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BOOK REVIEW

HUBBLE D. 2017: LEAF BEETLES. ECOLOGY AND IDENTIFICATION. Naturalists' Handbook 34. Pelagic Publishing, Exeter, 149 pp. ISBN 978-1-78427-150-3. Price GBP 19.99.

This publication is the 34th handbook produced by Pelagic Publishing for naturalists. Following on those on the families Coccinellidae, Carabidae and Curculionidae it is the fourth handbook devoted exclusively to beetles and contains 9 chapters.

The first four chapters (Introduction, Life history, Leaf beetles in their environment and Natural enemies of leaf beetles) present a short summary of various general aspects. Chapter 1 gives the reader a very short description of the characteristics of each subfamily present in Great Britain, accompanied by a table showing the number of species in each subfamily. Amblycerinae are here erroneously treated as a subfamily – it should be a tribe within Bruchinae. A summary of external morphology is provided with drawings that illustrate the details of the body, head, hindwing, etc. This chapter terminates with an account of their evolution and palaeoentomology. Chapter 2 summarizes the information on their general life history, eggs, larvae, pupae, adults and reproduction. Chapter 3 summarizes various aspects of the relation of chrysomelids with the environment, particularly their habitats and host plants, pest species and their control, non-native species, conservation and threats. Chapter 4 not only dicusses the natural enemies of leaf beetles like predators, parasites, parasitoids, diseases, microorganisms and fungi, but also provides a comprehesive account of their chemical, behavioural and structural defences.

Distribution and abundance (chapter 5) includes either descriptions of the biological aspects of the abundance of leaf beetles in the British islands or a selection of maps showing their distributions along with colour photographs of the species. Unfortunately, the maps with red squares used to show the distributions are very small and therefore the locations of the rare species with only a few squares are relatively difficult to detect on these maps. The colour photographs of the species are of low quality and relatively dark. It is also a pity that the choice of species to be photographed is not logical, particularly as there are not representatives of all the genera (only one representative of whole subfamily Bruchinae, no species of Clytrini, etc), whereas there are both species of *Macroplea* or nine species of *Psylliodes*.

Chapter 6 (Identification of adults of British and Irish leaf beetles) includes an identification key for leaf beetle families, subfamilies and genera in Great Britain accompanied by a table listing all the species known to occur in Great Britain and Ireland. For those species with English names, these are also mentioned. However, their distribution is presented only superficially without information about their distribution in Wales, Scotland or Ireland. The identification key is well arranged and accompanied by drawings of the important characters. For many readers the absence of a key for identifying species could present a problem.

Study techniques and materials (chapter 7) provides a short review of collecting techniques, which are also suitable for collectiong all beetles or insects and not only chrysomelids, along with concise instructions on how to establish and maintain a collection and which data should be recorded for the specimens collected. A review of the host plants associated with particular leaf beetle genera and species is also presented in this chapter.

Chapters 8 and 9 present useful addresses and links to British societies, suppliers of books and equipment, and sources of data, journals and biological recordings, all provided with a short description or comment and a list of references and other suggested reading. This handbook ends with an index that lists all the subjects and Latin names mentioned in the text.

This book provides a comprehensive overview with detailed and accessible coverage of the natural history, ecology and biology of leaf beetles. In some aspects the book provides a surprisingly comprehensive summary, for example, of their life histories, environment and enemies, etc. The weaknesses are the poor quality of the colour photographs and in particular the identification key to genera. In my opinion, an identification key provided for species would significantly improve this publication, although it could result in a considerable increase in the number of pages. I can recommend the handbook to all amateur entomologists and naturalists, not only those in Britain. On the other hand, specialists are more likely to use other publications with high quality photographs and keys to species.

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