

- HYMAN P.S. & PARSONS M.S. 1992: *A Review of the Scarce and Threatened Coleoptera of Great Britain. Part 1*. JNCC, Peterborough, 484 pp.
- KALUSHKOV P. & HODEK I. 2001. New essential aphid prey for *Anatis ocellata* and *Calvia quatuordecimguttata* (Coleoptera: Coccinellidae). *Biocontrol Sci. Tech.* **11**: 35–39.
- KANERVO V. 1940: Beobachtungen und Versuche zur Ermittlung der Nahrung einiger Coccinelliden (Col.). *Ann. Entomol. Fenn.* **6**: 89–110.
- KANERVO V. 1946: Studies of the natural enemies of alder leaf beetles, *Melasoma aenea* L. (Col.: Chrysomelidae). *Ann. Zool. Soc. Zool. Bot. Fenn. Vanamo* **12**, 206 pp. [in Finnish, German abstr.]
- KERN F. & BESTMANN H.J. 1994: Pheromones 98. Olfactory electroantennogram responses of the formicine ants *Lasius niger* and *Formica* species (Hymenoptera: Formicidae) to 3,4-Dihydroisocoumarins. *Z. Naturforsch.* **49c**: 865–870.
- MAJERUS M.E.N. 1989: *Coccinella magnifica* (Redtenbacher): A myrmecophilous ladybird. *Br. J. Entomol. Nat. Hist.* **2**: 97–106.
- MAJERUS M.E.N. 1991: Habitat and host plant preferences of British ladybirds (Col.: Coccinellidae). *Entomol. Mon. Mag.* **127**: 167–175.
- MAJERUS M.E.N. 1994: *Ladybirds*. New Naturalist series 81, HarperCollins, London, 368 pp.
- MAJERUS M.E.N. & FOWLES A.P. 1989: The rediscovery of the 5-spot ladybird (*Coccinella 5-punctata* L.) (Col.: Coccinellidae) in Britain. *Entomol. Mon. Mag.* **125**: 177–181.
- PONTIN A.J. 1959: Some records of predators and parasites adapted to attack aphids attended by ants. *Entomol. Mon. Mag.* **95**: 154–155.
- SCHMIDT G. 1936: Berichtigungen und Ergänzungen zur Pommerischen Fauna insonderheit der Coleopterenfauna. *Dohrniana* **15**: 53–59.
- SCHULZE P. 1919: *Deutsch. Entomol. Z.* **33**: 432.
- SKINNER G.J. 1980: The feeding habits of the wood-ant *Formica rufa* (Hymenoptera: Formicidae), in limestone woodland in north-west England. *J. Anim. Ecol.* **49**: 417–433.
- SKINNER G.J. 1998: British wood ants. *British Wildlife* **10**: 1–8.
- SLOGGETT J.J. 1998: *Interactions between Coccinellids (Coleoptera) and Ants (Hymenoptera: Formicidae), and the Evolution of Myrmecophily in Coccinella magnifica Redtenbacher*. Unpublished Ph.D. thesis, University of Cambridge, 245 pp.
- SLOGGETT J.J. & MAJERUS M.E.N. 2000a: Aphid-mediated coexistence of ladybirds (Coleoptera: Coccinellidae) and the wood ant *Formica rufa* L.: Seasonal effects, interspecific variability and the evolution of a coccinellid myrmecophile. *Oikos* **89**: 345–359.
- SLOGGETT J.J. & MAJERUS M.E.N. 2000b: Habitat preferences and diet in the predatory Coccinellidae: an evolutionary perspective. *Biol. J. Linn. Soc.* **70**: 63–88.
- SLOGGETT J.J., WOOD R.A. & MAJERUS M.E.N. 1998: Adaptations of *Coccinella magnifica* Redtenbacher, a myrmecophilous coccinellid to aggression by wood ants (*Formica rufa* group). I. Adult behavioral adaptation, its ecological context and evolution. *J. Insect Behav.* **11**: 889–904.
- WASMANN E. 1912: Neue Beiträge zur Kenntnis der Termitophilen und Myrmecophilen. *Z. Wiss. Zool.* **101**: 70–115.
- WAY M.J. 1963: Mutualism between ants and honeydew-producing Homoptera. *Annu. Rev. Entomol.* **8**: 307–344.
- WELLENSTEIN G. 1952: Zur Ernährung der Roten Waldameise (*Formica rufa* L.). *Z. PflKrankh. PflSchutz.* **59**: 430–451.
- WIŚNIEWSKI J. 1963: Occurrence of the myrmecophilous ladybird, *Coccinella divaricata* Oliv. (Col.: Coccinellidae) in Poland. *Przeegl. Zool.* **7**: 143–146. [in Polish, English abstr.]

Received August 10, 2001; revised November 16, 2001, accepted April 8, 2002

Eur. J. Entomol. **99**: 569, 2002
ISSN 1210-5759

BOOK REVIEW

GORDH G. (with assistance by D. Headrick): *A DICTIONARY OF ENTOMOLOGY*. CABI Publishing, Wallingford, U.K., 2001. ix + 1032 pp. ISBN 0-85199-291-9. Price USD 140,- (hardcover).

Dictionaries are always useful and always easily subjected to criticism as to the inclusion and exclusion of terms and to the format of their definitions. Few dictionaries attempt to cover the whole of the field of entomology; only the revised version of

Torre-Bueno's (1937) edited by Nichols and Schuh (1989; English) as well as the unsurpassable German dictionary by Kéler (1963) are in current use. The one I review here is badly conceived and offers a plethora of terms unknown even to specialists. Who of my fellow heteropterists would know what *adelocerous* means and who among the present students of insect wings is aware that he is encroaching onto the art of *horismology*.

The shortcomings of this Dictionary prevent its use as a *reliable* source of information. Several points of selfcriticism are clearly formulated in author's introduction; they are quoted below, and accompanied by some random examples. "The title of this book implies an ambitious and ... pretentious (sic!) work". The entries include terms pertaining to general and applied entomology, scientific and English common names of taxa, names of entomologists, and also terms from other biological sciences affecting entomology (nomenclature, evolutionary biology, phylogenetics, genetics, molecular biology, etc.). The scope is undoubtedly too extensive, and the user is entitled to expect a certain degree of consistency in the selection of entries and in their treatment; I have tried hard but failed.

The descriptive anatomical terms are well covered, and usually simply and well defined. Coverage of morphological terms is mostly sensible, though often long descriptions loaded with inaccuracies (e.g., Abdomen) or oversimplified definitions (e.g., Ovipositor) are provided, and the author usually does not tell whose conception he is embracing (particularly noticeable in terms concerning wings and genitalia, where also many entries are missing). Terms concerning the detailed architecture of reproductive organs are for the most part missing (e.g. Tropharium, Trophic cord, Trophic core, Polyfusome).

Terms from insect development are sadly lacking. Many terms concerning kinds of insect metamorphosis currently used are missing (notably Neometaboly, Polymetaboly, Archimetaboly), and those included are sometimes treated as concepts, sometimes as names of taxa. Developmental genetics, a field largely developed by study of *Drosophila*, is ignored, and even such familiar terms as Compartment and Parasegment are excluded.

Names of higher taxa: First, I should point out that "entomology" in the sense of this Dictionary includes Chelicerata though their treatment is inconsistent (entry "Chelicerata" missing, names of chelicerate "orders" and many families of spiders [but not of other chelicerates] included, many terms of spiders' anatomy and a few of that of mites as major entries); of the myriapods, only names of classes are given, crustaceans are ignored. Back to insects: I did not find Atelocerata, Dicondylia, Amyocerata, Ellipura, Parainsecta, Paraneoptera, Acercaria and many others; at the suborder or lower levels I missed Mixophaga, Coleorrhyncha, Fulgoromorpha, currently used names of infraorders of Heteroptera, Filialpalpia, Annulipalpia, etc. An example of a pertinent definition follows: "Archiptera ... Neuroptera with incomplete Metamorphosis ..."; "Pseudoneuroptera ... Net-winged insects with incomplete Metamorphosis including Ephemerae [sic!], Odonata, Plecoptera, Isoptera, Corrodentia and Archiptera [sic!]." Another one under "Articulata": "... including the worms [sic!], crustaceans and insects".

Entomologists included are mainly those from North America (inconsistently also few living ones); others were chosen mosaic-like from bibliographies available to the author (reference provided, field of study usually not stated). Immanuel Kant was granted 18 lines, Vincent B. Wigglesworth 3, Ryuichi Matsuda none.

I have not checked the entries concerning applied entomology but have to question the utility of inclusion of commercial names of insecticides.

"The diagnoses of ... [names of families] are variable ...". Too much so. Some just state position in classification, others offer lengthy descriptions and data on bionomy, usually without reference (reviewer's paper on the Australian family Hy-

cephalidae is the only exception I found). Nearly complete and generally up to date lists of families are provided under entries of individual orders (suborders), but names of extinct taxa are usually omitted (e.g., in Odonata) or incomplete and incorrectly included (e.g., in Hemiptera: only three provided, two of them, the Thyreocoridae and Urostyloididae modern, with no known fossils).

"Accuracy [of previously published Dictionaries] has been inconsistent, and no doubt that remains the case". Search with me for Monophyly and related terms. Monophyletic is O.K., Monophyly includes two definitions, none of them hennigian; under Holophyly the reader is referred back to Monophyly; under Paraphyly we find a badly formulated Oesterbroek's definition under which the reader could assess paraphyletic not only "Apterygota" but the excluded Pterygota as well; under Paraphyly and Polyphyly cross-references only; under Polyphyletic complicated Oesterbroek's definition starting by "A natural or genetically cohesive lineage of Taxa ...". Imagine yourself a naive reader looking for enlightenment.

"Sadly, scholarship in classical languages is not well understood by modern entomologists (including the present writers)...". An honest statement in a book aiming to provide etymology of terms. Latin verbs are inflected, and, e.g., *teneo* means "I hold" rather than "to hold". I have no comments upon barbaric entries like *Species novum*.

There are two appendices: (1) Journal Titles (mixed with books, outdated, country and place of publication usually not stated, changes of names not registered) - taking an example from Czech Republic: *Sborník Přírodovědeckého klubu v Třebíči* (regional) included, *European Journal of Entomology* not. (2) Common Names References - a useful multilingual list of publications of this kind including also some taxonomic monographs (but not field guides). The latter is apparently taken without editing from a computerized search in some major library, since many unexplained attributes (such as Accession No., Subfile/Locat., Descriptors, Control Number) are often included.

The reader is not distracted by such extraneous matter like illustrations, bibliography and tables (e.g., classification adopted).

I apologize for the occasionally sarcastic tone of my review. The authors are to be commended for the amount of work but the outcome is inadequate. I can recommend the Dictionary to anybody interested in words (*adelocerous* = pertaining to concealed antennae; *horismology* = the art [sic!] of naming the venation of insect wings) but not to entomologists regarding their field of interest as a serious part of science.

References

- KÉLER VON S. 1963: *Entomologisches Wörterbuch mit besonderer Berücksichtigung der morphologischen Terminologie*. 3rd ed., Akademie-Verlag, Berlin, xvi + 774 pp., 368 Figs, 33 pls.
- NICHOLS S.W. & SCHUH R.T. (eds) 1989: *The Torre-Bueno Glossary of Entomology*. Revised Edition of *A Glossary of Entomology* by J.R. de la Torre-Bueno including *Supplement A* by George S. Tulloch. New York Entomological Society, New York, xvii + 840 pp.
- TORRE-BUENO J.R. DE LA 1937: *A Glossary of Entomology*. Brooklyn Entomological Society, Brooklyn, New York, 336 pp., 9 pls.

P. Štys