A few chapters fail in the original aim of providing an overview of primate behavior. For example, Owren et al.'s discussion would have benefitted from a wider examination of the research on vocal communication in nonhuman primates. The chapter by Higley did a good job of reviewing the role of serotonin and testosterone on aggression, but there is no mention of the effects of other neurochemicals and hormones. Also, the scarce number of illustrations and graphs in some chapters is unfortunate.

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PHEROMONES AND ANIMAL BEHAVIOUR: COMMUNICATION BY SMELL AND TASTE.

By Tristram D Wyatt. Cambridge and New York: Cambridge University Press. $100.00 (hardcover); $40.00 (paper). xv + 391 p; ill.; index. ISBN: 0–521–48068-X (hc); 0–521–48526–6 (pb). 2003.

Many of us think of ourselves as "visual" and "auditory" and give short shrift to our senses of smell and taste. In fact, however, those chemical senses are important for human welfare and quality of life. For many other animals, chemical signals in the environment have overriding importance, and life depends on smell and taste.

In this valuable, engaging, and rewarding book, Wyatt regards us and our fellow creatures on Earth as animals in a chemical world. He heralds the importance of chemical cues and signals in regulating or coordinating the functions—from cellular and systems to behavioral and population levels—of plants, animals, and microorganisms.

With authority and clarity, and drawing on findings from numerous lines of research based on a broad armamentarium of disciplines and methods, Wyatt focuses on one class of especially well-studied semiochemicals (chemicals that mediate communication)—the pheromones. These fascinating agents are viewed both as exemplary chemical signals in general and as semiochemicals that are critically important in the lives of most, if not all, animals. Noteworthy is the author's catholic approach; although an expert on chemical communication among insects, his reach extends to diverse taxa, from crustaceans, insects, and spiders to birds, mammals, and snakes. He compares, contrasts, and seeks common principles. His claim, on the opening page, that this is the first book on the subject to cover the whole animal kingdom at a level appropriate for both advanced undergraduates and researchers is no exaggeration.

Wyatt offers an especially useful summary of the dramatic advances in our understanding of olfaction over the last half-century, providing the keys to explaining how many pheromones exert their powerful influences on animal behavior. Particularly enlightening discussions offer an unparalleled overview of pheromones (Chapter 1) and summarize the current knowledge about sex-pheromone-mediated location and selection of mates (Chapter 3), detection and neural processing of pheromonal signals (Chapter 9), pheromone-mediated orientation behavior (Chapter 10), and "code-breaking" that leads to deception, eavesdropping, propaganda, and other forms of exploitation of pheromonal communication (Chapter 11). Then, extending his reach beyond such foundational topics, Wyatt offers a brief and clear account of efforts to apply knowledge about pheromones to practical problems such as pest control (Chapter 12) and, finally, a fascinating review of the state of affairs with respect to pheromones in humans (Chapter 13).

Of course, no book can please all readers equally. For example, this volume offers relatively little for aficionados of taste (or perhaps more appropriately, gustation), in contrast with its rich offerings for students of olfaction—but that is not the fault of the author. The emphasis reflects the state of knowledge in the field. Moreover, as a textbook of modest size, this volume had to be selective and provide overviews instead of detailed accounts of each topic. Inevitably, that necessity can result in treatments that strike a specialist as telegraphic and superficial. Wyatt managed such constraints masterfully and is to be commended for achieving an ideal compromise between scholarly depth and didactic clarity and effectiveness.

This well-illustrated, thoroughly referenced work is admirably accessible and lucid. It offers much both as a textbook and as an introduction to this remarkable field for new investigators. Tristram Wyatt has given us a gem!

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MOLECULAR BIOLOGY OF CIRCADIAN RHYTHMS.

Edited by Amita Sehgal. Hoboken (New Jersey): Wiley-Liss. $89.95. xiii + 283 p; ill.; index. ISBN: 0–471–41824–2. 2004.

When I was in graduate school, circadian studies were not considered real science; even the pronunciation of the word was controversial (was it named after an idyllic but monotonous Circadia? Or should it be as its coiners intended, *circa-dee' - an,* to emphasize its meaning "around a day?"). Then in 1994 the first circadian gene was identified in