

long, 1.4–1.6 cm diam., bearing berries in the basal portion only; berries dark red, probably acute at apex, drying 4.8–5.5 mm long, 3–3.2 mm diam.

Anthurium anorianum is endemic to Colombia in the Department of Antioquia at 300–750 m in tropical moist and tropical wet forest life zones. All collections to date have been made from the northern drainage of the Río Canoa.

This species is characterized by its short petioles, its subcoriaceous, broadly oblanceolate leaf blades which are attenuate at the base and acuminate at the apex and dry tan to brownish green, and by its slender, long-tapered, dark red to purplish-brown spadix. Especially distinctive is the usually pinkish coloration of the peduncle and primary lateral veins on drying.

Anthurium anorianum is similar in appearance to *A. vaupesianum*, also from Colombia, with which it shares a slender, long-tapered spadix. *Anthurium vaupesianum* differs in being smaller in overall size, in having obovate leaf blades, and in occurring in the Amazon basin.

The species is named after the Municipio Anorí, where most collections were made.

COLOMBIA. ANTIOQUIA: Río Bagre, Segovia–Cañaverales, 1 km NE of village of El Río, 300 m, 7°10'N, 74°38'W, *Croat 56757* (COL, K, MO, US); Segovia–Antioquia, village of El Río, 750 m, *Renteria et al. 1576* (HUA, MO); Mpo. Anorí, Buenos Aires, Corregimiento de Providencia, 500–700 m, *Soejarto 2922* (HUA), 2995 (COL, HUA); Río Anorí, Dos Bocas–Anorí, Buenos Aires, trail along Quebrada Sarmiento, 600 m, *Soejarto et al. 4355* (MO); Mpo. Cáceres, El Doce Baja Cauca, 7°27'N, 75°20'W, *Callejas 210* (HUA); Mpo. Valdivia, Corregimiento Puerto Valdivia, 5 km from Puerto Valdivia at Río Pescado, 410 m, 7°20'N, 75°20'W, *Callejas et al. 3447* (HUA, MO, NY).

Anthurium asplundii Croat, sp. nov. TYPE: Ecuador. Los Ríos: Río Blanco, across river from Villa Hermosa, 3 km S of Sto. Domingo–Esmeraldas hwy. at Km 24, 00°05'S, 79°15'W, *Croat 50688* (holotype, MO 3313109-10; isotypes, K, QCA, US). Figures 8, 10, 35–37, 43.

Planta epiphytica; internodia brevia, 3.5–5 cm diam.; cataphyllum lanceolatum; petiolus 7–15(25) cm longus, ca. 10 mm diam., adaxiale complanatus cum costa mediana, abaxiale rotundus; lamina coriacea-subcoriacea, late oblanceolata-elliptica, acuta apud apicem, acuta usque late rotundata ad vadosa cordata apud basim, (60)90–125 cm longa, 20–34 cm lata; nervis primariis lateralis (11)16–26 utroque. Pedunculus (20)33–60 cm longus; spatha oblongo-lanceolata, viridis, aliquando purpurea tincta, (9)12–30 cm longa, 1–1.7 cm lata; spadix purpureus extendens ad marrinonium, leniter contractus, 12–23 cm longus, 3–6 mm diametro. Baccæ ignotæ.

Usually epiphytic, sometimes terrestrial; stem to 60 cm long, 3.5–5 cm diam.; roots very dense, spreading-ascending, greenish to white, smooth, ca. 7–15 cm long, ca. 5 mm diam.; cataphylls subcoriaceous, lanceolate, straight or hooked, to 14 cm long, acuminate at apex, drying whitish to reddish brown, persisting as linear fibers. *Leaves* erect-spreading; petioles 7–15(25) cm long, ca. 10 mm diam., sharply D-shaped, somewhat flattened with a medial rib and sharply erect or acute margins adaxially, rounded and sometimes weakly 1–2-ribbed abaxially; geniculum moderately thicker and slightly paler than petiole, 1–3 cm long; blades coriaceous to subcoriaceous, oblanceolate to broadly oblanceolate-elliptic, acute to abruptly and shortly acuminate at apex, acute to broadly rounded or shallowly cordate at base, rarely narrowly acute, (60)90–125 cm long, 20–34 cm wide, broadest above the middle, the margins moderately undulate; upper surface semiglossy, medium green (B & K yellow-green 2/7.5), lower surface weakly glossy, moderately paler; midrib convexly raised to prominently 1-ribbed at base, becoming acutely raised toward the apex above, moderately paler than surface, convexly raised and conspicuously paler than surface below; primary lateral veins (11)16–26 per side, departing midrib at 40–50(60)° angle, straight-ascending to very near the margin, then arcuate, frequently congested at base, convexly raised above, less conspicuously so below, paler than surface; interprimary veins usually present toward the apex and base of the blade; tertiary veins rather obscure above, less so below, drying conspicuously raised on both surfaces; reticulate veins prominulous on drying; collective vein arising from near the apex or absent, rather obscure on both surfaces, to 8 mm from margin. *Inflorescences* erect; peduncle (20)33–60 cm long, 3–5 mm diam., 3–6× as long as petioles, terete; spathe reflexed, subcoriaceous, green, sometimes tinged with purple, oblong-lanceolate, (9)12–30 cm long, 1–1.7 cm wide, broadest near the base, acuminate at apex, obtuse at base; spadix dark to dull purple to maroon, sessile or stipitate to 4 cm, cylindroid, slightly tapered, somewhat curved, held at 30–50° angle from peduncle, 12–23 cm long, 5–6 mm diam. near base, 3–4 mm diam. near apex, broadest at the base; flowers rhombic, 1.2–2.5 mm long, 1.2–1.6 mm wide, the sides smoothly sigmoid; 6–9 flowers visible in principal spiral, 4–5(8) in alternate spiral; tepals muricate; lateral tepals 0.7–1.5 mm wide, the outer margins 2-sided, the inner margins nearly straight to rounded; pistils yellowish when dried; filaments (dried) exerted for 0.2–0.3 mm, 0.3–0.7 mm wide; anthers pinkish, 0.3–0.4

mm long, 0.4–0.5 mm wide; thecae ovate, slightly or prominently divaricate.

Anthurium asplundii is endemic to coastal Ecuador in Esmeraldas, Los Ríos, and Pichincha provinces, where it occurs from near sea level to 400 m in tropical dry, tropical moist, and premontane wet forest life zones.

This species is distinguished by its short petioles, its large, oblanceolate leaf blades which are frequently rounded to subcordate at the base and often dry green (sometimes yellowish brown), and by its purple to maroon, often stipitate spadix.

Though sometimes terrestrial, this species is usually epiphytic and in coastal Ecuador can only be confused with *A. barclayanum*. The latter occurs further to the south in mostly drier life zones, and the more narrowly oblanceolate leaves are held in an open rosette, whereas in *A. asplundii* they may overlap in the lower portion and form a tight "bird's nest" rosette. In addition, the blades of *A. barclayanum* are usually strongly undulate, much more so than in the present species, and the cataphyll is cucullate (vs. lanceolate and straight or hooked in *A. asplundii*). The spadix color of *A. asplundii* is dark purple to maroon, and in *A. barclayanum* it is usually greenish.

A species which is remarkably similar in overall appearance to *A. asplundii* is *A. harlingianum*, from the eastern foothills of the Andes, mostly in Ecuador. It differs mainly in its spadix color (dark salmon-pink to pale violet-purple vs. maroon to dark purple in *A. asplundii*) and in having leaves that dry mostly dark brown rather than greenish. The disjunct distribution suggests that the two are remotely related.

An interesting collection is *Dodson & Embree 13097*, from Borbón in northern Esmeraldas, for which the spadix color is reported as "gray-white." In the dried state it is brown, not dark maroon as in other specimens. It otherwise agrees well with *A. asplundii*. Another somewhat aberrant plant is *Harling 4465*, from the Río Blanco in Pichincha, with the geniculum 3 cm remote from the base of the leaf blade.

The species is named in honor of Erick Asplund, the first Swedish botanist to collect for the Flora of Ecuador project and the first to collect *A. asplundii*, in 1955.

ECUADOR. ESMERALDAS: without locality, less than 300 m, *Cobb 44* (MO); 20 km S of Esmeraldas, Hacienda Guayas, *Sparre 15366* (S); Esmeraldas airport–San Mateo, 4.1 km N of bridge over Río Esmeraldas, near sea level, 0°54'N, 79°38'W, *Croat 55586* (CM, QCA, MO, US, NY); Esmeraldas–Sua, 6.4 km N of Río Sua, 29.4 km SW of jet. with road to Esmeraldas, 40 m, 0°52'N,

79°52'W, *Croat 55598* (MO, QCA); Santo Domingo de los Colorados–Esmeraldas, 62 km N of Quinindé, 80 km SE of Atacames, 270 m, 0°35'N, 79°33'W, *Croat 55580* (MO, QCA, NY, RSA); 8.8 km NW of Quinindé, 270 m, 0°26'N, 79°03'W, *Croat 55554* (MO, QCA); 4.4 km SW of Sua, coastal road, 35.7 km SW of jet. with road to Esmeraldas, near sea level, 0°51'N, 79°53'W, *Croat 55608* (MO, QCA); Limones, sea level, *Christenson 1521* (MO); Río Cayapas, Playa Grande, 2 km SE of San Francisco de Cayapas, *Sparre 18039* (S); Zapallo Grande, 150 m, 78°55'W, 0°49'N, *Kvist & Asanza 40886* (AAU); Río Esmeraldas, opposite Quinindé (Rosa Zárate), *Asplund 16346* (S); Río Santiago, Borbón, 30 m, *Dodson & Embree 13097* (SEL); Río Verde, hill above Businga, 300 m, 1°00'N, 79°30'W, *Juncosa 801* (MO). LOS RÍOS: Río Blanco, Santo Domingo de los Colorados–Esmeraldas, 3 km S of Km 24, across river from Villa Hermosa, 250 m, 0°05'S, 79°15'W, *Croat 50685* (K, MO), *50688* (MO, K, QCA, US), *50693* (B, MO). PICHINCHA: 10 km NW of Santo Domingo de los Colorados, road to Esmeraldas, Rancho Brahman, 400 m, *Sparre 15210* (S); below confluence with Río Toachi, 200 m, *Harling 4465* (S); confluence of Río Napo and Río Pilaton, *Sodiro s.n.* (Q).

Anthurium atropurpureum R. Schultes & Maguire, Bot. Mus. Leaflet. Harvard Univ. 16: 60. 1953.

a. *Anthurium atropurpureum* var. *atropurpureum*. TYPE: Colombia. Amazonas: Quebrada Agua Preta, *Black & Schultes 46-375* (holotype, GH). Figures 38, 44.

Terrestrial or rarely epiphytic; stem to 30 cm long, 1.5–2 cm diam.; roots mostly descending, 3–30 cm long, 2–4 mm diam.; cataphylls subcoriaceous to coriaceous, 1–7 cm long, narrowly acute at apex, drying pale brown (B & K yellow 5/2.5), persisting ± intact, sometimes as a reticulum of fibers with the apex remaining intact. *Leaves* ± erect; petioles 2–25 cm long, 2–8 mm diam., bluntly D-shaped or terete to subterete, obtusely or narrowly sulcate, sometimes weakly flattened adaxially, rounded abaxially, surface sometimes pale-speckled; geniculum thicker and paler than petiole, concolorous when dried, becoming fissured transversely with age, occasionally to 2.5 cm remote from the base of the blade, 0.5–1.5 cm long; blades subcoriaceous to coriaceous, mostly elliptic, often narrowly so, acuminate at apex (the acumen flat), attenuate or acute at base, 11–75 cm long, (3)5–14 cm wide, broadest at or near the middle, the margins flat to undulate; upper surface semiglossy to glossy, medium green, lower surface matte to semiglossy, sometimes paler, drying pale green; midrib convexly raised to angular at base, becoming narrowly raised toward the apex above, broadly acute at base below, becoming conspicuously and acutely raised to narrowly raised toward apex, paler than surface when dried; primary lateral veins 5–