COAST, G. M., AND S. G. WEBSTER (eds.). 1998. Recent Advances in Arthropod Endocrinology. Cambridge University Press; Cambridge. xvi + 406 p. ISBN 0-521-59113-9. Hardback. $110.

Recent Advances in Arthropod Endocrinology deals with a wide range of hormonally controlled systems including metamorphosis, metabolism, reproduction, excretion, ion transport, and neuropeptides. There are 18 chapters written by a combination of 48 authors. The chapters are allocated to four sections: Part I: Molting, metamorphosis and reproduction; Part II: Control of intermediary metabolism, and ion and water balance; Part III: Myotropic and myoinhibitory arthropod neuropeptides, and Part IV: Peptidases, peptide and pseudopeptide mimetics. There is an index. The book grew out of a 2-day symposium held in 1996 as part of the annual meeting of the Society for Experimental Biology.

One very useful aspect of the book is the comparative nature of reviews of endocrine systems in crustaceans (5 chapters on growth and reproduction neuropeptides, hypoglycemic hormone, ecdysteroid synthesis, regulation of steroidogenesis, and neuronal networks and functions in arthropod evolution), acarines (only 1 chapter), and insects (most of the information in 12 chapters).

Part I contains reviews of insect allatostatic peptides, endocrine controls of insect vitellogenesis, neuropeptides inhibiting growth and reproduction in crustaceans, crustacean hyperglycemic hormones, ecdysteroid synthesis and regulation in crustaceans, and endocrine regulation of development and reproduction in acarines.

All four chapters in Part II deal with insects—two chapters on adipokinetic hormones, and one each on urine production and ion transport in insects.

Four of the five chapters in Part III deal primarily with insect neuropeptides, and one explores crustacean cardioactive peptide (CCAP) in crustaceans, insects, other arthropods, and some non-arthropod invertebrates. There are excellent reviews of the dipteran callatostatins, tachykinin-related peptides, FLRFamide and related peptides, and crustacean cardioactive peptide.

Part IV contains only two chapters—one on insect angiotensin-converting enzyme and the other on mimetic analogs of the myotropic and diuretic insect neuropeptides.

The book is a useful addition to the library of invertebrate physiologists, biochemists, and endocrinologists, and is a valuable comparative work for vertebrate endocrinologists. True to its title, it describes recent advances, and little background is provided on what has led to the current state of knowledge. Thus, it is likely to be difficult reading for the non-specialist or uninitiated.

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