

## Book Review

Biologie des Coléoptères. by Renaud Paulian. Lechevalier-Masson, Paris, 1988, 719p. \$95 (US).

This entirely new book is the first on the biology of beetles since Crowson's book, published in 1981 by Academic Press. This new work in some ways completes Crowson's, but in no way is it a useless repetition. The two books together give a good idea of the biology of this enormous order, here comprising more than 200 families. Paulian's classification is slightly, but not fundamentally, different from Crowson's. There are excellent chapters on endogeous, cavernicolous, aquatic, coprophagous, termitophilous, and myrmecophilous beetles. Termitophilous beetles have already been treated well in *Termitologia* by Grasse (1986, Masson, Paris). Paulian is a well-known specialist on Scarabaeidae and those beetles are extensively reviewed, including the American species, from data published in the United States and Mexico. The larvae of beetles are also well covered. The book was printed in Hungary and we regret several misspellings, and the misuse of French accents here and there.

Some general comments:

- On wing structure, it is surprising that the subcubital binding patch (Jolivet, 1957; Hammond, 1977) is not mentioned.
- The discussion of interrelationships between beetles and plants is not up to date. The works of the Wageningen school (de Wilde, Schoohoven, Visser, Hsiao, etc.) are not specifically mentioned.
- The classical work of Dr. Balazuc on the teratology of beetles, including the teratology of *Tenebrio*, is not even mentioned in the bibliography. It was quoted by Crowson.

- p. 316: *Diabrotica* is a galerucine, not an alticine.
- Oviparity or viviparity is certainly common in cold climates and mountainous areas, but it is also common among Chrysomelidae in the tropics.
- The terminal fork of the Cassidinae is extremely efficient in repelling ants (Eisner) and not the contrary.
- A typical French mistrust of the Darwinian explanation and the efficiency of mimetism is latent in the book. Personally, I believe in natural selection and the efficiency of that mechanism.
- p. 388: The Secondary Age is the "Mesozoic," or Age of Reptiles, and not the "Coenozoic," which is the Age of Mammals (Tertiary + Quaternary).
- p. 493: *Hippuriphila* is an alticine, not a weevil.
- p. 404: *Timarcha punctella* and not *T. punctalis*.
- p. 500: *Anomma* nests are temporary, but not *Atta* nests.

A criticism: the names of the authors appear very seldom in the text, often without date or being included in the bibliography. It is sometimes irritating.

Also, some missing topics are surprising: for instance, it is not mentioned that in Brazil there is a cerambycid with scorpion-like antennae, which "bites" when captured, or that some cerambycids are provided with luminous organs, etc.

Anyhow, it is a good book, and a "must" for a coleopterist who can read French. -- P. Jolivet, Paris.