

can be scraped off; lateral tepals 1–1.2 mm wide, the inner margins rounded, often turned up on drying, the outer margins 2-sided; pistils not at all emergent, obscured by anthers; stamens emerging in a regular sequence from the base, lateral stamens emerging up to 10 spirals before alternate stamens emerge, the 3rd stamen preceding the 4th by ca. 5 spirals; anthers 0.6 mm long, 0.7 mm wide, contiguous, inclined over pistil; thecae ovoid, moderately divaricate. *Infructescence* to 14 cm long, 1.5 cm diam., bearing berries in the basal portion only; berries purple on upper half, white below, obovoid-ellipsoid, rounded at apex, 6.5–8 mm long, 4–5 mm diam.; seeds 1 per berry, dark brown on rehydration, slightly flattened, 4.5–5 mm long, 3.5 mm diam., lacking any obvious appendage.

Anthurium atropurpureum var. *thomasi* is endemic to the Serranía de Huanchaca near the eastern border of Bolivia, known only from the type specimen collected in Santa Cruz Department in a region of tropical moist forest at ca. 750 m elevation. The type locality is an outlying upland area of the Brazilian shield with "cerrado" and "campo rupestre" vegetation, most closely related to that of adjacent Mato Grosso (W. Thomas, pers. comm.). The population of plants from which the type was collected was growing on steep, dry slopes in a relatively mesic area near a stream in both sunny areas and in partial shade (W. Thomas, pers. comm.).

The taxon is distinguished by its narrowly ovate-elliptic blades which dry pale green and are rounded basally. Also distinctive is the long-pedunculate inflorescence with a lanceolate spathe which is three or more times broader than the purplish spadix. The typical variety as well as the var. *arenicola* are both distinguished from var. *thomasi* by typically having attenuate to narrowly acute blade bases.

The new taxon is named in honor of Wayt Thomas, New York Botanical Garden, who made the only known collection of this taxon and who supplied valuable data on the ecology.

BOLIVIA. SANTA CRUZ: Velasco, Serranía de Huanchaca, Parque Nacional "Prof. Noel Kempff Mercado," 750 m, 13°59'S, 60°43'W, *Thomas 5696* (K, LPB, MO, NY).

Anthurium barclayanum Engl., Pflanzenr. IV 23B(Heft 21): 79. 1905. TYPE: Ecuador. Manabí: Isla Salango, *Barclay 646* (holotype, BM). Figures 14, 46–49, 59.

Terrestrial or epiphytic; stem to 40 cm long, 3–5 cm diam.; roots dense at the nodes, spreading-

ascending, green to greenish white, fuzzy, ca. 7 cm long, 4–8 mm diam.; cataphylls subcoriaceous, 3.5–4.5 cm long, cucullate, rounded at apex, drying tan to brown, persisting \pm intact or as fine linear fibers. *Leaves* erect-spreading; petioles 5–21 cm long, (5)7–15(20) mm diam., \pm D-shaped, flattened or convex with sharp, erect margins and an acute or obtuse medial rib adaxially, obtusely angled, usually 1–4-ribbed abaxially; geniculum slightly paler and thicker than petiole, 1–7 cm long; blades subcoriaceous, narrowly oblong-oblancheolate to oblanceolate-elliptic, obtuse to acute and apiculate at apex, narrowly acute, sometimes abruptly obtuse, less often broadly rounded at base, (40)70–137 cm long, (7)11–32(48) cm wide, broadest above the middle, the margins strongly to moderately undulate; upper surface matte to semiglossy, medium green, lower surface matte to semiglossy, scarcely paler; midrib obtusely raised or flattened with a blunt medial rib at base, becoming acute toward the apex, same color as or paler than surface above, broadly and acutely raised at base, becoming convexly raised toward apex below; primary lateral veins 11–25 per side, departing midrib at 40–60° angle, straight- or arcuate-ascending to the margin, obtusely raised and nearly same color as surface above, convexly raised and paler than surface below; tertiary veins slightly raised, same color as surface above, slightly raised and darker than surface below; collective vein arising from near the apex, prominulous on both surfaces, ca. 5 mm from margin. *Inflorescences* spreading, sometimes erect; peduncle (20)40–80 cm long, (3)5–7 mm diam., 3.5–6(9) \times as long as petioles, green to green heavily tinged with maroon, terete; spathe spreading to reflexed-recurred, coriaceous to subcoriaceous, green (sometimes tinged with violet-purple) to dark violet-purple or maroon, narrowly ovate to oblong-lanceolate, (4)7–24 cm long, 0.6–4 cm wide, broadest near the base, inserted at 30–70° angle on peduncle, acuminate at apex (the acumen inrolled), acute to subcordate at base; spadix usually brownish or olive-green to greenish yellow, sometimes reddish to violet-purple, sessile, cylindroid, slightly tapered, erect, usually somewhat curved, held at 140° angle from peduncle, (5)8–18 cm long, 5–10 mm diam. midway, 3.5–5 mm diam. near apex, broadest at the base; flowers 4-lobed, 1.2–2.5 mm long, 1.6–2.5 mm wide, the sides straight to sigmoid, 7–11 flowers visible in principal spiral, 6–7 in alternate spiral; tepals matte, weakly to moderately papillate; lateral tepals 0.8–1.4 mm wide, the inner margins straight to broadly rounded, the outer margins irregularly 3–4-sided; pistils emergent or not, reddish violet

to dark purple or green; stigma linear to elliptic, 0.6–1 mm long; stamens emerging in a regular or scattered pattern, the laterals preceding the alternates by ca. $\frac{1}{2}$ length of the spadix, the 3rd stamen preceding the 4th by ca. 15 spirals, arching over and obscuring pistil; anthers purplish violet to pinkish tan, 0.6–0.8 mm long, 0.8–0.9 mm wide; thecae oblong-ellipsoid to ovoid, slightly divaricate; pollen pale yellow to creamy, fading to white, spicyscented. *Infructescence* spreading; spadix (6)14–28 cm long, 2 cm diam., greenish when young; mature fruits unknown; berries reddish brown, ob-ovoid, 8–9 mm long, 4–5 mm diam.; seeds 5–6 mm long, 2.5–2.7 mm diam., 1.3–1.5 mm thick, with a gelatinous appendage at each end.

Anthurium barclayanum occurs in coastal Ecuador in El Oro, Manabí, and Guayas provinces, and in adjacent Tumbes Dept., Peru, from sea level to 890 m, in premontane moist, premontane dry, and very dry tropical forest life zones, as well as in tropical desert scrub. It is expected to be in tropical dry forest.

This species is characterized by its large, usually strongly undulate leaf blades, the usually greenish spadix and by its occurrence in dry habitats. *Anthurium asplundii*, its closest ally, occurs in adjacent Esmeraldas and Pichincha provinces in less dry life zones. Another close ally is *A. linguifolium*, which is sympatric with *A. barclayanum* in at least one locality, where *A. barclayanum* is epiphytic and *A. linguifolium* terrestrial in open areas. See those species for distinguishing characters.

In the southern part of its range, in El Oro Province, the spadix color of *A. barclayanum* is sometimes violet-purple, but these plants (e.g., *Croat 50711*, *50712*; *Thompson 362*) otherwise agree well with other specimens. An intergradation with *A. asplundii* (with spadices maroon to purple) is conceivable, but the aberrant specimens of *A. barclayanum* occur in the part of its range furthest from *A. asplundii*, well separated by typical material with greenish spadices.

One collection (*Ittis & Mohr 234*) shows the odd character of having the tepals colored like the pistils, shriveled and very inconspicuous (compared to the pistils) in early fruit, whereas in all other specimens at apparently the same stage (or very near) the tepals are pale and conspicuous and not as shriveled.

ECUADOR. EL ORO: Avenillas-Piñas, 03°40'S, 79°45'–55'W, *Thompson 362* (CAS, CM, GH, MO, RSA, UCLA); Machala-Loja, 1 km SE of La Avareada, 18 km NW of Saracay, 80 m, 04°25'S, 79°55'W, *Croat 50711* (C, MO, P, QCA); 25 km SE of jct. to Pinas, 890 m, 04°15'S,

79°45'W, *Croat 50712* (BM, M, MISSA, MO, OOM, QCA); 7.6 km from Tahir, road to Piedras, 100 m, *Thompson 132* (MO). GUAYAS: Manglaralto-La Rincónada, *Harling et al. 20777* (GB). MANABÍ: Isla Salango, 01°36'S, 80°52'W, *Barclay 646* (BM); Jipijapa-Puerto López, 5 km S of Punta Cayo, 150 m, 01°25'S, 80°42'W, *Croat 50708* (B, CAS, K, M, MBM, MO, NY, RSA, SAR, SEL, US, W); N of San Vicente, farm road E of Hda. Napo (Hotel de la Playa), 50 m, *Croat 50702* (B, CAS, CM, F, GH, IBE, K, MO, OOM, QCA, U), *Ittis & Mohr 234* (WIS, QCA); MANABÍ-GUAYAS: Puerto López-Río Ayampe, 01°33'–45'S, 80°40'W, *Thompson 373* (MO, SAR). PERU. TUMBES: Prov. Zarumilla, Dtto. Matapalo, Cerro Tres Picos, El Caucho-Figueroa, 3–4 km on trail from Figueroa, Campo Verde road, 550 m, *Simpson & Schunke 394* (F).

***Anthurium basirotundum* Croat, sp. nov. TYPE:**

Peru. San Martín: Tarapoto, above Hotel Turista, 400 m, cultivated at SEL (# 86-1976-2), *Plowman 5980A* (holotype, MO 2727371; isotype, SEL). Figures 50–52.

Internodia brevia, 2–3 cm diam.; cataphyllum lanceolatum, persistens fibris subtilibus et reticulatis; petiolus 5–24 cm longus, 3–5 mm diam., D-formatus aut plus minusve triangulatus, adaxialiter complanatus, marginibus acute elevatis; lamina ovata-elliptica, (15)19–41 cm longa, 6–17 cm lata, basi acuta, obtusa, rotundata vel subcordata; nervis primariis lateralis (3)4–8 utroque. Pedunculus (17)26–36 cm longus; spatha oblonga-lanceolata, 2–6.2 cm longa, 1.2–1.8 cm lata; spadix 3.5–9 cm longus, violaceus ad purpurascens. Bacca ovoidae, 4.5–5 mm longae, vinosae.

Stem to 12 cm long, 2–3 cm diam.; leaf scars obscured by cataphylls, 0.8–1 cm high, 1.4–1.7 cm wide; roots numerous, descending to spreading, green, scurfy, weakly pubescent, slender and elongate, 10–11 cm long, 3–5 cm diam.; cataphylls subcoriaceous, lanceolate, 3–7 cm long, rounded at apex with a subapical apiculum, green tinged reddish, drying tan to brown (B & K yellow 6/5), persisting as a reticulum of fibers with apex remaining intact, eventually deciduous. *Leaves* erect-spreading; petioles 5–24 cm long, 3–5 mm diam., D-shaped to somewhat triangular, flattened, sometimes with a medial rib adaxially, the margins sharply raised, rounded to obtusely 1-ribbed abaxially, surface sometimes minutely pale-speckled; geniculum slightly thicker than petiole, ca. 0.7 cm long; blades subcoriaceous, ovate-elliptic, acute at apex (the acumen slightly inrolled), acute to obtuse to usually semirounded to subcordate (sometimes acute to obtuse) at base, (15)19–41 cm long, 6–17 cm wide, broadest at or below the middle, the margins broadly undulate; both surfaces matte to semiglossy, dark to medium green above, somewhat paler below, brown to green on drying; midrib acutely raised at base, becoming flat toward the