Forero et al.* 4658 (COL, MO); Hoya del Río San Juan. Quebrada La Sierpe, afluente del Río San Juan, al frente de Palestina, 04°10'N 77°10'W, 5 m, 25 March 1979, *E. Forero et al.* 3998 (COL, MO); hoya del Río San Juan, Río Bicordó, arriba de Noanamá, 04°42'N 76°55'W, 50 m, 6 April 1979, *E. Forero et al.* 4711 (COL); Río San Juan, near Noanamá, 04°42'N 76°55'W, 20 m, 5 April 1979, *Enrique Forero & et al.* 4651 (COL, MO); 19 February 1967, *H.P. Fuchs* 21970 (U); Quebrada de las Serpes, 20 m, 24 September 1961, *J. Cuatrecasas & L. Willard* 26056 (US); Región del río Pichimá, Comunidad indígena Waunaná, 04°25'N 77°17'W, 100 m, 11 November 1976, *L.E. Forero* 641 (COL, MO); Nuquí, Corregimiento de Termale, Quebrada Piedra Piedra, forest understory, 0–25 m, 6 September 1994, *P. Acevedo-Rodriguez, R. Callejas & S.P. Churchill* 6826 (MO, US); Quibdo. 11 km E of Tutunendo on Quibdo-Medellin road, 05°44'00"N 76°43'00"W, 100–200 m, 12 August 1976, *A.H. Gentry & M.E. Fallen* 17580 (COL); San José del Palmar, hoya del Río Torito (afluente del Río Hábita), 04°58'27"N 76°13'42"W, 730–830 m, 1 March 1980, *Enrique Forero et al.* 6453 (COL, MO); hoya del Río Torito (afluente del Río Hábita), 04°58'27"N 76°13'42"W, 730–830 m, 1 March 1980, *Enrique Forero & et al.* 6468 (COL, MO); Vereda "La Badea", 04°58'27"N 76°13'42"W, 920 m, 24 January 1983, *P. Franco et al.* 1818 (COL, MO); *P. Franco et al.* 1819 (COL, MO).

Risaralda: Mistrato. Corregimiento de San Antonio de Chamí, bosques aledaños a la carretera entre S. Antonio de Chamí y Mistrató, 1600–1650 m, 24 April 1992, *F. Alonso et al.* 9968 (COL, MO); Corregimiento Jaguadas, entre Puerto de Oro y Jaguadas bosque primario poco intervenido, nublado periódicamente, 05°25'N 075°54'W, 900–1400 m, 19–21 September 1991, *J.C. Betancur B.* 2806 (COL, MO).

Valle del Cauca: Bajo Calima, ca. 10 km N of Buenaventura, 03°56'N 77°08'W, 50 m, 3 December 1981, *A.H. Gentry* 35249 (COL, MO); Bajo Calima, ca. 10 km due N of Buenaventura, Carton de Colombia concession. 03°58'N 77°03'W, 50 m, 5 December 1981, *A.H. Gentry* 35342 (MO); Bajo Calima, ca. 15 km N of Buenaventura, Cartón de Colombia concession, 03°59'N 77°02'W, 50 m, 31 March 1986, *A.H. Gentry, E.M. Zardini & M. Monsalve* B. 53873 (MO); 10–15 km E of Buenaventura, 03°52'24"N 76°58'34"W, 2 m, 12 April 1939, *E.P. Killip* 34948 (US); Cordoba, forest, 03°52'31"N 76°55'42"W, 80–100 m, 6–8 May 1922, *E.P. Killip* 5111 (GH, MO, NY); 10–15 km E of Buenaventura, 03°52'24"N 76°58'34"W, 2 m, 12 April 1939, *E.P. Killip* 34948 (MO); Dense forest along highway from Buenaventura to Cali, 03°35'00"N 77°00'00"W, 2 m, 10 June 1944, *E.P. Killip & J. Cuatrecasas* 39167 (MO, US); Bajo Calima, 03°59'47"N 76°58'28"W, 4 April 1961, *I. Cabrera* 468 (COL, MO); Bajo Calima, 03°59'47"N 76°58'28"W, 2 April 1984, *L.K. Albert de Escobar* 4066 (HUA, MO); Río Calima, quebrada da La Brea, 04°00'00"N 76°59'00"W, 30–40 m, 19 May 1946, *R.E. Schultes & M. Villarreal* 7386 (MO, US); Along new highway between Cali and Buenaventura; Between Loboguerrero and Cisneros, along Quebrada la Guinea at 1.2 km east of Cisneros, near the west end of tunnel #5; 26.8 km east of Bajo Calima turnoff; 30.4 km east of Puente El Piñal; in Buenaventura, 03°47'N 76°46'W, 220–260 m, 5 July 1986, *T.B. Croat* 62826 (MO); Along road from Buenaventura to Bajo Calima, ca. 4 km from Río Calima, near Km 14 marker (14 km from Cali-Buenaventura Hwy), 03°56'N 76°59'W, 50 m, 21 March 1984, *T.B. Croat* 57562 (COL, MO); Bajo Calima Region, along road between Buenaventura and Málaga; vicinity of Km 50.7, right (N side) of road in deep ravine along stream, 04°02'N 77°05'W, 12 July 1993, *T.B. Croat & D. Bay* 75701 (MO); *T.B. Croat & D. Bay* 75705 (B, CHOCO, HUA, MO, USM); Bajo Calima Region, along road between Buenaventura and Málaga at Km 51.3 in deep gorge

in virgin forest along road, 04°09'N 77°11'W, 9 February 1990, *T.B. Croat & J. Watt* 70397 (MO); Buenaventura, Concession de Carton, Columbia Co. 10 km back in from Central Headquarters, house just beyond the car repair shed, 03°53'36"N 77°04'11"W, 16 March 1969, *H. Kennedy* 184 (F, MO). Vicinity of Bahía Málaga, Base Naval Málaga; Río Bongito, 04°00'44"N 77°20'04"W, 40 m, 29 July 1997, *T.B. Croat & J.F. Gaskin* 80571 (CUVC, MO); Buenaventura, Bajo Calima, road to Juanchaco Palmeras, 03°55'N 77°02'W, 12 July 1984, *A.H. Gentry, M. Monsalve B. & D.A. Wolfe* 48027 (MO); Bajo Calima, road to Juanchaco Palmeras, 03°55'N 77°02'W, 50 m, 19 July 1984, *A.H. Gentry, M. Monsalve B. & H. Mazuera* 48369 (MO); Quebrada Algeria, Bahía Málaga, trail from creek along proposed route of new road to Military Base, 04°02'N 77°22'W, 50 m, 15 December 1985, *A.H. Gentry, M. Monsalve B., C. Restrepo & J.H. Gamboa* 53345 (MO); Bajo Calima, Canalete Area, Km 40 N of Buenaventura, W of San Isidro, 03°58'N 77°00'W, 50 m, 19 December 1987, *A.H. Gentry, M. Monsalve B., M.D. Heredia & P. Keating* 59611 (MO); Bajo Calima, Concesión Pulpapel. lowland rain forest, 03°59'47"N 76°58'28"W, 100 m, 23 January 1988, *H. van der Werff & M. Monsalve B.* 9707 (MO); Bajo Calima, within Forestry Concession of Cartón de Colombia, between Buenaventura & Río Calima, 6.3 Km north of Frente La Brea, Km 18 on main road, about 6 km southeast of village of San Isidro on Río Calima; primary forest, 04°02'N 77°03'W, 50 m, 7 July 1986, *T.B. Croat* 61342 (B, HUA, K, MO, NY, US); between Buenaventura and Río Calima, Cartón de Colombia Forest Concession Area, 11 km NW of Cali-Buenaventura Highway, 18 year old regrowth, forest plot behind Pulpapel headquarters, 03°56'30"N 77°01'00"W, 50–80 m, 16 July 1988, *T.B. Croat* 69302 (CM, MO, WU); Bajo Calima Region, Carton de Colombia lumber concession area; Carretera Gasolina 6 km S of main road between Cali-Buenaventura highway and Canalete; wedge of intact primary forest, 1 km W of Carretera Gasolina, 03°56'00"N 77°07'30"W, 50–80 m, 19 July 1988, *T.B. Croat* 69424 (MO); Bajo Calima Region between Buenaventura and Río Calima, Carretera Hans at Km 22 on main road to Canalete, in region of active clear-felling, ca. 6 km N of main road, 04°04'N 77°00'W, 50–60 m, 21 July 1988, *T.B. Croat* 69519 (CUVC, MO); Bajo Calima, within forestry concession of Bajo Calima, between Buenaventura & Río Calima, 17-year-old successional forest behind headquarters of Camp Portada Pulpapel, 11 km N of main Calí-Buenaventura Highway, 03°56'30"N 77°01'00"W, 50 m, 9 July 1986, *T.B. Croat & M. Monsalve B.* 61406 (MO). **ECUADOR. Bolívar:** Clementina Farms, Cerro Samama, 5.7 km S and W of main Pueblo-Viejo-Caluma Road, 5.2 km W from bridge over Río Pita, (turnoff is 6.3 km E from Potosí), 01°38'51"S 79°19'52"W, 371–600 m, 14 August 2004, *T.B. Croat, G. Ferry, C. Davidson & L.P. Hannon* 93343 (MO). **Guayas:** 0 m, 1890, *L. Sodiro* 167 (MO); Naranjal. Reserva Ecológica Manglares–Churute, sendero al Cerro Pancho Diablo de frente al Cerro Mate, 02°27'S 79°35'W, 450–500 m, 2 January 1992, *C.E. Cerón* 17996 (MO); Reserva Ecológica Manglares–Churute, Cerro Masvale, cerca a la cumbre, 02°24'S 79°39'W, 450–500 m, 29 February 1992, *C.E. Cerón* 18426 (MO). **Los Ríos:** Hacienda Clementina, Cerro Samana, trail between Destacamento Pita and Limon, 01°39'S 79°20'W, 550–600 m, 5 February 2008, *B. Ståhl, S. Pettersson & F. Skagerberg* 6923 (MO); Río Palenque Biological Station, km 56, 00°35'S 79°22'W, 150–220 m, 23 July 1975, *C.H. Dodson* 5884 (MO, RPSC, SEL, US); Hacienda Clementina, Cerro Semana, primary forest, 01°39'S 79°19'W, 505 m, 9 March 1996, *S. Roponen* 144 (MO); Hcda. Clementina, cerro Samana, La Línea-La Torre, 01°40'S 79°21'W, 750 m, 4 October 2003, *B. Stahl* 6069 (GUAY); Vinces. Jauneche forest, km 70 Quevedo-Palenque, via Mocachi, 01°16'S 79°42'W, 70 m, 4 October 1979, *C.H. Dodson et al.* 8784 (GUAY, MO, SEL). **UNITED STATES. Missouri:** Saint Louis City.

Missouri Botanical Garden, Greenhouse D4. Source: Conservatoire et Jardins Botaniques de Nancy (Wild). Originally collected by Croat, Thomas #93343 in Ecuador, Bolívar, Clementina Farms, Cerro Samama, 5.7 km S and W of main Pueblo-Viejo-Caluma Road, 5.2 km W from bridge over Río Pita, (turnoff is 6.3 km E from Potosí) on 14 Aug 2004. MOBOT LCMS Accession # 2019-1094-1, 38°36'55"N 090°15'34"W, 29 September 2021, *M. Carlsen 3780* (MO).

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Anthurium interruptum Sodiro, Anales Univ. Centr. Ecuador 15(108): 5. 1901. — Type: ECUADOR. Cotopaxi: in silv. Angamarca, *Sodiro s.n.* (neotype, B-100419081, designated here).

Epiphyte; stem scandent; internodes alternating between long (8–33 cm long) and very short; roots lax; cataphylls 3.0–4.5 cm long, deciduous. LEAVES with **petioles** 1.8–13.0 cm long, 1–2 mm diam., subterete to terete, convex adaxially, rounded abaxially; **blades** elliptic, oblong, obovate or oblanceolate, 5–21 cm long, 2.2–9.5 cm wide, 2.0–4.2 times longer than wide, widest near the middle, obtuse and abruptly short-acuminate at apex, acute, obtuse or rounded at base, subcoriaceous, drying medium to dark blackish greenish, blackish brown or blackish above, medium or dark brown below; upper surface short-pale lineate; midrib broadly convex or round-raised above, broadly convex or round-raised or flat below; primary **lateral veins** 9–12 per side, departing midrib at 45–60°, obscure; collective vein forming the only basal vein, 4–6 mm from margin. **INFLORESCENCE** with peduncle 4.5–14.0 cm long; **spathe** 3.7–5.0 cm long, linear to lanceolate, green to greenish; **spadix** cylindroid or tapered, 2.5–17.0 cm long, green or yellow-green, stipe 0–2 mm long. **INFRUTESCENCE** reddish to red or pinkish. **Figures 8–10.**

Distribution and ecology — *Anthurium interruptum* ranges from Central America (Belize, Costa Rica, Guatemala, Nicaragua, Panama) to Colombia and Ecuador on the Pacific slopes of the Cordillera at 5–2500 m in multiple life zones.

Comments — *Anthurium interruptum* resembles *A. incomptum* Madison which grows in some of the same areas, but it differs from the latter by its stems with the internodes alternating between long and short and its blades drying dark greenish brown or blackish (instead of reddish brown for *A. incomptum*), and its short-pale-lineate upper blade surface.

Selected specimens seen (See www.tropicos.org for a complete list): **BELIZE.** **Toledo:** Southwestern Maya Mountains, Columbia River Forest Reserve, Union Camp. *G. Davidse & D.L. Holland 36649* (BRH); Southern Maya Mountains, Bladen Nature Reserve, trail from central Snake Creek Camp to Roochire Selipan archeological site, 16°27'48"N 88°58'42"W, 450 m, 29 May 1997, *G. Davidse & H.B. Buchanan 36879* (MO); vic. Manga Camp, Edwards Road, beyond Columbia, 16°20'N 89°09'W, 4 May 1948, *P.H. Gentle 6524* (LL); Near Central camp, Edwards Road, beyond Columbia, 16°13'45"N 89°05'23"W, 28 April 1951, *P.H. Gentle 7309* (LL); Camp 2, 5–6 km southeast of Union Camp. Trail from camp 1 to camp 2, 16°23'17"N 89°05'30"W, 700–730 m, 14 February 1997, *T. Hawkins 1408* (CAS, CM, MEXU, MO). **COLOMBIA.** **Antioquia:** Urrao. Sector Calles Quebrada La Bironda, 06°31'N



Figure 8: *Anthurium interruptum* (Sodirol s.n.). Neotype showing stem, petiole, leaf blade (abaxial surface) and inflorescence.

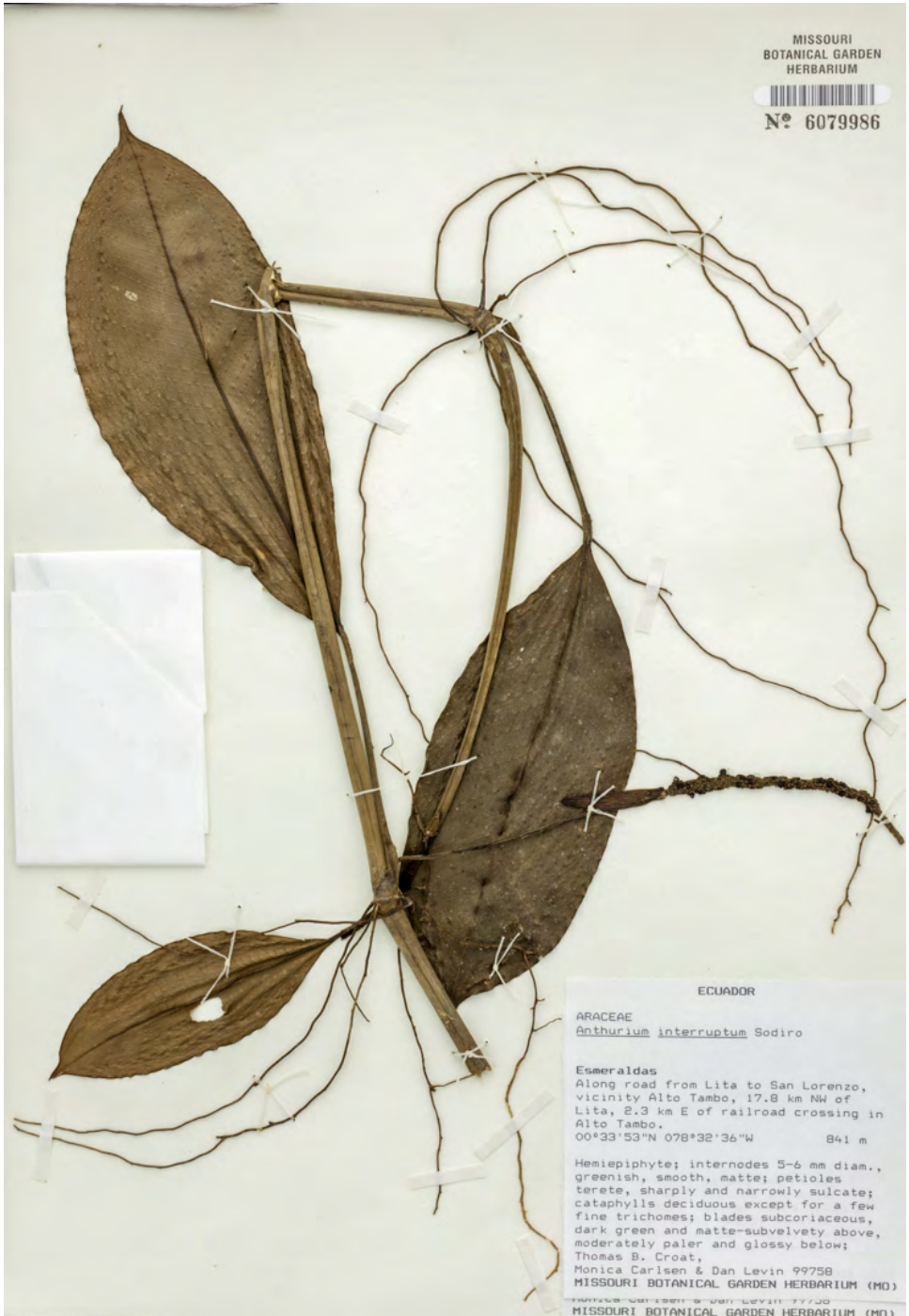


Figure 9: *Anthurium interruptum* (Croat 99758). Herbarium specimen showing stem, petioles, leaf blades (adaxial and abaxial surfaces) and inflorescence.



Figure 10: *Anthurium interruptum* (Croat 60409). Live plant showing stem, petioles, leaf blades (adaxial and abaxial surfaces) and inflorescence. — Photo T.B. Croat.

76°19'W, 1300–1500 m, 2 April 1992, *D. Cárdenas L. 3226* (JAUM, MO). **Caquetá:** Orilla izquierda del río Caguán, 16 horas en Johnson de 10 H.P. al sur de Cartagena, 24 April 1953, *R.R. Castañeda 4093* (COL, MO). **Chocó:** carretera Panamericana (en construcción), adelante del Río Pato, 05°35'N 76°57'W, 23 April 1979, *E. Forero et al. 5696* (COL). **Nariño:** Along road between Junin and Barbacoas, 18.1 km NE of Junin, 01°21'N 78°06'W, 940 m, 27 February 1992, *T.B. Croat 72453* (COL, MO, VEN). **COSTA RICA. Alajuela:** Reserva Biológica Monteverde Río Peñas Blancas, Eladio's y alrededores, 10°18'36"N 84°42'36"W, 850 m, 5 September 1989, *E. Bello C. 1183* (MO); Reserva Biológica Monteverde, Reserva Monteverde, Poco Sol, 13 km South Fortuna, 10°21'N 84°41'W, 700–900 m, 20 August 1989, *W.A. Haber & W. Zuchowski 9436* (MO); Upala. Dos Ríos, 5 Km al Sur de Brasilia, margen derecha del Río Pizote, 10°54'36"N 085°19'48"W, 500 m, 28 October 1987, *G. Herrera Ch. 954* (MO); Prov. Guanacaste-Alajuela: slopes of Miravalles, above Bijagua, 10°43'48"N 85°03'00"W, 1500 m, November 1982, *L.D. Gómez P. et al. 19161* (MO). **Cartago:** 12 km south of Turrialba by air, 4 km southeast of Pejibaye along Río Gato, 09°48:00»N 83°42:00»W, 700 m, 16–17 April 1983, *R.L. Liesner 14339* (MO); Along Río Reventazón behind Instituto Interamericano main building, Turrialba, green forest on

undulating limestone hills, canopy 30–35 m, along rocky creek N of camp and in adjacent low areas, 16°23'N 89°09'W, 700–750 m, 5 April 1992, *B.K. Holst 4024* (MO); Along road from Moravia to Quebrada Platanillo (Tsipirí), disturbed primary forest (marketable lumber trees removed), 09°49'12"N 83°26'24"W, 1250 m, 1 July 1976, *T.B. Croat 36655* (MO); Cultivated areas, pasture, secondary growth and wet-forest remnants at stream edges between Tuis and Bajo Pacuare along road from Turrialba to Moravia de Chirripó, 09°48'36"N 83°33'00"W, 750–900 m, 15 November 1975, *W.C. Burger et al. 10029* (MO). **Guanacaste:** Parque Rincón de la Vieja Hacienda Santa María; carretera a Colonia Blanca hasta Quebrada Rancho Grande, 2 Km aguas arriba, 10°48'00"N 85°18'36"W, 600 m, 17 October 1987, *G. Herrera Ch. 897* (MO); Río Chiquito de Tilarán, Río Negro valley, Atlantic slope, lower montane wet forest, 10°22'N 84°52'W, 1400 m, 30 July 1986, *W.A. Haber & E. Bello C. 5827A* (MO); Río Chiquito de Tilarán San Pedro, vertiente norte, 10°23'N 84°51'W, 1100 m, 23 November 1987, *W.A. Haber & E. Bello C. 7821* (MO); Tilarán. Cordillera de Tilarán. Río San Lucas, 10°22'48"N 84°54'00"W, 800–900 m, 27 June 1995, *G. Rodríguez & A. Rojas 364* (CR, MO). **Heredia:** La Selva Biological Station, 10°25'53"N 84°00'13"W, 100 m, 26 July 1979, *F. Jiménez 101* (MO); Between Río Peje and Río Sardinalito, Atlantic slope of Volcán Barva, 10°17'30"N 84°04'30"W, 700–800 m, 3 April 1986, *M.H. Grayum 6704* (CR, MO); Finca La Selva, the OTS field station on the Río Puerto Viejo just E of its junction with the Río Sarapiquí, 10°25'53"N 84°00'13"W, 100 m, 29 September 1982, *T. McDowell 272* (DUKE); Finca La Selva, Puerto Viejo de Sarapiquí. Virgin tropical wet forest, along El Sura Trail, 10°25'12"N 84°00'36"W, 100–150 m, 6 January 1978, *T.B. Croat 44310* (MO). **Limón:** Southwestern-most ridge of Cerro Coronel, NW-facing slope, just S of the Río Colorado, 10°40'30"N 83°39'30"W, 10–80 m, 17–18 September 1986, *G. Davidse & G. Herrera Ch. 31343* (MO); Along Hwy. 32 from Turrialba to Limón, ca. 11 miles south of Siquirres, 10°00'00"N 83°34'12"W, 650 m, 13 August 1977, *T.B. Croat 43323* (MO); Cerro Coronel, E of Laguna Danto, 10°41'N 83°38'W, 20–170 m, 15–20 September 1986, *W.D. Stevens & O.M. Montiel J. 24599* (MO); Cordillera de Talamanca. Headwaters of Quebrada Kakebeta below divide between Río Xikiari and Río Boyei, 09°46'48"N 83°20'24"W, 1000 m, 10 August 1995, *M.H. Grayum 10846* (CR, MO). **Puntarenas:** Valley of Laguna Chocuaco, ca. 9 km W of Rincón de Osa, 08°42'00"N 83°33'36"W, 200 m, 8 October 1984, *M.H. Grayum 4075* (MO); Puntarenas. Cordillera de Tilarán. Monteverde. Sendero Tranquilo. 1.5 km SE of Cerro Amigos. Disturbed primary forest. Premontane wet forest, 10°18'00"N 84°48'00"W, 1400 m, 19 August 1995, *D.S. Penneys & W. Zuchowski 676* (B, MO). **San José:** Cartago border region, PanAm Hwy, km 66, 09°39'36"N 83°52'48"W, 2500 m, 10 May 1984, *H. Murphy 948* (DUKE); Cerro entre Cerro Chimú y Cerro Matama, Cordillera de Talamanca, 09°51'00"N 83°14'24"W, 1200 m, 30 April 1985, *L.D. Gómez P et al. 23576* (MO); R.F. Los Santos. Cuenca del Savegre. San Isidro de Dota, sendero La Flecha, por sendero a Fila Mora, 09°30'00"N 83°57'00"W, 700–800 m, 24 January 2003, *J.F. Morales & J. González M. 10252* (CR, MO); Vázquez de Coronado. Bajo de Honduras, Parque Nacional Braulio Carrillo, 10°04'N 83°58'W, 1100–1200 m, 23 January 1983, *G. Davidse et al. 23201* (MO). **ECUADOR. Carchi:** Along road between Lita and Babosa indigenous community, ca. 2 km NE of Lita, 00°52'43"N 78°27'07"W, 580 m, 14 August 2013, *T.B. Croat et al. 104679* (MO); **El Oro:** Along road between Machala and Loja, 25 km SE of junction in road to Piñas. 04°15'S 79°45'W, 890 m, 17 October 1980, *T.B. Croat 50728* (MO). **Esmeraldas:** Lita-San Lorenzo Road, 25.1 Km E of Río Tululbí, 0.6 Km W of El Durango, 01°03'02"N 78°37'22"W, 146 m, 13 October 1999, *T.B. Croat 83268* (MEXU, MO, SEL, USM); Along highway from

Esmeraldas to San Lorenzo; 32.9 Km E of main San Lorenzo-Lita Road; 10.6 Km E of Río Santiago bridge, 01°02'47"N 78°58'13"W, 44 m, 10 July 2000, *T.B. Croat et al. 83813* (AAU, MO); Lita-San Lorenzo Road, 15.8 Km W of Río Lita Bridge (new). Disturbed forest in swampy area, 00°53'45"N 78°31'57"W, 800 m, 9 October 1999, *T.B. Croat et al. 83150* (MO); Lita-San Lorenzo Road, Río Piguambi, 6.4 km W of Río Lita Bridge (below Lita), 00°52'04"N 78°29'03"W, 685 m, 30 June 1998, *T.B. Croat et al. 82174* (CHOCO, COL, HUA, MO, Q, QAP, QCA, QCNE); The Mache-Chindul Ecological Reserve. Bilsa Biological Station. Mache mountains, 35 km W of Quinindé. Premontane wet forest. Collected on Ramon Loo's property, 00°21'N 79°44'W, 500 m, 22 October 1996, *J.L. Clark 3084* (MO, QCNE); San Lorenzo. Parroquia Alto Tambo. Reserva Indígena Awá, comunidad de Río Bogotá. Bosque muy húmedo tropical. Junto al Río Bogotá, y al transecto de inventario de fauna, 00°59'11"N 78°35'50"W, 300–580 m, 15 November 2003, *Germán Toasa 9324* (QCNE); San Francisco. Recinto Durango. Bosque húmedo Tropical. Sector colinado, bosque primario intervenido. Terrenos propiedad Sr. Demetrio Paez. 1 Km al este de la carretera Lita–San Lorenzo, 01°02'N 78°36'W, 300 m, 16 October 1999, *Juan Carlos Valenzuela & Efraín Freire 425* (MO, QCNE); Along unfinished road between Lita and San Lorenzo, 37.8 km W of Lita, 00°56'N 78°39'W, 390 m, 21 February 1992, *T.B. Croat 72344* (MO). **Guayas:** Comuna Loma alta, al este de El Suspiro hacia el bosque. Bosque húmedo tropical. Intervenido, 01°53'S 80°37'W, 300 m, February 1997, *X. Cornejo S. & C. Bonifaz B. 5563* (GUAY, MO); Comuna El Suspiro, Dos Ríos, B. transicional seco-húmedo Tropical. Formación de lecho de río, 150–200 m, 27 July 1994, *X. Cornejo S. & C. Bonifaz B. 3060* (GUAY, MO, QCNE); Milagro. Cooperativa 23 de Noviembre c. 5 km S of Naranjal, seasonal evergreen forest, 02°42'00"S 79°39'00"W, 50–100 m, 25 May 1980, *G.W. Harling & L. Andersson 19436* (GB, MO). **Imbabura:** 00°50'00"N 78°28'00"W, 600 m, October 1980, *L. Cobb 18* (MO); In valley of Río Mira on border with Carchi province, between Ibarra and Lita, 2.5 km E of Lita; steep forested slopes, 00°49'59"N 78°26'57"W, 750–775 m, 8 September 1976, *T.B. Croat 38984* (MO). **Los Ríos:** Hacienda Monica, 12 Km E San Carlos, 180 m, 3 November 1966, *B. Sparre 19374* (S); Hacienda Clementina, between Babahoyo and Montalve, secondary monsoon forest and cultivated land, 01°22'00"S 79°52'00"W, 20 m, 18 January 1967, *B. Sparre 14489* (MO, S); Cerro Samama Trail between La Casa Pita and El Torre Ca 38 km NE of Babahoyo, 01°39'S 79°22'W, 400–600 m, 27 May 1994, *Bertil Ståhl 1265* (S); Babahoyo. Cerro Samama, trail between La Casa Pita and El Torre ca 38 km NE of Babahoyo, 01°39'S 79°22'W, 400–600 m, 27 May 1994, *B. Ståhl 1279* (S); Cerro Samama, on trail from Casa Pita ca 38 km NE of Babahoyo, 01°39'S 79°22'W, 400–600 m, 19 May 1994, *B. Ståhl 1053* (S). **Manabí:** Estero Perro Muerto, Machalilla National Park, below San Sebastian, 01°36'S 80°42'W, 400–420 m, 23 January 1991, *A.H. Gentry & C. Josse 72686* (MO); Jipijapa. Parroquia Puerto López. Parque Nacional Machalilla. Loma del Estero Río Frio, cerca a la hacienda San Francisco. Transectos de 50 m x 2 m x 5, especies de más de 2.5 cm DAP, 01°31'S 80°44'W, 370–400 m, 24 August 1994, *C.E. Cerón 26574* (ECUAMZ, QAP). **Pichincha:** Bosque muy húmedo. Montano bajo, 00°16'S 78°44'W, 1600–1800 m, 15 June 1990, *G. Benavides & A. Loroña 118* (MO, Q); Carretera Quito-Puerto Quito, Km 113, 10 Km al Norte de la carretera principal, bosque virgen alrededores de la reserva, 00°05'N 79°02'W, 800 m, 22 February 1984, *J. Rodríguez 210* (QCA, S); Road Alluriquin-Chiriboga; wet forest, 00°18'16"S 78°53'29"W, 1200–1400 m, 20 April 1977, *M.T. Madison 4062* (MO, NY); Bosque Integral Ontonga, 00°25'00"S 79°01'00"W, 2000 m, December 2005, *N. Köster & K. Friedrich 1074* (BONN, MO, QCA, QCNE); Reserva Endesa, 9 km N of Km. 113 on Quito-

Pto. Quito Highway, 00°05'N 79°02'W, 750 m, 15 July 1986, *T.B. Croat & J. Rodríguez 61458* (CM, G, K, MO, QCA); Reserva Guaycuyacu, near border with Imbabura Province, along Río Guaycuyacu and Road from Cielo Verde to Santa Rosa at junction of Río Guaycuyacu and Río Guayabamba, 00°13'N 78°56'W, 500 m, 13 March 2006, *T.B. Croat et al. 95869* (MO); Quito. Reserva Mashpi, along road leading into reserve, departing main Pacto-San Miguel de los Bancos Road, 13.8 km N of central plaza in Pacto, then 7-8 km into reserve, 00°09'53"N 78°52'46"W, 910–1000 m, 8 December 2008, *T.B. Croat 101022* (MO); Santo Domingo de Los Colorados. Vicinity of El Centinela, 0.2 km past Escuela Mixta El Centinela, along trail to left of road, exactly 13 km E from main Santo Domingo-Quevedo Highway in Patricia Pilar, 00°32'S 79°11'W, 1000 m, 14 March 1992, *T.B. Croat 73022* (MO).

GUATEMALA. Alta Verapaz: Sebol, west of the village, bordering arroyo. In high forest, 15°48'14"N 89°57'02"W, 800 m, 15 April 1964, *E. Contreras 4314* (LL); Río Icbolay, W of Cerro Peyan, ca. 3 km Luftlinie S of Rocjá Pontilá an der N-Grenze des R.F. Franja Transversal del Norte, 15°45'00"N 090°31'00"W, 175 m, 14 September 1999, *H. Förther 10639* (M); Road along Río Icbolay from the Flussinsel below Nacimiento, W of Cerro Peyan and 3 air km S of Rocjá Pontilá on the N. boundry of Reserva Forestal Franja Transversal del Norte, 15°45'00"N 090°31'00"W, 175–200 m, 30 March 2001, *H. Förther et al. 11050* (M); Along Río Icbolay, north and NW of Finca Cubilgüitz to Quebrada Diablo, 15°46'25"N 90°32'18"W, 300–350 m, 6 March 1942, *J.A. Steyermark 44776* (F). **Petén:** La Cumbre, on Pusila Road, about 5 km north of village, 16°04'52"N 89°21'03"W, 19 August 1976, *C.L. Lundell & E. Contreras 20223* (LL).

NICARAGUA. Atlántico Norte: Costado oeste de Cerro La Pimienta, 13°44'50"N 84°59'45"W, 800–1000 m, 16 April 1979, *A. Grijalva P. 403* (MO); Caño Hormiguero, SE of Cerro La Pimienta No. 1, 13°46'N 84°59'W, 750 m, 10 April 1979, *J.J. Pipoly, III 5073* (MO); Along new road from Siuna to Matagalpa, ca. 31.4 km beyond Río Ulí (near Wani), ca. 8.9 km beyond Rosa Grande La Balsama and near major highway construction camp, 13°36'N 085°05'W, 100–200 m, 18 March 1978, *W.D. Stevens 7521* (MO). **Atlántico Sur:** Caño Monte Cristo, La Grupera, 11°33'N 83°48'W, 10 m, 4 February 1982, *P.P. Moreno & J. C. Sandino 14749* (MO); Along road to Colonia Yolaina and Colonia Esperanza, immediately upriver from bridge over Caño Sardina, 11°40'N 84°26'W, 180–200 m, 11 February 1978, *P.C. Vincelli 182* (MO); Along road to Colonia Yolaina, Colonia La Esperanza, ca. 1.3 km SE of intersection with road between Nueva Guinea and Colonia Verdún, immediately upriver from bridge over Caño Sardina, 11°40'N 84°26'W, 180–200 m, 11–12 February 1978, *W.D. Stevens 6311* (MO). **Jinotega:** Reserva Bosawas, Municipio de Wiwili, Río Coco, poblado de Walaquitan, Cerro Muzu, 13°33'N 85°47'W, 300–452 m, 8 September 1997, *R. M. Rueda & I. Coronado G. 7310* (MO); Municipio de Wiwili. Reserva Natural Kilambé, Comunidad Aguas Frias, Sector Caballo Blanco, 13°35'N 085°44'W, 900–1200 m, 24 May 2001, *R. M. Rueda, L. D. Paguaga et al. 16255* (HULE, MO); Municipio de Wiwili. Reserva Cerro Kilambé, 13°22'N 85°41'W, 950–1100 m, 26–28 August 2000, *R. M. Rueda et al. 14459* (HULE, MO); Rápido Plis, Río Coco, 14°05'N 85°25'W, 100–200 m, 14 March 1980, *W. D. Stevens et al. 16819* (MO); **Matagalpa:** Comarca Wanawás, en el litoral del Río Bilampí, 13°02'N 85°13'W, 180–200 m, 14 May 1980, *M. Araquistain & P. P. Moreno 2396* (MO); Macizos de Peñas Blancas, SE side, drainage of Quebrada El Quebradon, slopes N and W of Hda. San Martín. (collection locality straddles border with Departamento de Jinotega), 13°14'N 085°38'W–13°15'N 085°39'W, 1000–1400 m, 18–20 January 1982, *W. D. Stevens et al. 21045* (MO). **Río San Juan:** Municipio El Castillo, Comunidad El Diamante, Caño El Tenorio, 11°09'41"N 84°16'42"W, 100 m, 12 April 2005, *D. Urbina 3300* (HULE, MO);

Reserva Indio-Maíz, Municipio de el Castillo, a 8 km de la cabecera del Río Bartola, en dirección hacia el Cerro el Diablo, 11°01'N 84°14'W, 120 m, 3 January 1997, *R. M. Rueda et al.* 5299 (MO); Reserva Indio-Maíz, Municipio de San Juan del Norte, a lo largo del caño que baja del Cerro Gigante, 10°45'N 83°53'W, 200–300 m, 27 September 1998, *R. M. Rueda et al.* 9094 (MO); Río Indio, 5.5 hours up river from San Juan del Norte, Finca Las Delicias, Alfonso Crespo Aragón, 11°07'N 83°52'W, 10–20 m, 8 September 1982, *R. Riviere* 282 (MO). **PANAMA. Bocas del Toro:** Along road between Chiriquí Grande and Fortuna, 13.2 miles W of Chiriquí Grande, 08°50'12"N 82°11'48"W, 310 m, 9 March 1985, *T.B. Croat & M.H. Grayum* 60132 (MO); Changuinola. Pila. Point 17, ca 2 km from estacion de Alto Uri, 09°03'54"N 82°42'01"W, 1500 m, 19 April 2008, *D. Santamaría* 7447 (CR, MO, PMA); Bonyic. Sitto presa, 09°17'12"N 82°39'01"W, 258 m, 3 February 2014, *O. Ortiz et al.* 2022 (MO); **Chiriquí:** La Fortuna hydroelectric project, on forested slope south side of river, and upriver from camp, 08°42'N 82°13'W, 1100–1400 m, 20 March 1978, *B.E. Hammel* 2034 (MO); Along road to Fortuna dam site on Río Chiriquí, N of Gualaca, 8.2 mi beyond the lane to house of Francisco Linares, 19.1 mi beyond bridge over Río Estí; Los Planes de Hornito; 8.5 mi beyond jct. of road to tunnel, 08°42'N 82°14'W, 1300 m, 27 November 1979, *T.B. Croat* 48734 (MO). **Coclé:** Above El Valle, La Mesa, 08°38'45"N 80°08'00"W, 1000 m, 13 August 1972, *A.H. Gentry* 5644 (MO); La Mesa above El Valle; in forest on both sides of junction with road to Cerro Pilón, 08°38'00"N 80°07'30"W, 800 m, 21 July 1974, *T.B. Croat* 25401 (MO); Alto Calvario, above saw mill, on Continental Divide, 5.2 mi above El Copé. Cloud forest, 08°40'16"N 80°36'44"W, 930 m, 6 December 1979, *T.B. Croat* 49181 (MO); **Colón:** La Macha, 08°59'04"N 80°32'35"W, 20 m, 18 August 2001, *J.A. Mendieta M.* 10-229 (MO); Donoso. Proyecto Minera Cobre Panama, Río Botija hacia San Benito. A orilla del rio, 08°50'03"N 80°38'01"W, 98 m, 27 April 2016, *I. Vergara-Pérez* 1145 (MO, PMA); Minera Panamá copper-mining concession, headwaters of Río Petaquilla, 08°49'16"N 80°40'26"W, 150 m, 2 September 2014, *M.H. Grayum et al.* 13301 (MO, PMA). **Darién:** Cerro Campamento, south of Cerro Pirre. Elfin forest, 07°47'N 77°43'W, 20–22 March 1968, *J.A. Duke* 15670 (MO); *J.A. Duke* 15714 (MO); *J.A. Duke* 15722 (MO); Cuasí-Cana Trail on Cerro Campamento east of Tres Bocas, headwater of Río Cuasí, 07°46'N 77°47'W, 450 m, 29 April 1968, *J.H. Kirkbride, Jr. & J.A. Duke* 1223 (MO). **Panamá:** Cerro Campana along trail to summit. High windswept ridge, 08°42'N 79°56'W, 850 m, 3 August 1983, *J.S. Miller & L. Miller* 980 (MO); Road past Altos de Pacora, 3–3.5 mi NE of Altos de Pacora, 7.8–8.2 mi above Pan Am Highway, 11.1–11.6 mi beyond Lago Cerro Azul, 09°15'N 79°25'W, 700–750 m, 19 June 1988, *T.B. Croat* 68658 (MO). **Veraguas:** 5 miles W of Santa Fé on road past Escuela Agrícola Alto Piedra on Pacific side of divide, 08°30'48"N 81°06'59"W, 800–1200 m, 18–19 March 1973, *R.L. Liesner* 951 (MO); N of Santa Fé 11 km from Escuela Agrícola Alto de Piedra. On Atlantic slope, in forest along Río Dos Bocas, 08°33'07"N 81°10'30"W, 400 m, 15 November 1974, *S.A. Mori & J.A. Kallunki* 3128 (MO); NW of Santa Fé. 8.8 km from Escuela Agrícola Alto de Piedra. Pacific slope, 08°32'23"N 81°09'26"W, 900 m, 20 December 1974, *S.A. Mori et al.* 3936, 3938 (MO); Along road from Santa Fé to Río Calovebora. 0.6 miles beyond Escuela Agrícola Alto Piedra, 08°30'53"N 81°06'59"W, 735 m, 4 April 1976, *T.B. Croat & J.P. Folsom* 34123 (MO).

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Anthurium sobeliae Delannay & Croat, **sp. nov.** — Type: ECUADOR. Napo: Misahualli, path between river and “Rumiurco” hill, banks of Misahualli River, tropical forest, corner of Río Napo and Río Misahualli across from main village, 550 m, 01°01'36"S, 79°39'28"W; 30 October 1980, *G.L. Sobel & J.J. Strudwick 2533* (holotype, NY).

Diagnosis: *Anthurium sobeliae* is characterized by its epiphytic habit with the stem rooting at the nodes, its spathulate, blackish-drying blades becoming much wider in the upper half, its obscure primary lateral veins and obscure tertiary veins, its collective veins widely spaced from the margin, and a long-pedunculate inflorescence with a green, lanceolate spathe and a green spadix.

Epiphytic; internodes 3 cm long, 4–5 mm diam., rooting at the nodes, drying dark brown; cataphylls first decaying into long fibers, then deciduous. **LEAVES** with **petioles** 4.5–8.0 cm long, 2 mm diam., drying blackish; geniculum 8 mm long, black; **blades** subcoriaceous, spathulate, 20–23 cm long, 5.0–7.5 cm wide, 3–4 times longer than wide, narrow at the base and becoming much wider in upper half, obtuse and short-acuminate at apex, acute at base, drying blackish and semiglossy above, dark brown and semiglossy below; midrib slightly raised and concolorous on both sides; primary **lateral veins** ca. 8 per side, departing midrib at a sharp angle near the base, then at 30–40°, obscure and concolorous on both sides; tertiary veins obscure; collective vein obscure, arising from the base, loop-connecting the primary lateral veins, 3–9 mm from margin. **INFLORESCENCE** with peduncle 30 cm long; **spathe** green, lanceolate, 5 cm long; **spadix** green, 5 cm long. **Figure 11.**

Distribution and ecology — *Anthurium sobeliae* is endemic to Ecuador, found only in Napo Province at ca. 550 m in a *Tropical wet forest* life zone.

Comments — With its blackish-drying spathulate blades with a widely spaced collective vein, *Anthurium sobeliae* is quite unique. It somewhat resembles *A. interruptum* Sodiro, but that species has the blades much more coriaceous and never spathulate and alternating internode lengths. It also grows only on the Pacific side of the Andes, rather than in the Amazon Basin in the case of *A. sobeliae*.

Etymology — The species is named in honor of Gail L. Sobel who collected the type and only known specimen.

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Figure 11: *Anthurium sobeliae* (Sobel & Strudwick 2533, NY). Holotype showing stem, petioles and blades (adaxial and abaxial surfaces)..

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