pher Ferris contribute an overview of novel neurotransmitters that underscores how much we still have to learn about molecular actions and physiological effects of several classes of neuromodulators that bathe synapses in the brain. These modulators include biogenic amines, numerous peptides, the gas NO, and the unusual amino acid D-serine. In the final chapter, my personal favorite, Joel Stiles *et al.* offer an account of the use of computer simulation to understand aspects of transmission at the neuromuscular junction. We have reached a crucial transition in the study of cell biology in general and synaptic function in particular. With the impending completion of several critical genome projects, the identification of new proteins is no longer a limiting step in understanding synaptic mechanisms. We can now focus on the exciting task of understanding how these proteins function together to endow synapses with their remarkable properties. An important aspect of this task is the development of new, more quantitative methods to explore and understand complex signaling pathways.

For both seasoned neurobiologists and interested newcomers to the field, this book is a worthwhile introduction to the wonders of synapses and the many opportunities for future study that they offer.

BOOKS: PUBLIC HEALTH

Despised Source of Whining and Worse

John Farley

Perhaps one clue to understanding this strange little book is revealed when the senior author, Andrew Spielman, a Harvard-based authority on mosquitoes and tropical diseases, relates how, as a young professor, he spoke to a reporter about discovering the presence of the mosquito *Culiseta melanura* at the Harvard Medical School. Although, as he told the reporter, there was no evidence that the mosquito was actually harboring the eastern equine encephalitis virus, of which it is a vector, the reporter had heard enough. The reporter's newspaper promptly created an uproar, and sold copy, by publishing "Brain Fever at Harvard." Is this experience why Spielman chose not to write this popular-style book alone, but to collaborate with Michael D'Antonio, a Pulitzer Prize–winning journalist? *Mosquito* seems to have been written by D'Antonio on the basis of oral interviews with Spielman; much of the text in the first-person singular expounds tales from Spielman's very full professional life.

Mosquito
A Natural History of Man's Most Persistent and Deadly Foe
by Andrew Spielman and Michael D'Antonio

Hyperion, New York, 2001. 267 pp. $22.95, C$32.95. ISBN 0-7868-6781-7. Faber and Faber, London. £10.99. ISBN 0-571-20980-7.

This collaboration may explain a certain tension one notes between Spielman's obvious fascination with the tiny mosquito and the journalistic desire to enhance book sales. Near the end of the book, the authors note:

> Posed against an enormously dangerous environment, this seemingly simple organism thrives. Everything about its design is economical and precise. And even though it is incapable of thought, it manages to meet great challenges, adapting to our use of pesticides, the loss of habitat, even climate change. Charles Darwin would have been amazed....

But such thoughts do not usually attract a large readership, and the authors face the additional hurdle that, as they explain in the preface, "it may be difficult to love the mosquito." Everything she does is self serving, neither aerating the soil nor pollinating plants. "She has no 'purpose' other than to perpetuate her species." Perhaps in recognition of the insect's lack of appeal, only the first fifth of the book deals specifically with mosquitoes. The remainder concerns the disease organisms for which they serve as a vector, with the emphasis on yellow fever, malaria, dengue fever, and the mosquito-borne viruses.

The authors spend far too many pages narrating how the vectors of these diseases were discovered and how attempts were made to control them by attacking the mosquito. Malariologists have told these stories before, often in a popular and entertaining form, in such books as Robert Desowitz's *The Malaria Capers* (Norton, New York, 1991) and Socrates Litsios's *The Tomorrow of Malaria* (Pacific Press, Wellington, New Zealand, 1996). The journalistic urge is also obvious in the book's subtitle, which appears on the dust jacket with the words "Deadly Foe" colored blood red. (Given that the book is directed at a U.S. audience who must be aware that the number of gunshot deaths in their country far exceeds those from mosquito-borne diseases, this clearly represents extreme media-hype.) The publisher chose too not to include a further reading list (it need not have been long) by which interested readers would be encouraged to delve further into the world of mosquitoes and disease.

Nevertheless, within the limited space available Spielman does his best to present a fascinating picture of the mosquito's life. He also succeeds in conveying how extraordinarily varied mosquitoes are. For example, even the blood intake to provide egg nourishment, which we all associate with female mosquitoes, "is actually something that the vast majority of female mosquitoes will never enjoy." Only a few species are able to feed on human blood, and many of those that do are able to turn readily to birds and mammals. However, I am not sure that such details will completely fulfill Spielman's wish that the book "will lead [readers] to respect and, perhaps, admire the mosquito as something more than just a pest or a vector of disease." His hope would have been better served had he written more on the mosquito and much less on the malaria wars.

Atypical biter. Unlike *Sabethes cyaneus*, most species of mosquito are unable to feed on human blood.

Despite the book's shortcomings, its format does prepare the reader to understand and enjoy the grand finale: the bizarre story of the 1999 outbreak of West Nile fever in New York City, the episode that probably generated this particular book in the first place. This delicious story alone is worth the price of the book. Spielman shows how difficult it is for people like himself to conduct a rational campaign against a disease when one is faced by a press that sensationalizes everything and blows all out of proportion, to such an extent that West Nile fever has been made to sound like a 19th-century cholera epidemic; politicians who have to be seen to be doing something even if their actions are a total waste of time and the taxpayers' money; frightened mothers; organic gardeners; and extreme environmentalists who will fight against the release of a single droplet of pesticide. And it is clear that all of us should read Spielman's words in the final chapter, "Living with Mosquitoes," for we have no other choice.

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