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Revision of the family Listropsoralgidae Fain, 1965 (Acariformes: Sarcoptoidea) —skin parasites of marsupials and rodents

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Abstract

The family Listropsoralgidae Fain, 1965 (Acariformes: Sarcoptoidea) is represented by the permanent skin ectoparasites associated with the South American and Australian marsupials (12 species) and the South American rodents of the family Echimyidae (1 species). The phylogenetic relationships of these mites (12 ingroup and 2 outgroup species) are reconstructed on the basis of the maximum parsimony (MP) and Bayesian analyses (BA) of 76 morphological characters. MP analysis confirmed monophyly of the listropsoralgid genera, the strict consensus of 18 trees generated by MP has the following pattern: *Petauralges* (*Listropsoralgoides*, *Didelphialges*, *Listropsoralges*) with poor resolution among species of the genus *Listropsoralges*. The same tree was generated by BA. Both successive and implied weighting strategies resulted in 7 MP trees: *Petauralges* (*Listropsoralgoides* (*Didelphialges* (*Listropsoralges*))). The relationships between species of the genus *Listropsoralges* received the poorest resolution: *L. caenolestes* (*L. monodelphis*, *L. vossi*, *L. faini*, *L. brevisetosus* (*L. thylamys* (*L. marmosa*–*L. caluromys*))). The host-parasite relationships of listropsoralgids are briefly discussed. The family Listropsoralgidae is taxonomically revised and to date includes 13 species in 4 genera. Six species and one genus are described as new: *Listropsoralges brevisetosus* **sp. n.** from *Marmosa murina* (Didelphimorphia: Didelphidae) from Peru, *Listropsoralges similis* **sp. n.** from *Caluromys derbianus* (Didelphidae) from Panama, *Listropsoralges thylamys* **sp. n.** from *Thylamys venustus* (Didelphidae) from Bolivia, *Listropsoralges vossi* **sp. n.** from *Monodelphis domestica* (Didelphidae) from Brazil, *Listropsoralges caenolestes* **sp. n.** from *Caenolestes fuliginosus* (Paucituberculata: Caenolestidae) from Ecuador, and *Didelphialges metachirus* **gen. n.**, **sp. n.** from *Metachirus nudicaudatus* (Didelphidae) from Peru. The female of *Listropsoralges faini* Bochkov and Wauthy, 2009 is described for the first time.

Key words: Acari, ectoparasites, marsupials, Echimyidae, phylogeny, systematics