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The Leafhoppers and Froghoppers of Australia and New Zealand

(Homoptera: Cicadelloidea and Cercopoidea)

By

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BIOLOGY, DISTRIBUTION AND EVOLUTION

Introduction

Although the insect faunas of Australia and New Zealand are of remarkable interest, there are very few works which deal in a comprehensive fashion with particular groups. Neither are there, with few exceptions, and these relate especially to certain families of Coleoptera and Lepidoptera, reliably named collections available in Australia or New Zealand, which are in any way representative. This means that insect identification within Australia and New Zealand may present considerable difficulties unless insects are well known, or belong to groups being studied by an experienced and helpful specialist.

This work deals with two related groups of medium-sized Homoptera, which in most entomological text books are regarded as three groups and which are usually covered in a few short paragraphs. These insects present many problems of interest from the point of view of evolutionary development and geographical distribution; and, as well, include forms of some economic significance.

For a period of 35 years the writer has studied two of the comprised families (Cicadellidae and Eurymelidae) and has published many papers on various aspects of their biology, morphology and systematics. These papers are scattered in numerous journals and much of the information in them is now out of date.

The principle purpose of this work is to present under one cover such knowledge as the author has acquired of these groups of leafhoppers as they occur in Australia and New Zealand in the hope that it will aid identification of the majority, and perhaps, also, create sufficient interest to lead to their much-needed further study. In order to make it more comprehensive, the Membracidae and Cercopoidea are also included, and brief mention is made of the leafhopper faunas of New Guinea, New Caledonia and Lord Howe Island.

It is to be regretted that the day of the active amateur would seem to be nearly over, as such have in the past contributed very greatly to entomological knowledge. Their passing would not be of such great moment if their place was being adequately filled by professional workers, but this is far from being the case.

Many who might wish to take an interest in systematic studies are sometimes deterred at the outset by the burden of literature which, as an initial step, needs to be referred to and understood. This certainly is often a formidable obstacle but it is unavoidable. Once, however, it is overcome, such studies can provide a continuing and expanding interest. While a geneticist may have the satisfaction of working in a field which lies in the vanguard of the advance of knowledge of the mechanics of evolution, a systematist can make a contribution to an understanding of some of the factors which have made evolutionary change possible. In addition, a systematist is often best able to appreciate the significance of such changes.

Throughout this work the aim has been followed of endeavouring to make identification as simple as possible and this is the reason for the abundance of illustrations. Nevertheless, in some genera, especially among those which have a cosmopolitan distribution, species recognition will be found to be difficult. This is partly due to lack of clear-cut differentiating characters, but also because critical studies have not been made owing to lack of adequate material. Were publication to have been delayed until such time as it might have been found possible to deal with every group on a uniform basis, and in an equally comprehensive fashion, then it would never have taken place at all.