

PONTONIINE SHRIMPS IN THE COLLECTIONS OF THE AUSTRALIAN MUSEUM

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SUMMARY

The report provides details of twenty four species of pontoniine shrimp in the collections of the Australian Museum, principally from the Great Barrier Reef region of Queensland. Two new species are described and illustrated, *Anchistus custoides* sp.nov., and *A. australis* sp.nov., both associates of bivalve molluscs. Seven species are also added to the Australian fauna. Twenty species are considered to be obligate commensals of other marine invertebrates and where possible the hosts are identified. An unusual post-larval specimen, ?*Araiopontonia* sp., associated with a crinoid, is also described and illustrated.

INTRODUCTION

The pontoniine shrimp fauna of Australia, including the Great Barrier Reef, has been little studied. Shrimps of this subfamily of the Palaemonidae are particularly abundant in tropical and subtropical waters and, with the shrimps of the family Alpheidae, form the dominant components of the caridean fauna of the coral reef biotope. They are also of special interest on account of their wide range of specialized adaptations to living in permanent associations with a wide range of invertebrate host animals.

Spence Bate (1863) was the first to record a pontoniine shrimp from Australian waters. He reported *Anchistia aesopius* (= *Periclimenes aesopius*) from St. Vincent's Gulf. Most of the Indo-West Pacific species of the subfamily have a wide distribution throughout the region, but *P. aesopius* has not been subsequently reported from any locality outside South Australia. It is probably a commensal species, but its host has not been recorded. The closely related *P. holthuisi* Bruce is associated with a variety of coelenterate taxa and a similar association for *P. aesopius* is probable. The restricted distribution in southern Australia suggests that it may be an endemic relict. Subsequently a few isolated reports concerning mainly single species appeared in the scientific literature, until, in 1966, Patton reported upon sixteen species associated with the Queensland branching corals. In 1968 McNeill reported upon the decapod crustacea from the Great Barrier Reef Expedition, 1928-29, but this included only eight species of the subfamily Pontoniinae (McNeill, 1968). Further records of new species, were reported in Bruce (1969a, 1969b, 1970a), and a further eight species were added to the Australia fauna in Bruce (1971). A small collection of pontoniine shrimps from the vicinity of Townsville was also reported upon by Bruce (in press a).

The present collection provides details of twenty five taxa in the collections of the Australian Museum, Sydney. All except four species are considered to be obligate commensals, and where possible, the hosts of these have been identified. The material was collected by the staff of the museum in the course of their investigations into the ecology of the coral reefs of Queensland. The measurements given refer to the post-orbital carapace length of the specimens (CL.) Full synonymies for most of the species are to be found in Holthuis (1952).

SPECIES CHECK-LIST

- Palaemonella** Dana, 1852
 1. *P. rotumana* (Borradaile, 1898)
 2. *P. pottsi* (Borradaile, 1915)
Periclimenes Costa, 1844
 3. *P. lutescens* auct.
 4. *P. grandis* (Stimpson, 1860)
 5. *P. elegans* (Paulson, 1875)
 6. *P. amymone* De Man, 1902
 7. *P. ceratophthalmus* Borradaile, 1915
 8. *P. longirostris* (Borradaile, 1915)
Anchistus Borradaile, 1898
 9. *A. custos* (Forsskal, 1775)
 10. *A. gravieri* Kemp, 1922
 11. *A. demani* Kemp, 1922
 12. *A. custoides* sp. nov.
 13. *A. australis* sp. nov., forma *typica*
 14. *A. australis* sp. nov., forma *dendricauda*
Philarius Holthuis, 1952
 15. *P. gerlachei* (Nobili, 1905)
Ischnopontonia Bruce, 1966
 16. *I. lophos* (Barnard, 1962)
Harpiliopsis Borradaile, 1915
 17. *H. depressa* (Stimpson, 1860)
Coralliocaris Stimpson, 1860
 18. *C. superba* (Dana, 1852)
 19. *C. venusta* Kemp, 1922
 20. *C. viridis* Bruce, 1974
Jocaste Holthuis, 1952
 21. *J. lucina* (Ortmann, 1890)
 22. *J. japonica* (Nobili, 1901)
Conchodytes Peters, 1852
 23. *C. tridacnae* Peters, 1852
 24. *C. meleagrinae* Peters, 1852
 Incertae sedis
 25. ?*Araiopontonia* sp.

SYSTEMATIC ACCOUNT

1. ***Palaemonella rotumana*** (Borradaile)

Restricted synonymy:

Periclimenes (Falciger) rotumanus Borradaile, 1898: 1005, pl. 63.

Periclimenes (Harpilius) rotumanus — McNeill, 1968: 7,22.

Palaemonella vestigialis Kemp, 1922: 123-126, figs. 1-2, pl. 3 fig. 2. Holthuis, 1952: 8, 24, fig. 3.

MATERIAL EXAMINED: 1 ovig. ♀, CL 2.2 mm, North East Cay, Herald Group, 9 November 1964. 1♂, CL 3.7 mm, One Tree Is., Capricorn Group, November 1966.