

Literature

Matile, L. 1990: Recherches sur la systématique et l'évolution des Keroplatidae (Diptera, Mycetophiloidea). — Mem. Mus. Hist. Nat., Zool.: 682 pp., Abbeville France), ISBN 285653-173-3, ISSN 0078-9747, FFr 650:-

A world monograph on a dipterous family is usually meant for classification and identification of material in entomological museums and institutions but is rarely published or quoted in periodicals covered by the Science Citation Index. The present monograph on the Keroplatidae of the World, written by the outstanding authority on fungus gnats, Loïc Matile is, however, a monumental work comprising the morphology of the adult insects, the pupae and larvae, systematics and phylogeny, including their relationships to other fungus gnats, as well as their zoogeography including paleontologic and cladistic aspects. Every item is treated very thoroughly and richly illustrated with hundreds of drawings, numerous plates of SEM photographs, maps and cladograms. The layout is neat and in quarto size. The text is entirely in French, which may pose a difficulty for entomologist readers in many countries.

The morphological chapter deals in detail with the structure of the external parts of these insects and returns later to the subject in connection with trends in taxonomic characters.

In the systematic part numerous new taxa, genera, subgenera and species are described and the histories of different concepts and limitations of genera elucidated. The Keroplatidae is not the largest family of fungus gnats but nevertheless comprises of nearly 500 species. The present work provides diagnoses and keys to genera but only in certain cases keys to species and is thus not meant as a book for identification of collected material. For this purpose there are numerous papers by the same author. In the phylogenetic part of the work there is a cladogram showing

the Keroplatidae in relation to other Mycetophiloidea and a number of other taxa within the family. Hennigian cladistics is used but it must be pointed out that there are more than the usual four pairs of polarized characters, two apomorphic ones for each branch. In the case of fungus gnats there is the added advantage that important taxonomic characters, as for example details of the wing veins, can be seen in fossils, especially in those of the Oligocene Baltic amber, but also in the less numerous Cretaceous and Jurassic ones. Among the special features of this work it may be mentioned that the Diadocidiidae are considered the sister group of the Keroplatidae, a deviation from the grouping of the fungus gnats by earlier authors. The trends of certain morphological characters are dealt with, with special reference and numerous illustrations of the wing. Wing reduction is treated as a subject and an apterous keroplatid is figured.

The zoogeographic part presents the prevailing opinions in regard to movements of continents during the paleontologic periods beginning with the Mesozoic. The cladograms are used again, this time to explain how various patterns of the distribution of various taxa of the Keroplatidae may have arisen. It may be mentioned that some cladograms are used in a three-dimensional way and include the time levels of fossils.

Matile's monograph contains much of general biological interest far outside the boundaries of the taxonomy of a not very large dipterous family. The book should be included in the libraries of the entomological departments of zoological museums and institutions.

Walter Hackman