
This stunningly beautiful, profusely illustrated, treatment of *Fissidens* in the New Zealand bryoflora begins with a short “Summary” in English and Maori, which I’m sure is a first in bryology. Following are a “Forward” and “Introduction” that include an elegantly illustrated and clear explanation of the evolution and structure of the *Fissidens* leaf.

The “Key” to the species and varieties of *Fissidens* is strictly dichotomous and is easy to use. For the most part, those characters by which most species of *Fissidens* are recognized e.g., leaf shape, leaf margin, costa length, cell size, and cell wall surface, are used. Habitat, plant size, and sexuality come into play where necessary. Only in the case of *F. taylorii* are peristome characters used.

New Zealand is rich in *Fissidens*, the genus, according to the authors, accounting for 5% of the moss flora. Twenty-four species are recognized, of which four are represented by two varieties each, and two by three varieties each, making a total of 32 taxa. This is a remarkable number for an area of 268, 676 sq. km. In comparison, there are only 38 species in the whole of North America, north of Mexico, an area of nearly 20,000,000 sq. km. Seven taxa (ca 22 %) are endemic: *F. anisophyllus*, *F. blechnoides*, *F. hylogenesis*, *F. linearius* var. *angustifolius*, *F. oboflongifolius* var. *capitatus*, *F. rigidaulus* var. *pseudodistichus*, and *F. watsenii*. Four species (ca 13%), *F. brvodies*, *F. dibus*, *F. exilis*, and *F. taylorii*, are introduced. As expected, New Zealand shares the greatest number of taxa (21, ca 66%) with neighboring Australia. Only eight of the taxa (25%) are found in North America north of Mexico.

The taxa are arranged alphabetically, the treatment of each taxon covering two pages. Since the book is spirally bound the pages lie flat, giving easy access to the treatment. Each taxon is given a description in which diagnostic features are in bold, a distribution map for New Zealand, “tick-boxes” for elevation and habitat type, overall distribution, ecological notes, and a full page of illustrations. Each page of illustrations includes a leaf outline on which are indicated the areas where the colored photographs of the diagnostic features were taken. The photographs are of such outstanding accuracy and clarity that, as the authors state, a person should be able to by-pass the key and match a given specimen with the illustrations. A useful addendum, following the presentation of the taxa, is the side by side pairing of the photographs of the diagnostic features of easily confused taxa. For example, photographs of the marginal cells and upper ends of the vaginant laminae of *F. asplenioides* and *F. oboflongifolius* var. *oblongifolius* are paired, and this allows quick comparison.

There is a short illustrated “Glossary,” followed by “Microscope Techniques” in which the interesting and inexpensive “ha’penny optics,” for improving the image, and the use of KOH, for improving the clarity of the specimens, are discussed and illustrated. The book ends with a short list of “Further Reading.”

I have remained mute on criticism of this book only because I found little in it that is worthy of criticism. One could fault some of the nomenclature, but nomenclature is very often a matter of opinion and taste. There is no generic description, but the distinguishing gametophytic features are given in the introductory paragraphs, making a formal description unnecessary. Also, the interesting variations in costa structure and differences in the surface features of the peristome, except in the case mentioned above, are neither discussed nor illustrated. However, as amply demonstrated in the key and photographs, such features are not necessary for identification on a local level. Some persons might fault the use of a plastic spiral binding rather than a metal binding, but this, too, is of little consequence. Most of my criticism is with distributions. The United States is not listed in the distribution of *F. asplenioides*, and tropical America is omitted from the distribution of *F. oboflongifolius*. The European *F. exilis* is rapidly spreading in North America, but I am unaware of the species having been found in Asia. Moreover, I find the inclusion of Chile in the distribution of *F. leptoclados* perplexing. To my knowledge, this distribution has not been reported in the literature, nor is such a distribution given in *Index Muscorum*. This species is close to the highly variable and widespread neotropical *F. crispus* and it seems to me that a careful evaluation of these two species would be worthwhile.

The authors of this small book, Jessica Beever, an authority on the mosses of New Zealand and a keen student of *Fissidens*, and Bill and Nancy Malcolm, preeminent photographers/bryologists, who made their mark in bryology with *Mosses and Other Bryophytes, an Illustrated Glossary* (Review: The *Bryologist* 104: 340. 2001), are to be congratulated. They have set a new standard for publications in systematic bryology. Needless to say, this book belongs in the library of all serious students of mosses.—RONALD A. PURSELL, Department of Biology, 208 Mueller Laboratory, The Pennsylvania State University, University Park, PA 16802-5301, U.S.A. e-mail: rap10@psu.edu