

acumen apiculate), rounded to acute or attenuate at base, 25–57 cm long, 10.7–30 cm wide, broadest at or above the middle, the margins weakly undulate; upper surface matte to semiglossy, medium green, lower surface matte, paler below; both surfaces with short, linear raphide cells and convexly raised epidermal cells, drying brown to greenish brown; midrib acutely to convexly raised above, more prominently so below; primary lateral veins 6–11 per side, departing midrib at 50–80° angle, straight to weakly arcuate-ascending to the collective vein, raised above and below, darker than surface below; tertiary veins obscure above, weakly visible below; collective vein arising from about the middle of the blade or near the apex, 3–9 mm from margin. *Inflorescences* erect, equalling or longer than leaves; peduncle 31–60 cm long, 5–8 mm diam., 1.8–2.7 × as long as petiole, terete; spathe reflexed, subcoriaceous, green, ovate-lanceolate, 8–9.5 cm long, 2.5–3 cm wide, broadest near the base, inserted at 45° angle on peduncle, acute at apex, apparently obtuse at base; spadix pale green becoming reddish brown, somewhat tapered, 12–14 cm long, 9–11 mm diam. near base, 4 mm diam. near apex; flowers rhombic, 1.8–2.5 mm long, 2.8–3 mm wide, the sides sigmoid; 7–9 flowers visible in principal spiral, 5–6 in alternate spiral; lateral tepals 1.5 mm wide, the inner margins broadly convex or weakly concave; pistils not emergent; stigma broadly ellipsoid; stamens emerging rapidly in a complete sequence, emerging shortly above the tepals, arranged in a circle around the pistil; anthers ca. 0.4 mm long, 0.6 mm wide; thecae ellipsoid, weakly divaricate. *Inflorescence* pendent; spathe withered; spadix 6.5 cm long, 1.5 cm diam.; berries greenish white, ovoid, 8 mm long; mesocarp transparent, juicy, pulpy; seeds 1(2) per berry, pale yellow (B & K yellow 9/2.5), broadly obovoid, 5.2–5.4 mm long, 4.5–4.7 mm diam., 3.4–4 mm thick, with a minute, translucent appendage, ± gnarled at apex on side, tinged with brown, enveloped by gelatinous substance.

Anthurium nizandense is endemic to Mexico in southern Guerrero and southern Oaxaca, where it occurs at less than 850 m in seasonally very dry habitats on steep, rocky cliffs in "selva baja caducifolia." It is known only from the vicinity of Tierra Colorada in Guerrero and Nizanda in Oaxaca.

This species is recognized by its greenish white berries and thick, narrowly to broadly elliptic or oblanceolate-elliptic, relatively long-petioleat leaves that are matte on the lower surface and sometimes exhibit a dense array of minute, linear raphide cells on drying. The epidermal cells on both surfaces of

the blade are convexly raised. Matuda reported the petiole to be subquadrangular, but this was possibly due to a misinterpretation of the dried specimen since this feature is not apparent on live material.

In the area of Mexico where it occurs, *A. nizandense* could be confused only with *A. schlechtendalii* subsp. *jimenezii*, which occurs in similar habitats and is more generally abundant. *Anthurium nizandense* is distinguished by its proportionally longer petioles and its more typically elliptic blade, which is distinctly matte on the lower surface. In *A. nizandense* the blades are 1.3–2.5 times longer than the petioles. In *A. schlechtendalii* subsp. *jimenezii*, the leaf blades are usually semiglossy beneath and usually 6–10 times longer (rarely as little as 3 times longer) than the petiole.

MEXICO. GUERRERO: Río Omitlán, bridge over Río Omitlán at confluence of Río Papagayo with Río Omitlán, 850 m. *Croat 45756* (B, BM, CM, K, M, MBM, MO, P, TEX, US); La Junta, S of Tierra Colorada, *Kruse 881* (MEXU); Tierra Colorada, *Kruse 1595* (MEXU). OAXACA: Nizanda, Isthmus of Tehuantepec, *MacDougall s.n.* (MEXU).

Anthurium obscurinervium Croat, sp. nov.

TYPE: Ecuador. Cañar: along road between Azogues and El Triunfo, ca. 2 km S of Hwy. at Cedro Pampa, 800–1,000 m, 2°25'S, 79°10'W, *Croat 50914* (holotype, MO 2828745; isotypes, AAU, BM, G, K, LL, M, MICH, NY, QCA, RSA, SEL, US). Figures 203, 204.

Planta terrestris aut epiphytica; caulis ad 30 cm longis, 1.3–3.5 cm diam.; cataphyllum persistens in fibris tenuibus; petiolus (3.5)6–22 cm longus, 4–10 mm diam., acute D-formatus; lamina anguste oblongato-elliptica aut oblonga-linearis, (18)30–79 cm longa, (3.2)4–7(11) cm lata; nervis primariis lateralibus obscuris; pedunculus 20–45 longus; spathe (2.5)3–7 cm longa, 0.7–1.7 cm diam.; spadix viridis, (1.7)4–11(15) cm longus, 3–6 mm diam.; bacciae atropurpureae.

Epiphytic or terrestrial; stem to more than 30 cm long, 1–3.5 cm diam.; roots dense, short, ca. 3 mm diam.; cataphylls subcoriaceous, 4–9 cm long, acute to acuminate at apex, drying whitish (B & K yellow 9/2.5 to yellow-red 9/7.5), persisting as linear fibers. *Leaves* spreading; petioles (3.5)6–22 cm long, 4–10 mm diam., sharply D-shaped, slightly thicker than broad, sharply flattened to broadly and shallowly sulcate adaxially, the margins sharply raised to curved inward, rounded to obtusely or acutely angular, sometimes 1-ribbed abaxially; geniculum somewhat thicker and much paler to darker than petiole, 0.7–1.7 cm long; blades subcoriaceous, narrowly oblong-

elliptic to oblong-linear, long-acuminate to short-acuminate (rarely acute) at apex, attenuate to narrowly acute at base, (18)30–79 cm long, (3.2)4–7(11) cm wide, broadest at or near the middle, the margins flat, weakly revolute; upper surface semi-glossy, medium to dark green, lower surface glossy, much paler; midrib convexly raised at base, becoming acutely raised toward the apex above, prominently and acutely raised at base, becoming less pronounced toward the apex below; primary lateral veins 25–55 per side, departing midrib at 40–50° angle, straight to the collective vein, obscure and flat above and below; interprimary veins numerous, almost as conspicuous as primary lateral veins; tertiary veins drying visible; collective vein arising from the base, slightly more prominent than primary lateral veins, 4–6 mm from margin. *Inflorescences* erect-spreading; peduncle 20–45 cm long, 2–4 mm diam., 1.6–4(5.5)× as long as petiole, pale green, sometimes tinged purplish, subterete to 3–4-ribbed; spathe spreading, rarely reflexed, thin, green to pale green, sometimes tinged with purple at margins, lanceolate-elliptic to linear-lanceolate, (2.5)3–7 cm long, 0.7–1.7 cm wide, broadest near the base, short-acuminate at apex (the acumen somewhat inrolled), acute at base; stipe 2–13 mm long in front and in back; spadix medium green (B & K yellow-green 7/5) to pale green, cylindroid, scarcely tapered, curved, (1.7)4–11(15) cm long, 3–6 mm diam. near base, 2–3 mm diam. near apex; flowers 4-lobed; 2–3 mm in both directions, the sides jaggedly sigmoid, 3–5 flowers visible in principal spiral, 5–7 in alternate spiral; tepals matte, weakly and minutely papillate, droplets present at anthesis; lateral tepals 1–1.8 mm wide, the inner margins straight to broadly rounded, the outer margins irregularly 3–5-sided; pistils weakly raised, green; stigma depressed, 0.2–0.4 mm long; stamens emerging in prompt sequence from the base, the laterals preceding the alternates by 3–11 spirals, held in a tight cluster above the pistil; filaments translucent, 0.4 mm long, 0.5–0.7 mm wide; anthers creamy white, 0.6–0.7 mm long, 0.7–0.9 mm wide; thecae ellipsoid to ovoid, scarcely divaricate; pollen pale yellow fading to white. *Infructescence* erect to pendent; spathe persisting, green, or absent; spadix 7–16 cm long; berries green becoming purplish to purple-black, obovoid-ellipsoid, quadrangular at apex, 6 mm long, 5 mm diam.

A member of series *Multinervia*, *Anthurium obscurinervium* is endemic to the Pacific slope of Ecuador, at 50 to 1,330 (2,000) m, in premontane moist, premontane dry and premontane wet forest.

This species is characterized by its more or less oblong leaf blades with the primary lateral veins obscure when fresh and obscure to weakly raised on drying (hence the name), green spadix with exerted stamens, and orange berries.

Anthurium obscurinervium is most similar to *A. carchiense*, which differs in having a brownish spadix and purple to purple-black fruits.

ECUADOR. BOLIVAR: Charquiayacu, 600 m, *Solis 6114* (F). CAÑAR: Azogues–El Triunfo, 2 km S of Hwy. at Cedro Pampa, 800–1,000 m, 2°25'S, 79°10'W, *Croat 50914* (AAU, BM, G, K, LL, M, MICH, MO, NY, QCA, RSA, SEL, US). CARCHI: Guaplí Chico, near Awá encampment, 1,300 m, 0°58'N, 78°16'W, *Hoover et al. 2658* (MO). COTOPAXI: Río Pílaló, Quevedo–Latacunga, 950–1,100 m, 0°53'S, 79°10'W, *Holm-Nielsen et al. 3076* (AAU). EL ORO: 11 km W of Piñas, new rd. to Santa Rosa, 850 m, *Dodson et al. 9033, 9037* (MO, SEL); Machala–Loja, 25 km SE of jct. to Piñas, 890 m, 4°15'S, 79°45'W, *Croat 50715* (CM, MO, NY, SEL, US, TEX). GUAYAS: Naranjal–Machala, 13 km S of Naranjal, 50–150 m, *Harling & Andersson 19301* (GB, MO). LOS RÍOS: Alta Centinela, 29.5 km W of Patricia Pilar, 450–475 m, 0°33'S, 79°22'W, *Croat 50664* (AAU, MO, NY, RSA); Patricia Pilar–24 de Mayo, Centinela, *Dodson et al. 8703* (MO, SEL); Río Blanco, Santo Domingo de Los Colorados–Esmeraldas, Villa Hermosa, 3 km S of Km 24, 250 m, 0°5'S, 79°15'W, *Croat 50694A* (MO). PICHINCHA: 27 km S of San Juan, 12 km NE of Chiriboga, 2,000 m, 0°17'S, 78°42'W, *Croat 50606A* (IBE, K, MO, NY, RSA, US, VDB).

Anthurium oerstedianum Schott, Oesterr. Bot. Z. 8: 180. 1858. TYPE: Costa Rica. Near Naranjo, *Oersted s.n.* (lectotype, illustrated by Schott, *Aroideae* 328). Figures 205, 206.

Anthurium cuspidifolium Schott, Oesterr. Bot. Z. 8: 180. 1858. TYPE: Costa Rica, *Oersted s.n.* (lectotype, illustrated by Schott, *Aroideae* 314).

Terrestrial; stem to 30 cm long, 2–4 cm diam.; leaf scars, 0.8–1 cm high, 2–2.5 cm wide; roots moderately numerous, descending, tan, smooth, short, moderately thick, slightly tapered, 3–5 mm diam.; cataphylls subcoriaceous, 7–13 cm long, acute at apex and with subapical apiculum, medium green, drying brown, persisting intact, eventually deciduous. *Leaves* erect to spreading; petioles (12)30–73 cm long, 5–7 mm diam., quadrangular to subterete, flattened to weakly and broadly sulcate adaxially, sharply to bluntly 1–3 ribbed abaxially, the surface minutely pale-speckled; geniculum remote from the base of the blade 10–20 cm, 1.5–2 cm long; blades subcoriaceous, ovate to narrowly ovate or lanceolate, long-acuminate at apex, abruptly attenuate then acute to obtuse to truncate or subcordate at base, 20–66 cm long, 8.5–30 cm wide, broadest at or near the middle, the mar-