

BOOK REVIEWS

Grassland Flora: a field guide for the Southern Tablelands (NSW and ACT)

David Eddy, Dave Mallison, Rainer Rehwinkel and Sarah Sharp, 1999.

Published by: Grassland Flora, Environment ACT, P.O. Box 144, Lyneham, Australian Capital Territory. RRP \$15 (plus \$2.50 postage).

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THERE has been a recent flurry of field guides to grassy ecosystems in southeastern Australia, and all the publications have been excellent. This attractive field guide is no exception. It is a spiral-bound A-sized booklet, ideal for the glovebox or the backpack. It is easy to use for both the novice and expert, with colour coding separating sections on grasses, rushes and sedges, lilies, orchids, forbs, ferns, shrubs and trees. Within each life form section entries are alphabetical for grasses and sedges, but generally species are grouped together based on the colour of their flowers. And an excellent addition is the inclusion of weeds — many

interested users will be very pleased to sort out which species are native or not — often a challenge in grasslands! The text is informative and uses non-technical language. It is most helpful to have notes on similar species and how to tell the difference. Large colour symbols clearly indicate if a species is annual, exotic, noxious or threatened. Brief management notes are also very practical and informative. A short glossary and explanation of terms also makes this a useful guide, especially for beginners. A brief but adequate introduction outlines the conservation plight of native grasslands, and gives information on threatened plant species and plant communities, grassland animals and management of grassy ecosystems. This is an excellent publication, very comprehensive, great value and useable throughout southeastern Australia. Every time I have had my copy in the field a landowner has grabbed it, and then several of their mates ring up for a copy too.

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Marsupial Nutrition

Ian D. Hume, 1999.
Cambridge University Press, UK.
ISBN 0521 595 55X. RRP \$75.

WILLIAM J. FOLEY¹

IN the early 1980s advances in marsupial biology could no longer be encapsulated in a single volume such as Hugh Tyndale-Biscoe's "Life of Marsupials" and Cambridge University Press commissioned a series of monographs covering a range of different topics in marsupial biology. As it was, only three of that series were realized and among them was the predecessor to this book "Digestive Physiology and Nutrition of Marsupials" published in 1982. "Marsupial Nutrition" is a considerably expanded and comprehensive review of studies of nutrition and digestive physiology of Australasian and South American marsupials. In Australia, many ecologists view the limited nutrient status of our soils and vegetation as a fundamental limit to animal populations. This book explains firstly how Australian marsupials have responded to those limitations and secondly asks whether these responses are common amongst marsupials living in New Guinea and South America.

"Marsupial Nutrition" differs from its predecessor largely by the breadth of its coverage and a more conceptual framework. Much more is known about the nutrition of several important groups of marsupials such as the wombats, potoroids and bandicoots than the fragmentary details that were available in 1982. The book starts with a review of the consequences of the generally low basal metabolic rate of marsupials on nutrient and water requirements. These data are tabulated but no detailed analyses have been made and the data are sure to be a treasure trove for those seeking to carry out allometric analyses. The next two chapters cover the carnivorous and omnivorous marsupials respectively but the bulk of the book is devoted to herbivorous species divided amongst the wombats, arboreal folivores and the kangaroos, wallabies and rat kangaroos.

These sections are largely based around accounts of the diet, digestive anatomy and nutrition of individual species or groups of species although where there is sufficient information there are more integrative sections describing a theme such as "Marsupials as pollinators" or "*Eucalyptus* foliage as food". Most chapters start with a "Concepts" section that introduce fundamental issues such as the pattern of flow of digesta through the gut or the differences between foreguts and hindguts as sites for fermentative digestion.

The book finishes with a brief discussion of the evolution of the digestive system of marsupials and a short chapter describing areas where studies of other species and foods would lend confidence to the patterns described in the text. In particular Ian Hume emphasizes the importance of maintaining a comparative approach to studies of closely related species from different habitats.

The book is illustrated by a series of clear black and white images showing the species being described as well as macroscopic and microscopic views of their guts. All the same, it is a pity that the black and white picture on the cover is exactly the same spotted cuscus that colourfully adorns Tim Flannery's book on the "Mammals of New Guinea"!

When reading the book I was particularly struck by the paucity of studies that link nutritional limitations to broader questions of population dynamics. It is surprising that there has been little progress in this area with marsupials since studies on Rottneest Island in the 60s and late 70s. "Marsupial Nutrition" summarizes the nutrition of many marsupial species but also offers a clear challenge to nutritional ecologists to provide tools to help to link laboratory and field studies.

In summary, this book should be read by anyone with an interest in marsupial biology and the consequences of nutrient-poor environments on animal physiology. The writing is clear and appropriate for use in undergraduate classes and the production and proofing are excellent. The price is more than reasonable for such a thorough resource.

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