
A New Species of *Anthurium* (Araceae) with Cordate Leaves from Southeastern Brazil

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ABSTRACT. During a floristic survey of Araceae species in the Atlantic Forest, Espírito Santo State, southeastern Brazil, we found an unknown species of *Anthurium* Schott with cordate leaf bases. Here, we describe and illustrate this new species, *A. marcusianum* Theófilo, L. Kollmann & Sakur., and also provide comments on its ecology, distribution, and conservation status.

Key words: *Anthurium*, Atlantic Forest, Brazil, conservation, deforestation, Espírito Santo, IUCN Red List, section *Belolonchium*.

Anthurium Schott, the largest genus of Araceae, includes ca. 950 species (Boyce & Croat, 2011 onward). It includes terrestrial and epiphytic representatives and can be found in extreme environments, such as rocky outcrops and swamps (Coelho et al., 2009).

In recent years, a considerable number of new species of *Anthurium* have been described, particularly from the Atlantic Forest of Brazil (e.g., Coelho, 2010; Temponi & Coelho, 2014; Valadares & Sakuragui, 2015). Nevertheless, very little is known about the *Anthurium* species growing in areas associated with inselbergs, i.e., isolated, granitic outcrops that rise abruptly above the surrounding plain regions (de Paula et al., 2016).

During field expeditions in Espírito Santo State, southeastern Brazil, conducted as part of an attempt to clarify the taxonomy of *Anthurium* species occurring in this particular vegetation type (e.g., *A. viridispathum* E. G. Gonçalves), a new species was found and is described here.

METHODS

This study included analysis of specimens and holotype images from the following herbaria: G, K, MBML, P, RB, and SP. Morphological analysis was performed under a stereoscope. Colors of vegetative and reproductive structures were recorded from observations in the field and are presented in a standardized form to avoid terminological conflicts. The floral and vegetative

character description follows Croat and Bunting (1979), Stearn (1993), and Mantovani et al. (2009).

TAXONOMIC TREATMENT

Anthurium marcusianum Theófilo, L. Kollmann & Sakur., sp. nov. TYPE: Brazil, Espírito Santo: Águia Branca, Pedra da Bandeira, 26 Apr. 2008, L. J. C. Kollmann 10937 (holotype, MBML!; isotype, RB!). Figure 1.

Diagnosis. *Anthurium marcusianum* Theófilo, L. Kollmann & Sakur. is very similar to *A. jureianum* Cath. & Olaio but differs in having a geniculum 0.5–0.8 cm long, leaves that are not peltate and that have a cordate base, and primary lateral leaf veins adaxially prominent when fresh.

Rupicolous herb; stem elongate, > 5 cm, erect; internodes 0.3–0.5 cm; prophylls and cataphylls 2.2–7.3 cm, greenish when young, brownish to chestnut when old, drying medium brown, persistent and entire at the stem apex, persistent at the stem base; sheath 2.1–2.9 cm. Leaf not peltate; petiole 14.3–18.1 × 0.4–0.5 cm, erect, greenish, covered with raphide cells, without glandular punctations, terete; geniculum 0.5–0.8 cm, clear matte green when fresh, drying blacker than the rest of the petiole, terete, without glandular punctations; leaf blade 8.2–18.8 × 7.5–20.3 cm, perpendicular to petiole, ovate, chartaceous when fresh, coriaceous when dry; upper surface green, with whitish border, drying medium green, densely covered with raphide cells, lower surface light green, matte, drying medium green, without glandular punctations; apex acute; base cordate; anterior lobe 8.2–12 cm; posterior lobes 4.1–9.1 cm, imbricate to not imbricate, rounded at apex; sinus spatulate to obovate; midrib whitish adaxially, obtuse at the base, rounded and prominent at the apex adaxially, rounded and prominent abaxially; basal veins 4 to 5 pairs; 1st pair free to the base or fused for 0.73–1.24 cm, reaching the apex or the margin above 1/2 of the anterior lobe length; 2nd pair of basal veins fused for 2.33–3 cm,

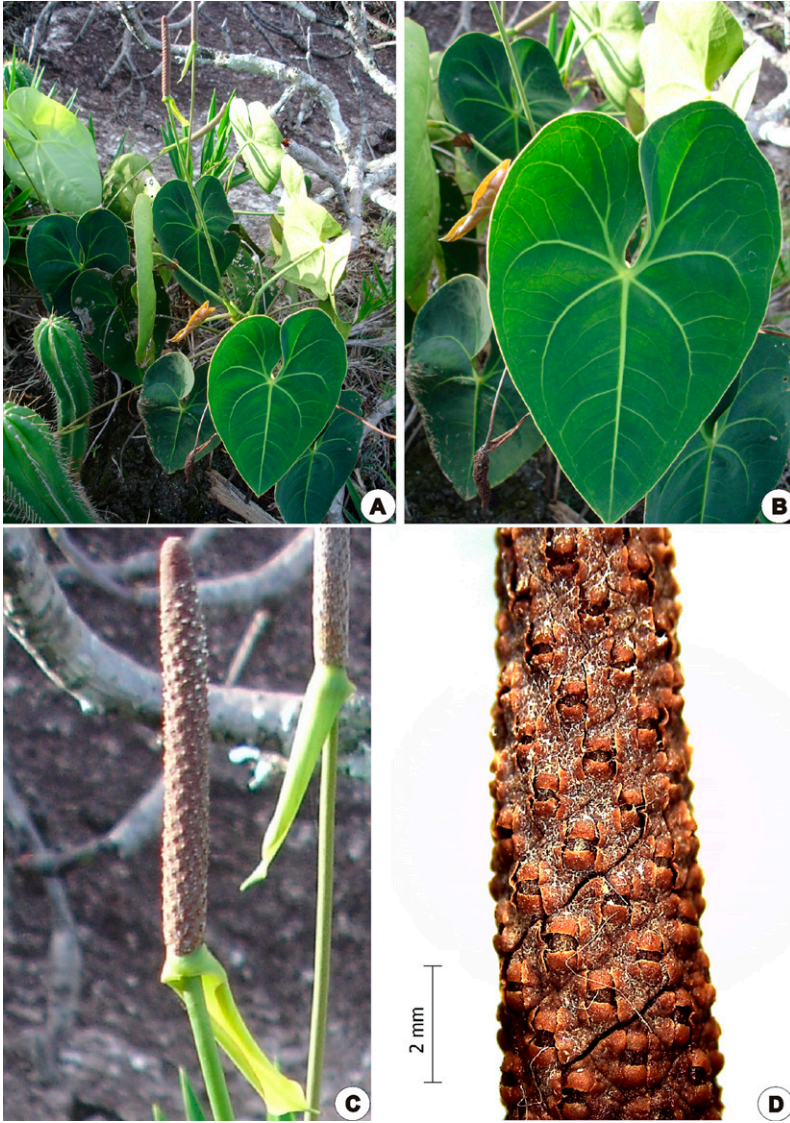


Figure 1. *Anthurium marcusianum* Theófilo, L. Kollmann & Sakur. —A. Habit. —B. Leaf blade. —C. Inflorescence. —D. Detail of inflorescence.

reaching the margin above $1/3$ to $2/3$ of the anterior lobe length; 3rd and 4th pairs of basal veins fused for 1.07–4.34 cm, reaching the margin of the posterior lobe, 5th pair of basal veins free to the base or fused to 1.6 cm, reaching the margin of the posterior lobe; primary lateral veins 6 to 9 on both sides, arched, prominent adaxially when fresh, raised below abaxially when fresh; interprimary veins distinct from the primary lateral veins; collective vein arising from the base, 0.4–2 cm from the margin. Peduncle $24.5\text{--}40.1 \times 0.4$ cm, 1.7–2.7 times longer than the petiole, erect, terete, greenish, glandular punctations absent, covered with raphide cells, geniculum absent at the apex; spathe

$4.2\text{--}6.1 \times 0.6\text{--}0.8$ cm, chartaceous when fresh, expanded, coriaceous when dry, greenish, lanceolate, decurrent at base, forming obtuse to right angle with the peduncle, rostrate to acuminate at apex, reflexed until post-anthesis, pustules absent, both surfaces densely covered with white speckles; spadix $4.6\text{--}6.5 \times 0.4\text{--}0.5$ cm, sessile, tapered, purplish in pre-anthesis, brownish to pale green in post-anthesis; 4 to 5 flowers visible per principal spiral, 5 flowers visible per secondary spiral. Flowers rhombic; tepals purplish until anthesis, purplish at the apex, becoming whitish toward the base post-anthesis, dorsally acute, internally convex; lateral tepals $1\text{--}1.23 \times 0.87\text{--}0.92$ mm;

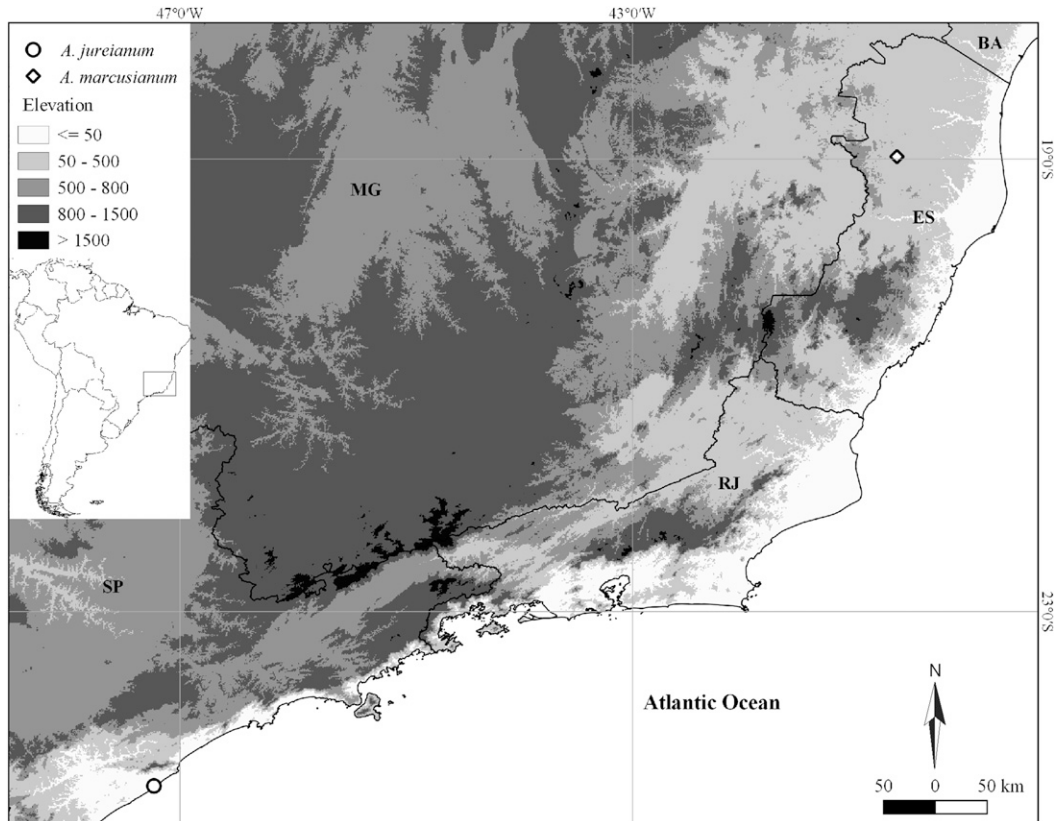


Figure 2. Geographic distribution of *Anthurium marcusianum* Theófilo, L. Kollmann & Sakur. and its most similar congener, *A. jureianum* Cath. & Olaió.

anterior/posterior tepals 1.23–1.28 × 0.58–0.59 mm; stamens emerging in a scattered manner, laterals first, followed quickly by alternates; filaments flattened, striated, 1.56–1.59 × 0.20–0.25 mm; anthers 0.32–0.5 × 0.25–0.29 mm, dorsifixed, extrorse; pistils purplish, oblong, not emergent; stigma sessile, rounded; ovary 0.99–1.32 × 0.46–0.53 mm, bilocular, 1 ovule per locule, axial placentation; funicle with trichomes. Inflorescence not seen.

Habitat, ecology, and distribution. *Anthurium marcusianum* was found in inselbergs associated with Atlantic Forest fragments in Espírito Santo State, Brazil (Fig. 2). The plants occur in the submontane dense ombrophilous forest (Velooso et al., 1991), preferentially on shaded rocky outcrops (Fig. 3). In field observations, the population size was ca. 100 individuals, growing scattered or in small groups.

IUCN Red List category. Data available for the new species are still sparse and insufficient to assess its conservation status. The species is considered as Data Deficient (DD) according to the IUCN Red List criteria (IUCN, 2012) until more information becomes available. Nevertheless, we highlight that its natural habitat is under

high anthropic impact, and therefore attention must be given to preserving this unique population.

Etymology. The species is named after Dr. Marcus Alberto Nadruz Coelho for his enormous contribution to the knowledge of Brazilian aroids.

Discussion. *Anthurium marcusianum* is very similar to *A. jureianum* (section *Urospadix* Engl.), which has a geniculum 1.5–2.5 cm long, peltate leaves with rounded bases, and primary lateral leaf veins that are poorly visible when fresh. Although *A. marcusianum* presents morphology characteristic of section *Belolonchium* (Schott) Engl., we place it in section *Urospadix* because of the presence of a funicle with trichomes, which Temponi (2006) suggests is a synapomorphy for Brazilian species of the section.

Paratypes. BRAZIL. **Espírito Santo:** Águia Branca, Santa Luzia, propr. Ciro Ferreira, 18°58'46"S, 40°39'44"W, 3 Apr. 2007 (fl.), V. Demuner 3466 (MBML); Santa Luzia, 27 Apr. 2006 (fl.), V. Demuner 2272 (MBML); Santa Luzia, 18 May 2007 (fl.), V. Demuner 3991 (MBML); Santa Luzia, Pedra do Ciro, 3 Dec. 2007 (fl.), H. Boudet-Fernandes 3468 (MBML); Santa Luzia, 18 Oct. 2006 (fl.), V. Demuner 2935 (MBML); Santa Luzia, Pedra da Bandeira, 26 July 2006 (fl.), L. F. S.



Figure 3. —A. View of the inselbergs in Água Branca region, Espírito Santo, Brazil. —B. Type locality of *Anthurium marcusiianum* Theófilo, L. Kollmann & Sakur. at Pedra da Bandeira, Espírito Santo, Brazil.

Magnago 1111 (MBML); Santa Luzia, 4 July 2007 (fl.), *R. R. Vervloet 2780* (MBML); Santa Luzia, antiga propr. do sr. Ciro Ferreira, 16 Mar. 2016 (fl.), *H. V. Pinto-Junior 228* (RB).

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