

FAUNA

EARWIG FLIES? ANCIENT AND MYSTERIOUS INSECTS

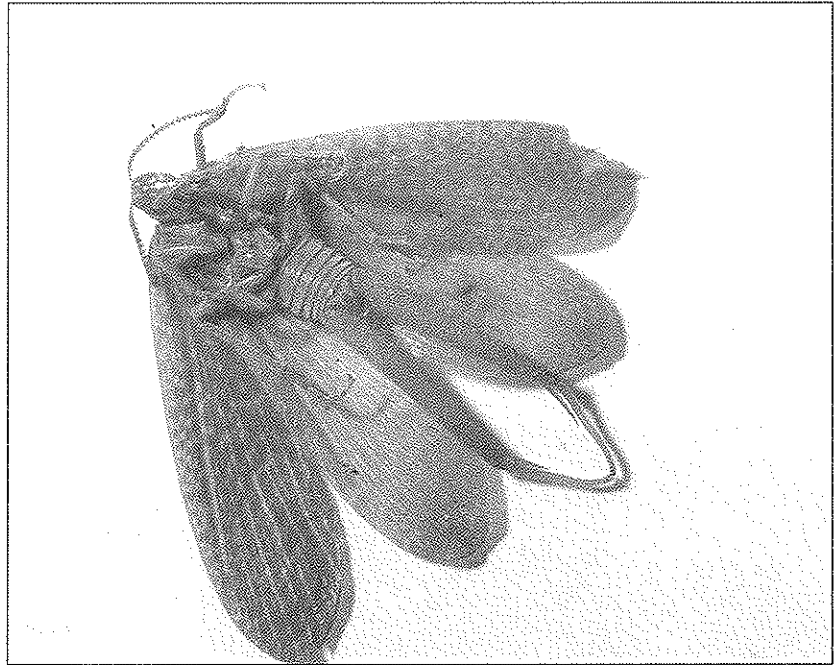
Allan Wills

Earwig flies have large forceps at their tail end that remind us of earwigs but they are not earwigs, and they have two pairs of wings and fly but they are not flies, which have only one pair of wings. They look at first glance more like a strange brown cockroach - but they are very much more interesting and mysterious than any of these everyday insects.

Earwig flies are ancient insects with fossils dating back almost 200 million years. For such an ancient insect almost nothing is known about its biology and life history. Only adults and eggs from captured adults are known, as larval stages have never been found or recognised.

Like marsupials, for example the marsupial possums in Australia and the marsupial opossum of North America, existing earwig flies (family name Meropeidae) have a strangely disjunct distribution. Meropeidae exist today only as two species: *Merope tuber* found in the forests of eastern USA, and *Austromerope poultoni* in south-west WA. Fossils of an extinct species are known from Siberia. The WA species is found in a variety of habitats ranging from woodland near Kojonup, jarrah forest near Walpole north to Darlington, and in sand plain vegetation near Eneabba. Maybe there are some in bushland near you!

What to look for: Earwig flies fly at night and are also active on the ground and in litter. Adults seem to be most active in spring, but specimens have been captured from August to December. Specimens found during the day have been



Austromerope poultoni. Underside view of a male about 20 mm length. Photo courtesy Dr Jan Taylor

collected on the ground, while flying specimens are attracted to ultraviolet lights at night. Ground active specimens have been collected in pitfall trap surveys. Crawling specimens are brown, like a small slender cockroach with two pairs of long wings of similar form and colour to each other that do not tightly overlap like cockroach wings. Males have the distinctive forceps.

You can collect non-protected invertebrate specimens from private property with the owner's permission. While exploring the bush, if you find what you think is an earwig fly and would like a formal identification, capture it (use a small paint brush to flick it into suitable small container with a lid, something like a baby food jar), place it in a small, rigid, ventilated container enclosed in an envelope and post it to Allan Wills, Department of

Environment and Conservation, Locked Bag 104 Bentley Delivery Centre 6983, Western Australia. Be sure to enclose details of your return address and telephone number, as well as the capture location (GPS, map reference, or precise description), habitat, and date of capture.

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Further reading:

I Abbott, T, Burbidge and A. Wills (2007) *Austromerope poultoni* (Insecta, Mecoptera) in south-west Western Australia: occurrence, modelled geographical distribution, and phenology. *J. of the Royal Society of Western Australia*, **90**: 97-106.