



## A new species of *Orthophytum* (Bromeliaceae) from Chapada Diamantina, Bahia, Brazil

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### Abstract

In this paper we describe and illustrate *Orthophytum argentum* as a new species from campos rupestres of Espinhaço Range, morphologically similar to *Orthophytum toscanoi*.

### Resumo

No presente estudo é descrita e ilustrada *Orthophytum argentum* como uma nova espécie dos campos rupestres da Cadeia do Espinhaço, morfologicamente similar à *Orthophytum toscanoi*.

**Key words:** Bromelioideae, Espinhaço Range, campos rupestres

### Introduction

*Orthophytum* is a medium-sized genus comprising about 60 species restricted to Brazil known for the Brazilian states of Ceará, Paraíba, Pernambuco, Alagoas, Sergipe, Bahia, Minas Gerais and Espírito Santo.

There are two centers of diversity for the genus: one in the Espinhaço Range, and the other one in the Atlantic Rainforest areas (Louzada & Wanderley 2010). The *Orthophytum* species are generally saxicolous, but few species can be terrestrial. They grow in areas of soil on top of granitic-gneiss inselbergs (Atlantic Rainforest and Caatinga) or quartzite-sandstone rock outcrops of campos rupestres (rock fields) forming mats or sometimes as isolated individuals.

Two morphological groups can be distinguished: the sessile inflorescence group and the pedunculate inflorescence group (Wanderley & Conceição 2006, Louzada & Wanderley 2010), although both are clearly not monophyletic groups (Louzada *et al.* in prep). Based on morphological studies of dry and living material in collections and field studies, we describe a new species with a pedunculate inflorescence, from campos rupestres of Chapada Diamantina, Bahia, morphologically similar to *Orthophytum toscanoi* Leme (2003: 23).

### *Orthophytum argentum* Louzada & Wand., sp. nov., Fig. 1 A–I

Type:—BRAZIL. Bahia: Rio de Contas, Fazenda Vacaro, Caminho para o Morro da Teta, 13°32'50"S, 41°52'24.2"W, 1,250 m, 12 February 2009, R.B. Louzada, M.G.L. Wanderley & A.M. Benko-Iseppon 110 (holotype SP, isotype HUEFS).

*Orthophytum argentum* *O. toscanoi* Leme simile, sed bracteis floralibus et sapis atrovineis, aculeis laminarum glabris, haud ad basim intumescens differt.



**FIGURE 1. A–I.** *Orthophytum argentum* (from the holotype). A. Habit. B. Complete flower with floral bract. C. Floral bract. D. abaxial sepal. E. adaxial sepal. F. adaxial sepal with the opposite stamen. G. Petal with one adnate stamen, showing two petal callosities and two supra basal appendages. H. Flower section showing adaxial sepal with the opposite stamen, petal with the adnate stamen, petal callosities and appedages, and the gynoecium showing style, stigma and ovary with axial placentation. I. Detail of the stigma.

Plant rupicolous, short caulescent. 24–34 cm tall, forming an open rosette. Rhizomes short, stems wholly covered by leaves. Leaf sheaths distinguishable from the blades, chartaceous, ovate, castaneous, margins serrulate, glabrous on both sides. Leaf blades homomorphic, 15–20 × 2.0–2.5 cm at the base, rigid, coriaceous, narrowly triangular, arching, channeled, cinereous, densely lepidote on both sides, margin densely serrate, prickles slender, dark brown, 3.5–4.0 mm long gradually shorter toward the apex, retrorse, apex long attenuate, pungent. Peduncle elongate, erect, 11–18 cm long, woolly lepidote, dark-vinaceous; peduncle bracts divergent, much exceeding the internodes, foliaceous, coriaceous, narrowly triangular, margins densely serrate and lepidote, apex long attenuate, pungent. Inflorescence ca. 12 cm long, double raceme, of 7–8 branches, lax, dense at apex; axis wholly exposed, slender, straight, terete, glabrescent, dark-vinaceous. Primary bracts foliaceous, patent or reflexed, gradually becoming smaller toward the apex, coriaceous, linear-triangular or ovate-lanceolate, margin serrate, the upper shorter than the branches, or the lower exceeding the branches, both surfaces subdensely lepidote, apex pungent. Floral bracts ca. 15 × 10 mm, clasping the flowers, coriaceous, surface prominently nerved, carinate, triangular, margins serrate or serrulate, about equaling the sepals, sparsely lepidote, dark-vinaceous, apex pungent. Flowers ca. 17 mm long, sessile. Sepals subcoriaceous, ca. 10 × 4 mm, triangular, asymmetric, margins entire, adaxial ones carinate, distinct from the ecarinate abaxial one, free, glabrous on both sides, dark-vinaceous, apex pungent. Petals ca. 13 mm long, elliptic, green with white blades, with two conspicuous callosities; blades ca. 5 mm wide, free from each other, apex spreading to recurving, obtuse; petal appendages fimbriate, well above the base. Stamens included, exceeding the pistil; first whorl of filaments (opposite to the sepals) free, the second whorl adnate to the petals, ca. 8 mm long; anthers 3–4 mm long, elliptic, dorsifixed nearly at the middle. Ovary trigonous, ca. 3 mm long, green. Epigynous tube absent. Ovules obtuse, not caudate; placentation axial. Stigmas simple-erect. Fruits and seeds not seen.

**Distribution and habitat:**—*Orthophytum argentum* is known from Rio de Contas municipality in Bahia. It grows on quartzite rock outcrops within campos rupestres as rupicolous, close to streams or in shaded habitats, more rarely in open places between 1,000 and 1,300 m elevation.

**Comparison:**—*Orthophytum argentum* is morphologically similar to *O. toscanoi*, but differs mainly in its conspicuous floral bracts and dark-vinaceous sepals. The prickles on the leaf margins are very slender, glabrous and dark-brown; the peduncle is dark-vinaceous and covered by a woolly indument. *Orthophytum toscanoi* has green floral bracts and sepals; the prickles on the leaf margins has a swollen base and are densely white-lepidote; the peduncle is greenish-bronze. Additionally *O. argentum* specimens always grow as rupicolous, while *O. toscanoi* specimens were found growing as terrestrials in wet forested places (Leme 2003).

**Etymology:**—The name of the species was chosen due the silver-like gloss of the leaves, produced by an increased density of the scales.

**Additional specimens examined:**—BRAZIL. Bahia: Rio de Contas, Rio Brumado, estrada para a Cachoeira do Fraga, 22 September 1981, *A. Furlan et al.* CFCR 1705 (RB, SPF); Cachoeira do Fraga, 900 m, 13°37' S, 41°46' W, 4 November 1988, *R.M. Harley et al.* 25912 (CEPEC, MBM, SP, SPF); perto da Cachoeira do Fraga, 900 m, 21 May 1991, *S.J. Mayo et al.* 851 (CEPEC, HB, MBM); Salto do Fraga, 1100 m, 6 April 1992, *G. Hatschbach et al.* 56709 (MBM); 13°35'55" S, 41°49'45" W, 950 m, 2008, *M. Machado* 278 (HUEFS).

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