

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Insecta Mundi

Center for Systematic Entomology, Gainesville,
Florida

March 2005

Book Review: *Brentidae of the World (Coleoptera: Curculionoidea)* (Sforzi, A., and L. Bartolozzi)

Nico M. Franz

National Center for Ecological Analysis and Synthesis, Santa Barbara, CA

Follow this and additional works at: <https://digitalcommons.unl.edu/insectamundi>



Part of the [Entomology Commons](#)

Franz, Nico M., "Book Review: *Brentidae of the World (Coleoptera: Curculionoidea)* (Sforzi, A., and L. Bartolozzi)" (2005). *Insecta Mundi*. 74.

<https://digitalcommons.unl.edu/insectamundi/74>

This Article is brought to you for free and open access by the Center for Systematic Entomology, Gainesville, Florida at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Insecta Mundi by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

BOOK REVIEW

SFORZI, A., AND L. BARTOLOZZI. 2004. Brentidae of the World (Coleoptera: Curculionoidea). Monografie XXXIX (39), Museo Regionale di Scienze Naturali, Torino, Italy. 976 pp., 225 figs. Hardcover. ISBN 88-86041-35-7. Price: € 50.00 + postage. May be ordered from the Museo Regionale di Scienze Regionali, via Giolitti, 10123 Torino, Italy. E-mail: biblioteca.mrsn@regione.piemonte.it

This new book on the Brentidae of the World was originally conceived as an update of Richard Kleine's (1938) checklist. It turned out to be much more. The checklist evolved into a comprehensive and meticulously annotated catalogue. A long introductory section was added, and enriched with clear illustrations and superb color photographs of charismatic specimens. It could stand on its own as a smaller book on the biology and taxonomic history of brentid beetles. The editors also enlisted a select group of experts to contribute four chapters on lineages recently placed within or close to the family. The result is a volume of nearly 1000 pages whose quality and scope measure up to the higher standards of the recent Coleoptera literature.

The first and by far largest chapter – more than 800 pages in length – is authored by Alessandra Sforzi and Luca Bartolozzi. It deals with the Brentidae *sensu Auctorum*, including the subfamilies Brentinae (514 species), Cyphagoginae (400 species), Pholidochlamydinae (with a single species from Madagascar), Taphroderinae (62 species), Trachelizinae (688 species), and Ulocerinae (26 species). The total count is now 1690 species, accommodated in 293 valid genera. With regards to nomenclature, the authors propose one new species, 27 new synonymies, 82 new combinations, nine status resurrections, and one new placement. Their efforts to clarify the identity of all catalogued taxa led to 410 designations of lectotypes. The higher-level classification, in turn, is that of Alonso-Zarazaga and Lyal (1999, 2002).

The actual checklist is preceded by a 120-page section on the morphology, biology and behavior, biogeography, and taxonomic history of brentids. In addition there are four appendices detailing their associations with host plants, other xylophagous cerambycids, platypopids, and scolytids; as well as their parasitic ticks, and finally the ant hosts of myrmecophilous species inhabiting the Old World. In conjunction, the latter make up for an-

other 50 pages of valuable and newly synthesized natural history data.

The entire pre-catalogue section is written with clarity and authority. The authors have pulled together the full wealth of our knowledge on brentids to date, ranging from published analyses of their remarkable sexual dimorphisms to unique transformations in their reproductive structures. The particularities of adults and also of larvae are illustrated with nearly 100 well-prepared line drawings and photographs. The ensuing biology section begins with an overview of the circumtropical, mostly wet forest habitats in which brentids live. Their ecologies are then further discussed at the tribal level. The summary of brentid mating and oviposition behaviors includes *inter alia* the work of Leslie Johnson (1982) who observed males of *Brentus anchorago* L. on fallen wood logs in their displays of territoriality and rostrum-utilizing fights for larger females that have secured nutritious spots to lay eggs. Following a breakdown of the numbers of taxa per biogeographic region, the authors round up the section with an entertaining (and again well illustrated) review of significant taxonomists and their evolving classification schemes.

The checklist is elegantly type-set, leaving ample space between entries. Three font sizes are used to differentiate accepted from rejected names and other data. It provides the most elementary information on brentid taxa presently recognized as valid: name, author, year, page, synonyms, errors in spelling, and published collection records by country. In additions, the checklist reflects the authors' outstanding efforts to reconfirm or newly identify the respective type specimens and repositories (only for valid names). In each case the *kind* of type is indicated as well (HT for holotype, PLT for paralectotype, etc.), along with its collection codon. The symbol "!" appears frequently after these abbreviations, signaling that the type material was examined in person. Infra-specific taxa were (probably wisely) synonymized at the species level. On many occasions there are additional, thorough comments on the nature of types and specific label data. Sometimes the notes were communicated by curators whose collections could not be visited. The long chapter by Sforzi and Bartolozzi ends with 60-page bibliography covering not just taxonomy but essentially all pertinent literature!

The remaining chapters were produced by Rolf Oberprieler (Anthliarhinae, the African cycad weevils 7 species; and Eurhynchinae, 30 species), Miguel Alonso-Zarazaga (Cyladinae, 24 species, including the sweet potato weevil), and Schalk Louw Brachycerinae: Microcerini, 67 species). Although self-contained, they follow the previous format and high standards. Oberprieler's chapters in particular are accompanied by fascinating natural history photographs (see also Donaldson 1992). They are also exceptional in their discussion of fossils relevant to the debated placement of these lineages. Unfortunately Louw's chapter refers to the tribal name Microcerini in the title but lists the subfamilial name Microcerinae in the subsequent checklist.

The final pages are filled with a comprehensive, though exclusively taxonomic index. The species epithets and all higher-level names are aligned in alphabetical order. Valid generic and species names are distinguished from others by their italic font.

The Brentidae of the World is without question one of the most significant contributions to brentid taxonomy and perhaps their best biological summary ever. Above all the editors should be lauded for making this work a highly collaborative, international effort. Among its few shortcomings is the lack of diagnostic keys which should have been provided at least at the subfamilial and tribal levels. Sforzi and Bartolozzi largely refrained from the task of amending the current "eclectic" classification (Alonso-Zarazaga and Lyal 1999, 2002). One hopes they will eventually lend their taxonomic expertise to that important project; the results of Oberprieler's (2000) and Wanat's (2001) phylogenetic analyses are mentioned but not specifically evaluated or endorsed. The introductory section also fails to discuss the – arguably very limited – fossil record of brentids (see Gratshev and Zherikhin 2000, Kuschel 2003, Zherikhin and Gratshev, 2004; R. G. Oberprieler, pers. comm.). However, none of these minor omissions should deter anyone interested in the Brentidae or in variously related insect lineages from purchasing this outstanding and moderately priced book.

Literature Cited

- Alonso-Zarazaga, M. A., and C. H. C. Lyal. 1999. A world catalogue of families and genera of Curculionoidea (Insecta: Coleoptera) excluding Scolytidae and Platypodidae. Entomopraxis, Barcelona. 315 pp.
- Alonso-Zarazaga, M. A., and C. H. C. Lyal. 2002. Addenda and corrigenda to "A world catalogue of families and genera of Curculionoidea (Insecta: Coleoptera)." Zootaxa 63:1-37.
- Donaldson, J. S. 1992. Adaptation for oviposition into concealed cycad ovules in the cycad weevils *Anthliarhinus zamiae* and *A. signatus* (Coleoptera: Curculionoidea). Biological Journal of the Linnean Society 47:23-35.
- Gratshev, V. G., and V. V. Zherikhin. 2000. The weevils from the Late Cretaceous New Jersey amber (Coleoptera: Curculionoidea) [Pp. 241-254]. In: Studies on fossils in amber, with particular reference to the Cretaceous of New Jersey (D. A. Grimaldi, editors). Backhuys, Leiden.
- Johnson, L. K. 1982. Sexual selection in a brentid weevil. Evolution 36:251-262.
- Kleine, R. 1938. Coleoptera. Fam. Brentidae (Revision). Genera Insectorum 207:1-197.
- Kuschel, G. 2003. Nemonychidae, Belidae, Brentidae (Insecta: Coleoptera: Curculionoidea). Fauna of New Zealand 45: 1-100. Manaaki Whenua Press, Lincoln.
- Oberprieler, R. G. 2000. The larvae of the weevil tribe Eurhynchini and the phylogeny of the Brentidae. Invertebrate Taxonomy 14:755-770.
- Wanat, M. 2001. Genera of Australo-Pacific Rhadinocybinae and Myrmacielinae, with biogeography of the Apionidae (Coleoptera: Curculionoidea) and phylogeny of the Brentidae (*s. lato*). Mantis, Olsztyn.
- Zherikhin, V. V., and V. G. Gratshev. 2004. Fossil curculionoid beetles (Coleoptera, Curculionoidea) from the Lower Cretaceous of Northeastern Brazil. Paleontological Journal 38:528-537.
- Nico M. Franz, National Center for Ecological Analysis and Synthesis, 735 State Street, Suite 300, Santa Barbara, CA 93101