Deserts and Near Deserts

Plant Life of Palestine, Israel, and Jordan. Michael Zohary. Ronald, New York, 1962. vi + 262 pp. Illus. $8.

This text, one of the finest ever prepared on desert plant life, continues the high standard of the Chronica Botanica series and matures the investigations begun by A. Eig at the Hebrew University about 35 years ago. Michael Zohary appears to have dedicated half a lifetime to its preparation, for the bibliography shows he has published studies of Palestine plants since at least 1932. His present work is a synthesis of long and intensive investigations carried on by the several students who ably reflect the modern school at Jerusalem.

To characterize this work as just plant ecology would be inadequate, since plant geography is almost equally employed. Two chapters, "Topography and soils" and "Climate," provide a full environmental background to Zohary's interpretation of the plant communities. An analysis of the flora and plant geography composes chapter 3, which orients the plant communities of Palestine, Israel, and Jordan to the broad plant formations of which they form a part: the Mediterranean maquis to the north and west of Palestine, the trans-Turanian to the north and east, and the broad southern Sahara-Sindian deserts of North Africa and Southwest Asia. Floristic origins are considered with their geological background.

The dynamics and causal relations of plant groups are portrayed in chapter 4, "Structure and development of vegetation," and again in chapter 8, "Ecologic behaviour of Palestine plants." Civilized man's long and destructive influence is summarized in the final chapter, together with a brief list of the uses of wild and cultivated plants. Plant communities are described in three broad groups: chapter 5, "Mediterranean wood and shrub vegetation," chapter 6, "Steppe and desert vegetation," and chapter 7, "Vegetation of coastal sands, swamps, and marshes." In classification and nomenclature, Zohary follows the Braun-Blanquet system. This, together with the broad summary nature of the work, characterizes it as European rather than American or colonial. That the works of other students, such as Clements and Shreve of the United States and Acocks of South Africa, are not listed in the ample bibliography is also indicative of the book's origin.

Vegetation is something everybody talks about but nobody can define, and an ecologist without definitions is like a sunset without clouds. While this work is certainly definitive, it is paramountly descriptive and can be read like a biological narrative. Fortunately, both the casual student and the professional botanist will find the specialized prose of ecology easily defined with the reading. This book can serve as a guide to those who travel in and about Palestine; however, its greater use will be the wide application permitted by its basic concepts. It will be of special and significant interest to students of deserts and near deserts all over the world. The illustrations, organization, index, and production are all well done; author, publisher, and bookmaker are to be congratulated.

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Modern Presentation

Insect Sounds. P. T. Haskell. Quadrangle Books, Chicago, Ill., 1961. xviii + 189 pp. Illus. $5.95.

The author's aim is "to present in outline the present limits of knowledge about insect sounds, which field must include that of hearing and also the behaviour associated with the sounds." From the extensive literature, Haskell selected examples illustrating such general principles as can now be formulated. The book is interesting and well balanced, the only modern presentation of this field. Unfortunately, the lack of descriptions and pictures of the insects may limit the book's appeal; and those who are not zoologists may find that a statement, such as the one about "the Noctuid *Heliocheilus paradoxus*," requires considerable further work by the reader to make it meaningful.

Haskell begins with brief descriptions of the physical nature of sound and of the equipment used for recording and analyzing sounds, and he emphasizes the special problems posed by insect sounds. There follow descriptions of the structure and function of the sound-producing and sound-receiving organs of insects; these descriptions occupy about one-half of the book. Here Haskell selected drastically from an extensive literature. One might argue for other examples or more details, but, given the space limitations, it would be difficult to do better, or even as well. These sections should be an eye-opener for those who think of sounds and insects only in terms of chirping crickets and the ear of "the laboratory" grasshopper.

The types of sounds produced by insects and their uses are described, again by using selected examples. Haskell makes it abundantly clear that much work remains to be done before our knowledge of the role of sounds in insect life will be even reasonably satisfactory. The book concludes with discussions of the relation of insect acoustics to the study of insect behavior in general and of the possible usefulness of sound in insect control. There is a good index.

Throughout the book the author stresses the many unsolved problems and moot questions and clearly differentiates what is known from his own challenging speculations. Recent advances in sound recording and analysis give to the student of insect sounds what the microscope gave to the anatomist. This book should stimulate interest in, and indicate exciting prospects for, the new era in this research.

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Fungi

A Monograph of the World Species of Hypoxylon. Julian H. Miller. University of Georgia Press, Athens, 1961. xii + 158 pp. Illus. $6.50.

This monograph is the product of Julian Miller's 40-year study of the genus *Hypoxylon*; regrettably he did not live to see it published. The major emphasis is on taxonomy. A historical account of the taxonomy of the genus is given; 120 species are described in detail, including the morphology and development of fruiting structures, distinguishing characters, synonymy, and list of specimens examined. There are 238 illustrations, primarily of stromata, asci, and ascospores, plus an extensive bibliography. The work unquestionably will be of great value to students of this interesting and sometimes important group of fungi.

Information on the host range or substrate, and on geographic distribution of many species, is necessarily incom-