

BOOK REVIEWS

Above the treeline: a nature guide to alpine New Zealand, by Sir Alan F. Mark (with contributors). Nelson, New Zealand, Craig Potton Publishing, 2012. 474 pp., NZ\$49.99 (flexibind). ISBN: 9781-877517761

This substantial and beautifully illustrated book will be of interest to all naturalists and conservationists, from those just starting to discover the beauty of Aotearoa's natural biota and environments, to the professional scientist. It is a handy sized book, with a sturdy binding and durable pages filled with high-quality colour images of a large diversity of plants and animals. This is a classic in the making; reserve space for it on your bookshelf and in your backpack.

The book begins with an accessible and informative introduction to New Zealand's alpine environment and its inhabitants. The biota is introduced next, and each description includes information on the distribution, habitat, distinctive morphological features, etc. There are also footnotes which elaborate on some of the points in the Introduction. We are first introduced to the gymnosperms, followed by the angiosperms, clubmosses and ferns. Descriptions of birds, lizards and invertebrates follow those of the plants. I very much appreciated having all of the inhabitants of this unique ecosystem in one comprehensive book. Based on subtle nuances and the way in which the groups are organised, my overall impression is that this book was written by ecologists for naturalists and fellow ecologists; this is not to say that it won't be of interest to those with a more evolutionary or systematic interest in New Zealand's alpine biota.

I openly admit that I am an ardent phylogenetic systematist, which puts me at taxonomic odds with my ecology colleagues at times. I use

classifications that reflect the most holistic and current hypotheses of evolutionary relationships revealed via phylogenetic analysis. Plant classifications can be rather dynamic and demand that you keep up with the scientific literature. Mark states that he has followed the taxonomy of the New Zealand Plant Conservation Network, which now contains links to Landcare Research's Ngā Tipu Aotearoa database (<http://www.landcareresearch.co.nz/resources/data/nzplants/>). As such, the book mostly follows the most recent taxonomy, as constructed by professional taxonomists, for example, in *Chaerophyllum*, *Montia* and *Pachycladon*. However, keen observers might notice that these two systems of classification are not exactly congruent, and different names are sometimes used for the same plant. Mark highlights this in the text using the example on p. 14 of *Hebe* (reflecting its morphological differences, and in particular woodiness) and *Veronica* (reflecting its evolutionary relationships, and, incidentally the name originally applied to hebes). Mark goes one step further, by providing the alternative *Veronica* names as well. Another example is that some botanists would put *Phyllocladus* in the family Phyllocladaceae (reflecting its morphological differences), whereas others would place this genus within in the Podocarpaceae (reflecting its evolutionary relationships). Additionally, I would have organised the plant groups in an entirely different manner, starting with fungi and lichens, then bryophytes, followed by all of the ferns, gymnosperms, and then angiosperms, presenting first the monocots, then the followed by eudicots (*sensu* the Angiosperm Phylogeny Group classification). What is important, however, is to be able to work back and forth between alternative classifications, to be fluent in all such languages so to speak.

Names of plants change, and so do classifications, so readers interested in current names (and the data used to support one classification over another) should consult multiple sources and scientific articles, weighing up the evidence to come to their own conclusions. Sometimes botanists have to agree to disagree and work together to provide additional data essential to supporting our classifications. Within each of the animal sections, the animals do not appear (to this botanist) to be organised in any systematic way and lack family names.

I much appreciated the information relating to the derivation of plant names. However, one aspect that disappointed was the lack of te reo Māori names and the absence of the appropriate diacritical marks that are requisite in a number of languages. In addition, I felt that the work might benefit from an online key to families (to work with the table of contents) and/or genera (to work with pp. 8–9). This could be something that one could download and print to use in the field to quickly identify your plant of interest. There were a few other items¹ that I would revise within the text but with such a grand work you cannot please everyone. Regardless, this book is already one of my favourites, and I find

myself carrying it around and reading random sections whenever I can. I look forward to introducing my students to this book and I know this next generation of botanists, conservationists and ecologist will find it a valuable, exciting and enticing resource.

Note

1. For example, I would argue that dicot is a common name so should not be capitalised, and I personally think that the term dicot should be avoided in preference to eudicots (unless one is referring to all plants with two cotyledons). Also, the use of 'primitive' in regards to eudicots is misleading. Adding latitude and longitude to the maps on pp. 10–11 would be helpful for New Zealanders and visitors alike. Finally, I believe there are some errors in the application of endemic status to some taxa.

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