



Two new species of *Schistidium* (Grimmiaceae, Bryophyta) from western North America

TERRY T. MCINTOSH¹, HANS H. BLOM², DAVID R. TOREN³ & JAMES R. SHEVOCK³

¹Beatty Biodiversity Museum, University of British Columbia, 3529-6270 University Boulevard, Vancouver, British Columbia, V6T 1Z4, Canada; email: tmcintosh@shaw.ca

²Norwegian Forest and Landscape Institute, Fana, N-5244, Norway; email: blh@skogoglandskap.no

³Department of Botany, California Academy of Sciences, 55 Music Concourse Dr., Golden Gate Park, San Francisco, CA, 94118, USA; email: jshevock@calacademy.org

Abstract

Schistidium splendens and *Schistidium squarrosus* are described as new species from western North America. *Schistidium splendens* is characterized mainly by 2-stratose striae in the distal leaf laminae, thick and strongly recurved leaf margins, relatively short awns, and more or less isodiametric or short-elongate, irregularly shaped exothelial cells. *Schistidium squarrosus* is characterized by often abruptly narrowed, ovate-lanceolate, usually curved or falcate leaves that often lack awns, 2(–3) stratose upper leaf laminae, and large, broadly ovate-lanceolate or lanceolate perichaetial leaves that tightly surround the capsule.

Key words: mosses, taxonomy

Introduction

Among the mosses, the Grimmiaceae has remained a fertile ground for differing views regarding the circumscription of species and genera. Like *Grimmia* Hedwig (1801: 75), the genus *Schistidium* Bruch & Schimper (1845: 93) has long been viewed as a taxonomically difficult group. However, a few treatments have clarified much of the confusion regarding key characters useful in species recognition, particularly Blom (1996), Deguchi (1979), and McIntosh (2007). As a result, the genus is currently comprised of about 120 species. Historically, western North American bryologists have relied on the regional floras of Lawton (1971) and Flowers (1973). Lawton treated the members of *Schistidium* as a subgenus of *Grimmia*, and Flowers published separate keys based on sporophytic and vegetative characters within *Grimmia* without subgeneric rank for taxa now placed in *Schistidium*. Needless to say, identification of *Schistidium* from the west was not satisfactory and many difficult specimens were placed by default within the *S. apocarpum* (Hedwig) Bruch & Schimper (1845: 99) complex, resulting in an assemblage of seemingly distinct taxa. Adding to this problem, large expanses of western North America are poorly collected and our knowledge of the distribution of many *Schistidium* taxa remains fragmentary.

Research on *Schistidium* required a considerable departure from historic approaches and, in order to obtain a better understanding of the group, additional morphological characters were utilized together with ecological and phytogeographical data. While examining collections of Californian *Schistidium* primarily at CAS and UC during the preparation for the catalogue and keys of California mosses (Norris & Shevock 2004a, 2004b), several *Schistidium* specimens did not match the concept of any of the species reported for North America, and most of these collections remained unnamed. Several of these specimens were sent to the second author who determined at least two were undescribed. Two of these entities were relatively common and in that work (Norris & Shevock 2004b) were simply referred to as *Schistidium* sp. “A & B”. After a long hiatus we hereby describe them below as new to science.