

BOOK REVIEW

PULLIN A.S. (ed.): *ECOLOGY AND CONSERVATION OF BUTTERFLIES*. Chapman & Hall, London, 1995, 363 pp. ISBN 0-412-56970-1.

Shortly after publication of *Ecology of Butterflies in Britain* (R.L.H. Dennis Ed., 1992), Britons involved in the conservation ecology of Rhopalocera have collaborated with several European and overseas colleagues in the production of the present work, which discusses butterflies from a more global perspective. As stated in the introduction, the main purpose of the book is not a comprehensive treatment of all aspects of ecological research on butterflies, but an attempt to link the scientific and conservationist communities and to summarize, in an easily accessible form, recent discoveries relevant to the practice of nature conservancy.

The first part of the book centres on experiences from Britain, a country which, having a relatively poor and highly endangered butterfly fauna and at the same time one of the world's largest populations of dedicated lepidopterists, inevitably became the country with the most advanced research on butterfly ecology. Four chapters relating to monitoring, changes in abundance, mobility and population biology may be regarded as a brief review of previous work. These are followed by five chapters concerning the main modes of land use in relation to their butterfly faunas. Not only is the diversity of butterfly assemblages in various habitats discussed here, but also the impact of land management practices and practical aspects of habitat restoration. Besides such relatively well – appreciated issues, such as the necessity of active management in European grassland reserves, questions asked infrequently outside of Britain are presented, e.g. creating feasible habitats in woodlands, on arable land and in gardens.

In addition to the importance of habitat preservation and restoration, all authors underline, consistently, the necessity of species-specific conservation measures when a species experiences severe decline. Species-centred case studies and their applications in reserve management form the third part of the book, where the histories of *Papilio machaon*, *Lycaena dispar*, *Carterocephalus palaemon*, *Maculinea* Blues and *Argynnis adippe* are discussed in more detail. Instead of choosing already notable examples of success (such as the preservation of *Mellicta athalia*), the emphasis is placed on recent research activities and some questionable and still unresolved issues are discussed.

Two important messages are recurrent in the case studies. First, detailed knowledge of species

autecology is a pre-requisite for efficient conservation. Second, that attempts to conserve a species, which is already on the verge of extinction, are extremely difficult and demanding upon resources. Cases of *L. dispar* and *M. arion* document the unfortunate paradox of conservation: that it is often possible to mobilize effort and resources only at the very moment when a species is practically doomed to extinction. The following part of the book concerns butterfly conservation in a European and global context. It opens with R.L.H. Dennis' chapter, in which the conservation implications of biogeography are discussed. Here, again, the point is stressed that we should develop special effort to protect species' well being in those areas where they still are relatively abundant and safe. This is not possible without cooperation across national boundaries, as may be seen in chapters dealing with efforts to protect butterflies in the Netherlands, central Europe, alpine Switzerland and Mediterranean countries. Despite the various methods used, some generalisations clearly emerge: first, that we still know too little about ecological requirements of most of threatened species; second, agencies and institutions often hesitate to support species-centred projects and third; there has been little activity to protect threatened Rhopalocera, even in protected areas. Last, but not least, legislation which prohibits species collecting has virtually no positive effects; it can be deleterious indeed, "antagonizing butterfly collectors instead of educating and integrating them".

The last three chapters concentrate on conservation in tropical Africa, Australasia and North America. Again, they point to serious gaps in our knowledge, stress the importance of butterflies as so called "flagship species" for nature conservation and enlighten the differences in methods for conservation in unexplored versus well researched regions.

Undoubtedly, there are minor mistakes and omissions in the book (such as the incorrectly drawn map of *L. dispar* distribution on page 155) but, generally, they are of absolutely minor importance and their listing is worthless in comparison with the richness of information within this volume (the excellent up-to-date bibliography contains more than 500 references) and with the surfeit of fresh hints and ideas. Anyone concerned with nature conservation (regardless of group they are fond) should study the book.

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