



Species-groups and biogeography of the oribatid mite family Malaconothridae (Oribatida: Malaconothroidea), with new species from the south-western Pacific region

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Abstract

Seven new species of Malaconothridae from Papua New Guinea are described: *Tyrphonothrus papuensis* **sp. nov.**, *Malaconothrus dispela* **sp. nov.**, *M. gogolensis* **sp. nov.**, *M. laensis* **sp. nov.**, *M. liklik* **sp. nov.**, *M. murmurensis* **sp. nov.** and *M. weigmanni* **sp. nov.**; one from New Caledonia: *Tyrphonothrus kanaka* **sp. nov.** and three new species from Australia: *Tyrphonothrus seniczaki* **sp. nov.** from Victoria, *T. kimberleyi* **sp. nov.** and *Malaconothrus tidbinbilla* **sp. nov.** from the Australian Capital Territory. These, and previously-described malaconothrids from Australia, are allocated to a series of species groups based on shared characters (*Tyrphonothrus*: Maior, Sacculus and Crassisetosus; *Malaconothrus*: Marginatus, Monodactylus, Crispus, Plumosus and Opisthoseta). The species groups were assessed against (a) the biogeographical distribution of their component species and (b) the phylogenetic relatedness of those species. The majority of species groups have a cosmopolitan or semi-cosmopolitan distribution, with the Crassisetosus and Opisthoseta groups distributed on former Gondwanan continents. These findings are consistent with the conclusion of Hammer and Wallwork (1979) that Malaconothridae evolved as part of the Pangaeian fauna and that the Opisthoseta group evolved after Gondwana had separated from Laurasia.

Key words: taxonomy, morphology, oribatid mite, systematics, cladistics, biogeography, Australia, Lord Howe Island, Papua New Guinea, New Caledonia