

CRUSTACEA OF THE MONTEBELLO ISLANDS

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Summary

Sixty-eight species of brachyuran crabs and 3 species of palinurid lobsters were collected during the Western Australian Museum expedition to the Montebello Islands. A total of 123 species of crustaceans are presently recorded from these islands, including 93 species of brachyuran crabs and 3 species of palinurid lobsters. The affinities of this fauna are strongly Indo-West Pacific. The richness of the fauna is compared with that of the nearshore Kimberley region, Scott and Seringapatam Reefs and Ashmore Reef.

Introduction

The decapod fauna of the Montebello Islands has been poorly collected and documented prior to the Western Australian Museum survey. Mr P.D. Montague made a collection of 30 decapod crustaceans in 1912, which was described by Rathbun (1914). The crustacean collection of the Western Australian Museum contains a number of specimens from the Montebello Islands acquired from a variety of sources, which are included in the present report.

Methods

All decapod crustaceans were collected during the survey, by SCUBA or by hand, with emphasis being placed on brachyuran crabs and palinurid lobsters.

Results

Sixty-eight species of brachyuran crabs and 3 species of palinurid lobsters were collected during the expedition. Dominant groups were xanthoids (coral crabs), represented by 35 taxa and majids (spider crabs), represented by 7 taxa.

Two tropical rock lobster species, *Panulirus ornatus* and *P. versicolor*, were recorded. Of these the latter was more abundant, particularly in coral reef habitat. *Panulirus ornatus* occurred mainly outside the reef.

Two specimens of the western rock lobster *Panulirus cygnus* were obtained together outside the western barrier reef. This record is outside the

normal range of this west coast endemic, the northern limit of its normal range being the southern extremity of the Ningaloo Reef tract, although a few specimens have been recorded from the Onslow area.

Discussion

A total of 123 species of crustaceans are presently recorded from the Montebello Islands, of which 93 are brachyuran crabs (Table 11). Fifty-six crustaceans, including 40 brachyuran species, are recorded from Scott and Seringapatam Reefs by Berry and Morgan (1986), and 99 (including 55 brachyurans) from Ashmore Reef and Cartier Island (Morgan and Berry, 1993). Morgan (1990) recorded 105 crustaceans (thalassinid, anomuran and brachyuran species) from the Kimberley region of northwestern Australia. Sixty four of these are brachyuran crab species with a total of 79 known from literature records (Morgan, 1990). Ninety-two brachyuran and two rock lobster species are recorded from the nearshore Kimberley coast (Morgan, 1992).

Comparison of the Montebellos brachyuran and palinurid fauna with faunas recorded from other tropical Western Australian regions by Western Australian Museum expeditions is difficult because the amount of collecting effort has differed on different surveys. However, given that Ashmore Reef supports a rich crustacean fauna (99 decapod taxa) and the nearshore Kimberley is a huge region, in which a wide range of habitats were sampled over a six week period, the fauna recorded at the Montebellos, which is similar in species richness, appears to be a rich one. Xanthoids are particularly well represented by 45 taxa, while grapsids and ocyrodids are surprisingly poorly represented, given the extensive intertidal habitat of both hard and soft substrates.

The marine crustacean fauna of the Montebellos reported on herein is comprised mainly of Indo-West Pacific (74%) and Indo-Malayan (15%) elements, with a small northern Australian component (8%). In addition, cosmopolitan and Western Australian endemic species comprise 2% and 1% of the fauna, respectively. Earlier studies have shown the Indo-West Pacific component to comprise 78% of the Kimberley marine thalassinidean, anomuran and brachyuran fauna

(Morgan, 1992) and 74% of the Shark Bay decapod fauna (Jones, 1990). On the southern coast of Western Australia, the Indo-West Pacific component reduces to 16% of the decapod fauna (Morgan and Jones, 1991).

REFERENCES

- Berry, P.F. and Morgan, G.M. (1986). Part V. Decapod Crustacea of Scott and Seringapatam Reefs. In: Berry, P.F. (Ed). Faunal Surveys of the Rowley Shoals, Scott Reef and Seringapatam Reef north-western Australia. *Records of the Western Australian Museum, Supplement 25*: 1-106.
- Jones, D.S. (1990). Annotated checklist of marine decapod Crustacea from Shark Bay, Western Australia. In: Berry, P.F., Bradshaw, S.D. and Wilson, B.R. (Eds). *Research in Shark Bay: Report of the France-Australe Bicentenary Expedition Committee*. Western Australian Museum, Perth. Pages 169-208.
- Morgan, G.J. (1990). A collection of Thalassinidea, Anomura and Brachyura (Crustacea: Decapoda) from the Kimberley Region of northwestern Australia. *Zoologische Verhandlungen 265*: 1-90.
- Morgan, G.J. (1992). Part V. Decapod crustaceans. In: Morgan, G.J. (ed.). *Survey of the aquatic fauna of the Kimberley islands and reefs, Western Australia*. Western Australian Museum, unpublished report, pages 45-49.
- Morgan, G.J. and Berry P.F. (1993). Part 5. Decapod Crustacea of Ashmore Reef and Cartier Island. In: Berry, P.F. (ed.). *Marine faunal surveys of Ashmore Reef and Cartier Island, Northwestern Australia. Records of the Western Australian Museum, Supplement 44*: 47-51.
- Morgan G.J. and Jones, D.S. (1991). Checklist of the marine decapod Crustacea of southern Western Australia. In: Wells, F.E., Walker, D.I., Kirkman, H. and Lethbridge, R. (Eds). *Proceedings of the Third International Marine Biological Workshop: The Marine Flora and Fauna of Albany, Western Australia*. Western Australian Museum, Perth. Volume II: 483-497.
- Rathbun, M.J. (1914). Stalk-eyed crustaceans collected at the Montebello Islands. *Proceedings of the Zoological Society of London*: 653-664.

Table 11 List of crustaceans, including brachyuran crabs and palinurid lobsters, collected at the Montebello Islands.

R, collected by Rathbun (1914); WAM, Crustacean Collection, Western Australian Museum of Natural Science; Sight records were made by P.F. Berry during the expedition.

Species	Station Number
Class Maxillopoda	
Subclass Cirripedia	
Order Pedunculata	
LEPADIDAE	
<i>Conchoderma hunteri</i> (Owen, 1830)	WAM
OXYNASPIDAE	
<i>Oxynaspis</i> sp.	WAM
POECILASMATIDAE	
<i>Dichelaspis</i> sp.	WAM
LITHOTRYIDAE	
<i>Lithotrya valentiana</i> (Gray, 1825)	WAM
SCALPELLIDAE	
<i>Arcoscalpellum moluccanum</i> (Hoek, 1883)	WAM
Order Sessilia	
TETRACLITIDAE	
<i>Tetraclita squamosa</i> (Bruguière, 1798)	WAM
<i>Tetraclitella multicosata</i> (Nilsson-Cantell, 1930)	WAM
CORONULIDAE	
<i>Chelonibia testudinaria</i> (Linnaeus, 1767)	WAM
ARCHAEOBALANIDAE	
<i>Chirona (Striatobalanus) amaryllis</i> (Darwin, 1854)	WAM
<i>Solidobalanus</i> sp.	WAM
PYRGOMATIDAE	
<i>Pyrgoma</i> sp.	WAM
BALANIDAE	
<i>Megabalanus tintinnabulum</i> (Linnaeus, 1758)	WAM

Table 11 (cont.)

Species	Station Number
Class Malacostraca	
Order Stomatopoda	
GONODACTYLIDAE	
<i>Gonodactylus chiragra</i> (Fabricius, 1798)	R
PROTOSQUILLIDAE	
<i>Protosquilla trispinosa</i> (White, 1880)	R
Order Isopoda	
AEGIDAE	
<i>Aega</i> sp.	WAM
CIROLANIDAE	
<i>Eurydice orientalis</i> Hansen, 1890	WAM
CYMOTHOIDAE	
<i>Anilocra nemipteri</i> Bruce, 1986	WAM
Order Decapoda	
PENAEIDAE	
<i>Metapeneus monoceros</i> (Fabricius, 1798)	R
<i>Metapeneus stridulans</i> Alcock, 1905	R
PALAEEMONIDAE	
<i>Anchistus inermis</i> (Miers, 1884)	R
<i>Periclimenes hermitensis</i> Rathbun, 1914	R
ALPHEIDAE	
<i>Alpheus bucephalus</i> (Coutière, 1905)	R (as <i>Crangon bucephalus</i>)
<i>Alpheus edwardsii</i> (Audouin, 1827)	R (as <i>Crangon edwardsii</i>)
PALINURIDAE	
<i>Panulirus cygnus</i> George, 1962	Sight record
<i>Panulirus ornatus</i> (Fabricius, 1798)	Sight record
<i>Panulirus versicolor</i> (Latreille, 1804)	Sight record
SCYLLARIDAE	
<i>Ibacus novemdentatus</i> Gibbes, 1850	WAM
DIOGENIDAE	
<i>Dardanus megistos</i> (Herbst, 1804)	R
<i>Dardanus</i> sp.	WAM
PAGURIDAE	
Pagurid sp.	WAM
Infraorder Brachyura	
DROMIIDAE	
<i>Cryptodromia</i> sp.	4b,14b
<i>Dromid</i> sp.	WAM
CALAPPIDAE	
<i>Calappa hepatica</i> (Linnaeus, 1758)	14b;WAM
<i>Calappa pustulosa</i> Alcock, 1896	22
<i>Calappa</i> sp.	WAM
<i>Matuta banksi</i> Leach, 1871	WAM
<i>Matuta</i> sp.	WAM
LEUCOSIIDAE	
<i>Arcania undecimspinosa</i> De Haan, 1841	22
<i>Leucosia annatum</i> (Herbst, 1783)	18
<i>Leucosia</i> sp. 1	12
<i>Leucosia</i> sp. 2	18,28a
<i>Leucosid</i> sp.	WAM

Table 11 (cont.)

Species	Station Number
HYMENOSOMATIDAE	
<i>Trigonoplax unguiformis</i> (De Haan, 1839)	Sight record
MAJIDAE	
<i>Ephippias endeavouri</i> Rathbun, 1918	WAM
<i>Huena proteus</i> (de Haan, 1839)	R
<i>Hyastenus cornigerous</i> Sakai, 1938	18,21,22
<i>Hyastenus elongatus</i> Ortmann, 1893	22,33
<i>Hyastenus oryx</i> (A. Milne-Edwards)	R
<i>Menaethius monoceros</i> (Latreille, 1825)	18,28a
<i>Miccipa philyra</i> (Herbst, 1803)	14b,36a
<i>Paranaxia serpulifera</i> (Guérin-Ménéville, 1829)	R (as <i>Naxioides serpulifera</i> (Guérin))
<i>Schizophrys aspera</i> (H. Milne-Edwards, 1834)	25,30
<i>Schizophrys dama</i> (Herbst, 1804)	R
<i>Tiarinia angusta</i> Dana, 1852	33
<i>Tiarinia cornigera</i> (Latreille, 1825)	16
PARTHENOPIIDAE	
<i>Daldorfia horrida</i> (Linnaeus, 1758)	2
<i>Parthenope (Aulacolambrus) diacanthus</i> De Haan, 1839	18,22
<i>Parthenope (Rhinolambrus) pelagicus</i> (Rüppell, 1830)	R
ATELECYCLIDAE	
<i>Kraussia nitida</i> Stimpson, 1858	8
PORTUNIDAE	
<i>Charybdis (Charybdis) orientalis</i> Dana, 1852	10
<i>Lissocarcinus laevis</i> Miers, 1886	22
<i>Lissocarcinus orbicularis</i> Dana, 1852	?
<i>Portunus (Xiphonectes) hastatoides</i> (Fabricius, 1798)	16
<i>Portunus</i> sp. 1	14b,22
<i>Portunus</i> sp. 2	15, 21, 22
<i>Scylla serrata</i> (Forskål, 1755)	14b
<i>Thalamita crenata</i> (H. Milne Edwards, 1834)	14a
<i>Thalamita dispar</i> (Rathbun, 1914)	R
<i>Thalamitoides quadridens</i> A. Milne Edwards, 1869	14a,14b,16
XANTHIDAE	
<i>Actaea amoyensis</i> (de Man, 1879)	22
<i>Actaea cavipes</i> (Dana, 1852)	R (as <i>Glyptoxanthus cymbifer</i> Rathbun, 1914),14b
<i>Actea glandifera</i> Rathbun, 1914	R
<i>Actea polyacantha</i> (Heller, 1861)	14a,14b
<i>Actaea savignyi</i> (H. Milne Edwards, 1834)	33
<i>Actaeodes affinis</i> (Dana, 1852)	R (now <i>Pilodius areolatus</i> H. Milne-Edwards, 1834)
<i>Actaeodes areolatus</i> (Dana, 1852)	4b,14b,20,25
<i>Actaeodes semoni</i> (Ortman, 1894)	14b
<i>Actaeodes</i> sp. 1	2
<i>Actaeodes</i> sp. 2	2
<i>Atergatis floridus</i> (Linnaeus, 1767)	R (as <i>Atergatis ocyroe</i> (Herbst)),4b,14
<i>Chlorodiella laevissima</i> (Dana, 1852)	35
<i>Cymo deplanatus</i> A. Milne Edwards, 1873	4b
<i>Cymo</i> sp.	6
<i>Demania scaberrima</i> (Walker, 1887)	14b
<i>Etisus demani</i> Odhner, 1925	2
<i>Liomera laevis</i> (A. Milne Edwards, 1873)	20
<i>Liomera ruber</i> (A. Milne-Edwards, 1865)	R (also as <i>Carpiloides ruber</i> A. Milne-Edwards)
<i>Liomera rugata</i> (H. Milne Edwards, 1834)	4b
<i>Liomera</i> sp. 1	14b,29,33
<i>Lophozozymus</i> sp.	2
<i>Macromedaeus distinguendus</i> (De Haan, 1835)	32
<i>Neoxanthias impressus</i> (Lamarck, 1818)	4b,20,25,32
<i>Phymodius unguatus</i> (Milne-Edwards, 1834)	R
<i>Pilodius areolatus</i> (H. Milne Edwards, 1834)	R (as <i>Acteodes affinis</i> (Dana)), 33
<i>Platypodia granulosa</i> (Rüppell, 1830)	R,33
<i>Ralumia</i> sp.	9

Table 11 (cont.)

Species	Station Number
<i>Xanthias elegans</i> (Stimpson, 1858)	R (also as <i>Xanthias atromanus</i> (Haswell)), 14b, 20, 25
<i>Xanthias</i> cf <i>jacuelinae</i> Guinot, 1976	WAM
<i>Xanthias lamarcki</i> (H. Milne-Edwards, 1834)	14b
<i>Xanthias lividus</i> (Lamarck, 1818)	14b
<i>Xanthias samoensis</i> Ward, 1939	29
Xanthid sp.	WAM
<i>Zosymus aeneus</i> (Linnaeus, 1758)	4b, 20, 28
CARPILIDAE	
<i>Carpilius convexus</i> (Forskål, 1775)	4b, 20, 25
MENIPPIDAE	
<i>Eriphia scabricula</i> Dana, 1852	4b, 26
<i>Eriphia sebana</i> (Shaw and Nodder, 1803)	R, WAM, 26
TRAPEZIIDAE	
<i>Tetralia glaberrima</i> (Herbst, 1790)	4b, 6, 20, 30
<i>Trapezia cymodoce</i> (Herbst, 1801)	24, 33
PILUMNIDAE	
<i>Actumnus setifer</i> (de Haan, 1835)	R
<i>Actumnus</i> sp.	WAM
<i>Pilumnus caerulescens</i> (A. Milne-Edwards, 1873)	R
<i>Pilumnus orbitospinis</i> Rathbun, 1911	26
<i>Pilumnus vespertilio</i> (Fabricius, 1793)	R, 14a, 14b
<i>Pilumnus</i> sp.	WAM
GRAPSIDAE	
<i>Grapsus albolineatus</i> Lamarck, 1818	5, 14b
<i>Metopograpsus thukuhar</i> (Owen, 1893)	14b
<i>Percnon planissimum</i> (Herbst, 1804)	25
MICTYRIDAE	
<i>Mictyris longicarpus</i> Latreille, 1806	R
OCYPODIDAE	
<i>Ocypode ceratophthalma</i> (Pallas, 1772)	5
<i>Ocypode cordimana</i> Desmarest, 1825	5
<i>Uca flammula</i> Crane, 1975	R (as <i>U. forcipata</i> (Adams & White)), WAM
<i>Uca mjoebergi</i> Rathbun, 1924	37
CRYPTOCHIRIDAE	
<i>Haplocarcinus</i> sp.	WAM