

(MO, SEL), *Nuñez 5537* (MO), *5738* (MO, W), *5809* (MO, US); Río La Torre, confluence of Río Tambopata and Río La Torre, 39 km SW of Puerto Maldonado, 12°50'S, 69°20'W, *Barbour 4767, 5424* (MO), *Smith et al. 132* (MO, US), *346* (US), *1387, 1391* (US). PASCO: Prov. Oxapampa. Palcazú Valley, Iscozain, 380 m, 10°12'S, 75°15'W, *Foster et al. 7841* (MO); Río San José, Río Chuchurras drainage, 400–500 m, 10°09'S, 75°20'W, *Smith 4037* (MO). UCAYALI: LSU base camp, Quebrada Shesha (trib. of Río Abajao), 65 km NE of Pucallpa, 250 m, 8°02'S, 73°55'W, *Gentry & Díaz 58559* (MO).

Anthurium oxyphyllum Sodiro, *Anales Univ. Centr. Ecuador* 15(108): 5. 1901. TYPE: Ecuador. Pichincha: near Santo Domingo de Los Colorados, 400 m, *Sodiro s.n.* (holotype, Q). Figures 214–216.

Epiphytic; stem short, (1)1.5–2 cm diam.; roots dense, numerous, ascending to spreading, green, smooth when young, soon becoming tomentose, slender and elongate, to 13 cm long, 2–6 mm diam.; cataphylls membranous, 7–10 cm long, narrowly rounded at apex with subapical apiculum ca. 8 mm long, drying tan (B & K yellow 9/2.5), persisting as fine linear fibers. *Leaves* spreading; petioles 6–25(30) cm long, 4–7 mm diam., D-shaped, flattened to convex to weakly sulcate or occasionally with a medial rib adaxially, the margins sharply raised, rounded abaxially; geniculum thicker and paler than petiole, (0.7)1–2 cm long; blades coriaceous, narrowly elliptic to sometimes narrowly oblanceolate, long-acuminate at apex (the acumen flat), long-attenuate at base, 45–70 cm long, (4)6–11 cm wide, broadest at or near the middle, the margins broadly undulate; upper surface matte, dark to bright green, lower surface glossy to semiglossy, paler; both surfaces drying matte, greenish to yellowish brown; midrib flat to convexly raised above, prominently and acutely raised and paler than surface below; primary lateral veins 25–35 per side, departing midrib at 30–60° angle, \pm straight to the collective vein, scarcely raised to flat or weakly sunken above, weakly raised to \pm obscure below, drying slightly raised above and below; interprimary veins numerous, almost as conspicuous as primary lateral veins, obscure when fresh, weakly raised when dried; tertiary veins visible when dried; collective vein arising from near the base, equally as prominent as primary lateral veins, raised when dried, 3–6 mm from margin. *Inflorescences* pendent to erect-spreading, shorter than leaves; peduncle (21)24–46 cm long, (3)4–5 mm diam., 1.2–6 \times as long as petiole, light green tinged with purple or maroon at least at base, terete to subterete and flattened adaxially; spathe deflexed

to reflexed, held at 130–160° angle to peduncle, often weakly twisted, subcoriaceous, green to green tinged with purple or red (B & K yellow-green 7/10), lanceolate to oblanceolate, (5)7.2–10.5 cm long, (1.8)2.3–3 cm wide, broadest near the base, inserted at 30–90° angle on peduncle, abruptly acuminate at apex (the acumen inrolled), obtuse to rounded at base, the margins meeting at 100–140° angle; stipe 3–7 mm long or absent; spadix green to yellow-green (B & K yellow-green 6/10), cylindrical, semi-erect to nodding, usually slightly curved, held at (150)130–60° angle from peduncle, 5.8–11 cm long, 3–7 mm diam. near base, 3–5 mm diam. near apex; flowers \pm rhombic to 4-lobed, 3–4.5 mm long, 3.7–4.3 mm wide, the sides straight to smoothly or sometimes jaggedly sigmoid; 5–7 flowers visible in principal spiral, 6–8 in alternate spiral; tepals brown, matte to semiglossy, minutely papillate, with abundant droplets present; lateral tepals 1.3–2.5 mm wide, the inner margins broadly convex to straight, scarcely turned up against the pistil, the outer margins 2-sided; pistils prominently emergent, exerted and papillate, the exposed portion squarish, green becoming dark purple; stigma linear to ellipsoid, ca. 0.4 mm long, weakly raised, copious droplets appearing before the stamens emerge; stamens emerging in a regular sequence throughout, held well above the tepals, lateral stamens emerging almost to apex before alternates begin to emerge, arranged in a circle around the pistil; filaments transparent, prominently exerted, thin and flattened, 1.5–1.7 mm long; anthers orange, becoming pinkish or reddish brown, ca. 0.8 mm long, 0.9 mm wide; thecae oblong-ellipsoid, scarcely divaricate; pollen orange, fading to white or tan. *Infructescence* with spathe persisting; spadix 9.5–11.5 cm long, 1–1.5 cm diam., with berries scattered throughout; berries orange, ellipsoid, acute and with radial ridges at apex, 6.8–7 mm long, 3.2–3.7 mm diam.; mesocarp mealy; seeds 1 per berry, yellow-brown when dried, \pm ovoid, truncate at both ends, 3.5–5 mm long, 2.2–3 mm diam., 1.5–1.6 mm thick, enveloped by gelatinous, translucent, amber substance.

A member of series *Multinervia*, *Anthurium oxyphyllum* is endemic to the Pacific slope in Ecuador from Carchí to Cotopaxi at 300 to 1,300 m. This species is ecologically variable, with specimens collected both in a lower montane dry forest life zone (Esmeraldas) and a montane rainforest life zone (Carchí). Despite occurring in different life zones, the specimens themselves do not differ significantly in any aspect. However, the type col-

lection is somewhat unusual in having leaf blades with apices cuspidate-acuminate rather than long-acuminate.

This species is characterized by its epiphytic habit, generally oblong-elliptic, coriaceous, greenish-drying blades with numerous primary lateral and interprimary veins, long peduncles (1.2–6× longer than the petioles) and flowers with prominently exerted stamens. However, the best distinguishing character is the nodding inflorescence with the spathe and spadix abruptly bent downward at the base.

Anthurium oxyphyllum bears some resemblance to *A. carchiense* and *A. obscurinervium*, both of which have less coriaceous leaf blades and erect inflorescences.

Sodirol (1902) asserts that the leaf blades are not punctate, but rather "pellucid-punctate under a lens." This agrees with living material, in which the leaf blades cast a semi-"velvety" sheen when held at arm's length. This effect results from modified epidermal cells ("pellucid punctations") which scatter light in different directions. Most of Sodirol's descriptions were based on living material, and this observation was probably made on a living plant.

ECUADOR, CARCHI: Chical, 1,130 m, 0°56'N, 78°14'W, Hoover & Wormley 1402 (MO); Río San Juan, Chical, 12 km below Maldonado, 1,200 m, 1°4'N, 78°17'W, Madison et al. 4507 (K, SEL, F); Peñas Blancas, 20 km below Maldonado, 1,100 m, Madison 6967 (SEL); Gualpi Chico, Forestry Reserve, vic. of encampment at Awá Ethnic, 1,330 m, Hoover et al. 3256 (MO). COTOPAXI: Quevedo-Latacunga, 55.5 km from Quevedo, 23.5 km E of La Maná, 930–950 m, 0°53'S, 79°4'W, Croat 57056 (CM, MO). ESMERALDAS: less than 300 m, Cobb 72 (MO); Ibarra-San Lorenzo, Lita, 550–650 m, Madison et al. 4992 (SEL, K, QCA), 5141, 5199 (SEL), Croat 69736 (cultivated at MO); Lita, 600–650 m, Maas & Cobb 4743 (U, QCA). IMBABURA: vic. Lita, 600 m, Cobb 35 (MO); Río Mira, Ibarra-Lita, 2.5 km E of Lita, 750–775 m, Croat 38977 (M, MO, RSA, SEL).

***Anthurium pachylaminum* Croat, sp. nov.**

TYPE: Peru. San Martín, Moyobamba-Chachapoyas, Km 430–431, E of Naranjos at Río Naranjos, 770 m, 5°21'S, 77°20'W, Croat 58161 (holotype, MO 3148985; isotypes AAU, B, CAS, F, GH, K, M, NY, P, SEL, U, US, USM). Figures 217–220.

Planta epiphytica; petiolus sulcatus, 8–20(32) cm longus; lamina elliptica aut late elliptica vel oblanceolata, 40–112 cm longa, (11)17–43 cm lata, acuminata, basi acutata et interdum decurrenti, in pagina inferiori pustulata vel aliquando glandulosa; nervii primarii laterales 6–9 utroque; pedunculus 36–95 cm longus, 2–9 plo longior quam petiolus; spatha subcoriacea, linearis-lanceolata, 10–23 cm longa, 1–2.5 cm lata; spadix atro-rubens vel atroviolaco-atropurpurea, cylindricus, 11–39

cm longus; cum fructu pendulus; baccae ferentes ad basim.

Epiphytic, sometimes terrestrial; stem to 8 cm long, 1.5–6 cm diam.; roots numerous, dense, spreading, the uppermost ascending, gray when dried, drying short-pubescent, 2–10 cm long, 2–5 mm diam.; cataphylls coriaceous to subcoriaceous, broadly lanceolate, 5–7 cm long, acute at apex, drying reddish brown (B & K yellow-red 04/05), persisting semi-intact at the upper nodes. Leaves erect-spreading; petioles 8–20(32) cm long, ca. 8 mm diam., D- to C-shaped, broadly to narrowly sulcate adaxially, with the margins blunt, rounded abaxially; geniculum 1–2 cm long; sheath to 6 cm long; blades coriaceous, elliptic to broadly elliptic or oblanceolate, acuminate at apex (the acuminate to 2 cm long), occasionally obtuse at base, but mostly acute to decurrent, 40–112 cm long, (11)17–43 cm wide, broadest at or above the middle, the margins flat to broadly undulate; upper surface glossy, dark green, lower surface glossy to matte, paler, often sparsely to moderately pustulate or glandular; both surfaces drying yellowish green; midrib flat at base, becoming convexly raised toward the apex above, obtuse to acute-raised below; primary lateral veins 6–9 per side, departing midrib at 25–50° angle, mostly ascending, ± straight to the margin, sometimes loop-connecting in the uppermost portion of the blade, raised above and below; tertiary veins etched above, weakly raised below; collective vein arising from near the apex or absent, sunken above, raised below. Inflorescences erect; peduncle 36–95 cm long, 3–10 mm diam., 2–9× as long as petiole, olive-green, terete; spathe spreading-reflexed, recurled, subcoriaceous, green heavily tinged with maroon especially on the inner surface, with raphide cells, linear-lanceolate, 10–23 cm long, 1–2.5 cm wide, broadest near the base, acute at apex, decurrent at base; spadix dark red to dark violet-purple (B & K purple 2/7.5), sessile or stipitate to 10 mm, cylindroid to tapered, erect, 11–39 cm long, 6–7 mm diam. near base, 4 mm diam. near apex, broadest at the base or near the middle; flowers rhombic, ca. 2.4 mm long, ca. 1.4 mm wide, the sides straight; 7–9 flowers visible in principal spiral, 8–10 in alternate spiral; tepals matte, papillate; lateral tepals 1–1.4 mm wide, the inner margins ± straight to broadly convex, the outer margins 2–3-sided; pistils not emergent; stigma linear, 0.4–0.6 mm long, appearing granular; stamens emerging in a regular sequence from the base, the laterals preceding the alternates by 28 spirals, the 3rd stamen preceding the 4th by 6 spirals, inclined over and obscuring pistil;