



The new synonymy of *Horikawaea* with *Cryptogonium* and a proposal of *Pseudocryptogonium*, *gen. nov.* (Musci, Pterobryaceae)

HIROYUKI AKIYAMA^{1,2,4} & BENITO C. TAN³

¹Museum of Nature and Human Activities, Yayoigaoka-6, Sanda, Hyogo 669-1546, Japan.

²University of Hyogo, Institute of Environmental Science, Yayoigaoka-6, Sanda, Hyogo 669-1546, Japan.

³National University of Singapore, Department of Biological Science, 21 Lower Kent Ridge Road, 119077 Singapore.

⁴Author for correspondence (akiyama@hitohaku.jp)

Abstract

Male organs and mature sporophytes of a calciphilous moss previously known as *Horikawaea dubia* are newly reported and described in detail based on a single specimen collected in Guangxi Province, southern China. Sporophytic features, such as the immersed and cylindrical capsule on a very short seta (ca. 1.2 mm long) and reduced peristome with 16 smooth and almost linear exostome teeth, as well as the gametophytic resemblance to *Cryptogonium phyllogonioides* in having complanate foliation, highly differentiated alar region of the stem and branch leaves, and more or less cucullate leaf apices, suggest a new synonymy of *Horikawaea* in *Cryptogonium*. Two new combinations, namely, *C. dubia* (Tixier) H.Akiyama & B.C.Tan **comb. nov.** and *C. nitida* (Nog.) H.Akiyama & B.C.Tan **comb. nov.** are made. Additionally, *Pseudocryptogonium* H.Akiyama & B.C.Tan **gen. nov.** is proposed to accommodate *Horikawaea tjibodensis* (syn. *H. redfearnii*).

Key words: Bryopsida, China, mosses, Malesia, taxonomy

Introduction

In the course of examining bryophyte collections from limestone areas in the southern part of China (Guangxi Province) in 1997, two specimens of *Horikawaea dubia* (Tixier) S.H.Lin were found. One of them bore male gametangia and mature sporophytes, both of which were unknown for the species. They are newly described here as follows.

Description

Sexual organs and sporophytes of Horikawaea dubia (Figures 1–16)

Dioicous? (at least, perichaetia and perigonia produced on different ascending stems). Perigonia lateral on ascending stems, bud-like; antheridia ca. 10 in number, long-pedicellate, 70–80 µm long, paraphyses filamentous, ca. 20 in number, to 0.7 mm long, longer than the length of antheridia. Perigonial leaves ovoid, shortly acuminate, concave, ecostate, ca. 1 mm long, yellowish green above, reddish brown at base; median laminal cells linear-rhomboid, smooth, ± thick-walled; basal laminal cells rectangular, thick-walled and pitted. Perichaetia lateral on ascending stems; archegonia 7–20 in number; paraphyses filamentous, fewer than archegonia in number. Perichaetial leaves oblong-ovate, ca. 1 mm long, incurved, ecostate, yellowish green above, reddish brown at base, becoming much longer after fertilization and reaching 7 mm long; upper and median laminal cells linear-rhomboid, smooth, ± thick-walled; basal laminal cells much differentiated, rectangular, thick-walled and pitted. Calyptrae cucullate, densely papillose, naked.