THE ECOLOGY, MORPHOLOGY, DISTRIBUTION AND SPECIATION OF A NEW SPECIES AND SUBSPECIES OF THE GENUS EGERNIA

(*Lacertilia : Scincidae*)

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(Figs. 1–3) (Plates 1 and 2) Manuscript Received 13.10.59

SUMMARY

A new scincid species (*Egernia saxatilis*) from the Warrumbungle Mountains, New South Wales, and a new subspecies (*Egernia saxatilis intermedia*) from Kanangra Walls, New South Wales, are described. Morphological variations in these forms, and in the closely allied *Egernia striolata* (Peters), are tabulated.

Egernia saxatilis saxatilis appears to be confined to the Warrumbungle Mountains, while *Egernia saxatilis intermedia* is distributed throughout various parts of the eastern highlands. *Egernia striolata* is found largely west of the Great Dividing Range. Although the latter occurs in many parts of Australia, the present study is restricted to specimens from south-eastern Australia.

A microdistributional study within the Warrumbungle Mountains of *Egernia saxatilis saxatilis* and *Egernia striolata* has shown that the former is strictly saxatile in its habits, whereas the latter is equally strict in its preference for an arboreal habitat. It is suggested that these habitat preferences may have been important in maintaining isolation between these two forms in the final stages of speciation. Such morphological features as colour, size and scale rugosity are discussed in relation to the possible advantages which they confer on these two species within their selected habitats.

The available evidence suggests that where *Egernia saxatilis intermedia* and *Egernia striolata* come into contact hybrid zones may occur.

INTRODUCTION

Between 1953 and 1958 a number of specimens of *Egernia* were collected during routine field investigations in the Warrumbungle Mountains. The initial problem arising out of the collection of these animals was their identification, but closer examination disclosed an example of ecological replacement and some interesting correlations were noted.

The preserved material in the collection of the Australian Museum was later studied in the hope that some light might be shed on the problems arising out of the Warrumbungle Mountains investigation. The present study is confined to specimens from eastern Australia, as it is only from this area that adequate collections are available which permit a relatively comprehensive zoogeographical survey.

As a result of the evidence presented in the second part of this paper, formal descriptions of a new species and a subspecies become necessary, and these precede the discussion. They are placed at the beginning to permit the use of the new names in the text, and they are secondary to, and essentially dependent upon, the discussion which follows them.

The bracketed figures following many of the localities mentioned refer in all cases to the relative position of the localities in Plate I, 1.