

2-sided, sometimes weakly 4-sided; pistils raised but not emergent, or held slightly above the tepals, green; stigma ellipsoid, 0.4 mm long, brushlike; stamens emerging shortly above the tepals, laterals emerging almost to the apex before alternates emerge; filaments fleshy, translucent or purplish, 0.5–0.8 mm long, 0.4–0.8 mm wide; anthers yellow to purplish, 0.3–0.6 mm long, 0.4–0.7 mm wide, inclined over the pistil; thecae oblong, drying ovoid, scarcely divaricate; pollen white to yellow-orange fading to tan. *Infructescence* with spathe persisting; spadix 8–22 cm long, 0.5–1.4 cm diam.; berries reddish to dark purplish violet, ovoid, exserted, acute at apex, drying 4.2–6 mm long, 2–2.5 mm diam.

A member of series *Multinervia*, *Anthurium napaeum* occurs in Ecuador on the western slopes of the Andes, at 200 to 1,400 (1,800) m in premontane wet and premontane moist forest, and in Nariño, Colombia. One specimen from Cotopaxi, between Latacunga and Quevedo at 800 to 950 m, was reported to occur in montane moist forest.

This species is characterized by its generally terrestrial habit, short, densely rooted stem, cataphylls that persist as a reticulum of fibers, broadly triangular, conspicuously pale-speckled petioles, leaf blades which are usually glossy on both surfaces when fresh, drying green and often conspicuously paler below, and by its cylindroid, brownish purple spadix with 4–6 flowers visible in the principal spiral.

*Anthurium napaeum* is most closely allied to *A. palenquense*, which differs in having leaf blades with the margins conspicuously concave toward the base.

The names *Anthurium peripense* and *A. rircayanum* are synonymized here for the first time. The type localities of these species, together with that of *A. napaeum* are in the coastal lowlands of western Ecuador, draining into the Gulf of Guayaquil. The differences between the type specimens are slight, the main one being leaf shape: the types of *A. napaeum* and of *A. rircayanum* closely resemble each other in this respect, while that of *A. peripense* has straighter blade margins which are somewhat concave toward the base.

An unusual collection (*Croat 55782*) exhibits stamens starting emergence at the apex of the spadix and progressing regularly to the base, with the laterals preceding the alternates by up to 18 spirals. Basipetal maturation of the stamens has not been observed in any other *Anthurium*.

COLOMBIA. NARIÑO: La Planada, Salazar Finca 7 km above Ricaurte, 1,750 m, 1°08'N, 77°58'W, *Gentry et*

*al. 35197* (COL, MO). ECUADOR. CAÑAR: Azoques-El Triunfo, 1 km S of La Delicia, 2°27'S, 79°10'W, *Croat 50876* (AAU, B, CAS, K, CM, M, MO, RSA, US); Azoques-El Triunfo, 5 km W of La Delicia, 8 km SE of El Truncal, 600 m, 2°27'S, 79°15'W, *Croat 50904* (CM, MO). CARCHI: Peñas Blancas, 900 m, *Christenson 1535* (MO). CHIMBORAZO: Sibambe, 1,000–1,600 m, *Solis 5342* (F); Río Chanchán, 5 km N of Huigra, 1,667–2,167 m, *Camp 3428* (NY). COTOPAXI: Quevedo-Latacunga, 800–950 m, 0°55'S, 79°10'W, *Holm-Nielsen et al. 3021* (AAU); Río Pilaló, Quevedo-Latacunga, Teneferste, 750–1,300 m, *Dodson & Gentry 11987, 12297, 12797* (MO, SEL); 3 km E of El Palmar, 800 m, *Dodson & Gentry 10267* (MO, SEL); 55.5 km from Quevedo, 23.5 km E of La Maná, 930–950 m, 0°53'S, 79°04'W, *Croat 57035* (CAS, BG, K, MBM, MEXU, MO, P, PMA); Quevedo-El Corazón, 1.9 km NW of El Corazón, 67.5 km SE of Quevedo, 1,225 m, 1°07'S, 79°06'W, *Croat 55829* (MO, QCA); Río Angamarca, Quevedo-El Corazón, Las Juntas, 200 m, *Harling & Anderson 19025* (MO, GB); Quevedo-El Corazón, 63.4 km SE of Quevedo, 6 Km NW of El Corazón, slopes near waterfall above river, 1,030 m, 1°7'S, 79°7'W, *Croat 55782* (AAU, F, M, MO, NY, QCA, RSA, US). ESMERALDAS: 300 m, *Cobb 77* (MO). GUAYAS: Naranjal, Entable, below 500 m, *Lehmann s.n.* (K); Río Riracay, *Rimbach s.n.* (B). Junction of Provinces GUAYAS, CAÑAR, CHIMBORAZO & BOLÍVAR: Bucay, 420 m, *Camp 3648* (NY, MO). MANABI: Río Peripa, *Sodiro s.n.* (B). PICHINCHA: Quito-Santo Domingo de Los Colorados, Chiriboga Road, Estación Los Faisanes, 12 km from Río Pilatón, 1,400 m, *Harling & Anderson 23128* (GB); Río Pilatón, Alluruquín, 22 km E of Santo Domingo, 950 m, 0°15'S, 78°58'W, *Hammel & Wilder 16073* (B, K, MO); Km 23 on Santa Domingo-Puerto Limón road, 100 m, 0°21'S, 79°22'W, *Kvist 40676* (AAU); San Juan, La Palma, 930 m, *Croat 38739* (F, MO); Alluruquín-Chiriboga, 1,100 m, *Madison 4069* (K, SEL); Río Blanco, below confluence with Río Toachi, 300 m, *Harling 4516* (S); Río Napa, *Sodiro s.n.* (B).

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

Colombia. Nariño: Junín-Barbacoa road, 2–10 km N of Junín, 900–1,000 m, 1°30'N, 78°10'W, *Gentry et al. 55343* (holotype, MO 3486084; isotype, PSO). Figure 201.

Planta epiphytica; petiolus 12 cm longus, 7 mm diam., D-formatus; lamina oblongo-oblancoelata, basi attenuata, ad 93 cm longa, 16 cm lata; pedunculus ad 40 cm longus; spatha oblongo-lanceolata, ad 11 cm longa, 1.5 cm lata; spadix atrorubens, 17 cm longus, 5–6 mm diam.; baccae ignotae.

Description based on dried material only. Epiphytic; stem and cataphylls unknown. *Leaves* erect-spreading; petioles ca. 12 cm long, 7 mm diam., D-shaped, slightly convex adaxially, apparently rounded abaxially; geniculum 1.5 cm long; blades subcoriaceous, oblong-oblancoelate, acuminate at apex, long-attenuate at base, 93 cm long, 16 cm wide, broadest above middle, yellowish, the margins flat; midrib convexly raised above, prominently convexly raised below; primary lateral veins ca. 30

per side, departing midrib at 60–70° angle, slightly arcuate to the collective vein, slightly raised above and below; interprimary veins numerous, almost as conspicuous as primary lateral veins; tertiary veins scarcely raised above and below, more prominent below; collective vein arising from near the base, nearly as conspicuous as primary lateral veins, 5–9 mm from margin. *Inflorescences* erect-spreading; peduncle 40 cm long, ca. 5 mm diam., ca. 4× as long as petioles, terete; spathe reflexed, subcoriaceous, green, oblong-lanceolate, at least 11 cm long, 1.5 cm wide, broadest near base, inserted at 45° angle on peduncle, apex not seen, the base acute; spadix dark reddish, slightly tapered, ± straight, 17 cm long, 4 mm diam. near base, 3 mm diam. near apex; flowers rhombic, 2.4–2.8 mm long, 1.6–2 mm wide, the sides smoothly sigmoid; 7–8 flowers visible in principal spiral, 5–6 in alternate spiral; tepals ± smooth; lateral tepals ca. 1 mm wide, the inner margins straight, the outer margins 2–4-sided; anthers 0.2 mm long, 0.3 mm wide; thecae slightly divaricate. *Infructescence* not seen.

A member of series *Multinervia*, *A. narinoense* is known only from the type collection made in Nariño (hence the name), Colombia, at 900 to 1,000 m in pluvial forest.

*Anthurium narinoense* is distinguished by its large leaves (for the series), which dry yellow-green, and its slender, tapered spadix. It is apparently not closely related to any other species, but somewhat resembles *A. fasciale* and *A. santiagoense* from the eastern slopes of the Andes in Ecuador, which both have a more stubby spadix with more flowers in the principal spiral.

*Anthurium narinoense* is unusual in being the only species of *Pachyneurium* known from pluvial forest.

COLOMBIA. NARIÑO: Junín-Barbacoas, 2–10 km N of Junín, 900–1,000 m, 1°30'N, 78°10'W, Gentry et al. 55343 (MO, PSO).

***Anthurium nervatum*** Croat, Monogr. Syst. Bot.

Missouri Bot. Gard. 14: 141. 1986. TYPE: Panama. Veraguas: valley of Río Tercero Brazo, beyond Escuela Agrícola Alto Piedra, above Santa Fe, 500–700 m, Croat 27329 (holotype, MO 2253314; isotypes, F, K, PMA, US). Figures 198, 202.

Epiphytic, occasionally terrestrial; stem 10–75 cm long, 2.5–6 cm diam.; leaf scars 1–1.5 cm high, 2–3.5 cm wide; roots few, descending, greenish, pubescent, moderately thick and short, slightly

tapered, 3–7 mm diam.; cataphylls subcoriaceous, lanceolate, 16–35 cm long, rounded to emarginate at apex with subapical apiculum ca. 5 mm long, green, drying tan (B & K yellow-red 9/10), persisting semi-intact, eventually as a reticulum of fibers. *Leaves* erect to spreading; petioles 18–100 cm long, 7–14 mm diam., bluntly to sharply quadrangular to D-shaped or subterete, prominently to weakly sulcate or flattened adaxially, the margins flat or raised, rounded abaxially, the surface pale-speckled; geniculum thicker and paler than petiole, becoming fissured transversely with age, 1.5–5 cm long; blades moderately to thickly coriaceous, triangular to ovate-triangular, ovate-elliptic, acute to acuminate at apex (the acumen weakly apiculate), subcordate to cordate at base, sometimes decurrent on petiole, 27–98 cm long, 14.5–46 cm wide, broadest in the lower fourth of the blade, the margins broadly undulate; anterior lobe 25.5–90 cm long, the posterior lobes 4–19 cm long, directed downward and sometimes inward or outward; sinus arcuate with blade decurrent on petiole, to spatulate; upper surface matte to semiglossy, dark green, lower surface semiglossy, slightly paler; midrib bluntly angular-raised, becoming acutely to obtusely raised, and then weakly sunken at apex above, prominently and convexly raised below, paler than surface above and below; basal veins 3–6 pairs, often free to base, 2nd and 5th sometimes coalesced 1.5–2 cm, convexly raised above and below (less so below); primary lateral veins 19–25 per side, departing midrib at 50–60° angle, straight or weakly arcuate to the collective vein, prominently to weakly convexly raised above (more so below), paler than surface; interprimary veins sometimes present; tertiary veins obscure to weakly visible above, flat and darker than surface below; collective vein arising from one of the lowermost primary lateral veins or 1st to 2nd basal vein, weakly sunken above, weakly raised and darker than surface below, 1–5 mm from margin. *Inflorescences* erect to spreading; peduncle 10–35 cm long, 8–10 mm diam., 0.2–0.7× as long as petiole, green, terete; spathe reflexed, sometimes recurved, coriaceous to subcoriaceous, green to green heavily tinged with purple-violet to purplish or maroon, lanceolate to lanceolate-elliptic, 10–33 cm long, 2.5–5.5 cm wide, broadest just above the base, inserted at 30° angle on peduncle, long-acuminate at apex (the acumen inrolled), rounded to cordate at base; spadix green to purple to maroon, slightly tapered, (6)18–28 cm long, 1–2 cm diam. near base, 8–10 mm diam. near apex; flowers rhombic to weakly 4-lobed, 2.2–3.2 mm long, 2.0–3.1 mm wide, the sides weakly to jaggedly sigmoid; 10–15