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Anthurium tacotalpense (Araceae), a new species from Mexico

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Abstract

Anthurium tacotalpense a new species of genus *Anthurium* sect. *Andiphilum* from Tabasco, Mexico is described and illustrated. The new species is morphologically similar to *Anthurium cerrobaulense* but it differs from that species in having adaxially flattened petioles, spadix up to twice as long and immature berries green, orange when mature.

Keywords: *Anthurium cerrobaulense*, sect. *Andiphilum*, Tabasco

Introduction

In Mexico, the genus *Anthurium* Schott (1829: 828) is represented by 62 taxa (52 species and 10 infraspecific taxa) distributed in 10 different sections (Croat *et al*. unpubl. data). Section *Andiphilum* was recently resurrected and has the largest number of species of all *Anthurium* sections in Mexico, with 32 taxa (Croat & Hormell 2017, Croat *et al*. unpubl. data). Unlike other sections, the *Andiphilum* section is characterized by having D-shaped to conspicuously and broadly sulcate petioles, orange berries when ripe with a pasty mesocarp and large seeds (Croat & Hormell 2017, Carlsen & Croat 2019). The Mexican state of Tabasco possesses 11 taxa of *Anthurium* (five species and six infraspecific taxa), three of them belonging to sect. *Andiphilum* (Díaz Jiménez *et al*. 2015, Croat *et al*. unpubl. data).

In a floristic study in the south of Tabasco, Mexico (Fig. 1), we collected several specimens of Araceae including an individual of the *Anthurium* sect. *Andiphilum* which was originally identified as *A. berriozabalense* Matuda (1951: 380). However, after reviewing herbarium specimens and collecting specimens of *A. berriozabalense* at the type locality we concluded that the specimens previously collected in Tabasco corresponded to a new species. Although previously identified as *A. berriozabalense*, the new species is more similar to *A. cerrobaulense* Matuda (1960: 112), a species from Chiapas and Oaxaca (Croat 1983). In this paper, we describe and illustrate this new species of *Anthurium* sect. *Andiphilum* from Tabasco, Mexico.

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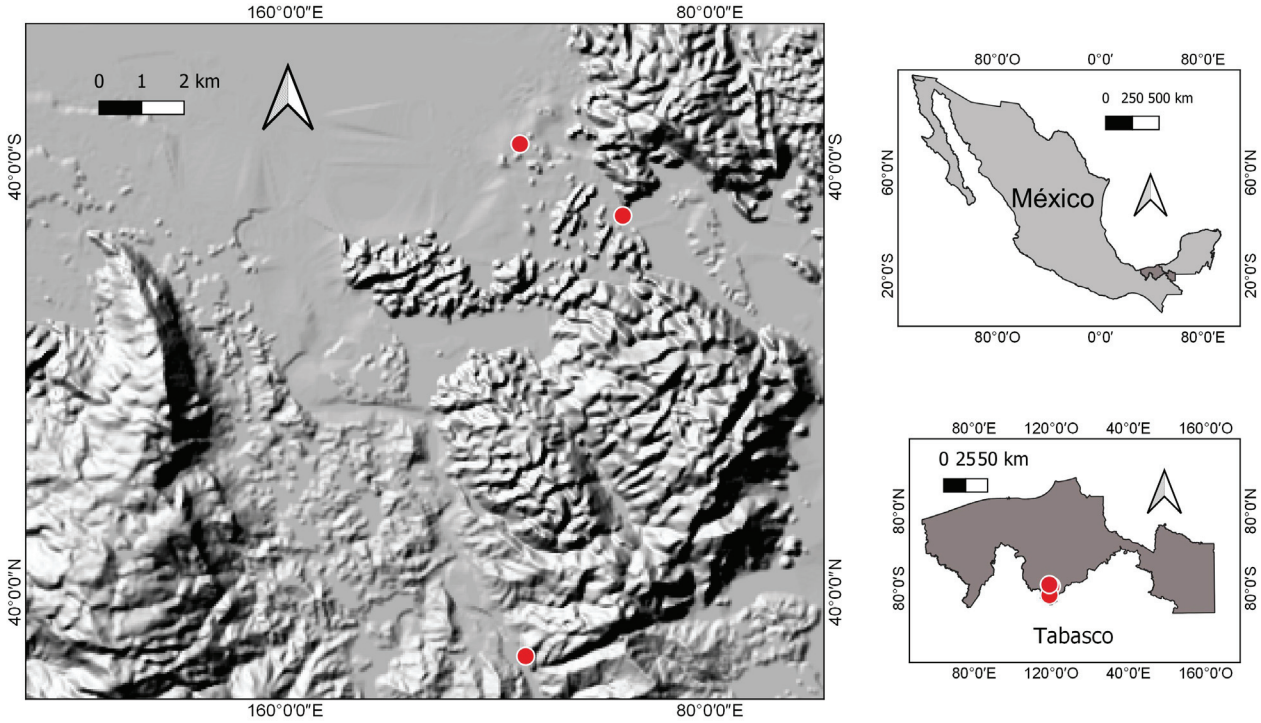

FIGURE 1. Map showing the collection sites of *Anthurium tacotalpense* in Mexico.

Taxonomy

Anthurium tacotalpense Díaz Jim. & Pérez-Farr. *sp. nov.* (Fig. 2)

Anthurium tacotalpense is morphologically similar to *A. cerrobaulense*, but differs from that species in having adaxially flat petioles (*vs.* sharply sulcate), longer spadix (7–8 *vs.* 4.0–4.4 cm) and immature green berries (*vs.* dull violet-purple), orange when mature (*vs.* red to red-orange).

Type:—MEXICO. Tabasco: Municipio Tacotalpa, ejido Poaná, Selva altaperennifolia, 17°32'09"N 092°44'12"W, 60 m, 03 November 2009, *Pedro Díaz Jiménez, A. Garduza & M. E. Sosa 1009* (holotype UJAT!, isotypes MO!, HEM!).

Terrestrial on rocky, steep slopes or epipetric, to 0.65 m tall; stems 10–20 cm long, 1.5–3.0 cm diam.; leaf scars ca. 1.5 cm wide; roots 1.5–3.0 mm thick, directed downward; cataphylls subcoriaceous, (3)5–7 cm long, acute at apex, light green, drying light brown, persisting intact at apex, splitting into linear fibers at the base. **Leaves** erect to spreading; **petioles** 26–56 cm long, 3–5 mm diam., D–shaped, flattened adaxially; geniculum 1.0–2.3 cm long, 5.0–6.5 mm diam., flattened adaxially; **blades** ovate-triangular, acute at apex, broadly lobed at base, 21–43 cm long, 14–33 cm wide, broadest at point of petiole attachment; anterior lobe 9.0–18.5 cm long; margins entire or undulate, straight or convex from base to apex; posterior lobes 9–24 cm long, 6.5–14.5 cm wide, directed outward, straight or overlapping; **sinus** triangular to spathulate, sometimes parabolic or hippocrepiform; upper surface dark green and semiglossy; lower surface light green, semiglossy, drying brown, semiglossy on both surfaces; **midrib** narrowly raised above, acute below; **basal veins** 4–5 pairs, the 1st free to base, departing midrib ca. 60° angle, 2nd to 3rd fused 0.5–1.0 cm, 3rd to 4th fused 2.0–2.5 cm, raised in weak valleys above, raised and light green to whitish below; posterior ribs naked; primary lateral veins 5–7 pairs, departing midrib at 55°–75° angle, weakly raised or flat above, raised below; collective veins arising from 1st pair of basal veins, flat and slightly visible above, weakly raised below, 7–12 mm from the margin. **Inflorescence** erect-spreading, about as long as the leaves; peduncle 34–67 cm long, 2–4 mm diam.; **spathe** reflexed, lanceolate, thin, light green, 6–10 cm long, 1.3–2.5 cm wide, acuminate at the apex, rounded at the base, inserted ca. 40–50° angle on peduncle; **spadix** tapered, green at anthesis, light brown-matte and semi-glossy in post-anthesis, 7–13 cm long, 5–7 mm diam. at the base, 3.0–3.5 mm diam. at the apex; **flowers** square or rhombic, 1.5–1.8 mm long, 3–4 mm wide, the sides ± straight; 2–5 flowers visible in either spiral; tepals light green, papillate minutely, sparse

droplets appearing at anthesis, the lateral tepals 0.3–1.5 mm wide, the inner margin ± straight; pistil weakly emergent, matte; stigma oblong, 0.1–0.3 mm long, presence of small-transparent droplets in the female phase; anthers yellow; thecae ellipsoid; pollen yellow. **Infructescence** pendent; spadix to 8–10 cm long, ca. 1.5 cm diam.; **berries** orange at maturity, broadly obovoid or subglobose, truncate or sunk at apex, 5–10 mm long, 5.0–7.5 mm wide; **seeds** 1 or 2, flattened on one side if 2, round or oblong, white-yellowish, 5–7 mm long, 4–7 mm wide.

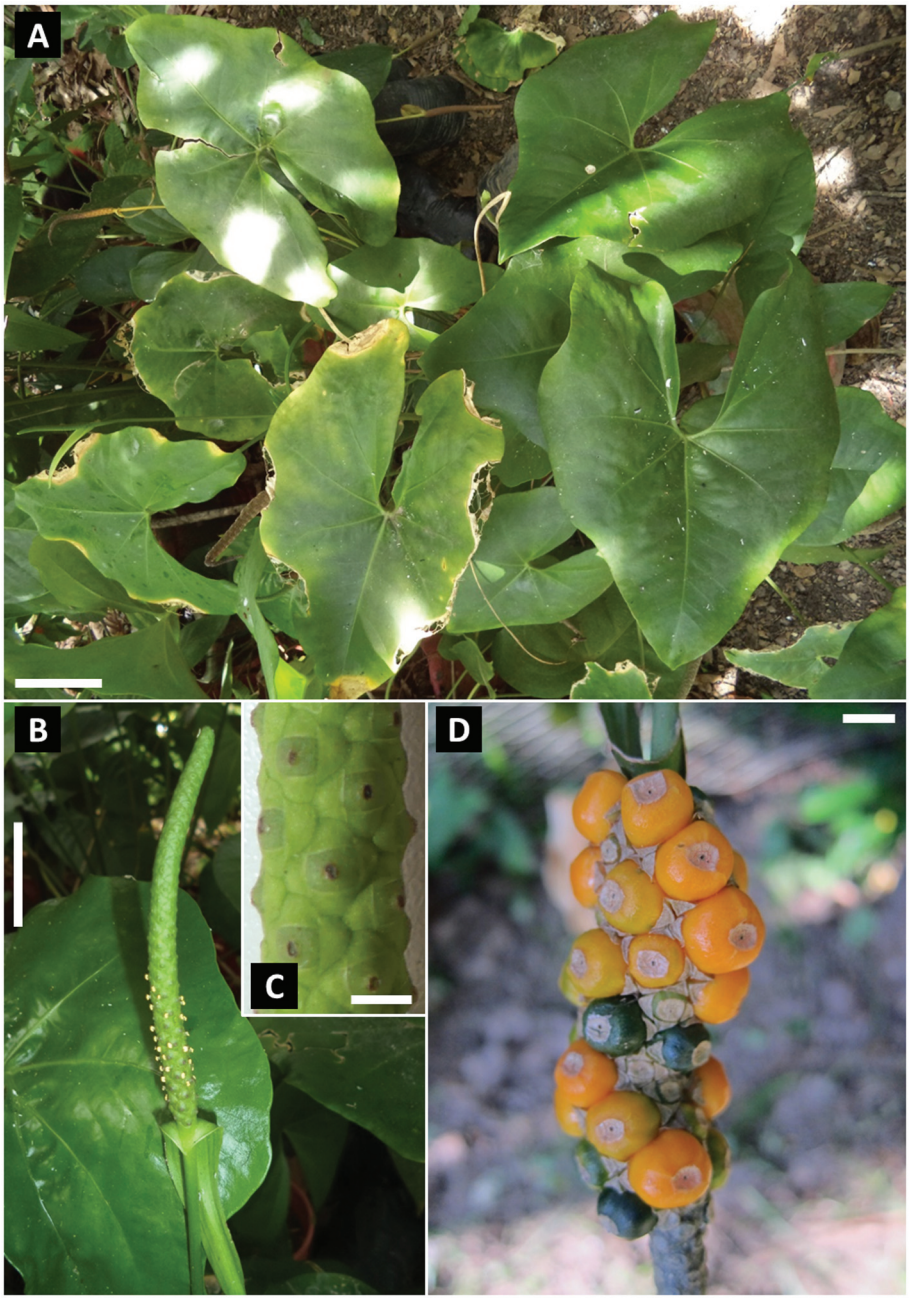

FIGURE 2. *Anthurium tacotalpense*. **A.** Cultivated adult plant showing upper surface, lobes and margins of the blades; **B.** Inflorescence in the male phase with its yellow stamens; **C.** Portion of spadix in male phase showing the flowers, tepals and pistils with black stigmas (not receptive); **D.** Infructescence with mature (orange) and immature (green) fruits. Scale bars: A = 10 cm; B = 2 cm; C = 1 mm; D = 2 cm. Photos: A–D: Pedro Díaz Jiménez.

Distribution, habitat and conservation status:—*Anthurium tacotalpense* is endemic to the municipality of Tacotalpa, state of Tabasco, Mexico. It grows in the understory or edge of the forest, between 50 and 150 m, on karstic rocks in "bosque tropical perennifolio" (*sensu* Rzedowski 1978) or lower montane rain forest (*sensu* Breedlove 1981). The habitat has irregular topography with slopes of up to 70% and cliffs. The geology of this region comprises Eocene continental marine strata with Oligocene marine inclusions. Its limestone rock has eroded to form a karst topography (López-Mendoza 1980; López-Hernández 1994), and the soil is a shallow tropical rendzina. According to the extent of occurrence and area of occupancy, the new species is considered critically endangered (CR; IUCN 2001).

Phenology:—Its flowering and fruiting has been recorded in February, July, June, August, September, October and November.

Eponymy:—This species is named for the municipality of Tacotalpa, Tabasco, where the type locality is located.

Additional specimens examined (paratypes):—MEXICO. Tabasco: Municipio Tacotalpa, Cerro al noroeste del Ej. Lázaro Cárdenas, a 1.5 km del Ejido., 17°33'04"N 092°45'34"W, 130 m, 08 July 1981, *Clark P. Cowan, Sergio Zamudio R. & M.A. Magaña A. 3402* (CSAT!, MO!); Municipio Tacotalpa, Kolem Chen, 17°26'32"N 092°45'30"W, 79 m, 16 March 2008, *Pedro Díaz Jiménez 438* (MO!, UJAT!); Kolem Chen, 17°26'31"N 092°45'31"W, 92 m, 03 June 2021, *Pedro Díaz Jiménez 1577* (UJAT!).

Notes:—*Anthurium tacotalpense* represents the thirty-second taxa of *Anthurium* sect. *Andiphilum* in Mexico (Croat *et al*. unpubl. data). It is recognized for its terrestrial and epipetric habit, D–shaped and adaxially flattened petioles, ovate-triangular blades, green spadix at anthesis and orange berries at maturity. It can be easily confused with *A. cerrobaulense*, an epiphytic or epipetric (rarely terrestrial) species from Chiapas and Oaxaca, Mexico. However, *A. cerrobaulense* has sharply sulcate adaxially petioles, shorter spadix and immature dull berries violet-purple. Furthermore, *A. cerrobaulense* grows in *Quercus-Pinus* forests, between 830–1,600 m (Croat 1983).

All specimens of *Anthurium tacotalpense* collected in southern Tabasco had previously been identified as *A. berriozabalense* (Díaz Jiménez *et al*. 2015), a species described by Matuda (1951) from Las Vistas, north of Berriozabal, Chiapas, but the latter species is characterized by having blades with the entire margins, straight or concave from the base to the apex, the anterior lobe and posterior lobes narrower, and the posterior lobes directed outward (Croat 1983), while in *A. tacotalpense* the blades have margins entire or undulate, either straight or convex from the base to apex, the anterior lobe and posterior lobes are almost twice as wide, and the posterior lobes directed outward, straight or overlapping.

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