



NOTA

Contributions to the moss flora of Uruguay I: the genus *Trachyxiphium* (Bryophyta, Pilotrichaceae)

Contribuciones a la flora de musgos de Uruguay I: el género *Trachyxiphium* (Bryophyta, Pilotrichaceae)

Suárez, Guillermo M.^{1,2*} ; Ary Mailhos³ 

¹ Unidad Ejecutora Lillo, (CONICET-Fundación Miguel Lillo), Miguel Lillo 251, (4000) San Miguel de Tucumán, Argentina.

² Facultad de Ciencias Naturales e Instituto Miguel Lillo, Universidad Nacional de Tucumán, Miguel Lillo 205, (4000) San Miguel de Tucumán, Argentina.

³ Departamento de Biología Vegetal, Facultad de Agronomía, Universidad de la República, Garzón 780, (12900) Montevideo, Uruguay.

* Corresponding author: <suarezgm@csnat.unt.edu.ar>

ABSTRACT

Trachyxiphium, including the species *T. guadalupense* (Pilotrichaceae), is reported for the first time for the moss flora of Uruguay. This study provides a description of its morphological characteristics and highlights its novel habitat within the region. Additionally, comments and illustrations are provided.

Keywords: Bryophytes; new records; pleurocarpous mosses.

RESUMEN

Trachyxiphium, incluyendo la especie *T. guadalupense* (Pilotrichaceae), se reporta por primera vez para la flora de musgos de Uruguay. Este estudio proporciona una descripción de sus características morfológicas y destaca su hábitat novedoso dentro de la región. Además, se incluyen comentarios e ilustraciones.

Palabras clave: Briófitas; musgos pleurocárpicos; nuevos registros.

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INTRODUCTION

The moss flora of Uruguay has garnered increasing attention in recent years, with ongoing studies aimed at documenting its rich diversity (Flores and Suárez, 2014; Cabral *et al.*, 2020). Notably, numerous new records have emerged from these investigations (Ellis *et al.*, 2011, 2012a, 2012b; Suárez & Schiavone, 2013; Suárez *et al.*, 2014, 2017; Jimenez *et al.*, 2019), including the description of previously unknown species (Zander *et al.*, 2021; Alvarez *et al.*, 2023).

Within the framework of the project ‘Study of Bryophyta and Marchantiophyta from Southern South America’, extensive sampling efforts have been directed towards bryophytes in Uruguay. These efforts have yielded significant findings, including the identification of *Trachyxiphium guadalupense* (Brid.) W.R.Buck (Pilotrichaceae), a genus and species not previously recorded in the country (Matteri, 2004).

The genus *Trachyxiphium* W.R.Buck is characterized by a small habit, stems in cross-section lacking hyalodermis, often falcate-secund leaves that are elimbate, generally with a long-acuminate apex, bifid, inflated teeth, an elongate and double costa, and linear median and upper laminal cells. The sporophyte has an elongate seta, an exostome finely cross-striate at the base and papillose above, furrowed, an endostome with a high basal membrane, and a naked calyptra. It includes 10 to 15 species in the Neotropics (Gradstein *et al.*, 2001) and four species in southern Brazil (Costa, 2020).

This discovery underscores the importance of continued exploration and documentation of Uruguay’s moss flora, not only for advancing our understanding of its biodiversity but also for contributing to global bryological knowledge. In this paper, we present morphological characteristics of *T. guadalupense*, along with insights into its habitat preferences in the Santa Teresa National Park.

MATERIAL AND METHODS

The research was carried out in Santa Teresa National Park. It is located in Rocha (Uruguay) and is known for its stunning natural beauty and historical significance (Suárez & Schiavone, 2013). The park covers an area of about 3000 hectares and is characterized by its diverse ecosystems, including sandy beaches, forests, and grasslands.

The collections involved using spatulas to gather specimens along with their substrate. Subsequently, the samples were air-dried at room temperature. Identification was carried out using both a microscope and an optical stereo microscope, consulting specialized literature and identification keys. The specimens were then housed at the LIL Herbarium (herbarium acronyms follow Thiers, 2024).

TAXONOMY

Trachyxiphium guadalupense (Brid.) W. R. Buck,
Brittonia 39: 220. 1987.

≡ *Hypnum guadalupense* Brid.,
Muscol. Recent. Suppl. 2: 96. 1812. (Fig. 1)

Plants small and slender, in ± lustrous, whitish green to golden, mostly thin mats mixed with other bryophytes. **Stems** creeping, red, irregularly but freely branched, sometimes ± pinnate, ± densely foliate, sometimes complanate-foliate; in cross-section with a sclerodermis, central strand none; axillary hairs with a short brown basal cell and 1–2 elongate hyaline distal cells. **Leaves** sometimes ± contorted when dry, sometimes falcate-secund, flaccid when moist, erect to wide-spreading, lanceolate to ovate lanceolate to oblong-lanceolate, gradually long-acuminate, the apex sometimes flexuose, ± plicate, shallowly concave, the apical cell often 2-pronged, narrowed but not rounded at the insertion; margins not bordered, usually coarsely serrate in the acumen, all upper marginal cells forming bifid, ± swollen teeth, subentire to serrulate below, plane or erect near midleaf; costa double, toothed, the teeth often bifid; laminal cells long-hexagonal to linear, smooth or prorulose (especially above), thin- to firm-walled, ± porose, scarcely differentiated toward the leaf base; alar cells not differentiated. Sporophytes not observed.

Comments.— *Trachyxiphium guadalupense* was found growing on rocks along streams or within them, at an elevation of 33 meters above sea level. It is distinguished by its slenderly acuminate, lanceolate to ovate-lanceolate leaves, often somewhat falcate-secund. The upper leaf margins are typically coarsely serrate, with bifid, swollen teeth (Buck, 1998). In southern Brazil, the genus *Trachyxiphium* is represented by four species, including *T. guadalupense* (Costa, 2020), all of which thrive in diverse habitats like rocks along streams and forested areas. The species in this region, such as *T. aduncum* (Mitt.) W.R. Buck, *T. variable* (Hornsch. ex Mitt.) W.R. Buck, and *T. heteroicum* (Cardot) W.R. Buck, exhibit a variety of leaf structures and cellular characteristics that allow for their differentiation. *T. aduncum* closely resembles *T. variable*, but can be distinguished by its toothed costa, which does not project at the apex. On the other hand, *T. variable* has ovate leaves with the costa reaching 3/4 or more of the leaf length, with cells commonly projected at the distal angles. In contrast, *T. heteroicum* has lanceolate leaves with the costa reaching 2/3 or less of the leaf length and smooth cells.

Material examined.— URUGUAY. Rocha: Parque Nacional Fortaleza Santa Teresa, sendero de interpretación, barranco bajo el puente, muy húmedo, 34°00'7.87"S, 53°33'21.65"W, 33 m asl, 10-I-2011, G. Suárez 1120 (LIL).

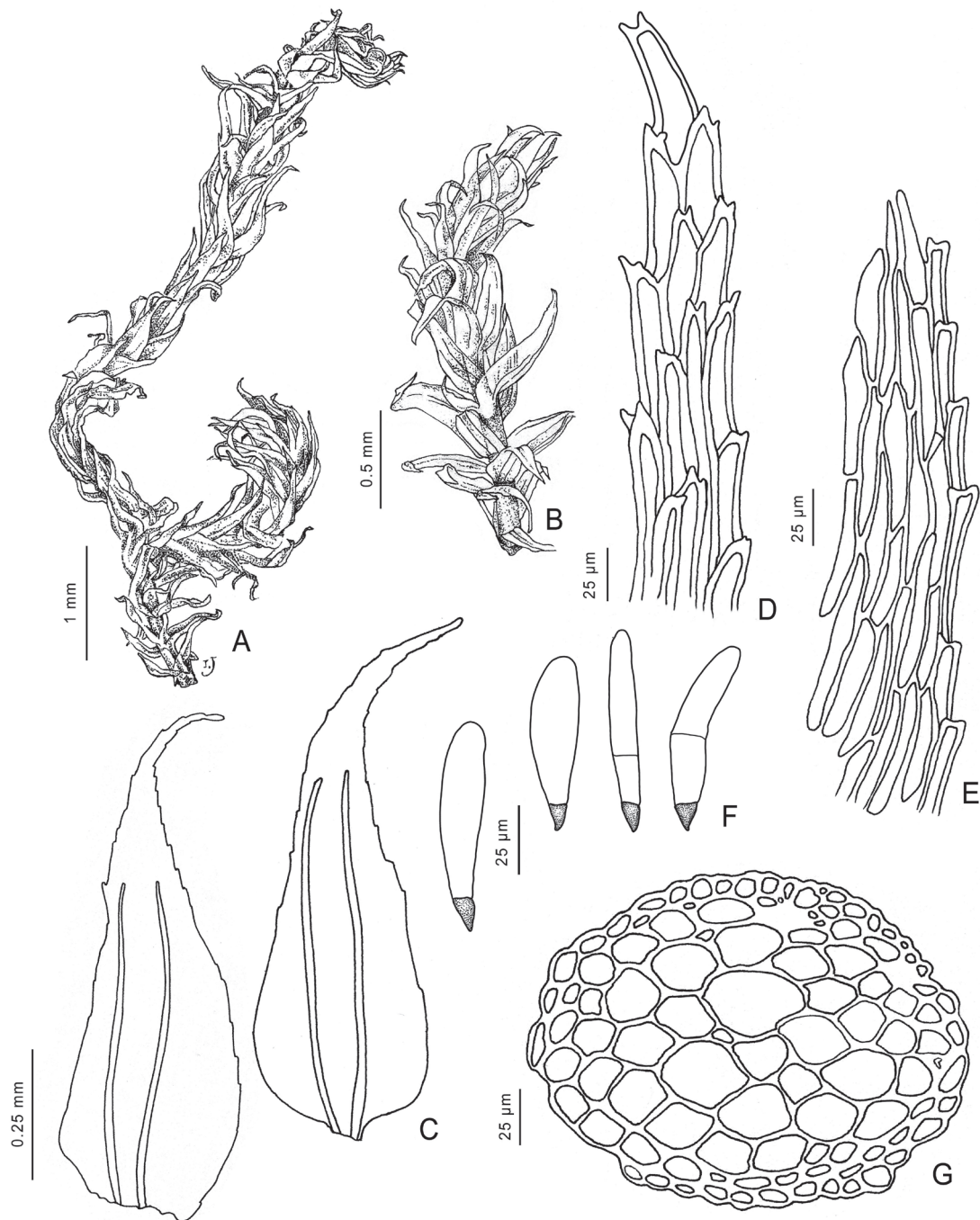


Fig. 1. *Trachyxiphium guadalupense*. A) Habit of plant when dry. B) Habit of plant when wet. C) Leaves. D) Tip of leaf. E) Marginal median leaf cells. F) Axillary hairs. G) Cross section of stem. All from G. Suárez 1120 (LIL).

Fig. 1. *Trachyxiphium guadalupense*. A) Hábito de la planta en seco. B) Hábito de la planta en húmedo. C) Hojas. D) Ápice de la hoja. E) Células del margen de la hoja. F) Pelos axilares. G) Sección transversal del tallo. Todas de G. Suárez 1120 (LIL).

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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