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A Taxonomic and Biogeographic Review of the Invertebrates of the Central Eastern Rainforest Reserves of Australia (CERRA) World Heritage Area and Adjacent Regions

By G. Williams

2002. Technical Report Number 16. The Australian Museum, Sydney. 208 pp. ISSN 1031 8062, ISBN 0 7347 2307 5. $50.00.

Invertebrates comprise the bulk of biodiversity in terms of species richness and biomass and perform millions of dollars' worth of ecosystem services per year in Australia (PMSEIC 2002). It is essential for the health and prosperity of future Australian generations that this natural heritage is managed sustainably. Yet we have only gathered very rudimentary information critical to managing our biological resources to date, such as the identity, distribution and ecological function of invertebrate species (for example Yeates *et al.* in press).

In this report, Geoff Williams has gone some way to address this issue, by extracting and synthesising information on the identity and biogeography of invertebrates in the rainforests of northern New South Wales. The CERRA (Central Eastern Rainforest Reserves of Australia) World Heritage Area consists of most of the higher elevation national parks and reserves stretching from the Bunya Mtns in south-east Queensland to the Barrington Tops in central New South Wales. Notable rainforest areas in this region of Australia are omitted from the CERRA system (and hence this report), such as floodplain rainforest remnants and all littoral rainforests except Iluka Nature Reserve. Although they have received less attention than rainforests of the Wet Tropics of Queensland (for example Nix and Switzer 1991), the rainforests covered in this report are equally important for us in understanding the origins and evolution of the Australian biota. They comprise remnant refugia of flora and fauna that were much more widespread in Australia during the Mesozoic, prior to the xerification of the continent in the Tertiary period. The region also contains the McPherson Macleay overlap zone, where temperate and subtropical groups co-occur.

The report consists of three major sections as follows: an overview of the taxa, detailing distributions and biogeographic significance of CERRA invertebrates by family (pp. 11–53); a list of references on which the previous section was based (pp. 54–71); and a tabular appendix (pp. 72–203) listing approximately 4300 species treated in the report. Discussions in the first section vary from simple descriptive statements of distributions of species and genera, to more complex biogeographic analyses of particular groups. An example in the second category is the section on charopid snails based on John Stanisic's work. In addition, there is also an extensive biogeographic treatment of the Australian Tenebrionidae (pp. 28–30) by Eric Matthews, published here for the first time. The appendix contains information on the type localities of species in the region, extralimital distribution, vegetation associations, taxonomic and biogeographic notes and possible threatening processes.

The report represents a huge investment by the author, both in scouring the taxonomic literature on Australian invertebrates and in analysing the results of many years of field work. Williams' main conclusions are that the CERRA area is a significant zoogeographic refugium for invertebrates, especially for those species with Gondwanan biogeographic affinities, that there is significant endemism in the region, and that the region's heritage values are not restricted to rainforest vegetation types.

Most of the data in the report would be much more usefully presented as an electronic database and I hope that the Australian Museum will have the foresight to provide it in that format as well.

References

Nix, H.A., and Switzer, M.A. (1991). 'Rainforest Animals: Atlas of Vertebrates Endemic to Australia's Wet Tropics.' (Australian Natl Pks and Wildlife Service: Canberra.)

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