

symposium conducted by the Zoological Society of London. This is the first comprehensive review of the biology of sponges since Libbie Hyman's work of 1940. Particularly interesting are Claude Levi's comparisons of the constant cell transformations of sponge cell ultra-structure with differentiation in animal cells. The capacity of sponge cells to differentiate and "undifferentiate" repeatedly suggests that they are indeed a unique form of life. What emerges from this text is a picture of sponges as populations of cells that interact in morphogenesis and homeostasis much as do mixed populations of organisms. William Fry uses this concept to develop new taxonomic procedures, which may be of great value in this taxonomically very difficult group. Indeed, a number of the contributors to this symposium have been very successful in describing sponge morphogenesis and homeostasis in the terminology that ecologists use to describe the dynamics of mixed populations of organisms.

There are also exceedingly interesting contributions on the fossil history, distribution, autecology, and synecology of sponges. All French and German papers have English summaries, and the work is very well indexed. Anyone interested in cytology, developmental biology, ecology, paleontology, or systematics will find something of value in this collection. I would recommend this text for every secondary and college library: it is an invaluable reference to anyone seeking current information about sponges.

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THE WASPS, by Howard E. Evans and Mary Jane West Eberhard. 1970. University of Michigan Press, Ann Arbor. 271 pp. \$3.45 softback, \$7.95 hardback.

The Wasps is a valuable contribution to the field of behavioral taxonomy, an area of biology that until recently has been largely neglected. The authors begin with descriptions of behavior of the more primitive, solitary wasps. Evolutionary behavior, such as prey carriage, adult feeding and maintenance behavior, and nesting behavior, and the preadaptations necessary for sociality, are discussed at length. The point is emphasized throughout the book that species of wasps that have similar behavior patterns are closely related taxonomically.

The *Polistes* wasps are used to exemplify the behavior of typical social wasps. The means of queen determination, method of building nests, behavior of adult females, and other aspects of *Polistes* behavior are thoroughly treated. The behavior of other social wasps is discussed in less detail.

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The final chapter is devoted to the biotic relationships of wasps. Many types of parasitism displayed by wasps are discussed, as well as the organisms that prey upon or parasitize wasps. Various types of mimicry are treated in detail.

Because it is written on a fairly technical level, this book would not be appropriate for a reader who does not possess a fundamental knowledge of the Hymenoptera. The chapter on biotic relationships, however, could be used effectively in a high school biology class to supplement a unit on general biotic relationships. Except for this section, the plethora of generic names and the adult vocabulary make this fine book

difficult reading for all but the most advanced high school student.

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BIONICS: MAN COPIES NATURE'S MACHINES, by Alvin and Virginia Silverstein. 1970. McCall Publishing Co., New York.. 74 pp. \$4.50 (hardback).

Bionics is the study of the mechanisms of living creatures, with the findings applied toward the improvement of man-made systems. The authors bring us up to date in this new science. They present the full range of animal endowments, including sight, sound,