

we will be in a much better position to investigate his mathematical activities and judge his broader role in the French and Scottish Enlightenment. The majority of the letters in this volume were collected by John C. Eaton, who died in 1972 before completing the editorial project. Stella Mills has added numerous additional letters, has edited them all knowledgeably, and has provided translations where necessary. She has also included a brief historical introduction. The book is easy to use and will be a great boon to historians of 18th-century mathematics.

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Arachnids

Biology of Spiders. RAINER F. FOELIX. Translated with revisions from the German edition (Stuttgart, 1979). Harvard University Press, Cambridge, Mass., 1982. x, 306 pp., illus. \$30.

The approximately 30,000 species of spiders that make up the largest and most commonly encountered arachnid order are surprisingly diverse in and well adapted to most terrestrial habitats. Despite this, they have received comparatively little attention and are only poorly known by most biologists. This may be in part because most books devoted to the group have focused extensively on taxonomy and natural history and have treated other aspects of spider biology only cursorily. It is this deficiency that Foelix attempts to remedy.

The book is a solid introduction and reference for persons interested in spiders. Chapters on functional anatomy, metabolism, neurobiology, development, ecology, and phylogeny and systematics follow an introductory chapter in which basic features and classification are presented and a profile of five common families is provided for perspective. The book is clearly written, well integrated, and enhanced by an impressive number of illustrations, many of which have previously appeared only in its German edition. The book's 180 figures contain 17 graphs, 182 diagrams and drawings, 65 photographs, and 108 light, transmission electron, and scanning electron micrographs. A list of 563 references provides an effective introduction to the literature.

The reader is shown a world in which some effectively blind inhabitants instantaneously transform protein solution into

stable strands twice as elastic as nylon and, using legs operated in part by hydraulic pressure, fashion this silk into often species-specific webs used to snare prey and, eventually, as an instrument for vibratory courtship. Still other members of this exclusively predatory world see prey at distances of 40 centimeters and use tetraocular vision to stalk it.

Remaining detailed and conclusive, the book yet conceals neither the many unresolved facets of spider biology nor the potential use of spiders as tools for investigations in various disciplines. For example, mechanical and evolutionary problems inherent in coupling of intricate male and female genitalia become evident, as do metabolic problems associated with transferral and activation of sperm stored in a quiescent state by both sexes.

The chapters on ecology and on phylogeny and systematics include, as the author notes, only selected aspects and do not, as the others do, present more comprehensive treatments. In the case of phylogeny and systematics this is probably appropriate, but a more complete discussion of ecology seems warranted. However, many aspects of the subject are treated in other chapters, and a reader is provided with a well-balanced view of spider biology.

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