

2-sided, the inner margins straight to rounded; stigma linear-elliptic, 0.4–0.5 mm long; anthers 0.6–0.8 mm long, 0.6–0.8 mm wide; thecae oblong-obovoid, slightly divaricate. Fruits purple (observed by Anibal Castillo, Puerto Ayacucho).

Anthurium cataniapoense is endemic to the northern Amazon basin in Venezuela, in the basin of the Río Negro and the Río Orinoco in Amazonas and Bolívar at less than 300 m. A specimen from northern Pará in Brazil, in the Tumucumaque Mountains, also appears to belong here. The plants are epiphytic in the understory of mature, well-shaded forest, occurring on white sand soils in a tropical moist forest life zone.

This species is characterized by its broadly oblanceolate-elliptic, short-petiolate leaves which dry greenish brown to brown below and grayish brown to almost black above and have one to three pairs of primary lateral veins arising within the lower 1 cm of the base of the blade. Further characterizing the species is the slender, long-pedunculate, pendent inflorescence and the obtusely D-shaped petioles which are obtusely 1-ribbed adaxially and 1–3-ribbed or rounded abaxially.

This species is closest to *A. loretense* from the western Amazon basin in northeastern Peru, with which it shares similar leaves, hook-shaped cataphylls, and a pendent inflorescence. That species differs, however, in having a much stouter spadix and a longer, stouter peduncle.

An aberrant specimen from Bolívar (*Delascio & López 2812*) is tentatively placed here. It differs in having relatively small leaves (ca. 44 cm × 11–12 cm vs. 60–117 cm × 20–50 cm) and a shorter spadix.

BRAZIL. PARÁ: Rio Pará de Oeste (Irepecuru), *Sampaio 5158* (RB). VENEZUELA. AMAZONAS: Upper Río Negro, between Sanariapo and San Pedro, *Bunting 4249* (MO, NY); Río Orinoco, *Bunting 4248, 4250* (MO, NY); Dpt. Atures, Puerto Ayacucho Region, road to Gavilan, vic. bridge at Paseo del Diablo, 20 km SE of Puerto Ayacucho, 70–80 m, 5°33'N, 67°27'W, *Miller et al. 1596* (MO, VEN); San Pedro de Cataniapo–El Milagro, Puerto Ayacucho, 90–100 m, 6°25'N, 67°25'W, *Castillo 2229* (MO); Río Cataniapo, Las Pavas, 37 m, 06°25'N, 67°25'W, *Castillo 1650* (MO); 3 km downstream from damsite, 45 km SE of Puerto Ayacucho, 200–300 m, 05°35'N, 67°15'W, *Steyermark et al. 122191* (VEN), *122268* (MO, VEN); Puerto Ayacucho–Sanariapo, 12 km E of highway, less than 100 m, *Croat 55038* (MO); San Fernando de Atabapo (cultivated), *Braun 5* (VEN); Dpt. Río Negro, Cerro Neblina, 140 m, 00°50'N, 66°10'W, *Croat 59319* (AAU, B, CAS, COL, F, INPA, K, M, MO, MY, US, VEN), *Gentry & Stein 46520, 46862* (MO), *Liesner 15660* (MO), *Plowman & Thomas 13672* (MO); SW side of Cerro Neblina, 200 m, 0°49'25"N, 66°9'45"W, *Nee 30826* (MO); Río Baría, 80 m, 1°05'N, 66°25'W, *Davidse & Miller 26842* (VEN); Río Mawarinuma, 0–

2 km N of Cerro Neblina Base Camp, 140 m, 0°50'N, 66°10'W, *Liesner 17384* (VEN); mouth of Cañón Grande–first major fork of Río Mawarinuma, 7 air km ENE of Puerto Chimo, 300 m, 0°50–51'N, 66°2–6'W, *Davidse & Miller 27244* (MO). BOLÍVAR: Río Suapure, Pica Caicara del Orinoco–San Juan de Manapiare, 202 km S of Caicara, 100–200 m, *Delascio & López 2797, 2812* (VEN).

Anthurium caucavallense Croat, sp. nov. TYPE:

Colombia. Valle: between Cartago and San José del Palmar, 10–15 km W of Ansermanuevo, 4°49'N, 76°02'W, 900 m, *Croat 56729* (holotype, MO 3107354; isotypes, CAS, COL, JAUM, K, NY, QCA, US; live at MO). Figures 86, 87, 91, 92.

Planta epiphytica aut terrestris; internodia brevia, 1–4 cm diam.; cataphyllum anguste triangulare, uncatum; petiolus (9)15–34 cm longus, 4–10 cm diam., plus minusve D-formatus, adaxiler complanatus ad leniter sulcatus, margine elevatus, abaxiler triplinervis-quinquenervis; lamina subcoriacea, oblanceolata ad plusminusve ellipticae, (25)50–90 cm longa, (6)10–30 cm lata, nervi primariis lateralis (9)11–20 utroque; nervo collectivo e nervis infernis primariis laterilibus exoriens. Pedunculus 23–53 cm longus, 1–2-plo bis longior quam petiolo; spatha oblonga-lanceolata, (8)10–23 cm longa, (1)1.5–2 cm lata; spadix violaceo-purpureus, vel e violaceo-purpureo viridis, leniter contractus, (3.7)8–21 cm longus, 7–10 mm diam. Baccae violaceo-purpureae.

Epiphytic or terrestrial; stem to 20 cm long, 1–4 cm diam.; roots dense, mostly descending, ascending at uppermost nodes, pale green, densely pubescent when fresh, moderately thick, tapered, to 5 mm diam.; cataphylls coriaceous to subcoriaceous, lanceolate and hook-shaped, 7–10 cm long, acuminate at apex, olive-green turning reddish purple, heavily short lineate throughout, drying brown, persisting as a reticulum of fibers. *Leaves* spreading; petioles (9)15–34 cm long, 4–10 mm diam., erect to spreading, ± D-shaped, flattened to weakly sulcate adaxially, the margins raised, (1)3–5-ribbed abaxially, the surface pale-speckled; geniculum paler than petiole, becoming fissured transversely with age, 1–2.5 cm long; blades subcoriaceous, oblanceolate to ± elliptic, acute to acuminate at apex (the acumen apiculate), narrowly acute to subtruncate at base, (25)50–90 cm long, (6)10–30 cm wide, broadest above the middle, the margins undulate; upper surface glossy to semiglossy, medium green, lower surface semiglossy to matte, sometimes weakly to conspicuously glaucous, paler; midrib flat at base, becoming acutely raised toward the apex above, higher than broad at base below with 1–2 blunt ridges, becoming convexly raised toward the apex; primary lateral veins (9)11–

20 per side, departing midrib at (45)70–90° angle, \pm straight, convexly raised above, more prominently so below; interprimary veins few, almost as conspicuous as primary lateral veins; tertiary veins flat to sunken above, weakly raised below; collective vein arising from near the apex, occasionally in the lower third or near the base, flat to scarcely sunken above, weakly raised below, 3–5 mm from margin. *Inflorescences* erect to spreading or pendent; peduncle 23–53(83) cm long, 4–6 mm diam., 1–2(5) \times as long as petiole, green often tinged with maroon, terete; spathe spreading to reflexed, subcoriaceous, olive-green tinged with maroon, oblong-lanceolate, (8)10–26 cm long, (1)1.5–2 cm wide, acuminate at apex (the acumen 5–10 mm long), acute to obtuse at base; spadix violet-purple or green tinged with gray-purple, tapered, sessile or stipitate to 7 mm long in back, (3.7)8–24 cm long, 5–10 mm diam. near base, 3–5 mm diam. near apex; flowers square to 4-lobed, 2–2.7 mm in both directions, the sides straight to jaggedly sigmoid; 5–8 flowers visible in principal spiral, 13–14 in alternate spiral; tepals matte, conspicuously papillate and with droplets; lateral tepals 0.7–1.3 mm wide, the inner margins broadly convex, the outer margins 2–3-sided; pistils emergent at anthesis, densely papillate, green; stigma slitlike to ellipsoid, 0.3–0.4 mm long; stamens emerging in a regular sequence from the base, the laterals preceding the alternates by 3–12 spirals, the 3rd stamen preceding the 4th by 1–3 spirals, held above tepals in a circle around the pistil, sometimes partially inclined over and obscuring it; anthers white tinged with maroon, 0.6–0.8 mm long, 0.5–0.8 mm wide; thecae oblong, 0.3–0.4 mm wide, not at all or somewhat divaricate; pollen purplish violet fading to yellowish cream, sometimes faintly cinnamon-scented. *Infructescence* sessile with spathe persisting; to 41 cm long; spadix 20–25(44) cm long, 2.0–4.5 cm diam., with the berries scattered throughout; berries violet-purple, obovoid, truncate at apex, 4–6 mm long, 3–4 mm diam.; mesocarp mealy; seeds (rehydrated) oblong, ca. 5 mm long, 2 mm diam., adhering very closely to carpel wall throughout adaxial length.

Anthurium caucavallense is known only from the Cauca River Valley (hence the name) or its vicinity in the departments of Antioquia and Valle in Colombia, from 900 to 1,920 m. Terrestrial or epiphytic, it occurs in steep, dry, more or less exposed areas or in the understorey of disturbed forest in the premontane wet forest life zone.

This species is distinguished by its hooked cataphylls, a more or less D-shaped petiole that is

usually 3–5-ribbed abaxially, its primary lateral veins which often spread at a broad angle, by its violet-purple, cylindroid and weakly tapered spadix, and its violet-purple berries.

Anthurium caucavallense is most similar to *A. glaucospadix* in its leaf and petiole shape and habitat. The latter species, however, has straight cataphylls and bluish green, glaucous spadix. Other distinctive differences of *A. glaucospadix* are its obtuse to emarginate leaf apices and its primary lateral veins which always arise at a more acute angle.

Anthurium caucavallense may also be confused with *A. fendleri*, a species widespread in Colombia, but that species differs in its promptly withering spathe, thinner leaves, and early-emergent fruits.

COLOMBIA. Bogotá–San Agustín, *Bogner s.n.* (cultivated) (M). ANTIOQUIA: Mpo. Venecia, 4.2 km E of Bolobolo, road to Venecia, Hacienda La Plata, 920 m, 6°1'N, 75°48'W, *Zarucchi & Echeverry 4656* (B, M, MO); along road between Jerico and Tamesis, ca. 5 mi. NW of Tamesis, 05°42'N, 75°44'W, 1,920 m, *Croat 70035* (MO); along road from Salgar to El Dauró near border with Chocó, 05°59'N, 76°07'W, 1,830 m, *Croat 69896* (MO). VALLE: Calcedonia (bought; said to have been collected locally), *Croat 51984* (COL, DUKE, F, MO, NY, PMA, TEX); Cali–Buenaventura, Km 24, 1,750 m, *Escobar 2770* (HUA); between Loboguerrero and Cisneros, along Quebrada de Los Indios, 3°46'30"N, 76°42'W, 500 m, *Croat 62804* (K, M, MO, NY, US); Cartago–San José del Palmar, 10–15 km W of Ansermanuevo, 900 m, 4°49'N, 76°02'W, *Croat 56729* (CAS, COL, JAUM, K, MO, NY, QCA, US).

Anthurium colonicum K. Krause, Bot. Jahrb.

Syst. 54(Beibl. 118): 123. 1916. TYPE: Panama. Colón: forest around Portobelo, 5–200 m, *Maxon 5801* (holotype, US). Figures 88, 89, 93.

Epiphytic; stem short, 5–7 cm diam.; leaf scars obscured by root mass and cataphylls, 1.5–1.8 cm high, 3.5–4 cm wide; roots moderately numerous, descending, green, smooth, slightly tapered; cataphylls coriaceous, erect, lanceolate, 20–36 cm long, acute to obtuse at apex with a subapical apiculum which appears hooked, green, drying tan (B & K yellow-red 9/10), persisting intact eventually as linear fibers or deciduous. *Leaves* spreading; petioles 26–90 cm long, subterete, narrowly to broadly and bluntly sulcate adaxially, the margins blunt, not raised, rounded abaxially, the surface pale-speckled; geniculum 2–6 cm long; blades coriaceous, ovate-triangular to oblong-ovate, short-acuminate at apex (the acumen to 30 mm long), broadly to deeply subcordate at base, 39–83 cm long,