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Book Reviews. Критика и библиография

Richard L. Hoffman. Monograph of the Gomphodesmidae, a family of African polydesmoid millipeds. Natural History Museum of Vienna, 2005, 537 pp.

Ричард Л. Хоффман. Монография по Gomphodesmidae, семейству африканских полидесмоидных диплопод. Музей естественной истории в Вене, 2005 г., 537 с.

Richard Hoffman is certainly an outstanding, globally leading specialist in the systematics, geography and phylogeny of the class Diplopoda, the author of a few hundred papers, including several monographs on these topics. Perhaps the best-known is his milestone classification [Hoffman, 1980]. The more so exciting is the fact that he has accomplished and published still another book, this time a 500+ page monograph of the Afrotropical millipede family Gomphodesmidae.

This family is not very large in terms of diversity (3 subfamilies, 55 genera, of which 32 are new, and 148 species or subspecies, of which 46 are new), being comparable both in this respect and distribution with another Afrotropical polydesmidan family, Oxydesmidae, also monographed by Hoffman [1990]. However, unlike Oxydesmidae, gomphodesmids appear to be rather uniform externally, with speciation mainly affecting genitalic traits. In addition, Gomphodesmidae seem to lack any universal key-characters (= apomorphies) to define them against counterparts.

The structure of the book is basically the same as that long ago adopted and developed by Hoffman [1980, 1990]. It opens with a preface, followed by a brief historical overview, a section on methodology, observations on gomphodesmid evolution and affinities, and a detailed account of taxonomic characters. The taxonomic descriptions and keys follow and constitute the bulk of the treatise, which is richly illustrated with 494 line drawings and 34 maps. The text concludes with a summary of the family's phylogeny and distribution, and there is an index and bibliography.

One of the most interesting conclusions considers the Gomphodesmidae as the adelphotaxon to the Xystodesmidae + Oxydesmidae. Although a strong external resemblance between a small gompodesmid and a typical xystodesmid cannot be fully accepted because some representatives of the Chelodesmidae and Paradoxosomatidae exhibit similar habituses, the placement of the Gomphodesmidae within the suborder Leptodesmidea (formerly Chelodesmidea) [Shelley, 2003] is indeed unquestioned. The characters that enable this to be stated unequivocally lie in the conformation of the gonopods.

Because of different character systems and presumed polytomies, a cladistic analysis of the Gomphodesmidae was stated to be impossible. At present such an explicit critique of the paradigm is a rare and remarkable event, the more so because the author also extends and generalizes the limitations of cladistic approaches to other groups of Diplopoda. Because much if not most of the gomphodesmid fauna is probably still undiscovered and undescribed, even after the present "*tours de force*," we can only agree with this opinion.

The analysis of the characters used is also not traditional. Besides presenting variation of different characters, often with polarity at least suggested, Hoffman considers plesiomorphies as equally useful as apomorphies in intuitive analyses of relationships, and the conditions expressed in basal subtaxa, which are reduced in advanced ones, as also applicable to the whole taxon.

Hoffman suggests intuitively that the early evolution of Gomphodesmidae was associated with rainforests, with the conquest of savannahs being a later development. The centre of origin may have been in present southern Eurasia, but the primary diversification centre was in eastern Africa. The family is stated to be relatively young (e.g. absent from Madagascar), "in a gonopod-emphasis phase of its phylogeny" (p. 27).

The phylogeny and zoogeography chapter is thus speculative and scenario-like, which again is an exception to current practice. The work culminates in a schematic map showing possible stages of the family's evolution superimposed over likely pathways of dispersal from presumed secondary diversification centres.

In summary, the gomphodesmid monograph is notable for the 78 new taxa described in the context of a complete familial revision and in its traditional, Simpsonian methodological concepts.

There are a few disputable statements, a number of unresolved taxonomic problems (e.g. species or genera of uncertain status), a few typos ("good fortunate" on p. 25, "very closely species" on p. 38, etc.), but in general the monograph can only be termed as another superlative achievement by a true international specialist.

The work is attractively printed, with a lovely cover showing a gomphodesmid against the outlines of Africa, but considering its B5 format, its length (>500 pp.), and, especially, its cost, the work could have been hardbound. The least desirable aspect is that the Vienna Museum Publishers have priced it disproportionately. As similar or even more luxurious (e.g. colourful) editions by this outlet normally cost less than 100 Euros, we can only wonder why Hoffman's book, wholly b/w and paperbound, costs 264 Euros! One gets the impression that, from the very start, the publishers decided to keep

the bulk of the printrun unsold (because who but a few can afford such a book?), stimulating photocopying instead. Apparently, a wider circulation of knowledge, with this book being mainly addressed to African students and environmentalists, is not among the priorities, merits and virtues of the Vienna Museum Publishers.

References

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