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699

The genus *Xenosciara* gen. n. and the phylogeny of the Sciaridae (Diptera)

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Abstract

The phylogeny of 50 genera or subgenera of the Sciaridae was studied by parsimony analysis. A cladistic analysis using 138 morphological characters from the adults of fifty-one ingroup and one outgroup species produced one most parsimonious cladogram. *Schwenckfeldina*, *Chaetosciara*, and *Scythropochroa* appeared successively as the sister groups of all other genera included in the analysis. The solution obtained was, in part, different from earlier, traditional views of sciarid phylogeny. The new Oriental genus *Xenosciara* had the phylogenetic relationship [*Metangela* + (*Pnyxiopalpus* + *Xenosciara*)]. *Xenosciara invisa* gen. n., sp. n., is described and illustrated. The new monotypic genus is exceptional in its hypopygial structures.

Key words: phylogeny, morphology, Sciaridae, *Xenosciara*, new genus, new species

Introduction

Sciaridae are small and usually dark-coloured nematocerous Diptera, rich in species, that occur in the world's forested areas. They prefer shaded and humid conditions. They are nonbiting as adults and mostly soil-living or subcortical as larvae. Being rather uniform in structure and, with a few exceptions, lacking striking morphological modifications, their taxonomy has proved difficult at both the species and the supraspecific levels, and their taxonomy as well as their general biology has remained the least studied of all the large nematoceran families. More than 1800 valid species in some 90 genera are currently known. Judging by the abundance of morphospecies, only a small percentage of the actual species and genera have been described so far. In taxonomic revisions that have treated certain tropical genera, about 90% of the species recognized have been new to science

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