

TINEIDÆ, SECT. 3, TINEINÆ. (*Fauna of the U. S. S. R., Lepidoptera*, vol.4, part 3.) By A. K. Zagulajev. 1960. 266 pp., 231 text figs., 3 color pls. Published by the Zoological Institute of the Academy of Sciences, Moscow & Leningrad, U. S. S. R. (new series no.78). [Available from E. W. Classey, 4 Church Street, Isleworth, Middx., England; price £1.10.0.]

This new volume of the *Fauna of the U. S. S. R.* represents a part of the monograph on the family Tineidæ and deals with the sub-family Tineinæ occurring in the U. S. S. R. and the adjoining countries.

The division of the monograph into three parts (parts 1 and 2 are not yet published), along with the subdivision of the family into sub-families, and the treatment of every part (*i.e.*, subfamily) separately, seems to me a very fortunate principle. In this way the author is able to concentrate on each section and to elaborate it. In this respect the present part of the "Fauna" forms a favourable contrast with a previous Lepidoptera part of the series, the family Psychidæ, by I. V. KOZHANCHIKOV, where the already large family was widely extended by adding all possible case-baring forms, many hardly related to the Psychidæ. The result was partly a rather superficial compilation of literature data.

In the present part on the subfamily Tineinæ, the True Clothes Moths, all ceratophagous and many synanthropous species, are dealt with extensively. The material used originates from several collections in Leningrad and Moscow, personal collecting by the author, the collections of WOCKE (preserved in Leningrad), ERSHOFF, EVERSMAAN, etc.

A chapter on general morphology precedes the special part. A chapter on the biology of the species comprises over 20 pages, including noteworthy details on the occurrence of little-known Central Asiatic species and an interesting compilation of the author's views of the descent and probable development of the remarkable wool-eating habits. Then follow remarks on the author's classification and phylogeny of the species. Chapters on the economic importance, the control, the parasites of the Tineinæ, and a list of literature complete the general part.

It is of interest that the genera concerned may also be subdivided biologically. So *Nemapogon* contains phyto-detritophagous species, most of them mycetophagous; *Haplotinea* species feed on flour, seeds, cereals, etc.; *Tinea* and *Tineola* are ceratophagous; *Myrmecozela* lives in old ants' nests; etc.

In the special part the Tineidæ are subdivided into several sub-families, of which only three, the Scardiinæ, the Nemapogoninæ, and the Tineinæ are closely interrelated. Of these only the last subfamily is treated in the present part.

The old complex genera of the Tineinæ, such as *Tinea*, *Tineola*, *Myrmecozela*, etc., appear to be quite unnatural, and considerable re-grouping was necessary. So, e.g., the old genus *Tinea* has been revised with the use of the characters of male genitalia, venation, location of median spur of posterior tibia, and the amount of apical spines of the tarsal segments, etc., with the following result: 19 species were referred to nine other old genera, chiefly to *Blabophanes* and *Myrmecozela*; 38 species were placed in *Nemapogon*; 25 species in *Lichenovora*, *Cephimahlota*, and *Hoplotinea*, while only 25 species remained in *Tinea*.

For the subdivision into higher taxa the morphology of the adults and the genital characters of the two sexes were chiefly used, but the morphology of the immature stages (larval chætotaxy, etc.) and also biology, were fully considered. A new classification has resulted, in which certain genera and subgenera are differently placed than was done by PIERCE (1935) and PETERSEN (1957). This is evident from the following subdivision of the book, where six genera and seven subgenera are classified thus: (1) *Monopis*, subdivided into the subgenera *Monopis*, *Blabophanes*, and *Monopina*; (2) *Tinea*, divided into *Tinea*, *Acedes*, *Tineida*, and *Tineopsis* (the two last are indicated as "new subgenera", but as far as I understand, both are only lowered to a "new status", having been described as genera earlier); (3) *Tineola*; (4) *Fermocelina*; (5) *Cilicorneola*; and (6) *Trichophaga*. In total 57 species are described and recorded, of which 12 are new. *Niditinea* Pet. 1957 is sunk as a synonym of *Tineidia* Zag. 1954.

The well-illustrated special part deals with the following numbers of species: *Monopis* (13), *Tinea* (25), *Tineola* (2), *Fermocelina* (5), *Cilicorneola* (1), and *Trichophaga* (6). Morphology and biology (when known) of each species are given, ♂ and ♀ genitalia, and often the adult, are figured. Descriptions are based on the adults, but for economically important species full descriptions and figures of the larvæ and their chætotaxy are added.

ZAGULAJEV's monograph makes an excellent impression of accuracy, completeness, and competence. And I sincerely hope that the future parts 1 and 2 of the Tineidæ will be of the same high standard and will follow soon. In the way of well-meant criticism it may be remarked that for the sake of completeness it would be advisable to add citations of type species under each genus and subgenus and of type localities under each species; this has been omitted. A great advantage for the readers of the monograph would be bibliography of the genera; although bibliography of each species is cited extensively, that of the genera is omitted altogether. This is the more deplorable because an important paper of ZAGULAJEV, "Survey of Palæarctic Tineina", 1954, a precursor of the

present monograph, apparently containing important descriptions, is either rare or not at all accessible in libraries outside the U. S. S. R.

A. DIAKONOFF,
Rijksmuseum van natuurlijke Historie, Leiden, NETHERLANDS

KLUCZE DO OZNACZANIA OWADÓW POLSKI [Keys for the Identification of Polish insects]. Published by the Polish Entomological Society (in Polish), distributed by "Ars Polona", Krakowskie Przedmieście 7, Warszawa, Poland.

The results of faunistic research are summarized in the studies of the fauna of different countries. These are usually published in two forms: in book form with the monographic studies; or as booklets with the keys for identification. In Poland the second form has been established.

The XXVIIth part of the "Keys" is reserved for the Lepidoptera. It is planned to issue 66 numbers of the unbounded booklets, to cover all the families, and inclusive of one number "The Introduction" for all Lepidoptera. In each number there are a short introduction, the list of all Central European species of the published family, and data on morphology and life-history. The main part contains the keys for the identification of the species. The text is supplemented by a number of figures.

So far, at our disposal are the following numbers:

- 2-4: Toll, S., 1959: Micropterygidae (pp.3-15, 27 figs.), Eriocraniidae (pp.16-31, 40 figs.), and Hepialidae (pp.32-49, 44 figs.).
6 : Toll, S., 1959: Tischeriidae (21 pp., 46 figs.).
37: Schneider, J., Schneider, J., & Schneider, Z., 1961: Ægeriidae (42 pp., 52 figs., 6 col. plates).
39-40: Toll, S., 1956: Glyphipterygidae (pp.3-36, 88 figs.), Douglassiidae (pp.37-50, 32 figs.).
45b: Bleszyński S., 1956: Pyralidae-Crambinae (87 pp., 286 figs.).
46a: Bleszyński S., 1960: Geometridae: Brevinae, Orthostixinae, Geometrinæ, Sterrhinae (149 pp., 446 figs.).
53a: Kostrowicki A.S., 1956: Noctuidae-Cuculiinae (124 pp., 441 figs.).
53b: Kostrowicki A.S., 1959: Noctuidae-Agrotinæ, Melicleptriinae (145 pp., 429 figs.).
61-62: Krzywicki M., 1959: Lycænidæ (pp.3-59, 72 figs.) and Erycini-dæ (pp.60-64, 3 figs.).

JOSEF MOUCHA,
Dept. of Entomology, National Museum in Prague, CZECHOSLOVAKIA