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Hemiptera, Homoptera, Sternorrhyncha

(abstract)

The Hemiptera are traditionally divided into Homoptera and Heteroptera. Both latter names are widely known. Some specialists consider these two groups as suborders of Hemiptera and numerous others as separate orders. Thus, the use of Homoptera in titles can be recommended, as the name is widely known and more informative than Hemiptera. An analysis of publications on scale insects in 1998 and 2001 shows that 2/3 to 3/4 of coccidologists prefer Homoptera rather than Hemiptera in the titles. The name Sternorrhyncha is known only to specialists and should be avoided.

The widely discussed cladistic approach to classification is more fashionable than scientific. Most groups are paraphyletic, but if we reject all paraphyletic groups (i.e. reflect phylogeny only in classification and disregard other aspects of evolution) our classification will be absurd. It is also clear that the accepted system of zoological nomenclature cannot be applied to cladistic (phylogenetic) classification. It is long known, for example, that Reptilia are paraphyletic, as Mammalia and Aves originated from some groups of Reptilia, but nobody seriously associates crocodiles with birds or rejects the class Reptilia.

In terms of evolutionary classification, which is practically the only system used, the fact that Heteroptera are related more closely to cicadians than to other Homoptera does not prevent consideration of Homoptera and Heteroptera as monophyletic groups and as separate suborders or orders.

Coccoidea or Coccinea: Heteroptera are subdivided into 7 or 8 infraorders with more than 20 superfamilies. Cicadians are subdivided into either infraorders, or superfamilies. Some researchers recognize superfamilies in aphids, scale insects and psyllids. It follows that the superfamily level cannot be retained as the only classification level within Homoptera; a higher rank is needed for the names of the 5 universally recognized groups. Since the ending "oidea" is definitely restricted to superfamilies, another ending is needed for a group of higher rank. Whether the name should be Coccinea, Coccida, Coccoidea or something else is a matter to be agreed upon by Homoptera specialists.