

Book reviews ● Buchbesprechungen ● Analyses

LAFONTAINE, J. D.: *The Moths of America North of Mexico including Greenland. Fascicle 27.3 Noctuoidea. Noctuidae (part). Noctuinae (Part — Noctuini).*

28 × 21.5 cm, 348 pp., 36 monochrome plates and 8 colour plates, 130 text figures, mainly distribution maps. Published by The Wedge Entomological Research Foundation, Washington, 1998. ISBN 0-933003-09-9. To be ordered from: The Wedge Entomological Research Foundation, 85253 Ridgetop Drive, Eugene, Oregon 97405, U.S.A. Also obtainable from Apollo Books Aps., Kirkeby Sand 19, DK-5771 Stenstrup, Denmark. Price: Danish Kroner 920, excl. postage.

This is the second part of three fascicles to revise and describe the subfamily Noctuinae in America north of Mexico. The first part (Lafontaine, 1987) was a revision of the genus *Euxoa* in the tribe Agrotini and included 171 species. This part treats 169 species and the remaining part will deal with approximately 130 species, which gives a total of approximately 470 species of Noctuinae. In the European catalogue (Karsholt & Razowski, 1996), 246 Noctuinae are mentioned. Only the genus *Euxoa* consists of 171 American species and only 43 European species. These figures give an impression of the big differences between the faunas of the two regions.

In this comprehensive revision four new genera are proposed: *Prognorisma*, *Agnorisma*, *Tesagrotis* and *Parabagrotis*. Furthermore twenty-one new species are described.

In the general introduction to this part the classification of the Noctuoidea is discussed. Lafontaine and Poole (1991) divided the tritid noctuids into two large monophyletic groups, but as this viewpoint has not received general acceptance, the author accordingly has retained the use of Noctuinae as in Karsholt & Razowski (1996) etc. It is a pleasure that the generally accepted classification is used until a new one based on profound scientific research can give a new stable arrangement of genera and species. The general introduction is closed with one key to the genera of Noctuini based on adults and another based on mature larvae.

Each genus is treated the same way. The scientific name followed by the quotation of the primary literary source and the designation of the type species with full reference. All synonyms are listed with full reference and comments when necessary. The general description — which is very accurate — of the genus is followed by one key based on adults and one based on mature larvae, if there are more than one species in the genus.

Each species is treated the same way as for the genera, again with full synonymy and reference. The author is very accurate and he has listed all the known synonyms. As an example, under *Graphiphora augur* (Fabricius, 1775) no less than 26 names are treated with detailed comments on any peculiarity in the case. The following name is worth mentioning: *Rhyacia augur* ab. *striata* Blach Petersen, 1951, Flora Fauna, Silkeborg, 57: 110. Type locality: Gjeding Mose by Arhus, Denmark. This form is described in a small Danish publication by a Danish merchant, who at first started to collect when he retired. Not many Danes know this publication nor the form, which is very rare.

Then the species is described and both similarities and differences with other species are discussed. The larva is described in detail. All known host plants are mentioned and the habits of the species detailed. A description of distribution, biotope and abundance is given. The whole text cannot be praised enough, especially because all doubtful cases are discussed and affinities to Palaearctic sibling species or forms are quoted. This gives the reader a feeling of getting all the known information from the author, making this book quite readable.

The distribution in North America and Greenland is shown on maps for each species. Only data on examined material is plotted on these.

Some of the species treated, especially many of the *Xestia*, occur in Siberia and some also in Europe. It would have been better had the total distribution been shown, as was done by the author in earlier publications by means of "circumpolar" maps.

All species except *Hemipachnobia subporphyrea* (Walker, 1858) are figured in natural size on seven colour plates of high quality. Usually several specimens showing different forms are presented to give an idea about the variation in the species. Many species are only represented by male specimens, and sometimes single specimens overlap others or are cut at the edge of the plate. One more plate could have solved these problems. The last colour plate shows 24 nice pictures of full grown larvae.

On the 36 monochrome plates, again of a very high quality, the male and female genitalia of nearly all species are shown. The adult of the forementioned species and its sibling species is figured on one of the monochrome plates.

Traditionally, American literature does not affect Europeans very much. Only the very professional and semi-professional people buy American literature. This is highly regrettable for two reasons. Only some species are holarctic, but the history of European lepidopterology is full of examples of species, which have been overlooked as being holarctic and hence have been named more than once in history. The other reason is that knowledge of the diversity within a genus in one part of the world can help in a better understanding of this genus in another part of the world. A quick look at the colour plates of this book gives the impression that several species appear hard to distinguish

from European species. On plate two, figures 36 and 37, *Xestia smithii* (Snellen, 1896) is shown. It can only be recognized as distinct by its genitalia. The question remains as to how many holarctic species are still to be found.

To illustrate the affinities between the Nearctic and Palaearctic faunas I will list here some species occurring in both regions.

Palaearctic species accidentally introduced to North America:

Noctua pronuba (Linnaeus, 1758), introduced about 1979 at Halifax, Nova Scotia and now spreading.

Noctua comes (Hübner, 1813), introduced at Vancouver about 1982 and now spreading.

Xestia xanthographa (Denis & Schiffermüller, 1775), introduced several times and now common in the central parts of the West Coast.

Species with a holarctic distribution, mostly occurring in the northern part of the forest zone or in close association to it (8 cases):

Eurois occulta (Linnaeus, 1758), *Graphiphora augur* (Fabricius, 1775), *Anaplectoides prasina* (Denis & Schiffermüller, 1775), *Xestia c-nigrum* (Linnaeus, 1758), *Xestia speciosa* (Hübner, 1813), *Xestia tecta* (Hübner, 1808), *Xestia lorezi* (Staudinger, 1891) and *Xestia atrata* (Morrison, 1874). Last-mentioned species was, until a few years ago, only known after a few specimens found in central Siberia and in spruce forest in North America, but a few specimens have now been found in central Sweden close to the Norwegian border in primary spruce forest.

Species with a holarctic distribution, occurring in coastal regions along the arctic sea (3 cases):

Xestia quieta (Hübner, 1813), *Xestia lyngei* (Rebel, 1923) and *Xestia liquidaria* (Eversmann, 1848).

Species occurring in the nearctic and in central and northern Siberia (12 in total), some of these recorded from the islands of Novaya Zemlaya or from northern Russia (Siberia). The author mentions three species from northern Russia, and it is not the European part but in fact northern Siberia. Most of these species could occur in northern Europe, Russia and the Ural mountains, either or not in isolated populations.

Two of the treated species occur in Greenland, which is of special interest to Danish people.

Rhyacia quadrangula (Zetterstedt, 1839), occurring in southern Greenland, central and eastern Asia and also on Iceland, where it is common. It is also a European species.

Spaelotis clandestina (Harris, 1841), occurring in southern Greenland and mentioned in the European catalogue. This species is now established as different from the north European species *Spaelotis suecica* (Aurivillius, 1890). The whole discussion and the differential diagnosis of the two sibling species is presented in detail in the book.

In the work "The Moths of America North of Mexico" there are now four volumes, that have been published in 1987, 1991, 1995 and the present in 1998. They all represent milestones in the study of the world noctuid fauna. It cannot be welcomed enough that people spend their time and efforts to produce such important works to the benefit of all people interested in studying the diversity of nature.

Knud LARSEN

NOWACKI, Janusz: The Noctuids (Lepidoptera, Noctuidae) of Central Europe. 17 × 23.5 cm, 130 pp., 41 black and white plates, 24 colour plates, hardback. Published by F. Slamka, Bratislava, 1998. ISBN 80-967540-4-1.

After a short introduction, some comments are given on the phylogeny, the general morphology and the different stadia of the Noctuidae. In the systematic part 597 species are described shortly. The systematic order follows the one in Nowacki & Fibiger (1996) with a few exceptions. Every species is treated in the same way: the general distribution and the occurrence are given, the habitat is characterised briefly and the flight period of the adult is given, the foodplant(s) of the caterpillar is listed as well as the best time to search for these larvae. The text part concludes with a list of references and an alphabetic species index (genera are omitted).

The biggest part of this book consists of a series of plates. On 41 black and white plates nearly all male and female genitalia of the described species are given, mainly drawn after earlier publications, and completed with original drawings. Though most of these drawings are clear and sharply printed, some of them are too small to give all the details. The 24 colour plates contain photographs of all described species. Most of these plates are of very good quality. The species are very well recognisable.

The delimitation of the geographical area covered is rather arbitrary, and one may especially regret that the Alps are not included in the present book. Anyway, for the Central European lepidopterist who wants to identify his Noctuid specimens, this book can serve as a valuable tool, taking into account that both male and female genitalia, as well as a photograph of the adult, are at hand.

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Artikel/Article: [Book reviews • Buchbesprechungen • Analyses 229-232](#)