

peduncles (1.5–2 vs. 4–12(20)× longer than the petioles). Local names for these plants include “uyuyugkunamu” and “kagkur nuka” (Huambisa tribe); “tukum” and “mun tukui” (Río Cenepa).

BRAZIL. AMAZONAS: Río Jutai, 5°12'S, 69°00'W, *Traill 1138* (K). COLOMBIA. AMAZONAS: Quebrada Arara, 2 hr. N of Leticia near Río Amazonas, *Croat 7536* (MO, F). Puerto Nariño, Parque Nacional Amacayacu, 100 m, 3°45'S, 70°15'W, *Vásquez et al. 12504* (MO); Río Miritiparana, Caño Guacaya, 700 ft., 0°30'S, 70°40'W, *Schultes & Cabrera 16239* (GH). ECUADOR. MORONA-SANTIAGO: 35 km NE of Montalvo, 260 m, 1°49'S, 76°42'W, *Zak & Espinoza 4590, 4680* (MO). NAPO: Lago Agrio–Coca, ferry road 7.2 km S of Río Aguariaco, 270 m, 0°02'N, 76°51'W, *Croat 58643* (MO, QCA); Lago Agrio–Río San Miguel, 5 km N of Lago Agrio, 280 m, 0°05'N, 76°55'W, *Croat 58689, 58691* (MO, QCA); 17.3 km N of Lago Agrio, *Croat 50344* (MO); Lago Agrio–Río San Miguel, 3 km from San Miguel, 350 m, *Besse et al. 1549* (SEL); Lago Agrio–Puerto El Carmen de Putomayo, vic. Tarapoa, 240 m, *Croat 58632A* (MO); Río Arajúno, Hacienda Aguínda, 450 m, 1°07'S, 77°36'W, *Marles EE 13* (MO). NAPO: Puerto Napo–Misahuallí, junction of Río Misahuallí and Río Napo, Vereda Venecia, 3.8 km W of Misahuallí, 370 m, 1°02'S, 77°42'W, *Croat 58895* (MO, QCA); Río Cuyabeno, 1.5 km upstream from Puerto Bolívar, 300 m, 0°06'S, 76°10'W, *Brandbyge et al. 33700* (AAU, MO); N of Laguna Grande, 265 m, *Poulsen 79710* (AAU); Parque Nacional Yasuni, 230 m, 0°52'S, 76°05'W, *Cerón 3354* (MEXU, MO, QCNE); 200 m, *Cerón & Gallo 4937* (MO, QCNE), 53396 (B, MO, QCNE); Añangu, in NW corner of park, 300 m, 76°22'–23'W, 0°32'S, *Korning 47126* (AAU); Poso petrolero Daimi 2, 200 m, 0°55'S, 76°11'W, *Cerón & Hurtado 4096* (MO). PERU. AMAZONAS: Quebrada Chigkishinuk, *Kayap 282* (MO, US); Río Cenepa, Cenepa–Tuhushiku Creek, 700–800 ft., *Berlin 1874* (MO); Quebrada Huampami, vic. Kachaim, vic. Huampami, 5 km E of Cháviz Valdivia, 200–250 m, 4°30'S, 78°30'W, *Kujikat 398* (MO); Río Santiago, Quebrada Caterpiza, 2–3 km behind community of Caterpiza, 65 km N of Pinglo, 200 m, *Huashikat 1343, 1869, 2343* (MO); 800 m below community of Caterpiza, trail from Mitayar, W side of Q. Caterpiza, 200 m, *Huashikat 487* (MO). LORETO: Quebrada Nawampa, 150 m, 4°30'S, 44°10'W, *Croat 17694* (MO); Quebrada Tahuayo, SSW of Tamshiyacu, *Croat 19743* (MO); Río Aguaytia, Aguaytia, 9°02'S, 75°30'W, *Croat 20947* (MO, USM); Río Nanay, Mishana, 120 m, *Solomon 3518* (MO); Prov. Alto Amazonas, Río Pastaza, Andoas, 210 m, 2°48'S, 76°28'W, *Gentry et al. 29672* (MO); Prov. Loreto, Río Tigre, Vista Alegre, 240 m, 2°40'S, 75°35'W, *Lewis et al. 12841* (MO); Prov. Maynas, Alpuhayo (Estación IIP), *Vásquez et al. 5981* (MO); Iquitos Region, Río Itaya, Palo Seco, *Revilla et al. 2594* (F, MO); Iquitos–Nauta, 130 m, *Vásquez et al. 10696* (AMAZ, MO); Caserío de Nuevo Esperanza, 110 m, *Rimachi 5569* (IBE); Río Maniti, Recreo, NE of Iquitos, 115 m, 3°42'S, 72°50'W, *Vásquez & Jaramillo 1128* (MO); Río Momón, rear of Fundo Bohallo, 1 hr. upriver from mouth, 130 m, *Diaz & Jaramillo 78* (CM, K, M, MO); 1 km from the Río Nanay, Quebrada Mamoncillo, 220 m, 3°43'S, 73°20'W, *Croat 51225* (CAS, DUKE, K, MO, US, USM), 51226 (AAU, B, CM, K, MO, RSA, US, USM); below Balcon, ca. 95 m, *McDaniel & Rimachi 26283* (IBE);

Río Amazonas, S of Iquitos, *Croat 19342* (MO, F); NE of Leticia (Colombia), Cabalococha, 3°54'W, 70°32'W, *Williams 2465* (F); Quebrada de Sinciqui below Santa María de Ojeal, *McDaniel & Rimachi 23873* (IBE); Dtto. Indiana, Explorama Inn, 220 m, 3°23'S, 73°02'W, *Croat 61648* (AMAZ, MO); Río Amazonas, Quebrada del caserío de San Miguel, ca. 90 m, *Rimachi 5055* (IBE); Dtto. Yanamono, Indiana–mouth of Río Napo, Explorama Tourist Camp, 120 m, 3°28'S, 72°48'W, *Gentry et al. 29912* (CM, MO), 61651 (CM, MO), *Vásquez & Jaramillo 6321* (MO); 3°24'S, 72°49'N, 150–180 m, *Croat 61766, 61783* (AMAZ, MO), *Gentry et al. 36577* (MO); across Río Amazonas from Isla Yanamono, 150 m, *Croat 50126* (originally collected by Gentry, live at MO) (MO, U); Río Napo, Quebrada Sucusari, 130–140 m, 3°15'S, 72°55'W, *Gentry et al. 42695, 54535* (MO); Explor. Napo Camp, 130 m, 3°20'S, 72°55'W, *Vásquez & Jaramillo 11829* (MO, QCA), 11835 (MO); Quebrada Paparo, Río Manati, 110 m, 3°45'S, 72°55'W, *Vásquez & Jaramillo 11654* (MO); Explorama Llachapa Camp, Quebrada Sucusari, below Mazán, 140 m, *Gentry et al. 27737* (MO); Río Tamshiyacu, Caseria Alianza, 130 m, 4°05'S, 72°58'W, *Gentry et al. 29233* (BM, MO), *Vásquez & Jaramillo 4376* (MO); Puerto Alianza, 160 m, 4°08'S, 72°55'W, *Vásquez & Criollo 1836* (MO); Prov. Requena, Río Tapiche, Yarina, 180 m, 5°05'S, 73°50'W, *Vásquez et al. 4882* (MO); Jenaro Herrera, 140 m, *van der Werff et al. 10061* (MO). PASCO: Prov. Oxapampa, Iscozain, 350 m, 10°11'S, 75°13'W, *Smith 2881* (MO). SAN MARTÍN: Tarapoto–Yurimaguas, km 55, NE of Pongo de Canarachi, 230 m, 6°15'S, 76°15'W, *Gentry et al. 52272* (MO).

Anthurium luteynii Croat, Selbyana 5(3–4): 324. 1981. TYPE: Panama. Veraguas: Río Primero Brazo, 2.5 km beyond Escuela Agrícola Alto Piedra, beyond Santa Fe, 700–750 m, *Croat 25521* (holotype, MO 2827506-08; isotypes, B, C, CAS, CM, CR, DUKE, F, K, M, MEXU, NY, PMA, SEL, UCLA, US, VEN). Figures 18, 187–189, 195.

Epiphytic or terrestrial; stem short; roots descending, whitish green, smooth to weakly pubescent, blunt at apex, 2–5 mm diam.; cataphylls subcoriaceous, elliptic, 10–28 cm long, minutely apiculate and inequilateral at apex, drying tan, persisting intact, soon delacerating into reticulum of fibers. *Leaves* erect to spreading; petioles 9–50 cm long, 1.3–2.5 cm diam., ± trapezoidal to thicker than broad, flattened to weakly sulcate, sometimes with weak rib diminishing toward the base adaxially, the margins prominently and sharply raised, sharply and prominently 1–3-ribbed abaxially, the surface minutely pale-speckled; geniculum much thicker and paler than petiole, 1–3 cm long; blades thickly coriaceous, oblong-elliptic to oblong-oblancoleate, gradually to abruptly acuminate at apex (the acumen apiculate), acute to obtuse at base, 50–125 cm long, 9–33 cm wide, broadest near or above the middle; upper surface

weakly glossy to semiglossy, dark green, lower surface matte, paler; midrib flat at base, becoming convexly raised toward the apex, much paler than surface above, prominently higher than broad and sharply 1-3-ribbed at base below, gradually becoming prominently and obtusely to acutely angular and eventually convex toward the apex, paler than surface; primary lateral veins 10-25 per side, departing midrib at 60-70° angle, slightly arcuate-ascending, weakly raised in grooves above, narrowly and convexly raised below; interprimary veins sunken above, flat or slightly raised and darker than surface below; tertiary veins obscure above, darker than surface below; collective vein arising from near the base, sometimes in the upper third of the blade, sunken or ± obscure above, weakly raised to flat and darker than surface below, 3-10 mm from margin. *Inflorescences* erect-spreading and slightly arching, equaling or shorter than leaves; peduncle 49-85 cm long, 1.3-2 cm diam., 0.5-3(6.6)× as long as petiole, green to violet-purple, with prominent rounded rib adaxially, more prominently ribbed abaxially; spathe erect to cucullate, hooding the spadix, coriaceous, dark purple, narrowly ovate to oblong-lanceolate, 9-33.5 cm long, 2-11 cm wide, broadest in the lower third, inserted at 60° angle on peduncle, acuminate at apex (the acumen caudate, to 15 mm long), decurrent at base; spadix violet-purple to maroon, shortly tapered toward apex (occasionally toward both ends), 7-18 cm long, 8-28 mm diam. near base, 5-17 mm diam. near apex; flowers rhombic to slightly 4-lobed, 2-3.6 mm long, 1.8-3 mm wide, the sides straight to jaggedly sigmoid; ca. 15 flowers visible in either spiral; tepals matte to semiglossy, minutely punctate, covered with dust-like waxy bloom; lateral tepals 1.2-1.5 mm wide, the inner margins turned up against pistil; pistils exerted ca. 0.5 mm, green at base, purplish brown at apex; stigma 1 mm long, droplets copious, appearing 3-4 weeks before stamens emerge; stamens emerging in a scattered pattern throughout spadix, lateral stamens emerging to apex before alternates start emerging; anthers creamy, 0.4-0.5 mm long, 0.6-1 mm wide; thecae ellipsoid, slightly divaricate; pollen yellow-orange fading to white. *Inflorescence* erect or spreading; spathe cucullate and withered; spadix 20-25 cm long, to 4 cm diam.; berries orange to yellow (B & K yellow 8/25), oblong-ellipsoid to obovoid, acute at apex, 8.9-19 mm long, 5-8 mm diam.; pericarp thickened, transparent in lower half with few raphide cells; mesocarp mealy, orange; seeds 2 per berry, tan, oblong, 4-6.5 mm long, 2-2.7 mm diam., ca. 2 mm thick, weakly beaked at both ends.

Anthurium luteynii is known only from Panama, on both slopes of the Continental Divide, in tropical wet and premontane rainforest life zones at elevations of 530 to 1,350 m.

This species is characterized by its coriaceous, more or less narrowly oblanceolate leaves and its somewhat trapezoidal petiole that is prominently three-ribbed abaxially and sharply sulcate adaxially. Also characteristic is the stout, semi-erect inflorescence with a broad, often cucullate, purplish spathe and violet-purple spadix and the long, sharply pointed, orange berries.

Although initially confused with *Anthurium seibertii* because of its orange, pointed berries and coriaceous, persistent, intact cataphylls, *A. luteynii* is not believed to be closely related to that species or to any other known species. *Anthurium seibertii* differs from *A. luteynii* principally in having thinner, strap-shaped leaves with the collective vein always arising from near the base, and in having a narrowly tapered, much paler violet-purple spadix.

PANAMA. BOCAS DEL TORO: Fortuna Road, Gualaca-Chiriqui Grande, 33 km from Gualaca, 530 m, 8°36'N, 82°19'W, *Hoover 1334* (MO). COCLÉ: N of El Valle de Antón, trail to Las Minas, 800-900 m, *Luteyn 3162* (DUKE, MO); El Copé Region, sawmill 7 km NE of El Copé, 600 m, *Antonio 1140* (MO); Alto Calvario above El Cope, 8°39'N, 80°36'W, *Croat 68773* (MO); El Valle Region, Cerro Gaital, N slopes of mountain near La Mesa, N of El Valle, 800-900 m, 8°40'N, 80°7'W, *Knapp & Dressler 4881* (MO); El Valle de Antón, La Mesa, *Folsom 2785* (MO); El Valle de Antón, 2 km W of Cerro Pílon, La Mesa, 860-900 m, *Croat 37416* (MO); beyond La Mesa, toward Los Llanos, *Luteyn 3163* (DUKE). DARIÉN: Río Tuquesa headwaters, 2 km by air from Continental Divide, upper gold mining camp of Tyler Kittredge, 700 m, *Croat 27120, 27156, 27169* (MO). PANAMÁ: Cerro Jefe, ridge above Altos de Azul to Río Chagres, 9°15'N, 79°30'W, *McPherson 11900* (MO). VERAGUAS: Santa Fe Region, vic. Escuela Agrícola Alto Piedra, 735-770 m, *Croat & Folsom 33993* (MO), *Hammel 4669* (MO), *Mori & Kallunki 4751* (MO); Río Santa María, road from Santa Fe, *Witherspoon & Dressler 8923* (MO); Cerro Tute, 830-1,150 m, *Croat 48909* (MO); *D'Arcy 14982* (MO); Río Primero Brazo, 2.5 km beyond school 700-750 m, *Croat 25521* (B, C, CAS, CM, CR, DUKE, F, K, M, MEXU, MO, NY, PMA, SAR, SEL, UCLA, US, VEN), *48990* (MO), *49071* (FTG, MO); NW of Santa Fe, W fork of road beyond school, 1,300 m, *Croat 49044* (CM, ENCB, IBE, K, MO, VDB).

Anthurium machetioides Matuda, *Anales Inst. Biol. Univ. Nac. Mexico* 22: 379, fig. 7. 1952.
TYPE: Mexico. Oaxaca: Chinantia, 1,200 m, *Ramírez 144* (holotype, MEXU). Figure 190.

Description based on dried material only. Stem short; cataphylls thin, to 6.5 cm long, drying brown,