Material Examined

In this study I was very fortunate in being able, through the kind permission of Dr C. A. Fleming, to use all the specimens of Lutrariinae, Resaniinae and Zenatiinae accumulated over the last hundred years by the New Zealand Geological Survey. These collections provided the great bulk of the specimens referred to. They were augmented by material in my own collection, and in the collections of the Dominion Museum, the Geology Department of Victoria University of Wellington, the Auckland Institute and Museum, and of Mr P. Maxwell (of the New Zealand Geological Survey). At the Auckland Museum a morning was spent examining the specimens in the Finlay Collection and the Museum's collections, by permission of Dr A. W. B. Powell. Specimens of *Darina* were examined in the Dominion Museum, Wellington, by courtesy of Dr R. K. Dell.

Geological Ages

The ages of specimens are given in the text by use of New Zealand Tertiary stage names only. A list of these and of the equivalent European time divisions (Hornibrook, 1958; Jenkins, 1964) is given in Table I (Phylogenies). The correlation is that most recently proposed by micropaleontologists of the New Zealand Geological Survey and of the Geology Department of Victoria University of Wellington.

The Hutchinsonian Stage is not recognised, as it is considered to be too thin at its type locality and practically indistinguishable from the Awamoan Stage at other localities. The few "Hutchinsonian" records of *Zenatia* have been included as Awamoan records.

Type Specimens

All holotypes and paratypes of new species and specimens figured in this paper are in the New Zealand Geological Survey. All the numbers prefixed by TM and placed in brackets after references to these specimens are the registration numbers of the specimens in the type collection of the New Zealand Geological Survey.

Suter's (1913) hypotypes of *Resania lanceolata* Gray and *Zenatia acinaces* (Quoy and Gaimard) were found in his collection and are now in the type collection of the New Zealand Geological Survey. They were not marked as the figured specimens, but are the only specimens of each species in the Suter Collection which bear a locality number, which was normally written on the label only. The numbers are in Suter's distinctive handwriting. The specimens also match Suter's figures perfectly in shape and in disposition of periostracum.

SYSTEMATICS

Family MACTRIDAE Gray, 1853

Equivalve, slightly to strongly inequilateral Lamellibranchs with two more or less coalescent cardinal teeth in the right valve and one bifid cardinal tooth in the left valve; with two anterior and two posterior lateral teeth in the right valve, and one of each in the left valve; and with a spoon-shaped to triangular resilifer, usually situated in the centre of the hinge plate, bearing a resilium which is separate from a short dorsal ligament.

Dall (1895: 205; 1898: 866) distinguished two fundamentally different types of hinge in the Mactridae. The more advanced Mactroid type has the ligamental