

**Peter Huemer & Ole Karsholt 2010. Gelechiidae II (Gelechiinae: Gnorimoschemini).** – In: P. Huemer, O. Karsholt & M. Nuss (eds), *Microlepidoptera of Europe* 6: 1–586. – Apollo Books, Stenstrup. ISBN 978-87-88757-87-3. Price: € 140.

The Gelechiidae are a globally distributed family, currently with some 4700 validly described and countless unnamed species. The fauna of North America has been partially treated in a contemporary fashion by R. W. Hodges; that of southern Africa about half a century ago by A. J. T. Janse. The Gelechiidae of other parts of the world have been unevenly treated, some areas like the Russian Far East have been well covered, but many others are still nearly untouched. Even though these moths can be found virtually everywhere, and particularly in xerothermic habitats they can be extremely abundant, they have never been among the most popular Lepidoptera. Their appearance which is often of a more modest type among Lepidoptera, and identification problems due to the external similarity of numerous species – supplemented by intraspecific variation that can be similar in many species – are obvious reasons for this situation. Dissection of genitalia is often the only means of getting a reasonably safe identification, especially if the moth is taken outside the collector's backyard, or the collector is very experienced.

The Gelechiidae fauna of Europe is now at good hands. After publication of the first of the planned four volumes dedicated to the European Gelechiidae (Huemer & Karsholt 1999) in the book series *Microlepidoptera of Europe* (Apollo Books) the second volume is now available. One may wonder why it took a decade to cover a quarter of the European species of a moth family. The reasons for this “delay” become immediately apparent when a closer look is taken at the new volume, covering the large tribe Gnorimoschemini. Just a brief glance to the abstract: a total of 211 species in 20 genera are recognized in Europe, including descriptions of fifteen new species. What catches the reader's eye is the amount of new synonymies proposed: no less than 42 species group names are sunk as synonymy (and some other taxonomic changes are also made). The history of Lepidoptera study in Europe has traditionally been plagued by synonymies that as a general feature is historically understandable due to the difficulties in correctly interpreting verbal descriptions of more or less greyish brown species. Yet, the gnorimoschemini Gelechiidae seem a particularly troubled exception. This was the favourite group of the late Dalibor Povolný. As much as he contributed to the knowledge of this group, he also created a lot of obscure taxa by describing species based on insufficient material, often worn singletons, sometimes males, sometimes females.

The present authors have had to face of a jungle of all imaginable (and some unimaginable) obstacles: misidentified type species, mixed type series, types in desperately bad condition, faked types, stolen types (“cleptotypes”), no types at all, transitions of slides of primary type material, difficulties built to make the study of crucial material as difficult as possible, last minute massive additions of crucial new material especially from SE Europe, not to mention the profound trouble: the Gnorimoschemini are a particularly difficult group of moths. Species are similar to each other; they vary in a similar fashion; their genitalia are often quite similar to each other. Many species are known from a very wide geographical area by extremely scattered records. So, the authors have first had to face a heroic task to form a concept about “what is a species”, in every single case – in cases of allopatry there cannot even be a single correct answer, but the status of each population should nevertheless be considered. As if that was not enough, in attempting to find correct names for each of these species, the troublesome issues described above had to be resolved. All this effort makes this book extraordinary among identification guides. It is also a thorough taxonomic revision that raises the state-of-art of the study of this group to a new level. As a colleague I cannot but sympathise with the present authors, as reading the book I find many similarities with my own work as a taxonomist attempting to resolve

another inadequately studied gelechioid group (Elachistidae). In this world taxonomists have enough to study. The world is losing biodiversity, and taxonomic expertise should be channeled to improving our knowledge of the insect fauna. The enormous efforts needed to rectify inadequate prior studies seem to impose an unfair burden on those taxonomists. Few practicing taxonomist can easily keep track on everything when studying any larger group. An obvious help for them would be the use of peer-reviewed journals as publication forums. They should be considered as life-insurance as providing last-minute rescue from errors and (often) invaluable second opinions the value of which the author can consider prior to publication. Peer-review should not be seen as a hinderance to publication or a limitation on the freedom of publication. It is a means to improve the quality of publication which is also for the author's benefit.

If one wants to search for inadequacies, some inconsistencies might be picked as examples. *Caryocolum schleichi* is considered to be a widely distributed species with different appearance, genitalia and biology in different allopatric populations that are treated as subspecies. *Scrobipalpa salinella* as 'traditionally' understood is divided in three species: *S. salinella*, *S. spargulariella* and *E. salicorniae*. The arguments for this division seem rather vague, referring to differences in size and wing markings (host plants overlap between 'species') and different colour of larva (what might be the effect of differently pigmented food substrate??). The argument-based decisions in this complex are in my view inconsistent when contrasted to those arguments which nevertheless are considered as sufficient to keep the populations of *C. schleichi* conspecific. The reader gets the feeling that in cases like these two the last word has not yet been said. But, these particular points illustrate one of the greatest virtues of the book. I wish to draw attention to the transparency of the authors in explaining their reasoning behind each taxonomic or other decision. They do not hide behind 'authority', but give their arguments which can then be further elaborated and tested by focused studies. That makes this volume a formidable scientific contribution, the kind and quality towards which all taxonomists should aim. Certainly, the European Gnorimoschemini are not yet "ready", as novel methods, especially those based on DNA studies are fast becoming easier and cheaper. But their contribution can only be built on, and put to perspective against, background knowledge like the present volume provides. Let the book tell the rest.

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## Reference

- Huemer, P. & Karsholt, O. 1999. Gelechiidae I (Gelechiinae: Teleiodini, Gelechiini). – In: P. Huemer, O. Karsholt & L. Lyneborg (eds), *Microlepidoptera of Europe* 3: 1–356.

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