BOOK REVIEWS


The authors of The Natural History and Behavior of North American Beewolves have put an immense amount of work into the volume. The book's introduction discusses the history of study of bee-wolves in the genus Philanthus of the family: Sphingidae. The authors recommend bee-wolves as objects of study. "They are among the most commonly encountered wasps and often occur in aggregations that persist from year to year." With this in mind the authors set out to fill in the details of a broad-scale, comparative study of the behavior of the species. The resulting monograph includes a review of all published information plus a good deal of data presented for the first time.

A general description of the major features of bee-wolves is provided in chapter two. This includes habitat and life history, male and female behavior in separate sections, nest structure, provisioning and natural enemies. Of interest to the general reader is the economic importance of the species. The European and African bee-wolves are serious pests of honey bee colonies on occasion and also responsible for reducing pollinator populations of other bees. The authors, in fact, can find little to recommend the insects. As they say, "On the balance, bee-wolves should be regarded as undesirable from the human point of view, but in our opinion the fascination of their ways of life more than compensates for their impact on beneficial wasps, pollinators, and commercial honey production."

Specific chapters follow on five species groups: zebratus, gibbosus, pacificus, politus. Each is described in detail including their mating, nesting, and foraging behavior. Additional sections include other North American species of Philanthus, and a brief review of Eurasian species. The authors point out that much needs to be done in the latter area. They are able to review only five of more than a hundred species that occur in Eurasia and Africa.

A chapter on the overview of male mating strategies seeks to remedy the fact that most males in Hymenoptera have been viewed as "ethological nonentities." Finally, there is a whole section dedicated to the major features of nesting behavior in these insects. Numerous topics are mentioned including: predatory behavior, habitat and nest distribution, building and maintenance, as well as nest reutilization and sharing.

The purpose of the concluding chapter is to provide an overview of bee-wolves as products of evolution and suggest opportunities for further study. Of special significance is a section attempting to describe the characteristics of an ancestral beewolf:
1. Soil is scraped into an elongate mound that is not leveled.
2. A temporary closure of the nest entrance is maintained.
3. Accessory burrows are not constructed.
4. Nests are proclinate with a diffuse cell pattern.
5. Prey consists of a variety of bees and wasps.
6. Territorial scent marking is a major component of male mating behavior.

The final call in this volume is to get more interested scientists in the field. As the authors conclude: "Thriving aggregations of bee-wolves present scenes of high drama, with constant comings and goings. . . . The problem is to understand the script, and beyond that to determine how it came to be written. For persons like us who like to spend their summers in the field watching animals and asking why they act as they do, bee-wolves remain a continuing challenge."

DR. MALCOLM T. SANFORD
202 Newell-0312 IFAS
Gainesville, FL 32611-0312