



Delimiting the Dermanyssoidea*

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The Dermanyssoidea and the Eviphidoidea are two closely related diverse superfamilies within the mite order Mesostigmata. This diversity accrues from their remarkable ecological vagility. The Dermanyssoidea is particularly prone to evolve symbioses with larger animals. Our understanding of the relationships within and between these superfamilies remain unsatisfactory. Various currently-used characters used to recognise the Dermanyssoidea are plesiomorphies and cannot clearly unite this grouping or define it with respect to the Eviphidoidea. While integrated phylogeny will assist in resolving these issues, for key taxa there is a need to further refine available characters to render them usable as homology statements. Several phylogenetically useful characters are outlined. Key characters, when clearly defined, will help the search for natural groups. This will guide phylogenetic sampling and make subsequent tests of evolutionary ecological questions coherent. These needs persist despite widespread calls (coming from outside of acarology) to distil the number of characters used to describe taxa at the species level.

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