

attenuate at the base and do not have a remote geniculum.

The species is named in honor of G. T. Prance, one of the foremost explorers of Brazilian Amazonia, who has collected numerous Brazilian Araceae, including the type of *Anthurium pranceanum*.

BRAZIL. ACRE: Rio Moa, Cachoeira Grande-Serra da Moa village, *Prance et al.* 12640 (F, INPA, NY, U, US).

Anthurium prolatum Croat & R. A. Baker, Brenesia 16(Suppl. 1): 72. 1979. TYPE: Costa Rica. Heredia: Istarú Farm, Tirimbina, Sarapiquí, 220 m, *Lent* 2140 (holotype, F-1724125). Figures 242–245, 259.

Epiphytic; stem short, 1–2.5 cm diam.; roots few, descending, pale greenish, \pm smooth, slender, 3–5 mm diam.; cataphylls moderately coriaceous, narrowly lanceolate, 7.5–36 cm long, acute at apex with subapical apiculum, medium green, drying tan, persisting as fine linear fibers. *Leaves* spreading to pendent; petioles 1–35 cm long, 3–6 mm diam., terete to subterete, weakly flattened to flattened or rounded adaxially, rounded abaxially, the surface weakly pale-speckled; geniculum thicker and paler than petiole, 0.5–1 cm long; blades subcoriaceous to moderately coriaceous, strap-shaped to narrowly oblong-elliptic, long-acuminate at apex (the acumen weakly apiculate), narrowly acute to obtuse to narrowly rounded at base, (35)83–142 cm long, 3.5–10 cm wide, broadest at or near the middle, the margins weakly undulate; upper surface semiglossy, dark green, lower surface semiglossy to glossy, paler; midrib above acutely raised at base, becoming weakly sunken toward the apex, below prominently higher than broad at base, becoming convexly raised toward the apex and paler than surface; primary lateral veins more than 15 per side, departing midrib at ca. 55° angle, \pm straight, obscure to weakly sunken above, somewhat raised and darker than surface below; interprimary veins numerous, almost as conspicuous as primary lateral veins; tertiary veins obscure above, somewhat darker than surface below; reticulate veins prominulous above and below; collective vein arising from near the base, sunken above, weakly raised and darker than surface below, more prominent than primary lateral veins, 3–4 mm from margin. *Inflorescences* with peduncle to 39 cm long, ca. 9 mm diam., slightly longer than petiole, several-ribbed on drying; spathe spreading, subcoriaceous, pale green, linear-lanceolate, to 29 cm

long, ca. 1.5 cm wide, broadest near the base, inserted at 70° angle on peduncle, acuminate at apex (the acumen minutely inrolled), acute at base; spadix brown (fide labels) probably greenish purple, sessile, very narrowly cylindroid, slightly tapered at apex, to 60 cm long, 7–8 mm diam. near base, ca. 4 mm diam. near apex; flowers (dry) rhombic, (2.7)3.4–4.5 mm long, 1.8–2.2 mm wide, the sides jaggedly sigmoid; 7–8 flowers visible in principal spiral, 5–6 in alternate spiral; tepals epuncate, smooth; lateral tepals 2.2–5 mm wide, the inner margins convex; pistils rectangular, green; stigma oblong, ca. 0.7 mm long; filaments retracting on drying. *Infructescence* to more than 30 cm long, probably with orange berries.

Anthurium prolatum is known from western Panama and Costa Rica (in Alajuela, Limón, Heredia, and Cartago provinces) in tropical wet forest at 350–1,000 m.

This species can be distinguished by the unusual, very long and narrow leaves, cataphylls, spadix, and spathe. It is most easily confused with *A. protensum*, differing in its spadix, which is more than twice as long as any observed for *A. protensum*; its spathe, which is considerably narrower and lacking the purple markings characteristic of *A. protensum*; and its flowers, which are twice as long as those of *A. protensum*. In addition, the much more common *A. protensum* is most frequent at about 1,800 m.

COSTA RICA. ALAJUELA: Naranjo-Aguas Zarcas, 8.5 km NE of Villa Quesada, Hwy. 15, 600 m, *Croat* 46979 (MO). CARTAGO: 1.5 mi. E of Cachi, 10.2 mi. NE of junction at Paraíso, *Croat* 47087 (MO). HEREDIA: Tirimbina, Sarapiquí, Istarú Farm, *Lent* 2140 (F). LIMÓN: Lago Dabagiri, W coast, toward Rio Llei, 1,000 m, 9°38'N, 83°18'W, *Gómez et al.* 23155 (B, K, MO); Rio Tor Amarillo, 6 km SW of Guapiles, 400 m, *Jimenez* 2113 (F). SAN JOSÉ: Parque Nacional Braulio Carrillo, entrance-Río Sucio, Estación Carrillo, 400–1,500 m, 10°5–10'N, 84°57–60'W, *Hammel & Trainer* 14266 (MO). PANAMA. BOCAS DEL TORO: Fortuna-Chiriquí Grande, 550–600 m, ca. 8°48'N, 82°10'W, *McPherson* 9154 (MO).

Anthurium protensum Schott, Oesterr. Bot. Z. 8: 181. 1858.

a. *Anthurium protensum* subsp. *protensum*.
TYPE: Costa Rica. Heredia: Volcán Barba, 2,500–2,700 m, *Oersted* 1992 (destroyed?; illustrated by Schott Aroideae 427). Figures 246–248, 260, 261.

Anthurium costaricense Engl., Bot. Jahrb. Syst. 25: 398. 1898. TYPE: Costa Rica. Cartago: above Agua Cali-

ente, 1,800 m, *Lehmann s.n.* (holotype, B; isotype, P).

Anthurium joseanum Engl., Pflanz. IV 23B (Heft 21): 68, 1905. TYPE: Costa Rica. Cartago: Las Vueltas, Tucurrique, 635 m, *Tonduz 12818* (holotype, B; isotypes, P, US).

Epiphytic; stem often pendent, less than 20 cm long, 1–2 cm diam.; roots descending, brownish to green, smooth, thick and moderately elongate, 5–7 mm diam.; cataphylls subcoriaceous, narrowly lanceolate, (8)11–30 cm long, obtuse to acuminate and long-apiculate at apex, pale green, drying pale tan, persisting intact, soon dilacerating into a reticulum of fine fibers. *Leaves* spreading to pendent; petioles (6)10–35 cm long, 3–7 mm diam., subterete to bluntly angular, sometimes flattened or weakly sulcate adaxially, the surface sparsely pale-speckled; geniculum paler and slightly thicker than petiole, becoming fissured transversely with age, 1–2 cm long; blades subcoriaceous, strap-shaped to oblong-elliptic, long-acuminate at apex (the acumen weakly apiculate), acute to obtuse to narrowly rounded at base, (18)32–80 cm long, (2.5)4–11.5 cm wide, the margins undulate; upper surface matte to semiglossy, dark to medium green, lower surface semiglossy, paler to almost concolorous with the upper surface, drying greenish and matte; midrib convexly raised at base, becoming narrowly raised and then weakly sunken toward the apex above, higher than broad at base, becoming convexly raised toward the apex below, paler than surface above and below; primary lateral veins more than 15 per side, departing midrib at 40–70° angle, sunken to obscure above, flat to raised and darker than surface below; interprimary veins almost as conspicuous as primary lateral veins; tertiary veins weakly visible above and below; collective vein arising from near the base, sunken above, raised and somewhat darker than surface below, equally as prominent as primary lateral veins, 2–5 mm from margin. *Inflorescences* spreading-pendent, shorter than leaves; peduncle (13)15–49 cm long, 6–7 mm diam., 0.6–1.8 × as long as petiole, pale-speckled, terete; spathe erect to reflexed, subcoriaceous, yellow-green to purple to maroon, oblong-lanceolate to lanceolate, (4.5)10–19 cm long, 1.7–4 cm wide, acuminate to long-acuminate at apex (the acumen inrolled), rounded to obtuse at base; spadix greenish to pale violet-purple to purplish gray, usually glaucous, long-tapered, prominently curved, (4)7–19 cm long, 5–9 mm diam. near base, 2–4 mm diam. near apex; flowers rhombic to 4-lobed, 2.2–2.7 mm long, 1.8–2.2 mm wide, drying 1.5–1.8 mm diam.; 4–9 flowers visible in principal spiral, 6–12 in alternate spiral; tepals densely and minutely

papillate, weakly pale-punctate; pistils emergent, densely and minutely papillate, green; stigma linear, droplets appearing 2–4 days before stamens emerge; stamens emerging from the base, the laterals preceding the alternates by 30–34 spirals, the 3rd stamen preceding the 4th by 5–6 spirals, held in a tight cluster above the pistil; anthers yellow to tan, 0.5–0.6 mm long, 0.6–0.7 mm wide; thecae ellipsoid, slightly divaricate; pollen pale orange fading to white. *Inflorescence* with spadix 14–32 cm long; berries orange, ovoid to oblong-ovoid, acute to beaked at apex, (6.4)8–13 mm long, (3.9)4.5–8 mm diam.; seeds 2 per berry, yellow to pale brown, oblong to semi-ovoid, flattened, (3.4)3.7–6 mm long, (1.8)2.5–4.5 mm diam., (1.2)1.6–3 mm thick, with a gelatinous, amber appendage.

This species is found in Costa Rica and Panama from 635 to 2,700 m, principally in premontane rain and lower montane rain forest life zones.

Anthurium protensum is distinguished by its cataphylls weathering to a reticulum of fibers, its elongate, narrow leaf blades with many primary lateral veins, its more or less terete petiole, the long, ovate to lanceolate spathe, pale violet-purple to lavender or greenish spadix and orange berries.

This species is closely related to *A. prolatum*, *A. brenesii*, and *A. seibertii*, all with similar, elongate leaves. See the commentary following those species for distinguishing characteristics.

Anthurium protensum comprises two subspecies. The typical subspecies occurs mostly in Costa Rica (also in western Panama), while subsp. *arcutatum* occurs only in Panama, ranging from Chiriquí to Veraguas at 1,300 to 1,750 m in premontane rainforest. The latter differs in being an erect plant with smaller leaves with fewer, more prominent, sunken veins and an acute lower midrib, an arching inflorescence with shorter, usually ovate spathe and a smaller spadix.

A third subspecies may be represented as well. Some collections have slender green spadices sometimes two or more times longer than the spathe, a generally green spathe and glabrous tepals. Examples of this entity include *Croat 60444*, *McPherson 8026* and *8685* from Bocas del Toro Province in Panama, and *Croat 36714* and *Chacon 7*, from Cartago Province in Costa Rica. More typical collections have the spadix more short-tapered, frequently tinged purple, about as long as the spathe or even shorter than the spathe, and tepals covered with a thin, waxy layer. The spathe in this latter group is usually heavily tinged purple. Examples of these plants include *Croat 44501*,

47113, *Grayum* 3867, and *Lehmann* 1756 (the type of *A. costaricensis*). Because the types of both *A. protensum* and *A. costaricensis* (considered a synonym of the former) correspond to the more commonly collected variant, the plants with the longer spadices and glabrous tepals, if they prove to be distinct, would perhaps represent a new subspecies.

COSTA RICA. WITHOUT LOCALITY: *Lehmann* 1756 (B). ALAJUELA: Zapote, *Smith* 1268 (NY); 11 mi. NW of Zarcero, Finca Los Ensayos, 900 m, *Croat* 43533 (CM, MO); Zarcero, *Smith* A692 (MO); Cordillera de Tilarán, Finca Peñas Blancas, E slope Cerros Centinelas, Monte Verde Reserve, 1,300–1,450 m, 10°18'N, 84°47'W, *Grayum* 5364 (MO). ALAJUELA & PUNTARENAS: Monteverde, *Burger et al.* 10792 (F); N side of Quebrada Cuchea near Sendero El Río, 1,560 m, 10°18'30"N, 84°47'50"W, *Hayworth* 240 (WIS), 1,580 m, *Hayworth* 222 (WIS). CARTAGO: Las Vueltas, Tuccurrique, 635 m, *Tonduz* 12818 (B, P, US); Moravia de Chirripó, Shiripi, 900–1,000 m, *Chacon* 7 (MO); SE of Platanillo, Camino Raíz de Hule, 1,200–1,400 m, *Croat* 36714 (F, DUKE, ENCB, GH, K, MEXU, MBM, MO, NY, PMA, RSA, SEL, TEX, US); Carpintera, *Brade* 2513 (BR); La Cangreja, *Williams et al.* 24182 (NY); NE of Pacayas, *Luteyn* 3250 (DUKE); 6 km past town of Río Macho on road to Humo, Continental Divide, 1,600 m, 9°17'N, 83°45'W, *Hoover* 1347 (MO); Río Grande de Orosi, suspension bridge-point opposite mouth of Quebrada Casa Blanca, Tapanti, 1,250 m, 9°46.5'N, 83°48'W, *Grayum* & *Jacobs* 3776 (MO). GUANACASTE: La Palma, *Greenman* & *Greenman* 5465 (MO). HEREDIA: N of Vara Blanca, *Maxon* & *Harvey* 8304 (US), *Skutch* 3706 (MICH, US); 4 mi. N of Vara Blanca, 1,350 m, *Croat* 35566 (MO); San Rafael-Río San Rafael, 3 km E of Vara Blanca, 1,800 m, *Uiley* & *Uiley* 4190 (MO); 1,720 m, *Rojas* 513 (MO); N of Concepción, *Primack et al.* 276 (DUKE); Braulio Carrillo Park, Zurquí, 1,800 m, *Gómez* 20092 (MO); between Río Peje and Río Sardinal, 1,200–1,400 m, 10°15'N, 84°05'W, *Grayum* & *Herrera* 7854 (MO); Cordillera Central, N slopes, Poas-Volcán Barba, Vara Blanca de Sarapiquí, 1,650 m, *Skutch* 3652 (MICH, MO, NY); Río Pará Blanco, 1,600 m, 10°3'N, 84°1'W, *Lent* 2874 (MO); Río Socorro, Sarapiquí-Cariblanco, 600–800 m, *Chacón* & *Herrera* 1172 (MO). HEREDIA & SAN JOSÉ: Río Pará Blanco drainage, Cerro de Zurquí, 1,600–1,800 m, 10°3'N, 84°1'W, *Burger et al.* 10290 (F, MO). LIMÓN: Cordillera de Talamanca, Río Tararia-NE Kámu Páramo, Atlantic slope of Kámu massif, 1,900–2,300 m, 9°14'N, 82°59'W, *Davidse* & *Herrera* 29212 (MO). PUNTARENAS: SE of Santa Elena, *Almeda et al.* 2031 (DUKE); headwaters of Río Bella Vista-Sitio Cotón (Cotoncito) on Río Cotón, 1,800–2,200 m, 9°49–57'N, 82°46–49'W, *Davidse et al.* 25543 (MO); Monteverde, *Kennedy* 605 (US), *Luteyn* 3406 (DUKE); 1,500–1,550 m, *Haber* 1164, 3897 (MO); Río San Luis valley, 900–1,000 m, *Haber et al.* 8518 (CR); Cordillera de Tilarán, 1,550–1,720 m, *Almeda et al.* 4972 (CAS, MO); Sendero El Río, Monteverde, 1,600 m, 10°18'N, 84°48'W, *Grayum* & *Sleeper* 3867 (MO); valley of Río San Luis, just S of Monteverde, 1,000–1,200 m, 10°16'N, 84°48'W, *Hammel* & *Haber* 13906 (MO); Mike Fogden property, *Croat* 46770 (B, MO), *Palmer* 158 (NY); Santa Elena-Monteverde, 3.5 mi. from Santa Elena-Monte-

verde junction, near E edge of Monteverde Reserve, 1,350 m, *Croat* 47113 (CM, MO); Río Barú, upper part, 201 m, *Gómez et al.* 21523 (MO). SAN JOSÉ: Aserri-Tarbaca, *Standley* 41402 (US); Bajo La Honduras, *Lent* 1446 (WIS), *Standley* 36334 (US); 3 km N of Cascajal, 1,680 m, *Almeda* & *Anderson* 5284 (CAS, MO); La Palma, *Luteyn* 3301 (DUKE); Piedra, *Luteyn* 3291 (DUKE); Parque Nacional Braulio Carrillo, Bajo La Honduras, 1,100–1,200 m, 10°4'N, 83°58'W, *Davidse et al.* 23190 (MO); Río Claro-Paracito, Bajo La Honduras, 1,100–1,400 m, *Croat* 44501 (MO); Santa María de Dota, 1,850 m, *Stork* 1737 (MICH). PANAMA. BOCAS DEL TORO: Fortuna-Chiriquí Grande, 1.2 mi. N of Continental Divide, 5.3 mi. N of bridge over Fortuna Dam, 910 m, 8°44'N, 82°17'W, *Croat* & *Grayum* 60444 (MO, PMA). CHIRIQUÍ: above Boquete, rd. to Bajo Mono and Alto Quiel, 1,650 m, 8°51'N, 82°29'W, *McPherson* & *Merello* 8360 (K, MO).

b. *Anthurium protensum* subsp. *arcuatum*

Croat, Ann. Missouri Bot. Gard. 14: 164, figs. 139 & 140. 1986. TYPE: Panama. Chiriquí: above San Félix along mining road, 25 mi. off Pan-American Highway, 1,500 m, *Croat* 33138 (holotype, MO 231113; isotypes, F, K, PMA, US). Figures 249–251.

Usually epiphytic; stem less than 10 cm long, 0.7–1.8 cm diam., leaf scars 0.6 cm high, 1 cm wide; roots descending, greenish, pubescent, elongate, 3–4 mm diam.; cataphylls coriaceous, narrowly lanceolate, 3.4–7 cm long, green weakly tinged with red at margins, acute at apex, drying tan (B & K yellow 5/5), persisting intact, soon dilacerating into reticulum of fine fibers. *Leaves* spreading to pendent; petioles 10–32 cm long, 2–4 mm diam., subterete to bluntly D-shaped to quadrangular, sharply 4–5-ribbed and winged, flattened to weakly or prominently and narrowly sulcate adaxially, the margins sharply raised to winged, rounded to bluntly angular to sharply ribbed abaxially, the surface sparsely pale-speckled; geniculum slightly paler and thicker than petiole, 1–1.5 cm long; blades coriaceous to subcoriaceous, oblong to narrowly oblanceolate to narrowly elliptic or lanceolate, gradually long-acuminate at apex, obtuse to rounded at base, 19–51 cm long, 2.5–7.5 cm wide, broadest at or below middle; upper surface weakly glossy to semiglossy, dark green, lower surface semiglossy to glossy below, paler; midrib above convexly raised at base, becoming narrowly raised and eventually weakly sunken toward the apex, below acutely higher than broad at base, becoming sharply acute toward the apex, paler than surface above and below; primary lateral veins 7–12 per side, departing midrib at 45–50° angle, weakly arcuate to the collective vein, prominently to slightly sunken above, sharply to weakly raised and darker than surface below; interprimary veins

scarcely visible, sunken above, raised below; tertiary veins obscure above, sometimes weakly visible below; collective vein arising from the base, sunken above, moderately sharply raised below, equally as prominent as primary lateral veins, 2–5 mm from margin. *Inflorescences* erect to spreading, shorter than leaves; peduncle 13–38 cm long, 2–4 mm diam., usually longer than petioles, 0.5–2× as long as petioles, pale green sometimes tinged with reddish violet, terete to sharply 1-ribbed abaxially; spathe erect, curved over and hooding spadix, plain green or heavily tinged with reddish violet to reddish purple, ovate to broadly lanceolate, 4.5–14 cm long, 1.7–3.5 cm wide, broadest near the base, inserted at 70° angle on peduncle, long-acuminate to caudate at apex, obtuse to rounded or subcordate at base; stipe 5–15 mm long; spadix white to lavender (B & K purple 7/7.5) (also reported as light green becoming tan), cylindroid to weakly tapered, weakly curved, 2–9 cm long, 4–6 mm diam. near base, 3–4 mm diam. near apex; flowers rhombic to 4-lobed, (1.3)1.5–3 mm long, (1.3)1.6–2.8 mm wide, drying 1.7–1.9(2.2) mm wide; the sides jaggedly to smoothly sigmoid; 4–5 flowers visible in principal spiral, 5–8 in alternate spiral; tepals matte, minutely and densely papillate; lateral tepals 0.7–1.7 mm wide, the inner margins convex, the outer margins 2–3-sided; pistils scarcely emergent, papillate, pale green to pale violet-purple; stigma ellipsoid, 0.3–0.5 mm long, brushlike, droplets appearing briefly before stamens emerge; stamens emerging from the base, lateral stamens followed by alternates in a rapid succession, the laterals preceding the alternates by 1–2 spirals, held over and obscuring the pistil; anthers pale yellow, 0.4–0.5 mm long, 0.9–1 mm wide; thecae ellipsoid, brown, slightly divaricate; pollen pale yellow fading to creamy white. *Infructescence* pendent; spadix to 7 cm long, 2.5 cm diam.; berries bright orange, ovoid, beaked at apex, 6–9 mm long, 5–6 mm diam.; mesocarp pulpy, orange; seeds 2 per berry, creamy white, ovoid-ellipsoid, 3–3.2 mm long, 2.2–2.3 mm diam., 1.5 mm thick, enclosed in transparent, sticky envelope ca. 5 mm long, extending further beyond the apex than the base.

Anthurium protensum subsp. *arcuatum* is known principally from western Panama in premontane rainforest at 1,100–2,000 m. A single collection from Monteverde is apparently also included in this taxon even though it has not been collected elsewhere in Costa Rica.

This taxon is distinguished by its slender, short stem, more or less oblong leaf blades that are usually spreading and weakly arched, and by its

usually arched inflorescence. Also characteristic is the usually lavender, greenish white or purplish violet spadix, and its ovate to broadly lanceolate, frequently purplish spathe that usually curves over and hoods the spadix.

The few cultivated collections of *Anthurium protensum* subsp. *protensum* and subsp. *arcuatum* are markedly different, but herbarium material is more difficult to separate. Subspecies *protensum* differs from subsp. *arcuatum* in having typically much larger leaf blades, rarely less than 50 cm long, with the primary lateral veins more numerous and less conspicuously sunken on the upper surface (scarcely more prominently sunken than the interprimary veins). In addition, the lower midrib is convex and the plant typically has a lanceolate spathe, a much longer, narrowly tapered spadix (usually more than 9 cm long), and an infructescence usually 20–30 cm long. Subspecies *protensum* is also usually a pendent or nearly pendent plant, whereas subsp. *arcuatum* is usually erect.

Subspecies *arcuatum* rarely has leaf blades more than 50 cm long, relatively fewer, sharply sunken primary lateral veins, an acutely raised lower midrib, a typically ovate spathe, with a spadix usually less than 5 cm long, and the infructescence less than 7 cm long.

COSTA RICA. PUNTARENAS: Monteverde Cloud Forest Reserve, along road to Peñas Blancas Valley, ca. ¼ mi. E of station, ca. 1,520 m, *Lesica & Antibus 4184* (CR, MO). PANAMA. BOCAS DEL TORO: Cerro Pate Macho, ENE of mountain, *Hammel 6254* (MO); Fortuna Road, branching N off main Fortuna–Chiriquí Grande Hwy., 1.1 mi. from main road, 1,200 m, 8°44'N, 82°17'W, *Croat & Grayum 60295* (MO); Río Culebra, 5 km ENE of Cerro Pate Macho, 1,660 m, *Hammel 6136* (MO). CHIRIQUÍ: Boquete Region, Boquete, *Pittier 3062* (US); 9 km past divide in road to Alto Quiel from Boquete, 1,930 m, 8°49'N, 82°28'W, *Hoover 1341* (MO); Cerro Colorado, along mining road 18–27 mi. off Pan-Am Hwy., above Chamí or turnoff to Escopeta, above San Félix, 1,200–1,500 m, *Croat 33138* (F, K, MO, PMA, US); border of Chiriquí and Bocas del Toro provinces, 1,500–1,750 m, *Folsom et al. 4693* (MO), 1,170–1,250 m, 8°45'N, 82°18'W, *Croat 66839* (MO); along mining road 20 mi. above bridge over Río San Félix, near village of San Félix, 2,000 m, *Croat 48461* (MO); on upper mining road 20–28 mi. from San Félix, 1,200–1,500 m, *Croat 33369* (MO); 50 km N of San Félix on Continental Divide, 1,200–1,500 m, *Mori & Dressler 7770* (MO); along road above San Félix, 30 km above bridge over Río San Félix, 1,610–1,670 m, *Croat 37111, 37132* (MO); Cerro Horqueta, *Dwyer 8749* (DUKE), *Pittier 3160* (NY), *3161* (US); Cerro Punta, *Wilbur et al. 13081, 15235, 15236, 15252, 15377* (DUKE); Fortuna Road, Fortuna Lake–Chiriquí Grande, 4.5–5 km N of dam over Fortuna Lake, 1,100–1,135 m, *Croat & Grayum 60077* (B, CM, K, MO, PMA); trail along Continental Divide to W of Oleoducto road, Fortuna Dam, 1,200–1,500 m, 8°47'N, 82°13'W, *Churchill 5306* (MO); Río Chiriquí

Viejo, upper part, Monte Lirio, *Seibert* 172 (K, NY). VERAGUAS: Santa Fe Region, Cerro Arizona, 1,330 m, *Hammel & Kress* 8570 (MO); Cerro Tute, above Escuela Agrícola Alto Piedra, 800–1,450 m, *Croat* 48964 (F, MO, PMA, US), *Folsom & Mauseth* 8344 (MO), *Knapp & Dressler* 5407 (MO), *Knapp & Kress* 4353 (MO), *Sytma & Andersson* 4587 (MO).

Anthurium pseudospectabile Croat, Monogr.

Syst. Bot. Missouri Bot. Gard. 14: 165. 1986.

TYPE: Panama. Chiriquí: along road between Gaulaca and Fortuna Dam site, 8.3 mi. NW of Los Planes de Hornito, 8°44'N, 82°16'W, 1,260 m, *Croat* 49942 (holotype, MO 2769003-005; isotypes, B, K, NY, PMA, SEL, W). Figures 252–254.

Usually epiphytic; stem \pm slender, less than 30 cm long, 1.5–5 cm diam.; leaf scars 2–4 cm wide; roots few, spreading to descending, pale grayish to pale tan, occasionally greenish, somewhat pubescent, thick and elongate, tapered, 3–6 mm diam.; cataphylls coriaceous to subcoriaceous, lanceolate, stiffly erect, 19–37 cm long, acute to obtuse or \pm rounded at apex, with subapical apiculum to ca. 4 mm long, light green, drying orange brown to tan, persisting intact, eventually as a reticulum of fibers. *Leaves* spreading to pendent; petioles 14–60 cm long, 7–12 mm diam., subterete to bluntly 4-sided, flattened to weakly and broadly sulcate adaxially, rounded abaxially, the surface pale-speckled; geniculum thicker and slightly paler than petiole, 1–3 cm long; blades subcoriaceous to coriaceous, oblong to oblong-elliptic, gradually acuminate at apex (the acumen weakly apiculate), decurrent to obtuse to truncate or subcordate at base, 45–150 cm long, 12–45 cm wide, broadest at or just below the middle, the margins weakly undulate; upper surface matte to semiglossy, dark green, lower surface semiglossy to glossy, slightly paler; midrib obtusely angular, becoming flat toward the apex above, prominently convex to round-raised, conspicuously paler than surface below; primary lateral veins up to 40 per side, departing midrib at 35–75° angle, straight to weakly arcuate to the collective vein, raised above in grooves, prominently raised below; interprimary veins almost as conspicuous as primary lateral veins, flat to weakly sunken above, raised below; tertiary veins obscure above, slightly darker than surface and weakly raised below; collective vein arising from near the base, sunken above, prominently raised below, equally as prominent as primary lateral veins, 2–5 mm from margin. *Inflorescences* spreading-pendent; peduncle 13–36 cm long, 5–9 mm diam., equaling up to 1.5 \times as long as petiole, terete to

weakly quadrangular with blunt margins; spathe usually twisted or recurled, moderately coriaceous, green below, heavily tinged with purple above, lanceolate, 10–32 cm long, 2.5–7 cm wide, broadest near base, inserted at 45–60° angle on peduncle, gradually acuminate at apex, rounded to cordate at base; spadix yellowish green to green, sessile, narrowly tapered, 15–38 cm long, 8–12 mm diam. near base, 3–5 mm diam. near apex; flowers rhombic, ca. 3.5 mm long, 2.7–3 mm wide, the sides straight to weakly sigmoid; 4–7 flowers visible in principal spiral, 6–9 in alternate spiral; tepals matte, minutely papillate; lateral tepals 1.8–2 mm wide, the inner margins convex, turned up against the pistil; pistils early emergent, pale green; stigma linear, 0.6 mm long; stamens emerging \pm rapidly from the base, arranged in a loose cluster around pistil; filaments ca. 0.3 mm long, ca. 0.5 mm wide; anthers white; thecae oblong, scarcely divaricate; pollen white. *Inflorescence* pendent; berries orange, oblong-ellipsoid, 10–12 mm long, 5–6 mm diam.

Anthurium pseudospectabile is endemic to Panama at (590)1,000 to 1,600 m in a region that is probably premontane wet or premontane rain forest.

This species is distinguished by its pendent habit and its large, almost strap-shaped, many-veined blades with undulate margins. Also characteristic are the short-pedunculate inflorescence with a spreading, usually twisted and contorted green to purple spathe, the weakly protruding tepals, exserted stamens, early-emergent pistils, and orange berries.

Anthurium pseudospectabile is closely related to *A. spectabile*, from Costa Rica, but the latter has proportionately broader leaf blades which generally lack the undulate margins, and a petiole that is markedly quadrangular in cross section.

PANAMA. BOCAS DEL TORO: Cerro Colorado, trail along quebrada 7.5 mi. from Chamí, 1,220–1,250 m, 8°35'N, 81°45'W, *McPherson* 8853 (MO); Fortuna Dam area, *Correa et al.* 2664 (PMA); Oleoducto Road, Continental Divide, 1,000 m, *Churchill et al.* 4647 (MO), 4648 (MO, PMA); vic. Fortuna Dam, Continental Divide, trail west of highway, 1,250 m, *McPherson* 11626 (MO); Fortuna-Chiriquí Grande Highway, Continental Divide, 1,200 m, *Croat & Grayum* 60339 (CM, MO); 1.1–1.2 km N of Continental Divide, *Croat* 60363 (MO, PMA, RSA), 60446 (MO). CHIRIQUÍ: Fortuna Dam area, *Hammel* 2080 (MO, PMA), *Mendoza* 336 (MO, PMA); 1,100–1,200 m, 8°45'N, 82°18'W, *Croat* 66592 (MO), *Croat* 48738 (MO); 1,200–1,600 m, *Croat* 48737 (MO), *Folsom et al.* 5516 (MO), 8220 (MO, PMA), 5607 (B, MO,