for more information, such as maps, geologic history, drawings, and chromosome numbers, but as a clear and refined set of keys this book has few equals. One can hope that a revised edition will include not only these keys but also the usual supplementary information. — ROBERT W. LONG, OHIO WESLEYAN UNIVERSITY.

AN INDISPENSABLE MANUAL OF TROPICAL MARINE BOTANY. — Biologists interested in the marine algal flora of the tropical and subtropical coasts of the United States and the Caribbean area have long awaited the appearance of a comprehensive taxonomic manual to facilitate the determination of their collections. Taking into consideration the spectacular and highly diversified nature of the marine algal flora of this region, one is struck by the relative paucity of systematic treatments relating to it; descriptions of tropical American species have been widely scattered through general taxonomic works, such as Agardh's *Species Algarum* (1820-28), and the first important attempt to deal with them critically on a regional basis was that of W. H. Harvey in his *Nereis Boreali-Americana* (1852-58). For practical purposes of recent years, those wishing to identify marine algae of Florida and the Caribbean area have had recourse mainly to two manuals, namely Børgesen's *Marine Algae of the Danish West Indies* (1913-20) and W. R. Taylor's *Marine Algae of Florida, with special reference to the Dry Tortugas* (1928). Both of these, although critical and valuable treatments, cover the marine algae flora of restricted areas only and make no claims to exhaustive coverage.

The appearance of a marine algal flora for the whole of the Eastern American tropical and subtropical seaboard,[1] from Bermuda and North Carolina to Southern Brazil, therefore satisfies an acute and very long-felt need.

Dr. Taylor's book of 870 pages, with numerous plates of illustrations, contains descriptions of, and keys to, all the

[1]WILLIAM RANDOLPH TAYLOR: *Marine Algae of the Eastern Tropical and Subtropical Coasts of the Americas.* UNIVERSITY OF MICHIGAN PRESS, Ann Arbor, Mich., 1960. 8°, vii-ix +, 870 pp., 14 text-figs., 80 plates. $19.50.

genera and species of marine algae known from this area, the total number being 272 genera, 760 species, and 140 infraspecific taxa. The treatment follows the same lines as the same author's well known *Marine Algae of the Northeastern Coast of North America* (1937, 1957), in which, from Virginia to the Eastern Arctic, 401 species were recorded; the approximate doubling of this number in the present manual emphasizes in a very striking way the richness and diversity of the tropical and subtropical element along the Eastern American coasts. Like the earlier work mentioned above, Dr. Taylor's new manual makes no claim to present a critically monographic treatment of all groups, which is of course a task yet to be accomplished, piecemeal, by generations of future workers. Nevertheless, it embodies the results of well over thirty years of practical acquaintance with the flora in shore and herbarium studies, and the species descriptions for the most part incorporate original and independent observations on the part of the author. Those species known only from the descriptions have been evaluated insofar as possible and, unless completely dubious, inserted in the keys. Original references, except when unique, are not given for all species, but at the end of each description there follows a bibliographic selection including all the more important geographic, and most of the morphological, data published on the species in the past. The distribution of each species is given in terms of the various islands and coastal segments comprising the area, together with information on the special ecology and mode of occurrence.

The descriptions of genera and species, with the accompanying keys, form the greater part of the book, the "Descriptive Catalogue", from page 44 onwards. The preceding pages contain a general introduction divided into the following sections: "Historical survey", "Geographical distribution", "Algal habitats", and "Collection and preservation". For the non-specialist, the section on "Algal habitats" contains much of considerable general interest, illustrated by 14 full page reproductions of photographs taken by the author in Bermuda and Jamaica of various littoral and sublittoral associations.

Latin descriptions of the new taxa (1 new family, *Wurdemanniaceae* in the Florideae, 8 new species and 4 new varieties) are assembled together as an appendix at the end of the descriptive section.

The extensive bibliography contains references to all works in which the geographical distribution and essential morphology of the marine algae of the region has been dealt with.

As with Dr. Taylor's treatment of the Northeastern Coast flora, considerable care has been taken to present a series of illustrations showing the general appearance and *habitus* of many of the commoner species, as well as of the details of their microscopic organization. In the present book the amount of illustration may be termed lavish, to the extent of 74 plates of line drawings and 6 of photographs. The drawings, apart from those executed by the author himself, were prepared by a team of several artists, and a certain disparity in treatment and technique is obvious, but all are extremely good and naturalistic representations, with the exception of a very few in which the artist, like his predecessors in ancient Egypt, seems to have had some difficulty in producing on a flat surface the illusion of a third dimension.

The index is arranged by names of species and higher taxa; varieties are indented under the species to which they belong. One small error in alphabetical placing was noted on page 866, the duplication of entries for *TITANOPHORA* (J. Ag.) Feldm.

For those working on aspects of tropical and subtropical marine biology in which an understanding of the marine plant life is essential, this book is indispensable for the routine identification of collections; while for the student with less specialized approach but with a lively interest in the remarkable world of offshore plant life in tropical and subtropical waters, its fascinatingly written introduction will stimulate, instruct, and probably lure not a few, whose interest has previously been held in check by lack of readily accessible information, to delve into the taxonomic profundities of the descriptive section.

Dr. Taylor is to be congratulated on the production in such eminently adequate format of this fundamental and extensively documented marine flora. — I. MACKENZIE LAMB.

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