BOOK NOTICES

FAUNA OF NEW ZEALAND. C. T. Duval, Series Editor. Science Information Publishing Centre, DSIR, P. O. Box 9741, Wellington, New Zealand. In 1985, Numbers 7, 8, and 9 were published. They are of the same high quality and with the same desirable features as reported for previously published numbers (see Ball, 1983, *Quaestiones Entomologicae*, 19 (3–4): 487–488). Below, a citation is given to each number published in 1985, with a more or less condensed version of the author's abstract and a few additional notes that draw attention to generalizing or otherwise interesting statements in the text. Such statements extend coverage of these publications beyond that of identification manuals.

LUXTON, M. 1985. Cryptostigmata (Arachnida, Acari)– a concise review. FNZ, Number 7, 106 pp. Price: $8.85 (U.S.).

Three hundred and sixty-six species of Cryptostigmata (=Oribatei or Oribatida) in 160 genera and 58 families are recorded from the New Zealand region. Four new families are proposed, and six new genera are erected. Keys to species are supported by figures explaining morphology, habitus figures representing all genera, and notes on distribution, biogeography, morphology, and techniques. [From the author's abstract].

This is indeed a concise review, for means to identify more than 300 species are provided in 53 pages of text accompanied by 28 pages of illustrations. With the numerous species included, arranged in ascending order of genus, family, superfamily, and cohort, the checklist provided is more than welcome, for it serves as a guide to the text. One wonders about ranking, especially when each of the newly described families is monobasic at the generic level. Perhaps if ranks of subgenus, tribe, and subfamily were used, the inclination of acarologists to inflate ranks assigned to mite taxa would be ended.

The author points out the marked endemism of the cryptostigmatid fauna: 82 per cent of the species treated are known only from New Zealand. Closest zoogeographic links are with the South American fauna, and this is additional evidence to suggest former faunal continuity between South America and New Zealand, *via* Antarctica, but excluding Australia.

Although cryptostigmatids are predominantly inhabitants of soil, many live elsewhere: on above-ground vegetation, in the marine littoral zone, and in saturated peat substrates (a virtually aquatic habitat). Members of most species eat microbes and the dead remains of higher plants, while some are specialists on either of these food materials, and a few others are carnivorous or herbivorous. Bisexual reproduction is common, but some species are parthenogenetic.

The enthusiasm that the author feels for this vast, divergent group of minute but ecologically vitally important organisms emerges in the phrase "marvelous mite fauna of this interesting region". We must join with him in his hope that this volume will encourage further study of these tiny armored arthropods.

DEAR, J. P. 1985. Calliphoridae (Insecta: Diptera). FNA, Number 8, 86 pp. Price: $7.60 (U.S.).

This revision provides keys to and descriptions of the seven genera and 54 species of calliphorid flies of New Zealand; 31 of the latter are new and are described in this volume. [Not included in the key are two adventive species noted below]. Other taxonomic work includes synonymization of some names and designation of lectotypes. Sections by contributing authors cover three topics: immature stages and life history (B. A. Holloway); fly-strike (A. C. G. Heath); and rearing (Pritam Singh). Additionally, K. P. Rognes reports occurrence of two adventive species in the *Pollenia rudis* group: *P. rudis* (Fabricius) and *P. pseudorudis* Rognes, apparently recently introduced from the Northern Hemisphere. [From the author's abstract].

Excellent illustrations complement the descriptions of taxa. Of special note are the detailed black and white habitus figures from a lateral aspect, of one adult representative of each of the calliphorid genera reported from New Zealand.

The introductory section provides a useful synopsis of general features of way of life and geographical distribution of the seven New Zealand genera. Especially interesting is the account of *Pollenia*, with 33 species in New Zealand, of which 27 are described as new. The genus comprises three geographical groups: a Palaearctic assemblage of 30+ species; an Austro-Oriental assemblage of 8+ species; and an Australian-New Zealand assemblage of 60+ species. The author suggests that *Pollenia* seems to be of relatively recent origin, and probably reached New Zealand from the Oriental Region, by means of oversea dispersal along the Indo-Australian Archipelago. The rich endemic complex of New Zealand is probably monophyletic. It would be interesting to determine the ecological basis for the marked diversity of this genus.

The genus *Xenocalliphora* is endemic, with 10 species, and the single species of *Ptilonesia* occurs only on sea beaches of New Zealand and eastern Australia. The other genera are wide ranging, with few species in New Zealand: *Calliphora* (four species); *Hemipyrellia* (one species); *Lucilia* (two species); and *Chrysomya* (two species).

Although the focus of this series is elucidation of the taxonomic aspects of the arthropod fauna, this volume also reports about economic aspects. The principal benefit of calliphorid flies accrues from the saprophagous habits of the larvae of most species. However, the larvae of some species infest living mammals, and can do appreciable damage to their hosts. For example, in New Zealand, "fly strike" by several species, both endemic and adventive, costs the sheep industry about 14 million dollars annually (Heath, p. 18).

TUXEN, S. L. 1985. Protura (Insecta). FNZ, Number 9, 50 pp. Price: $7.60 (U.S.).

This volume was completed by Dr. Henrik Enghoff, following the death of its distinguished author in 1983. Dr. Enghoff and his colleagues in the Department of Entomology, Zoological Museum, University of Copenhagen, are to be congratulated for their efforts in completing Professor Tuxen's work. Following is a condensed version of the author's abstract.

Sixteen species of Protura in 10 genera are recognized from New Zealand, of which seven species and two genera are new. Keys to families of Protura and to the genera and species of New Zealand are provided. Structural features are illustrated with line drawings and photographs taken with a Scanning Electron Microscope. Known distribution of the New Zealand species is indicated on maps. Most taxa exhibit a distribution pattern that suggests for them a Gondwanian origin. A few taxa clearly have been introduced recently, from Europe.

The figures appear in the main part of the volume, rather than at the end, the latter arrangement being standard for the series. An exception was graciously made, in accordance with Professor Tuxen's wish. It would be fine if the editor of the series could see fit to continue this practice. It is certainly convenient for the user of the work to be able to find a needed figure close to the text that it illustrates.

For those who do not have access to Professor Tuxen's monograph on the Protura, published in 1964, this treatment of the New Zealand fauna may serve as a substitute, because it summarizes much general information about proturans, and the family keys are useful anywhere in the world.

George E. Ball

MORON-RIOS, M.A. 1984. Escarabajos– 200 Millones de Años de Evolución. Publicacion 14, Instituto de Ecologia, Museo de Historia Natural de la Ciudad de México. 132 pp., 174 figs., many colored. Price $40.00 (U.S.). Order from: Instituto de Ecologia, A.C., Atn. Patricia Reidl, Apartado Postal 18–845, Delegacion Miguel Hidalgo, 11800 México, D. F.

The intent of this attractive volume, written in Spanish, is to provide a resumé, for interested members of the general public, of the extensive research on lamellicorn beetles carried out over many years by staff members of the Instituto de Ecologia. In three chapters, readers are informed about structure, diversity, habitats, habits, and classification of lamellicorns, or beetles of the superfamily Scarabaeoidea. One chapter is devoted to economic importance of lamellicorns, and one chapter to methods of collection, curation, identification and study. Also provided are: a list of publications cited in the text; a short list of more general biological and entomological treatises that are related to the text and in Spanish; and a glossary that defines technical terms used in the text.

The numerous figures, some line drawings, and many photographs in color, illustrate structural details and habitus of many representative lamellicorns. Some figures, including an excellent photograph of Volcan Popocatepetl, illustrate habitats in which lamellicorns live. Some photographs are of superb dioramas in the Museo de Historia Natural, illustrating models of lamellicorn beetles in their natural habitats. The figures are of such quality and quantity that they provide admirable support to the text and enhance appreciably the value of this book as a teaching device.

The classification section provides in a series of charts an outline of the taxa of the Lamellicornia, to the level of subtribe. Names of those groups represented in México are indicated by a dagger symbol. Five families are recognized: Lucanidae, Passalidae, Trogidae, Scarabaeidae, and Melolonthidae– quite a conservative classification, as the author notes. For each family, major structural and ecological features are recorded, and for the more diverse families the more extensive subfamilies are similarly treated. One chart, of the higher arthropod taxa, focuses the attention of the reader on location of the lamellicorns within the Phylum Arthropoda. The classification section concludes with a diagram summarizing the geological time column, and indicating through the past the known ranges of the lamellicorns, and for comparison, the known temporal ranges of the major taxa of vertebrates and of the gymnosperms and angiosperms. Adjacent to the diagram is a brief statement about time of origin of the lamellicorns (the Triassic Period)– the only direct reference to the subtitle of the book, *i.e.*, 200 million years of evolution.

This is a very well produced volume, with print that is easy to read, and figures located in close proximity to the text that they illustrate. Although the book is intended principally for educated members of the public, it will be highly instructive for young coleopterists, and it summarizes sufficient information to be of value as well to professional entomologists, especially ecologists and systematists, including specialists on lamellicorns. The price might seem a bit high, but it is no more than the cost of valued amenities, such as two bottles of liquor of reasonable quality or a good restaurant dinner for two. However, when the drinks and meals are finished, one is left with only a pleasant memory of the temporary happiness that they brought. Investing the same amount of money in a good book provides one with another lifetime companion, to be valued, used, and consulted at will. "Escarabajos" is such a work and is well worth the asking price.

George E. Ball