

gins 2-sided; pistils weakly emergent; stigma ellipsoid to broadly ellipsoid; anthers tan, 0.5–0.6 mm long, 0.6–0.7 mm wide; thecae oblong, not divaricate; pollen yellow fading to white. *Infructescence* (immature): spreading(?); spathe reflexed and persistent, green; spadix 22–30 cm long, 1.4 cm diam.; berries light purple; pericarp with Raphide cells; seeds unknown.

Anthurium campii is endemic to Ecuador in southern Bolívar and southwestern Chimborazo provinces at 1,200 to 2,150 m as an epiphyte or terrestrially in either lower montane dry or pre-montane dry forest life zones (life zone uncertain).

This species is distinguished by its very large, broadly oblanceolate to oblong-elliptic, coriaceous leaf blades which dry green or yellowish green, its very long, thick cataphylls, and by the collective vein which arises from the lowermost portion of the blade. Its closest ally, and the only species with which it might be confused, is *A. sparreorum*, which occurs at 210–250 m in Cotopaxi and Los Ríos provinces and has shorter cataphylls (9–18 cm vs. 22–40 cm long), a much shorter, stubby, reddish violet spadix on a short peduncle, and a perianth becoming fleshy in fruit and extending beyond the red berry. *Anthurium campii* is also similar in overall appearance to *A. bucayanum*, which has very thin leaves and a long-stipitate, dark violet-purple spadix.

Anthurium campii is named in honor of Wendell H. Camp, who collected during 1944 and 1945 in Ecuador under the auspices of the New York Botanical Garden, and who was one of the first collectors of the species.

Occasional herbarium specimens of a different species have been seen bearing the name "*campii*," as proposed by A. D. Hawkes but never published. These specimens are attributable to *A. andicola* Lieb., an unrelated species of sect. *Belolonchium* from Mexico, and are not to be confused with this new Ecuadorian species.

ECUADOR, BOLÍVAR: Valle de Tablas, 1,200 m, *Acosta Solís* 6075 (MO, F). CHIMBORAZO: Alausí—El Triunfo, 6.9 km W of Huigra, 1,350 m, 2°19'S, 79°0'W, *Croat* 61562 (B. CM, K. MO, NY, QCA, RSA, US); Río Chanchán, 5 km N of Huigra, 1,650–2,150 m, *Camp* 3428 (MO), *E-3360*, *E-3460* (NY).

***Anthurium carchiense* Croat, sp. nov. TYPE:**

Ecuador. Carchí: vic. Maldonado, 1,500–1,900 m, *Madison* 3998 (holotype SEL-027098; isotype, MO-2925092). Figures 77, 78, 81.

Planta terrestris aut epiphytica; internodia 6–8 cm longa, 0.8–2 cm diam.; cataphyllum anguste lanceolatum, persistens fibris subtilibus et reticulatis; petiolus teres vel D-formatus 7–17(30.5) cm longus, 4–5 mm diam.; lamina oblonga aut oblanceolata, 30–57 cm longa, 2.7–6 cm diam.; nervis primariis lateralis 13–16 utroque; nervis collectivis de basi exorientibus. Pedunculus 17.5–39 cm longus; spatha 3–6.5 cm longa, 6–10 mm lata; spadix cylindricus, purpureus ad porphyreus, 2.3–6.3 cm longus, 3–5 mm diam.; stamina exserta. Baccae aurantiaco-rubrae, 6–7 mm longae, 3.2–3.4 mm diam.

Terrestrial or epiphytic; stem ca. 6–8 cm long, 0.8–2 cm diam.; leaf scars obscured by cataphyll fibers, 5–6 mm high, 1–1.3 cm wide; roots moderately numerous, generally descending, pale grayish white, drying tan, smooth, short to elongate, blunt at apex, to 14 cm long, 1–4 mm diam.; cataphylls subcoriaceous, narrowly lanceolate, unribbed, 5–9 cm long, acuminate at apex, green, drying tan to dark brown, persisting as a reticulum of fibers. *Leaves* spreading; petioles 7–17(30.5) cm long (mostly less than 16 cm long), 4–5 mm diam., terete to D-shaped, rounded to bluntly and narrowly sulcate (rarely broadly and sharply sulcate) adaxially, rounded abaxially, the surface somewhat pale-speckled; geniculum slightly paler and thicker than petiole, 0.7–2 cm long; blades subcoriaceous to coriaceous, oblong to oblong-elliptic, sometimes somewhat lanceolate or oblanceolate, long-acuminate (rarely acute) at apex, narrowly acute at base, 30–57 cm long, 2.7–6 cm wide, broadest at or slightly above the middle, the margins flat; upper surface glossy to semiglossy, dark green above, matte when dried, lower surface glossy, paler below, semiglossy when dried; both surfaces greenish to yellowish on drying; midrib acutely raised above, prominently and sharply acute below, slightly paler than surface; primary lateral veins 13–16 per side, departing midrib at 50–60° angle, ± straight-ascending to the collective vein, flat above, obscure and very weakly raised below; interprimary veins numerous, obscure above and below, drying raised and almost as conspicuous as primary lateral veins; tertiary veins visible when dried; collective vein arising from or near the base, weakly sunken above, raised below, raised above and below when dried, 3–8 mm from margin. *In-florescences* erect to spreading; peduncle 17.5–39 cm long, drying 1–4 mm diam., 1.9–5.5 × as long as petiole, green (brown when dried); spathe reflexed, subcoriaceous, pale green tinged with purple at margins, oblong-lanceolate to lanceolate, 3–6.5 cm long, 0.6–1 cm wide, broadest near the base, inserted at 45° angle on peduncle, acuminate at apex, acute at base, the margins meeting at 60–

80° angle; stipe 2–6 mm long; spadix maroon to orange-brown to brownish purple to brown (B & K yellow 4/5), cylindroid, shortly stipitate, straight or sometimes curved, 2.3–6.3 cm long, 3–5 mm diam.; flowers \pm rhombic, 2–2.4 mm long, 1.5–2 mm wide, the sides straight to smoothly sigmoid on drying; 4–6 flowers visible in principal spiral, 7–9 in alternate spiral; tepals purple-red, papillate, matte; lateral tepals 0.8–1.5 mm wide, the inner margins convex, the outer margins 2-sided; pistils scarcely emergent at anthesis, raised, purple-red to dark purple; stigma slitlike, 0.5–0.6 mm long, forming droplets before stamens emerge; stamens emerging in a regular sequence, held well above tepals, the laterals followed by alternates in rapid succession, the laterals preceding the alternates by 3–4 spirals, arranged in a circle around the pistil; filaments translucent, exerted 0.7–0.8 mm, 0.2 mm wide; anthers orange to pink (B & K red 8/10), 0.2–0.3 mm long, 0.4 mm wide; thecae ovoid, 0.6–0.4 mm wide, slightly divaricate; pollen white. *Infructescence* with spathe persisting; spadix 3.5–10.5 cm long, 1–1.7 cm diam., with the berries scattered throughout; berries orange-red, \pm ellipsoid to ovoid, acute at apex, (dried) 6–7 mm long, 3.2–3.4 mm diam.

A member of series *Multinervia*, *Anthurium carchiense* occurs in Ecuador in the Province of Carchí (hence the name), and in Colombia in Nariño at 1,200–2,600 m in premontane wet, premontane dry, and premontane thorn forest life zones; it presumably occurs also in premontane moist forest as well.

This species is distinguished by its small size, more or less oblong leaf blades which are long-acuminate at the apex, maroon to brownish spadix, flowers with exerted stamens, and red-orange berries.

A species similar in overall appearance, *A. obscurinervium*, differs in having a green spadix and D-shaped petioles, and generally occurs at lower elevations.

COLOMBIA. NARIÑO: Cerro Gualcala, W slopes, vic. of Tuquerres, 2,400–2,600 m, *Lehmann* 5331 (F, K); La Planada, 7 km above Chucues on road Tuquerres-Ricaurte, 1,780 m, *Croat* 69571 (B, COL, K, M, MO, PSO); near Ricaurte, 1,800 m, *Gentry et al.* 59681 (MO). ECUADOR. CARCHÍ: Río San Juan, Chical, 12 km below Maldonado, 1,200 m, 1°4'N, 78°17'W, *Madison et al.* 4762 (K, SEL), 4812 (SEL); Chical, 1,200–1,250 m, 0°56'N, 78°11'W, *Thompson & Rawlins* 995 (CM); Gualpi Chico area near Awá Ethnic encampment, 1,300 m, 0°58'N, 78°16'W, *Hoover et al.* 2752, 3212 (MO); Quebrada Peñas Blancas-Quebrada Quinchul, 0°58'N, 78°12'W, *Thompson & Rawlins* 1031 (CM); Maldonado, 1,500–1,900 m, *Madison* 3998 (MO, SEL), 4264 (SEL);

Río Chilma, Machinas-Planada de Chilma, 2,350–2,450 m, 0°52'N, 78°3'W, *Stein* 2913 (MO); Río Verde, Rafael Quindis mountain finca, 1,890 m, 0°52'N, 78°08'W, *Hoover* 1986, 2265 (MO); 1,870–2,400 m, 0°52'N, 78°07'W, *Hoover* 2265 (MO).

Anthurium cataniapoense Croat, *Aroideana* 9(1–4): 18–20, 1986. TYPE: Venezuela. Amazonas: Dept. Río Negro, vic. Cerro Neblina base camp, Río Mawarinuma, 140 m, 00°50'N, 66°10'W, *Croat* 59319 (holotype, MO 3401082-3; isotypes, AAU, B, CAS, COL, F, INPA, K, M, MY, US, VEN). Figures 82–85.

Epiphytic; stem 1.5–2.5 cm diam.; roots dense, spreading-ascending, ca. 3–12 cm long, ca. 3–4 mm diam.; cataphylls hook-shaped, to 6 cm long, acute and shortly apiculate at apex, drying dark brown to reddish brown, persisting as linear fibers. *Leaves* erect-spreading; petioles 6–13 cm long, 11–14 mm diam., D-shaped, flattened when young, broadly sulcate and with a prominent medial rib adaxially, 1–3-ribbed or rounded abaxially; geniculum paler and thicker than petiole, 1–1.5 cm long; sheath to 5 cm long; blades subcoriaceous, broadly elliptic-oblancoate, acute to obtuse at apex (the acumen inrolled), narrowly acute to rounded at base, 60–117 cm long, 20–50 cm wide, broadest above the middle, the margins broadly undulate; both surfaces semiglossy, green (B & K yellow-green 6/5); midrib acutely raised, becoming higher than broad toward the apex above, concolorous with the surface, acutely raised and paler than surface below; primary lateral veins 11–16 per side, departing midrib at 40–60° angle, arcuate-ascending to the margin, weakly rounded-raised and concolorous with the surface above, obscurely raised and paler than surface below; tertiary veins flat and darker than surface below; collective vein arising from near the apex or absent, less prominent than primary lateral veins, 5–13 mm from margin. *Inflorescences* pendent; peduncle 32–53 cm long, 3–4 mm diam., (3)5–6(8)× as long as petiole; spathe spreading, subcoriaceous, green, sometimes tinged brownish or purplish adaxially, lanceolate-oblong, 9–26 cm long, 1–2.5 cm wide, acuminate at apex, acute at base; spadix maroon to dark purplish violet (B & K red-purple 2/2.5), sessile, tapered-cylindroid, slightly curved, 11.5–24.5 cm long, 3–5 mm (6.5) diam. at anthesis midway, 3 mm diam. near apex; flowers rhombic, 1.5–2.3 mm long, 1–1.6 mm wide; the sides sigmoid; 8–12 flowers visible in principal spiral, 6–13 in alternate spiral; tepals matte, smooth; lateral tepals 0.5–1 mm wide, the outer margins