



Hyophila flavolimbata, a new species of Pottiaceae from northwestern Yunnan, China

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Abstract

A new species of Pottiaceae, *Hyophila flavolimbata* S. He & Y.-J. Yi, is described and illustrated from northwestern Yunnan Province, China. The new species is most similar to *H. involuta* in having spatulate leaves with non-papillose leaf cells and two stereid bands in costa. Its distinguishing characteristics include a differentiated leaf margin bordered by 3–4 rows of lightly yellowish thick-walled cells, leaf cells completely plane on both abaxial and adaxial leaf surfaces, papillose stem epidermal cells, a layer of pseudoleptoids developed next to hydroids in central strand, and the presence of subguide cells in costa.

Key words: China, Gaoligongshan, *Hyophila*, moss, new species, Pottiaceae, Yunnan

Introduction

The genus *Hyophila* Bridel (1827: 760) in the Pottiaceae currently consists of some 85 species in the world with distribution in temperate and tropical areas (Zander 1993, 2007). Of the 85 species in *Hyophila*, many of them have not been well understood. In a worldwide treatment of the genus, only 18 species were examined (Zander 1993). The species of *Hyophila* are found on rock, soil over rocks, and sometimes on tree bases generally in moist and wet habitats, but with drought tolerance to a certain degree. Typically, *Hyophila* species are characterized by their spatulate or ligulate leaves with an undifferentiated border and a sharply delimited hyaline leaf base, virtually non-papillose leaf cells, two stereid bands in costa, and the absence of peristome teeth. *Hyophila involuta* (Hooker 1819: 154) A. Jaeger (1873: 354) is probably the most commonly encountered species of the genus in Europe, North and Central America, temperate and tropical Asia (Noguchi & Iwatsuki 1988, Eddy 1990, Li *et al.* 2001, Allen 2002, Hill *et al.* 2006, Zander 2007). Seven species of *Hyophila* were recognized for China (Li 1996, Li *et al.* 2001, Jia & He 2013).

While studying the material collected from northwestern Yunnan, China, we discovered an interesting sterile *Hyophila*-like moss with spatulate to oblong-obovate leaves and non-papillose leaf cells. At first glance it did not render any peculiar morphology except for its leaves showing a broad band of lightly yellowish marginal differentiation with dentate upper margin. Among other *Hyophila* species known from China, this moss is most similar to *H. involuta*. Subsequently, a detailed microscopic examination revealed that it has papillose stem epidermal cells, a layer of pseudoleptoid cells developed just next to hydroids in central strand, and a second layer of guide cells (subguide cells) in costa. All of these features have not been described in literature for any species of *Hyophila* and we, therefore, here describe this unknown moss as a new species.