

Phylogenetic relationships of the genera of Epipsocetae (Psocoptera: Psocomorpha)

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Abstract

The phylogenetic relationships of the genera of Epipsocetae were inferred on the basis of 122 morphological characters of adult specimens, corroborating the monophyly of the group with ten synapomorphies. The genera are grouped in well defined clades consistent at family level. Dolabellopsocidae, Ptiloneuridae and Epipsocidae are recognized as monophyletic families. In each family, the genera appear as monophyletic units, except in Epipsocidae, where the relationships are ambiguous and monophyly of most genera is not supported. Results indicate that Cladiopsocidae is paraphyletic; it was divided into two monophyletic families: Spurostigmatidae and Cladiopsocidae (*sensu stricto*), represented by the genera *Spurostigma* and *Cladiopsocus* respectively. *Neurostigma* is recognized as a monophyletic genus closely related to other epipsocid genera, nevertheless due to the low resolution obtained within Epipsocidae, it is not possible to decide if it is a genus of that family or if it forms a different clade at family level. The genera *Parepipsocus* Badonnel, previously considered as *incertae sedis*, and *Dimidistriata* Li & Mockford, previously placed tentatively in Dolabellopsocidae, are included in Epipsocidae. *Loneurooides*, *Terryerwinia* and *Timnewia* are recognized as valid genera. Two well defined clades are recognized within Epipsocidae, one with exclusively American genera, and the other that includes Asiatic and American genera.

Key words: Psocoptera, Epipsocetae, phylogeny, cladistic analysis

Introduction

Epipsocetae is one of the six infraorders of Psocoptera recognized within the suborder Psocomorpha (Yoshizawa 2002). The group comprises approximately 36 genera with 275 described species, besides the *incertae sedis* genus *Parepipsocus* Badonnel (Eertmoed 1973, Mockford 1998, Lienhard & Smithers 2002, Li Fasheng 2002, García Aldrete 2004a, 2004b, 2005a, 2005b and in press). These genera are predominantly pantropical,