Book review

Enrique García-Barros, Miguel L. Munguira, Constantí Stefanescu & Antonio Vives Moreno, 2013. **Lepidoptera Papilionoidea**. Fauna Iberica 37. Museo Nacional de Ciencias Naturales, Consejo Superior de Investigaciones Científicas, Madrid. Hardback, 1216 pages. ISBN: 978-84-00-09726-4. Price €94.23 (ex. VAT).

The study of the butterflies of Spain is of remarkably recent date. The first catalogue of the butterflies of Spain (exclusive of Hesperidae) appeared in 1947 (R. Agenjo), while the first illustrated field guide appeared in 1970 and was written by two lepidopterists from England (W.B.L. Manley & H.G. Allcard). Shortly after the first Spanish translation of the field guide to the butterflies of the whole of Europe by two

other British lepidopterists, L.G. Higgins & N.D. Riley (1973), the first fully illustrated work on the Spanish butterflies written in Spanish and by Spanish lepidopterists, M.R. Gómez Bustillo & F. Fernández-Rubio, appeared in 1974. This marked the start of an acceleration in the study of butterflies in Spain which provisionally has culminated in the present book.

The book is a heavyweight, both literally (1216 pages), and in content. It starts with introductory chapters covering almost 50 pages, dealing with various aspects of the butterflies, from systematics to variation, distribution, morphology, natural history and how to collect, study and keep butterflies (alive as well as dead). The information is straightforward and not different from what can be found in other textbooks. Recent insights from the literature have been included. The authors have chosen a phylogenetic tree for the Papilionoidea with the Papilionidae being sister to all other butterflies combined, including the Hesperidae, which form the second branch of the tree. Sure, this book does not deal with the building of trees, and sure, the authors must make a choice, but they could have made a cautious warning about the provisional status of trees that can change with characters, outgroups and programs chosen, as has been amply proven in recent literature. The tree is not essential for the main text of the book, but as a consequence, in the key to the families (pp. 71–72), the Hesperidae are keyed out first, but not dealt with first, contrary to common practice.

The butterfly fauna of the whole Iberian Peninsula is, with 226 species, not particularly rich. For France, for instance, about 10% smaller in surface, 256 species have been listed. Although some remarks are made on the influence of the Ice Ages and migrations from glacial refugia (p. 20) on distributional gradients, the influence of the Ice Ages on the diversity in general is not mentioned. In my opinion the Iberian Peninsula, with its relative isolation from the rest of Europe by the Pyrenees, would ask for a more extensive biogeographical treatment.

In the same chapter on geographical distribution a paragraph has been dedicated to rarity and protection ("rareza y protección") (p. 22). Protection is, indeed, problematic. In Spain the authority for nature conservation rests with the autonomous regions (Andalucía, Aragón, Cantabria, Castilla-La Mancha, Cataluña, Extremadura and Madrid), not really facilitating nation-wide legislative measures. Moreover, emphasis is laid on the production of red books. Such lists may indicate which species are under threat, but in themselves do not help to protect the species. A simple ban on collecting these species is in most cases symbol politics, since the real threat is habitat destruction. I would also have welcomed some words on the influence of desiccation of large areas, both by water extraction for irrigation and by climatic change. Clearly, the book is meant for the Spanish market in the first place (otherwise it would have been written in English), but even so, it would have been helpful for the outsiders if some mention had been made about legislation in Spain and how and where to get a permit for collecting.

The main text starts at p. 70 with a general description of the superfamily, followed by a key to the families. This is also the format for the rest of the book: general description, key to lower taxa and finally exemplary, extensive description of the species, including adult, haplotype where known, early stages, geographical distribution and biology (including parasites where known). Where useful for identification, line drawings have been added of selected body parts, mostly genitalia, but also details of wings (particularly venation), antennae, legs, a few distribution maps, and a number of photographs of egg shells. Personally I would have preferred many more distribution maps, which, for getting a quick idea of variation in distribution patterns in Spain, are much more useful than appendix 1 (see below), which takes almost 200 pages. In addition, I have only one additional trivial remark about the text figures: on p. 256 (Fig. 40) wing venations are given for *Polyommatus albicans* (A; forewing; Lycaenidae), *Hamearis lucina* (B, hindwing; Riodinidae, Nemeobiinae), and *Satyrrium esculi* (C [forewing] and D [hindwing]; Lycaenidae). Figures A and B are placed one above the other, suggesting that the two belong together. On the opposite page the venation of fore and hindwing in Nemeobiinae is described. Why then was not the forewing venation of this subfamily included in Fig. 40? As with the distribution maps, some more figures of the wing venation could have been instructive.

For the rest, the text part is exemplary. It is followed by an extensive bibliography covering 88 pages. The latter is followed by: "Apéndice 1. Lista de sinónimos y combinaciones" (actually there is only

one appendix), covering 199 pages, almost 1/6 of the whole volume. Apparently the authors saw it fit to include all names relating to Spanish butterflies, be they valid or invalid, available or unavailable according to the International Code on Zoological Nomenclature, for all taxonomic levels, from family down to subspecies, and below subspecies level to forma, variety and aberration. For instance, the list of names relating to *Boloria euphrosyne* (pp. 1104–1106) covers more than two pages and includes 63 names, many of which are unavailable, since they have been given to aberrations, and many other names are the result of extreme splitting, what in my opinion has never led to deeper insights in the evolution and biology of the butterflies and is often based on comparison of too limited series of specimens. One may argue that it is good to have such a complete synonymy once and for all, but most of the synonymy has been published somewhere else before, and why should we always carry the load of not very relevant studies in new publications? If one thinks such a list important, I would have preferred to leave it out of the book and to place it on the internet, so that the pages in the book can be devoted to butterflies and not to hassles about names.

After an extensive index (76 pages; top heavy because all the names found in appendix 1 are repeated here), 42 color plates depicting all species follow as an "Anexo" (I would rather consider them an integral part of the book). In the individual figures the left half shows the upper side, the right half the underside. Male and female have been portrayed where there is sexual dimorphism. Strangely enough, this has not been explained, not in the legends, nor in the main text. Taking the first species dealt with as an example, there are four figures of *Parnassius apollo*: Fig. 106, A–D. The species name is given in the legends, but not what A–D may mean. Checking it in the main text (p. 78) we find: "Adulto (Fig. 106A–D)", followed by an extensive description of the variation in external characters but without reference to a particular figure and no mention of the sex of the depicted specimens. The lay out of the legends is not particularly clear. The general lay out is the same for all pages. Taking Fig. 107 as an example, the lay out is as follows:

Fig. 107. Papilio	feishamelii (C),
machaon (A), Iphiclides	Gonepteryx rhamni (D, E)
podalirius podalirius (B),	γ Gonepteryx cleopatra
Iphiclides podalirius	(F, G). Escala = 10 mm.

Alternatively, I think the following lay out would have been clearer without taking more space:

Fig. 107 A – *Papilio machaon* D, E – *Gonepteryx rhamni* (male, left, and female)
 B – *Iphiclides podalirius podalirius* F, G – *Gonepteryx cleopatra* (male, left, and female)
 C – *Iphiclides podalirius fesishamelii* Escala = 10 mm.

Finally the plates themselves. On the whole the species can easily be recognized, even with the rather to very similar *Pyrgus* species I did not have a doubt at all, but all plates are shallow, with little contrast and not very sharp. In other words, real butterflies are much more beautiful. Compare the numerous photographs on the internet of such species as *Ochlodes sylvanus* and *Thymelicus sylvestris* with their warm orange-brown colors with the figures in Fig. 110, and the difference is striking. I guess this is due to the printing process, in our digital age taking good photographs of butterflies is almost a matter of routine.

In summary, the book marks the fast development Spanish Lepidopterology has gone through, and the publication of a modern text with extensive and

up-to-date information is most welcome. If only because of the language (Spanish) it is apparently meant for Spanish readers, although the language will not be a barrier for anyone interested in the Spanish butterflies. For the more general interested visitor from abroad, the various field guides to the butterflies of Europe are sufficient for identification, but if one wishes to know more about the Spanish butterflies, this book is indispensable. Thanks to a very low VAT percentage in Spain (4%) one gets over 1200 pages full of information for just under €100. The minor points raised above do not distract from the fact that the book is good value for the money.

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