

This latest volume follows the new format of the second edition of *Anatomy of the Dicotyledons*, with many excellent black-and-white micrographs at low magnification, and clear line drawings of tissue arrangement, especially in leaf cross sections. Descriptions of overall plant morphology, seed germination, and developmental aspects include original scanning electron micrographs of leaf development and leaf surfaces. The book begins with a review of the most recent phylogenetic (cladistic) treatments of the family and ends with a listing of diagnostic characters that will be useful for identifying vegetative specimens.

Unfortunately, the price at over one dollar per page will mean that few individuals and possibly only a few libraries can afford to purchase what is an excellent reference book.

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JOURNAL OF TREE FRUIT PRODUCTION. *Volume 1, Number 1, 1996.*

*Edited by Wesley R Autio. Binghamton (New York): Haworth Press. \$75.00 (libraries); \$60.00 (institutions); \$36.00 (individuals). vi + 97 p; ill.; no index. ISSN: 1055-1387. 1996.*

This quarterly journal is a new addition to the horticultural literature, and joins its sister publications, the *Journal of Small Fruit and Viticulture*, and the *Journal of Citriculture*, also published by Food Products Press. This first issue contains 7 articles dealing with growth and fruiting of apple in relation to method of weed control; mineral nutrient content of apple leaves vs fruits in relation to fruit quality; light transmission, yield, and apple fruit quality as affected by tree form; influence of planting site and rootstock on peach tree short life; influence of root pruning and application of benzyladenine on apple tree growth and fruit size; and apple fruit quality and storage life as affected by treatment with the cytokinin CPPU. As can be inferred from these titles, the journal is intended for the scientist and the commercial grower, rather than the amateur gardener. I detected no typographical errors in the book. In terms of editorial style, several tables were printed in "landscape" format, requiring the reader to rotate the page 90°; I would have preferred that these tables be revised to permit reading them without turning the journal. The format follows *The Chicago Manual of Style*, with citations in the Harvard system (e.g., author, date).

The scope of the journal is limited to apple, pear, peach, apricot, plum and cherry; research papers, reviews, position papers/commentaries, as well as book reviews and letters to the editors, are welcome. All papers are peer reviewed and, unlike most competing journals, there are no page charges. This is

a major advantage, given today's publishing costs. The subscription prices are lower than those of its main American rivals—the *Journal of the American Society for Horticultural Science* (JASHS), and *Hort-Science*—which together cost \$90 for individual members. However, these two journals cover all aspects of horticulture, rather than only deciduous tree fruits. The 1995 volume of JASHS, for example, contained 35 articles dealing with these species. This is roughly the same number as might be expected in the new journal, but JASHS contained approximately 300–350 more articles on other aspects of horticulture. Therefore, the relative value of the journals will vary with the interests of the individual.

This new journal is well edited, contains valuable information, and is a good addition to the horticultural literature.

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ZOOLOGICAL SCIENCES

NATURAL HISTORY AND EVOLUTION OF PAPER-WASPS. *Based on a workshop held in Castiglioncello, Italy, 4–7 October 1993. Oxford Science Publications.*

*Edited by Stefano Turillazzi and Mary Jane West-Eberhard. Oxford and New York: Oxford University Press. \$115.00. xiv + 400 p; ill.; index. ISBN: 0-19-854947-4. 1996.*

Paper-wasps occupy a special place in the history of animal behavior. Temperate species of *Polistes* are large, beautiful, intelligent, adaptable, easy to observe, and thoroughly committed to social life. They are also aptly named, being intensely political, in the limited sense that any nonhuman animal may be said to be political. Although they lack parties, states, and ideologies, their power struggles seem eerily familiar to anyone who watches closely enough to see the protagonists as individuals. They may even show simple forms of cultural inheritance, as I was pleased to learn from this volume, which includes 18 critical reviews by leading students of wasp biology. The workshop upon which this volume is based had been planned to celebrate the 50th anniversary of Leo Pardi's original description of dominance hierarchies in *Polistes*.

The chapters cover an enormous range of subjects from phylogeny to ontogeny, including courtship, nest building, colony formation, chemical ecology and communication, kin recognition, kin selection, and social parasitism. There is a strong emphasis on social behavior and on *Polistes*, but other polistines appear, and they emerge as an important frontier. Although the chapters differ

greatly in length, scope, and style, they are all well written and edited, and together they paint an extremely vivid picture of a rich field in vibrant health, with much yet to be done. An unusual feature of this collection is its strong historical perspective, established from the very beginning in a foreword by W D Hamilton (not the only theorist to be "entranced" by "these astonishing insects"), and in a previously unpublished lecture by Pardi. The last two chapters again widen the view, as Mary Jane West-Eberhard considers how the differentiation of paper-wasp behavior and physiology may provide an illuminating model for some of the largest questions at the interface between development and evolution, and Richard Burian (a philosopher of science) considers wasp biology and biologists as a model for the practice of science. I might add that this book is a model symposium volume. Alas, no graduate student will be able to afford it. This is a pity, because otherwise it would be perfect for a seminar course.

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**ORIGIN AND EVOLUTIONARY RADIATION OF THE MOLLUSCA.** *Based on a symposium held at the Natural History Museum, London, 14–16 September 1993.*

*Edited by John D Taylor. Published for the Malacological Society of London by Oxford University Press, Oxford and New York. \$135.00. xiv + 392 p; ill.; index. ISBN: 0-19-854980-6. 1996.*

This volume is a revealing account of progress to date in the study of molluscan phylogenetic relationships. It contains 31 contributions by 40 authors who attended the Centenary Symposium of the Malacological Society of London in September 1993. It is the most complete statement on the subject yet published and merits a place in the libraries of institutions and mollusc specialists. In one of the most ambitious (yet still preliminary) cladistic analyses yet attempted for any group of molluscs, Gastropod phylogeny—challenges for the 90s, by W F Ponder and D R Lindberg (Chapter 11), 22 ingroup taxa and three outgroups are analysed for 95 morphological characters.

In methodological contrast, several phylum- or higher-level analyses by such prominent malacologists as G Haszprunar, L v Salvini-Plawen, G Steiner, A Scheltema, and D L Ivanov propose drastically different scenarios. Those contributors document new and interesting character-state distributions, and yet heavily-handedly assert preconceived notions of ancestral prototypes. A more impartial approach would have used cladistic analysis, including multiple potential outgroups. Those who enjoy active controversies will find plenty of disagreement

among these authors, and this debate reflects the vibrancy of ongoing investigations.

Likewise, B Runnegar reviews parallel controversies among paleontologists that involve problematic fossils with debated affinities to Mollusca. Runnegar's own "scenario" cladogram is provocative because it includes the well-known Cambrian fossils *Wiwaxia* and *Halkieria*, along with the extant phylum Sipuncula, as members of the clade that includes extant molluscs. J Healy's review on molluscan sperm ultrastructure and an ultrastructural demonstration of the coelomic nature of molluscs by M P Morse and P D Reynolds are other highlights. Conspicuously absent are molecular sequence comparisons, except for one study on stylommatophoran gastropods based on partial 28S ribosomal RNA sequences by S Tillier and coauthors. More specialized contributions are limited to Aplacophora, Gastropoda, Scaphopoda, and Bivalvia. The editor is to be commended for assembling an attractive, well-edited volume with generally excellent figures. It is bound to be widely cited and will certainly stimulate further research on molluscan phylogeny.

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**OSTRACODA (MYODOCOPINA) OF THE SE AUSTRALIAN CONTINENTAL SLOPE, PART 3.** *Smithsonian Contributions to Zoology, Number 573.*

*By Louis S Kornicker and Gary C B Poore. Washington DC: Smithsonian Institution Press. Gratis upon request (paper). iv + 186 p; ill.; no index. No ISBN. 1996.*

**BIODIVERSIDAD, TAXONOMÍA Y BIOGEOGRAFÍA DE ARTRÓPODOS DE MÉXICO: HACIA UNA SÍNTESIS DE SU CONOCIMIENTO.**

*Edited by Jorge Llorente Bousquets, Alfonso N García Aldrete, and Enrique González Soriano. México: Instituto de Biología, Universidad Nacional Autónoma de México. \$40.00. xii + 660 p; ill.; index. ISBN: 968-36-4857-6. 1996.*

Travelers to Mexico often hear the lament: "Poor Mexico! So far from God; so close to the United States." Mexico's alleged distance from God has certainly not harmed its biodiversity, which is among the world's highest. Its proximity to the United States has not harmed taxonomic understanding of its biota either, although Mexico has a long and proud history of indigenous work in a great many groups. The lead in bringing together a very scattered, polyglot literature on Mexican biodiversity was taken by the Instituto de Biología at UNAM, the National Autonomous University of Mexico, which