A survey of the benthic molluscs of the Dampier Archipelago, Western Australia

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Abstract - A total of 695 molluscan species was recorded from intertidal and subtidal surveys conducted at the Dampier Archipelago, Western Australia during October 1998 and August-September 1999. There was a considerable degree of overlap in the molluscan faunas of the eastern and the central and western sectors. However, an east/west gradation in bottom type and exposure is associated with a significant difference in the faunas of the two areas. Of the 523 species recorded from the steeper, higher energy eastern sector, 153 were not recorded from the central and western sectors. Similarly, 180 of the 536 species from the generally more sheltered waters of the central and western sectors were not found further east. However, 199 species were recorded from only a single station during the two survey periods, with 92 of these being found only in the eastern sector and 107 found only in the central and western sectors. Such records contrast with those of the 29 species recorded from 20 or more stations. The greatest diversity of molluscan species was recorded from subtidal habitats characterised mainly or exclusively by living or non-living hard substrata. A slightly lower but comparable diversity was recorded from intertidal and subtidal soft substrata. The molluscan diversity of intertidal hard substrata was approximately one-third that occurring on subtidal hard substrata and on the combined intertidal/subtidal substrata. The diversity of the fauna of these three habitat groupings was much greater than that recorded from the mangals and those recorded in close association with plants and other animal groups. More detailed examination of these habitats than was possible during this survey would undoubtedly lead to an increase in these numbers. The overall diversity of molluscan species recorded for the Dampier Archipelago waters during this survey is greater than those of other Western Australian areas between the Houtman Abrolhos and the western Kimberley areas which have been similarly surveyed.

INTRODUCTION

Marine biological surveys of the marine biota of the Dampier Archipelago were carried out during October 1998 and August–September 1999. The aim was to establish an inventory of the species of selected phyla living in the waters of that archipelago and to relate the occurrence of those species to their habitats.

MATERIALS AND METHODS

Intertidal stations were surveyed during periods of low tide, while subtidal stations were examined with the aid of SCUBA. General descriptions of these stations, with latitudes and longitudes, are given in the Station Lists section of this volume. More detailed descriptions of those survey stations, as they apply to the areas and habitats surveyed for

molluscs, are appended to this paper of the present report (Appendices 1 and 2).

The description of the marine mollusc fauna of the Dampier Archipelago presented here results from records of two expeditions, each involving both diving and intertidal collecting methods. The first survey is titled DA1/98 (October 1998) and the second DA3/99 (August–September 1999). These terms are used to prefix the formal numbering of the 35 stations that were examined during each of these surveys, giving a total of 70 stations, numbered chronologically. It should be noted that another survey, DA2/99 (July 1999) using dredging and grab sampling methods, targeted soft sediment habitats. The results of the mollusc component of that survey is presented in Taylor & Glover (2004).

The mollusc species present at each station were recorded along with a record of the habitat in which

each was found. Voucher specimens of each species are retained within the collections of the Western Australian Museum.

Habitats within each station surveyed during the 1998 and 1999 intertidal/dive surveys (DA1/98 and DA3/99) were grouped to reflect their relevance to molluscs, their biology and life history. The area comprising each of the stations surveyed generally encompassed several habitats grading into one another. As an example, a subtidal rocky reef might merge through a zone of broken coral rubble with sandy pockets to an open sandy plain. Many similar combinations are to be found within the waters of the Dampier Archipelago.

An initial attempt was made to estimate the abundance of the mollusc species at individual stations. However, due to the cryptic nature of many species, together with constraints related to conservation of the habitats and other organisms and to the time available for surveying each station, this procedure was discontinued.

Habitats

The habitat groupings adopted were:

Intertidal hard substrata (IH)

This is an intertidal zone consisting mainly of coral rubble, rocky reef and/or shoreline rock. These hard substrata may be covered with a thin coating of sediment. Animals recorded from such a substratum may either burrow into, cement or adhere to it, or shelter within crevices. They do not move freely within the sediment.

Subtidal hard substrate (SH)

As above but situated below extreme low water spring tide level.

Soft sediment (S)

Intertidal and subtidal sand, silt or mud habitats. In such habitats, mollusc species may be infaunal or epifaunal.

Associated with another organism (AP, AA)

This habitat type applies to those molluscs whose survival strategy is reliant on an intimate and obligatory association with another life form. Occasional, non-obligatory associations of this type are not included here

Associated/Plant (AP)

Molluscs limited to living on sea grasses or algae.

Associated/Animal (AA)

Molluscs limited to living either on or in another living animal (live corals, gorgonians etc.).

Mangals (M)

In this habitat, mollusc species may occur among or on mangrove trees (including their

pneumatophores or other roots), dead logs or other litter and mud. However, during this survey, time constraints did not allow adequate sampling of infaunal species.

RESULTS

Species Lists

A tabular list of the 695 mollusc species found during surveys DA1/98 and DA3/99 is given in Appendix 1. The registration numbers of one or more specimen lots are given for those species for which the identity is currently unknown or uncertain.

For each species listed in Appendix 2 the survey station or stations at which that species was recorded and/or collected is given by the station number, together with an indication of the habitat or habitats in which that species was generally found.

DISCUSSION

As anticipated from previous studies on the mollusc fauna of the Dampier Archipelago and of areas further to the south, the species recorded during these surveys were all of tropical and subtropical affinity, typical of the fauna of the Indo-West Pacific Region.

Comparative Mollusc Diversity of the Dampier Archipelago Waters

The total of 695 mollusc species recorded during this Dampier Archipelago Survey is higher than that recorded for any other locality in the north of Western Australia that has been similarly surveyed (Table 1). However, the return per unit of effort (calculated as the number of species recorded per person-day) is lower than that of the 1995 Muiron Islands-Exmouth Gulf survey (Slack-Smith and Bryce, 1996), of the 1996 Western Kimberley survey (Bryce, 1997) and of the 1995 Bernier-Dorre Islands survey (Slack-Smith and Bryce, 1995). When each section (DA1/98 and DA3/99) of the Dampier Archipelago Survey is considered separately, the figures for "species recorded per unit effort" compare more favorably with those of surveys in these other areas. Some caution is needed in interpreting these results, however, as other factors may be involved, such as the amount of collecting time lost due to weather, travel and station depth.

These figures reflect a degree of repetition in the species lists for the stations surveyed and so are indicative of the widespread distribution of many species within the archipelago waters. Such species are, in general, widely distributed within northern Australian waters and even throughout the central Indo-West Pacific Region.

Of the 523 species of molluscs recorded from the eastern sector of the Dampier Archipelago during the DA1/98 survey, 153 were not recorded from the central and western sectors during the DA3/99 survey. Conversely, of the 536 species recorded during DA3/99, 180 were not found during DA1/98 (Appendix 1).

These results emphasise the difference in the nature of the habitats represented in the steeper, high energy, oceanic eastern zone of the Archipelago as distinct from those of the generally shallower, more sheltered waters of the central and western zones.

One hundred and ninety nine species of the overall total of 695 were recorded from single stations. Of these, 92 were found only during the survey DA1/98 and 107 only during DA3/99. Such records contrast with the number of species recorded from many stations, particularly those from 20 or more, as listed in the results section.

Widespread and Abundant Mollusc Species

Many molluscs are cryptic and/or nocturnal. Due to logistical constraints, it proved impossible to reliably estimate the abundance of each species at the stations surveyed. However, the data collected (see the number of stations at which each species was recorded in Appendix 1) does reflect those benthic mollusc species most often encountered. These species are not only the most widespread within the surveyed waters but are generally the most abundant. A list of the species that occurred at > 20 of the 70 survey stations is given below.

Gastropoda

Tectus pyramis (Born, 1778) Angaria delphinus (Linnaeus, 1758) Astralium stellare (Gmelin, 1790) Turbo petholatus Linnaeus, 1758 Cerithium novaehollandiae A. Adams, 1855 Rhinoclavis brettinghami Cernohorsky, 1974 Strombus urceus Linnaeus, 1758 Cypraea eglantina Duclos, 1833 Cronia avellana (Reeve, 1846) Morula margariticola (Broderip, 1832) Morula spinosa (H. and A. Adams, 1853) Thais echinata (Blainville, 1832) Melo amphora (Solander, 1786) Cymbiola oblita (Smith, 1909) Phyllidia coelestis (Bergh, 1869) Phyllidiella pustulosa (Cuvier, 1804)

Bivalvia

Arca ventricosa Lamarck, 1819 Barbatia (Barbatia) amygdalumtostum (Röding, 1798) Septifer bilocularis (Linnaeus, 1758) Pinna bicolor Gmelin, 1791 Pinna deltodes Menke, 1843
Pinctada albina (Lamarck, 1819)
Isognomon isognomum (Linnaeus, 1758)
Isognomon legumen (Gmelin, 1791)
Malleus malleus (Linnaeus, 1758)
Complicachlamys wardiana Iredale, 1939
Decatopecten radula (Linnaeus, 1758)
Plicatula australis Lamarck, 1819
Dendostrea folium (Linnaeus, 1758)

Habitats

A mollusc species may favor one habitat, though it may also occur in neighboring habitats where similar substrates or other essential environmental factors are available. Similarly, the "hosts" of many animal or plant-associated species, as well as the species of symbionts, predators or parasites, may exhibit flexibility in their environmental requirements.

This survey showed that, in the waters of the Dampier Archipelago, subtidal hard substrata support the most diverse mollusc fauna, with 307 of the 695 species recorded from that habitat type. By contrast, mollusc diversity was shown to be least on subtidal reefs supporting a dense growth of living corals. Molluscs inhabiting such aesthetically attractive habitats are of two main types – those that shelter (during the day, at least) amid the "under storey" beneath the living coral growth and those which live in a more intimate association with the live coral itself.

A greater variety of molluscs occur in other habitats, such as reef areas (both intertidal and subtidal) consisting principally of hard rock substrata, dead coral slabs, rubble and sand pockets, with a little live coral and other colonial forms such as sponges and soft corals. Such areas generally support a variety of algal and, more rarely, sea grass communities and so support herbivorous as well as carnivorous species.

About 16% of the mollusc species found on subtidal hard substrata can also live on intertidal equivalents. However, of the 101 species recorded from intertidal hard substrata, over 50% were also found subtidally.

Extensive intertidal and subtidal sandy plains often appear almost bereft of molluscs, as well as other biota. However, this habitat generally supports a wide diversity and often high concentrations of sand dwelling species, both infaunal and epifaunal filter feeders, detritivores and carnivores. Some sand-dwelling species may also inhabit small sand pockets within reef flats and subtidal reefs. The 277 mollusc species recorded as soft-substratum dwellers have not been separated into intertidal or subtidal habitats as there is much overlap. Only two soft-substratum dwellers seem to be also associated with hard substrata. Various venerid bivalves apparently benefit from the extra

protection from predators (fish, birds, etc.) gained from living among rocks and the solecurtid *Azorinus ?minutus* was found within a mangal.

Twenty one mangal-associated mollusc species were recorded during this survey. They included almost all the gastropods belonging to the Potamididae, Ellobiidae and Onchidiidae, a neritid and two species of littorinid gastropods and the mytilid mussel *Stavelia horrida*. These all appeared to be restricted to the mangals. Some mangal species, such as the rock oysters and the bivalve *Azorinus*, were less restricted in their habitat.

Forty three mollusc species were associated with other organisms but little detail is known of the degree and specificity of most of these associations. Some pteriid species of the genera Pteria and Electroma appear to survive best when protected from predators by the hydroids and gorgonians to which they attach, although a very few individuals were found living in rock crevices. Some apparently conspecific individuals of the mytilid genus Lithophaga were found within both dead and living coral skeletons, even though Kleeman (1980) indicated that species on the Great Barrier Reef in Queensland and in Aqaba inhabited only dead or living coral, but not both. The oyster Ostrea tuberculata and the pectinid Hemipecten forbesianus showed little if any selectivity of the living coral species to which they attached.

Diversity

Discounting the stations DA1/98/05 and DA1/98/34, at which molluscs were not surveyed (although specimens were collected by workers on other groups), the 68 stations surveyed for molluscs are divided, for this purpose, into two groups – subtidal and intertidal.

It should be noted, however, that these groups might overlap to some extent. Onshore sections of some stations, which were surveyed by diving at high tide, would be exposed at low water springs, if not at low water neaps. Conversely, the offshore sections of some station areas surveyed on foot during low tides were at or below the level of low water neap if not low water spring tides. In addition, some molluscan species inhabit areas both above and below low water levels.

The numbers of molluscan species recorded from the 45 'subtidal' survey stations ranged from 14 to 85, with an average diversity of 54.80 species/ station. Of these 45 stations, DA1/98/04 and 33, and DA3/99/37, 44, 47, 67 and 70 exhibited the greatest diversity (see Appendix 1). At least 75

species were recorded from each, with an average of 79.7 species/station.

The numbers of molluscan species recorded from the 23 'intertidal' survey stations ranged from 34 to 120, with an average diversity of 81.04 species/station. Of these 23 stations, DA1/98/11, 23 and 31, and DA3/99/38 and 54 exhibited the greatest diversity (see Appendix 1), with 101 species or more recorded from each and an average of 108.40 species/station.

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Table 1 Comparison of results of present (DA1/98, DA3/99) and similar past surveys off the northern coasts of Western Australia (listed from north to south).

Surveyed Locality	Year	Nos workers	Survey duration (days)	Total species	Species per day per person	Source
Western Kimberley	1996	1	13 (13 person days)	292	22.46	Bryce (1997)
Southern Kimberley	1994	2	13 (26 person days)	232	8.99	Wells and Bryce (1994)
Dampier Arch. (DA1/98, DA3/99)	1998 and 1999	2	26 (52 person days)	695	13.4	Present surveys
Dampier Arch. DA1/98	1998	2	13 (26 person days)	523	20.1	Present survey
Dampier Arch. DA3/99	1999	2	13 (26 person days)	536	20.6	Present survey
Montebello Islands	1993	3	17 (51 person days)	631	12.82	Wells et al. (2000)
Muiron Islands and east coast of Exmouth Gulf	1995	2	12 (24 person days)	655	27.29	Slack-Smith and Bryce (1996)
Bernier and Dorre Islands, Shark Bay	1995	2	12 (24 person days)	425	16.86	Slack-Smith and Bryce 1995
Houtman Abrolhos Islands	To May 1994	Numerous	Accumulated over some years	492	?	Wells and Bryce 1997

Table 2 Distribution of mollusc species within the waters of the Dampier Archipelago: analysis of the species list.

Species	Numbers
Total number of species recorded from the two intertidal/diving surveys, DA1/98 and DA3/99, each	
encompassing 35 survey stations	695
Total number of species recorded only from survey DA1/98	523
Total number of species recorded only from survey DA3/99	536
Number of species recorded as limited to survey DA1/98	153
Number of species recorded as limited to survey DA3/99	180
Total number of species recorded from DA1/98 and DA3/99 combined, which were represented by	
only a single record	199
Number of species recorded only from survey DA1/98, which were represented by only a single record	92
Number of species recorded only from survey DA3/99, which were represented by only a single record	107

 Table 3
 Mollusc diversity within habitat groupings.

Habitat grouping	Number of species
Subtidal hard substrata (SH)	307
Intertidal hard substrata (IH)	101
Soft substrata (S)	277
Mangals (M)	21
Animal associated (AA)	43
Plant associated (AP)	7

Appendix 1 Marine mollusc species recorded from the Dampier Archipelago during diving surveys DA1/98 and DA3/99. Habitat key: IH = intertidal hard substrate; SH = subtidal hard substrate; S = soft sediment; M = mangrove; A = associated habitat (AA = associated with animal, AP = associated with plant).

Class POLYPLACOPHORA		(AA = associated with animal, AP = associated with plan	•
Family Ischnochitonidae Ischnochiton sp. (WAM S 18665) 28	Taxa	Station number	Habitat
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Taxa	Station number	Habitat
Monodonta labio (Linnaeus, 1758) Pseudostomatella maculata (Quoy and	2,7,10,17,23,59,66 9	IH SH
Gaimard, 1834) Pseudostomatella papyracea (Gmelin, 1791) Pseudostomatella sp. (WAM S 30227) Stomatella impertusa (Burrow, 1815)	6,14,16,19,23,25,37,47,51,59,70 3,8 25,27,37,42,45,47,48,51,59,61,70	SH SH SH
Stomatia phymotis Helbling, 1779 Talopena vernicosa (Gould, 1861)	13,16 37,47	SH
Tectus fenestratus (Gmelin, 1791) Tectus pyramis (Born, 1778)	14,23,25,31,35,38,51,54,59,62,66,68 1,3,8,10,12,13,14,16,18,19,20,21,22,23,24, 25,29,31,32, 35,36,37,42,43,44,45,46,47,49,52,53,56, 58,61,66,67,70	SH,IH SH,IH
Tectus schleuteri (Sowerby, 1894)	37	SH
Trochus hanleyanus Reeve, 1843	2,6,7,8,14,23,25,28,31,38,42,45,51,54,59,62,66	SH,IH
Trochus histrio Reeve, 1842	3,7,12,18,23,35,36,38,44,49,58,63	SH
Trochus ?histrio Reeve, 1842	46	
Trochus ?stellatus (Gmelin, 1791) (WAM S 27104) ?Sub-family Solariellinae (WAM S 30225)	12,16,19,22,25,28? 38	SH S
Family Turbinidae		
Angaria delphinus (Linnaeus, 1758)	2,6,9,14,16,17,19,28,31,35,37,38,40,43,46,47,48,51,54, 56,58,59,62,64,67,70	SH,IH
Astralium pileolum (Reeve, 1842) Astralium rotularia (Lamarck, 1822)	6,7,9,11,14,16,17,19,21,23,25,31,35,37,38,44,45,48,51,54,66 45,48,51	SH SH,IH
Astralium stellare (Gmelin, 1790)	1,6,9,12,13,16,17,18,19,21,22,28,29,32,35,36,37,42,44, 45,46,47,48,50,51,54,56,58,59,61,67,69,70	SH
Liotina crassibassis Smith, 1880	6,19	SH
Liotina peronii (Kiener, 1839)	6,7,16,19,23,28	SH,IH
Phasianella solida (Born, 1778)	7,9,14,16,25,30,37,45,47,48,51	SH,S
Turbo argyrostomus Linnaeus, 1758	3,7,8,12,13,15,16,18,21,22,25,32,37,44,46,53,58,68	IH
Turbo brunneus Röding, 1791	4,6,16,17,19,25,35,38,43,45,47,48,51,66,68,70	IH
Turbo cinereus Born, 1798	7,10,11,14,17,23,25,28,31,38,42,45,51,54,59,62	IH
Turbo petholatus Linnaeus, 1758 Turbo squamosus Gray, 1847	1,6,8,13,16,18,22,24,33,37,40,42,43,47,48,56,57,60,61 65,68,70 7,10,11,25,31,35,38,48,51,54,62,64	IH IH
Family Neritidae		
Nerita albicilla Linnaeus, 1758	7,10,23,38,59	IH
Nerita balteata Reeve, 1855	11,17,31,54,59,62,66	M
Nerita chamaeleon Linnaeus, 1758	17,20,25	IH
Nerita squamulata Le Guillou, 1841	2	ΙΉ
Nerita undata Linnaeus, 1758	10,17,20,28, 42,54,59,62,66	IH
Neritopsis radula (Linnaeus, 1758)	37,46,54,59,64	SH
Family Littorinidae		
Littoraria filosa (Sowerby, 1832)	51,54,59,62	M
Littoraria pallescens (Philippi, 1846)	28,31	M
Nodilittorina trochoides (Gray, 1839) Nodilittorina vidua (Gould, 1859)	10,14 7,10	IH IH
Family Rissoidae		
cf. Zebina gigantea Deshayes, 1850	64	?
Family Turritellidae Archimedialla facticista (Adomo and Poorse 1949)		C
Archimediella fastigiata (Adams and Reeve, 1848)	30	S
Family Modulidae Modulus tectum (Gmelin, 1791)	6,7,16,25,32,35,36,37,44,47,53,54,58,70	SH
Family Planaxidae Planaxis sulcatus (Born, 1780)	7,10,11,14,17,20,25,28,38,45,51,54,59,62,66	IH
Family Capulidae Cheilea equestris (Linnaeus, 1758)	16,17,21,27,31,32,38,46,47,48,57,59	SH

Taxa	Station number	Habitat
Family Xenophoridae Xenophora indica (Gmelin, 1791)	57,69	S
Family Siliquariidae		
Siliquaria ponderosa (Mörch, 1860) Siliquaria sp. cf anguina (Linnaeus, 1758)	4,10,11,13,18,23,31,35,37,38,54,59 1,18,64	SH SH
Family Vermetidae		
Serpulorbis sp. A (WAM S 18604) Beaded vermetid (WAM S 18603)	1,4,24,33,40,47,53,56,57,60 11	SH SH
Family Cerithiidae		
Cerithium balteatum Philippi, 1848	6,4,19,44,54	S
Cerithium coralium Kiener, 1841	59	S
Cerithium echinatum Lamarck, 1822 Cerithium novaehollandiae A. Adams, 1855	3,4,6,13,19,21,32 1,3,4,6,11,12,14,16,17,19,20,21,22,23,24,28,29,31,32,33,35, 36,37,40,41,43,45,47,48,50,51,52,53,54,56,57,58,61,62, 65,67,70	S S
Cerithium torresi Smith, 1884	11,62	S
Cerithium traillii Sowerby, 1855	19,35,61	S S S S S S S S S S S
Cerithium zonatum (Wood, 1828) Pseudovertagus aluco (Linnaeus, 1758)	6,7,10,11,14,19,35,53,54,59,62,66,70 7,10,11,14,31,35,38,41,51,54,59	S
Rhinoclavus bituberculata (Sowerby, 1865)	9,14,45,51	S
Rhinoclavis brettinghami Cernohorsky, 1974	6,7,8,13,14,16,22,25,31,33,37,43,44,46,47,49,50,51,58, 62,65,70	S
Rhinoclavus articulata (Adams and Reeve, 1850)	38	S
Rhinoclavus fasciatus (Bruguière, 1792)	7,10,11,38,41,51,54,59,62,66	S
Rhinoclavus kochi (Philippi, 1848)	41,68	S
Rhinoclavus vertagus (Linnaeus, 1758) Velacumantus australis (Quoy and Gaimard, 1834)	2,10,23 2,6	S
Family Potamidiidae		
Cerithidea cingulata (Gmelin, 1791)	31,54,62	M
Cerithidea reidi Houbrick, 1986	31	M
Clypeomorus batillariaeformis Habe and Kosuge, 1966	7,11,14,20,28,54,59,62	S
Clypeomorus bifasciata (Sowerby, 1855)	59	M
Telescopium telescopium (Linnaeus, 1758)	62	M
Terebralia palustris (Linnaeus, 1767)	2,31,54,59,62,66	M
Terebralia semistriata Mörch, 1852	31,54,59	M
Family Truncatellidae Truncatella sp. (WAM S 22039)	10	IH
• •		
Family Strombidae Lambis lambis (Linnaeus, 1758)	33	c
Strombus campbelli Griffith and Pidgeon, 1834	2,11,14,17,20,23,30,38,41,42,44,54,56,62	S S
Strombus labiatus (Röding, 1798)	7	S
Strombus mutabilis Swainson, 1921	11,17,38,44,45	S S
Strombus urceus Linnaeus, 1758	2,7,9,10,11,17,20,23,25,31,34,35,37,38,42,45,48,51,54,	S
75 u. t	59,62,66,69	_
Strombus vomer (Röding, 1798) Terebellum terebellum (Linnaeus, 1758)	9,11,14,17,19,25,37,40,47,70 41	S S
Family Vanikoridae		
Vanikoro cancellata (Lamarck, 1822)	67	SH
Vanikoro sigaretiformis (Potiez and Michaud, 1838)		SH
Family Calyptraeidae Crepidula aculeata Gmelin, 1791	20,26,30,38,39,41,45,51,54	IH
Family Naticidae		
Natica collei (Récluz, 1844)	41	S
Natica euzona (Récluz, 1844)	7,54,59,66	S
Natica fasciata (Röding, 1791)	20	S

Taxa	Station number	Habitat
Natica gualteriana (Récluz, 1844)	11,38,45,48,54,59,66,70	S
Natica robillardi Sowerby, 1843	38,62	S
Natica simplex Schepman, 1909	54,56,66	S
Natica vitellus Linnaeus, 1758	45	
Polinices albumen (Linnaeus, 1758)	38	S S S
Polinices conicus (Lamarck, 1822)	11,38,62,59	S
Polinices melanostomus (Gmelin, 1791)	7,37,38,47	S
Polinices powisiana (Récluz, 1844)	51,68,70	S
Polinices simiae (Deshayes, 1838)	65	S
Family Cypraeidae		
Cypraea carneola Linnaeus, 1758	40	SH
Cypraea gracilis Gaskoin, 1849	36,45,47,48,54,56,66,70	ΙΗ
Cypraea lynx Linnaeus, 1758	45,48,51	SH
Cypraea miliaris Gmelin, 1791	37,68,69	SH
Cupraea lutea Gmelin, 1791	54	SH
Cypraea annulus Linnaeus, 1758	48,66	\mathbf{IH}
Cypraea chinensis Gmelin, 1791	3,70	SH
Cypraea clandestina Linnaeus, 1767	7,8,16,21,36,37,38,45,46,51	SH
Cypraea cribraria Linnaeus, 1758	8,12,15,44,57,60	SH
Cypraea cylindrica Born, 1778	4,8,12,17,18,19,20,21,23,24,25,28,31,32,35,36,45,46,64,70	SH
Cypraea eglantina Duclos, 1833	3,6,8,12,14,15,16,18,19,20,21,22,25,26,36,37 40,44,45, 46,47,49,52,53,57,62,69	SH
Cypraea erosa Linnaeus, 1758	3,10,12,13,14,15,18,19,21,24,32,36,44,53,58,60,64	SH
Cypraea errones Linnaeus, 1758	11,14,28,38,45,48,51,54,59,62,66	IH
Cypraea flaveola Linnaeus, 1758	4	SH
Cypraea helvola Linnaeus, 1758	16,21,22,32,37,46,47,50	SH
Cypraea hirundo Linnaeus, 1758	3,4,6,8,21,28,45	SH
Cypraea isabella Linnaeus, 1758	7,13,18,44	SH
Cypraea limacina Lamarck, 1810	21,40,46	SH
Cypraea pallidula Gaskoin, 1849	3	SH
Cypraea quadrimaculata Gray, 1824	12	SH
Cypraea staphylaea Linnaeus, 1758	3,13,16,38,45	SH
Cypraea subviridus Reeve, 1835	14,33,37,41,42,44,48,51,59,70	SH
Cypraea talpa Linnaeus, 1758	21	SH
Cypraea alisonae Burgess, 1983/teres Gmelin, 1791	12,21,40	SH
Cypraea ursellus Gmelin, 1791	3,4	SH
Cypraea tigris Linnaeus, 1758	18,39	SH
Cypraea vitellus Linnaeus, 1758	1,17,18,24,38,44,45,48,51,53,54	SH
Cypraea caurica Linnaeus, 1758	1,4,6,9,13,16,20,33,12,36,40,45,47,48,54,62	SH
Cypraea caputserpentus Linnaeus, 1758	3,8,10,15,26,42,46,48,58	SH
Cypraea moneta Linnaeus, 1758	7,8,11,38,48,51,59,66	ľΗ
Cypraea hammondae Iredale, 1939	22,47	SH
Cypraea cicercula Linnaeus, 1758	67	SH
Family Ovulidae		
Prosimnia semperi (Weinkauff, 1881)	8	AA
Phenacovolva sp. 1 (WAM S 27000)	41,68	AA
Phenacovolva sp. 2 (WAM S 27002)	39	AA
Family Triviidae		
Trivia oryza (Lamarck, 1810)	3,6,10,12,21,22,31,32,64,47,48,54	SH
Family Epitoniidae		
Epitonium sp. (WAM S 27048)	49	AA
Epitonium costulatum Kiener, 1839	53	AA
Family Eulimidae	_	
Apicalia sp. cf. brazieri (Angas, 1877)	67	AA
Eulimid sp. (WAM S 27010)	48	AA
Family Ficidae		
Ficus sp. cf. subintermedia (Orbigny,1852)	4	S
Ficus eospilla (Péron, 1807)	41,55	S

Taxa	Station number	Habitat
Family Velutinidae Chelynotus tonganus Quoy and Gaimard, 1832	21,49	SH
Family Ranellidae Cymatium labiosum (Wood, 1828) Cymatium pileare (Linnaeus, 1758) Cymatium vespaceum (Lamarck, 1822) Cymatium sarcostomum (Reeve, 1844) Gyrineum lacunatum (Mighels, 1845)	7,45,54 21,24,36,37 4,9,11,12,17,23,47,48,51,54,56,57,62,64,66 57 51	SH SH SH SH SH
Family Bursidae Bursa granularis (Röding, 1798)	4,25,32,39,40,47	SH
Family Cassidae Phalium bandatum (Perry, 1811) Semicassis pyrum (Lamarck, 1822) Semicassis bisulcata (Schubert and Wagner, 1829)	7,46,56,57,65,68,69 25,69 69	S S S
Family Tonnidae Tonna allium (Dillwyn, 1817) Tonna tessellata (Lamarck, 1816)	23,25 69	S S
Family Muricidae Chicoreus cornucervi (Röding, 1798) Chicoreus microphyllus (Lamarck, 1815) Murex brevispina Lamarck, 1822 Haustellum multiplicatus (Sowerby, 1895) Homalocantha secunda (Lamarck, 1822) Pterynotus akation Vokes, 1993 Pterynotus acanthopterus (Lamarck, 1816) Hexaplex stainforthi (Reeve, 1843) Aspella producta (Pease, 1861) Aspella platylaevis Radwin and D'Attilio, 1976) Murex acanthostephes Watson, 1883 Chicoreus rubiginosus (Reeve, 1845) Favartia salmonea (Melvill and Standon, 1899)	23,41,57,59 3,4,21,22,32,40,43,46,49,50,52,69,70 30,57 23,33,22 11,23 11,41,68 6,20,37,45,47,48,51,55,56,64,67,70 6 48 11,41,57,69 13 56	IH SH S S IH SH
Family Thaididae Coralliophila confusa Kosuge, 1986 Coralliophila costularis (Lamarck, 1816) Coralliophila neritoidea (Lamarck, 1816) Rapa rapa (Linnaeus, 1758) Quoyula madreporarum (Sowerby, 1832) Cronia avellana (Reeve, 1846) Cronia crassulnata (Hedley, 1914) Morula margariticola (Broderip, 1832) Drupella rugosa (Born, 1778) Morula granulata (Duclos, 1832) Morula spinosa (H. and A. Adams, 1853) Thais aculeata (Deshayes, 1844)	70 4,40 21,27,32,50 27 31 2,34,5,6,7,8,9,10,11,12,13,14,16,17,18,19,20 21,22,23, 24, 25,26,27,28,29,30,31,32,33,36,37,40,42,43,44,45,46,47,48, 50,51,53,54,56,57,58,59,61,62,64,65,66,67,70 1,7,36,38,44,48,51,54,58,60,63 1,2,6,7,8,10,11,12,13,14,17,19,20,21,24,25,28,29,31,32, 36,38,42,44,45,48,51,54,58,59,60,62,63,66,68 1,8,12,16,18,19,21,24,25,29,33,58,60,61 7,10,11,25,28,45,48,59,62 3,4,8,12,13,15,17,18,19,20,21,22,24,26,27,29,32,35,36, 37,39,43,44,45,46,50,56,57,58,60,63,67 7,10,25,28,46	AA AA AA AA SH SH SH SH IH SH
Thais alouina Röding, 1798 Thais echinata (Blainville, 1832) Drupella cornis (Röding, 1798) Pinaxia versicolor (Gray, 1839)	5,8,46 1,4,6,8,10,12,13,15,16,18,19,20,21,22,25,29,32,33,36,37,40,42, 43,44,45,46,48,49,50,51,52,53,54,56,57,58,60,63,65,67,69,70 8,18,22,29,32,36,58,60,63 9,37,70	SH SH AA AA?
Family Collumbellidae Pyrene testudinaria (Link, 1807) Pyrene flava (Bruguière, 1789) Pyrene varians (Sowerby, 1832) Mitrella albina (Kiener, 1841)	43,45,48,51 6,14,17,19,20,45,48,65 6,9,31,34,37,45,47,48,51 47	SH IH AP AP

Taxa	Station number	Habitat
Pyrene punctata (Bruguière, 1789) Pyrene essingtonesis (Reeve, 1859)	65,70 62	IH IH
Family Buccinidae Cantharus fumosus (Dillwyn, 1817) Cantharus erythrostomus (Reeve, 1846) Cominella acutinodosa (Reeve, 1846) Pisanea ignea (Gmelin, 1791) Phos sculptilis Watson, 1886	25 9,28,31,37,45,48,51,58,59,62 10,11,17,23,38,51,54,59,62,70 18,19 20,34,41,56	SH SH IH SH SH
Family Colubrariidae Colubraria sp. (WAM S 22036)	3	SH
Family Turbinellidae Tudivasum inermis (Angas, 1878)	68	S
Family Melongenidae Syrinx aruanus (Linnaeus, 1758)	2,6,7,10,11,17,20,23,27,31,36,38,45,51,54,56,59,62,65,70	S
Family Nassariidae Nassarius clarus (Marrat, 1877) Nassarius dorsatus (Röding, 1798) Nassarius glans (Linnaeus, 1758) Nassarius pauperus (Gould, 1850) Nassarius conoidalis (Deshayes, 1832) Nassarius albinus (Thiele, 1930) Nassarius albescens (Dunker, 1846) Hebra horrida (Dunker, 1847)	38,54,59,62,66 2,10,11,54,62 6,8,17,31,51,55,57,61,68 38,47,62 38 62 38,54 38	555555555
Family Fasciolariidae Latirus turritus (Gmelin, 1791) Peristernia incarnata (Kiener, 1840) Latirus walkeri Melvill, 1895 Latirus paetelianus (Kobelt, 1876) Fusinus colus (Linnaeus, 1758)	1,8,12,14,15,18,19,22,25,29,37,44,45,46,48,51,58,63,69,70 3,37,44,45,48,51,53,58,70 17,45,51,56,61 1,6,17,25,33,51,69,70 56	SH SH IH SH SH
Family Harpidae Harpa amouretta Röding, 1798	21	S
Family Olividae Ancillista muscae (Pilsbry, 1926) Ancillista cingulata (Sowerby, 1830) Oliva caldania Duclos, 1835	11,42 38 47	S S S
Family Mitridae Mitra scutulata (Gmelin, 1791) Mitra fraga Quoy and Gaimard, 1833 Pterygia sinensis (Reeve, 1844) Pterygia crenulata (Gmelin, 1791) "Ziba" flammea (Quoy and Gaimard, 1833)	10,14,48 26,44 47 47 38	SH SH S S S
Family Costellariidae Vexillum vulpeculum (Linnaeus, 1758) Vexillum pacificum (Reeve, 1845) Vexillum microzonias (Lamarck, 1811) Vexillum suluense (Adams and Reeve, 1850) Vexillum mirabile (A. Adams, 1853) Vexillum amanda (Reeve, 1845) Vexillum unifasciatum (Wood, 1828) Vexillum aureolineatum Turner, 1988 Vexillum radix (Sowerby, 1874) Family Cancellariidae	2,7,11,17,20,23,24,33,41,53,54,56,59,61,62,64,67,68,70 6,7,37,47 14 62 68,70 68 65 36 62	S S S S S S S S S
Cancellaria melanostoma westralis Garrard, 1965	41	S

Таха	Station number	Habitat
Family Volutidae		
Melo amphora (Solander, 1786)	2,4,7,11,13,14,16,20,23,25,31,34,48,44,47,51,54,56,59, 60,62,65	S
Cymbiola oblita (Smith, 1909)	2,7,10,11,14,16,17,20,23,25,36,37,38,54,56,57,58,59,61,62,68	S
Amoria grayi (Ludbrook, 1953)	7,14,25,41,48	S
Amoria jamrachi Gray, 1864	69	S
	69	S
Amoria ellioti (Sowerby, 1864)		S
Amoria praetexta (Reeve, 1849)	38,41,47,54,65	5
Family Conidae		
Conus geographus Linnaeus, 1758	21,50	SH
Conus glans Hwass in Bruguière, 1792	3,8,18,21,22,29,40,44,46,58	SH
Conus miliaris Linnaeus, 1758	10	S
Conus monachus Linnaeus, 1758	19,45,51	SH
Conus musicus Hwass in Bruguière, 1792	13	SH
Conus reductaspiralis Walls, 1979	13,38,50,56,65,69,70	S
		SH
Conus textile Linnaeus, 1758	16,21,22,44,45,47,56,65,70	S
Conus vexillum Gmelin, 1791	12,40,43	S
Conus victoriae Reeve, 1843	4,7,9,10,19,23,25,38,41,45,47,48,51,70	
Conus trigonus Reeve, 1848	20,23,25,38,45	SH
Conus novaehollandiae Adams, 1853	1,38,47,48,51,69	SH
Conus spectrum Linnaeus, 1758	6,16,23,25,51,56,68	S
Conus suturatus Reeve, 1844	47	S
Conus lividus Hwass in Bruguière, 1792	43	S
Conus dorreensis Péron, 1807	45,48	S
Family Turridae		
Turris crispa (Lamarck, 1816)	41	S
Clavus unizonalis (Lamarck, 1822)	48	S
Eucithara sp. (WAM S 27039)	54	S
Turricula granobalteus (Hedley, 1922)	41	S
Turrid sp. (WAM S 27036)	41	S
-		
Family Terebridae	-	0
Terebra affinis Gray, 1834	7	S
Terebra marrowae Bratcher and	12,56	S
Cernohorsky, 1982		_
Hastula rufopunctata (Smith, 1877)	14	S
Family Pyramidellidae		
Pyramidella sp. (WAM S 12014)	6	S
Pyramidella dolabrata (Linnaeus, 1758)	68	S
Pyramidella acus (Gmelin, 1791)	68	S
Pyramidella sulcata (A. Adams, 1854)	68	S
Colsyrnola sericea Iredale, 1929	47	S
Family Architectonicidae		
Heliacus variegatus (Gmelin, 1791)	48	S
Themacus varieganus (Gilleini, 1771)	1 0	J
Subclass OPISTHOBRANCHIA		
Family Acteonidae		
Pupa sulcata (Gmelin, 1791)	54,62	S
Family Haminoeidae		
Atys cylindricus (Helbling, 1779)	10,38,41,51,59,62	S
		S
Atys semistriata Pease, 1860	38	
Haminoea cymbalum (Quoy and Gaimard, 1835)	38	AP
Family Bullidae		
Bulla ampulla Linnaeus, 1758	2,7,9,10,11,14,19,23,25,38,45,51,54,58,64,66,70	S
Family Hydatinidae		
Micromelo undatus (Bruguière, 1792)	7	S

Таха	Station number	Habitat
Family Aglajidae		
Chelidonura amoena Bergh, 1905	4,26,27	SH
Chelidonura hirundina (Quoy and Gaimard, 1824)	6	SH
Family Aplysiidae		
Aplysia parvula Guilding in Mörch, 1863	16	SH
Aplysia dactylamela Rang, 1828	21	SH
Dolabella auricularia (Lightfoot, 1786)	47,54	SH
Aplysia sp. cf. extrordinaria Allan, 1932	38	SH
Dolaberifera dolaberifera Cuvier, 1817	38,40,45	SH
Family Elysiidae		
Elysia sp. (WAM S 12395)	44	AP
Thuridilla sp. (WAM S 1462)	3	SH
Elysia ornata (Swainson, 1840)	1,29	AP
Elysiella pusilla Bergh, 1872	45	AP
Family Gastropteriidae		
Sagaminopteron psychedelicum Carlson	6	SH
and Hoff, 1974		
Family Pleurobranchiidae		
Pleurobranchus forskalii (Rüppell and Leuckart, 1828)	6,45	SH .
Pleurobranchus martensi (Pilsbry, 1896)	21 22	CXX
Pleurobranchus peroni (Cuvier, 1804)	21,33 6	SH SH
Family Gymnodoridae		
Gymnodoris sp. (WAM S 1468)	1	CII
Gymnodoris rubropapulosa Brunckhorst, 1993	4	SH
	4,50	SH
Gymnodoris sp. cf. citrina (WAM S 12013, S 12018, S 12030, S 12035)	6,12,16,19,59	SH
Family Hexabranchiidae		
Hexabranchus sanguineus (Rüppell and	7 12 28 44 45	CII
Leuckart, 1829)	7,12,38,44,45	SH
Family Polyceriidae		
Nembrotha purpureolineata O'Donoghue, 1924	30,31,33	SH
Nembrotha kubaryana Bergh, 1877	46	
Nembrotha lineolata Bergh, 1905	40	SH
Tambja gracilis Bergh, 1877	65	SH
, ,		SH
Family Dorididae		
Aphelodoris sp.(WAM S 1469, S 12043)	4,26,40,44,45,50,53	SH
Discodoris cf. boholiensis Bergh, 1877	4,12,20,50	SH
Discodoris lilacina (Gould, 1852)	1,7,11,45,51	IH
Jorunna funebris (Kelaart, 1858)	4,17,24	SH
Platydoris scabra (Cuvier, 1804)	31	IH
cf. Jorunna sp. (WAM S 12057)	31	SH
Asteronotus cespitosus (Hasselt, 1824)	6,19,20,28,45,54,66	IH
Halgerda brycei Fahey and Gosliner, 2001	60,67	SH
Thordissa villosus (Alder and Hancock, 1864)	3	AA
Trippa ossesa (Kelaart, 1859)	32	SH
Red dorid sp. (WAM S 12409)	53	AP
Discodorid sp. (WAM S 12399)	40	SH
Dorid sp. in Callyspongia (WAM S 12412)	58	AA
Dorid sp. (WAM S 12056)	33	AA
Family Chromodorididae		
Chromodoris westraliensis (O'Donoghue, 1924)	4,15,26,27,43,67,69	SH
Hypselodoris sp. (WAM S 1472)	4	SH
Hypselodoris sp. (WAM S 1463, S 12025, S 12403)	4,15,27,33, 50,55,57,65	SH
Hypselodoris cf. carnea (Bergh, 1889)	33	SH
Chromodoris sp. (WAM S 12038)	22	SH

Taxa	Station number	Habitat
Chromodoris sp. (WAM S 12617)	37	SH
Risbecia sp. cf. tyroni (Garrett, 1873)	1,33,37,58	SH
Glossodoris atromarginata (Cuvier, 1804)	1,3,12,19,27,37,44,56,60	SH
Chromodoris cf. africana Eliot, 1904	3,8,15	SH
Chromodoris coei (Risbec, 1956)	4,15,21,26,67	SH
Chromodoris cf. magnifica (Quoy and	4	SH
	*	511
Gaimard, 1832)	48	ΙΉ
Chromodoris striatella Bergh, 1877		SH
Chromodoris lineolata (van Hasselt, 1824)	6,31,42	
Glossodoris rufomarginata (Bergh, 1890)	19,22	SH
Chromodoris verrieri (Crosse, 1875)	16	SH
Mexichromus mariei (Crosse, 1872)	33,55	SH
Hypselodoris whitei (Adam and Reeve, 1850)	16,18,32	SH
Chromodoris colemani Rudman, 1982	4,15	SH
Chromodoris tinctoria (Rüppell and	61,64	SH
Leuckart, 1828)		
Chromodoris cf. tinctoria complex (Rüppell	37,61	SH
and Leuckart, 1828)		
Chromodoris kuniei Pruvot-Fol, 1930	50	SH
Risbecia sp. (WAM S 12396)	37	SH
Glossodoris cincta (Bergh, 1888)	46,58	SH
Chromodoris fidelis (Kelaart, 1858)	40	SH
Ceratosoma trilobatum (J.E. Gray, 1827)	45,51	SH
Ceratosoma tenue Abraham, 1876	48,51	SH
Ceratosoma magnifica (Eliot, 1910)	45	ΙΗ
Family Dendrodorididae		
Dendrodoris albobrunnea Allan, 1933	4,22,49	SH
Dendrodoris dennisoni (Angas, 1864)	45,54	ΙΗ
27 11 201 111 111 1		
Family Phyllidiidae	1.0.4.0.10.17.10.00.01.00.04.0700.07.40.44.50.50.57.57.70.70	OT T
Phyllidia coelestis (Bergh, 1869)	1,3,4,8,13,15,18,20,21,22,24,2732,36,43,44,50,52,56,57,60,63	SH
Phyllidia elegans Bergh, 1869	3,4,8,46,67	SH
Phyllidia varicosa Lamarck, 1801	13,15,18,33,36,52,56,58,60	SH
Phyllidiella pustulosa (Cuvier, 1804)	1,3,4,8,13,15,18,21,22,24,27,29,32,33,36,39,44,50,52,	SH
	53,56,57,58,60,63,64,67,69	
Phyllidia ocellata Cuvier, 1804	1,3,4,13,18,27,33,36,43,49,50,52,53,57,60,64,65,67	SH
Phyllidia exquisita Brunckhorst, 1993	3,13,50	SH
Phyllidia babai Brunckhorst, 1993	69 .	SH
T '1 C1 '1		
Family Glaucidae	. -	
Moridilla sp. (WAM S 12031)	17	SH
Ptaeolidea ianthina (Angas, 1864)	3,6,17,21,33.43,55	SH
Phyllodesmium crypticum Rudman, 1981	31	AA
Phyllodesmium poindimiei (Risbec, 1828)	4,6,16	AA
Moridilla brockii Bergh, 1888	48	SH
we on well 1 120 00 3		
Family Flabelliniidae	4.15.00.40.45.45	CT T
Flabellina exoptata Gosliner and Willan, 1991	4,15,33,40,65,67	SH
Flabellina rubrolineata (O'Donoghue, 1929)	15,26,27	SH
Cuthona sibogae (Bergh, 1905)	26,27,33	SH
Family Datidaa		
Family Dotidae	41	A A
Lomanotus sp. (WAM S 12400)	41	AA
Family Bornellidae		
	0.42	CII
Bornella anguilla Johnson, 1893	8,43	SH
Bornella stellifera (Adams and Reeve in	22,25,37	SH
Adams, 1848)		
SUBCLASS PULMONATA		
SOBCEASS I OLIVIONALA		
Family Siphonariidae		
Siphonaria zelandica Quoy and Gaimard, 1833	4,7,9,14,17,20,25,28	ΙΗ
2000		

Taxa	Station number	Habitat
Family Ellobiidae Cassidula cf. nucleus (Gmelin, 1791)	10	M
(WAM S 30245) Melampus sp. (WAM S 30246)	10,28	M
Family Onchidiidae Onchidium sp. A (WAM S 13911) Onchidium sp. D (WAM S 13912)	2,7,14,17,25,54 31	M M
CLASS BIVALVIA SUBCLASS PROTOBRANCHIA		
Family Nuculidae Nucula ?superba Hedley, 1902 (WAM S 18446)	17,30,55,61,62,67,69	S
Subclass PTERIOMORPHIA		
Family Arcidae Anadara (Anadara) antiquata (Linnaeus, 1758)	7,14,20,23,25,35,38,54,70	S
Anadara (Cunearca) rotundicostata (Reeve, 1843) Anadara (Scapharca) ?rufescens (Reeve, 1844) (WAM S 18388)	30 8, 10,12,20,30,56,57,69	S S
Anadara (Tegillarca) granosa (Linnaeus, 1758) Arca ventricosa Lamarck, 1819	2 (long dead) 1,2,3,4,6,7,8,10,12,17,18,20,21,22,23,24,25,26,28,29,30,32,33, 35,36,37,39,40,44,46,49,50,53,54,56,57,58,59,60,63, 64,65,67,68,70	S SH
Barbatia (Acar) plicata (Dillwyn, 1817) Barbatia (Acar) sp. (WAM S 18348) Barbatia (Barbatia) amygdalumtostum	23,35,37,48,49,55,56,67,69 32	SH SH,IH
(Röding, 1798)	3,4,8,9,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,28, 29,31,33,35,36,37,44,47,49,52,54,58,60,63,66,70	SH,IH
Barbatia (Barbatia) ?coma (Reeve, 1844) (WAM S 18365)	2,10,11,23,59,62	SH
Barbatia (Barbatia) ?helblingii Bruguière, 1789 (WAM S 18405)	14,8,10,11,24,32,47,49,50,61,64,67,70	SH,IH
Barbatia (Barbatia) foliata (Forskål, 1775) Barbatia (Barbatia) ?obliquata (Wood, 1828) (WAM S 18398)	9,11,12,15,17,20,23,28,30,31,33,53,54,55,61,63,69 7	SH,IH SH,IH
Barbatia (Barbatia) ?parvivillosa (Iredale, 1939) (WAM S 18367)	14	SH,IH
Barbatia (Barbatia) sp. 1 (WAM S 18371) Barbatia (Barbatia) sp. 2 (WAM S 30230)	12,23,33,37,46,49,54 65	SH,IH SH,IH
Barbatia (Calloarca) tenella (Reeve, 1843) Trisidos semitorta (Lamarck, 1819)	2,10,23,30,35,51 11,30,41,61	SH,IH S
Family Noetiidae Arcopsis afra (Gmelin, 1791) Striarca sp. (WAM S 18401)	2,10,17,23,28,30,34,35,37,38,45,47,51,59	SH,IH SH
Family Glycymerididae Glycymeris dampierensis Matsukuma, 1984	12,14,25,37,38,41,44,45,55,56,57,61,63,65, 67,68,69,W coast of East Lewis I.	S
Tucetona ?angusticosta Lamprell and Whitehead, 1990 (WAM S 30231)	56,65,67	S
Tucetona auriflua (Reeve, 1843) Tucetona odhneri Iredale, 1939 Tucetona sp. (WAM S 30232)	3,46,47,57,65,70 20,23,28,30,31,37,38,45,55,61,67 42,65	S S S
Family Mytilidae Botula silicula (Lamarck, 1819) Brachidontes sp. (WAM S 18172) Gregariella ?otteri (Iredale, 1939) (WAM S 30265) Lithophaga ?lessepsiana (Vaillant, 1865) (WAM S 27131)	31,42,44 6,7,10,17,28,31,38,39,51,59,66,W coast of East Lewis I. 31,49 60	AA,SH SH,IH SH AA,SH,IH

Таха	Station number	Habitat
Lithophaga ?malaccana (Reeve, 1858) (WAM S 27128)	1,44,51,67	AA,SH,IH
Lithophaga ?obesa (Philippi, 1847) (WAM S 30234)	44	AA
Lithophaga teres (Philippi, 1846)	1,4,20,31,33,34,37,42,48,63,70	AA,SH,IH
Lithophaga sp. (WAM S 30235)	67	AA,SH,IH
Modiolus albicostatus Lamarck, 1819	11,20	SH
Modiolus ?auriculatus Krauss, 1848	4,6,25,31,38,48,59,62,67	SH
	4,0,20,01,00,40,07,02,07	511
(WAM S 18168) Modiolus ?micropterus Deshayes, 1836	54	SH
(WAM S 30233)		
Modiolus ?philippinarum Hanley, 1843 (WAM S 18179)	6,7,9,13,16,17,23,28,37,47,49,54,55,61,66,70	SH
Modiolus pulvillus Iredale, 1939	54	S
Musculus cumingianus Reeve, 1857	44,55	AA,SH
Musculus impactus Hermann, 1782	18,67	AA,SH,
Septifer bilocularis (Linnaeus, 1758)	1,2,3,4,6,8,10,12,13,14,15,16,17,19,20,21,22,23,24,25, 26,27,28,29,30,32,33,34,35,36,38,39,40,42,43,44,46,47, 48,49,50,51,52,57,58,59,60,61,62,63,64,66,67,69	SH,IH
Stavelia horrida Dunker, 1856	1,14,23,33,45,48,55	M
Family Pinnidae		
Atrina?pectinata (Linnaeus, 1758) (WAM S 30236)	30,42	S
Atrina vexillum (Born, 1778)	1,4,25,32,45,53,58	SH
Atrina sp. (WAM S 18006)	20,30,31	S
Pinna bicolor Gmelin, 1791	2,3,4,7,8,11,16,17,23,27,30,31,38,41,42,45,51,53,54,	S
Pinna deltodes Menke, 1843	56,57,59,62,64,65,69 4,9,11,12,15,16,17,18,21,26,27,31,32,39,40,43,44,	S
1 mm denodes Werke, 1040	47,48,49,51,52,53,54,64,67	3
Streptopinna saccata (Linnaeus, 1758) (juv.)	8,32	SH
Family Pteriidae		
Electroma alacorvi (Dillwyn, 1817)	3,7,17,20,22,24,25,29,31	AA,SH
Electroma physoides (Lamarck, 1819)	41,68	AA,
Electroma spadicea (Dunker, 1852)	17,21,58.64,65	AA,
Pinctada albina (Lamarck, 1819)	2,4,7,8,9,11,12,14,16,17,19,20,23,24,25,28,29,	SH
Pinctada ?maculata (Gould, 1850) (WAM S 18466)	31,33,35,37,42,43,54,62,63	SH
		SH
Pinctada margaritifera (Linnaeus, 1758)	1,3,13,15,18,21,24,26,27,29,32,33,35,40,47	
Pinctada maxima (Jameson, 1901)	23,24,32,36,39,40,44,47,49,51,53,55,57,59,60,61,65	S
Pteria lata (Gray, 1845)	15,26,27,52,56,65	AA,SH
Pteria penguin (Röding, 1798)	15,27,33,52,56,69	AA,SH
Family Isognomonidae	•	
Crenatula modiolaris Lamarck, 1819	29	AA,SH
Isognomon ephippium (Linnaeus, 1758)	2,23,29,?33,54,66	ΙΗ
Isognomon isognomum (Linnaeus, 1758)	1,3,4,8,10,11,12,13,15,16,18,19,20,22,23,24,25,28,29,31,33,35, 38,39,40,42,43,44,46,49,50,51,52,53,57,58,59,60,63,64,67,69	SH,IH
Isognomon legumen (Gmelin, 1790)	1,2,3,4,6,7,8,10,13,14,15,17,18,20,25,34,39,40,44,45,46,48, 49,50,51,52,53,57,58,59,60,63,64,65,66,67,70	SH,IH
Isognomon ?perna (Linnaeus, 1767) (WAM S 18452)	6,17,26,61,64	SH,IH
Family Malleidae		
Malleus alba Lamarck, 1819	23,30	S
Malleus malleus (Linnaeus, 1758)	1,4,7,8,10,11,13,14,15,18,19,20,22,24,26,29,30,31,32,33,34	SH
Malleus regula (Forskål, 1775)	32,44,45,49,51,54,55,59,60,62,63	SH
Vulsella vulsella (Linnaeus, 1758)	20,52,54	AA,SH
		,· -
Family Pectinidae	FF.F./	
Amussium balloti (Bernardi, 1861)	55,56	S
Anachlamys flabellata (Lamarck, 1819)	22,30,55,56,65,67,68,69	S
Complicachlamys wardiana Iredale, 1939	4,8,10,12,13,16,17,18,21,22,23,27,32,33,	SH,IH
	36,41,44,45,46,47,53,55,57,61,65,67,70	
Coralichlamys madreporarum (Sowerby, 1842)	1,4,17,20,36,37,40,44,58,61	AA,SH

Taxa	Station number	Habitat
Decatopecten radula (Linnaeus, 1758)	1,8,12,13,14,16,18,20,21,24,25,29,31,33,35, 36,37,44,45,49,53,58,60,61,64,67	S
Decatopecten strangei (Reeve, 1852)	30,37,55,56,57	SH
Excellichlamys spectabilis (Reeve, 1853)	1,3,4,12,13,15,18,21,22,24,32,33,36,46,50,53,58,70	SH
Gloripallium pallium (Linnaeus, 1758)	40	SH
Hemipecten forbesianus Adams and Reeve, 1849	33,61,65,70	AA,SH
Laevichlamys squamosa (Gmelin, 1791)	1,4,8,12,17,20,21,22,24,32,33,36,44,45,49,53,58,64	SH
Mimachlamys ?australis (Sowerby, 1842)	7	SH
Mimachlamys funebris (Reeve, 1853)	3,4,7,16,26,31,33,37,41,42,44,45,47,55,56,57,61,65,67,70	SH,IH
Mimachlamys gloriosa (Reeve, 1852)	7	SH
Mimachlamys lentiginosa (Reeve, 1853)	3,4,7,9,12,19,26,48,51,54,64,65,68,70	SH,IH
Mimachlamys scabricostata (Sowerby, 1915)	20,30,55	SH
Scaeochlamys sp. (Lamarck, 1819)	1,44	SH
Pectinid sp. 1 (WAM S 18128)	30	S
Pectinid sp. 2 (WAM S 12424)	44	SH
Pectinid sp. 3 (WAM S 12424)	67	SH
Pectinid sp. 4 (WAM S 18146)	12	SH
1 central sp. 4 (VVAIVI S 10140)	12	эп
Family Spondylidae		
Spondylus albibarbatus Reeve, 1856	1,4,10,14,15,18,32,44,46,49,50,62	SH
Spondylus asperrimus Sowerby, 1847	13,36,62,64	SH
Spondylus eastae Lamprell, 1992	7,8,10,14,16,21,25,26,36,46,47,64	SH
Spondylus echinatus Schreibers, 1793	3,4,8,9,12,24,33,36,49,53,56,58,62,64	SH
Spondylus heidkeae Lamprell and Healy, 2001	57	SH .
Spondylus ocellatus Reeve, 1856	36,42	SH
Spondylus spinosus Schreibers, 1793	12,36,43	SH
Spondylus victoriae Sowerby, 1843	57	SH
Family Plicatulidae		
Plicatula australis Lamarck, 1819	1,2,3,4,8,9,11,12,13,15,17,18,19,21,23,24,25,26,	SH,IH
	27,28, 31,32,33,34,48	
P. chinensis Mörch, 1853	14,30,49,56	SH,IH
P. ?muricata Sowerby, 1873 (WAM S 18806)	16,30	SH,IH
Family Anomiidae		
Anomia sp. (WAM S 18057)	1,36,57	SH,IH
Monia ?deliciosa Iredale, 1936 (WAM S 18056)	1,22,26,49,62	SH,IH
Patro australis (Gray, 1847)	4	SH,IH
		•
Family Placunidae	44.00.	_
Placuna lobata Sowerby, 1871	11,30,55	S
Family Ostreidae		
Alectryonella plicatula (Gmelin, 1791)	27,48	AA,SH
Dendostrea folium (Linnaeus, 1758)	3,4,8,12,18,20,21,22,26,27,28,30,31,32,33,36,37,40,41,	?AA,SH
, (, , , , , , , , , , , , , , , , , ,	43,44,46,48,50,52,53,55,57,58,62,64,67,69	.1111,011
Ostrea tuberculata (Lamarck, 1819)	1,3,4,15,17,18,20,21,24,27,31,32,33,36,40,48,61,63,64,	AA,SH
Ostrea sp. (WAM S 30247)	3,17,18,19,23,26,27,32,41,42,47,51,55	SH,IH
Saccostrea ?commercialis (Iredale and	·/////////////////////////////	011,111
Roughley, 1933) (WAM S 30248)	2,11,14,17,20,28,31,42,51,54,59,62,	IH,M
	66,W coast of East Lewis I.	11 1,171
Saccostrea cucullata (Born, 1778)	7,11,14,17,28,38,42,51,59,62,66	IH, M
Saccostrea echinata (Quoy and Gainard, 1832)	11	IH,M
(2002)	~~	11 1,171
Family Gryphaeidae		
Hyotissa hyotis (Linnaeus, 1758)	1,3,13,15,18,21,22,24,26,27,32,40,43,	SH
•	44,48,50,52,53,57,60,67,69	-
Hyotissa numisma (Lamarck, 1819)	10	IH
Hyotissa ?numisma (Lamarck, 1819)	18,26,27,45	SH
(WAM S 30237)	, , ,	
Hyotissa sp. (WAM S 30238)	1,3,4,8,15,18,21,22,26,27,32,33,36,40,43,44,46,48,50,	
-	52,53,57,60,63,67,69	SH
Family Limidae	440 40 40 04 00 07 00 00 00 00 00 00 00 00 00 00 00	
Ctenoides annulata (Lamarck, 1819)	4,12,13,18,21,22,27,32,33,36,43,49,50,53,61,67	SH

Taxa	Station number	Habitat
Lima lima (Linnaeus, 1758) Limaria basilanica (A. Adams and Reeve, 1850) Limaria ?fragilis (Gmelin, 1791) (WAM S 18945)	3,12,13,17,21,22,26,36,53,55,65 1,4,6,8,14,15,16,17,21,26,31,33,41,44,49,54,58 DA1 Stn ?,53,58,67	SH SH SH
Limatula ?japonica (A. Adams, 1863) (WAM S 18086)	33,36,38,67,70	SH
Subclass HETERODONTA		
Family Lucinidae Anodontia edentula (Linnaeus, 1750)	11,14,35,54,62,W coast of East Lewis I.	S
Anodontia pila (Reeve, 1850)	7,11,14,20,35	S
Austriella corrugata (Deshayes, 1843)	31,54	S S
Cavatidens omissa (Iredale, 1930) Ctena bella (Conrad, 1834)	2,7,11,20 7,9,11,14,16,19,22,25,38,45,47,51,59,62,70	S S
Divalucina cumingi (Adams and Angas, 1863)	2,8,20	S
Divaricella ornata (Reeve, 1850)	11,14,17	S
"Lucina" reevei Deshayes, 1863	19,37,47	S
Family Ungulinidae Felaniella (Zemysia) sp. 1 (WAM S 18061)	11 17 20 22 21 27 28 41 44 45 51 54 55 50 61 64 65	S
	11,17,20,23,31,37,38,41,44,45,51,54,55,59,61,64,65, 66,67,69,W coast of East Lewis I.	
Felaniella (Zemysia) sp. 2 (WAM S 18077) ?Felaniella sp. (WAM S 18059)	14,31,56,70,W coast of East Lewis I. 2,55,61	S S
Family Chamidae		
Chama fibula Reeve, 1846	8,11,31,41,45,61,70	IH,SH,
Chama lazarus (Linnaeus, 1758)	12,32	SH
Chama limbula Lamarck, 1819	1,3,6,8,10,11,14,16,18,21,22,23,24,25,28,31,33,36,38, 44,47,48,49,54,55,63,70	IH,SH
Chama pacifica Broderip, 1834	3,4,54	SH
Chama plinthota Cox, 1927	4,8,12,15,18,24,43,65,70	IH,SH
Chama pulchella Reeve, 1846 Pseudochama sp. (WAM S 18331)	23 4,6,7,12,14,16,17,18,21,22,23,27,31,32,42,44,45,54	SH IH
Family Carditidae		
Beguina semiorbiculata (Linnaeus, 1758)	1,3,4,12,17,21,22,24,26,31,36,44,47,48,49,61,62,63,64	SH
Cardita incrassata Sowerby, 1825	7,30,56,65,67,W coast of East Lewis I.	S
Cardita ?crassicosta Lamarck, 1819	20,25,28,31,48,70	SH
(WAM S 18101) Cardita ?marmorea Reeve, 1843 (WAM S 18102)	7,11,14,20,23,25,28,31,38,45,51	IH
Cardita muricata Sowerby, 1832	1,4,6,7,10,12,15,16,17,21,24,31,33,36,37,40,	SH,IH
,,	42,45,47,54,63,65,70	,
Cardita preissii Menke, 1843	10,23,30,56,59,62	SH
Cardita ?variegata Bruguière, 1792	1,30,31,48	SH,IH
(WAM S 18104) Venericardia cardiodes (Reeve, 1843)	20,28,30,55	S
"Venericardia" sp. (WAM S 12425)	67	S
Family Cardiidae		
Acrosterigma angulata (Lamarck, 1819)	1,4,11,13,16,17,19,20,21,24,25,31,32,33, 36,38,44,45,49,53,58,60,61,64	S
_Acrosterigma dupuchense (Reeve, 1845)	2,7,10,11,14,20,23,28,35,38,45,51,54,59,62,66,70	S
Acrosterigma fultoni (Sowerby, 1916)	20,23,28	S
Acrosterigma reeveanum (Dunker, 1852)	7,9,10,11,16,17,30,31,33,37,38,42,44,45,	S
Acrosterigma ?transcendens (Melvill and Standen, 1899) (WAM S 18199)	47,48,49,51,54,55,56,58,64,65,68,69,70 20,30,33	S
Acrosterigma wilsoni (Voskuil and	12,20,28,42,44,47,49,53,55,56,57,61,	S
Onverwagt, 1991) Ctenocardia fornicata (Sowerby, 1840)	62,64,65,67,68,69,W coast of East Lewis I. 65,67,68	S
Fragum erugatum (Tate, 1889)	2,11,14,23,25,31,38,41,42,45,51,54,56,59,62,66,68,70	S
Fragum unedo (Linnaeus, 1758)	2,11,23,38,54,59,62	S
Fragum (Lunulicardia) retusum (Linnaeus, 1767)	30,41,56,67,68	-
Fulvia aperta (Bruguière, 1789)	2,11,17,20,23,28,30,38,41,42,54,55,59,61,62,64	S

Таха	Station number	Habitat
Fulvia sp. (WAM S 18205) Laevicardium attenuatum (Sowerby, 1840) Laevicardium biradiatum (Bruguière, 1789) Nemocardium (Lyrocardium) lyratum	20,30,69 56,57,58,65,68,69 33,41,55 55,56,57,61,65,67,68,69,70	S S S
(Sowerby, 1840) Plagiocardium setosum (Redfield, 1848) Vepricardium ?multispinosum (Sowerby, 1838) (WAM S 18246)	8,11,31,66 8,30,35,57	S S
Family Hemidonacidae Hemidonax arafurensis Ponder et al., 1981 Hemidonax donaciformis australiensis (Reeve, 1844)	14,25,45,W coast of East Lewis I. 25,28	S · S
Family Tridacnidae Tridacna maxima (Röding, 1798) Tridacna squamosa Lamarck, 1819	2,6,7,8,10,12,13,14,16,17,18,19,20,22,25,28,31,35,37, 38,42,43,45,46,47,48,51,54,59,60,66 ?5,16,37,42,53,64	SH,IH SH,IH
Family Trapeziidae Trapezium bicarinatum (Schumacher, 1817) Trapezium sowerbyi (Hidalgo, 1903) Trapezium sublaevigatum (Lamarck, 1819)	6,12,13,14,21,28,37,42,45,47,48,59,70 21 2,23,28	SH SH SH
Family Fimbriidae Fimbria sowerbyi (Reeve, 1841)	14,25	S
Family Mactridae Lutraria australis Reeve, 1854 Mactra (Electomactra) antecedens Iredale, 1930 Mactra (Mactra) cumingii Reeve, 1854 Mactra (Mactra) explanata Reeve, 1854 Mactra (Mactra) incarnata Reeve, 1854 Mactra (Mactra) luzonica Reeve, 1854 Meropesta nicobarica (Gmelin, 1791) Spisula (Oxyperas) coppingeri (Smith, 1884) Spisula (Oxyperas) triangularis (Lamarck, 1819)	1,4,20,24,30,31,33,37,47,54,55,56,64,65,70 8,11,14,16,17,23,28,31,37,47,54,61,64,66 69 2,7,9,11,14,31 57,65,67,69 7,8,9,14,16,37,48,51,70 2,7,11,20,23,30,31 31,55 55	S S S S S S S S S S
Family Mesodesmatidae Paphies (Atactodea) striata (Gmelin, 1791)	25,28,38,W coast of East Lewis I.	S
Family Donacidae Donax faba Gmelin, 1791	7,25,28,38,45,W coast of East Lewis I.	S
Family Tellinidae Exotica (Loxoglypta) assimilis (Hanley, 1844) Leporimetis ?spectabilis (Hanley, 1844) (WAM S 18008)	23,36,38,42,51,59,62,67 20,31,55,65	S S
Macoma (Psammacoma) ?candida (Lamarck,1818) (WAM S 18014)	31	S
Psammotreta (Psammotreta) amboynensis (Deshayes, 1854) (WAM S 18021)	2,30	S
Tellina (Arcopaginula) inflata Gmelin, 1791 Tellina (Cyclotellina) remies Linnaeus, 1758 Tellina (Merisca) piratica Hedley, 1918 Tellina (Pharaonella) perna Spengler, 1798 Tellina (Pharaonella) rostrata Linnaeus, 1758 Tellina (Pinguitellina) casta Hanley, 1844 Tellina (Pistris) ?serricostata Tokunaga, 1906 (WAM S 18025)	11,20,23,28,41,69,W coast of East Lewis I. 2 2,23,54 2 23,54 59 2,11,31	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
Tellina (Pistris) capsoides Lamarck, 1818 Tellina (Pistris) gemonia (Iredale, 1936) Tellina (Tellinella) radians Deshayes, 1854 Tellina (Tellinella) staurella Lamarck, 1818	11 11,20,30 17,37,41,49,61,64,67,69 7,10,11,14,18,19,20,23,25,28,30,35,37,38,41, 44,51,54,58,59,62,64,66,67	S S S S

Таха	Station number	Habitat
Tellina (Tellinella) verrucosa Hanley, 1844	67	
Tellina (Tellinella) virgata Linnaeus, 1758	2,11,23,38,51,54,59,62	S
Tellina (Tellinides) ovalis Sowerby, 1825 Tellina sp. (WAM S 18037)	23 10	S
Family Psammobiidae		
Asaphis (Asaphis) violascens (Forskål, 1775)	2,7,9,11,14,20,23,28,38,40, 42,59,66,67,W coast of East Lewis I.	S
Asaphis (Heteroglypta) contraria (Deshayes, 1843) Gari (Dysmea) occidens (Gmelin, 1791)	43,49,55,62 1,4,10,12,13,15,20,23,31,33,41,42,44,47,49, 50,53,58,60,61,64,65,70	S S
Gari (Gari) anomala (Deshayes, 1858) Gari (Gari) lessoni (Blainville, 1826)	17,30,31,54,55,64 2,16,31	S S
Gari (Gari) maculosa (Lamarck, 1818)	8,30,31,33,36,37,41,42,44,47,49,50,55,61,64,65	S
Gari (Gari) sibogai Prashad, 1932	49,55,67,70	S
Gari (Gari) ?pallida (Deshayes, 1855) (WAM S 18411)	13,23	S
Gari (Psammobia) amethysta (Wood, 1815)	42,54,56,69	S
Soletellina ?alba (Lamarck, 1818) (WAM S 30243)	W coast of East Lewis I.	S
Family Solecurtidae Azorinus ?minutus (Dunker, 1861)	11,20	M,S
(WAM S 18935)		
Family Semelidae Leptomya psittacus Hanley, 1882	1,11,19,37,44,49,53,54,61,64,67	c
Semele jukesii (Reeve, 1853)	55,W coast of East Lewis I.	S S
Semele ?casta A. Adams, 1853 (WAM S 18009)	11,20,33,38,41,54,56,59,62	S
Semele ?sinensis A. Adams, 1853 (WAM S 18275)	1,21,31,32,33,37,57,58,60	S
Semele exarata (A. Adams and Reeve, 1848) Semele sp. (WAM S 18903)	17,21,30,31.48,54,65,67,70 2	S S
Family Solenidae		
Solen ?aureomaculatus Habe, 1964 (WAM S 18436)	31,42	S
Solen ?kajiyamai Habe, 1964 (WAM S 18434)	2,67	S
Solen ?roseomaculatus Pilsbry, 1901 (WAM S 18433)	23,28,65,W coast of East Lewis I.	S
Solen sp. 1 – see Lamprell and Healy 1998 # 523 2 (WAM S 18435)	2,11	S
Solen sp. 2 (WAM S 18439)	17,67	S
Family Pharidae		
Cultellus attenuatus Dunker, 1861	67,69	S
Ensiculus cultellus (Linnaeus, 1758)	2,11,23,55	S
Family Veneridae		
Anomalocardia squamosa (Linnaeus, 1758) Antigona (Antigona) chemnitzii (Hanley, 1844)	2,11,23,31,54 4,7,11,20,33,38,44,52,54,55,56,61,65	S S
Antigona (Antigona) lamellaris Schumacher, 1817	20,30,56,57,67	S
Antigona (Periglypta) resticulata Sowerby, 1853	1,4,13,14,16,17,22,23,24,28,31,35,36,37,48,50, 52,53,55,58,63,64,65,67,70	S
Callista impar (Lamarck, 1818)	2,23,38,51,54,62	S
Callista (Costacallista) planatella (Lamarck, 1818)	12,54,56	S
Callista (Striacallista) ?phasianella (Deshayes, 1854) (WAM S 18973)	2,11,23,38,51,54,61,67	S
Callista (Striacallista) ?roseotincta (Smith, 1885) (WAM S 30240)	41,55,56,61,67	S
Circe ?nana Melvill, 1898 (WAM S 30241)	59	S
Circe nummulina (Lamarck, 1818) Circe scripta (Linnaeus, 1758)	2,11,51,54,62 1 11 20 30 31 54 55 56 67	S S
Circe sulcata Gray, 1838	1,11,20,30,31,54,55,56,67 41,51	S S
Circe tumefacta Sowerby, 1851	62	S
Clementia papyracea (Gray, 1825)	2,20,30,31,55,56	S
Dosinia altenai Fischer-Piette and Delmas, 1967	44	

Taxa	Station number	Habitat
Dosinia deshayesii A. Adams, 1855	65,69	s
Dosinia histrio Gmelin, 1791	20,23,31	_
Dosinia juvenilis (Gmelin, 1791)	30,37,43,44,49,54,55,56,58,61,63,65,67,69,70	S
Dosinia mira Smith, 1885	20,54,61,62,W coast of East Lewis I.	_
Dosinia ?sculpta (Hanley, 1845) (WAM S 18489)	11,17,23	S
Dosinia tumida (Gray, 1838)	28,31,42,55,56,61,62,W coast of East Lewis I.	S
Dosinia sp. (WAM S 18915)	2,23,38,59	5
Gafrarium menkei (Jonas, 1846)	2,11,62	IH,S
Gafrarium tumidum Röding, 1798	2,11,02	IH,S
Globivenus embrithes (Melvill and Standen, 1899)	1,12,13,16,17,20,21,22,28,31,33,36,37,40,44,46,47,49, 53,54,55,58,61,64,65,67,69,70	S S
Globivenus toreuma (Gould, 1850)	3,4,8,12,13,15,16,21,22,26,27,32,36,40,42,43,44, 46,47, 50,52,53,55,58,67,70	S
Gomphina undulosa (Lamarck, 1819)	7,9,12,14,25	s ·
Irus ?irus (Linnaeus, 1758) (WAM S 18884)	1,6,11,15,17,38,48,59,64	SH,IH
Lioconcha ?annettae Lamprell and	12	S
Whitehead, 1990 (WAM S 22016)	12	5
Lioconcha fastigiata (Sowerby, 1851)	12,20,23,24,28,30,31,38,40,41,42,44,54,55,56, 57,61,64,65,67,68,70	S
Marcia hiantina (Lamarck, 1819)	2	S
Paphia crassisulca (Lamarck, 1818)	11,12,23,56	S
Paphia semirugata (Philippi, 1847)	23,30,36,41,55,56,67,69,W coast of East Lewis I.	S
Paphia undulata (Born, 1780)	23,30	5
Paphia gallus (Gmelin, 1791)		S
Pitar affinis Gmelin, 1791)	30,55	S S S
Pitar (Pitarina) citrinus (Lamarck, 1818)	11 2.11.22.50.62.W	5
Pitar (Pitarina) curinus (Lamarck, 1818)	2,11,23,59,62,W coast of East Lewis I.	S
Pitar (Pitarina) pellucidus (Lamarck, 1819)	59	S
Placamen berryi (Gray, 1828)	51	S
Placamen gravescens (Menke, 1843)	2,11,23,38,51,59,W coast of East Lewis I.	S
Sunetta contempta Smith, 1891	7	S
Sunetta perexcavata Fulton, 1915	42,57,67	S S S S S S
Tapes ?deshayesii (Hanley, 1844) (WAM S 30242)	2,8,16,38,44,67	S
Tapes dorsatus (Lamarck, 1818)	2,11,17,20,23,25,30,31,33,61	S
Tapes literatus (Linnaeus, 1758)	1,2,7,11,38,55,62	S
Tapes platyptycha Pilsbry, 1901 Tapes sericeus Matsukuma, 1986	3,4,7,11,13,15,16,27,31,32,33,36,44,55 1,2,4,10,11,16,17,19,23,24,25,28,31,33,37,	S S
Tapes sulcarius (Lamarck, 1818)	41,42,44,53, 55,56,57,63,64	C
Tapes (Ruditapes) variegatus Sowerby, 1852	44,47,49,51,55,56,65,69,70	S
	11,17,30,31,38,54,59,63,66,W coast of East Lewis I.	S
Tawera laticostata (Ohdner, 1917)	13,14,17,25,33	S
Family Petricolidae	1.07.07.00.41.40	
Petricola ?divergens (Gmelin, 1791) (WAM S 18726)	1,27,36,38,41,49	S
Petricola (Petricola) sp. (WAM S 18877)	17, 37,43,47,54,67	SH
Petricola (Velargilla) sp. (WAM S 30261)	42,54	S
Family Corbulidae		
Corbula ?crassa Reeve, 1843 (WAM S 18927)	6,11,12,20,25,30,33,37,47,55,62,64,W coast of East Lewis I.	S
Corbula macgillivray (Smith, 1885) Corbula ?tunicata Hinds, 1843 (WAM S 18924)	16,56 14,30,65,69	S S
Facilia Control		
Family Gastrochaenidae		
Cucurbitula cymbium (Spengler, 1783)	36	
Gastrochaena (Gastrochaena) ?philippinensis	1,6,20,22,31,33,34,41,49,52,70	SH
Deshayes, 1854 (WAM S 18728)		
Gastrochaena ?tumidula Thiele, 1930 (WAM S 18729)	1,4,11,31,42,52,63	SH
Gastrochaena (Spengleri) ?plicatilis Deshayes, 1854 (WAM S 30267)	1,4,48,49	SH
Gastrochaena sp. (WAM S 30266)	1	
Family Hiatellidae		
Hiatella sp. (WAM S 30239)	40,55,61	SH,AA,

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Taxa	Station number	Habitat
Family Pholadidae Parapholas ?quadrizonata (Spengler, 1792)	22,36,40,44,49,52,57,63,70	
(WAM S 18936) Jouannetia cumingi (Sowerby, 1850)	37,43,44	SH
Subclass ANOMALODESMATA		
Family Thraciidae Thracia imperfecta (Lamarck, 1818) = alciope Angas, 1872	2,23,42	S
Family Laternulidae Laternula ?valenciennesii (Reeve, 1860) (WAM S 18933)	11,62	S
Family Clavagellidae Brechites vaginiferus australis (Chenu, 1843)	2,11,23,31,45,51,58,62,W coast of Lewis I.	S
Family Myochamidae Myadora ?complexa Iredale, 1924 (WAM S 18942)	23,54,55	S
Family Cleidothaeridae Cleidothaerus sp. (WAM S 30271) (juvs)	62,65	SH
Class SCAPHOPODA		
Family Dentaliidae Fissidentalium sp. (WAM S 30274)	62	S
Family Laevidentaliidae	2,11,23,38,51,59,62	S

Appendix 2 Detailed descriptions of survey stations (DA1/98 and DA3/99) as applicable to the mollusc survey (for locality and other details see Station Lists).

DA1/98/01

Bottom of sand, dead shell and coral rubble, bottom depth averaged 6.0 m, *Porites* bommies (largest 1.8 m high), smaller colonies of diverse corals, dead coral, algae; more algae and less coral towards beach, more sand over basement rock with sponges and less coral seaward.

DA1/98/02

Intertidal mud and muddy sand flats off sandy beaches and rocky points, mangles (*Avicennia* and *Rhizophora*) above rocks.

DA1/98/03

Bottom of silty sand, bottom depth averaged 9.0 m, dissected edge of reef flat with reef top at 4.6 m, rock boulders and coral bommies.

DA1/98/04

Bottom of silty sand, bottom depth averaged $11.0 \, \text{m}$, coral and rock bommies rising $1.0 - 3.0 \, \text{m}$ above bottom.

DA1/98/05

Intertidal reef (no specific mollusc sampling at this station).

DA1/98/06

Intertidal reef sampled at high water (water depth from 2.5–3.3 m), rock platform with shallow gutters parallel to shore, silty sand and few flat rocks in gutters.

DA1/98/07

Intertidal sandy beach and muddy sand flat protected by offshore reef, exposed rocky point and boulders.

DA1/98/08

Intertidal reef at high tide with surface at 2.5 m and pools with silty sand to 5.5 m, abrupt reef edge with spur and groove formation and sandy bottom between 7.7–9.0 m.

DA1/98/09

Sand over basement rock at 4.0 m, abundant brown algae (*Dictyota, Sargassum*, etc.), slight depressions in rock containing sand, rubble and rocks, strong current of turbid water.

DA1/98/10

Intertidal beach rock and muddy gravel below mangal (*Avicennia* and *Rhizophora*) and above muddy sand flat with limestone rocks.

DA1/98/11

Intertidal muddy sand flat with mangal (mainly Avicennia, few Rhizophora) above, and increasing dead coral lumps below.

DA1/98/12

Bottom of silty sand, depth between 4.7–6.5 m; dead and living coral, coral slabs, short algal turf.

DA1/98/13

Rock pavement between 8.5–9.0 m, dead and living coral with sand and shell rubble in pockets.

DA1/98/14

Intertidal sand flat, dead coral boulders with attached brown algae, fewer green and coralline algae.

DA1/98/15

Rock bottom from 7.9–19.3 m, steps of varied widths with vertical to undercut rises, luxuriant coral growth.

DA1/98/16

Flat bottom of sand rubble and rocks, bottom depth from 3.0 m, little live coral, much brown algae.

DA1/98/17

Intertidal silty sand with shell and coral rubble and some rocks near rocky point, dead and living corals, soft corals, gorgonians, compound ascidians, etc.

DA1/98/18

Sandy bottom with coral bommies, bottom depth from 11.2 to approximately 13.0 m.

DA1/98/19

Flat pavement rock with coral rock slabs, dead and living coral, algal turf with corallines and some green algae, turbid water from 2.0 m depth.

DA1/98/20

Intertidal flat of loose dead and living coral (mainly fungiids, with fewer small colonies of *Pocillopora* and faviids), sandy mud and little coral below low water spring tidal level, with very soft mud in places.

DA1/98/2

Coral bommies at 11.8 m with silty sand in hollows, mainly living corals.

DA1/98/22

Flat bottom with coral rubble and rocks at 4.9 m with *Porites* bommies, tabular and staghorn *Acropora* species.

DA1/98/23

Intertidal flat of very muddy sand, dead coral rocks increasing to landward, with fewer seaward, many sponges.

DA1/98/24

Flat bottom of silty sand with shell and coral rubble and living and dead coral slightly sloping from 4.9 m, algal turf and coralline algae on rocks.

DA1/98/25

Exposed intertidal flat of coarse sand with large ripple marks, some shell and coral rubble; adjoining is a flat of dead coral rocks and silty sand.

DA1/98/26

Gradual stepped slope from 17.0–27.0 m of bare basalt encrusted with coralline algae, many soft corals, gorgonians, sponges and hard corals.

DA1/98/27

Flat pavement at 14.7 m, with low live and dead coral colonies, gorgonians, hydroids and soft corals; turbid water.

DA1/98/28

Moderately steep intertidal shore of rocky points and sandy beach with mangal of *Avicennia* above and muddy sand to seaward.

DA1/98/29

Flat bottom at 4.0 m with live coral (staghorn and foliose *Acropora* and other groups), silty sand, some Porites bommies to 1.5 m high, and some brown algae.

DA1/98/30

Flat bottom at 11.0 m with very fine silty sand and shell grit, sponges and solitary ascidians, water very turbid.

DA1/98/31

Intertidal flat of very silty sand and coral and igneous rocks, dense extensive mangal of *Avicennia* with deep mud.

DA1/98/32

Rock bottom at 11.7 m with little sand, dead and living corals, soft corals and algal turf.

DA1/98/33

Gently sloping basement rock from 7.2 m with silt and shell and coral rubble, with scattered hard and soft corals, sponges and gorgonians and algal turf.

DA1/98/34

Unofficial station (no mollusc survey).

DA1/98/35

Shallow area (1.0 m) live and dead coral and sand with shell and coral rubble.

DA3/99/36

Limestone pavement at 6.0–14.0 m, with sand between low ridges, live branching, tabular and massive corals, some dead coral.

DA3/99/37

Sand, rubble and dead coral on pavement rock at ~ 3.0 m, biota dominated by brown algae with some live tabular corals.

DA3/99/38

Intertidal and shallow subtidal sandy flat, with coral rubble, dead coral and rocks increasing shoreward; algal turf.

DA3/99/39

Hard bottom at 15.0–20.0 m, large boulders with abundant cemented bivalves, few corals and other cnidarians, sandy patches between boulders.

DA3/99/40

Sloping rock reef at \sim 6.0–9.0 m, dissected at seaward edge with sandy floors to grooves at \sim 14.0 m, mainly soft and hard corals and cemented bivalves on rock walls of grooves.

DA3/99/41

Sloping sandy bottom from 1.0 to ~ 4 m off shallow rock and live coral reef.

DA3/99/42

Intertidal survey of station DA3/99/41, with exposed rock reef with coarse sand, rubble and coral and rock boulders, intertidal sand surrounding reef.

DA3/99/43

Flat pavement rock from ~ 12.0–16.0 m, with number and size of boulders and coral bommies increasing with depth, cemented bivalves on sides of boulders.

DA3/99/44

Shallow rock bottom at ~ 2.0 m with *Porites* bommies on sand and coral rubble bottom at ~ 6.0 m depth, coral colonies increasing shoreward with cemented bivalves on vertical surfaces of rock or dead coral.

DA3/99/45

Intertidal sand flat with algal covered boulders, patches of sea grasses in deeper areas.

DA3/99/46

Limestone reef flat at 3.0 m edged with spur and groove formation, some sand, rubble and dead coral slabs in grooves at ~ 10.0 m, live corals mainly on vertical sides of grooves.

DA3/99/47

Sand overlying pavement rock at ~ 5.0 m, brown algae and coral colonies.

DA3/99/48

Wide intertidal rock pavement with dead coral and limestone rocks and shallow pools, abundant green and red algae, living and dead coral colonies

DA3/99/49

Rock and coral reef at ~.4.0 m, with sandy patches and abundant and diverse corals, sandy bottom becomes siltier seaward to 9.0 m.

DA3/99/50

Rock bottom sloping from 16.0–20.0 m, seaward edge dissected and with corals and cemented bivalves on vertical faces, many large *Porites* bommies adjacent, giving way to sandy bottom sloping to 20.0 m.

DA3/99/51

Wide intertidal muddy sand flats offshore from narrow mangal (*Avicennia*) and reef flat with shallow pools off rocky shore, algal dominated hard substrata.

DA3/99/52

Rock substrate from 12.0–20.0 m, breaking up seaward and giving way to sandy bottom, abundant hard and soft corals, cemented bivalves and other attached forms on rock, few molluscs in soft substratum.

DA3/99/53

Rock substrate at 5.0 m covered with sand and rubble, with slope to ~ 7.0 m. Large *Porites* bommies, some other hard corals, much soft coral and gorgonians, water very turbid, algae increasing inshore.

DA3/99/54

Wide intertidal sandy mud flat off rocky shore and mangal at S end of large bay, abundant and diverse molluscs on and in soft substratum.

DA3/99/55

Bottom of coarse sand covering flat pavement rock at 17.0 m, "sponge garden" with many gorgonians and some hard and soft corals, abundant infaunal bivalves, strong current of very turbid water.

DA3/99/56

Undulating pavement rock at ~ 10.0 m, with silty sand and rubble between very low ridges, many gorgonians and sponges on ridges, molluscs abundant and diverse, strong current of turbid water.

DA3/99/57

High energy area of rock substratum at ~ 8.0–13.0 m, deep crevices floored with mobile coarse sand, hard and soft corals and cemented bivalves on vertical rock faces, some sand-dwelling bivalves.

DA3/99/58

Shallow subtidal sand with some rubble at ~ 3.0 m, with rock and coral reef, diverse hard corals, moderate diversity of hard and soft substratum molluscs.

DA3/99/59

Intertidal sand and rubble flat seaward of narrow mangal, sand more silty towards mangal, less so near rocky points, high diversity and abundance of hard and soft substratum molluscs.

DA3/99/60

Bay with shallow rock and coral reef sheltering sandy lagoon, diverse and abundant hard corals, particularly *Pavona*, abundant molluscs (with limited diversity) particularly in and around *Pavona*.

DA3/99/61

Flat bottom at ~ 4.5 m covered with sand, rubble and some dead coral slabs, much brown algae particularly *Dictyota*, with little coral except for area of low *Porites* colonies, molluscs relatively diverse but not abundant, water turbid.

DA3/99/62

Intertidal muddy sand flat in bay with rocky points, landward of the flat is a fairly deep mangal of *Avicennia*, *Rhizophora* and *Bruguiera*. Abundant and fairly diverse molluscs.

DA3/99/63

Rock and coral reef from ~ 2.0–5.0 m, with diverse hard corals including *Porites* bommies in deeper areas, shallow rocks with algal turf.

DA3/99/64

Subtidal sand over pavement rock at ~ 5.0 m, with hard and soft corals; more rocks and algae inshore backed by deep mangal, abundant and diverse molluscs.

DA3/99/65

Undulating pavement rock at ~ 13.0–15.0 m with sand and rubble between low ridges, a "sponge garden" with many gorgonians and some small colonies of hard and soft corals, mollusc diversity high, infaunal species abundant.

DA3/99/66

Intertidal mangal with tidal creek, relatively low abundance and diversity of molluscs and other groups.

DA3/9967

Sloping pavement rock at ~ 17.5–20.0 m, with little rubble between low ridges, low-growing sponges and gorgonians with some large *Porites* bommies and small colonies of other hard corals, some species of cemented and of infaunal bivalves abundant.

DA3/99/68

Subtidal sand plain at 6.5 m, relatively high diversity of infaunal bivalves, high abundance of echinoids, some green and brown algae.

DA3/99/69

Rock boulders covering gas pipeline rising to 15.0 m above sand plain at ~ 18.0 m, relatively few small colonies of hard corals, abundant cemented bivalves, diverse bivalves on and in sand substratum.

DA3/99/70

Limestone pavement at ~ 6.0 m with covering of sand and rubble, some algae and small colonies of hard corals, moderate diversity and abundance of cemented and infaunal mollusc species.