

## BOOK REVIEW

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MOMPHIDAE, BATRACHEDRIDAE, STATHMOPODIDAE, AGONOXENIDAE, COSMOPTERIGIDAE, CHRYSOPELEIIDAE, by J. C. Koster & S. Yu Sinev. In *MICROLEPIDOPTERA OF EUROPE 5*, P. Huemer, O. Karsholt and L. Lyneborg (eds). Apollo Books, Stenstrup. 2003. 387 pp. ISBN 87 88757 66 8.

This volume of the reputable *Microlepidoptera of Europe* series introduces 158 species classified to belong to the gelechioid families Momphidae, Batrachedridae, Stathmopodidae, Agonoxenidae, Cosmopterigidae and Chrysopeleidae. In addition, it illustrates a few species whose systematic position is unclear. The book covers not only Europe but also North Africa and the Near East. It provides all that one needs to identify their specimens; the illustrations are absolutely fantastic and enable identification of most species readily. The species characterisations are informative, and represent up-to-date knowledge of the species. The volume also provides a thorough introduction to the convoluted history of the systematics of the families. However, the distribution table - probably the most annoying part of preparing a book like this - might leave something to be desired; I checked just the column of Finland and found one absence and two unfounded presences of species although an updated Finnish checklist would have been available and easy to check. I have no idea how accurate the table is otherwise. The biology of the species is outlined in much detail with a critical treatment of doubtful old literature records. So I am very happy to claim that the book serves its purpose, being an excellent identification tool and source of revised biological information. It also gives aesthetic pleasure by giving justice to the striking beauty of many of these little beasts.

The coin has two sides. The book deals with several putatively non-related gelechioid families. As the independence of the families is emphasized to the extreme by the authors (see below) I find the title of the book, 'Momphidae s. l.', on its cover very confusing. Should not this kind of a landmark book attempt to get rid of old misconceptions, instead of repeating them? Likewise, why is the collective term "the narrow-winged moths" still used for this assemblage of taxa characterised by generally (but not invariably) narrow wings, but not for some others (e.g. Coleophora) that are at least as narrow-winged? It would be best to get rid of such collective unfounded terms instead of promoting their use to characterise a claimed unnatural grouping. I think it inconsiderate to use them in this kind of standard book which is likely to become a classic.

This leads us to the issue of systematics and classification followed in this volume. The authors state the following about ranking of the families: "Each of the six families of narrow-winged moths possesses a number of good autapomorphies..., and this is a reason to keep their high taxonomic rank". This said, the authors obviously chose to follow the nowadays less fashionable 'evolutionary' classification. Without going into the 'phylogenetic versus evolutionary classification' discussion, one would hope that in the selected philosophy of classification its internal logic be honored. In phylogenetic systematics the position of origin is what predominantly dictates the status of a group, in evolutionary classification the amount of divergence (anagenesis) is the issue. To fulfil the requirements of the evolutionary classification the groups should be very distinctive to warrant their family status. The reader hopes to see good argumentation to support the families, especially as the classification is quite different from that proposed by Hodges (1998). But, this book does not quite succeed in this. The reader, especially one with some general knowledge on the Gelechioidea, is left to wonder what the 'good apomorphies' possibly are. Here are some details.

For Batrachedridae two apomorphies are listed: wings extremely narrow with reduced venation, and resting position very peculiar - neither of these are expanded upon to give the reader an impression of the details of these vague statements. The family status of Batrachedridae is further supported by the following arguments: "unspecialized larval life style, trophic relations with generative organs of mostly trees, as well as scanty of species and absence of evident geographic centres of diversity speak in favour of the viewpoint that the family represents a small advanced group of gelechioid moths with some very peculiar characters. Thus, we treat Batrachedridae as a monophyletic and well separated family, closely related to the Coleophoridae". These conclusions simply do not follow from these arguments. This is next to nonsense unless the conclusions are based on some other data not mentioned. If they are based on the phylogenetic analyses of Sinev (1992, 2002) as stated in the Introduction, it does not help much as these references only contain similar non-analytical

considerations without showing the original data, instead of analyses of phylogeny. For the family Momphidae no characteristics are pointed out to be apomorphic. For the Stathmopodidae the characteristics are: extremely narrow and long wings with very long fringes, ciliate antennae in males, peculiarly armed hindlegs as well as genital duct morphology in female. For Agonoxidae the authors list as apomorphies the considerably enlarged anellus lobes, the more or less weakened valvae and the peculiar leg-shaped appendages of the pupa. The pupal character is at the same time also considered a synapomorphy for families like Ethmiidae, Hypertrophidae etc. The Cosmopterigidae is characterised by some male genital and unspecified wing venation characteristics, stated to be variably developed in different subfamilies, though how remains unmentioned. For the Chrysopeleiidae the reduction of the tegumen, a fusion between the valvae bases and aedeagus and (unspecified) modification of the segment VIII are listed, and the existence of further autapomorphies is implied though not detailed.

These apomorphy lists are in contrast with the statement of all these families possessing a number of good apomorphies. In particular, if the Gelechioidea is regarded as a whole, one will find that many of these or similar characteristics are repeatedly found here and there. Their significance can only be reflected against the entity, and this perspective is lacking in this volume. The authors also seem to "know" the polarities of characters - which are archaic, which are derived. Sometimes these statements are in conflict with common sense. An example is the stathmopodid characterisation of their larvae having 'rather archaic'

life style of feeding on reproductive organs of plants or being scavengers or predators of scale insects. I wonder what makes these life history traits archaic - scavenging or especially a predatory mode of life is rare and seemingly quite derived among the generally phytophagous Lepidoptera. Further, as it is growingly obvious that reversing trends in characters must have repeatedly happened in the evolution of the Lepidoptera, the meaning of 'archaic' and 'derived' becomes dubious.

The generic classification is even more obscure, and it would have been good if the authors would have stated that the current use of generic concepts is followed whether it was justified or not. All in all, the systematic considerations are confusing and look like being conjectural rather than derived from hard analytical background, although it is claimed otherwise.

To conclude, this is an excellent and highly recommended book for identification of the species, but I would instruct the reader to turn a blind eye on the systematic treatment of the taxa.

#### REFERENCES

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