

The closest ally of *A. linguifolium* is *A. barclayanum*. The latter differs in greenish (rarely violet-purple) spadix, much larger size, longer petioles and oblanceolate blades. *Anthurium barclayanum* is sympatric with the present species at one locality at least, but they occur in very different habitats. The first is epiphytic, the second terrestrial in open areas. In addition, the ratio of peduncle to petiole length is much greater in *A. linguifolium* (7.6–19(38) vs. 3.5–6(9)).

ECUADOR, MANABI: 6 km N of Bahía de Caraquez, 3–4 km E of ocean, 50 m, 0°30'S, 80°22'W, *Croat 50697* (K, MO, NY, QCA, US); El Recreo–Agria Amarga, 0°29'S, 80°27'W, *Eggers 15530* (B, F, K, NY).

Anthurium llewelynii Croat, sp. nov. TYPE: Peru.

San Martín: Prov. Tarapoto, Río Mayo, near Cumumbigue, 6 km S of Tarapoto–Moyobamba road at Km 15, 350 m, 6°23'S, 76°39'W, *Croat 51092* (holotype, MO 2819899; isotypes, B, K, M, NY, RSA, SEL, US, USM). Figures 181, 183–185.

Planta terrestris; internodia brevia, 2.5–4 cm diam.; cataphyllum lanceolatum, persistens in reticulum fibrarum; petiolus (5)21–40 cm longus, 3–7 mm diam., adaxile complantus, abaxile rotundatus; lamina oblanceolata ad anguste oblanceata aut elliptica, (29)50–110 cm longa, (5)7–15(20) cm lata, base plerumque abrupte rotundata vel subcordata; nervis primariis lateralibus 4–12 utroque; pedunculus 23.5–75 cm longus, 3–5 mm diam.; spathe lanceolata aut ovato-lanceolatae, 5–9 cm longa, 1–2.5 cm lata, viridis; spadix leviter contractus, 3.6–9 cm longus, 5 mm diam., olivaceus rubellus; baccae atropurpureae, globoso-obovoidae, 3–5 mm diam.

Usually terrestrial, rarely epiphytic; stem creeping, to 20 cm long; internodes short, 2.5–4 cm diam.; roots numerous, dense, descending, whitish, velutinous, 4–5 mm diam.; cataphylls subcoriaceous, lanceolate, 3–7 cm long, acute to acuminate at apex, drying brown (B & K yellow 3/7), persisting as a reticulum of fibers. *Leaves* erect-spreading to spreading; petioles (5)12–40 cm long, 3–8 mm diam., erect, sharply D-shaped, flattened to slightly convex adaxially, rarely with a medial rib, the margins sharply raised, rounded abaxially; geniculum paler than petiole, becoming calloused with transverse fissures, conspicuously thicker than petiole, 0.5–2 cm long, sometimes extending beyond leaf base up to ½ its length; sheath 2–6 cm long; blades subcoriaceous, oblanceolate to narrowly oblanceolate or elliptic, acute to acuminate at apex, narrowing toward the base, ending abruptly, obtuse to rounded or shallowly cordate at base, (29)50–110 cm long, (5)7–15(20) cm wide, broadest at or above the middle, the margins moderately

to broadly undulate; upper surface glossy to semiglossy, occasionally matte, dark to medium green (B & K green 3/7.5), lower surface matte to semiglossy, considerably paler; midrib pale-speckled, conspicuously to scarcely paler than surface, broadly rounded-raised at base, becoming acutely angled toward the apex above, broadly rounded-raised to bluntly angled and slightly paler than surface below; primary lateral veins 4–12 per side, departing midrib at 35–90° angle (rarely retrorse to 110°), arcuate-ascending to the margin, convexly raised and paler than surface above, less prominently raised and darker than surface below; interprimary veins almost as conspicuous as primary lateral veins; tertiary veins obscure; collective vein arising from near the base or in the upper third of the blade, weakly raised above and below, 3–19 mm from margin. *Inflorescences* erect to spreading; peduncle 23.5–75 cm long, 3–5 mm diam., equaling to 5× as long as petiole, green to brownish green, pale-speckled, terete to subterete; spathe spreading to reflexed, coriaceous to subcoriaceous, green, sometimes tinged with red at margins, lanceolate to ovate-lanceolate, 5–9 cm long, 1–2.5 cm wide, broadest near the base, inserted at 45–60° angle on peduncle, abruptly acuminate to acute at apex (the acumen inrolled), acute at base; spadix reddish olive-green, sessile, cylindrical, slightly tapered, erect or slightly curved, 3.6–9 cm long, 5 mm diam. midway, 3–4 mm diam. near apex; flowers rhombic to 4-lobed, strongly scented like rotting fruit, 1.5–3 mm long, 2–2.4 mm wide, the sides jaggedly sigmoid to straight; 4–8 flowers visible in principal spiral, 5–7 in alternate spiral; tepals matte, sparsely white-punctate, densely papillate; lateral tepals 0.6–0.8 mm wide, the inner margins straight to broadly convex, the outer margins 2–4-sided; pistils weakly raised, olive-green to maroon; stigma linear-oblong, caviform, 5 mm long; stamens emerging in a scattered pattern from the base, the laterals preceding the alternates by up to 17 spirals, the 3rd stamen preceding the 4th by 13 spirals, arranged in a circle around the pistil; anthers pinkish to yellow tinged with pink, 0.3–0.6 mm long, 0.5–0.9 mm wide; thecae oblong-ovoid, slightly divaricate; pollen yellow fading to white. *Infructescence* spreading-pendent; spadix 11–18 cm long, 1–1.3 cm diam.; berries dark purple (B & K red-purple 2/2.5), globose-obovoid to subglobose, truncate at apex, 5 mm long, 3–5 mm diam.; pericarp moderately thickened; mesocarp gelatinous, with raphide cells; seeds 1–2 per berry, brownish purple, oblong-ellipsoid, 4–5 mm long, 2.1–2.5 mm diam., 1.5–

2 mm thick, with a gelatinous appendage at both ends.

Anthurium llewelynii is endemic to Peru, known principally from an area of tropical dry and tropical moist forest in the vicinity of Tarapoto, at 130 m, and also in the vicinity of Tingo María in the Department of Huánuco to 750 m. The species is terrestrial, usually growing in sandy soil along streams, on exposed roadbanks, in shrub forests, or on rocky cliffs above riverbanks.

This species is characterized by its creeping stem, its comparatively long, sharply D-shaped, erect petioles, the usually markedly arching-spreading, narrowly oblanceolate blades (2.2–3.5, averaging $2.8 \times$ longer than the petioles) which are usually abruptly and narrowly rounded to shallowly cordate at the base, as well as by the more or less green, moderately short, bluntly tapered spadix and dark purple fruits.

Anthurium llewelynii is not easily confused with any other species growing in the same area and habitats in which it occurs. Only *A. plowmanii* shares similar dry forest habitats in this region, but that species differs in having a peduncle equal to or shorter than the spadix, and a deeply sulcate petiole.

Anthurium tarapotense also occurs in the region, but occurs at slightly higher elevations (360–530 m) in a premontane moist forest life zone. It differs in being less robust and having a generally broader, short-petiolate blade which is attenuate at the base.

It is of interest that individuals of *A. llewelynii* brought into cultivation and grown in more mesic and crowded conditions may develop blades that are narrowly acute at the base, rather than the more characteristic narrowly rounded to subcordate condition. Compare, for example, vouchers prepared in the field and vouchers made from greenhouse plants, respectively, of *Croat 51092*.

Anthurium llewelynii is named in honor of Llewelyn Williams, who collected extensively in the Tarapoto area for the Field Museum in December 1929.

CULTIVATED. Originally from Selby 81-76-1, *Croat 57212* (B, MO). PERU. HUÁNUCO: Prov. Leoncio Prado, Tingo María Region, Río Huallaga, 750 m, *Croat 21086* (MO); Río Huallaga, near bridge and road to Monzón, 675 m, 9°15'S, 75°59'W, *Croat 50981* (MO, NY, RSA, US). SAN MARTÍN: Juanjui–Tarapoto, 35 km S of Tarapoto, 130 m, 6°46'S, 76°21'W, *Croat 58082* (AAU, CAS, CM, GH, K, MO, NY, USM); El Abra, 29 km S of Tarapoto, 450–540 m, 6°40'S, 76°20'W, *Gentry & Smith 45014, 45091A* (MO); Morales, W of Tarapoto,

360–900 m, *Williams 5721* (F); Tarapoto, 350 m, *Williams 5737, 6625* (F); Tarapoto–Yurimaguas, Km 5, *Kennedy 3545A* (ex cult.; = *Plowman 13300*) (F); Río Mayo, 6 km S of Tarapoto–Moyobamba road at Km 15, Cunumbigue, 350 m, 6°23'S, 76°39'W, *Croat 51092* (AAU, B, CM, DUKE, ENCB, IBE, JBG, K, KYO, L, LE, M, MO, NY, RSA, SAR, SEL, TEX, US, USM); Puente Colombia–Shapaja, 280 m, *Plowman 6018* (GH); Río Shilcayo trail to Boca Toma del Shilcayo, N of Tarapoto, 400 m, 6°30'S, 76°22'W, *Knapp & Alcorn 7336* (K, MO); Dtto. Tarapoto, Tarapoto–Yurimaguas, km 13, 750–1,000 m, *Rimachi 5782* (MO).

Anthurium loretense Croat, sp. nov. TYPE: Peru.

Loreto: Prov. Maynas, Dist. Iquitos, Río Mómón and Quebrada Momoncillo, 1 km from the Río Nanay, 200 m, *Croat 51226* (holotype, MO 2813874-80; isotypes, B, CAS, DUKE, F, K, NY, US, USM, VEN). Figures 17, 182, 186.

Epiphytic; stem 15–50 cm long, (1)2.5–5 cm diam.; roots dense, spreading-ascending to spreading-descending, green-gray to whitish, puberulent to smooth, slender, ca. 1.5–7 cm long, 5–6 mm diam.; cataphylls subcoriaceous, sometimes coriaceous, 4–6 cm long, hook-shaped, sometimes cucullate at apex, green, drying brown (B & K yellow 4/5), persisting with apex remaining intact and as a reticulum of fibers at base. *Leaves* erect to spreading; petioles 2.5–10(16) cm long, 6–20 mm diam., \pm D-shaped to quadrangular, flattened to sulcate with a medial rib and the margins sharply raised adaxially, 3–8-ribbed abaxially; geniculum slightly thicker than petiole, prominently fissured transversely with age, 0.7–3 cm long; sheath 2–8 cm long; blades coriaceous to subcoriaceous, obovate to oblanceolate to elliptic or sometimes spatulate, acute to obtuse at apex (the acumens apiculate), usually abruptly rounded to shallowly cordate, sometimes truncate or acute to attenuate at base, (36)56–120(168) cm long, 30–50(62) cm wide, broadest usually above the middle, the margins broadly undulate; upper surface semiglossy, dark to medium green (B & K yellow-green 4/7.5), lower surface semiglossy to sometimes matte, slightly paler; midrib flat to obtusely raised at base, becoming sharply acute toward the apex above, slightly paler than surface, acutely raised at base, becoming convexly raised toward the apex below; primary lateral veins 10–21 per side, departing midrib at (20)30–60° angle, \pm straight to the margin, prominently raised above, slightly paler than surface, becoming convexly raised near the midrib below, becoming acutely raised toward the margin; interprimary veins obscure on both surfaces, promi-