

Crustacea (excluding Cirripedia) of the Dampier Archipelago, Western Australia

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Abstract – Three hundred and eighty-one crustacean taxa have been identified from collections made during the Woodside Dampier Archipelago diving and dredging expeditions between 1998 and 1999, bringing the total known from the area to 426. Most species (361) belong to the Decapoda. A total of 120 species are new records for the archipelago, 14 are new records for Western Australia, five are new records for Australia and three are new species. Species diversity was greatest in the intertidal and shallow subtidal waters around the islands, where there was generally a high diversity of potential hosts for crustacean symbionts. These areas were characterised by a dominance of xanthoid crabs. Diversity was lowest in the deeper inter-island waters typified by soft and rocky bottoms with few potential hosts. The anomuran Porcellanidae and the brachyuran Portunidae were dominant at these sites. The collection has a high occurrence of Indo-West Pacific species typical of the Northern Australian faunistic province.

INTRODUCTION

Previous fieldwork and surveys conducted within the Dampier Archipelago have contributed over 220 crustacean species to the collections of the Western Australian Museum. Some crustacean groups from this material have been included in published taxonomic accounts (Stephenson, 1961; Tyndale-Biscoe and George, 1962; Haig, 1965; Seréne, 1972; George and Clark, 1976; George and Jones, 1982; Griffin and Tranter, 1986; Galil, 2001). A few general accounts have been presented in published (Burbidge and Prince, 1972; Semeniuk *et al.*, 1982) and unpublished reports (Meagher and LeProvost, 1979), but these are brief and limited to either listing common species or commenting on broader crustacean groups. The current report represents the first documentation of the crustacean fauna (excluding Cirripedia and Amphipoda which are reported on elsewhere in this volume) of the Dampier Archipelago.

MATERIALS AND METHODS

Crustaceans were collected from the waters of the Dampier Archipelago during 1998 and 1999. The collection includes material obtained from two diving expeditions (DA1/98 and DA3/99) and a dredging expedition (DA2/99). Refer to Station Lists section in this volume for details.

Diving expeditions DA1/98 and DA3/99

A total of 70 stations was sampled during the two diving expeditions and included 21 intertidal and 49 subtidal sites. Intertidal areas were sampled by reef walking and snorkelling. Subtidal habitats were sampled using SCUBA to a maximum depth of 25 m. At each station, specimens were collected from a variety of habitat types. The area covered was dependent on the depth (if diving) and the rate at which the collector could effectively sample the various microhabitats. For crustaceans, this required examination of coral heads, sponges, echinoderms, algae and other hosts, turning rocks, examining burrows and breaking coral rubble and rock. Specimens extracted from cnidarians, echinoderms and molluscs were mainly obtained from samples collected by the expedition members working on these phyla.

Dredging expedition DA2/99

One hundred dredging stations were sampled within the archipelago, covering depths of between 5 to 43 m. Samples were made using a box dredge with either a rake or scoop lip (refer to station list). Each station was first surveyed by sonar to avoid possible obstructions. The dredge was then lowered and towed, typically for 10 minutes over the surveyed ground. On completion, the cage contents were emptied into prawn baskets and sorted on deck.

Material obtained from stations DA2/99/11 (grab sample), 14 (grab sample), 80, 86, and 97 (grab sample) was part of another project and such data are not included in this report.

Identifications

All specimens were identified to the lowest possible taxonomic level. The systematic arrangement used is based on that of Martin and Davis (2001) and Davie (2000a, b). Genera and species are arranged alphabetically within families. The diversity of the collections necessitated the sending of a number of crustacean groups to respective experts for further identification and study (Appendix 1). The resulting reports on these groups will be published in a future Supplement of the *Records of the Western Australian Museum*. Identifications of species of Trapeziidae, Parthenopidae, Stenopodidae and Sphaeromatidae were made by the authorities listed in Appendix 1.

RESULTS

The sampling stations and associated crustacean species are listed in Table 1. From the >3,000 crustacean specimens collected from the archipelago, 381 taxa were identified, bringing the total known from the area to 426. Decapods accounted for the majority (361) of taxa. Of the identified species, 120 are new records for the archipelago and 14 are new records for Western Australia (Table 1). Five species, *Ixa edwardsi* Lucas, 1858 (Leucosiidae), *Myra curtimana* Galil, 2001 (Leucosiidae), *Nucia speciosa* Dana, 1852 (Leucosiidae), *Actaea jacquelineae* Guinot, 1976 (Xanthidae) and *Banareia kraussi* (Heller, 1861) (Xanthidae) are new records for Australia.

Range extensions southward from the Kimberley region are recorded for five species – *Microprosthema validum* Stimpson, 1860 (Spongicolidae), *Alpheus obesomanus* Dana, 1852 (Alpheidae), *Gelastocaris paronae* (Nobili, 1905) (Hippolytidae), *Lissoporcellana nitida* Haswell, 1882 and *Petrolisthes kranjensis* Johnson, 1970 (Porcellanidae).

Three new species, the isopods *Cilicaea* sp. nov., *Cilicaeopsis* sp. nov. and *Oxinasphaera* sp. nov., have been collected and will be described in a future report on sphaeromatid isopods (C. Hass, personal communication). Preliminary investigations indicate that two xanthid crabs, *Actaea* sp. and *Platypodia* sp., are also possibly new to science.

Species assemblages

Only 38 of the recorded taxa were common to all three expeditions. The first diving expedition (DA1) recorded 37 species which were neither recorded from the second diving expedition (DA2) nor the

dredging expedition (DA3). The most significant families contributing to these records were the Xanthidae, Grapsidae and Trapeziidae (Table 1). The second diving expedition recorded a total of 50 species unique to its collections. Most of these records were xanthid crabs and caridean shrimps.

One hundred and seventeen species were recorded only from the dredging expedition. The majority of these records were from families associated with soft bottom environments, many of which are known burrowers. These include representatives of the Scyllaridae, Raninidae, Leucosiidae, Parthenopidae, Atelecyclidae, Corystidae, Goneplacidae and nine of the 11 species of *Portunus* (Portunidae).

Dominant groups

The dominant crustacean groups, measured by the number of species in a family at a station, varied between diving and dredging expeditions. The intertidal and shallow inshore areas typically surveyed during the diving expeditions were dominated by xanthoids of the Xanthidae and Trapeziidae, at 39 (56%) and 16 (23%) of the 70 stations, respectively (Table 2). The Xanthidae also provided the highest number of species for a family at a single station, recording species numbers of 11, 10 and 9 at stations DA3/99/45, 42 and 54, respectively.

Xanthid crabs are generally not burrowers, preferring to shelter under, in or among more solid substrata. They are largely opportunistic in their choice of shelter and colonise live and dead hard corals, rocks and coral rubble – all common components of the intertidal and inshore areas sampled during the diving expeditions. The genera *Trapezia* and *Tetralia* (Trapeziidae) are obligate symbionts of pocilloporid and acroporid corals, respectively, and only occur where the host coral exists (Castro, 1999). Both coral genera were frequent components of the inshore sites sampled.

In inshore areas, the Porcellanidae represented the third most dominant family, though at only eight of the 70 stations. It appears that the considerably reduced numbers of xanthids and trapeziids at dredging stations elevated the Porcellanidae to the position of most dominant family at these sites, i.e. 30 of the 84 stations (36%) (Table 3). Representatives of the Porcellanidae appear to be opportunistic, like the xanthids, several species having been recorded from rock, rubble, hard coral, sponges and gorgonians.

The Portunidae were also a significant component at the dredging sites, being dominant at 30% of the stations. Portunids are common inhabitants of soft and rocky bottoms. Areas surveyed during the dredging expedition were typically soft-bottom habitats of sand, muddy sand, mud or shell, frequently with rock lumps or rubble. Dominant

biota was typically algae, sponges, gorgonians and hydroids.

Species richness of groups

Species richness of the various crustacean groups, measured by the number of species recorded for each one by the diving expeditions (DA1/98 and DA3/99), the dredging expedition (DA2/99) and collectively for the entire survey, are shown in Table 4. The brachyuran Xanthidae, represented by 57 taxa, was the most species rich family followed, in decreasing richness, by the Portunidae, Majidae, Leucosiidae and Porcellanidae with totals of 32, 25, 23 and 20 taxa, respectively. While the Pilumnidae have not been fully examined, the family ranks among the most species rich with 28 species so far recognised. It is likely the Alpheidae will also rank highly once the family has been fully examined.

Occurrence of groups within the Dampier Archipelago

The number of stations at which each crustacean group occurred are given in Table 4, for the diving expeditions (DA1/98 and DA3/99), the dredging expedition (DA2/99) and collectively for the entire survey. The most widespread groups were the Portunidae, Pilumnidae, Alpheidae, Porcellanidae, Xanthidae and Paguroidea, occurring at 120, 106, 102, 97, 96 and 94 of the 165 stations, respectively (Table 4). The ten most commonly occurring species were predominantly anomurans. These were, in order of decreasing occurrence, *Lissoporcellana spinuligera* (Porcellanidae), *Petrolisthes militaris* (Porcellanidae), *Galathea subsquamata* (Galatheidae), *Lissoporcellana furcillata* (Porcellanidae), penaeid sp. 3 (Penaeidae), *Aliaporcellana suluensis* (Porcellanidae), *Pachycheles sculptus* (Porcellanidae), *Trapezia cymodoce* (Trapeziidae), *Calappa terraereginae* (Calappidae) and *Atergatis floridus* (Xanthidae).

Site diversity

Site species diversity data, measured by the number of species occurring at a station, are given in Tables 2 and 3. Site diversity was identified low (10 or less taxa recorded), medium (11 to 20 taxa) or high (21 or more taxa). Of the 165 stations only 28 (17%) recorded high species diversity, 62 (38%) medium and 75 (45%) low.

The five stations with the highest species diversity were from dredging and intertidal stations: DA2/62 Flying Foam Passage (30 taxa); DA2/73, south of Rocky Head, Enderby Island (30 taxa); DA2/76 W of the NW point of Goodwyn Island (28 taxa); DA3/42 Georges Reef (28 taxa); and DA3/54 Enderby Island (27 taxa). These stations were generally characterised by complex habitats which supported a broad range of crustacean host

organisms. Nearshore sites demonstrating high diversity were also reasonably protected from prevailing swells.

The nine least diverse sites (<2 species/station) recorded included two nearshore stations and seven dredging stations: DA2/100 W of Rocky Head, Enderby Island (0 taxa); DA2/64 N of light on East Intercourse Island (1 taxa); DA2/63 NNE of light on East Intercourse Island (2 taxa); DA2/30 W of Cape Bruguieres (2 taxa); DA2/28 WNW of Cape Bruguieres (2 taxa); DA2/27 WSW of Cape Legendre (2 taxa); DA2/19 E of Hearson Cove (2 taxa); DA1/26 Madeleine Shoals (2 taxa); and DA1/15 Legendre Island (2 taxa). These stations were typically of simpler bottom types and often heavily silted. Where host organisms did occur they were generally in low numbers.

The difficulty of sampling from many large coral colonies in areas of extensive coral growth is likely to have contributed to the low species diversity recorded at stations DA1/21 and DA2/22 at Delambre Island.

Table 5 compares the species diversity of intertidal, diving and dredging stations. Intertidal stations showed the greatest diversity with 33% of the stations recording high, 38% medium and 29% low diversity. The majority of the diving stations were of medium (43%) and low diversity (47%). Dredging stations were predominantly of low diversity with 48% of these recording <10 taxa. Sixteen dredging stations (17%) were of high diversity, including the two highest for species diversity.

Diversity with depth

To correlate species diversity with depth, stations were broken into the following categories: intertidal, subtidal areas of 10 m or less, and subtidal areas >10 m (Table 6). The intertidal zone recorded both the greatest proportion of high diversity sites and the lowest proportion of low diversity ones. Subtidal site diversity generally decreased with depth, areas below 10 m recording the greatest number of low diversity sites and the least number of high diversity ones.

Biogeographical affinities

Distributions of identified species are given in Table 1. Since previous surveys conducted in the tropical waters of northern Western Australia have focused on the decapod fauna, only the distributions of the decapod species are considered here.

Of the 180 identified decapod species, 68% have Indo-West Pacific distributions, 17% have distributions within the Indo-Australian sub-province of the Indo-West Pacific, (the area defined by the Indo-Malayan Archipelago, Australia and

New Guinea, to Japan (Jones, 1992) and 16 species (9%) are found only in waters of northern Australia (from Shark Bay, WA, north and around to Trial Bay, New South Wales). Two species are known from both tropical and temperate waters of Australia. Three xanthid species, *Actaea jacquelininae* Guinot, 1976, *Banareia kraussi* (Heller, 1861) and *Medaeops neglectus* (Balss, 1922), and the ocypodid *Ocyropode fabricii* H. Milne Edwards, 1837, are known only from the Indian Ocean. The portunid *Thalamita picta* Stimpson, 1858 has an Indo-Pacific distribution from East Africa to Japan, Hawaii and to Clipperton Island. Four species (2%) are endemic to the tropical waters of north Western Australia. These are the leucosiids, *Ixa acuta* Tyndale-Biscoe and George, 1962 and *Leucosia magna* Tyndale-Biscoe and George, 1962, the portunid, *Portunus (Monomia) curvipenis* Stephenson, 1961 and the xanthid *Actaea glandifera* Rathbun, 1914.

DISCUSSION

The Dampier Archipelago is situated well within the boundaries of the northern Australian tropical province and exhibits a high species diversity, a high incidence of tropical species and a low number of endemics (Wilson and Allen, 1987; Jones, 2003). While there is evidence of a strong Indo-West Pacific faunistic element in the decapod fauna of the archipelago (68%), it is somewhat reduced when compared to the 74% recorded for both Shark Bay (Jones, 1990) and the Montebello Islands (Jones and Berry, 2000). Morgan (1992) demonstrated a 78% Indo-West Pacific component of the Kimberley marine thalassinidean, anomuran and brachyuran fauna. However, the above figures for the Dampier Archipelago will be revised after the results of the detailed examination of the crustacean groups currently being undertaken by various specialists are analysed (Appendix 1).

Within the archipelago, diversity was generally highest around the islands, particularly the intertidal sites where a wide range of habitats was available, including mangrove, rocky shore, sandy beach, tidal mud and sand flats, and reef platforms. Diversity of the shallow, subtidal sites was greatest where well developed and diverse coral growth was present and where a wide range of host organisms were available. The inter-island areas, where considerable sponge growth occurred on emergent limestone, also supported a high crustacean diversity. These findings support previous observations that diversity is greatest in areas of increased habitat range and complexity (Davie and Short, 1995).

Low diversity sites were mostly dredging stations with simple bottom types. The high levels of silt and mud encountered at many of the dredging stations is likely to have contributed to the reduced

species numbers recorded at these sites. Hewitt (1998) commented on the increased levels of siltation at depth in the Kimberley and indicated that this may have contributed to the reduced decapod species diversity at deeper sites, by filling the available sheltering sites in rock and rubble.

The survey emphasises the differences between the faunal assemblages of shallow inshore areas, comprising largely more complex intertidal and coral-reef systems, and the deeper inter-island waters characterised by soft and rocky bottomed areas. The former supported mainly crustacean families that associate with other marine organisms, particularly those co-occurring with hard corals, such as the Xanthidae, Trapeziidae, Porcellanidae and caridean shrimps. Families typically associated with soft and rocky bottoms, such as the Portunidae, Leucosiidae and Parthenopidae, were well represented in the deeper waters sampled by the dredge. The Scyllaridae, Raninidae, Dorippidae, Corystidae and Palicidae were only recorded from dredging stations.

The high incidence of xanthid species in the inshore reef systems and their conspicuous reduction in the dredging stations supports the opinion that this family of crabs reaches its highest diversity in association with coral (Davie and Short, 1996). The collections indicate a similar association between porcellanid crabs and sponges and gorgonians. Porcellanid diversity was generally highest at sites where there was a high occurrence of both these groups.

A total of 426 species of crustaceans is now recorded for the Dampier Archipelago. This is comparable to the diversity (450 species) collectively documented for the Kimberley region by Davie and Short (1996, 1995), Hewitt (1997) and Morgan (1992, 1990). Comparison with other northern tropical faunas is difficult, however, as the collecting efforts involved are variable. For example, Jones and Berry (2000) reported upon 123 species from the Montebello Islands, but with a much reduced collection effort compared to the Dampier surveys. Despite these difficulties, the present survey illustrates the richness of the crustacean fauna of the Dampier Archipelago.

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Table 1 List of crustaceans collected during the Woodside Dampier Expeditions of 1998–1999, indicating stations where species were recorded, previous collections, biogeographic distributions and depth data.

- Prev. = previous records.
 D = species record in Dampier Archipelago prior to 98-99 survey.
 d = genus, family or order has been recorded previously from the Dampier Archipelago.
 K = collected from the Kimberley (Davie and Short, 1994, 1996; Hewitt, 1997; Morgan, 1988, 1992).
 M = collected from Montebello Islands (Jones and Berry, 2000).
 SB = collected from Shark Bay (Jones, 1990).
 NR = new record for WA or Australia.
 NS = new species.
 Dist. = known biogeographic distribution of species.
 NWA = north Western Australia.
 NA = northern Australia including WA from Exmouth Gulf, NT, and Qld.
 A = Australia.
 IA = Indo-Australian province of the Indo-west Pacific.
 IWP = Indo-west Pacific.
 IO = Indian Ocean.
 IP = Indo-Pacific.
Bold Station Nos = visual records.
 DA = species collected from the Dampier Archipelago during the survey but station number unknown.
 Tot. = total number of stations from which the species was recorded.
 < 10 = number of stations the species occurred at that were equal to or < 10 m in depth.
 > 10 = number of stations the species occurred at that were > 10 m in depth.

Identification	Prev.	Dist.	Diving Stn nos 1-70 (DA1/98, DA3/99)	Dredging Stn nos 1-100 (DA2/99)	Tot.	< 10	> 10
Order Stomatopoda Latreille, 1817							
Family Gonodactylidae Giesbrecht, 1910	d						
Stomatopod sp. 1			1, 6, 11, 29, 33, 34, 35	13, 18, 33, 39, 65, 68, 72, 76, 79, 84, 91, 95, 99	20	9	11
Stomatopod sp. 2				34, 48, 61, 88, 93, 94	6		6
Stomatopod sp. 3			13, 31		2	1	
Stomatopod sp. 4			6		1	1	
Stomatopod sp. 5			6	10, 33, 39, 42, 50, 70, 72, 75, 76, 84, 85, 95, 98, 99	15	3	12
Stomatopod sp. 6			9, 33	4, 6, 8, 9, 10, 13, 33, 41, 50, 51, 57, 76, 84, 91	16	3	13
Stomatopod sp. 7				61, 69,	2		2
Stomatopod sp. 8				6	1		1
Stomatopod sp. 9				7	1		1
Stomatopod sp. 10				88, 96	2	1	1
Stomatopods – Unidentified specimens			9, 11, 12, 14, 37, 38, 42, 45, 51, 53, 54, 56, 64, 68		14	14	
Order Mysida Haworth, 1825	d						
Mysids – Unidentified specimens			51	76	2	1	1

Order Amphipoda Latreille, 1816	d		3, 6, 7, 8, 10, 11, 12, 13, 20, 30, 31, 34, 35, 38, 41, 42, 45, 46, 49, 52, 53, 59, 63, 65, 68	2, 8, 9, 13, 22, 23, 32, 49, 52, 54, 59, 65, 68, 74, 79, 98	41	22	20
Amphipods – Unidentified specimens							
Order Isopoda Latreille, 1817							
Suborder Anthuridea Monod, 1922							
Anthurid sp. 1			34, 37, 38, 49, 52, 61		6	5	
Anthurid sp. 2			44		1	1	
Suborder Flabellifera Sars, 1882							
Family Cirolanidae Dana, 1853							
Cirolanid spp			38, 46, 56, 59, 63, 65, 66	1, 2, 4, 6, 12, 62, 72, 81	15	7	6
Family Gnathiidae Leach, 1814							
<i>Gnathia</i> sp. (larvae)			49		1	1	
Family Sphaeromatidae Latreille, 1825	d						
<i>Cilicæa</i> sp. nov.	NS	NWA		37, 84, 99	3		3
<i>Cilicæopsis</i> sp. nov.	NS	NWA	55	71, 77	3		3
<i>Cilicæopsis whiteleggei</i> (Stebbing, 1905)	NR	IA	56	33, 57, 70, 73, 84	6	1	4
<i>Cymodoce longistylis</i> Miers, 1884	NR	IA	36, 61		2	1	
<i>Oxinasphaera frailea</i> Bruce, 1997		A	52, 60, 64		3	2	
<i>Oxinasphaera tuberculosa</i> (Stebbing, 1873)		A	41, 56	68, 70, 72, 77, 84	7	4	2
<i>Oxinasphaera</i> sp. nov.	NS	NWA		34			1
Order Tanaidacea Dana, 1849							
Tanaids – Unidentified specimens			17, 34, 41		3	3	
Order Decapoda Latreille, 1802							
Superfamily Penaeoidea Rafinesque, 1815							
Family Penaeidae Rafinesque, 1815							
<i>Metapenaeopsis</i> sp.	d			12, 46, 62, 88	4		4
Penaeid sp. 1			3	41, 74	3	1	2
Penaeid sp. 2				22, 55	2		2
Penaeid sp. 3				1, 3, 4, 8, 12, 18, 23, 24, 25, 26, 29, 34, 40, 41, 45, 53, 55, 56, 57, 61, 67, 69, 71, 72, 73, 74, 79, 83, 88, 91, 96, 98	32	3	29
Penaeid sp. 4				12, 15, 20, 21, 23, 24, 34, 35, 44, 55, 60, 68, 69, 74, 87, 96	16	2	14
Penaeid sp. 5				34	1		1
Infraorder Stenopodidea Claus, 1872							
Family Spongicolidae Schram, 1986							
<i>Microprosthema validum</i> Stimpson, 1860	K	IWP	35, 38, 53		3	3	

Table 1 (cont.)

Identification	Prev.	Dist.	Diving Stn nos 1-70 (DA1/98, DA3/99)	Dredging Stn nos 1-100 (DA2/99)	Tot.	< 10	> 10
Family Stenopodidae Claus, 1872							
<i>Stenopus hispidus</i> (Olivier, 1811)	SB, d	IWP	18, 21, 40, 44, 52, 67	85	7	2	1
Stenopid sp. 1			44	6, 50, 91	4	2	2
Stenopid sp. 2				59, 73	2		2
Infraorder Caridea Dana, 1852							
Family Rhynchocinetidae Ortmann, 1890							
<i>Rhynchocinetes</i> sp.			69		1		1
Family Palaemonidae Rafinesque, 1815							
<i>Conchodytes</i> sp.			3, 39		2	2	
<i>Coralliocaris graminae</i> ? (Dana, 1852)	SB, K	IWP	29, 36, 40, 49, 70		5	3	
<i>Palaemonella rotumana</i> ? (Borradaile, 1898)	SB, K	IWP	10, 33, 37, 55, 68	10, 36, 62	8	5	3
<i>Palaemonella</i> sp.			30, 55, 68		3	2	1
Palaemonid sp. 1			11, 30, 31, 36, 38, 59, 62, 64, 68	18, 75	11	8	2
Palaemonid sp. 2			41, 47, 55, 56, 65	71, 75	7	2	4
Palaemonid sp. 3			64	76	2	1	1
Palaemonid sp. 4			68	73	2	1	1
Palaemonid sp. 5			31		1	1	
Palaemonid sp. 6			1, 3, 6, 8, 29		5	4	1
Family Alpheidae Rafinesque, 1815							
<i>Alpheus</i> sp. 1	d		1, 3, 9		3	3	
<i>Alpheus</i> sp. 2			1, 34		2	2	
<i>Alpheus</i> sp. 3			34		1	1	
<i>Alpheus</i> sp. 4			12, 13, 35		3	2	
<i>Alpheus</i> sp. 5			35		1	1	
<i>Alpheus</i> sp. 6			1		1	1	
<i>Alpheus</i> sp. 7			1		1	1	
<i>Alpheus</i> sp. 8			4, 33		2	1	1
<i>Alpheus</i> sp. 9			29		1	1	
<i>Alpheus</i> sp. 10			6, 8, 31		3	3	
<i>Alpheus obesomanus</i> Dana, 1852	K	IWP	8		1	1	
<i>Athanopsis</i> sp.			11		1	1	
<i>Synalpheus</i> sp. 1			30, 33		2	2	
<i>Synalpheus</i> sp. 2			32, 34, 35		3	2	1
<i>Synalpheus</i> sp. 3			1, 7, 8, 11, 12, 13, 31, 33		8	7	
<i>Synalpheus stimpsonii</i> (de Man, 1888)	SB, D, K	IWP	48, 61, 65, 68		4	3	1
Alpheids – Unidentified specimens			9, 11, 15, 19, 27, 34, 37, 38, 39, 41, 42, 43, 45, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 59, 60, 61, 62, 64, 65, 66, 67, 68, 70	4, 5, 6, 7, 8, 9, 10, 12, 13, 17, 18, 19, 20, 22, 23, 24, 25, 26, 32, 33, 34, 37, 38, 39, 41, 42, 43, 47, 49, 50, 58, 60, 61, 62, 63, 65, 68, 70, 71, 72, 73, 75, 76, 77, 78, 79, 82, 83, 84, 85, 91, 95, 98, 99	88	29	54

Family Hippolytidae Dana, 1852								
<i>Gelastocaris ?paronae</i> (Nobili, 1905)	K	IWP	41, 65			2	1	1
<i>Hippolyte</i> sp.			51, 68			2	2	
<i>Latreutes</i> ?sp. 1			51, 68			2	2	
<i>Latreutes</i> ?sp. 2			4			1		1
<i>Latreutes</i> ?sp. 3			68			1	1	
<i>Saron marmoratus</i> (Oliver, 1811)	SB, K	IWP	40, 42, 45, 47, 69, 70			6	4	1
<i>Thor amboinensis</i> de Man, 1888	SB, K	IWP	29, 64			2	2	
<i>Tozeuma</i> sp.			68			1	1	
Hippolytid sp. 1			31, 48, 56, 65	13, 82, 85		7	2	4
Hippolytid sp. 2			10, 36, 37, 48, 64, 68	16		7	5	1
Hippolytid sp. 3			62			1	1	
Family Pandalidae Haworth, 1825								
<i>Chlorotocella</i> ?sp.			55, 68			2	1	1
Family Thalassocarididae Bate, 1888								
<i>Thalassocaris</i> sp.			67			1		
Unidentified shrimp								
Shrimp sp. 1			6, 36, 49			3	2	
Shrimp sp. 2			36			1		
Shrimp sp. 3			42			1	1	
Shrimp sp. 4			3			1	1	
Shrimp sp. 5			70			1	1	
Shrimp sp. 6			41			1	1	
Shrimp sp. 7			42			1	1	
Shrimp sp. 8			3, 36			2	1	
Shrimp sp. 9			8, 13, 29, 34			4	3	
Shrimp sp. 10			32, 36			2		
Shrimp sp. 11				12, 41, 46, 73, 74, 76		6		6
Shrimp sp. 12			68			1	1	
Shrimp sp. 13				12, 46		2		2
Shrimp sp. 14			1, 4, 9, 32	42, 48, 67, 94		8	2	5
Shrimp sp. 15			9	88		2	1	1
Shrimp sp. 16				68		1	1	
Shrimp sp. 17			1			1	1	
Shrimp sp. 18			9			1	1	
Shrimp sp. 19			11			1	1	
Infraorder Thalassinidea Latreille, 1831								
Family Thalassinidae Latreille, 1831								
<i>Thalassina squamifera</i> de Man, 1915	K	IA	10, 11			2	2	
Family Upogebiidae Borradaile, 1903								
Upogebids – Unidentified specimens	d		1, 4, 11, 31, 33, 35, 61, 63, 67	3, 5, 25		12	7	4

Table 1 (cont.)

Identification	Prev.	Dist.	Diving Stn nos 1-70 (DA1/98, DA3/99)	Dredging Stn nos 1-100 (DA2/99)	Tot.	< 10	> 10
Family Axiidae Huxley, 1879							
Axiid sp.	d		40		1		1
Infraorder Palinura Latreille, 1802							
Family Palinuridae Latreille, 1802							
<i>Panulirus ornatus</i> (Fabricius, 1798)	M, K	IWP	3, 61		2	2	
<i>Panulirus versicolor</i> (Latreille, 1804)	M, K	IWP	1, 3, 9, 15, 16, 18, 19, 21, 22, 24, 36, 39T, 40, 43, 46, 49, 50, 51, 61, 67, 69		21	12	2
Family Scyllaridae Latreille, 1825							
<i>Petrarctus demani</i> (Holthuis, 1946)	D	IA		6, 21, 24, 40, 73	5		5
<i>Eduarctus martensii</i> (Pfeffer, 1881)	D	IWP		73	1		1
<i>Acantharctus ornatus</i> (Holthuis, 1960)	D	IWP		33	1		1
<i>Thenus orientalis</i> (Lund, 1793)	D	IWP		21, 91	2	1	1
Infraorder Anomura MacLeay, 1838							
Family Lomisidae Bouvier, 1895							
Lomid sp.				70	1	1	
Family Galatheidae Samouelle, 1819							
<i>Allogalatea elegans</i> (Adams and White, 1848)	D	IWP		6, 12, 21, 23, 24, 25, 32, 37, 38, 40, 41, 43, 47, 49, 56, 65, 74, 78, 85, 87	20		20
<i>Galathea subsquamata</i> Stimpson, 1858	K	IWP	1, 8, 12, 33, 36, 37, 40, 49, 52, 60, 61, 63, 64, 67, 70	8, 13, 32, 41, 42, 48, 49, 58, 59, 60, 62, 65, 70, 75, 79, 82, 84, 85, 95	34	13	17
<i>Galathea ?magnifica</i> Haswell, 1882		A	32, 41, 44, 49, 53, 55, 56, 61, 64, 68, 69	13, 18, 29, 36, 39, 48, 49, 65, 72, 98, 99	22	8	12
<i>Phylladorhynchus pusillus</i> (Henderson, 1885)		IWP	50, 59, 61, 64, 67		5	3	1
Family Porcellanidae Haworth, 1825							
<i>Aliaporcellana suluensis</i> (Dana, 1852)	K	IWP	41, 55, 56, 65	4, 5, 6, 8, 9, 10, 22, 24, 31, 32, 37, 38, 39, 41, 48, 49, 58, 59, 60, 71, 72, 75, 79, 85, 91, 99	30	3	26
<i>Lissoporcellana furcillata</i> Haig, 1965	K	IWP	31, 41, 55, 56, 65	9, 10, 13, 18, 22, 29, 31, 32, 33, 37, 39, 41, 48, 59, 60, 65, 70, 72, 73, 75, 76, 77, 79, 84, 85, 95, 98, 99	33	3	29
<i>Lissoporcellana quadrilobata</i> (Miers, 1884)	NR	IWP		71	1		1
<i>Lissoporcellana spinuligera</i> (Dana, 1853)	D, K	IA	1, 3, 4, 8, 9, 10, 12, 20, 29, 30, 31, 32, 36, 37, 40, 44, 46, 49, 51, 55, 57, 60, 65	9, 39, 60, 65, 70, 72, 73, 74, 75, 77, 94, 95, 99	36	17	15
<i>Pachycheles johnsoni</i> Haig, 1965	D, K	IWP	7, 13, 37	9	4	2	1
<i>Pachycheles sculptus</i> (H. Milne Edwards, 1837)	D	IWP	7, 10, 41, 47, 56, 65, 70	4, 5, 8, 10, 12, 13, 18, 33, 37, 39, 41, 62, 65, 68, 70, 71, 72, 73, 75, 82, 85, 91, 99	30	9	20

<i>Pachycheles</i> sp.			42, 45, 46, 47			4	3	
<i>Petrolisthes boscii</i> (Audouin, 1826)	D, K	IWP	37, 41, 45			3	3	
<i>Petrolisthes haswelli</i> Miers, 1884	D, K	NA	7, 27, 42, 45, 48	41		6	5	1
<i>Petrolisthes kranjiensis</i> Johnson, 1970	K	IA	54			1	1	
<i>Petrolisthes militaris</i> (Heller, 1862)	D, K	IWP	47, 49, 50, 56, 65		4, 6, 8, 9, 10, 12, 13, 18, 31, 32, 37, 38, 41, 42, 49, 50, 58, 59, 60, 61, 72, 73, 74, 75, 76, 77, 82, 84, 85, 91, 99	36	4	31
<i>Pisidia ?dispar</i> (Stimpson, 1858)	K	IWP	11, 34, 38, 47, 48, 56, 61		9, 18, 32, 39, 46, 49, 57, 72, 75, 88, 99	18	7	10
<i>Pisidia gordonii</i> (Johnson, 1970)	K	IWP	9, 64		18, 37, 38, 65, 68, 70, 72	9	4	5
<i>Pisidia</i> cf. <i>gordonii</i> (Johnson, 1970)					43, 65	2		2
<i>Pisidia</i> sp.			4, 11, 32, 34, 42, 47, 49, 52,		4, 6, 8, 77, 85	13	5	6
<i>Polyonyx biunguiculatus</i> (Dana, 1852)	D	IWP	1, 4, 11, 32, 33, 65		37, 39, 49, 65, 70, 81, 95	13	4	8
<i>Polyonyx</i> sp.					4, 66, 84, 85	4	1	3
<i>Polyonyx telestophilus</i> Johnson, 1958		IA			8, 9, 60, 63, 67	5		5
<i>Polyonyx ?triunguiculatus</i> Zehntner, 1894	D	IWP	7, 54		9, 10, 37, 39, 50, 68, 76, 82, 84, 85, 91	13	4	9
<i>Porcellana nitida</i> Haswell, 1882		NA			59, 71, 73	3		3
Family Albuneidae Stimpson, 1858	d							
Albuneid sp. 1					42, 58	2		2
Albuneid sp. 2					24, 25, 55, 87	4		4
Albuneid sp. 3					89	1		1
Family Diogenidae Ortmann, 1892								
<i>Calcinus ?latens</i> (Randall, 1840)	K	IWP	6, 45, 48			3	3	
<i>Clibanarius taeniatus</i> (H. Milne Edwards, 1848)	K	NA	8, 9, 11, 17, 18, 23, 28, 38, 42, 54, 59, 62, 65, 66			14	13	1
<i>Clibanarius virescens</i> (Krauss, 1843)	K	IWP	6, 9, 14, 18, 38, 42, 45, 48, 51			9	9	
<i>Dardanus megistos</i> (Herbst, 1804)	D, M, K	IWP	14, 19, 22, 45, 46			5	4	
<i>Dardanus ?lagopodes</i> (Forskål, 1775)	K	IWP	57			1		1
<i>Dardanus ?pedunculatus</i> (Herbst, 1804)		IWP	43, 65, 67			3		1
<i>Dardanus</i> sp. 1					8, 21, 23, 24, 32, 34, 52, 55, 56, 57, 60, 68, 69, 72, 73, 74, 92,	17	2	15
<i>Dardanus</i> sp. 2					33, 59, 65, 68, 72, 73, 91	7	3	4
<i>Paguristes ?monoporus</i> Morgan, 1987	d, K	IA	61			1	1	
Family Paguridae Latreille, 1802	d							
<i>Paguritta</i> sp.			32, 39, 43, 50, 70			5	2	1
Paguroids – Unidentified specimens			2, 3, 5, 6, 7, 9, 10, 11, 16, 17, 26, 27, 31, 32, 37, 38, 41, 42, 43, 45, 47, 48, 49, 51, 53, 54, 56, 58, 59, 61, 62, 65, 66, 67, 68, 69, 70		1, 6, 7, 22, 23, 24, 25, 26, 29, 33, 34, 35, 36, 40, 41, 42, 44, 46, 50, 51, 53, 54, 55, 56, 60, 61, 62, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 81, 82, 84, 85, 86, 88, 89, 90, 91, 93, 98, 99	84	35	46
Infraorder Brachyura Latreille, 1802								
Family Dromiidae de Haan, 1833								
Dromiid sp. 1					6, 24, 54, 56	4		4

Table 1 (cont.)

Identification	Prev.	Dist.	Diving Stn nos 1-70 (DA1/98, DA3/99)	Dredging Stn nos 1-100 (DA2/99)	Tot.	< 10	> 10
Dromiid sp. 2			45	9	2	1	1
Dromiid sp. 3				32, 65	2		2
Dromiid sp. 4			DA		1	-	-
Dromiid sp. 5			33, 48		2	2	
Dromiid sp. 6				13, 18, 47	3		3
Dromiid sp. 7				79	1		1
Dromiid sp. 8			38, 43		1	1	
Family Raninidae De Haan, 1839							
<i>Cosmonotus grayi</i> Adams and White, 1848	D	IWP		23, 29, 53, 55, 56	5		5
<i>Notopus dorsipes</i> (Fabricius, 1798)	D	IWP		4	1		1
Family Dorippidae MacLeay, 1838							
<i>Dorippe frascione</i> (Herbst, 1785)	D	IWP		12, 25, 46, 62, 73, 74, 91	7	2	5
<i>Paradorippe australiensis</i> (Miers, 1884)		IA		36, 59	2		2
Family Calappidae H. Milne Edwards, 1837							
<i>Calappa clypeata</i> Borradaile, 1903	D	IWP	10	1, 3, 6, 12, 23, 24, 25, 26, 27, 29, 32, 33, 34, 41, 44, 49, 54, 55, 56, 59, 68, 69, 73, 76, 78, 81, 89, 90	29	3	26
Family Leucosiidae Samouelle, 1819							
<i>Arcania gracilis</i> (Henderson, 1893)	d	IWP		55	1		1
<i>Arcania</i> sp.				37, 69	2		2
<i>Arcania undecimspinosa</i> de Haan, 1841	M	IWP		55, 90	2		2
<i>Ixa acuta</i> Tyndale-Biscoe and George, 1962		NWA		59, 60	2		2
<i>Ixa edwardsi</i> Lucas, 1858	NR			24, 25, 35, 44, 55, 56	6		6
<i>Leucosia magna</i> Tyndale-Biscoe and George, 1962	D	NWA		66	1	1	
<i>Leucosia ocellata</i> Bell, 1885	D, K	NA		34, 45, 59, 60, 67, 68, 92	7	1	6
<i>Leucosia perlata</i> de Haan, 1841	D, K	IWP	2, 62		2	2	
<i>Leucosia pubescens</i> Miers, 1877		IWP		17, 20, 34, 36, 44, 53, 59, 60, 61, 65, 69	11		11
<i>Leucosia reticulata</i> Miers, 1877	K	NA	54		1		1
<i>Leucosia</i> sp. 1			11		1	1	
<i>Leucosia</i> sp. 2			48, 59		2	2	
Leucosiid sp.				9, 16, 22, 32, 33, 42, 46, 58, 75, 78, 89	11		11
<i>Myra affinis</i> Bell, 1855	D, K	IWP		53, 69	2		2
<i>Myra australis</i> Haswell, 1879	D, K	IA	38	4, 23, 24, 29, 37, 38, 49, 55, 57, 62, 69, 73, 76, 79, 81, 88	17	1	16
<i>Myra celeris</i> Galil, 2001	NR	IWP		90	1		1
<i>Myra curtimana</i> Galil, 2001	NR	IWP		55	1		1
<i>Myra eudactyla</i> (Bell, 1855)		IWP		24	1		1

<i>Myra</i> sp.				44, 54	2		2
<i>Myrine kesslerii</i> (Paulson, 1875)	D	IWP		24	1		1
<i>Nucia speciosa</i> Dana, 1852	NR		12, 37		2	2	
<i>Nursia</i> sp.				37, 38, 66, 92, 93, 94	6	1	5
<i>Oreophorus reticulatus</i> Adams and White, 1849	NR			4, 57	2		2
Family Matutidae de Hann, 1841							
<i>Ashtoret granulosa</i> (Miers, 1877)	D, K	IWP		8, 12, 18	3		3
<i>Ashtoret lunaris</i> (Forskål, 1775)	D	IWP	10, 54		2	2	
<i>Izanami inermis</i> (Miers, 1884)	D	IA		6, 12, 25, 29, 32, 41, 49, 56, 76, 89	10		10
Family Majidae Samouelle, 1819							
<i>Achaeus</i> ?sp.				62	1	1	
<i>Achaeus</i> sp.			56	37, 40, 69	4		3
<i>Huenia heraldica</i> (De Haan, 1837)	M, D	IA	41, 68	31	3	2	1
<i>Hyastenus convexus</i> Miers, 1884	NR	IWP	10, 40		2	1	
<i>Hyastenus diacanthus</i> (De Haan, 1839)	D	IA	4, 41, 68	6, 8, 9, 18, 29, 31, 32, 55, 58, 59, 65, 68, 74, 75, 83, 85	19	3	16
<i>Hyastenus sebae</i> White, 1847	D, M	IA	65	33, 39, 62, 65, 95	6	1	5
<i>Hyastenus</i> sp. 1			47		1	1	
<i>Hyastenus</i> sp. 2			56	9, 77	3		2
<i>Hyastenus</i> sp. 3			39, 65, 68	13, 26, 37, 59, 60, 62, 77	10	3	7
<i>Menaethius monoceros</i> (Latreille, 1825)	D, M, K	IWP	12, 37, 38, 41, 42, 45, 47, 48, 51, 54, 56, 61	62, 95	14	12	1
<i>Micippa</i> ?sp.			4, 65	8, 62	4	1	3
<i>Micippa curtispina</i> Haswell, 1880		IA		62, 96	2	1	1
<i>Micippa philyra</i> (Herbst, 1803)	M, K	IWP	55		1		1
<i>Micippa platipes</i> Rüppell, 1830	D	IWP	62		1	1	
<i>Micippa thalia</i> (Herbst, 1803)	D	IWP	30	62, 73	3	1	2
<i>Ocinopus aranea</i> de Haan, 1839	D	IA		57, 62, 88	3	1	2
<i>Paranaxia serpulifera</i> (Guérin-Ménéville, 1829)	M, K	IA		37, 38, 62	3	1	2
<i>Paratymolus</i> sp. 1				62	1	1	
<i>Paratymolus</i> sp. 2			56		1		
<i>Phalangipus australiensis</i> Rathbun, 1918	D	IA		1, 23, 29, 33, 49, 52, 56, 57, 58, 69	10	1	9
<i>Pugettia</i> sp.			7		1	1	
<i>Schizophrys aspera</i> (H. Milne Edwards, 1834)	D, M, K	IWP	19, 12, 25, 42, 45, 46, 48, 51	4, 95	10	7	2
<i>Schizophrys dama</i> (Herbst, 1804)	D, M	IA	42, 65	8, 9, 10, 13, 38, 41, 58, 59, 77, 98	12	1	11
<i>Tiarinia</i> cf. <i>gracilis</i> Dana, 1852	d, K		6, 48		2	2	
<i>Tiarinia cornigera</i> (Latreille, 1825)	M	IWP	25, 64		2	2	
Family Hymenosomatidae MacLeay, 1838							
<i>Halicarcinus ?bedfordi</i> Montgomery, 1931	SB	NA	48		1	1	
<i>Trigonoplax ?spathulifera</i> Lucas, 1980	d	NA	9, 68	85	3	2	1
Family Parthenopidae MacLeay, 1838							
<i>Aulacolambrus diacanthus</i> (de Haan, 1837)	D, M	IWP	55	6, 37, 60, 62, 91, 98	7	2	5

Table 1 (cont.)

Identification	Prev.	Dist.	Diving Stn nos 1-70 (DA1/98, DA3/99)	Dredging Stn nos 1-100 (DA2/99)	Tot.	< 10	> 10
<i>Aulacolambrus longiocularis</i> (Miers, 1879)		IA		29, 35, 38, 59, 60, 61, 69	7		7
<i>Aulacolambrus</i> sp.				24	1		1
<i>Cryptopodia fistulosa</i> Chiong and Ng, 1994	d	NA		21, 70, 73, 78	4	1	3
<i>Cryptopodia queenslandi</i> Rathbun, 1918		IA		6, 24, 25, 36, 51, 69	6		6
<i>Parthenope longimanus</i> (Linnaeus, 1758)		IWP		54, 56, 90	3		3
<i>Parthenope nodosus</i> (Jacquinot, 1854)	SB, D, K	IA		1, 40, 65, 68, 69, 72, 74	7	3	4
<i>Pseudolambrus</i> aff. <i>bidentatus</i> (Flipse, 1930)				73	1		1
<i>Pseudolambrus ?bicornis</i> (Flipse, 1930)		IA	30	10, 69	3	1	2
<i>Pseudolambrus bidentatus</i> (Flipse, 1930)				62, 72, 74, 76	4	2	2
<i>Pseudolambrus ?bidentatus</i> (Flipse, 1930)				33, 62, 73	3	1	2
<i>Pseudolambrus</i> cf. <i>harpax</i> (Adams and White, 1848)				69, 73, 93	3		3
<i>Pseudolambrus harpax</i> (Adams and White, 1848)		IWP		29, 37, 54, 62, 72, 73, 74, 76	8		8
<i>Rhinolambrus</i> sp.				6, 30, 37, 54, 68, 69	6	1	5
Family Corystidae Samouelle, 1819							
<i>Gomezia</i> cf. <i>bicornis</i> Gray, 1831	K			66	1	1	
<i>Gomezia</i> sp.				62	1	1	
Family Portunidae Rafinesque, 1815.							
<i>Charybdis (Charybdis) anisodon</i> (de Haan, 1833)	d	IWP	2		1	1	
<i>Charybdis (Charybdis) jaubertensis</i> Rathbun, 1924		NA		12, 32, 42, 49, 54, 68, 72, 74, 91	9	3	6
<i>Charybdis (Charybdis) lucifera</i> (Fabricius, 1798)		IWP	47		1	1	
<i>Charybdis (Charybdis) natator</i> (Herbst, 1794)		IWP	9, 14, 41, 54	18, 85	6	3	3
<i>Charybdis (Charybdis) orientalis</i> Dana, 1852	M	IWP	9, 33, 55, 70	38	5	3	2
<i>Charybdis (Goniohellenus) truncata</i> (Fabricius, 1798)		IWP		3, 12, 20, 34, 45, 48, 55, 60, 69, 90	10		10
<i>Lissocarcinus polybioides</i> Adams and White, 1849	NR	IWP		24, 52, 75	3		3
<i>Lupocyclus rotundatus</i> Adams and White, 1849	D	IWP		88	1		1
<i>Podophthalmus vigil</i> (Weber, 1795)	K	IWP		39, 60	2		2
<i>Portunus (Achelous) orbitosinus</i> Rathbun, 1911	D	IWP		25	1		1
<i>Portunus (Cycloachelous) granulatus</i> (H. Milne Edwards, 1834)		IWP		4, 8, 12, 24, 29, 32, 41, 46, 52, 55, 56, 57, 58, 74, 76, 78, 79, 81, 88, 89	20		20
<i>Portunus (Lupocycloporus) gracilimanus</i> (Stimpson, 1858)	D	IWP		4, 6, 24, 25, 29, 45, 51, 55, 56, 69, 81, 90	12		12
<i>Portunus (Monomia) curvipenis</i> Stephenson, 1961		NWA		68	1	1	
<i>Portunus (Monomia) haanii</i> (Stimpson, 1858)	D	IWP		7, 17, 25, 29, 41, 49, 55, 57, 76	9		9
<i>Portunus (Monomia) rubromarginatus</i> (Lanchester, 1900)		IA		9, 15, 21, 23, 28, 29, 40, 45, 47, 48, 56, 62, 69, 71, 73, 74, 78, 79, 91	19	2	17
<i>Portunus (Portunus) pelagicus</i> (Linnaeus, 1758)	K	IWP	14, 17, 23, 51	15, 17	6	5	1
<i>Portunus (Xiphonectes) brockii</i> (de Man, 1888)		IA		25, 44, 54, 55, 79, 81	6		6
<i>Portunus (Xiphonectes) tenuipes</i> de Haan, 1833	K	IA		5, 25, 28, 37, 38, 40, 44, 45, 51, 55, 56, 57, 71, 72, 73, 82, 83, 85, 98	19	1	18

<i>Portunus</i> cf. <i>andersoni</i> (de Man, 1887b)				1, 2, 16, 17, 20, 21, 31, 34, 36, 38, 39, 67, 70, 87, 90	15	2	13
<i>Portunus</i> sp. (juvenile?)			4		1		1
<i>Scylla serrata</i> (Forskål, 1775)	D, M, K	IWP	DA		1	-	-
<i>Thalamita admete</i> (Herbst, 1803)	D, K	IWP	2, 6, 10, 11, 27, 35, 36, 37, 38, 42, 44, 45, 48, 49, 51, 54, 58, 61, 64, 66		20	19	
<i>Thalamita bouvieri</i> Nobili, 1906	NR	IWP	4	76, 95	3		3
<i>Thalamita crenata</i> Rüppell, 1830	D, M, K	IWP	2, 11, 54, 59		4	4	
<i>Thalamita danae</i> Stimpson, 1858	K	IWP	31, 62, 63		3	3	
<i>Thalamita intermedia</i> Miers, 1886	D, K	A	11, 31, 62, 68	29, 32, 33, 50, 65, 68, 71, 76, 82, 84, 99	15	5	10
<i>Thalamita picta</i> Stimpson, 1858		IP	3, 27, 53, 68	91, 92	6	5	1
<i>Thalamita prymna</i> (Herbst, 1803)	K	IWP	8, 29, 34, 42, 53		5	5	
<i>Thalamita sexlobata</i> Miers, 1886		IWP		29, 33, 48, 57, 59, 72, 81, 83, 88	9	1	8
<i>Thalamita sima</i> H. Milne Edwards, 1834	K	IWP	1, 2, 6, 10, 34, 35, 44, 54, 59	37, 59, 62, 70, 91, 96	15	12	3
<i>Thalamita</i> sp.			4, 8, 22, 34, 46, 47, 55, 67		8	4	2
<i>Thalamita spinimana</i> Dana, 1852	D, K	IWP	12, 17, 27, 42, 66		5	5	
Family Goneplacidae MacLeay, 1838							
<i>Eucrate</i> sp.				17, 29, 38, 57, 58, 64, 65, 81, 88, 94, 99	11		11
<i>Ceratoplax</i> sp. 1	d			16, 20, 21, 61	4		4
<i>Ceratoplax</i> sp. 2				3, 29, 34, 35, 36, 37, 67, 69, 92, 93	10		10
<i>Ceratoplax</i> sp. 3				16, 20, 59	3		3
<i>Ceratoplax</i> sp. 4			54?	16, 17, 19	4	1	3
<i>Xenophthalmodes</i> sp.				17, 20, 27, 34, 38, 53, 55, 61, 94	9		9
<i>Mertonia</i> ?sp. 1				57	1		1
<i>Mertonia</i> ?sp. 2				65	1		1
Family Menippidae Ortmann, 1893							
<i>Epixanthus frontalis</i> (H. Milne Edwards, 1834)	K	IWP	27, 63		2	2	
<i>Lydia annulipes</i> (H. Milne Edwards, 1834)	D	IWP	5, 45		2	2	
Family Pilumnidae Samouelle, 1819							
<i>Ceratocarcinus longimanus</i> White, 1847	D	IWP	47, 50	57, 73	4	1	3
<i>Ceratocarcinus</i> sp.				13, 50, 77	3		3
<i>Eumedonus</i> sp.				33, 68	2	1	1
<i>Glabropilumnus</i> ?sp.				6, 23, 53	3		3
<i>Lophopilumnus</i> ?sp.			23		1	1	
<i>Pilumnus pulcher</i> Miers, 1884	D, K	NA	7, 10		2	2	
<i>Pilumnus</i> sp. 1			6		1	1	
<i>Pilumnus</i> sp. 2			9		1	1	
<i>Pilumnus vespertilio</i> (Fabricius, 1793)	M, K	IWP	2, 6, 7, 14, 17, 23, 31, 38, 59, 62, 66		11	11	
<i>Pilumnid</i> sp. 1			7, 9		2	2	
<i>Pilumnid</i> sp. 2			11		1	1	
<i>Pilumnid</i> sp. 3			8, 11, 41, 57, 60, 65, 66, 68	10, 13, 37, 41, 49, 50, 65	15	6	9
<i>Pilumnid</i> sp. 4			11, 34	22	3	2	1
<i>Pilumnid</i> sp. 5				38, 95	2		2

Table 1 (cont.)

Identification	Prev.	Dist.	Diving Stn nos 1-70 (DA1/98, DA3/99)	Dredging Stn nos 1-100 (DA2/99)	Tot.	< 10	> 10
Pilumnid sp. 6			12, 31	6, 9, 13, 18, 22, 31, 36, 38, 48, 49, 60, 65, 82	15	2	13
Pilumnid sp. 7			9		1	1	
Pilumnid sp. 8			34		1	1	
Pilumnid sp. 9			34		1	1	
Pilumnid sp. 10				10	1		1
Pilumnid sp. 11				59	1		1
Pilumnid sp. 12				32	1		1
Pilumnid sp. 13			58		1		1
Pilumnid sp. 14				26	1		1
Pilumnid sp. 15			40, 41		2	1	1
Pilumnid sp. 16			6, 10, 11, 30, 31		5	5	
Pilumnid sp. 17				65	1		1
Pilumnid sp. 18				4	1		1
Pilumnid sp. 19				50	1		1
Pilumnids – Unidentified specimens			1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 17, 27, 31, 34, 36, 37, 38, 40, 41, 42, 45, 47, 48, 49, 51, 52, 54, 55, 56, 59, 61, 62, 64, 65, 66, 68, 69	3, 4, 5, 6, 8, 9, 10, 12, 13, 18, 22, 23, 24, 25, 26, 30, 32, 33, 34, 36, 37, 38, 39, 41, 42, 43, 46, 47, 49, 50, 52, 56, 57, 58, 59, 60, 62, 65, 66, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 79, 82, 84, 85, 90, 91, 94, 95, 98,	96	36	56
Family Trapeziidae Miers, 1886							
<i>Domecia glabra</i> Alcock, 1899	K	IWP	46		1		
<i>Tetralia fulva</i> Serène, 1984	D, K	IWP	47		1		1
<i>Tetralia nigrolineata</i> Serène and Dat, 1957	D, K	IWP	3, 4, 8, 10, 16, 18, 19, 21, 22, 24, 32, 36, 37, 40, 43, 44, 46, 48, 49, 50, 52, 53, 58, 60, 69, 70		26	16	3
<i>Tetralia rubridactyla</i> Garth, 1971	D	IWP	3, 8, 32, 40		4	1	2
<i>Tetralia vanninii</i> Galil and Clark, 1988		IWP	8		1	1	
<i>Trapezia cymodoce</i> (Herbst, 1801)	D, M, K	IWP	3, 4, 6, 13, 16, 18, 19, 21, 22, 24, 26, 29, 32, 36, 39, 40, 43, 44, 46, 48, 49, 50, 52, 53, 57, 58, 60, 64, 70	95	30	17	5
<i>Trapezia guttata</i> Rüppell, 1830	K	IWP	22		1	1	
<i>Trapezia lutea</i> Castro, 1997	D	IWP	36		1		
<i>Trapezia septata</i> Dana, 1852	D, K	IWP	3		1	1	
<i>Trapezia serenei</i> Odinetz, 1984	D, K	IWP	18, 22, 24, 32		4	3	
<i>Trapezia</i> sp.			3		1	1	
Family Xanthidae MacLeay, 1838							
<i>Actaea glandifera</i> Rathbun, 1914	D, M, K	NWA	2, 6, 23, 25, 31		5	5	
<i>Actaea jacquelinæ</i> Guinot, 1976	NR	IO	68	32, 33, 37, 70, 71, 72, 73, 74	9	3	6
<i>Actaea polyacantha</i> (Heller, 1861)	M, K	IWP	2, 6, 42, 45, 47, 48, 51		7	7	

<i>Actaea savignyi</i> (H. Milne Edwards, 1834)	M	IWP	42, 49, 55	4, 6, 8, 9, 10, 62, 70, 73, 76, 99	13	3	10
<i>Actaea</i> sp. 1				9, 49, 59, 75, 91	5	1	4
<i>Actaea</i> sp. 2				8	1		1
<i>Actaea</i> sp. 3 (?sp. nov.)			57		1		1
<i>Actaeodes mutatus</i> Guinot, 1976	K	IWP	3, 8, 10, 37, 42, 45, 47	13, 62, 76, 87	11	8	3
<i>Atergatis floridus</i> (Linnaeus, 1767)	D, M, K	IWP	2, 5, 6, 7, 8, 10, 11, 14, 17, 19, 23, 24, 25, 28, 29, 31, 34, 37, 38, 42, 44, 45, 46, 49, 51, 59	95	27	24	2
<i>Atergatis integerrimus</i> (Lamarck, 1801)	D, K	IWP	25, DA		2	1	
<i>Atergatis</i> cf. <i>integerrimus</i> (Lamarck, 1801)			10, 14, 59		3	3	
<i>Atergatopsis</i> sp. 1				58	1		1
<i>Atergatopsis</i> sp. 2				58	1		1
<i>Banareia ?kraussi</i> (Heller, 1861)	NR	IO	20	68	2	2	
<i>Chlorodiella nigra</i> (Forskål, 1775)	K	IWP	29, 34, 35, 60, 64		5	5	
<i>Cymo andreossyi</i> (Audouin, 1826)		IWP	29, 42		2	2	
<i>Cymo cerasma</i> Morgan, 1990	K	IA	8, 19, 31, 32, 36, 37, 47		7	5	
<i>Cymo ?deplanatus</i> A. Milne Edwards, 1873	M, K	IWP	13, 36, 46		3		1
<i>Cymo</i> sp.			12, 13, 17, 21, 22, 29, 32		7	4	
<i>Demania splendida</i> Laurie, 1906	D	IWP		12	1		1
<i>Etisus ?sp. 2</i>			50		1		1
<i>Etisus anaglyptus</i> H. Milne Edwards, 1834	K	IWP	18		1	1	
<i>Etisus australis</i> (Ward, 1936)	K	NA	9, 10, 11, 38, 48, 49, 51, 54, 64		9	9	
<i>Etisus demani</i> Odhner, 1925	M, K	IWP	6, 9, 16, 35, 44, 46, 47, 54, 61, 64, 66	98	12	10	1
<i>Etisus laevimanus</i> Randall, 1840	K	IWP	17		1	1	
<i>Euxanthus exsculptus</i> (Herbst, 1790)	K	IWP	9, 16, 45		3	3	
<i>Euxanthus huoni</i> Jacquinet, 1846	K	IWP	23, 27		2	2	
<i>Gaillardiiellus rueppelli</i> (Krauss, 1843)	K	IWP	6, 23, 41, 54, 55, 61	9, 13, 42, 65, 76, 99	12	5	7
<i>Halimede ochtodes</i> (Herbst, 1783)	D	IWP		32	1		1
<i>Halimede</i> cf. <i>fragifer</i> de Haan, 1833	D	IA		35, 96	2		2
<i>Hypocolpus maculatus</i> (Haswell, 1882)		NA		8	1		1
<i>Leptodius exaratus</i> (H. Milne Edwards, 1834)	K	IWP	7, 10, 27, 38, 42, 54, 62		7	7	
<i>Leptodius gracilis</i> (Dana, 1852)		IWP	39, 42, 45, 54, 67		5	4	
<i>Leptodius</i> sp. 1			37, 49, 54, 59		4	4	
<i>Leptodius</i> sp. 2			45		1	1	
<i>Liomera venosa</i> (H. Milne Edwards, 1834)	K	IWP	9, 11, 17, 31, 34, 37, 42, 45, 48, 58, 66	8, 10, 13, 68, 72, 76, 84, 95	19	12	7
<i>Liomera</i> sp. 1				4, 8, 84	3		3
<i>Liomera</i> sp. 2				76	1		1
<i>Lophozozymus ?sp.</i>				5	1		1
<i>Lophozozymus pictor</i> (Fabricius, 1798)	K	IA	1, 6, 9, 10, 11, 31, 38, 45, 48	13, 62, 70, 76, 91	14	12	2
<i>Medaeops ?neglectus</i> (Balss, 1922)		IO	2, 20, 37, 49, 54	4, 6, 9, 65, 72, 73, 76,	12	6	6
<i>Neoxanthias</i> sp.			9, 14		2	2	
<i>Palapedia integra</i> (de Haan, 1835)	d, K	IA		76	1		1
<i>Palapedia</i> sp. 1				24, 54, 58, 91	4	1	3
<i>Palapedia</i> sp. 2				7, 62, 76, 91	4	2	2
<i>Paramedaeus simplex</i> (A. Milne Edwards, 1873)	K	IWP	2, 10, 62		3	2	1

Table 1 (cont.)

Identification	Prev.	Dist.	Diving Stn nos 1-70 (DA1/98, DA3/99)	Dredging Stn nos 1-100 (DA2/99)	Tot.	< 10	> 10
<i>Pilodius cf. flavus</i> Rathbun, 1894			1, 2, 4, 6, 8, 10, 11, 12, 29, 31, 34, 35, 36, 38, 39, 42, 45, 51, 54, 59, 61, 64, 66		23	21	1
<i>Pilodius granulatus</i> Stimpson, 1858	K	IA	3, 4, 8, 12, 32, 40, 45, 47, 48, 53	8, 9, 42, 50, 76, 82, 84, 95	18	7	9
<i>Platypodia granulosa</i> (Rüppell, 1830)	D, M	IWP	6, 23		2	2	
<i>Platypodia</i> ?sp. nov.			7, 14		2	2	
<i>Xanthias elegans</i> (Stimpson, 1858)	M, K	IA	9, 34, 37, 45, 50, 51		6	5	1
Xanthid sp. 1			44, 53		2	2	
Xanthid sp. 2			42		1	1	
Xanthid sp. 3				96	1		1
Xanthid sp. 4			64		1	1	
Xanthid sp. 5				6, 9, 22, 32, 49	5		5
Xanthid sp. 6			39, 54		2	2	
Family Cryptochiridae Paulson, 1875							
<i>Cryptochirus</i> sp.	K		42		1	1	
<i>Haplocarcinus marsupialis</i> Stimpson, 1859	D, K	IWP	4, 46		2	1	
Family Pinnotheridae De Haan, 1833							
<i>Pinnotheres cardii</i> Bürger, 1895		IWP	4, 38, 56	10	4	1	2
<i>Pinnotheres boninensis</i> Stimpson, 1858	D	IA	7		1	1	
<i>Pinnotheres</i> sp.				57	1		1
Family Mictyridae Dana, 1851							
<i>Mictyris</i> sp.			34, 59		2	2	
Family Ocypodidae Rafinesque, 1815							
<i>Macrophthalmus</i> sp. 1				88	1		1
<i>Macrophthalmus</i> sp. 2				66	1	1	
<i>Macrophthalmus</i> sp. 3			2, 34, 54		3	3	
<i>Macrophthalmus (Macrophthalmus) telescopicus</i> (Owen, 1839)	D	IWP		96	1		1
<i>Macrophthalmus (Chaenostoma) boscii</i> Audouin, 1826	K	IWP	2, 7, 10, 11, 17, 20, 31, 38, 48, 51, 54, 62, 63, 66			14	14
<i>Ocypode fabricii</i> H. Milne Edwards, 1837	D, K	IO	25		1	1	
<i>Uca capricornis</i> Crane, 1975	D, K	NA	62		1	1	
<i>Uca dampieri</i> Crane, 1975	K	NA	2, 34, 54, 59, 62, 66		6	6	
<i>Uca flammula</i> Crane, 1975	D, M, K	NA	20, 29		2	2	
<i>Uca polita</i> Crane, 1975	K	NA	31		1	1	

Family Palicidae Rathbun, 1898							
<i>Neopalicus jukesii</i> (White, 1847)	NR	IWP		91		1	1
Family Grapsidae MacLeay, 1838							
<i>Sesarma</i> sp.			62			1	1
<i>Metopograpsus</i> sp.			7, 28			2	1
<i>Metopograpsus frontalis</i> Miers, 1880	K	IWP	2, 14, 17, 28, 54, 59, 62, 66			8	8
<i>Grapsus albolineatus</i> Lamarck, 1818	D, M, K	IWP	2, 5, 7, 47, 48, 62, 66			7	7
<i>Grapsus</i> sp.			7			1	1
Grapsid sp. 1			2			1	1
Grapsid sp. 2			2, 10			2	2
Grapsid sp. 3			28			1	1
Grapsid ?sp.			2			1	1

Table 2 (cont.)

	Intertidal Stations																												
	2	5	7	10	11	14	17	20	23	25	28	31	34	38	42	45	48	51	54	59	62	66	1	3	6	8	9	12	16
<i>Schizophrys aspera</i> (H. Milne Edwards, 1834)									X						X	X	X	X										X	
<i>Schizophrys dama</i> (Herbst, 1804)															X														
<i>Tiarinia cf. gracilis</i> Dana, 1852																	X								X				
<i>Tiarinia cornigera</i> (Latreille, 1825)									X																				
Family Hymenosomatidae MacLeay, 1838																		1									1		
<i>Halicarcinus bedfordi</i> ? Montgomery, 1931																	X												
<i>Trigonoplax spathulifera</i> ? Lucas, 1980																											X		
Family Parthenopidae MacLeay, 1838																													
<i>Aulacolambrus diacanthus</i> de Haan, 1839																													
<i>Pseudolambrus bicornis</i> ? (Flipse, 1930)																													
Family Portunidae Rafinesque, 1815	4			2	3	2	2		1			2	3	1	3	1	1	2	4	2	2	2		1	1	2	2	2	1
<i>Charybdis (Charybdis) anisodon</i> (de Haan, 1835)	X																												
<i>Charybdis (Charybdis) lucifera</i> (Fabricius, 1798)																													
<i>Charybdis (Charybdis) natator</i> (Herbst, 1794)						X													X								X		
<i>Charybdis (Charybdis) orientalis</i> Dana, 1852																											X		
<i>Portunus (Portunus) pelagicus</i> (Linnaeus, 1758)				X	X		X											X											
<i>Portunus</i> sp. (juvenile?)																													
<i>Scylla serrata</i> (Forskål, 1775)																													
<i>Thalamita admete</i> (Herbst, 1803)	X			X	X									X	X	X	X	X	X			X				X			
<i>Thalamita bouvieri</i> Nobili, 1906																													
<i>Thalamita crenata</i> Rüppell, 1830	X				X														X	X									
<i>Thalamita intermedia</i> Miers, 1886					X						X										X								
<i>Thalamita picta</i> Stimpson, 1858																									X				
<i>Thalamita prymna</i> (Herbst, 1803)												X	X													X			
<i>Thalamita sima</i> H. Milne Edwards, 1834	X				X							X						X	X					X	X				
<i>Thalamita</i> sp.												X														X			
<i>Thalamita spinimana</i> Dana, 1852							X						X										X					X	
<i>Thalamita danae</i> Stimpson, 1858											X									X									
Family Goneplacidae MacLeay, 1838																			1										
<i>Ceratoplax</i> sp. 4																			X?										
Family Menippidae Ortman, 1893		1															1												
<i>Epixanthus frontalis</i> (H. Milne Edwards, 1834)																													
<i>Lydia annulipes</i> (H. Milne Edwards, 1834)		X															X												
Family Pilumnidae Samouelle, 1819	1	1	1	1	1	1	1		1			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
<i>Ceratocarcinus longimanus</i> White, 1847																													
<i>Lophopilumnus</i> ? sp.								X																					
<i>Pilumnus pulcher</i> Miers, 1884				X	X																								
<i>Pilumnus</i> sp. 1																										X			
<i>Pilumnus</i> sp. 2																											X		
<i>Pilumnus vespertilio</i> (Fabricius, 1793)	X		X			X	X	X			X	X							X	X	X				X		X		
<i>Pilumnid</i> sp. 1			X																								X		
<i>Pilumnid</i> sp. 2						X																					X		
<i>Pilumnid</i> sp. 3						X																X					X		
<i>Pilumnid</i> sp. 4					X																								
<i>Pilumnid</i> sp. 6											X																	X	
<i>Pilumnid</i> sp. 7																										X			
<i>Pilumnid</i> sp. 8												X																	
<i>Pilumnid</i> sp. 9												X																	
<i>Pilumnid</i> sp. 13												X																	
<i>Pilumnid</i> sp. 15																													
<i>Pilumnid</i> sp. 16					X	X					X																X		
<i>Pilumnids</i> - Unidentified specimens	X	X	X	X	X		X				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Family Trapeziidae Miers, 1886				1													2												
<i>Domecia glabra</i> Alcock, 1899																												2	
<i>Tetralia fulva</i> Serène, 1984																													
<i>Tetralia nigrolineata</i> Serène & Dat, 1957				X													X								X		X	X	
<i>Tetralia rubridactyla</i> Garth, 1971																									X		X		
<i>Tetralia vanninii</i> Galil and Clark, 1988																										X			
<i>Trapezia cymodoce</i> (Herbst, 1801)																	X								X	X		X	
<i>Trapezia guttata</i> Rüppell, 1830																													
<i>Trapezia lutea</i> Castro, 1997																													
<i>Trapezia septata</i> Dana, 1852																										X			
<i>Trapezia serenei</i> Odinetz, 1984																													
<i>Trapezia</i> sp.																										X			

Table 2 (cont.)

	Intertidal Stations																												
	2	5	7	10	11	14	17	20	23	25	28	31	34	38	42	45	48	51	54	59	62	66	1	3	6	8	9	12	16
Family Xanthidae MacLeay, 1838	6	1	3	8	5	4	4	2	5	3	1	6	5	5	10	11	5	5	9	4	2	3	2	2	8	4	7	2	2
<i>Actaea glandifera</i> Rathbun, 1914	X								X	X	X														X				
<i>Actaea jacuelinae</i> Guinot, 1976																													
<i>Actaea polyacantha</i> (Heller, 1861)	X													X	X	X	X								X				
<i>Actaea savignyi</i> (H. Milne Edwards, 1834)														X															
<i>Actaea</i> sp. 3 (sp. nov. ?)																													
<i>Actaeodes mutatus</i> Guinot, 1976				X										X	X								X		X				
<i>Atergatis floridus</i> (Linnaeus, 1767)	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X		X						X	X			
<i>Atergatis integerrimus</i> (Lamarck, 1801)									X																				
<i>Atergatis</i> cf. <i>integerrimus</i> (Lamarck, 1801)				X		X														X									
<i>Banareia kraussi</i> ? (Heller, 1861)								X																					
<i>Chlorodiella nigra</i> (Forskål, 1775)												X																	
<i>Cymo andreossyi</i> (Audouin, 1826)														X															
<i>Cymo cerasma</i> Morgan, 1990												X														X			
<i>Cymo deplanatus</i> ? A. Milne Edwards, 1873																													
<i>Cymo</i> sp.							X																						X
<i>Eiisus</i> ? sp. 2																													
<i>Eiisus anaglyptus</i> H. Milne Edwards, 1834																													
<i>Eiisus australis</i> (Ward, 1936)				X	X								X			X	X	X									X		
<i>Eiisus demani</i> Odhner, 1925																			X						X	X			X
<i>Eiisus laevimanus</i> Randall, 1840							X																						
<i>Euxanthus exsculptus</i> (Herbst, 1790)															X												X		X
<i>Euxanthus huoni</i> Jacquinet, 1846									X																				
<i>Gaillardiiellus rueppelli</i> (Krauss, 1843)									X										X						X				
<i>Leptodius exaratus</i> (H. Milne Edwards, 1834)		X	X										X	X				X			X								
<i>Leptodius gracilis</i> (Dana, 1852)														X	X				X										
<i>Leptodius</i> sp. 1																			X	X									
<i>Leptodius</i> sp. 2														X															
<i>Liomera (Liomera) venosa</i> (H. Milne Edwards, 1834)					X	X					X	X	X	X	X						X								X
<i>Lophozozymus pictor</i> (Fabricius, 1798)				X	X						X	X	X	X									X		X	X			
<i>Medaeops neglectus</i> ? (Balss, 1922)	X							X											X										
<i>Neoxanthias</i> sp.					X																						X		
<i>Paramedaeus simplex</i> (A. Milne Edwards, 1873)	X			X																	X								
<i>Pilodius</i> cf. <i>flavus</i> Rathbun, 1894	X		X	X							X	X	X	X	X	X	X	X	X	X	X		X		X	X			X
<i>Pilodius granulatus</i> Stimpson, 1858														X	X									X		X			X
<i>Platypodia granulosa</i> (Rüppell, 1830)									X																	X			
<i>Platypodia</i> sp. (sp. nov.?)			X		X																								
<i>Xanthias elegans</i> (Stimpson, 1858)											X		X	X													X		
Xanthid sp. 1																													
Xanthid sp. 2														X															
Xanthid sp. 4																													
Xanthid sp. 6																				X									
Family Cryptochiridae Paulson, 1875																													
<i>Cryptochirus</i> sp.																													
<i>Haplocarcinus marsupialis</i> Stimpson, 1859																													
Family Pinnotheridae De Haan, 1833			1											1															
<i>Pinnotheres cardii</i> Bürger, 1895														X															
<i>Pinnotheres boninensis</i> Stimpson, 1858			X																										
Family Mictyridae Dana, 1851																													
<i>Mictyris</i> sp.																													
Family Ocypodidae Rafinesque, 1815	3	1	1	1		1	2		1	2	2	1				1	1	3	1	3	2								
<i>Macrophthalmus (Chaenostoma) boscii</i> Audouin, 1826	X	X	X	X		X	X					X	X			X	X	X			X	X							
<i>Macrophthalmus</i> sp. 3	X											X							X										
<i>Ocypode fabricii</i> H. Milne Edwards, 1837									X																				
<i>Uca capricornis</i> Crane, 1975																						X							
<i>Uca dampieri</i> Crane, 1975	X												X						X	X	X	X							
<i>Uca flammula</i> Crane, 1975							X																						
<i>Uca polita</i> Crane, 1975												X																	
Family Grapsidae MacLeay, 1838	5	1	3	1		1	1			3							1	1	1	3	2								
<i>Sesarma</i> sp.																						X							
<i>Metopograpsus</i> sp.				X							X																		
<i>Metopograpsus frontalis</i> Miers, 1880	X					X	X			X									X	X	X	X							
<i>Grapsus albolineatus</i> Lamarck, 1818	X	X	X														X				X	X							
<i>Grapsus</i> sp.				X																									
Grapsid sp. 1	X																												
Grapsid sp. 2	X			X																									
Grapsid sp. 3										X																			
Grapsid sp. ?	X																												

TABLE 3
PART 2

TABLE 3
PART 3

Stations > 10 Metres (and continued overleaf)

25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59			
				1		1	1	2	1	1	3	2					1		3	1	1			1				2	1	5	1	2	1	3			
												X																	X								
X									X										X										X	X					X		
								X	X		X						X		X		X							X							X	X	
				X								X	X												X			X								X	
													X	X														X									
1				1		1										1								1											1		
X				X		X										X								X												X	
	1			2		2	1	2				3	2	1	1	1								1			1								3	3	
												X			X																						
				X		X	X								X																						
												X																									
X												X																									
												X	X																								
				X				X																	X		X										
													X												X		X										
1				2	1			1		1	1	2	1		1									1			3		1						1		
				X						X		X																									X
X											X														X												
5		2	6		1	3	2	2		1	2	3	2	2	2	2	1		2	4	1	1	3	1	1	2	2		2	6	4	4	1	2			
						X											X												X								

TABLE 3
PART 4

TABLE 3
PART 5

Table 3 Part 5 (cont.)

Stations > 10 Metres (continued from previous page)	
	60 61 63 64 65 67 69 71 73 74 75 76 77 78 79 81 82 83 84 85 87 88 89 90 92 93 94 98 99 100
<i>Gaillardiiellus rueppelli</i> (Krauss, 1843)	X X X
<i>Halimede</i> cf. <i>fragifer</i> de Haan, 1835	
<i>Halimede ochtodes</i> (Herbst, 1783)	
<i>Hypocolpus maculatus</i> (Haswell, 1882)	
<i>Liomera</i> (<i>Liomera</i>) <i>venosa</i> (H. Milne Edwards, 1834)	X X
<i>Liomera</i> sp. 1	X
<i>Liomera</i> sp. 2	X
<i>Lophozozymus</i> ? sp.	
<i>Lophozozymus pictor</i> (Fabricius, 1798)	X X
<i>Medaeops neglectus</i> ? (Bals, 1922)	X X
<i>Palapedia integra</i> (de Haan, 1835)	X
<i>Palapedia</i> sp. 1	
<i>Palapedia</i> sp. 2	X
<i>Pilodius granulatus</i> Stimpson, 1858	X X X
Xanthid sp. 3	
Xanthid sp. 5	
Family Pinnotheridae De Haan, 1833	
<i>Pinnotheres cardii</i> Burger, 1895	
<i>Pinnotheres</i> sp.	
Family Ocypodidae Rafinesque, 1815	
<i>Macrophthalmus</i> sp. 1	1
<i>Macrophthalmus</i> sp. 2	X
<i>Macrophthalmus</i> (<i>Macrophthalmus</i>) <i>telescopicus</i> (Owen, 1839)	
Family Palicidae Rathbun, 1898	
<i>Neopalicus jukesii</i> (White, 1847)	

Table 4 Species richness and occurrence of crustacean families within the Dampier Archipelago.

Taxonomic Group	Total Nos Species			Total Nos Stations		
	Survey	Diving	Dredging	Survey	Diving	Dredging
NA = material unidentified and species number not determined						
* = remaining unexamined material						
Survey = DA1/98 + DA2/99 + DA3/99						
Diving = DA1/98 + DA3/99						
Dredging = DA2/99						
Order Stomatopoda Latreille, 1817						
Family Gonodactylidae Giesbrecht, 1910	10*	5*	8	58	22	36
Order Mysida Haworth, 1825	NA	NA	NA	2	1	1
Order Amphipoda Latreille, 1816	NA	NA	NA	41	25	16
Order Isopoda Latreille, 1817						
Suborder Anthuridea Monod, 1922	2	2	0	7	7	0
Suborder Flabellifera Sars, 1882						
Family Cirolanidae Dana, 1853	NA	NA	NA	15	7	8
Family Gnathiidae Leach, 1814	1	1	0	1	1	0
Family Sphaeromatidae Latreille, 1825	7	5	5	20	8	12
Order Tanaidacea Dana, 1849	NA	NA	NA	3	3	0
Order Decapoda Latreille, 1802						
Superfamily Penaeoidea Rafinesque, 1815						
Family Penaeidae Rafinesque, 1815	6	1	6	44	1	43
Infraorder Stenopodidea Claus, 1872						
Family Spongicolidae Schram, 1986	1	1	0	3	3	0
Family Stenopodidae Claus, 1872	3	2	3	12	6	6
Infraorder Caridea Dana, 1852						
Family Rhynchocinetidae Ortmann, 1890	1	1	0	1	1	0
Family Palaemonidae Rafinesque, 1815	10	10	5	34	26	8
Family Alpheidae Rafinesque, 1815	16*	16*	NA	102	48	54
Family Hippolytidae Dana, 1852	11	11	2	23	19	4
Family Pandalidae Haworth, 1825	1	1	0	2	2	0
Family Thalassocarididae Bate, 1888	1	1	0	1	1	0
Carid spp	19	16	5	29	17	12
Infraorder Thalassinidea Latreille, 1831						
Family Thalassinidae Latreille, 1831	1	1	0	2	2	0
Family Upogebiidae Borradaile, 1903	NA	NA	NA	6	3	3
Family Axiidae Huxley, 1879	1	1	0	1	1	0
Infraorder Palinura Latreille, 1802						
Family Palinuridae Latreille, 1802	2	2	0	19	19	0
Family Scyllaridae Latreille, 1825	4	0	4	7	0	7
Infraorder Anomura MacLeay, 1838						
Family Lomisidae Bouvier, 1895	1	0	1	1	0	1
Family Galatheidae Samouelle, 1819	4	3	3	66	25	41
Family Porcellanidae Haworth, 1825	20	15	17	97	42	55
Family Albuneidae Stimpson, 1858	3	0	3	7	0	7
Superfamily Paguroidea	10*	8*	2*	94	36	58
Infraorder Brachyura Latreille, 1802						
Family Dromiidae de Haan, 1833	8	4	4	16	5	11
Family Raninidae De Haan, 1839	2	0	2	6	0	6
Family Dorippidae MacLeay, 1838	2	0	2	9	0	9
Family Calappidae H. Milne Edwards, 1837	1	1	1	29	1	28
Family Leucosiidae Samouelle, 1819	23	6	18	57	9	48

Table 4 (cont.)

Taxonomic Group	Total Nos Species			Total Nos Stations		
	Survey	Diving	Dredging	Survey	Diving	Dredging
Family Matutidae de Haan, 1841	3	1	2	14	2	12
Family Majidae Samouelle, 1819	25	19	17	67	27	40
Family Hymenosomatidae MacLeay, 1838	2	2	1	4	3	1
Family Parthenopidae MacLeay, 1838	14	2	14	35	2	33
Family Corystidae Samouelle, 1819	2	0	2	2	0	2
Family Portunidae Rafinesque, 1815	32	17	22	120	43	77
Family Goneplacidae MacLeay, 1838	8	1	8	30	1	29
Family Menippidae Ortmann, 1893	2	2	0	4	4	0
Family Pilumnidae Samouelle, 1819	28*	17*	15*	106	45	61
Family Trapeziidae Miers, 1886	11	11	1	35	34	1
Family Xanthidae MacLeay, 1838	57	41	27	99	59	37
Family Cryptochiridae Paulson, 1875	2	2	0	3	3	0
Family Pinnotheridae De Haan, 1833	3	2	2	6	4	2
Family Mictyridae Dana, 1851	1	1	0	2	2	0
Family Ocypodidae Rafinesque, 1815	10	7	3	21	18	3
Family Palicidae Rathbun, 1898	1	0	1	1	0	1
Family Grapsidae MacLeay, 1838	9	9	0	22	13	9

Table 5 Diversity of intertidal, diving and dredging stations.

	% of Stations Low Diversity (1-10 Species)	% of Stations Medium Diversity (11-20 species)	% of Stations High Diversity (>20 species)
Intertidal (21 Stations)	29% (6 stns)	38% (8 stns)	33% (7 stns)
Diving (49 Stations)	47% (23 stns)	43% (21 stns)	10% (5 stns)
Dredging (94 Stations)	48% (45 stns)	35% (33 stns)	17% (16 stns)

Table 6 Diversity of depth categories.

	% of Stations Low Diversity (1-10 Species)	% of Stations Medium Diversity (11-20 species)	% of Stations High Diversity (>20 species)
Intertidal (21 Stations)	29% (6 stns)	38% (8 stns)	33% (7 stns)
Subtidal < 10 m (39 Stations)	33% (13 stns)	41% (16 stns)	26% (10 stns)
Subtidal > 10 m (104 Stations)	51% (53 stns)	37% (39 stns)	12% (12 stns)

Appendix 1 Crustacean groups sent to respective experts for further identification and study.

Crustacean Group	Expert
Order Stomatopoda	Dr Shane Ahyong, The Australian Museum, Sydney, NSW, Australia
Order Mysida	Dr Yukio Hanamura, National Research Institute of Fisheries and Environment of Inland Sea, Hiroshima, Japan
Order Amphipoda	Dr Jim Lowry, The Australian Museum, Sydney, NSW, Australia
Order Isopoda	
Suborder Anthuridea	Dr Gary Poore, Museum of Victoria, Melbourne, Victoria, Australia
Suborder Flabellifera	
Family Cirolanidae	Dr Stephen Keable, The Australian Museum, Sydney, NSW, Australia
Family Gnathiidae	Dr Gary Poore, Museum of Victoria, Melbourne, Victoria, Australia
Family Sphaeromatidae	Ms Christine Hass, University of Western Australia, Perth, WA, Australia
Order Tanaidacea	Dr Richard Heard, University of Southern Mississippi, Department of Coastal Science, Ocean Springs, USA
Order Decapoda	
Infraorder Stenopodidea	Dr Junji Okuno, Natural History Museum, Chiba, Japan
Infraorder Caridea	
Family Rhynchocinetidae	Dr Junji Okuno, Natural History Museum, Chiba, Japan
Family Palaemonidae	Dr Sandy Bruce, c/o Queensland Museum, Brisbane, Queensland, Australia
Family Alpheidae	Drs Mary Wicksten and Matt McClure, Department of Biology, Texas A&M University, College Station, Texas, USA
Family Hippolytidae	Dr Ken-Ichi Hayashi, National Fisheries University, Shimonoseki, Japan
Family Pandalidae	Professor Tim-Yan Chan, Institute of Marine Biology, Keelung, Taiwan
Infraorder Thalassinidea	Dr Gary Poore, Museum of Victoria, Melbourne, Victoria, Australia
Infraorder Palinura	
Family Scyllaridae	Professor Tim-Yan Chan, Institute of Marine Biology, Keelung, Taiwan
Infraorder Anomura	
Family Galatheididae	Dr Enrique Macpherson, Centro de Estudios, Aranzandos de Blanes, Girona, Spain
Family Porcellanidae	Dr Alan Harvey, Georgia State University, Statesboro, USA
Family Albuneidae	Dr Christopher Boyko, The American Museum of Natural History, New York, USA
Superfamily Paguroidea	Dr Patsy McLaughlan, Shannon Point Marine Laboratory, USA
Infraorder Brachyura	
Family Dromiidae	Professor Colin McLay, University of Canterbury, New Zealand
Family Raninidae	Dr Marcos Tavares, University Santa Ursula, Rio de Janeiro, Brazil
Family Dorippidae	Drs Richard Heard and Brent Thoma, University of Southern Mississippi, Department of Coastal Sciences, Ocean Springs, USA
Family Calappidae	Professor Bella Galil, Tel Aviv University, Israel
Family Leucosiidae	Professor Bella Galil, Tel Aviv University, Israel
Family Matutidae	Professor Bella Galil, Tel Aviv University, Israel
Family Majidae	Dr Peter Davie, Queensland Museum, Brisbane, Australia
Family Hymenosomatidae	Dr Marcos Tavares, University Santa Ursula, Rio de Janeiro, Brazil
Family Parthenopidae	Dr Swee Hee Tan, National University of Singapore
Family Portunidae	Dr Vassily Spiridonov, Zoological Museum, University of Moscow, Russia
Family Goneplacidae	Drs Richard Heard and Brent Thoma, University of Southern Mississippi, Department of Coastal Sciences, Ocean Springs, USA
Family Trapeziidae	Dr Peter Castro, California State Polytechnic University, Pomona, USA
Family Xanthidae	Dr Peter Davie, Queensland Museum, Brisbane, Australia
Family Pinnotheridae	Dr Ernesto Campos, Universidad Autonoma de Baja California, San Ysidro, California, USA
Family Mictyridae	Dr Peter Davie, Queensland Museum, Brisbane, Australia
Family Ocypodidae	Dr Peter Davie, Queensland Museum, Brisbane, Australia
Family Palicidae	Dr Peter Castro, California State Polytechnic University, Pomona, USA (1 specimen)
Family Grapsidae	Dr Peter Davie, Queensland Museum, Brisbane, Australia



These colorful nudibranchs belonging to the species *Nembrotha purpureolineata* are feeding on a clump of yellow sea squirts. Photograph: Clay Bryce, WA Museum.



Littoraria pallescens is an algal-eating sea snail that climbs higher up mangrove trees as the tide comes in, so escaping predation by fish and crabs. Photograph: Clay Bryce, WA Museum.



This unidentified parasitic *Pyramidella* species searches beneath the sand for hosts, which may be either worms or bivalves. It will suck out the host's body fluids through its long, tubular proboscis. Photograph: Clay Bryce, WA Museum.



Terebralia sulcata lives among mangrove trees where it eats the decomposing leaf and other litter, which accumulates on the surface of the muddy sand. Photograph: Clay Bryce, WA Museum.



This pink nudibranch, *Asteronotus cespitosus*, is well camouflaged by its resemblance to the sponge on which it feeds, particularly when its feathery gills retract into a pocket on its back. Photograph: Clay Bryce, WA Museum.

These large tiger cowries (*Cypraea tigris*), only partly camouflaged by their fleshy mantles, are sheltering among the fleshy lobes of a large colony of soft coral. Photograph: Clay Bryce, WA Museum.



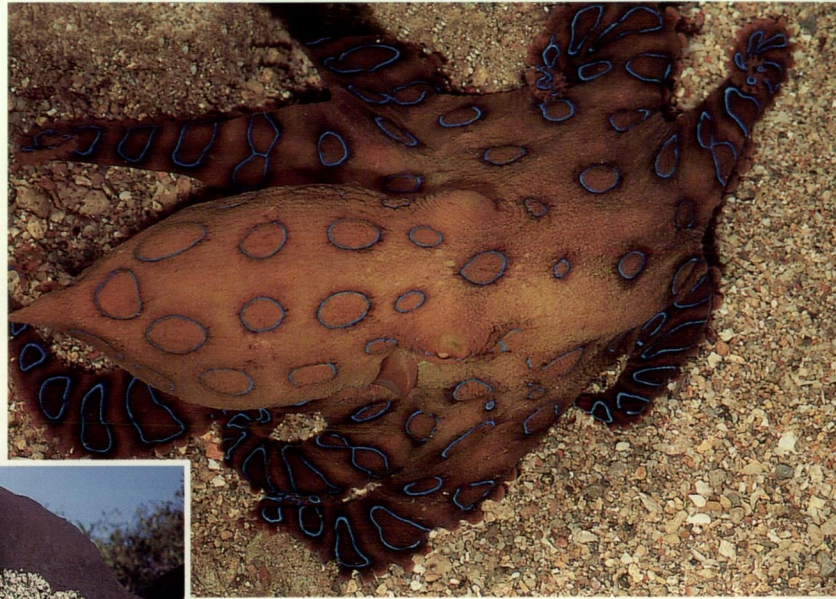


Limaria fragilis generally shelters beneath ledges and boulders but swims erratically when disturbed. Its fringes of adhesive tentacles, which may also contain toxins, deter predators. Photograph: Clay Bryce, WA Museum.



Coralliophila neritoides is one of a group of carnivorous species that feed on the living tissues covering the chalky skeletons of hard corals. Photograph: Clay Bryce, WA Museum.

Despite being the largest of the venomous blue-ringed octopus in Australian waters, this species of *Hapalochlaena* has not yet been given a specific name. Photograph: Clay Bryce, WA Museum.



Species of encrusting rock oysters, belonging to the genus *Saccostrea*, compete for space. Some, being less tolerant of strong wave action, survive only on the intertidal rocks in sheltered bays. Photograph: Clay Bryce, WA Museum.

Scaphopods or tusk shells, like this species of *Laevidentalium*, form part of the diet of predators such as the carnivorous sea star, *Astropecten*, which seeks its prey on sand banks at low tide. Photograph: Clay Bryce, WA Museum.



Acanthopleura spinosa is one of the more spectacular of the chitons that cling to intertidal rocks. It feeds mainly at night, scraping off fine algae and the cyanobacteria that penetrate the surface layer of the rock. Photograph: Clay Bryce, WA Museum.

