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Amphipoda (Crustacea) collected from the Dampier Archipelago, Western Australia

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Abstract – This paper examines the amphipod fauna of Western Australia. Emphasis is placed on amphipods collected on the 1999 West Australian Museum diving survey of the Dampier Archipelago (DA3/99). The Ampithoidae was identified as one of the most abundant in the survey. The species composition of this family in comparison to other families is discussed. This paper also provides a checklist to the Western Australian amphipod fauna.

INTRODUCTION

This paper reports on the Amphipoda (in particular those of the Ampithoidae) of the Dampier Archipelago, Western Australia. These animals were collected during a survey of the Dampier Archipelago in August and September 1999. This survey was part of the second (DA3/99) of two diving expeditions (DA1/98 and DA3/99) conducted in the Dampier Archipelago as part of the Woodside Energy Ltd./Western Australia Museum partnership.

Amphipods are malacostracan crustaceans of the Peracarida. They are a large group of relatively small crustaceans that live in a variety of habitats. They range in size from 1 mm to ~ 300 mm in length, with a variety of morphologies. Amphipods occur in just about every marine habitat and some freshwater and terrestrial habitats. They have been documented scavenging, burrowing, pelagic and living in and with other organisms. The majority of these lifestyles have been identified for Australian waters.

There are >8000 species of amphipod described (Debelius, 1999). These species can by divided into four groups (based on classification prior to Myers and Lowry, in press). These are the Gammaridea, Hyperidea, Ingolfiellidea and the Caprellidae. Each of these groups has been recorded from around Australia. The dominant group in Australia is the Gammaridea with approximately 313 genera in 78 families. The hyperideans have 48 genera in 15 families, the caprellideans 21 genera in five families and the ingolfiellideans one genus in one family (Lowry and Springthorpe, 2001). The majority of these reports have been from eastern or southern Australian waters. This is not due to a lack of diversity in the northern and western areas but a lack of study.

Since 1922 there have only been 11 notable studies which document Western Australian amphipod species (Tattersall, 1922; Barnard, 1972, 1974; Berents, 1983; Barnard and Karaman, 1987; Moore, 1988; Myers, 1988; Jones and Morgan, 1993; Thomas, 1997; Just, 2000, 2002). Some of these studies are based on data from other states and only briefly mention Western Australian species. The most comprehensive study was by Barnard and published in two volumes (Barnard, 1972, 1974). Barnard's study, however, only covered the area from Kalbarri to Albany, with an emphasis on the southwestern corner of the state. A checklist of the species occurring in Western Australian waters is provided (Table 1).

Sampling for amphipods in Western Australian waters has been biased (for example Barnard, 1972, 1974), so that most species have been reported from either shallow water algae or sponges.

MATERIALS AND METHODS

Collections were made from 35 sites around the islands of the Dampier Archipelago in August and September 1999. The emphasis of this section of the survey was to examine the amphipod fauna on algae and in particular brown seaweed (Phaeophyta) and seagrasses. However, this flora was not present at all the stations and there is, therefore, a bias away from them.

Depending on the site, the amphipods were either collected by hand using SCUBA or from under rocks or scrapings by hand at the intertidal sites. The intertidal samples were mainly taken from scrapings under rocks on sand or mud flats. However, some samples were actually sand scrapings or washings of drift algae.

All the amphipods collected during the Dampier survey were identified but, due to time constraints and a paucity of species information, not all were taken to the species level (Table 2). Collections are deposited in both the Western Australian Museum (Perth) and the Australian Museum (Sydney).

RESULTS

Twenty-one families of amphipods were collected from the Dampier Archipelago. It was often difficult to identify these animals to a lower level, as the species could not often be so identified (either through time constraints or they appeared to be new species). The 21 families comprise 68 species in 34 genera (Table 2). The two dominant family groups are the Ampithoidae and the Melitidae. The ampithoids comprise five genera and nine species, totaling 168 specimens. The main melitid group comprises five genera and 13 species, with a total of 109 specimens. Other abundant families include the Ischyroceridae (64 specimens), Deximinidae (54 specimens) and Podoceridae (24 specimens).

Ten families (almost half of those recorded) are new records for Western Australia. This increased level of diversity is also mirrored in the ampithoids at the generic and specific levels. This family has three genera and eight species not previously known from Western Australia. Some species are either new to science or are new records for Western Australia. As there have been no amphipods previously recorded from the Dampier Archipelago, all the species, genera and families are new records.

Nineteen of the 35 samples came from mixed habitats, sampled at between 3–20 m depth by SCUBA. This habitat was either sponge, mixed algae, rocks or coral rubble or any combination of these. At six stations, algae alone were sampled. The remaining 10 stations were intertidal with either algae or rock scrapings. Even though only eight algal stations (both subtidal and intertidal) were sampled, these yielded most species and were dominated by representatives of the Ampithoidae that rarely occurred in the mixed habitats. The dominant group in mixed habitats (both intertidal and subtidal) was the melitid group. Members of this group also occasionally occurred in algal samples.

DISCUSSION

This study has been invaluable in filling a large gap in the various collections from Western Australia. The Australian amphipod fauna has been mainly documented from eastern and southern Australian coasts. In this study, there are a large number of taxa at the species, genus and family levels which are either new to Western Australia or, at species level, new to science.

In this survey, when amphipod collections were made the emphasis was on collecting representatives of the Ampithoidae. This is because a geographically wider project is currently underway examining the species diversity and biogeography of ampithoid amphipods around the Australian coast (Peart, 2002). As ampithoids are predominantly algal-dwelling amphipods, the bias placed on the survey was that algae were mainly sampled.

Ampithoids were noticeably the most abundant of the algal-dwelling amphipods collected in this survey. This abundance has similar proportions to that recorded recently from Sydney waters (Poore and Lowry, 1997). The Sydney study noted that in algal communities (consisting mainly of the brown alga *Sargassum* spp) of Port Jackson, the ampithoids were the most abundant and diverse amphipods collected (Poore and Lowry, 1997).

It is curious that in all the previous studies conducted in Western Australia, only three species of Ampithoidae have been recorded. This may be due to biases in sampling protocols or research effort. In a wider study of Australian ampithoids (Peart, 2002), other sites were sampled (Geraldton to Cape Naturaliste) and these have shown that there are at least 15 new species in Western Australian waters. Six of these were identified in this survey of the Dampier Archipelago. The description of these new species will be documented in a later publication.

The other groups of amphipods collected during the survey seem quite comparable, in terms of species numbers, to the groups recorded in other studies. This is shown quite well with the melitid group, which has 13 species recorded from five genera from the Dampier Archipelago (Table 2). Previous studies have recorded eight genera consisting of 21 species (Tattersall, 1922; Barnard, 1972; 1974, Berents, 1983; Barnard and Karaman, 1987; Jones and Morgan, 1993). Species composition also shows some overlap, as with the ampithoids, and there appear to be a number of undescribed species in the collected samples. It is difficult to compare the species richness of amphipods in other families with the ampithoid fauna, as few of them could be identified to the species level. It will take further study and time to determine the exact status of each of these species.

The 1999 survey of the Dampier Archipelago has provided an invaluable resource for further studies of the area and the biogeography of the Australian coastline. Australia is important in determining the distributional range of species throughout the Indo-West Pacific region. Knowing the fauna of this area is important in understanding the processes that are continuously changing and influencing the distribution of species.

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Table 1 Checklist of Amphipoda recorded from Western Australia. * Described in Peart (2003, in press) ** Recorded in Barnard 1972, 1974

Taxa	Locality
Family Amaryllidae	
Amaryllis carrascoi Lowry and Stoddart, 2002	King George Sound
Amaryllis dianae Lowry and Stoddart, 2002	Fremantle
Amaryllis migo Lowry and Stoddart, 2002	Torbay Bay
Amaryllis philatelica Lowry and Stoddart, 2002	Foul Bay
Amaryllis quokka Lowry and Stoddart, 2002	Rottnest Island
Bamarooka dinjerra Lowry and Stoddart, 2002	North West Shelf, Port Hedland
Bamarooka tropicalis Lowry and Stoddart, 2002	North West Shelf, Port Hedland
Family Ampithoidae	
Cymadusa n. sp. *	Abrolhos Islands, Cockburn Sound
Exampithoe compressa Just, 2000	Albany, Vancouver Peninsula
Family Aoridae	
Bemlos ephippium disjuncta Myers, 1988	Kalbarri
Bemlos quadrimanus (Sivaprakasam, 1971)	Central west coast **
Bemlos strigilis Myers, 1988	Rottnest Island
Protolembos yaranus Myers, 1988	Kalbarri
Xenocheira seurati Chevreux, 1907	Lower west coast **
Family Biancolinidae	
Biancolina australis Nicholls, 1939	Rottnest Island
Family Caprellidae	
Aciconula miranda Mayer, 1903	Central west coast
Caprella equilibra Say, 1818	Lower west coast
Hemiaegina minuta Mayer, 1890	Lower west coast
Metaprotella haswelliana (Mayer, 1882)	Northwest coast
Metaprotella sandalensis Mayer, 1898	Central and lower west coast
Monoliropus agilis Mayer, 1903	Lower west coast
Noculacia australiensis Guerra-Garcia, 2002	Northwest and central coast
Family Ceinidae	
Ceina wannape J.L. Barnard, 1972	Near Albany
Family Cheluridae	
Chelura terebrans Philippi, 1837	Lower west coast **
Family Colomastigidae	
Yulumara tricuspis Moore, 1988	Seven Mile Beach
Family Corophiidae	
Corophium minor Thomson, 1946	Swan River
Family Cyamidae	
Cyamus balaenopterae K.H. Barnard, 1931	Central west coast
Cyamus boopis Lutken, 1870	Central west coast
Cyamus carodontis Margolis, 1954	Southwest corner
Cyamus erraticus Roussel de Vauzeme, 1834	Central west coast
Family Cyproideidae	
Austropheonoides mundoe J.L. Barnard, 1972	Albany
Cyproidea ornata Haswell, 1879	Southwestern coast **
Narapheonoides mullaya J.L. Barnard, 1972	Cape Naturaliste
Unyapheonoides dabber J.L. Barnard, 1972	Cheyne Beach
Family Dexaminidae	
Guernea (Guernea) endota J.L. Barnard, 1972	Cheyne Beach
Guernea (Guernea) melape J.L. Barnard, 1972	Cape Naturaliste
Guernea (Guernea) unchalka J.L. Barnard, 1972	Albany
Paradexamine churinga J.L. Barnard, 1972	Cockburn Sound
Paradexamine frinsdorfi Sheard, 1938	Southwest corner **
Paradexamine goomai J.L. Barnard, 1972	Cape Naturaliste

Taxa	Locality
Paradexamine linga J.L. Barnard, 1972	Cape Naturaliste
Paradexamine marlie J.L. Barnard, 1972	Cockburn Sound
Paradexamine narluke J.L. Barnard, 1972	Cape Naturaliste
Paradexamine otichi J.L. Barnard, 1972	Albany
Paradexamine quarallia J.L. Barnard, 1972	Albany
Paradexamine ronggi J.L. Barnard, 1972	Cape Naturaliste
Paradexamine thadalee J.L. Barnard, 1972	Albany
Paradexamine windarra J.L. Barnard, 1972	Albany
Prophlias anomalus Nicholls, 1939	Rottnest Island
Syndexamine runde J.L. Barnard, 1972	Southwest coast **
Syndexamine wunda J.L. Barnard, 1972	Albany
Family Eophliantidae	
Bircenna ignea Nicholls, 1939	Nornalup
Family Eusiridae	
Gondogeneia microdeuteropa (Haswell, 1880)	Southwest corner **
Tethygeneia elanora J.L. Barnard, 1972	Albany
Tethygeneia nalgo J.L. Barnard, 1972	Albany
Tethygeneia tulkara J.L. Barnard, 1972	Cape Naturaliste
Tethygeneia waminda J.L. Barnard, 1972	Cape Naturaliste
Family Exoedicerotidae	
Exoedicerotides maculosus (Sheard, 1936)	Lower west coast **
Family Hyalidae	
Allorchestes compressus Dana, 1852	Lower west coast **
Hyale crassicornis (Haswell, 1879)	Lower west coast **
Hyale loorea J.L. Barnard, 1974	Cape Naturaliste
Hyale rubra (Thomson, 1879)	Cape Naturaliste
Hyale yake J.L. Barnard, 1974	Albany
Family Isaeidae	
Gammaropsis (Gammaropsis) atlantica Stebbing, 1888	Abrolhos Islands
Family Ischyroceridae	
Ambicholestes (Ambicholestes) cygnatratus Just, 1998	Bush Bay, near Carnarvon
Ambicholestes (Austrolestes) minutus Just, 1998	North West Shelf
Australoecetes (Australoecetes) sellicki (Sheard, 1938)	Lower west coast **
Ericthonius coxacanthus Moore, 1988	Cliff Head
Ericthonius pugnax Dana, 1852	Lower west coast **
Family Leucothoidae	
Anamixis nedcampensis Thomas, 1997	Ningaloo Reef
Anamixis ningaloo Thomas, 1997	Ningaloo Reef
Leucothoe commensalis Haswell, 1879	Lower west coast **
Leucothoe gooweera J.L. Barnard, 1974	Bluff Point
Leucothoe gracilis (Haswell, 1879)	Lower west coast **
Paraleucothoe novaehollandiae (Haswell, 1879)	Lower west coast **
Family Lysianassidae	
Comicostoma karta Lowry and Stoddart, 1983	Lower west coast **
Lepidepecreum dampieri Lowry and Stoddart, 2002	Between Port Hedland and Dampier Archipelago
Parawaldeckia dilkera J.L. Barnard, 1972	Cape Naturaliste
Parawaldeckia stebbingi (Thomson, 1893)	Lower west coast **
Parawaldeckia yamba J.L. Barnard, 1972	Lower west coast **
Tryphosella orana J.L. Barnard, 1972	Albany
Waldeckia chevreuxi Stebbing, 1910	Northwest coast **
Family Melitidae	
Ceradocus dooliba J.L. Barnard, 1972	Lower west coast **
Ceradocus rubromaculatus (Stimpson, 1856)	Lower west coast **
Elasmopus memurte J.L. Barnard, 1974	Cape Naturaliste
Elasmopus yunde J.L. Barnard, 1974	Point Peron
Gamarella berringar (J.L. Barnard, 1974)	Cottesloe

Table 1 (cont.)

Taxa	Locality
Hoho carteta (J.L. Barnard, 1972)	Albany
Hoho hirtipalma Lowry and Fenwick, 1983	Lower west coast **
Hoho marilla (J.L. Barnard, 1972)	Lower west coast **
Maera mastersii (Haswell, 1879)	Lower west coast **
Maeracoota sp.	Lower west coast **
Mallacoota diemenesis (Haswell, 1879)	Lower west coast **
Mallacoota subcarinata (Haswell, 1879)	Lower west coast **
Melita matilda J.L. Barnard, 1972	Swan River
Melita oba J.L. Barnard, 1972	Cape Naturaliste
Melita zeylanica kauerti J.L. Barnard, 1972	Swan River
Parelasmopus echo J.L. Barnard, 1972	Bunbury
Parelasmopus ya J.L. Barnard, 1972	Cockburn Sound
Quadrimaera serrata (Schellenberg, 1938)	Abrolhos Islands
Quadrimaera viridis (Haswell, 1879)	Lower west coast **
Family Nihotungidae	
Nihotunga iluka J.L. Barnard, 1972	Cape Naturaliste
Family Phtisicidae	
Litiarchus perplexus Mayer, 1912	Geraldton and Cockburn Sound
Pseudoproto fallax Mayer, 1903	Central west coast
Family Phliantidae	
Pereionotus thomsoni Stebbing, 1899	South-west coast **
Quasimodia barnardi Sheard, 1936	Lower west coast **
Family Phoxocephalidae	
Birubius batei (Haswell, 1879)	Lower west coast **
Birubius eake Barnard and Drummond, 1978	Cape Naturaliste
Birubius gambodeni Barnard and Drummond, 1978	Albany
Birubius jirrandus Barnard and Drummond, 1978	Northwest coast **
Birubius nammuldus Barnard and Drummond, 1978	Barrow Island
Brolgus tattersalli (Barnard, 1958)	Abrolhos Islands
Ganba pellati Barnard and Drummond, 1978	Albany
Kuritus nacoomus Barnard and Drummond, 1978	Barrow Island
Parharpinia villosa (Haswell, 1879)	Southwest coast **
Uldanamia pillare Barnard and Drummond, 1978	Lower west coast **
Wildus thambaroo Barnard and Drummond, 1978	Albany
Yan tiendi Barnard and Drummond, 1978	Albany
Family Stegocephalidae	
Tetredeion dampieri (Berge and Vader, 2000)	Between Dampier and Port Hedland, North West Shelf
Family Stenothoidae	
Ausatelson ule J.L. Barnard, 1972	Cape Naturaliste
Chuculba alla J.L. Barnard, 1974	Albany
Chuculba warea J.L. Barnard, 1974	Cape Naturaliste
Goratelson warroo J.L. Barnard, 1972	Cape Naturaliste
Raumahara derroo J.L. Barnard, 1972	Cape Naturaliste
Raumahara judithae Moore, 1981	Southwest coast **
Raumahara noko J.L. Barnard, 1974	Southwest coast **
Raumahara waroona Krapp-Schickel, 2000	Southwest coast **
Stenothoe allinga J.L. Barnard, 1974	Albany
Stenothoe miersi (Haswell, 1879)	Lower west coast **
Stenothoe nonedia J.L. Barnard, 1974	Cape Naturaliste
Stenothoe quabara J.L. Barnard, 1974	Albany
Stenothoe woka J.L. Barnard, 1974	Albany
Family Uristidae	
Ichnopus caritus Lowry and Stoddart, 1992	King George Sound
Ichnopus wardi Lowry and Stoddart, 1992	North West Shelf
Family Urohaustoridae	
Urohaustorius vercoi Sheard, 1936	Geographe Bay

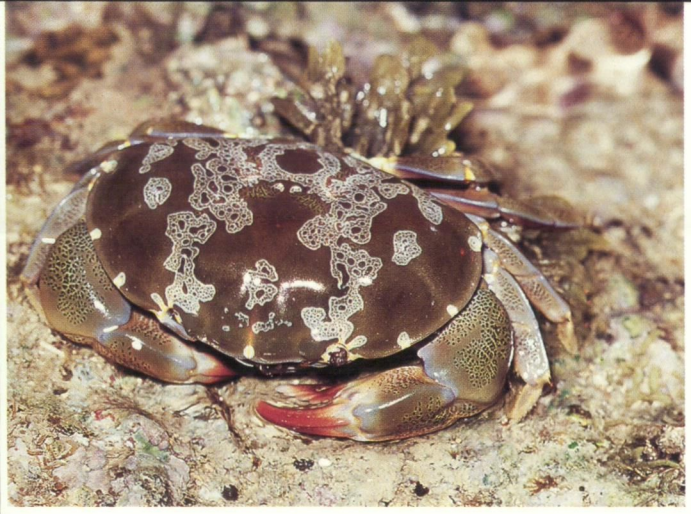
Table 2 Amphipods recorded from the DA3/99 Dampier Archipelago diving survey. M = mixed habitat at depth; A = algal habitat at depth; I-A = intertidal algal sample; I-M = intertidal mixed habitat. D1-70 = individual sample numbers at each station. *for details see Station Lists

Taxa	Station numbers*	Station type	Abundance
Family Aoridae			
Bemlos sp.	DA3/99/45 (D28b)	I-M	1
Globosolembos sp. 1	DA3/99/56 (D49)	M	6
Xenocheira sp.	DA3/99/61 (D55)	M	1
Aorid sp.	DA3/99/59 (D52)	I-M	1
	DA3/99/17#52	?	1
Family Ampeliscidae			
Ampelisca sp. 1	DA3/99/41 (D26)	M	1
Family Ampithoidae			
Ampithoe sp. 1	DA3/99/35 (D8)	A	3
	DA3/99/45 (D29)	I-A	5
	DA3/99/62 (D56)	I-A	1
	DA3/99/68 (D61)	A	6
Ampithoe cf. *kava* Myers, 1985	DA3/99/35 (D18)	A	2
	DA3/99/45 (D30, D31, D32, D33)	I-A	4, 5, 4, 3
	DA3/99/68 (D61, D63)	A	16, 1
Ampithoe sp. 2	DA3/99/44 (D28a)	M	1
	DA3/99/45 (D29)	I-A	11
Ampithoe sp. 3	DA3/99/45 (D30)	I-A	1
	DA3/99/33 (D36)	A	13
	DA3/99/17#52	?	2
Cymadusa sp. 4	DA3/99/35 (D11, D12, D13, D14, D18, D19)	A	1, 1, 1, 1, 1, 2
	DA3/99/37 (D20)	I-M	4
	DA3/99/44 (D28a)	M	2
	DA3/99/45 (D30, D31)	I-A	2, 8
	DA3/99/33 (D36)	A	7
	DA3/99/50 (D44)	M	1
	DA3/99/56 (D49)	M	2
	DA3/99/62 (D56)	I-A	1
	DA3/99/63 (D57)	M	1
	DA3/99/68 (D61)	A	3
Cymadusa sp. 5	DA3/99/45 (D32, D33)	I-A	3, 3
Exampithoe sp. 6	DA3/99/35 (D14)	A	1
	DA3/99/42 (D24)	I-M	1
	DA3/99/45 (D30, D33)	I-A	1, 1
	DA3/99/33 (D37)	A	3
Paragrubia sp. 7	DA3/99/48 (D42)	I-M	1
Sunamphitoe sp. 8	DA3/99/35 (D7, D10, D15, D16, D19)	A	3, 2, 3, 7, 2
	DA3/99/41 (D26)	M	1
	DA3/99/45 (D29, D32)	I-A	2, 7
	DA3/99/33 (D38)	A	11
Family Caprellidae	DA3/99/39 (D22)	M	2
Ceradocid group			
Ceradocus sp. 1	DA3/99/35 (D13)	A	1
	DA3/99/45 (D28b)	I-M	2
	DA3/99/59 (D52)	I-M	2
Ceradocus sp. 2	DA3/99/44 (D28a)	M	1
Ceradocus cf. *rubromaculatus*	DA3/99/44 (D28a)	M	1
Ceradocus cf. *oxyodus*	DA3/99/59 (D52)	I-M	6
Dulichiella cf. *appendiculata*	DA3/99/36 (D1)	M	1
Elasmopus sp.	DA3/99/35 (D7, D10)	A	4
	DA3/99/45 (D33)	I-A	2
	DA3/99/47 (D34, D41)	A	7, 3
Elasmopus cf. *alalo*	DA3/99/37 (D20)	I-M	1
Elasmopus cf. *hooheno*	DA3/99/44 (D28a)	M	2
Maera sp. 1	DA3/99/59 (D52)	I-M	1
Maera cf. *hamigera*	DA3/99/59 (D52)	I-M	1

Table 2 (cont.)

Taxa	Station numbers*	Station type	Abundance
Parelasmopus cf. *echo*	DA3/99/44 (D28a)	M	2
	DA3/99/70 (D65)	I-M	1
Parelasmopus cf. *suensis*	DA3/99/35 (D9)	A	1
	DA3/99/37 (D20)	I-M	4
	DA3/99/45 (D28b)	I-M	13
	DA3/99/33? (D36)	A	1
	DA3/99/48 (D42)	I-M	1
Parelasmopus cf. *ya*	DA3/99/37 (D20)	I-M	2
Ceradocus group	DA3/99/36 (D2)	M	5
	DA3/99/35 (D12, D17, D18, D19)	A	1, 4, 3, 3
	DA3/99/42 (D25)	I-M	1
	DA3/99/45 (D30)	I-A	1
	DA3/99/55 (D48)	M	1
	DA3/99/57 (D50)	M	1
	DA3/99/58 (D51)	M	1
	DA3/99/61 (D55)	M	5
	DA3/99/62 (D56)	I-M	13
	DA3/99/63 (D57)	M	3
	DA3/99/66 (D58)	I-M	4
	DA3/99/68 (D63)	A	1
	DA3/99/17#52	?	2
Family Colomastigidae			
Colomastix sp.	DA3/99/36 (D1)	M	1
Colomastigidae sp.	DA3/99/60 (D53)	M	1
CYPROIDEA	DA3/99/36 (D1)	M	1
Family Deximinidae			
Polycheira sp.	DA3/99/45 (D32)	I-A	2
Deximinae sp.	DA3/99/35 (D8, D9, D10, D19)	A	1, 1, 4, 2
	DA3/99/45 (D30, D33)	I-A	5, 1
	DA3/99/47 (D35, D36, D39)	A	1, 1, 1
	DA3/99/68 (D61, D62)	A	13, 21
	DA3/99/17#52	?	1
Family Eusiridae			
Tethygeneia sp.	DA3/99/35 (D9)	A	1
Eusiridae sp.	DA3/99/35 (D7, D11, D12)	A	1, 1, 1
	DA3/99/45 (D30, D31)	I-A	2, 1
	DA3/99/47 (D34, D37, D40)	A	4, 1, 3
Family Hyalidae	DA3/99/45 (D30, D32)	I-A	2, 6
	DA3/99/59 (D52)	I-M	10
Family Iciliidae?	DA3/99/56 (D49)	M	1
IPHIMEDIODEA	DA3/99/68 (D61)	A	1
Family Isaeidae	DA3/99/35 (D14)	A	1
	DA3/99/42 (D26)	M	8
	DA3/99/45 (D33)	I-A	1
	DA3/99/47 (D41)	A	3
	DA3/99/55 (D48)	M	1
Family Ischyroceridae			
Cerapus sp.	DA3/99/35 (D6, D7, D8, D9, D11, D12, D13, D14, D15, D16, D17, D18)	A	2, 5, 2, 6, 5, 3, 1, 1, 1, 4, 2, 2
	DA3/99/45 (D31, D33)	I-A	1, 5
	DA3/99/47 (D40)	A	1
	DA3/99/68 (D61, D63)	A	3, 6

Taxa	Station numbers*	Station type	Abundance
Ischyroceridae sp.	DA3/99/36 (D1)	M	1
	DA3/99/35 (D18)	A	1
	DA3/99/47 (D34, D35, D38)	A	2, 2, 3
	DA3/99/56 (D49)	M	5
Family Leucothoidae			
Leucothoe cf. *goowera*	DA3/99/56 (D49)	M	2
Leucothoidae sp.	DA3/99/36 (D1)	M	1
	DA3/99/55 (D48)	M	1
Family Liljeborgidae	DA3/99/44 (D28a)	M	2
	DA3/99/61 (D55)	M	1
	DA3/99/63 (D57)	M	2
LYSSIANASSOIDEA	DA3/99/41 (D26)	M	1
	DA3/99/68 (D63)	A	1
Family Oedicerotidae	DA3/99/59 (D52)	I-M	15
Family Phliantidae	DA3/99/35 (D10, D17)	A	1, 1
	DA3/99/45 (D33)	I-A	1
	DA3/99/47 (D39)	A	1
Family Phoxocephalidae	DA3/99/44 (D28a)	M	2
Family Podoceridae	DA3/99/35 (D15)	A	2
	DA3/99/45 (D29)	I-A	2
	DA3/99/47 (D38)	A	4
	DA3/99/68 (D61, D62)	A	15, 1



The shawl crab, *Atergatis floridus*, is a common intertidal species occurring across tropical northern Australia. Photograph: Clay Bryce, WA Museum.

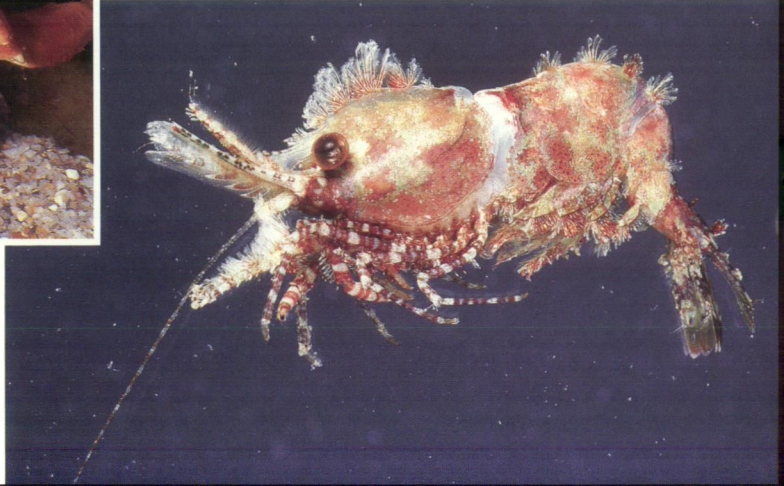
The mud or mangrove lobster, *Thalassina squamifera*, is rarely seen. It constructs a network of burrows up to 2 m in depth in or near muddy mangroves. Photograph: Clay Bryce, WA Museum.

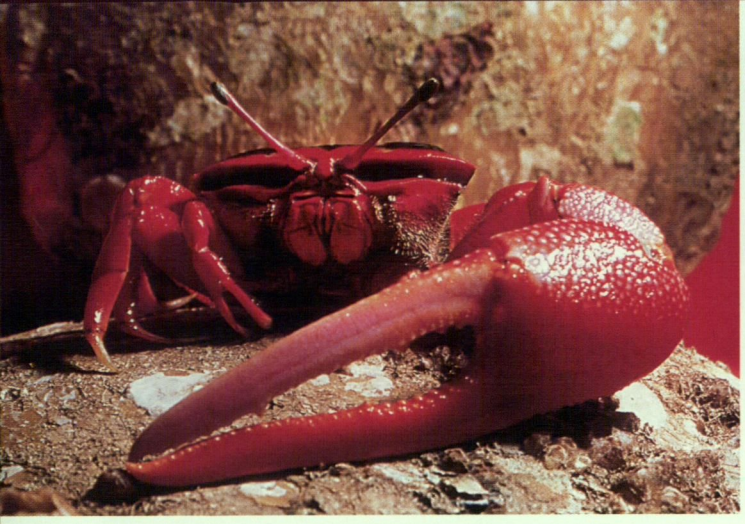
Conchodytes sp. These commensal shrimps live in bivalve molluscs. They use the bivalve for shelter or protection, feeding on leftover food or algae growing on the host. Photograph: Clay Bryce, WA Museum.

The decorator crab, *Paranaxia serpulifera*, camouflages itself by attaching algae and sponges to its shell. Photograph: Gary Morgan, WA Museum.

Dardanus pedunculatus. The shell of this colourful hermit crab is usually covered with sea anemones. Photograph: Clay Bryce, WA Museum.

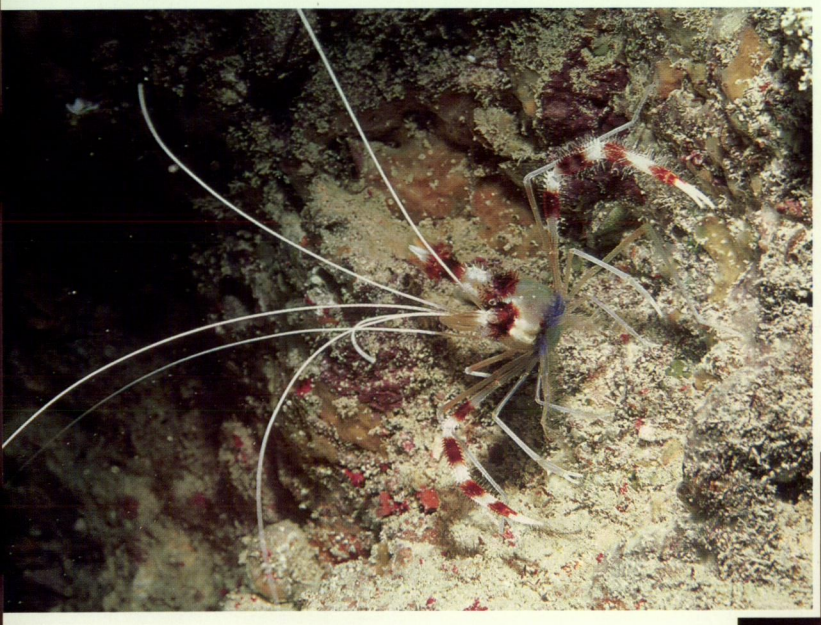
The distinctive hump-backed shrimp, *Saron marmoratus*, is a common species in the waters of the Dampier Archipelago. Photograph: Gary Morgan, WA Museum.





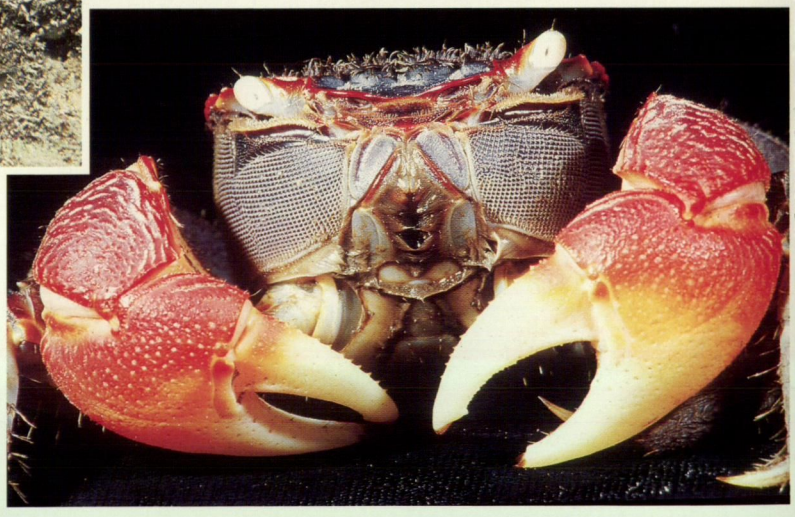
Uca flammula. This colourful fiddler crab, commonly known as 'Darwin red legs', is a common inhabitant of muddy mangrove and creek banks across northern Australia. Photograph: Clay Bryce, WA Museum.

The painted rock lobster, *Panulirus versicolor,* is the most common rock lobster in the Dampier Archipelago. Photograph: Clay Bryce, WA Museum.



The banded coral shrimp, *Stenopus hispidus*, shelters under ledges and in crevices of the shallow, subtidal coral reefs of the archipelago. Photograph: Clay Bryce, WA Museum

In mangroves across northern Australia the mangrove crab, *Neosarmatium meinerti,* occurs near the high tide mark, living in characteristic hooded burrows. Photograph: Clay Bryce, WA Museum



Across northern Australia the tropical rock crab, *Grapsus albolineatus*, is commonly found sheltering in the crevices of rocky and coral reef shores. Photograph: Clay Bryce, WA Museum.

The swimming crab, *Thalamita crenata*, has the last pair of legs broadly flattened as an adaptation for swimming. Photograph: Gary Morgan, WA Museum.