In the vegetation section, the authors J. Walker and M. S. Hopkins have attempted to overcome the complexity and shortcomings associated with foliage cover and projective foliage cover methods by using a crown cover or separation method employing photographs of typical crown types. Whilst they argue that, for most surveys, detailed measurement of crown cover classes may not be warranted, the method they have proposed tends to oversimplify and could lead to impressionistic recording of this parameter. Classification of structural formations is not consistent with the more commonly accepted system of Specht, but if the method in the Handbook is accepted, it may be as desirable as the Specht system, and appears to satisfactorily serve the purpose of the book. The inclusion of a glossary in this section would have aided the user, particularly if the person is not well versed in this branch of science.

Description of land surface phenomena logically precedes the soil profile description section and if use is made of describing land surface conditions, the user can more confidently select representative soil profile sites. If used in this context, the authors have attempted to overcome a serious limitation which often exists in free soil survey methods by recognition and description of dominant past and present land surface processes which influence the distribution of soil properties.

In the soil profile section, the authors R. C. McDonald and R. F. Isbell have utilised widely accepted soil profile criteria from a range of texts and are to be commended for attempting to modify and standardise description of a number of attributes such as soil water status, consistency, condition of surface soil when dry, separations of pedogenic origin and internal drainage which are often inadequately dealt with in other texts.

Finally, criteria for the description of substrate material which commonly affects land surface and soil properties in the Australian environment is provided for in the final section. Whilst the names of weathered substrate materials are largely equated with geological rock types, provision has been made for naming altered substrate materials for which the original lithology cannot be determined.

In Appendix 1, soil taxonomic units commonly used in Australian soil and land surveys are included to assist the user in naming soils for communication purposes. The inclusion of the USDA Soil Taxonomy names is important for international communication. However, the user of the Handbook is presumed to be conversant with the four systems listed.

Examples of field sheets are given in Appendix 2 with advice as to the best kinds of data to include, constraints on data quantity and suggested field sheet types. Throughout the text mnemonic and multistate scales are provided in red for all parameters of properties, which, as the authors point out, requires the user to either memorise or repeatedly consult the lists. However, while this may be time consuming initially, with repeated use, the method they have proposed should improve the quality and precision of data recording. The provision of summary-reference cards to codes given in the Handbook for the 'fill in' example data sheet should assist the user in the field and overcome arduous 'thumbing' through the text to find relevant codes.

In Australia, more than 20 government and private organisations are currently involved in whole or part in soil and land survey using a variety of methods for diverse purposes. This Handbook can only be seen to pave the way for them more to concisely and comprehensively record soil and land attributes in the Australian environment.

B. M. SCHAFER

BOOK REVIEW

World Directory of Collections of Cultures of Microorganisms 2nd Edition—Eds. Vicki F. McGowan and V. B. D. Skerman 1982. World Data Center on Microorganism, Brisbane. US$25 or US$15 as microfiche.

This is an update of the 1972 edition and contains information about 356 culture collections in 52 countries. The directory of culture collections contains information on: address, curator, staff, main interests and functions and numbers of cultures of algae, bacteria, fungi, lichens, protozoa, tissue cultures, viruses (animal, bacterial, plant) and yeasts.

The catalogue also contains lists of valid names (Genus and species) for the organisms named in the collections.

The directory and catalogue will be useful to researchers and commercial interests in locating *bona fide* sources of microorganisms.

R. A. DATE

BOOK REVIEW

The Grasses of Southern Queensland by J. C. Tothill and J. B. Hacker and published by University of Queensland Press, St. Lucia 1983. $A30.00.

This 475 page hard-backed book is a revision and major extension of the earlier invaluable 1973 book 'The Grasses of Southeast Queensland' by these authors. It includes all Queensland south of latitude 21° and records 140 genera and 584 species of grasses. This represents an increase of 36% in the number of genera and 67% in the number of species recorded in the previous work.

The book is an illustrated field guide to most (82%) of the grasses of Queensland. The book should have wide appeal to graziers, agriculturalists, naturalists, students and others interested in identifying and learning about the grasses of Queensland.

The format follows the previous work with Part 1 describing the vegetation, The Eastern Division by J. C. Tothill and The Western Division by W. H. Burrows. The regions comprise 26 geographic-vegetational units from coastal strand and foredunes to forblands of Western Queensland. These units are described in relation to the major tree, grass and forb components with a short agronomic comment and are illustrated with 14 photographic plates. Table 1 gives the distribution of grasses with respect to the vegetation units.

Part II comprises a description of the grass plant, pictorialized key and a detailed dichotomous key to generic level. The descriptive account, supported by stylized illustrations by J. B. Hacker, emphasizes the variation and taxonomic significance of the floral and vegetative organs, and is an invaluable aid to those not familiar with the peculiar characteristics of the grass family. The keys, supported by a useful glossary, are based on relatively simple characteristics and should be useable by most interested readers.

Part III contains detailed descriptions of 141 species. Information on occurrence and use is included. Following are keys to all species in the genera. Illustrations are on the opposite page.

In some instances, e.g., *Cynodon dactylon*, the detailed description section has not been updated to accommodate revised keys.

This book is a timely extension and updating of the previous work, and I am sure is a welcome addition to many bookshelves.

W. J. SCATTINI

NEW RELEASES OF PASTURE PLANTS

The following new pasture plant cultivars suitable for use in the subtropics and tropics have recently been released.

The cultivar descriptions have been extracted from the "Register of Australian Herbage Plant Cultivars" which is published in the Journal of the Australian Institute of Agricultural Science. The Registrar of cultivars is Dr. R. Oram, CSIRO, Division of Plant Industry, P.O. Box 1600, Canberra, A.C.T. 2601.