A new filmy fern species and new unispecific section of Trichomanes (Hymenophyllaceae) ("filmy ferns") from Cuba

Author: Sánchez, Carlos

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CARLOS SÁNCHEZ

A new filmy fern species and new unispecific section of *Trichomanes (Hymenophyllaceae)* ("filmy ferns") from Cuba

Abstract

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Trichomanes caluffii is newly described from the mountains of northeastern Cuba. It is characterised by the absence of blackish (fasciculate, forked or simple) marginal trichomes or marginal scales, lack of a false submarginal vein, scarceness and reduced size of the false veinlets, and large pluricellular rhizoids with but light pigmentation. By these features it is distinct from all other species and recognised sections of *T.* subg. *Didymoglossum,* which is why it is considered as constituting a section of its own, *T.* sect. *Reducta*. *T. caluffii* is a threatened species, assigned to the critically endangered (CR) IUCN threat category.

According to Morton (1968), *Trichomanes* subg. *Didymoglossum* (Desv.) C. Chr. includes three neotropical sections, *T.* sect. *Didymoglossum* (Desv.) C. V. Morton, sect. *Microgonium* (C. Presl) C. Chr. and sect. *Lecanium* (C. Presl) C. Chr. (Sánchez 2000). The two former were revised monographically by Wessels Boer (1962). The latter is unispecific and consists of *T. membranaceum* L.

The species described below was discovered in the northeast of Cuba in 1988. Its characters do not match any of the sections so far recognised by various authors in their respective classifications (Copeland 1947, Morton 1968, Pichi Sermolli 1977, Iwatsuki 1990). Its peculiar features necessitate the creation of a new section.

Trichomanes sect. ***Reducta*** C. Sánchez, **sect. nova** – Type: *T. caluffii* C. Sánchez

A sectionibus caeteris generis *Trichomanis* absentia pilorum et parvarum squamarum in margine laminae sitorum nec non venae falsae submarginalis differt.

This new section, as well as its single species described below, is further characterised by the following differential features: the presence of light brown, simple, pluricellular rhizoids (rather than of short, dark rhizoids as in the other sections); the relatively low number and small size of

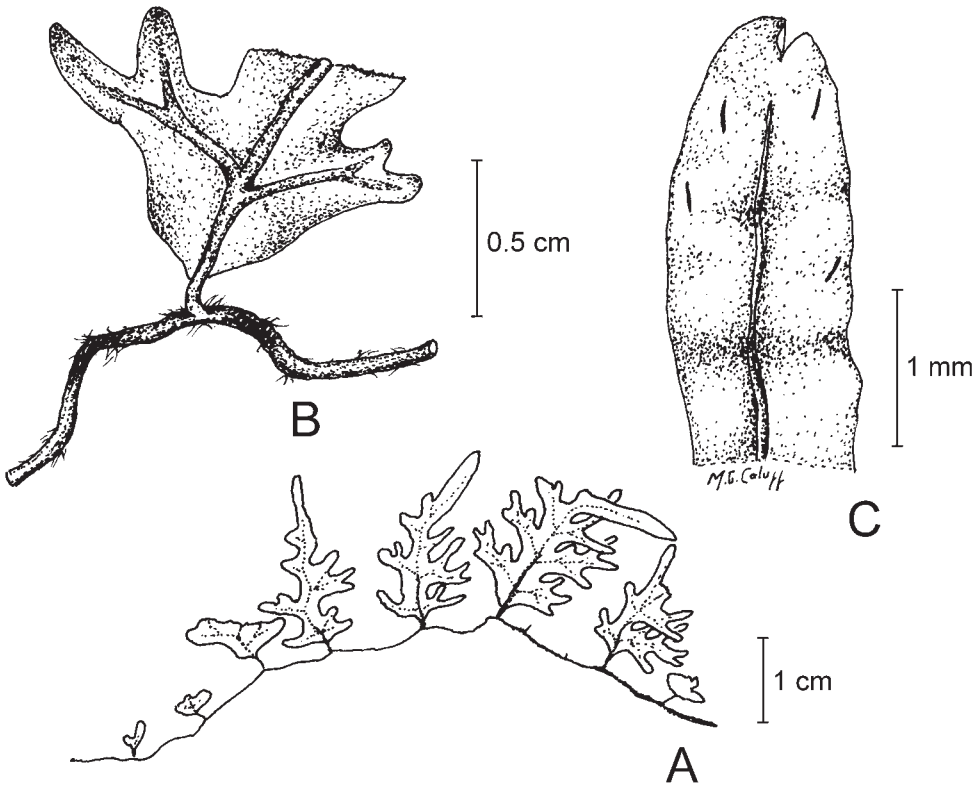

Fig. 1. *Trichomanes caluffii* C. Sánchez – A: habit; B: stem and base of the leaf; C: ultimate leaf segment with false veinlets. – Drawn from the holotype by M. G. Caluff.

false veinlets; the metallic olivaceous colour of the dry fronds (dark green in the other taxa); as well as the unusual, rather irregular partition of the lamina. Furthermore, it lacks the characteristic, fasciculate, forked or simple, blackish marginal trichomes of *Trichomanes* sect. *Didymoglossum*, the submarginal false vein of *T.* sect. *Microgonium,* and the submicroscopic marginal scales typical for *T.* sect. *Lecanium*.

Trichomanes caluffii C. Sánchez, **sp. nova** – Holotype: Cuba, prov. Guantánamo, Baracoa, Arroyo Frío, Quibiján, 200 m, 31.3.1988, *Caluff 2606* (BSC!; isotype: HAJB!). – Fig. 1.

A speciebus omnibus generis *Trichomanis* hucusque cognitis absentia pilorum et parvarum squamarum in margine laminae sitorum nec non venae falsae submarginalis differt.

Stem slender, long creeping, filiform, 0.3-0.4 mm in diameter, lacking roots, covered with numerous light brown, simple, pluricellular rhizoids up to 1.4 mm long, also present on the petiole, abaxially on the rhachis, costae and veins, and sometimes along the margin of the lamina, mainly in its proximal half. *Leaves* distant, 1.2-3.5(-4) × (0.9-)1.2-2.8 cm; petiole (0-)1-2 mm long; lamina irregularly divided, deeply pinnatifid or bipinnatifid to subdichotomous, delicate, translucent, olive-grey with a metallic shine when dry; margin glabrous except for occasional rhizoids; base frequently rounded or obtuse, rarely cuneate; pinnae (when present) irregular, with one or two lateral segments; ultimate segments oblong to linear, 1-1.4 mm broad, their apex rounded or obtuse; venation anadromous or anisotomically dichotomous; false veinlets much re-

duced in number and size, up to 0.2 mm long, submarginal, oblique or some of them parallel to the midvein of the segment, sparse, isolated or even absent from some segments. *Sori* unknown.

Eponymy. – The new species is dedicated to Manuel J. García Caluff, expert collector and connoisseur of Cuban pteridophytes.

Distribution and habitat. – Known only from the type locality, an area of occupation of less than 10 km² situated in the Baracoa phytogeographic district of the subprovince E Cuba (Borhidi & Muñiz 1986). Epiphytic on palm roots close to the ground, in submontane rainforest, in shady places next to watercourses, caespitose or matted, rare, at altitudes of 30-200 m.

The new species differs from the other species of *Trichomanes* subg. *Didymoglossum* by the light brown, long, pluricellular rhizoids that not only cover the stem but in addition are persistent and abundant on the rhachis beneath. Furthermore, the false veinlets are reduced in size and number, placed between midvein and margin and running oblique to the former, or may even be absent. The division of the lamina is irregular, and the colour of the tissue, when dry, is olive-grey with metallic shine.

Stem anatomy (Wessels Boer 1962) also deviates. A conspicuous Casparian strip is present, its cells having much thickened walls, which is not observed in other species, and the number of central tracheids is higher.

Conservation status. – The single known population grows in a zone that is potentially threatened by deforestation or forest management, which might result in the loss of its habitat. No fertile plants were detected, which may be indicative of problems with its sexual reproduction. Both facts justify the conclusion that the species is under acute threat and must be considered as critically endangered in terms of IUCN categories (Anonymous 1994).

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Address of the author:
Carlos Sánchez, Jardin Botánico Nacional, Carretera del Rocío, km 3.5, Calabazar, Boyeros, C.P. 19230, Ciudad de la Habana, Cuba; e-mail: sanchez_villaverde@yahoo.es or csanchez@comuh.uh.cu