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Crustaceans

Louis S. Kornicker

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Fossil and Recent Ostracods. R. H. BATE, E. ROBINSON, and L. M. SHEPPARD, Eds. Published for the British Micropalaeontological Society by Horwood, Chichester, England, 1982 (U.S. distributor, Halsted [Wiley], New York). 494 pp., illus. \$105. British Micropalaeontological Society Series. Ellis Horwood Series in Geology.

This book honors Peter Sylvester-Bradley, professor of geology at the University of Leicester, who died in 1978. He was an internationally known paleontologist with a wide range of interests including Ostracoda, which he considered to be ideal for demonstrating evolutionary and paleoecological concepts because of their long geological history and ever-changing morphology. He was a man with enthusiasm and stimulating ideas, a combination that attracted to his laboratory students from many countries. The editors invited contributions from specialists who "might be said to sustain a Bradleyan touch." About a third of the contributions are from scientists from England, Wales, and Scotland, five from Germany, three from France, two from the United States, and one each from Australia, Israel, Russia, and Sweden.

The 24 papers in the book are grouped into six categories: Structure (four papers); Experimentation and Techniques (six papers); Systematic Reviews (six papers); Recent Distribution and Ecology (four papers); Concepts (two papers); History (one paper); and a Postscript.

Sylvester-Bradley was an early enthusiast of the use of the scanning electron

microscope for the study of ostracods, and the popularity and usefulness of the SEM today are evident in the profuse illustrations in this book. Its usefulness is enhanced when it is used in conjunction with other instruments such as the transmission electron microscope, as exemplified in the study by R. H. Bate and L. M. Sheppard of the shell structure of *Halocypris inflata*. Although the authors may be challenged for their interpretation of "rigid plates" as building blocks in the formation of the shell, rather than as decomposition products, the multidimensional approach should eventually lead to a better understanding of the process of shell formation. Amnon Rosenfeld's work on the secretion process forming the ostracod carapace includes scanning and transmission electron microscopes, an electron probe analyzer, and an x-ray diffractometer, a more diverse array of instruments than has previously been used in a single study of the subject. Some significant details of the secretion process are elucidated, but the major impression is that studies of the subject are in a very preliminary state; this important paper should certainly stimulate additional research.

A microscope is described by T. R. Empson in which laser holography is used to project replicas of the ostracod shell. This technique has not been previously reported but apparently needs much additional development to produce a perfect image. Another paper presents results by R. C. Whatley, K. Trier, and P. M. Dingwall of engineering-type tests designed to measure resistance to impact and compressional loading of empty os-

tracod valves and carapaces. One of the results of the tests suggests that certain structures (such as reticulations) that have been widely believed to strengthen the valves of some ostracods do not have that effect. This should stimulate animated discussion and additional experimentation.

A contribution of obvious importance is that of Richard Reyment, in which the morphological variation in time of a Paleocene species of *Cytherella* from two boreholes in western Nigeria is analyzed by means of quantitative genetic formulas. The methodology will probably serve as a model for future studies of this type.

At least eight papers dealing with taxa ranging from the Upper Cambrian to the Recent are of value to the traditional systematist, but the spectacular SEM micrographs of the appendages and body of the Upper Cambrian *Heslondona unisulcata* by K. J. Müller should be of interest to all zoologists. Although Müller has previously published SEM micrographs of appendages of Cambrian ostracods, none have shown the detail visible in the present specimens.

It is fitting that in the Postscript, entitled "From conversations with Peter: Reminiscences of the philosophy of P. C. Sylvester-Bradley," R. H. Benson provides an insight into the philosophy of this inspiring teacher, a theme that is included less particularly in some of the preceding chapters.

LOUIS S. KORNICKER
Department of Invertebrate Zoology,
National Museum of Natural History,
Washington D.C. 20560