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The Moss family Erpodiaceae in Yunnan Province, China

WEN-ZHANG MA¹ & JAMES R. SHEVOCK²

¹Herbarium, Key Laboratory for Plant Diversity and Biogeography of East Asia, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming, Yunnan 650201, China

²Department of Botany, California Academy of Sciences, 55 Music Concourse Dr., Golden Gate Park, San Francisco, California 94118, USA

Abstract

Erpodiaceae, a poorly collected or recorded moss family in Yunnan, is increasingly found to be common in previously overlooked habitat such as tree trunks in disturbed areas. Four species are known in Yunnan with *Erpodium perrottetii* representing a genus new for China according to current generic placement, and *Solmsiella biseriata* new for Yunnan. The habitat preference of Erpodiaceae is re-evaluated and *Aulacopilum abbreviatum* is suggested to be excluded from the Red-List-Species in China. Keys and images are provided to aid recognition of all four genera of Erpodiaceae in China.

Key words: *Aulacopilum abbreviatum*, *Erpodium perrottetii*, *Solmsiella biseriata*, new record, red-list, *Venturiella sinensis*

Introduction

An overview of the history of bryophyte collection in Yunnan

China has a long history of using bryophytes ethno-botanically which dates back several centuries. In the 15th century, mosses were listed in the ancient Chinese traditional medical book: *Ben-Cao-Gang-Mu*, which is probably the earliest recorded evidence known on bryophyte collecting activities in China. Common and showy species, now known as *Polytrichum commune* Hedwig (1801: 88) and *Marchantia polymorpha* Linnaeus (1753: 1137). were used in traditional medicine and listed in the ancient Chinese medical literature (Harris 2008). These medical uses of bryophytes, however, had little impact promoting the floristic and biodiversity study of bryophytes in China.

It was not until the early 19th century when European naturalists began exploring the forests in China. Attracted by its primary vegetation and the culture in Yunnan, amateur botanists such as Augustine Henry, Père Jean Marie Delavay, George Forrest and Heinrich von Handel-Mazzetti started the first comprehensive bryological collections in Yunnan (Zang & Li, 2008). These specimens were studied by world experts at that time and many species and genera were published as new to science.

Professor P. C. Chen, known as the “Father of Chinese Bryology”, began a new era in the 1950s with training a generation of bryologists. Many interesting specimens were collected in Yunnan by his students in subsequent years. It is generally believed for such a relatively “well-studied” area in China that new discoveries are becoming more and more difficult to make. However, even with the publication of several volumes of regional bryofloras (Gao & Cao 2000; Li 2002, 2005), species new to this region continue to be discovered (for example, Shevock *et al.* 2006; 2011).

Study of Erpodiaceae in China

Erpodiaceae are primarily a trunk dwelling pleurocarpous moss family distributed in tropical and subtropical areas with approximately 25 species worldwide (Crum 1972; Crosby *et al.* 2000; Frey *et al.* 2009). Plants are tiny and slender and many species resemble liverworts with their imbricate leaves under dry condition. The number of genera in Erpodiaceae has undergone different circumscriptions. Five genera were proposed by Crum (1972) and had been widely accepted. Subsequently, *Microtheciella* Dixon (1931: 6) was later segregated into its own family Microtheciellaceae (Miller & Harrington 1977). Although Stone (1997) took an alternate approach by accepting only the genus *Erpodium*