

A Revision of the Recent Triphoridae of Southern Australia (Mollusca:Gastropoda)

B.A. MARSHALL

CONTENTS

Introduction	1
Definitions, abbreviations and text conventions	2
Methods	3
Characters used in classification	3
Zoogeography	8
Key	9
Systematics	15
Acknowledgements	81
Appendix	82
References	83
Figures 4-33	87
Index	117

A Revision of the Recent Triphoridae of Southern Australia (Mollusca:Gastropoda)

B.A. MARSHALL

National Museum of New Zealand, Wellington

ABSTRACT. Sixty-eight nominate triphorids are recorded from Southern Australia, of which the following are described as new: *Inella obtusa*, *I. kimblae*, *I. carinata*, *I. intercalaris*, *Monophorus australica*, *Teretriphora ponderorum*, *Hedleytriphora basimacula*, *Viriolopsis occidua*, *Euthymella kosugei*, *Eutriphora pseudocana*, *Isotriphora simulata*, *I. vercoi*, *Bouchettriphora marrowi*, *Nototriphora vestita*, *N. unicarinata*, *Obesula profundior*, and *Aclophora hedleyi*. *Viriola truncata* n.sp. is described from north-western Australia. *Isotriphora amethystina* new name replaces *Triphora lilacina* Verco non Dall. The species are referred to the following genera: *Metaxia* Monterosato, *Seilarex* Laseron, *Inella* Bayle, *Hypotriphora* Cotton & Godfrey, *Subulophora* Laseron, *Magnosinister* Laseron, *Monophorus* Grillo (= *Notosinister* Finlay), *Sagenotriphora* n.gen., *Tetrachora* Laseron, *Teretriphora* Finlay (= *Distophora* Laseron), *Hedleytriphora* n.gen., *Latitriphora* n.gen., *Mesophora* Laseron (= *Coriophora* Laseron), *Viriola* Jousseume (= *Solosinister* Laseron), *Viriolopsis* n.gen., *Euthymella* Jousseume (= *Torresophora* Laseron), *Eutriphora* Cotton & Godfrey, *Isotriphora* Cotton & Godfrey, *Bouchettriphora* n.gen., *Nototriphora* n.gen., *Triphora* Blainville, *Obesula* Jousseume, *Aclophora* Laseron, *Aclophoropsis* n.gen., *Nanaphora* Laseron and *Cheirodonta* n.gen. The concept of *Triphora* Blainville is based on *T. taeniolata* (Hervier), which is considered to be the most likely congener of *T. gemmatum* Blainville, the little-known type species of the genus. Iniforinae Kosuge and Mastoniinae Kosuge are synonymized with Triphorinae Gray. *Socienna* Finlay is transferred from Metaxiinae to Cerithiopsidae.

MARSHALL B.A., 1983. A revision of the Recent Triphoridae of Southern Australia (Mollusca: Gastropoda). Records of the Australian Museum, Supplement 2. 119 pp.

The triphorids are unusual in being the only large group of marine gastropods in which the majority of species are normally sinistral. In other words most triphorids are effectively mirror images of their dextral counterparts and most other dextral gastropods in shell coiling direction and anatomical layout. Apart from their sinistrality, they are characterized by a combination of cerithioid shape and very distinctive radular morphology and anatomy, notably the presence of a peculiar glandular pouch that opens into the posterior oesophagus.

Triphorids occur world-wide in tropical to arctic seas from the intertidal zone to a depth of about 1000 m. The family has its maximum diversity on clean, hard substrates in tropical and temperate seas, from the intertidal zone to about 200 m. All species apparently normally feed on sponges (Porifera). Species unquestionably referable to this family are known from the Paleocene. Upper Cretaceous and possible earlier records require confirmation.

Approximately 600 names have been proposed for Recent species, and although there are many synonyms, my detailed study of large collections from Indo-Pacific localities revealed hundreds of undescribed species, so there are probably at least 1000 extant species, perhaps many more. An impression of the wealth of species involved is afforded by a single sand sample collected at 21 m below steep coral walls off Euston Reef, Queensland (AMS), which contains at least 80 species, many of which are undescribed and/or represented by single specimens. Many fossil species have been described, but to judge from extensive collections from Australia and New Zealand, these constitute only a very small fraction of the extinct species (and genera).

Triphorids superficially resemble members of the Cerithiopsidae (Marshall, 1978) in general shell facies, and both groups exploit sponges in the same environment. Triphorids and cerithiopsids differ markedly in soft anatomy (Fretter, 1951; Kosuge, 1966) and radular morphology, cerithiopsids having