

**Arafura Sea Biological Survey<sup>1</sup>**  
**DRAFT Report on Benthic Fauna collected during**  
**RV *Southern Surveyor* Voyage 05-2005**  
**(30 April - 28 May 2005)**  
**TAXONOMIC RESULTS**

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## **Summary**

This survey represents the first detailed analysis of the benthos of the Arafura Sea. This tropical sea is a major connection between the Pacific and Indian Oceans, and is subject to strong tidally induced seafloor currents and typical hemipelagic carbonate rich sedimentation. The Arafura Sea is relatively unknown biologically, except for previous fisheries-oriented research. Four areas in this region were sampled intensively by R/V Southern Surveyor voyage SS05-2005 during May 2005. Two biologists on this expedition collected and preserved 107 faunal samples. This document reports the results from the identifications contributed by specialists from multiple organisations.

The biological samples from this voyage were shipped to the Australian Museum in Sydney, and the animals removed from the samples were classified into coarse taxonomic categories (Table 1). Each sample required between 1 to 8 days for rough sorting. To allow time to distribute taxa to specialists, rough sorting was terminated on 27 February 2006, with 14 samples remaining unsorted. The species composition for each sample is provided as an Appendix. The species as identified are "sample species" and not coordinated across all of the sites. As a result, these data can be used for point diversity estimates, but not for distribution of species among habitats.

The identified species appear to be typical of tropical shelf habitats, but some taxa have either cold temperate southern Australian affinities, and others previously were thought to be primarily deep-sea in origin. These results expand our knowledge of outer shelf faunas in the tropics, and show that their affinities can be more complicated than previously understood.

The sampling efficiency of the sampling devices was low in some cases, particularly the epibenthic sled. Many grabs recovered more specimens than the sled samples. The soft sediments, where unique taxa often appeared but the grab failed to operate, were substantially undersampled by this program. The environmental sampling therefore was heavily biased toward stiffer, sandy or shelly sediments.

Most smaller benthic species are new to science, and some have already been found to belong to previously undescribed higher level taxa (new genera or new families). In addition, quite a few new records for Australia were recorded, such as the polychaete families Hartmaniellidae and Longosomatidae. Using several rough approximations, the fauna of the Arafura Sea was estimated to have 840-1000 species. The current data have 701 possible taxa, a figure near the extrapolated figures. Some taxa, however, have not been identified, so this figure will be much higher. Moreover, a species accumulation (collector's) curve of all sites does not reach an asymptote, indicating that further sampling will recover many more species. An analysis of the relationship of species richness, as measured by the expected species (rarefaction) index, and depth found no clear patterns for the fauna overall. If the values are grouped into stations that have octocorals (a proxy for hard substrates), the hard substrates, which occurred in shallower water on the average, had more species than the sedimentary habitats alone. Because the topographic highs with octocorals had both sedimentary and rocky substrates, these areas provide more conservation value than the sedimentary habitats alone. In this sense, the Octocorallia can be used as a keystone group for identifying diverse regions of the benthic habitat on the outer shelf of the Arafura Sea.

## Introduction

The Arafura Sea is relatively unknown biologically, except for previous fisheries-oriented research (see Prior Programs below). During May 2005, the R/V Southern Surveyor (Voyage SS05-2005) visited the outer shelf of the Arafura Sea in the Australian Exclusive Economic Zone (AEEZ) for a geological survey (Logan, 2005; Wilson, 2005). This region (Fig. 1) was sampled intensively in four areas, termed A – D, during SS05-2005. Area A was a single site at 70m. The remaining sites were on the margins of the Arafura Trough that extends from the passage to the Gulf of Carpentaria westward into deeper water outside the AEEZ. Area B was a roughly rectangular region in coarse shell gravels ranging from 70-100m. Area C, an elongate narrow region paralleling ridges and slopes in the region, was the most extensively sampled in the deeper waters from 90 to 230m, with substantial variation in sediments. Area D, a broad rectangle to the southeast of Area C, contained mostly soft sediments. Biologists on this expedition (George D.F. Wilson, Australian Museum; Karen Gowlett-Homes, CSIRO Marine and Atmospheric Research) collected, preserved and documented 107 faunal samples. The resulting materials were then transported to the Australian Museum (Sydney) and the Museum and Art Gallery of the Northern Territory (Darwin) for processing and identification. This report provides preliminary findings of taxonomic study of these materials, with an assessment of the benthic macrofaunal diversity of the Arafura Sea.

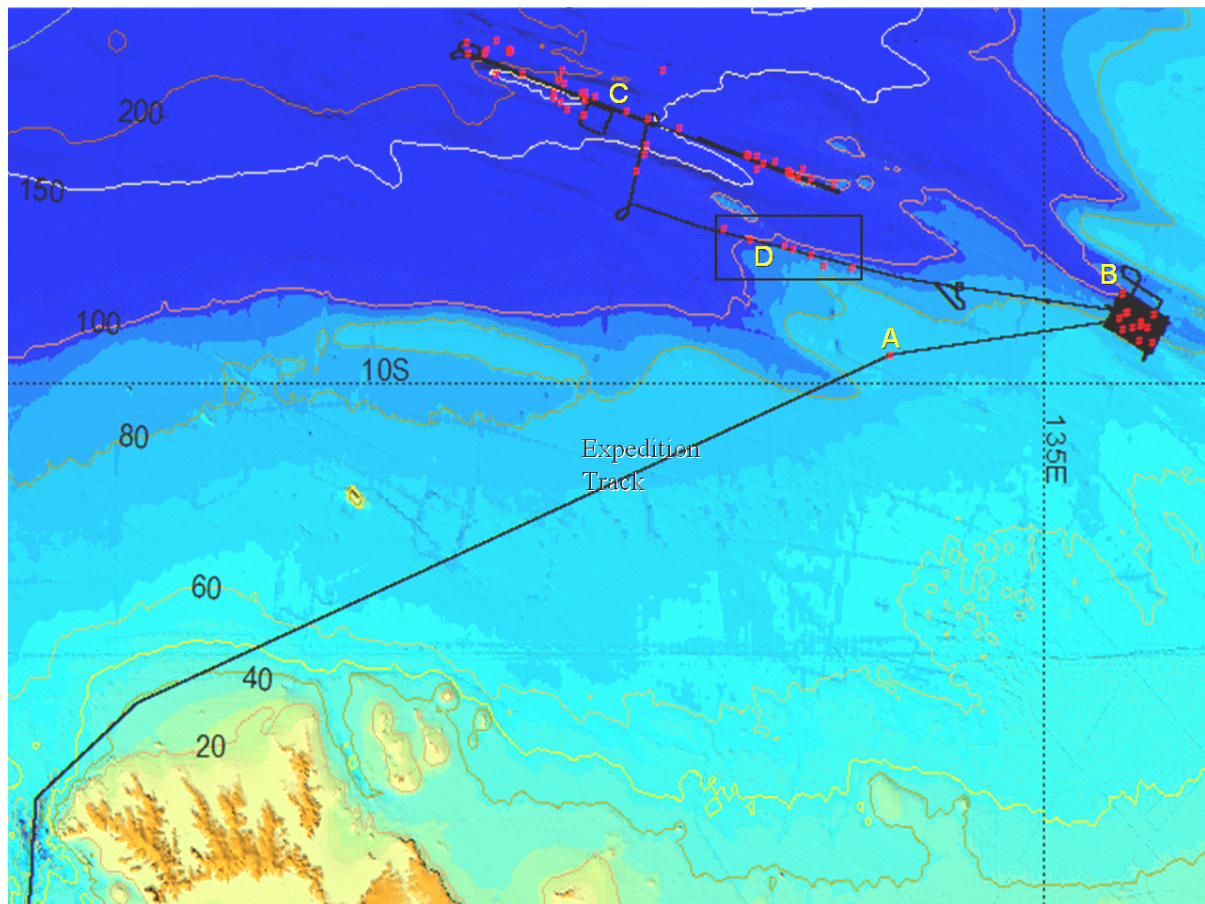


Figure 1 - Map of the Arafura Sea, R/V Southern Surveyor voyage 05-2005 ship track and stations (red dots) Source: Geoscience Australia.

## **Prior Studies**

This survey represents the first detailed study the benthos of the Arafura Sea. Prior to 2005, biological exploration in the region mostly was related to fishery resource research. The Challenger Expedition sampled the northern Arafura Sea during 1874, which resulted in descriptions of many new species of marine invertebrates and fishes for this region. Fishery data were collected by Soviets research vessels in Australian waters during 1963-1975, (Koslow et al., 1998). Trawling studies in the region by the RV Soela during 1980s collected primarily fish and by-catch invertebrates (CSIRO 1980). John Paxton (Australian Museum) recorded 55 fish records from one voyage, but added only a single record in the marine invertebrate database: *Portunus sanguinolentus* (a swimmer crab) in the area investigated by SS05/2005. Other broader Arafura Sea records in the Australian Museum database from depths below 70 metres include: 13 Scleractinia (Corals), 17 Crustacea (7 Decapoda, 10 Stomatopoda) 14 Echinodermata, 5 Polychaeta, 142 Mollusca (45 Bivalvia, 74 Gastropoda, 23 Scaphopoda), and 43 other invertebrate taxa. Most of these were large taxa that were captured in trawls. Other more recent CSIRO voyages to this region primarily targeted fishes & sharks (e.g., the “Rachel” program: Stevens et al., 2000). RV Southern Surveyor voyages SS 02/1997, 08/1997 and 03/1998 obtained samples from shallower waters of this region during 1997-1998, under the leadership of John Salini as part of a bycatch sustainability project (CSIRO 1997, 1998). None of these programs has extensively sampled the invertebrate benthos of the Arafura Sea. The North West Shelf, a more distant locality, might be relevant biogeographically; this area was sampled primarily with trawls (Rainier 1991; Ward & Rainer 1988; Rainer & Kaly 1988) and provided limited information on only polychaetes and decapods.

## **Environmental Setting of the Arafura Sea**

The Arafura Sea is a semi-enclosed continental shelf basin, between northern Australia and Indonesian land masses, that is part of the Sahul shelf area and thus straddles the Indian Ocean-Australian continental plates. The geology of the region was reviewed by Jongsma (1974) and Veevers (1971). The AEEZ region of the Arafura Sea visited by this expedition had depths ranging from 70-90 metres deepening toward the northwest to below 200m. The topography includes the Arafura Channel, a submerged stream valley deepening toward the northwest at Area B, and an elongate ridge, Pillar Bank, along the same trend at Area C. Climatically, this sea is fully tropical and experiences the relatively stable trade winds during part of the year and intermittent monsoonal flows during the austral summer periods. It has a warm-water current flowing from the Pacific into the Indian Ocean called the Indonesian Throughflow (Tomczak and Godfrey, 1994). This current has a substantial influence on the climate of the entire region because it transports heat and moisture to the Indian Ocean and adjacent land masses. During the last glacial maximum, the shallower parts of the Sea were above sea-level and the Throughflow was cut off converting the Sea into a large embayment opening toward the West. From approximately 11,000-8,000 years before present, the region experienced a marine transgression that converted it from a shallow marine embayment to a shelf basin and shallow sea. Because of this history and geography, the sediments of the

Arafura Sea are calcium carbonate rich with substantial but varying fractions of carbonate sand and subfossil shell fragments. Many sediments sampled during the expedition had shells from shallow-water organisms, including oysters, a diverse assemblage of other tropical molluscs, corals, bryozoans, coralline algae and Foraminifera. These components possibly indicate previous shallow water environments, such as mangrove swamps, coral reefs, shallow lagoons or sea grass beds. During the Arafura survey SS05-2005, no active hydrocarbon seepage was detected in areas C and D by side scan sonar or echo sounders (Logan, 2005). Evidence for fluid expulsion, with extensive pockmark fields recognised on side-scan sonar, was observed in the region. The pockmarks correlate with a poor seismic data zone and SAR anomalies, so these features could be related to hydrocarbon seepage.

The benthic boundary layer (from the seafloor to 30-50 metres above the bottom) at most sites was turbid, often well above the sediment interface, indicating ongoing sedimentary transport across the entire region. Although some current may be related to the Indonesian Throughflow, a large component of the flow at the sea floor may be influenced by the high tidal range of this region, exceeding 5 metres vertically. A deep winter inflow to the northern shelf might upwell into the Arafura Sea, where nutrient-rich inflow has been observed (Rochford, 1966). Winter wind-driven upwelling in the Arafura Sea could substantially influence the outer shelf fauna of the region, a point that will be returned to below. Relatively high currents were observed at the sea floor, particularly at the hard grounds of Area B and ridges on Pillar Bank at Area C. Such areas had high populations of large sessile filter-feeding biota, such as sponges, octocorals and comatulacean crinoids. The deeper sites, where the re-suspended fine sediments were settling, had high water-content hemipelagic oozes and a minor megafaunal component in the samples. These contrasting sediment types should have substantially different invertebrate assemblages. The temperatures in the benthic boundary layer varied from 22-25°C in the shallower samples that were near the mixed layer above the strong thermocline (depth 70-90 metres), to 14-16°C in the deeper regions of Area C (depth 230 metres). Although these temperatures are not typical deep-sea temperatures (typically below 8°C), we observed the presence of some deep-water faunal elements, such as stalked crinoids, hexactinellid sponges and deep-water pedunculate barnacles.

### ***Methods & Sample Status***

The voyage plan and sampling pattern was determined by Geoscience Australia (GA) based on geomorphology. Primary biological sampling devices consisted of a Smith-Macintyre grab, a small epibenthic sled, a Diamantina dredge and a standard rock dredge. In addition, GA staff deployed a variety of sampling equipment. Further detail on the operation of sampling devices, limitations to their effectiveness with particular substrates and the implications for interpretation of results is provided in the expedition report (Wilson 2005 pp 5-6).

During the SS05-2005 voyage itself, all samples were transferred on shipboard from formaldehyde seawater solution to 70-80% ethanol for preservation (see Wilson, 2005). Large fish, molluscs, sponges and octocorals were transferred to the Museum and Art Gallery of the Northern Territory for identification. The remaining samples were shipped to the

Australian Museum in Sydney. After arrival in Sydney, the collections were transferred to jars prior to rough sorting. In the following report, samples will be referred to by the station number (usually 3 digits) as a “site.” The sequential sample number (e.g., GR010, DR038, BS001) will be referred to as “replicates” because they could be multiple samples of the same station or site.

*Sorting Procedures.* The benthic sample material that was retained on 300 micron screens often contained substantial quantities of sediment or biogenic particles (coral & shell fragments, pteropod & foraminifera shells), so a pragmatic approach to rough sorting the samples was taken. After an initial analysis of the materials, the samples were chosen randomly for sorting to avoid any bias caused by order. Most samples were stained with Rose Bengal on a 300 micron screen for approximately 24 hours. Rose Bengal is a protein stain that differentiates freshly preserved specimens from a background of refractory organics, shells and sediment. Ordinarily, the smaller samples were completely inspected with medium to high power using a dissecting microscope. For the large volume samples, the material was elutriated (stirred with extra ethanol and the supernatant poured through a 300 micron screen) for lighter bodied specimens; the remaining material was inspected in a tray with a large lens fitted with a light. Because most samples were not considered quantitative (a discussion of quantitative v qualitative sampling methods and equipment is provided in Wilson, 2005), losses owing to incomplete inspection of the samples do not affect the results reported below, other than detracting from the possible total number of species observed at each site.

Animals removed from the samples were classified into coarse taxonomic categories (Table 1). Most groups were identified to class or order during the rough sorting phase to facilitate distribution to taxonomic specialists, but the Polychaeta were sorted to the family level to speed the identification of these voluminous materials. Sorting commenced on 2 September 2005. Samples required between 1 to 8 days for rough sorting. To allow time to distribute taxa to specialists, rough sorting was terminated on 27 February 2006 with approximately 14 samples remaining unsorted (Table 2).

*Data Analysis.* Identifications from all collaborating taxonomists were edited into a standardised format and then merged into a single database (Appendix). This database was used to generate several different types of matrices used for analysis.

A “trimmed” matrix omitted any species that had an uncertain identification, so that an estimate of the total species over all samples would be most accurate. For example, a record that included a family identification but not a genus or species was omitted from the trimmed matrix because several identified species from one family could be included, and therefore double counted in samples where the species in the family was identified. The identifications that had a named genus and “sp.” were more likely to not be repeated by named or numbered species in the same genus. In some cases, taxa were identified only to genus, so those taxa may represent multiple species.

In the analysis of benthic species richness, the data derived from replicates at the same site (station) are pooled. Because most replicates are not quantitative (see Sampler Performance section below), and because the number of replicates from each site was limited, the amount

of presence/absence data that is available from each site is maximised by pooling. In a “stations” matrix, taxa identified to a family but not further were included because one can be certain that at least one species was included under this category at one site. The “stations” matrix also pooled all replicates from the site, regardless of the sample type. As is explained below, many of the epibenthic sled samples were disappointingly small, so the aim of the “stations” matrix was to obtain site diversities without regard to abundances of the individual taxa. Because of the species identifications extend only to samples and are not coordinated across samples, the patterns in the distribution of species across the study area cannot be studied effectively. As a result, questions as to whether the fauna differed between one region of the study area and others are unable to be answered using this data set. Further taxonomic analysis will be required to establish species distributions across the study area.

Analyses employed a spread sheet program for data preparation and analysis, and the analytical program Biodiversity Pro (McAleece et al., 1997) for the generating species accumulation curves. The latter analysis was a classical “collector’s curve of species” by adding samples sequentially in random order 50 times and plotting the average values as a species accumulation index. This curve allowed an assessment of the completeness of species recovery in the current set of samples.

Species richness analyses used rarefaction or “expected species” (Sanders, 1969; Hurlbert, 1971; Levin et al., 2001) to compare different samples. This index normalises the number of species in a sample to a smaller number of individuals using a “rarefaction” algorithm based on a known mathematical distribution (Hurlbert, 1971). Using the count of species in a sample ( $S$ ) alone is strongly biased because the number of species in a sample is highly correlated with the number of individuals in a sample. In this study, species and individuals from pooled sites were significantly related (species = 1.2828 individuals<sup>0.739</sup>,  $R^2 = 0.9492$ ). The expected species method, however, is biased to higher values because it assumes random distributions of species among subsamples (Jumars, 1975, 1976; Levin et al., 2001). Randomness is rarely achieved at the single sample scale (Jumars, 1975, 1976) but numerically pooled replicate samples, as employed here, minimizes nonrandomness. Other measures, like the often used Shannon-Wiener index,  $H'$ , are also influenced by sample size and evenness and are correlated with  $ES_n$ , as found by Rex et al. (2000). Species accumulation methods, which preserve the relationship between individuals and species in each replicate (see Levin et al., 2001), would be biased by the low number of replicates and heterogeneous content of the samples at each site (1-4). Expected species values,  $ES_n$ , were calculated at 50 individuals ( $n=50$ ) because this pooled sample size resulted in only a small number of sites being dropped from the analysis, but was sufficiently large to be sensitive to the rare species in the samples. Samples with less than 50 specimens were likely to be biased by sampling problems.

*Current Status of the Material.* During March and April 2006, materials were distributed to colleagues at other organisations, and the identifications began in late April and May. To avoid extra handling and damage, all specimens transferred within Australia will be retained by those Museums and not returned to the Australian Museum. Table 1 shows the taxa as



distributed during April, and repositories of the specimens, and Table 3 shows the specialists and relevant taxon. All remaining unidentified materials, which are considerable, will be retained at the Australian Museum.

### **Overview of the Taxonomic Analysis**

Recognised taxa in the trimmed matrix comprises 701 records, with the following distribution among the major groups: Annelida (Polychaeta) 275, Arthropoda (Crustacea & Pycnogonida – sea spiders) 240, Chordata (fish) 9, Cnidaria 62 (corals and other groups), Echinodermata 43 (e.g., sea urchins, brittle & basket stars), Mollusca 75, and 1 phoronid (lophophorate worm). Many of the groups had no active taxonomist who could collaborate so they remain unidentified (see Table 1). Among the Crustacea, the Amphipoda were incompletely identified, so that the number of distinct species were counted in a sample, but often the family or genus to which the species belonged remain unknown. The abundant Copepoda, Ostracoda, and Tanaidacea (crustaceans) remain unidentified beyond this coarse taxonomic level. Annelida (marine worms) currently unidentified beyond family (or higher) level include Dorvilleidae, Fauveliopsidae, Pectinariidae, Sabellariidae, Scalibregmatidae, Sternaspidae, the order Myzostomida, and the class Oligochaeta. The polychaete worm family Syllidae was exceedingly abundant and speciose, but only a small fraction of the available material has been identified beyond the family level. The Porifera (sponges) and Scleractinian corals are currently unidentified, although both are groups known to be speciose in the tropics. Halacaroida (marine mites) were surprisingly abundant in these samples but remain unidentified. Other smaller groups like Turbellaria (flat worms), Urochordata (sea squirts), and the invertebrate worm phyla Sipuncula and Nemertea have not been treated. The abundant Nematoda (round worms) and Kinorhyncha (tiny marine pseudocoelomate worms) were meiofaunal sized taxa that were not identified. As a result, the species richness of the Arafura Sea is substantially underestimated. These unidentified taxa also highlight the great lack of taxonomic expertise in Australia. All taxa identified in this report require years of study to become proficient at even providing tentative identifications, much less undertaking a detailed taxonomic treatments. This deficiency can only be addressed by providing permanent positions for taxonomists at Museums, Government institutions and the Universities.

### **Summary of Observations by Taxonomic Group**

Table 4 provides a list of the taxa from the trimmed matrix. Some taxa in the table may include several species observed at various stations. For example, the polychaete taxon “*Prionospio* sp.” or the amphipod taxon “Amphipoda sp.” was observed to contain several species at numerous stations, but were not divided into different named taxa. As a result, the trimmed matrix was only a subset of total diversity. In the following, observations made by the collaborating taxonomists (see Table 3) are reported. If possible, the affinities (e.g., tropical shallow water, deep-sea, SE Australia) of each group was noted. At this level of identification, detailed geographic distributions cannot be recovered.

### ***Crustacea, Stomatopoda***

*Areosquilla* sp.1, a postlarva, is probably *A. indica* (Hansen); this is the first record of the genus in Australia. Previously, the genus was known from western Indian Ocean, Indonesia and New Caledonia. *Lenisquilla gilesi* (Kemp, 1911), a juvenile specimen, is also a new record; this species was known from Red Sea to India.

### ***Crustacea, Decapoda***

The numbered species listed in Table 4 are not necessarily undescribed: some were juvenile or incomplete, or of uncertain affinities. Several new species or new records for Australia are present, however.

**Alpheidae.** *Alpheus kagoshimanus* Hayashi & Nagata, 2000 is a new record of a species previously known from Japan. *Alpheus* cf. *kagoshimanus* Hayashi & Nagata, 2000 appears to be an undescribed species but is possibly subadult.

**Thalassinidea.** For the identifications, the generic name *Callianassa* is used in the broad sense until the generic confusion caused by K. Sakai (1998) is resolved. ?*Anacalliax* sp.1 is apparently a new species of an otherwise Atlantic genus. *Callianassa* cf. *acutirostella* Sakai, 1988 and *Eucalliax* sp.1 appear to be new species.

**Anomura.** *Uroptychodes* sp.1 and *Munida* spp. 1 - 4 are demonstrably new species.

**Brachyura.** *Ketamia limatula* Tavares, 1993 is a new record or rare species; previously known from Ambon. *Paliculus* sp.1 is likely to be a new species.

### ***Crustacea, Amphipoda***

A total of 63 samples have been inspected. The number of species in each sample range from 1 to a maximum of 26 (013 DR001). Most of these species are identified only as a species distinct in each sample, so the sample records have multiple "Amphipod sp." or family "sp." that indicate the presence of distinct species in each sample, but not identified further.

### ***Crustacea, Isopoda***

The isopods were represented by 74 species, some of which may be composite of several species (e.g., Bopyridae sp.). Many "flabelliferan" taxa appear to be typical for tropical shallow waters, and both *Natatolana* species are known to be commonly encountered in traps around shallow reefs in Queensland and elsewhere (S. Keable, pers. comm.). The isopod suborder Asellota contained deep-sea groups from samples as shallow as 100 metres. The Desmosomatidae was the most speciose asellotan family present, but other typical deep-sea groups in the samples included Munnopsidae (subfamilies Eurycopinae, Lipomerinae), Thambematidae, Ischnomesidae and Xenosellidae. Shallow water taxa were represented by Munnidae, Joeropsidae and Paramunnidae, although these families can be frequent components of bathyal faunas. These observations contradict the assumption that deep-sea asellotan isopods are cold-water stenotherms. The Paramunnidae often had high numbers of one species in a grab (e.g., *Ascionana* sp., as many as 36 individuals).

A possible new family of Isopoda Asellota was found in these samples, with two separate new genera. Only a few specimens of each genus have been recovered, so they are not well

characterised as yet. Specimens of one new genus are shown in Figure 2. New genera were also found among the Paramunnidae, including one strange group that appeared to have “antlers” projecting from the head.



**Figure 2. Possible new genus and new family of Isopoda Asellota**

Most of the isopod species seen so far are new to science, i.e., not previously described. Poore et al. (1994) found 359 species of isopods off south-eastern Australia in depths from 200m to 3000m, most of which were new species at the time (some of these have been described since then). One group, the Paramunnidae (Just & Wilson 2004), has restricted distributions and thus shows high endemism wherever members of this family are found. As a result, the Arafura Sea material has entirely new species of isopods and, as remarked above, new higher-level taxa.

#### ***Arthropoda, Pycnogonida***

Although SS 05/2005 collection includes only 4 species of pycnogonids, one of the genera, *Pantopipetta*, is known from the Subantarctic - Antarctic benthos and deep waters up to 6000m (C. Arango, pers. comm.). As biogeographic exceptions occur in all pycnogonid taxa, shallow water taxa of this genus are known from the Seychelles and Andaman Islands. The occurrence of *Pantopipetta* in the Arafura Sea confirms a new record of the genus for Australia. Its sister taxon, *Austrodecus*, has several Australian representatives.

#### ***Annelida, Polychaeta***

The Polychaeta were the most speciose group in these sediments with 275 presumptive species in the trimmed dataset. This numerical dominance is typical for most benthic analyses where they can make up 50-70% of the specimens and species. Most taxa appear to be typical of shelf taxa. The following paragraphs contain observations by C. Glasby, P. Hutchings and R. Wilson on selected families among the polychaetes identified from these samples.

**Ampharetidae, Oweniidae, Terebellidae & Trichobranchidae.** The Ampharetidae were too small to identify in most cases. Many were recently settled and lacked the full complement of chaetigers. All Oweniidae represent new species in these samples. For all these families, we have little material from the outer shelf north of Darwin. The Terebellidae had some new species, but were representatives of genera that are speciose in Australian waters. The Trichobranchidae have several new species, which are not previously described Australian species. Although the southeast Asian fauna has not been checked, no species of this family have been described.

**Amphinomatidae, Pilargidae.** Both of these families proved to have high diversity, which in particular are indicative of tropical shelf areas.

**Hartmaniellidae.** The family Hartmaniellidae is now known from a single specimen in Australian waters as a new record. This family in the group Eunicida has only couple of named species (and several more undescribed) worldwide. They have close relatives in the fossil record. Species of this family should be at home in the Arafura Sea – most of the other records are shelf depths in warmish water (Taiwan, South China Sea, Gulf of Mexico). Added to the Longosomatidae, this is now two new polychaete families for Australia from the Arafura Sea. A few more specimens of each taxon would greatly assist a complete evaluation of these animals.

**Longosomatidae.** A single specimen of the family Longosomatidae was found in sample 047 BS009, the first record from Australian waters. Members of this family tend to be deep water animals, but they are known to occur in New Zealand at 65 m in the Sounds (Geoff Read, NIWA, pers. comm.). Longosomatidae have around 9 species world-wide (Borowski, 1995), but only 3 species are found at depths exceeding 500 m. Three more species are from shelf depths (20-200 m). The last three species have wide depth ranges, starting at shelf and with the lower extent in the 500-1500 range. Most of the records are from latitudes of 30° or higher, but a few are recorded from the tropics (Red Sea; Gulf of Mexico), so finding this family in the Arafura Sea is not unusual.

**Phyllodocidae & Spionidae.** As in Bass Strait, most of the spionids are from the genus *Prionospio* with a few other typical shelf genera (e.g., *Laonice*). All species appear to be different from those known from off South-Eastern Australia. For the Spionidae, many tiny *Prionospio* were present in nearly every sample. They could be juveniles of other larger species but some are definitely tiny adults. The Phyllodocidae and the Spionidae of the Arafura Sea seem to comprise genera that are typical of the Bass Strait and the south coast shelf fauna.

**Polynoidae & Eunicidae.** The polynoid scale worms were not in good condition (but this is typical because they lose their dorsal scales easily). The specimens nominally separated as species are fragments and many would be hard to recognise unless better specimens came along. Both the Polynoidae and the Eunicidae seem to comprise genera that are found in the Bass Strait and off South-eastern Australia.

**Syllidae.** The Syllidae are only incompletely analysed, but this family showed prospects for a huge diversity in the Arafura Sea. A single grab sample, 037 GR056, was found to consist of 88 individuals belonging to 17 syllid species. Given that this is only one sample of the family, many more species of this family are expected to be discovered among these samples. A new Syllidae genus (n.gen.1 - cf. *Westheidesyllis*) was discovered from dredge sample 038 DR010, living abundantly on the sponges that provided the dominant structure in that sample. This new species and genus was found with 12 other Syllidae species.

### ***Cnidaria, Octocorallia***

Not surprisingly, the Octocorals were the most diverse on the hard substrates, with approximately 62 species observed. Some samples had a high number of species. For example, sample 013 DR001 had a total of 41 colonies that were distinct species, and sample 038 DR010 had 16 distinct species. Several new genera were observed in the family

Plexauridae. This group dominated the sites with exposed rocks and high observed currents, and was mostly abundant in the rock dredge samples. The grabs captured a few species, but less frequently. Most of the identified species are typical of tropical habitats. This group could be considered a keystone species as it favours heterogeneous rocky substrates, which have been identified as having higher diversity than soft substrates alone.

### ***Fishes***

Approximately 9 species were found among the benthic samples. Although large schools of fish, probably *Bregmaceros* cf. *nectabanus*, were seen in the benthic camera lowerings, fishes were rare in the samples, mostly because the samplers employed on this expedition were not designed to capture actively mobile vertebrates. Fisheries research in this region has recorded hundreds of species, although most may be associated with reef and mangrove habitats in shallow water, or are pelagic schooling species.

### ***Echinodermata***

The SS05/2005 collection of echinoderms from the Arafura Sea contained approximately 50 species (T. O'Hara, pers. comm.) or 43 uniquely labelled taxa in the trimmed dataset. This was a classic shelf fauna, without any unusual deep water species, as was seen in some of the other invertebrate groups. Ophiuroids (brittle stars) were the most diverse group, consisting of species specialising in soft sediment or epizoic habitats (e.g., living on cnidarians or sponges). A specimen of *Astroceras* appears to be a new species. Several other species of the family Amphiuridae could not be identified to a known Australian species and may also be undescribed. *Asteromorpha koehleri* was recorded from Australia for the first time and *Ophiozonoida obscura* has not been seen since the type series was recorded in 1892. Several other species are recorded from the Northern Marine Region for the first time, including the epizoic basket-stars and their relatives. A specimen of *Ophioleuce seminudum* was recorded as being bioluminescent, giving off a bright blue-green flash when handled. The collection was notable for the lack of holothurians ("sea cucumbers"); the only specimens were an undescribed species of *Psolus*, which are epifaunal on rocky substrates. No common tropical soft sediment holothurians were recorded. This absence of holothurians could have been caused by sampling bias (see "Sampler Performance" below), although ecological factors, such as the high energy benthic layer, cannot be ruled out.

### ***Mollusca***

The Mollusca were surprisingly less diverse than expected. Australian Museum records for the Arafura Sea below 70 metres included approximately 170 taxa, and tropical molluscs are known to be especially diverse. The current data, however, include only 75 molluscan taxa. Most taxa present appear to belong to shallow-water tropical groups, with a few soft bottom species. Quite a few of the bivalves were present only as recently settled juveniles and could not be identified. Many more species were present as subfossil shells in the sediments, probably remaining from the beginning of the Holocene period when the area included shallow reefs, lagoons and embayments.

### ***Taxonomic Summary***

These data contain many new records of families and genera in Australian waters and several examples of taxa found outside their known biogeographic range (e.g., deep, cold water species found in the warm, shallow waters of the Arafura Sea). A great many of the species can be expected to be new to science, and further systematic research will establish the relationships of this fauna to other regions. The presence of species and higher level taxa new to science is observed in all groups, but more so among the smaller invertebrates.

- The polychaete worms were especially speciose, and at least a new genus and species of Syllidae is being described from a single abundant sample from a sponge. Many specimens were too tiny to identify fully, but the data still indicate the presence of new records of families not previously seen in Australian waters.
- The isopods include more than 40 new species, with several higher level taxa, including a possible new family, being previously unknown.
- The Echinoderms were especially dominant, particularly the Ophiuroids (brittle stars) were found in all habitat types. New species were found, and a few of the previously described species represent new records for Australia.
- Although most of the species of Octocorallia (soft corals and sea fans) may be already known, several new genera may be present in the Arafura collection.

### ***Benthic Species Richness of the Arafura Sea***

#### ***Sampler performance***

The performance of the samplers must be considered before the species data can be interpreted. The rock dredge samples were highly variable, but this was expected so these samples need not be considered further, other than to note that some had extremely high diversities.

Although the Smith-Macintyre grab is somewhat quantitative, biological samples came from grabs from which geological subsamples of arbitrary size were taken, so those samples cannot be used for quantitative purposes. In addition, specimens were obtained from poor samples with no or little sediment, such as rocks caught in the jaws of the grab. Finally, the grabs were taken with a high contact speed (largely to ensure triggering the sampler) so all grabs almost certainly underestimate the fauna present owing to the bow wave effect (cf. Jumars 1975).

The epibenthic sled sampler performed poorly in soft oozy sediments, which was unfortunate because the grab also failed to perform well with these same soft sediments. The poor performance of the sled may have been caused by the heavy chain used for the yoke causing the sled mouth to sink below the surface. As a result, the epibenthic sled collected mostly unproductive subsurface material. In addition, the epibenthic sled doors, commonly failed to open due to the soft sediments lacking sufficient strength to open of the sled doors. This problem was partially alleviated by tying the plates in the open position, but the ropes holding the closure open tended to break. As a result of these problems, the high water

content, flocculant sediments are under-represented in the Arafura Sea sample series, particularly in Area D, where most of the sediments were of this type.

Because of the poor performance of the epibenthic sled, the Smith-Macintyre grabs often captured more species and individuals than the epibenthic sled samples. The top 10 samples for benthic species included 3 dredge samples (127, 90, 61 species), 3 epibenthic sled samples (88, 69, 59 species) and 4 grab samples (70, 68, 54, 53 species). Six of the sled samples had fewer than 30 species, while 22 of the grabs had more than 30 species, suggesting that the sleds were grossly undersampling the environment. Despite the poor performance of the epibenthic sled, some of the most unusual taxa came from the epibenthic sled replicates (such as 3 species of isopods known previously only from deep sea in sample BS011). The environmental sampling was therefore heavily biased toward sandy, shelly or rocky substrates where the grabs or dredges were used. As a result of this bias, inferences on the relationship between habitat type and species richness cannot be made effectively. The rocky substrates can be addressed using the Octocorallia as a proxy (see below). To complement the findings of this voyage, further sampling in the Arafura Sea could target these low-lying soft sediment areas with appropriately configured samplers and lowering methods.

### ***Estimated Species Richness***

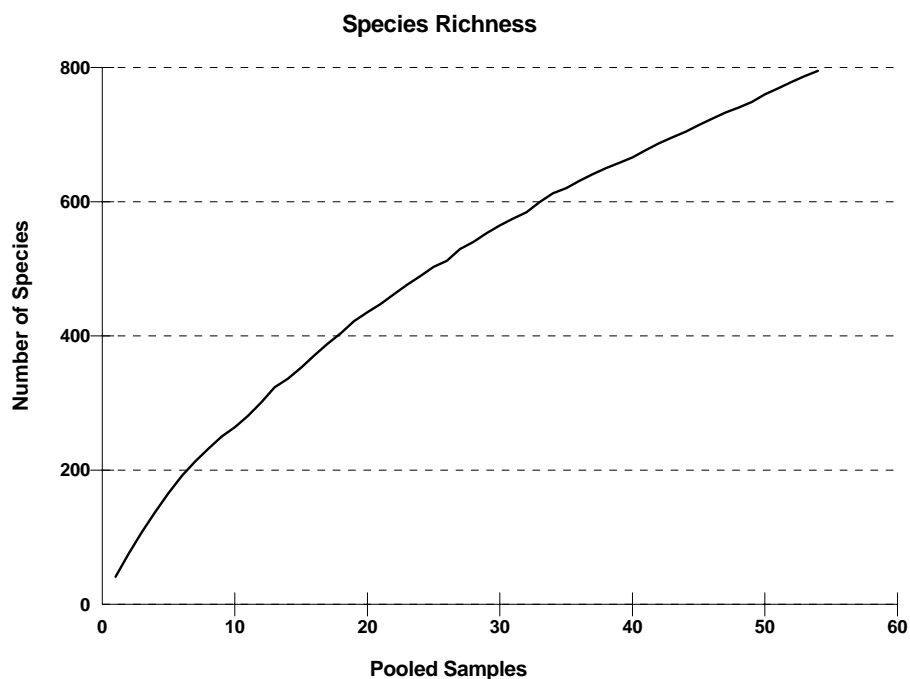
As documented in the expedition report (Wilson, 2005 & appendices), approximately 245 larger species (> 2-5 cm) were collected and photographed, and species accumulation curves derived from those data suggested that the diversity, at least in that larger body size scale, was not fully sampled. The data assembled for the macrofaunal sized organisms shows much higher numbers of species. How many species can be expected to be found in the Arafura Sea? A simple projection can be made using data collected from other programs in Australian waters. As a general observation, Australian and southern hemisphere marine environments are much more diverse than those in the northern hemisphere (e.g., Poore & Wilson, 1993; Coleman et al., 1997). Examples of high diversity include Jervis Bay with 630 species of marine invertebrates (Hutchings and Jacoby, 1994), Botany Bay, a heavily modified and impacted embayment, with more than 400 species of marine invertebrates (Wilson, 1998), and 803 species off East Gippsland (Coleman et al., 1997). Secondly, the Arafura samples were from the outer shelf, we might expect to find higher numbers of species than in these shallow water localities (Sanders, 1968). Coleman et al. (1997) found an approximate 2.3 species increase in the number of species with each metre deeper in depth at sites off Eastern Gippsland. Deeper sites, below 200m, show a weaker correlation between depth and species richness (e.g., Poore et al., 1994), but most of the current data are from the shallower zones. A more conservative figure is 2 species with 1 metre depth change. Finally, the tropics are expected to show higher species richness than similar sites in the temperate zones – the frequently discussed latitudinal diversity gradient (e.g., Rex et al., 1993; Rex et al., 2000). No shallow water data are available that are similar to those collected in this sampling program, so we use the median of the three shallow water values discussed above, as a conservative figure. Thus if a maximum depth of 30m has 600 species of benthic invertebrates, and the

median depth of the Arafura samples at 150m, then we could expect to see approximately 840 species of benthic invertebrates [ $600+(120*2)$ ]. As an alternative, one can use Grassle & Maciolek's (1992) estimate that world's oceans could contain 10 million species. Their initial extrapolated result (Grassle & Maciolek's 1992) was 100 million species but the figure was reduced *ad hoc* by an order of magnitude. A simple linear interpolation of their extrapolation to the survey area suggests that we could recover approximately 1000 (or 10,000 using the unadjusted value) benthic invertebrate species.

### ***Observed Species Richness***

The Arafura Sea identifications found 701 species in the "trimmed" matrix, one that deleted all uncertain identifications. Given that many of the taxa remain unidentified, the number of taxa would easily achieve the species richness roughly estimated above. The "stations" matrix has 790 taxa from 54 sites with pooled samples. Some taxa may overlap across stations, while others identified as the same taxon may be different across the sample series. This matrix is primarily arranged to recover the alpha diversity at each site. The "collector's curve" from the stations matrix (Fig. 3) rises nearly monotonically and does not appear to approach an asymptote. This result suggests that continued sampling of the Arafura Sea will find even more species, so the rough estimates of 900-1000 species of benthic macrofauna are within the observed range.

In this data set, we observed around 275 species of polychaete worms, although as mentioned above this figure will increase as more of the material is identified to species. Similar habitats in the South China Sea (Anambas Expedition 2002, Al Hakim & Glasby



**Figure 3.** The collector's curve created by sequentially pooling randomly chosen samples from all Arafura Sea sites and counting the number of species. The curve is derived from an average of 50 random replicates. This is probably a minimum estimate because some incompletely identified taxa in the samples are likely to be different species.



2004) found approximately half this number of species. One cannot be certain that these results are directly comparable because differing sampling methods and analysis were used.

Principal components analysis of the species found no distinctive separation or clustering of the sites in ordination space, and a hierarchical clustering of the data using unweighted pair group distances (UPGMA, Bray Curtis index, data 4<sup>th</sup> root transformed) found no high similarity clusters. For the most part, these results are caused by incomplete sampling at most sites and incomplete identification of the species, so assemblage differences cannot be easily assessed with these data. The depth range is, in any case, narrow, so we would not ordinarily expect to see substantial differences in the fauna, other than those caused by small-scale habitat preferences, such as the Octocorallia on rocky or hard substrates. Given the limited geographic scale of this study, the fauna reported here can be assumed to be from the same regional species pool.

### *Species Richness and Environmental Information*

The species data from each station (“replicates” pooled) were used for the calculation of the rarefaction index (expected species), with  $n$  (number of individuals) set to 50. This level provided sensitivity to rare species, and omitted sites that had poor samples (few specimens). At the time of writing of this report, detailed sedimentary data were unavailable, so whether species richness at each site varied according to sedimentary grain (e.g., Etter & Grassle, 1992) could not be tested. The data were regressed against depth, and approximate location (latitude and longitude), but no significant trends were found. Because the depth range of the samples was small (70 – 230m) and mostly on the outer shelf, a substantial change in the

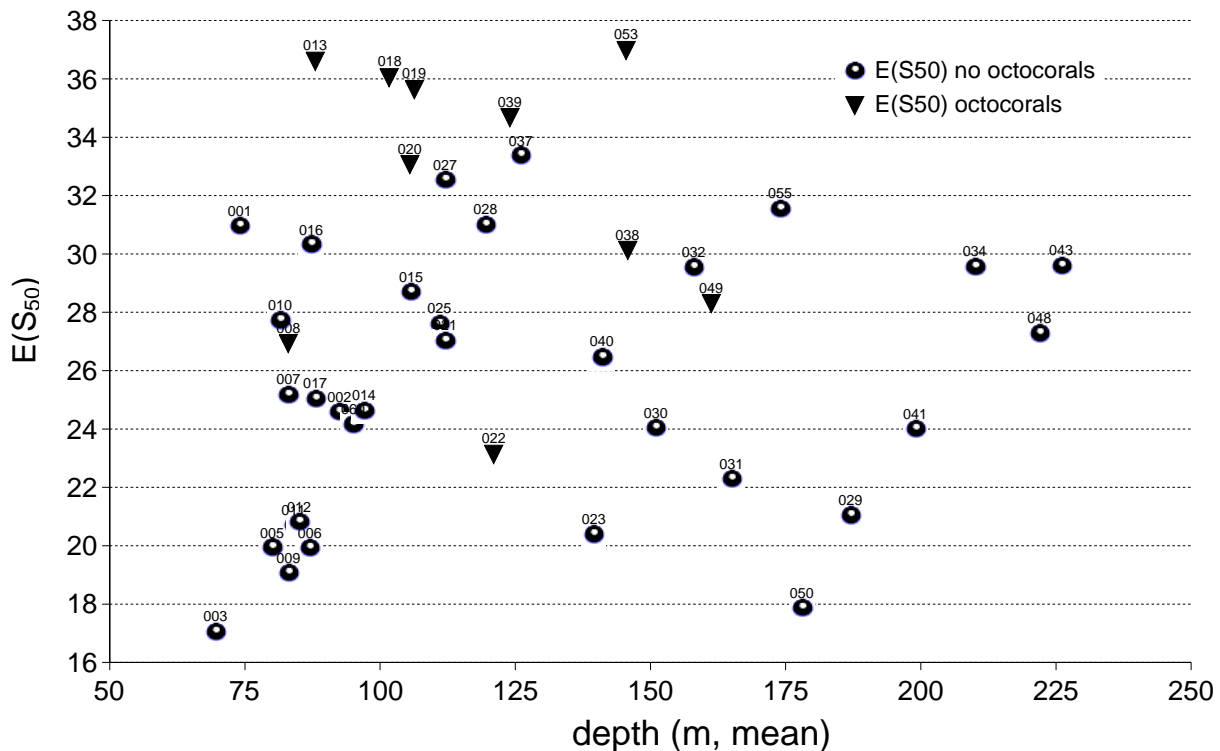


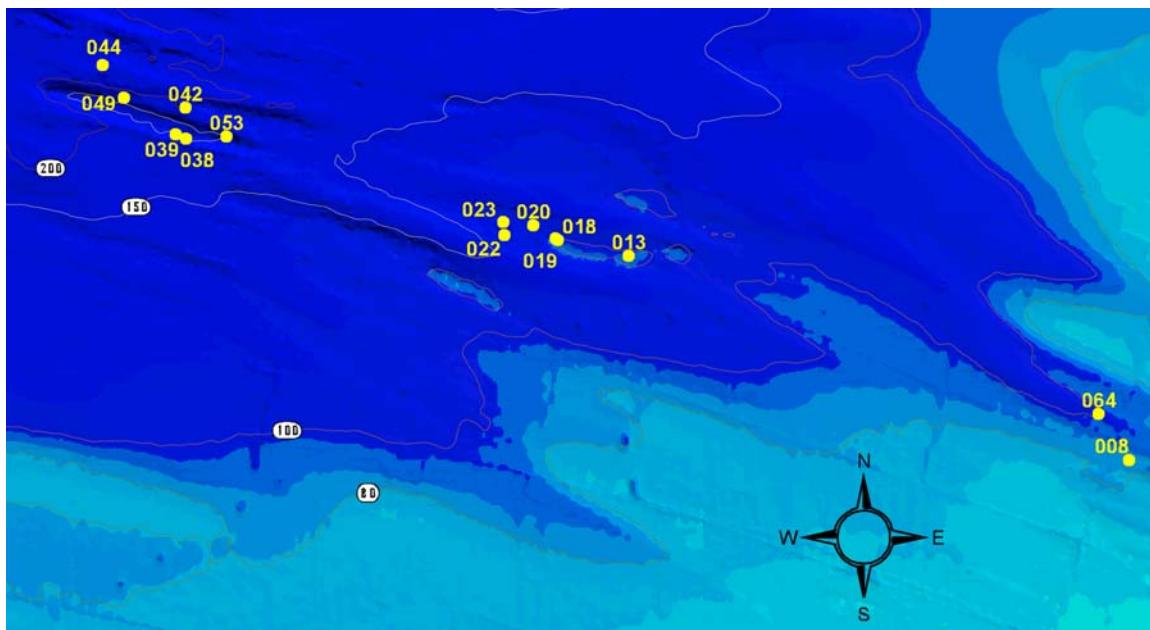
Figure 4. Depth and faunal diversity,  $E(S_{50})$  separating samples with octocorals and those without. Small numbers above the data points are the site identifiers.

fauna was unlikely to be observed. Certainly, some species were found only on the shallower sites, and others in the deeper sites but these data cannot fully address the faunal change, because most of the data are based on “sample species” or the number of distinct species in the sample, but not sufficiently well identified to address their small scale distribution between sites.

Using the octocorals as a proxy for hard or rocky substrates, the stations with species of octocorals were compared with the remainder of the stations. On the average, the octocorals occurred at the shallower sites and topographic high places such as Pillar Bank, which can be expected to have higher current velocities that these sessile filter feeders favour. These stations also have higher diversities on the average: mean  $E(S_{50})$  is 25.4 species ( $n=32$ ) for the non-octocoral samples, and 32.1 species ( $n=10$ ) for the octocoral samples. Despite the variability shown in Figure 4, these average values of  $E(S_{50})$  are significantly different ( $H_0$ =no difference in means, 2 tail t-test, variances assumed unequal:  $p<0.01$ ), with a few replicates having extremely high diversities (such as DR001 and DR010) of both epifaunal and infaunal taxa. This relationship supports the common observation that habitat complexity correlates with diversity (see review in Tews et al. 2004). Invertebrates that are attached to hard substrates, such as octocorals, could be used as “keystone” elements of the benthic assemblage for establishing protected habitats. Because these taxa live on rocky substrates that also occur among diverse sedimentary habitats, the topographic highs (Fig. 5) would have a larger range of species than less heterogeneous habitats. These habitats on the topographic highs may also be at higher risk from damage by fishing using bottom trawls.

#### ***Implications for Benthic Habitat Conservation and Reserve Selection***

Currently, these data are difficult to use for distinguishing the best target taxa for bioregionalisation of the Arafura Sea because the patterns of species distribution are largely



**Figure 5. Distribution of Octocorallia in the Arafura Sea from SS0505**

unknown. The data are also biased against the habitats dominated by fine silty sediments, which account for many stations in this sample series because the samplers performed poorly in these sediments. Although these sediments are predicted to have fewer species than the coarser grained or more heterogeneous habitats (Etter & Grassle, 1992; Tews et al. 2004), fine sediments may also be more characteristic of deep-water habitats and may have more unique species compared to the shallow outer shelf species. This was certainly the case with some of the isopod species in one of the better epibenthic sled samples (BS011).

Despite only sample (alpha or point) diversity being available, these data nevertheless are consistent with the high benthic diversities that have been observed in other areas of Australia, (e.g., Rainer, 1991; Hutchings & Jacoby, 1994; Poore et al., 1994; Coleman et al., 1997; Wilson 1998). As discussed above, the actual diversity should prove to be much higher on further surveys in the Arafura Sea. Each series of samples from this part of the continental biome should continue to fill in our knowledge of the distribution of diversity.

This level of diversity should allow considerable power in bioregionalisation of the Australian offshore shelf and upper slope; high numbers of species means that comparisons between regions are more likely to be significant, both statistically as well as biologically. The tiny infaunal invertebrates, although more difficult to identify, would provide the greatest power for differentiating bioregions because they often have narrow geographic ranges. This has been shown with some isopod groups (e.g., Just & Wilson, 2004) and tropical polychaete worms (Al-Hakim & Glasby 2004), but is almost certainly the case for many of the other diverse macroinfaunal species. Obtaining the necessary data, however, is not without cost. As discussed above, the current data set is preliminary, so more effort is needed to bring the data to a state that would allow investigation of the distribution of the individual components.

For immediate response to environmental conservation concerns, the distribution of Octocorallia in this region could be used as a proxy for high diversity, heterogeneous habitats. As shown above, stations with Octocorallia had statistically significant more species than the strictly sedimentary habitats. These sites typically were on the topographic high places (Fig. 5). Identification of the sponge species from this sample series might allow better characterisation of these habitats.

## **Acknowledgments**

Dr Penny Berents is responsible for getting me into this program; a simple “yes” answer to an offer to participate in a research voyage off the Top End as “one of two biologists to collect a few interesting animals” has grown into a full-blown research project involving many investigators. I am especially grateful for the collaboration of my systematist colleagues, without whom we would have only a limited idea of the true diversity of the Arafura Sea benthos. Ms Ceridwen Fraser expertly rough sorted many samples, exceptionally taking the Polychaetes to family in a relatively short period of time; her consistent effort allowed us to make the identification effort much more efficient. Karen Gowlett-Holmes provided consistent and helpful collaboration during SS05/2005. I am grateful to expedition leaders Graham Logan and Andrew Heap giving us space on their geological survey of the Arafura Sea. The staff of Geoscience Australia and the crew of the RV *Southern Surveyor* are thanked for their deck assistance with the biological samples. Andrew Zacharek, Emma Campbell and Sally Troy (Department of the Environment and Heritage (DEH) have supported this research, and offered helpful advice when needed. We are also grateful for financial support for this project from DEH - Marine Division and the Natural Heritage Trust of Australia Reserve.

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**TABLES****Table 1. Taxa separated during rough sorting and approximate percent frequency of each taxon in the samples.**

(Repositories: AM=Australian Museum; MV=Museum Victoria; MAGNT=Museum &amp; Art Gallery of the Northern Territory)

Phylum or major group	Subgroup	Approximate Frequency In samples	Preliminary Identification	Repository
Pycnogonida		10%	yes	AM
Arachnida	Halacaroidae	43%	no	AM
Cnidaria		40%	incomplete	AM
Crustacea	Amphipoda	80%	incomplete	AM
Crustacea	Dorvilleidae	47%	no	AM
Crustacea	Fauveliopsidae	10%	no	AM
Crustacea	Myzostomida	7%	no	AM
Crustacea	Pectinariidae	10%	no	AM
Crustacea	Sabellariidae	10%	no	AM
Crustacea	Scalibregmatidae	10%	no	AM
Crustacea	Sternaspidae	33%	no	AM
Crustacea	Unidentified	20%	no	MAGNT
Crustacea	Copepoda	83%	no	AM
Crustacea	Ostracoda	73%	no	AM
Crustacea	Tanaidacea	83%	no	AM
Crustacea	Cumacea	67%	yes	AM
Crustacea	Decapoda	77%	yes	AM
Crustacea	Isopoda	80%	yes	AM
Echinodermata	Crinoidea	10%	yes	MV
Echinodermata	Echinoidea	67%	yes	MV
Echinodermata	Holothuroidea	3%	yes	MV
Echinodermata	Ophiuroidea	70%	yes	MV
Mollusca	Aplacophora	33%	yes	AM
Mollusca	Bivalvia	67%	yes	AM
Mollusca	Cephalopoda	3%	incomplete	AM
Mollusca	Gastropoda	30%	yes	AM
Mollusca	Polyplacophora	7%	yes	AM
Mollusca	Scaphopoda	10%	yes	AM
Nematoda		80%	no	AM
Nemertea		77%	no	AM
Kinorhyncha		10%	no	AM
Phoronida		7%	no	AM
Oligochaeta		67%	no	AM
Polychaeta	Acoetidae	2.5%	yes	MAGNT
Polychaeta	Ampharetidae	60%	yes	AM
Polychaeta	Amphinomidae	53%	yes	MAGNT
Polychaeta	Apistobranchidae	13%	yes	MAGNT
Polychaeta	Capitellidae	77%	yes	MAGNT
Polychaeta	Chaetopteridae	70%	yes	MAGNT
Polychaeta	Chrysopetalidae	33%	yes	MAGNT
Polychaeta	Cirratulidae	73%	yes	AM
Polychaeta	Cossuridae	33%	yes	MAGNT
Polychaeta	Eunicidae	33%	yes	MV
Polychaeta	Eulepethidae	1.7%	yes	MAGNT
Polychaeta	Flabelligeridae	20%	yes	MAGNT
Polychaeta	Glyceridae	47%	yes	MAGNT
Polychaeta	Goniadidae	10%	yes	MAGNT

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Phylum or major group	Subgroup	Approximate Frequency In samples	Preliminary Identification	Repository
Polychaeta	Hesionidae	73%	yes	MAGNT
Polychaeta	Lumbrineridae	43%	yes	MAGNT
Polychaeta	Magelonidae	47%	yes	MAGNT
Polychaeta	Maldanidae	40%	yes	MAGNT
Polychaeta	Nephtyidae	53%	yes	MAGNT
Polychaeta	Nereididae	33%	yes	MAGNT
Polychaeta	Oeononidae	13%	yes	MAGNT
Polychaeta	Onuphidae	23%	yes	AM
Polychaeta	Opheliidae	37%	yes	MAGNT
Polychaeta	Orbiniidae	33%	yes	MAGNT
Polychaeta	Oweniidae	23%	yes	AM
Polychaeta	Paralacydoniidae	40%	yes	MAGNT
Polychaeta	Paraonidae	77%	yes	MAGNT
Polychaeta	Pholoidae	10%	yes	MV
Polychaeta	Phyllodocidae	17%	yes	MV
Polychaeta	Pilargidae	83%	yes	MAGNT
Polychaeta	Pisionidae	3%	yes	MAGNT
Polychaeta	Poecilochaetidae	30%	yes	MAGNT
Polychaeta	Polygordiidae	17%	yes	MAGNT
Polychaeta	Polynoidae	37%	yes	MV
Polychaeta	Sabellidae	57%	yes	AM
Polychaeta	Serpulidae	10%	yes	MAGNT
Polychaeta	Sigalionidae	37%	yes	MAGNT
Polychaeta	Sphaerodoridae	3%	yes	MAGNT
Polychaeta	Spionidae	90%	yes	MV
Polychaeta	Syllidae	87%	partial	AM
Polychaeta	Terebellidae	37%	yes	AM
Polychaeta	Trichobranchidae	30%	yes	AM
Porifera		25%	no	MAGNT
Sipuncula		57%	no	AM
Turbellaria		17%	no	AM
Urochordata		13%	no	AM
Chaetognatha		33%	no	AM
Other	Larvae unidentified	27%	no	AM
Other	Unidentified (misc.)	33%	no	AM



**Table 2. Samples Remaining Unsorted**

Number	Description	Comments
002BS002	dead shells	
007BS003		sortable
013GR021		sortable
015BS004	dead shells	2 large jars
015GR024		sortable
016GR026	dead shells	
023GR042		sortable
024GR043		sortable
024GR044		sortable
028GR050		sortable
030GR053		sortable
032BS006	dead shells	100% ethanol
036BS008		sortable
037GR057	dead shells	
043DR012	dead barnacles and corals	
047BS009	dead shells	100% ethanol
049GR076		sortable
049GR078		sortable
050BS011		sortable
057BS013		sortable
057BS013	dead shells	
063BS015		sortable

**Table 3. Specialists and taxa studied.**

(AM=Australian Museum; MV=Museum Victoria; MAGNT=Museum & Art Gallery of the Northern Territory; NIWA= National Institute of Water and Atmospheric Research (NZ); UAA = University of Alaska, Anchorage)

Name	Taxon	Organisation
Ahyong, Shane	Crustacea, Decapoda	NIWA
Alderslade, Phil	Octocorals	MAGNT
Arango, Claudia	Pycnogonida	AM
Capa, Maria	Polychaeta	AM
Glasby, Chris	Polychaeta	MAGNT
Gerken, Sarah	Crustacea, Cumacea	UAA
Hutchings, Patricia	Polychaeta	AM
Larson, Helen	Fish	MAGNT
Murray, Anna	Polychaeta	AM
O'Hara, Tim	Echinodermata	MV
Ponder, Winston	Mollusca	AM
Springthorpe, Roger	Crustacea, Amphipoda	AM
Stoddart, Helen	Crustacea, Amphipoda	AM
Willan, Richard	Mollusca	MAGNT
Wilson, George	Crustacea, Isopoda	AM
Wilson, Robin	Polychaeta	MV

**Table 4. List of all distinct taxa at all stations**

(N=701) See Appendix for distribution among samples.

<b>Table 4. Taxon</b>	<b>Records</b>
Annelida: Polychaeta: Acoetidae: Panthalis cf zanzibarensis	3
Annelida: Polychaeta: Ampharetidae: Ampharetinae sp.1	3
Annelida: Polychaeta: Ampharetidae: Ampharetinae sp.3	1
Annelida: Polychaeta: Ampharetidae: Ampharetinae sp.4	1
Annelida: Polychaeta: Ampharetidae: Amphicteis sp	8
Annelida: Polychaeta: Ampharetidae: Auchenoplax sp	17
Annelida: Polychaeta: Ampharetidae: Auchenoplax sp.2	1
Annelida: Polychaeta: Ampharetidae: Isolda sp	9
Annelida: Polychaeta: Ampharetidae: Isolda sp.1	2
Annelida: Polychaeta: Ampharetidae: Isolda sp.2	1
Annelida: Polychaeta: Ampharetidae: Melinninae sp.1	8
Annelida: Polychaeta: Ampharetidae: Melinninae sp.2	6
Annelida: Polychaeta: Ampharetidae: Melinninae sp.3	1
Annelida: Polychaeta: Amphinomidae: Chloeia sp.	20
Annelida: Polychaeta: Amphinomidae: Linopherus sp.	24
Annelida: Polychaeta: Amphinomidae: Paramphinome sp.	2
Annelida: Polychaeta: Amphinomidae: Pherecardia sp.	1
Annelida: Polychaeta: Apistobrachidae: Apistobranchus sp.	6
Annelida: Polychaeta: Capitellidae: Anotomastus sp.	1
Annelida: Polychaeta: Capitellidae: Barantolla sp.	10
Annelida: Polychaeta: Capitellidae: Barantolla sp.2	2
Annelida: Polychaeta: Capitellidae: cf Peresiella sp.	15
Annelida: Polychaeta: Capitellidae: Dodecaseta sp.	5
Annelida: Polychaeta: Capitellidae: Leiocapitella sp.	2
Annelida: Polychaeta: Capitellidae: Leochrides sp	1
Annelida: Polychaeta: Capitellidae: Mediomastus sp.	19
Annelida: Polychaeta: Capitellidae: Nonatus sp.	1
Annelida: Polychaeta: Capitellidae: Notomastus sp.	5
Annelida: Polychaeta: Capitellidae: Notomastus sp.3	22
Annelida: Polychaeta: Capitellidae: Promastobranchus huloti	7
Annelida: Polychaeta: Capitellidae: Promastobranchus sp.	13
Annelida: Polychaeta: Capitellidae: Scyphoproctus sp.	1
Annelida: Polychaeta: Chaetopteridae: chaetopterid sp.3	1
Annelida: Polychaeta: Chaetopteridae: Spiochaetopterus sp.	31
Annelida: Polychaeta: Chaetopteridae: Spiochaetopterus sp.2	1
Annelida: Polychaeta: Chrysopetalidae: Arichlidon hanneloreae	15
Annelida: Polychaeta: Chrysopetalidae: Chrysopetalum sp.	1
Annelida: Polychaeta: Chrysopetalidae: Paleaequor setula	1
Annelida: Polychaeta: Chrysopetalidae: Paleanotus sp.	1
Annelida: Polychaeta: Cirratulidae: ?Chaetozone sp.	1
Annelida: Polychaeta: Cirratulidae: ?Dodecaceria	1
Annelida: Polychaeta: Cirratulidae: ?Protocirrineris sp.	1
Annelida: Polychaeta: Cirratulidae: Aphelochaeta sp.1	3
Annelida: Polychaeta: Cirratulidae: Aphelochaeta sp.2	4
Annelida: Polychaeta: Cirratulidae: Aphelochaeta sp.3	3
Annelida: Polychaeta: Cirratulidae: Caulleriella sp.1	1
Annelida: Polychaeta: Cirratulidae: Caulleriella sp.2	1
Annelida: Polychaeta: Cirratulidae: Chaetozone sp.1	1
Annelida: Polychaeta: Cirratulidae: Cirratulus sp.1	1
Annelida: Polychaeta: Cirratulidae: Monticellina sp.1	2
Annelida: Polychaeta: Cirratulidae: Monticellina sp.2	2
Annelida: Polychaeta: Cirratulidae: Monticellina sp.3	1
Annelida: Polychaeta: Cirratulidae: Tharyx sp.1	3

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<b>Table 4. Taxon</b>	<b>Records</b>
Annelida: Polychaeta: Cossuridae: Cossura sp.	5
Annelida: Polychaeta: Cossuridae: Cossura sp.2	19
Annelida: Polychaeta: Cossuridae: Cossurella sp.	2
Annelida: Polychaeta: Eulepethidae: Eulepethus hamifer	1
Annelida: Polychaeta: Eunicidae: Eunice Arafura 1	9
Annelida: Polychaeta: Eunicidae: Eunice Arafura 2	1
Annelida: Polychaeta: Eunicidae: Eunice Arafura 3	3
Annelida: Polychaeta: Eunicidae: Eunice Arafura 4	2
Annelida: Polychaeta: Eunicidae: Eunice sp.	1
Annelida: Polychaeta: Eunicidae: Eunice sp.2	2
Annelida: Polychaeta: Eunicidae: Lysidice Arafura 1	2
Annelida: Polychaeta: Eunicidae: Marphysa Arafura 1	6
Annelida: Polychaeta: Eunicidae: Marphysa Arafura 2	1
Annelida: Polychaeta: Eunicidae: Nematonereis Arafura 1	1
Annelida: Polychaeta: Eunicidae: Nematonereis Arafura 2	1
Annelida: Polychaeta: Euphrosinidae: Euphrosine sp.	1
Annelida: Polychaeta: Flabelligeridae: Brada sp.	1
Annelida: Polychaeta: Flabelligeridae: Diplocirrus sp.	1
Annelida: Polychaeta: Flabelligeridae: Diplocirrus sp.2	3
Annelida: Polychaeta: Flabelligeridae: Pherusa sp.	4
Annelida: Polychaeta: Flabelligeridae: Pherusa sp.2	2
Annelida: Polychaeta: Flabelligeridae: Therochaeta granulosus	1
Annelida: Polychaeta: Flabelligeridae: Therochaeta sp.	2
Annelida: Polychaeta: Flabelligeridae: Therochaeta sp.3	1
Annelida: Polychaeta: Glyceridae: Glycera brevicirris	3
Annelida: Polychaeta: Glyceridae: Glycera cinnamomea	2
Annelida: Polychaeta: Glyceridae: Glycera lapidum	13
Annelida: Polychaeta: Glyceridae: Glycera nicobarica	2
Annelida: Polychaeta: Glyceridae: Glycera onomichiensis	10
Annelida: Polychaeta: Glyceridae: Glycera sp.	1
Annelida: Polychaeta: Goniadidae: Glycinda sp.	1
Annelida: Polychaeta: Goniadidae: Goniada sp.	2
Annelida: Polychaeta: Goniadidae: Goniada sp.2	8
Annelida: Polychaeta: Hartmaniellidae: Hartmaniella Arafura 1	1
Annelida: Polychaeta: Hesionidae: Hesionid sp.1	3
Annelida: Polychaeta: Hesionidae: Hesionid sp.2	5
Annelida: Polychaeta: Longosomatidae: n.sp.	1
Annelida: Polychaeta: Lumbrineridae: Lumbrineriopsis sp.	2
Annelida: Polychaeta: Lumbrineridae: Lumbrineris sp.	11
Annelida: Polychaeta: Lumbrineridae: Scoletoma sp.	3
Annelida: Polychaeta: Lumbrineridae: Scoletoma sp.2	6
Annelida: Polychaeta: Lumbrineridae: Scoletoma sp.3	2
Annelida: Polychaeta: Magelonidae: Magelona sp.	18
Annelida: Polychaeta: Magelonidae: Octomagelona sp.	20
Annelida: Polychaeta: Magelonidae: Octomagelona sp.2	3
Annelida: Polychaeta: Maldanidae: Maldanid sp.1	1
Annelida: Polychaeta: Maldanidae: Maldanid sp.2	5
Annelida: Polychaeta: Maldanidae: Maldanid sp.3	1
Annelida: Polychaeta: Maldanidae: Maldanid sp.4	1
Annelida: Polychaeta: Nephtyidae: Aglaophamus sp.	15
Annelida: Polychaeta: Nephtyidae: Aglaophamus sp.3	3
Annelida: Polychaeta: Nephtyidae: Nephtys sp.	6
Annelida: Polychaeta: Nereididae: Ceratocephale sp.	3
Annelida: Polychaeta: Nereididae: Gymnonereis sp.	7
Annelida: Polychaeta: Nereididae: Leonnates persica	8
Annelida: Polychaeta: Nereididae: Neanthes sp.	1
Annelida: Polychaeta: Nereididae: Nereis sp.	3

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<b>Table 4. Taxon</b>	<b>Records</b>
Annelida: Polychaeta: Nereididae: Nicon sp.	5
Annelida: Polychaeta: Nereididae: Tylonereis sp.	2
Annelida: Polychaeta: Oeononidae: Drilonereis sp.	7
Annelida: Polychaeta: Oeononidae: Drilonereis sp.2	1
Annelida: Polychaeta: Oeononidae: Halla sp.	1
Annelida: Polychaeta: Oeononidae: Notocirrus sp.	1
Annelida: Polychaeta: Onuphidae: Diopatra sp.	1
Annelida: Polychaeta: Onuphidae: Hyalinoecia sp.	1
Annelida: Polychaeta: Opheliidae: Armandia sp.	3
Annelida: Polychaeta: Opheliidae: Ophelina sp.	5
Annelida: Polychaeta: Opheliidae: Ophelina sp.2	15
Annelida: Polychaeta: Opheliidae: Ophelina sp.3	18
Annelida: Polychaeta: Orbiniidae: Leitoscoloplos sp.2	9
Annelida: Polychaeta: Orbiniidae: Leodamas sp.	10
Annelida: Polychaeta: Orbiniidae: Naineris sp.	1
Annelida: Polychaeta: Oweniidae: ?Myriowenia sp.	2
Annelida: Polychaeta: Oweniidae: Galathowenia sp.	5
Annelida: Polychaeta: Oweniidae: Myriochele sp.	6
Annelida: Polychaeta: Oweniidae: Myriowenia	1
Annelida: Polychaeta: Paralacydoniidae: Paralacydonia paradoxa	36
Annelida: Polychaeta: Paraonidae: Allia sp.	1
Annelida: Polychaeta: Paraonidae: Aricidea sp.	3
Annelida: Polychaeta: Paraonidae: Aricidea sp.2	5
Annelida: Polychaeta: Paraonidae: Aricidea sp.3	4
Annelida: Polychaeta: Paraonidae: Cirrophorus sp.	1
Annelida: Polychaeta: Paraonidae: Levinsenia sp.	15
Annelida: Polychaeta: Paraonidae: Paradoneis sp.	8
Annelida: Polychaeta: Paraonidae: Paraonella sp.	10
Annelida: Polychaeta: Pholoidae: Pholoid Arafura 1	3
Annelida: Polychaeta: Phyllodocidae: Mystides Arafura 1	1
Annelida: Polychaeta: Phyllodocidae: Phyllodoce Arafura 1	1
Annelida: Polychaeta: Phyllodocidae: Phyllodoce Arafura 2	1
Annelida: Polychaeta: Phyllodocidae: Phyllodoce Arafura 3	1
Annelida: Polychaeta: Phyllodocidae: Phyllodoce Arafura 4	1
Annelida: Polychaeta: Phyllodocidae: Protomystides Arafura 1	2
Annelida: Polychaeta: Phyllodocidae: Sige Arafura 1	1
Annelida: Polychaeta: Pilargidae: Ancistrostylis sp.	4
Annelida: Polychaeta: Pilargidae: Litocorsa annamita	23
Annelida: Polychaeta: Pilargidae: Litocorsa sp.	1
Annelida: Polychaeta: Pilargidae: Litocorsa sp.2	10
Annelida: Polychaeta: Pilargidae: Sigambra sp.	41
Annelida: Polychaeta: Pilargidae: Sigambra sp.2	1
Annelida: Polychaeta: Pilargidae: Synelmis rigida	6
Annelida: Polychaeta: Pilargidae: Synelmis sp.2	5
Annelida: Polychaeta: Pisionidae: Pisione cf. gopalai	1
Annelida: Polychaeta: Poecilochaetidae: Poecilochaetus sp.	9
Annelida: Polychaeta: Poecilochaetidae: Poecilochaetus sp.2	8
Annelida: Polychaeta: Poecilochaetidae: Poecilochaetus sp.3	6
Annelida: Polychaeta: Polygordiidae: Polygordius sp.	13
Annelida: Polychaeta: Polynoidae: Lepidonotus sp.1	1
Annelida: Polychaeta: Polynoidae: Polynoid Arafura 01	2
Annelida: Polychaeta: Polynoidae: Polynoid Arafura 02	1
Annelida: Polychaeta: Polynoidae: Polynoid Arafura 03	2
Annelida: Polychaeta: Polynoidae: Polynoid Arafura 04	1
Annelida: Polychaeta: Polynoidae: Polynoid Arafura 05	2
Annelida: Polychaeta: Polynoidae: Polynoid Arafura 06	1
Annelida: Polychaeta: Polynoidae: Polynoid Arafura 07	2

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<b>Table 4. Taxon</b>	<b>Records</b>
Annelida: Polychaeta: Polynoidae: Polynoid Arafura 08	1
Annelida: Polychaeta: Polynoidae: Polynoid Arafura 09	1
Annelida: Polychaeta: Polynoidae: Polynoid Arafura 10	1
Annelida: Polychaeta: Sabellidae: ? Jamineria sp.	1
Annelida: Polychaeta: Sabellidae: ? Pseudofabriciola	3
Annelida: Polychaeta: Sabellidae: ?Chone	1
Annelida: Polychaeta: Sabellidae: Amphicorina sp.	4
Annelida: Polychaeta: Sabellidae: Chone australiensis	1
Annelida: Polychaeta: Sabellidae: Euchone sp.1	22
Annelida: Polychaeta: Sabellidae: Euchone sp.2	1
Annelida: Polychaeta: Sabellidae: Euchone sp.3	1
Annelida: Polychaeta: Sabellidae: Fabricinae sp.1	18
Annelida: Polychaeta: Sabellidae: Fabricinae sp.2	1
Annelida: Polychaeta: Sabellidae: Sabellinae sp.1	1
Annelida: Polychaeta: Serpulidae: ?Neovermilia sp.	1
Annelida: Polychaeta: Serpulidae: Ditrupa sp.	1
Annelida: Polychaeta: Serpulidae: Vermiliopsis infundibulum glandigera group	2
Annelida: Polychaeta: Sigalionidae: Labioleanira sp.	3
Annelida: Polychaeta: Sigalionidae: Labioleanira sp.2	1
Annelida: Polychaeta: Sigalionidae: Labioleanira sp.3	1
Annelida: Polychaeta: Sigalionidae: Sigalion sp.	4
Annelida: Polychaeta: Sigalionidae: Sigalion sp.2	1
Annelida: Polychaeta: Sigalionidae: Sigalionid sp.4	4
Annelida: Polychaeta: Sphaerodoridae: Sphaerephesia sp.	1
Annelida: Polychaeta: Spionidae: ?Microspio Arafura 1	1
Annelida: Polychaeta: Spionidae: ?Scolecolepides	1
Annelida: Polychaeta: Spionidae: Laonice Arafura 1	2
Annelida: Polychaeta: Spionidae: Laonice Arafura 2	1
Annelida: Polychaeta: Spionidae: Laonice sp.	8
Annelida: Polychaeta: Spionidae: Malacoceros Arafura 1	3
Annelida: Polychaeta: Spionidae: Microspio sp.?	4
Annelida: Polychaeta: Spionidae: Minusprio group	2
Annelida: Polychaeta: Spionidae: Paraprionospio Arafura 1	2
Annelida: Polychaeta: Spionidae: Paraprionospio sp.	3
Annelida: Polychaeta: Spionidae: Prionospio Arafura 1	3
Annelida: Polychaeta: Spionidae: Prionospio Arafura 2	3
Annelida: Polychaeta: Spionidae: Prionospio Arafura 3	4
Annelida: Polychaeta: Spionidae: Prionospio Arafura 4	2
Annelida: Polychaeta: Spionidae: Prionospio Arafura 5	1
Annelida: Polychaeta: Spionidae: Prionospio Arafura 6	1
Annelida: Polychaeta: Spionidae: Prionospio Arafura 7	1
Annelida: Polychaeta: Spionidae: Prionospio brown_nose	2
Annelida: Polychaeta: Spionidae: Prionospio sp.	36
Annelida: Polychaeta: Spionidae: Prionospio sp.a	7
Annelida: Polychaeta: Spionidae: Prionospio sp.b	7
Annelida: Polychaeta: Spionidae: Prionospio-Minusprio group	1
Annelida: Polychaeta: Spionidae: Scolelepis Arafura 1	2
Annelida: Polychaeta: Spionidae: Scolelepis sp.	1
Annelida: Polychaeta: Spionidae: Spiophanes Arafura 1	1
Annelida: Polychaeta: Spionidae: Spiophanes sp.	2
Annelida: Polychaeta: Spionidae: Spiophanes? sp.	1
Annelida: Polychaeta: Syllidae: ?"Syllis corruscans"	1
Annelida: Polychaeta: Syllidae: ?Erinaceusyllis sp.	2
Annelida: Polychaeta: Syllidae: ?Eusyllinae sp.4	1
Annelida: Polychaeta: Syllidae: ?Eusyllinae sp.5	2
Annelida: Polychaeta: Syllidae: ?Eusyllinae sp.6	1
Annelida: Polychaeta: Syllidae: ?Karroonsyllis sp?	1

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<b>Table 4. Taxon</b>	<b>Records</b>
Annelida: Polychaeta: Syllidae: Brevicirrosyllis mariae	2
Annelida: Polychaeta: Syllidae: Erinaceusyllis sp.2	1
Annelida: Polychaeta: Syllidae: Eusyllinae sp.1	1
Annelida: Polychaeta: Syllidae: Eusyllinae sp.2	1
Annelida: Polychaeta: Syllidae: Eusyllinae sp.3	1
Annelida: Polychaeta: Syllidae: Exogone [Exogone] heterosetosa	1
Annelida: Polychaeta: Syllidae: Exogone [Exogone] cf. longicornis	1
Annelida: Polychaeta: Syllidae: Exogone [Exogone] sp.2	2
Annelida: Polychaeta: Syllidae: Exogone [Parexogone] sp.1	1
Annelida: Polychaeta: Syllidae: Exogone [Parexogone] sp.2	1
Annelida: Polychaeta: Syllidae: Exogone [Sylline] fustifera	1
Annelida: Polychaeta: Syllidae: Haplosyllis chamaeleon	1
Annelida: Polychaeta: Syllidae: Haplosyllis sp.	1
Annelida: Polychaeta: Syllidae n.gen.1	2
Annelida: Polychaeta: Syllidae: Opisthodonta morena	1
Annelida: Polychaeta: Syllidae: Perkinsyllis cf hartmannshroederiae	1
Annelida: Polychaeta: Syllidae: Perkinsyllis sp.1	1
Annelida: Polychaeta: Syllidae: Prosphaerosyllis cf isabellae	1
Annelida: Polychaeta: Syllidae: Prosphaerosyllis cf magnoculata	2
Annelida: Polychaeta: Syllidae: Prosphaerosyllis cf nathani	2
Annelida: Polychaeta: Syllidae: Prosphaerosyllis sp.1	2
Annelida: Polychaeta: Syllidae: Sphaerosyllis sp.1	1
Annelida: Polychaeta: Syllidae: Syllis [Langerhansia] sp.1	1
Annelida: Polychaeta: Syllidae: Syllis sp.1	1
Annelida: Polychaeta: Syllidae: Syllis sp.2	2
Annelida: Polychaeta: Syllidae: Syllis sp.3	3
Annelida: Polychaeta: Syllidae: Trypanosyllis sp.1	1
Annelida: Polychaeta: Syllidae: Trypanosyllis sp.2	3
Annelida: Polychaeta: Syllidae: Westheidesyllis corallicola	1
Annelida: Polychaeta: Terebellidae: abranchiata sp.	2
Annelida: Polychaeta: Terebellidae: Amaeana sp	5
Annelida: Polychaeta: Terebellidae: Lanice sp	1
Annelida: Polychaeta: Terebellidae: Lanicides sp	3
Annelida: Polychaeta: Terebellidae: Lysilla sp.	2
Annelida: Polychaeta: Terebellidae: Pista sp	3
Annelida: Polychaeta: Terebellidae: Polycirrus sp	5
Annelida: Polychaeta: Terebellidae: Streblosoma sp	2
Annelida: Polychaeta: Terebellidae: Terebellinae sp.	2
Annelida: Polychaeta: Terebellidae: Thelepodinae sp	1
Annelida: Polychaeta: Terebellidae: Thelepus sp	1
Annelida: Polychaeta: Trichobanchidae: Artacamella	1
Annelida: Polychaeta: Trichobanchidae: Terebellides sp.	9
Annelida: Polychaeta: Trichobanchidae: Terebellides sp.2	11
Annelida: Polychaeta: Trichobanchidae: Trichobanchus sp.	2
Annelida: Polychaeta: Trochochaetidae: Trochochaetus sp.	1
Arthropoda: Pycnogonida: Austrodecidae: Pantopipetta sp	1
Arthropoda: Pycnogonida: Endeidae: Endeis cf. mollis	1
Arthropoda: Pycnogonida: Endeidae: Endeis mollis	1
Arthropoda: Pycnogonida: Nymphonidae: Nymphon sp	1
Arthropoda: Crustacea: Malacostraca; Amphipoda: Ampeliscaidae: Ampelisca sp.1	1
Arthropoda: Crustacea: Malacostraca; Amphipoda: Ampeliscaidae: Byblis sp.1	1
Arthropoda: Crustacea: Malacostraca; Amphipoda: Ampeliscaidae: Byblis sp.2	3
Arthropoda: Crustacea: Malacostraca; Amphipoda: Ampeliscaidae sp.2	1
Arthropoda: Crustacea: Malacostraca; Amphipoda: Amphilochidae sp.1	3
Arthropoda: Crustacea: Malacostraca; Amphipoda: Amphilochidae sp.2	1
Arthropoda: Crustacea: Malacostraca; Amphipoda: Amphilochidae sp.	13
Arthropoda: Crustacea: Malacostraca; Amphipoda: Amphipoda sp.	29

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<b>Table 4. Taxon</b>	<b>Records</b>
Arthropoda; Crustacea: Malacostraca; Amphipoda: Aoridae: ?Xenocheira	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Aoridae: Bemlos sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Aoridae sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Aoridae sp.2	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Aristiidae sp.	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Caprellidae sp.2	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Caprellidae sp.	10
Arthropoda; Crustacea: Malacostraca; Amphipoda: Colomastigidae: ?Colomastix	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Colomastigidae: Colomastix	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Colomastigidae: Colomastix sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Corophiidae sp.	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Cyproideidae sp.	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Dexaminidae sp.	4
Arthropoda; Crustacea: Malacostraca; Amphipoda: Eusiridae: Harpinioides sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Hadziidae? sp.	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Haustorioid sp.	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Hyperiidea sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Hyperiidea sp.2	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Icilliidae: Icillius sp.	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Iphimediidae: Iphimedia sp.	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Ischyroceridae: Cerapus	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Ischyroceridae: Cerapus sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Ischyroceridae: Erichthonius sp	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Ischyroceridae sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Ischyroceridae sp.2	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Ischyroceridae sp.3	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Kamakidae sp.1	2
Arthropoda; Crustacea: Malacostraca; Amphipoda: Kamakidae sp.2	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Kamakidae sp.3	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Leucothoidae: Leucothoe sp.	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Leucothoidae: Leucothoe sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Liljeborgiidae: Liljeborgia sp.1	4
Arthropoda; Crustacea: Malacostraca; Amphipoda: Lysianassidae: ?Tryphosella	2
Arthropoda; Crustacea: Malacostraca; Amphipoda: Lysianassidae: Tryphosella	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Lysianassidae: Waldeckia sp	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Melitidae: Ceradocus sp	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Melitidae: Hornellia sp.?	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Melitidae: Linguimaera sp.1	2
Arthropoda; Crustacea: Malacostraca; Amphipoda: Melitidae: Mallacoota sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Melitidae: Mallacoota sp.2	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Melitidae: Mallacoota sp.3	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Melitidae sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Melitidae sp.2	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Melitidae: Victoriopisa sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Melphidippidae sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Oedicerotidae sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Oedicerotidae sp.2	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Oxycephalidae: Rhabdosoma	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Photidae: Photis sp.1	2
Arthropoda; Crustacea: Malacostraca; Amphipoda: Photidae sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Photidae sp.2	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Phoxocephalidae: Birubinae sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Phoxocephalidae: Broginae sp.1	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Phoxocephalidae: Harpiniinae	5
Arthropoda; Crustacea: Malacostraca; Amphipoda: Phoxocephalidae sp.1	3
Arthropoda; Crustacea: Malacostraca; Amphipoda: Pleustidae: Tepidopleustes sp	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Podoceridae sp.1	1



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<b>Table 4. Taxon</b>	<b>Records</b>
Arthropoda; Crustacea: Malacostraca; Amphipoda: Pronoidae sp.	2
Arthropoda; Crustacea: Malacostraca; Amphipoda: Stenothoidae sp.2	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Stenothoidae sp.	3
Arthropoda; Crustacea: Malacostraca; Amphipoda: Stenothoidae: Stenothoe sp	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Stenothoidae: Stenothoe sp.2	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Synopiidae sp.1	2
Arthropoda; Crustacea: Malacostraca; Amphipoda: Synopiidae sp.2	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Synopiidae: Tyron sp	1
Arthropoda; Crustacea: Malacostraca; Amphipoda: Urothoidae: Urothoides sp	1
Arthropoda; Crustacea: Malacostraca; Anomura: Chirostylidae: Urotychodes sp.1	2
Arthropoda; Crustacea: Malacostraca; Anomura: Galatheididae: Galathea sp.1	4
Arthropoda; Crustacea: Malacostraca; Anomura: Galatheididae: Galathea sp.2	1
Arthropoda; Crustacea: Malacostraca; Anomura: Galatheididae: Galathea sp.3	1
Arthropoda; Crustacea: Malacostraca; Anomura: Galatheididae: Munida agave	4
Arthropoda; Crustacea: Malacostraca; Anomura: Galatheididae: Munida sp.1	1
Arthropoda; Crustacea: Malacostraca; Anomura: Galatheididae: Munida sp.2	1
Arthropoda; Crustacea: Malacostraca; Anomura: Galatheididae: Munida sp.3	1
Arthropoda; Crustacea: Malacostraca; Anomura: Galatheididae: Munida sp.4	3
Arthropoda; Crustacea: Malacostraca; Anomura: Paguridae: Paguridae sp.1	2
Arthropoda; Crustacea: Malacostraca; Anomura: Porcellanidae: Petrolisthes sp.1	1
Arthropoda; Crustacea: Malacostraca; Brachura: Corystidae: Jonas sp.1	1
Arthropoda; Crustacea: Malacostraca; Brachura: Cyclodorippidae: Ketamia limatula	3
Arthropoda; Crustacea: Malacostraca; Brachura: Leucosiidae: Leucosiidae sp.1	1
Arthropoda; Crustacea: Malacostraca; Brachura: Majidae: Majidae gen. 1	1
Arthropoda; Crustacea: Malacostraca; Brachura: Majidae: Majidae gen. 2	1
Arthropoda; Crustacea: Malacostraca; Brachura: Majidae: Phalangipus hystrix	1
Arthropoda; Crustacea: Malacostraca; Brachura: Palicidae: Paliculus sp.1	1
Arthropoda; Crustacea: Malacostraca; Brachura: Pilumnidae: Pilumnus sp.1	2
Arthropoda; Crustacea: Malacostraca; Brachura: Pilumnidae: Pilumnus sp.2	1
Arthropoda; Crustacea: Malacostraca; Brachura: Pilumnidae: Rhizopinae 1	1
Arthropoda; Crustacea: Malacostraca; Brachura: Pilumnidae: Rhizopinae 2	2
Arthropoda; Crustacea: Malacostraca; Brachura: Portunidae: Charybdis sp.1	1
Arthropoda; Crustacea: Malacostraca; Brachura: Portunidae: Portunus sp.1	1
Arthropoda; Crustacea: Malacostraca; Brachura: Portunidae: Thalamita danae	1
Arthropoda; Crustacea: Malacostraca; Brachura: Portunidae: Thalamita sp.1	1
Arthropoda; Crustacea: Malacostraca; Brachura: Raninidae: Raninoides serratifrons	3
Arthropoda; Crustacea: Malacostraca; Brachura: Xanthidae: Pilodius sp.1	1
Arthropoda; Crustacea: Malacostraca; Caridea: Alpheidae: Alpheus acutocarinatus	1
Arthropoda; Crustacea: Malacostraca; Caridea: Alpheidae: Alpheus cf kagoshimanus	1
Arthropoda; Crustacea: Malacostraca; Caridea: Alpheidae: Alpheus compressus	3
Arthropoda; Crustacea: Malacostraca; Caridea: Alpheidae: Alpheus kagoshimanus	1
Arthropoda; Crustacea: Malacostraca; Caridea: Alpheidae: Alpheus sp.1	6
Arthropoda; Crustacea: Malacostraca; Caridea: Alpheidae: Alpheus sp.2	2
Arthropoda; Crustacea: Malacostraca; Caridea: Alpheidae: Alpheus sp.3	2
Arthropoda; Crustacea: Malacostraca; Caridea: Alpheidae: Automate sp.1	3
Arthropoda; Crustacea: Malacostraca; Caridea: Alpheidae: Batella sp.1	2
Arthropoda; Crustacea: Malacostraca; Caridea: Alpheidae: Synalpheus sp.1	4
Arthropoda; Crustacea: Malacostraca; Caridea: Alpheidae: Synalpheus sp.2	1
Arthropoda; Crustacea: Malacostraca; Caridea: Pandalidae: Plesionika sp.1	1
Arthropoda; Crustacea: Malacostraca; Caridea: Pasiphaeidae: Leptocheila sp.1	2
Arthropoda; Crustacea: Malacostraca; Caridea: Processidae: Processa sp.1	2
Arthropoda; Crustacea: Malacostraca; Cumacea: Bodotriidae: Cycloaspis	4
Arthropoda; Crustacea: Malacostraca; Cumacea: Dyastylidae: Dimorphostylis	1
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae : Gynodiastylis	4
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae : Gynodiastylis pygmaeoinvolutata	1
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae : Gynodiastylis sierra	2

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Table 4. Taxon	Records
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae : Gynodiastylis truncatifrons	6
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Allodiastylis	1
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Dayus	1
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Dicoides	1
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Dicoides minusculus	1
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Dicoides siphonatus	1
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Litogynodiastylis	2
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Litogynodiastylis ambigua	2
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Litogynodiastylis attenuata	1
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Litogynodiastylis brevipes	1
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Litogynodiastylis nr. munda	1
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Litogynodiastylis nr. brevipes	9
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Litogynodiastylis ornata	3
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Zimmeriana	3
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Zimmeriana n.sp.	4
Arthropoda; Crustacea: Malacostraca; Cumacea: Gynodiastylidae: Zimmeriana vibrissa (?)	1
Arthropoda; Crustacea: Malacostraca; Cumacea: Lampropidae: Hemilamprops	1
Arthropoda; Crustacea: Malacostraca; Cumacea: Lampropidae: Paralamprops (?)	1
Arthropoda; Crustacea: Malacostraca; Cumacea: Leuconidae: Leucon	8
Arthropoda; Crustacea: Malacostraca; Cumacea: Nannastacidae : Campylaspis	14
Arthropoda; Crustacea: Malacostraca; Cumacea: Nannastacidae: Nannastacus	3
Arthropoda; Crustacea: Malacostraca; Cumacea: Nannastacidae: Scherocumella sp.1	2
Arthropoda; Crustacea: Malacostraca; Cumacea: Nannastacidae: Schizotrema	3
Arthropoda; Crustacea: Malacostraca; Dendrobranchiata: Luciferidae: Lucifer sp.1	2
Arthropoda; Crustacea: Malacostraca; Dendrobranchiata: Solenoceridae: Solenoceridae sp.1	1
Arthropoda; Crustacea: Malacostraca; Dendrobranchiata: Solenoceridae: Solenoceridae sp.2	1
Arthropoda; Crustacea: Malacostraca; Euphasiacea: unidentifiable: unidentifiable	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Antheluridae: Anthomuda sp.	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Antheluridae: Anthulura sp.	4
Arthropoda; Crustacea: Malacostraca; Isopoda: Anthuridae: Amakusanthura sp.	11
Arthropoda; Crustacea: Malacostraca; Isopoda: Arcturidae: Arcturid sp.	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Arcturidae: Neasticilla sp.	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Bopyridae sp.	3
Arthropoda; Crustacea: Malacostraca; Isopoda: Cirolanidae: Natatolana sp.1	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Cirolanidae: Natatolana sp.2	5
Arthropoda; Crustacea: Malacostraca; Isopoda: Cirolanidae: Neocirolana sp.1	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Cirolanidae: Neocirolana sp.2	6
Arthropoda; Crustacea: Malacostraca; Isopoda: Cirolanidae: Neocirolana sp.3	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Corallanidae: Lanocira sp.	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Desmosomatidae: Chelator sp.	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Desmosomatidae: Desmosoma sp.9	4
Arthropoda; Crustacea: Malacostraca; Isopoda: Desmosomatidae: Desmosoma sp.7	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Desmosomatidae: Echinopleura (cf.) sp.	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Desmosomatidae: Eugerdella sp.	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Desmosomatidae: Mirabilicoxa sp.	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Desmosomatidae: Paradesmosoma sp.	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Desmosomatidae: Prochelator (cf.) sp.	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Desmosomatidae: Prochelator sp.9	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Desmosomatidae: Prochelator sp.4	3
Arthropoda; Crustacea: Malacostraca; Isopoda: Desmosomatidae: Whoia (cf) sp.	3
Arthropoda; Crustacea: Malacostraca; Isopoda: Gnathiidae: Bathygnathia sp.	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Gnathiidae: Elaphognathia sp.	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Gnathiidae: Gnathia sp.1	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Gnathiidae: Gnathia sp.2	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Gnathiidae: Gnathia sp.3	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Gnathiidae: Gnathia sp.4	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Gnathiidae: Gnathia sp.5	1

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<b>Table 4. Taxon</b>	<b>Records</b>
Arthropoda; Crustacea: Malacostraca; Isopoda: Hyssuridae: Belura sp.6	20
Arthropoda; Crustacea: Malacostraca; Isopoda: Hyssuridae: Belura sp.7	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Hyssuridae: Hyssura sp.	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Hyssuridae: Neohyssura sp.	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Hyssuridae: Xenanthura sp.	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Ischnomesidae: Mixomesus sp.	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Janiridae gen. indet. sp.	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Joeropsidae: Joeropsis sp.5	7
Arthropoda; Crustacea: Malacostraca; Isopoda: Joeropsidae: Joeropsis sp.1	3
Arthropoda; Crustacea: Malacostraca; Isopoda: Joeropsidae: Joeropsis sp.2	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Joeropsidae: Scaphojoeropsis sp.	6
Arthropoda; Crustacea: Malacostraca; Isopoda: Leptanthuridae: Accalathura sp.	4
Arthropoda; Crustacea: Malacostraca; Isopoda: Leptanthuridae: Albanthura sp.3	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Leptanthuridae: Albanthura sp.5	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Leptanthuridae: Bullowanthura sp.1	3
Arthropoda; Crustacea: Malacostraca; Isopoda: Leptanthuridae: Bullowanthura sp.7	3
Arthropoda; Crustacea: Malacostraca; Isopoda: Leptanthuridae: Leptanthura sp.8	3
Arthropoda; Crustacea: Malacostraca; Isopoda: Leptanthuridae: Leptanthura sp.4	7
Arthropoda; Crustacea: Malacostraca; Isopoda: Leptanthuridae: Leptanthura sp.2	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Leptanthuridae: Leptanthura sp.3	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Munnidae: Munna sp.	3
Arthropoda; Crustacea: Malacostraca; Isopoda: Munnidae: New Genus sp.5	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Munnidae: New Genus sp.6	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Munnidae: Uromunna sp.	6
Arthropoda; Crustacea: Malacostraca; Isopoda: Munnoid n.fam.: N. Genus cf Astrurus ornatus sp.1	6
Arthropoda; Crustacea: Malacostraca; Isopoda: Munnoid n.fam.: N. Genus cf Austrurus ornatus sp.8	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Munnoid n.fam.: N. Genus cf. Salvatiella sp.	3
Arthropoda; Crustacea: Malacostraca; Isopoda: Munnopsidae Eurycopinae: Disconnectes sp.4	4
Arthropoda; Crustacea: Malacostraca; Isopoda: Munnopsidae Eurycopinae: Disconnectes sp.6	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Munnopsidae Eurycopinae: Eurycope sp.	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Munnopsidae Lipomerinae: Lionectes sp.	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Paramunnidae: "Pentamunna" sp.	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Paramunnidae: Ascionana sp.7	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Paramunnidae: Ascionana sp.3	8
Arthropoda; Crustacea: Malacostraca; Isopoda: Paramunnidae: Heterosignum sp.	3
Arthropoda; Crustacea: Malacostraca; Isopoda: Paramunnidae: New Genus (Antlers) sp.	3
Arthropoda; Crustacea: Malacostraca; Isopoda: Paramunnidae: Pleurogonium-pulchrum group sp.	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Paramunnidae: Tethygonium sp.	3
Arthropoda; Crustacea: Malacostraca; Isopoda: Santiidae: New Genus sp.	5
Arthropoda; Crustacea: Malacostraca; Isopoda: Sphaeromatidae: Cassidina sp.	1
Arthropoda; Crustacea: Malacostraca; Isopoda: Sphaeromatidae: Cilicaea sp.	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Thambematidae: Thambema sp.	2
Arthropoda; Crustacea: Malacostraca; Isopoda: Xenosellidae: Xenosella (cf) sp.	2
Arthropoda; Crustacea: Malacostraca; Stomatopoda: Eurysquillidae: Coronidopsis serenei	1
Arthropoda; Crustacea: Malacostraca; Stomatopoda: Nannosquillidae: Acanthosquilla multifasciata	1
Arthropoda; Crustacea: Malacostraca; Stomatopoda: Squillidae: Areosquilla sp.1 (postlarva)	1
Arthropoda; Crustacea: Malacostraca; Stomatopoda: Squillidae: Lenisquilla gilesi	1
Arthropoda; Crustacea: Malacostraca; Thalassinidea: Callianassidae: ?Anacalliax sp.1	1
Arthropoda; Crustacea: Malacostraca; Thalassinidea: Callianassidae: Callianassa cf. acutirostella	11
Arthropoda; Crustacea: Malacostraca; Thalassinidea: Callianassidae: Callianassa cf. lignicola	1
Arthropoda; Crustacea: Malacostraca; Thalassinidea: Callianassidae: Callianassa sp.1	23
Arthropoda; Crustacea: Malacostraca; Thalassinidea: Callianassidae: Callianassa sp.2	4
Arthropoda; Crustacea: Malacostraca; Thalassinidea: Callianassidae: Callianassa sp.3	1
Arthropoda; Crustacea: Malacostraca; Thalassinidea: Callianassidae: Callianassa sp.4	1
Arthropoda; Crustacea: Malacostraca; Thalassinidea: Callianassidae: Eucalliax sp.1	1
Arthropoda; Crustacea: Malacostraca; Thalassinidea: Calocarididae: Calocarididae sp.1	1
Arthropoda; Crustacea: Malacostraca; Thalassinidea: Upogebiidae: Upogebia sp.1	1

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<b>Table 4. Taxon</b>	<b>Records</b>
Chordata: Osteichthyes: Bregmacerotidae: Bregmaceros cf nectabanus	2
Chordata: Osteichthyes: Carangidae sp.	1
Chordata: Osteichthyes: Gobiidae: Obliquogobius sp.?	1
Chordata: Osteichthyes: Gobiidae: Tryssogobius (cf)	2
Chordata: Osteichthyes: Leiognathidae sp.	1
Chordata: Osteichthyes: Menidae: Mene maculata	1
Chordata: Osteichthyes: Ophichthidae : Muraenichthys sp.	2
Chordata: Osteichthyes: Ptereleotridae: Ptereleotris sp.	1
Chordata: Osteichthyes: Trichiuridae sp.	1
Cnidaria: Octocorallia: Acanthogorgiidae: Acanthogorgia sp.A	1
Cnidaria: Octocorallia: Acanthogorgiidae: Acanthogorgia sp.B	1
Cnidaria: Octocorallia: Acanthogorgiidae: Acanthogorgia sp.C	1
Cnidaria: Octocorallia: Acanthogorgiidae: Acanthogorgia sp.D	1
Cnidaria: Octocorallia: Acanthogorgiidae: Anthogorgia grandiflora	1
Cnidaria: Octocorallia: Acanthogorgiidae: Versluysia ramosa	3
Cnidaria: Octocorallia: Anthothelidae?: Anthothelia? (encrusting Echinogorgia sp.B )	1
Cnidaria: Octocorallia: Ellisellidae: Ellisella sp.A	1
Cnidaria: Octocorallia: Ellisellidae: Nicella sp.A	4
Cnidaria: Octocorallia: Ellisellidae: Nicella sp.B	3
Cnidaria: Octocorallia: Ellisellidae: Nicella sp.C	1
Cnidaria: Octocorallia: Ellisellidae: Nicella sp.D	1
Cnidaria: Octocorallia: Ellisellidae: Nicella sp.D?	1
Cnidaria: Octocorallia: Ellisellidae: Nicella sp.E	1
Cnidaria: Octocorallia: Ellisellidae: Nicella sp.F	1
Cnidaria: Octocorallia: Ellisellidae: Nicella sp.G	1
Cnidaria: Octocorallia: Ellisellidae: Verrucella sp.A	1
Cnidaria: Octocorallia: Ellisellidae: Verrucella sp.B	2
Cnidaria: Octocorallia: Ellisellidae: Viminella sp.A	1
Cnidaria: Octocorallia: Ellisellidae: Viminella sp.B	2
Cnidaria: Octocorallia: Ellisellidae: Viminella sp.C	1
Cnidaria: Octocorallia: Keroeididae: Keroeides cf. gracilis	1
Cnidaria: Octocorallia: Keroeididae: Keroeides cf. pallida	1
Cnidaria: Octocorallia: Keroeididae: Keroeides koreni	1
Cnidaria: Octocorallia: Keroeididae: Keroeides sp.A	1
Cnidaria: Octocorallia: Keroeididae: Keroeides sp.B	2
Cnidaria: Octocorallia: Keroeididae: Keroeides sp.C	1
Cnidaria: Octocorallia: Keroeididae: Keroeides sp.D	1
Cnidaria: Octocorallia: Keroeididae: Keroeides sp.E	1
Cnidaria: Octocorallia: Keroeididae: Keroeides sp.F	1
Cnidaria: Octocorallia: Melithaeidae: ?Acabaria	1
Cnidaria: Octocorallia: Melithaeidae: Acabaria cf. serrata	2
Cnidaria: Octocorallia: Melithaeidae: Melithaea sp.A	1
Cnidaria: Octocorallia: Nephthidae: Dendronephthya (juvenile colony)	1
Cnidaria: Octocorallia: Nephthidae: Scleronephthya sp.A	1
Cnidaria: Octocorallia: Nephthidae: Scleronephthya sp.B	1
Cnidaria: Octocorallia: Nidaliidae: Chironephthya sp.A	1
Cnidaria: Octocorallia: Nidaliidae: Nephthyigorgia sp.A	1
Cnidaria: Octocorallia: Nidaliidae: Nephthyigorgia sp.B	1
Cnidaria: Octocorallia: Nidaliidae: Orlikia palmata	1
Cnidaria: Octocorallia: Parisididae: Parisis fruticosa	7
Cnidaria: Octocorallia: Plexauridae: ?New genus	2
Cnidaria: Octocorallia: Plexauridae: Astrogorgia sp.A	1
Cnidaria: Octocorallia: Plexauridae: Astrogorgia sp.B	1
Cnidaria: Octocorallia: Plexauridae: Astrogorgia sp.C	1
Cnidaria: Octocorallia: Plexauridae: Bebryce philippi	5
Cnidaria: Octocorallia: Plexauridae: Discogorgia cf. dentata	3
Cnidaria: Octocorallia: Plexauridae: Echinogorgia sp.A	3

Fauna of the Arafura Sea, Biological Results from SS05 - 2005

<b>Table 4. Taxon</b>	<b>Records</b>
Cnidaria: Octocorallia: Plexauridae: Echinogorgia sp.B	2
Cnidaria: Octocorallia: Plexauridae: Echinogorgia sp.C	2
Cnidaria: Octocorallia: Plexauridae: New Genus 1 sp.A	1
Cnidaria: Octocorallia: Plexauridae: New Genus 1 sp.B	1
Cnidaria: Octocorallia: Plexauridae: New genus 2 sp.A	1
Cnidaria: Octocorallia: Plexauridae: New genus 3 sp.A	1
Cnidaria: Octocorallia: Plexauridae: Paracis sp.A	1
Cnidaria: Octocorallia: Plexauridae: Trimuricea sp.A	1
Cnidaria: Octocorallia: Plexauridae: Villogorgia cf. zimmermani	2
Cnidaria: Octocorallia: Plexauridae: Villogorgia sp.B	1
Cnidaria: Octocorallia: Plexauridae: Villogorgia sp.B	1
Cnidaria: Octocorallia: Pteroeididae: Pteroeides (juvenile colony)	1
Cnidaria: Octocorallia: Subergorgiidae: Annella reticulata	1
Cnidaria: Octocorallia: Subergorgiidae: Subergorgia koellikeri	1
Echinodermata: Crinoidea: Calometridae: Calometridae sp.1	4
Echinodermata: Crinoidea: Calometridae: Calometridae sp.2	4
Echinodermata: Crinoidea: Calometridae: Calometridae sp.3	1
Echinodermata: Crinoidea: Comasteridae: Comasteridae	1
Echinodermata: Crinoidea: Comasteridae: Comatula pectinata	2
Echinodermata: Crinoidea: Comasteridae: Nemaster grandis	1
Echinodermata: Crinoidea: Eudiocrinidae: Eudiocrinus tenuissimus	3
Echinodermata: Crinoidea: Isocrinidae: stalk pieces	2
Echinodermata: Echinoidea: Cidaridae: Cidaridae sp.1	1
Echinodermata: Echinoidea: Cidaridae: Cidaridae sp.2	1
Echinodermata: Holothuroidea: Psolidae: Psolus	2
Echinodermata: Ophiuroidea: Amphiuroidae: Amphioplus cf seminudus	2
Echinodermata: Ophiuroidea: Amphiuroidae: Amphioplus depressa	7
Echinodermata: Ophiuroidea: Amphiuroidae: Amphioplus lucidus	2
Echinodermata: Ophiuroidea: Amphiuroidae: Amphioplus ochroleuca	4
Echinodermata: Ophiuroidea: Amphiuroidae: Amphioplus personatus	3
Echinodermata: Ophiuroidea: Amphiuroidae: Amphipholis	3
Echinodermata: Ophiuroidea: Amphiuroidae: Amphipholis squamata	4
Echinodermata: Ophiuroidea: Amphiuroidae: Amphiuira ambigua	4
Echinodermata: Ophiuroidea: Amphiuroidae: Amphiuira sp.arafura 2	5
Echinodermata: Ophiuroidea: Amphiuroidae: Amphiuira sp.arafura 3	1
Echinodermata: Ophiuroidea: Amphiuroidae: Amphiuira sp.arafura 4	1
Echinodermata: Ophiuroidea: Amphiuroidae: Amphiuira sp.arafura 5	1
Echinodermata: Ophiuroidea: Amphiuroidae: Ophiocentrus	1
Echinodermata: Ophiuroidea: Asteroschematidae: Astroceras	1
Echinodermata: Ophiuroidea: Euryalidae: Asteromorpha koehleri	2
Echinodermata: Ophiuroidea: Euryalidae: Euryale asperum	2
Echinodermata: Ophiuroidea: Gorgonocephalidae: Asteroporpa indicus	1
Echinodermata: Ophiuroidea: Gorgonocephalidae: Astroboa nuda	1
Echinodermata: Ophiuroidea: Gorgonocephalidae: Astrocladus exiguus	1
Echinodermata: Ophiuroidea: Ophiacanthidae: Ophiacantha dallasi	5
Echinodermata: Ophiuroidea: Ophiacanthidae: Ophiacantha indica	2
Echinodermata: Ophiuroidea: Ophiactidae: Ophiactis	2
Echinodermata: Ophiuroidea: Ophiactidae: Ophiactis macrolepidota	4
Echinodermata: Ophiuroidea: Ophioleucidae: Ophioleuce seminudum	1
Echinodermata: Ophiuroidea: Ophionereididae: Ophionereis semoni	1
Echinodermata: Ophiuroidea: Ophiotrichidae: Macrophiolithrix	1
Echinodermata: Ophiuroidea: Ophiotrichidae: Ophiothela danae	1
Echinodermata: Ophiuroidea: Ophiotrichidae: Ophiolithrix	2
Echinodermata: Ophiuroidea: Ophiotrichidae: Ophiotrichidae	1
Echinodermata: Ophiuroidea: Ophiuridae: Ophiomusium scalare	1
Echinodermata: Ophiuroidea: Ophiuridae: Ophiozonoida obscura	1
Echinodermata: Ophiuroidea: Ophiuridae: Ophiura kinbergi	2

Fauna of the Arafura Sea, Biological Results from SS05 - 2005

<b>Table 4. Taxon</b>	<b>Records</b>
Mollusca: Aplacophora: Chaetodermomorpha: Chaetodermomorph sp1	1
Mollusca: Aplacophora: Chaetodermomorpha: Chaetodermomorph sp2	1
Mollusca: Aplacophora: Neomeniomorpha: Neomeniomorph sp1	1
Mollusca: Aplacophora: Neomeniomorpha: Neomeniomorph sp2	1
Mollusca: Aplacophora: Neomeniomorpha: Neomeniomorph sp3	8
Mollusca: Bivalvia: Arcidae: Barbatia iota	1
Mollusca: Bivalvia: Chamidae: Chama cf. isaacooki	1
Mollusca: Bivalvia: Hemidonacidae: Hemidonax arafurensis	1
Mollusca: Bivalvia: Nuculanidae: Nuculana darwini	3
Mollusca: Bivalvia: Nuculanidae: Yoldia lata	1
Mollusca: Bivalvia: Pholadidae: Barnea sp.	1
Mollusca: Bivalvia: Spondylidae: Spondylus electus	1
Mollusca: Bivalvia: Tellinidae: Macoma sp.	1
Mollusca: Bivalvia: Tellinidae: Tellina ovalis	1
Mollusca: Bivalvia: Cardiidae: Venericardia	1
Mollusca: Bivalvia: Condylardiidae: "Condylocardia"	2
Mollusca: Bivalvia: Condylardiidae: "Pachykelia"	1
Mollusca: Bivalvia: Corbulidae: Corbula	10
Mollusca: Bivalvia: Cuspidariidae: Cuspidaria sp1	1
Mollusca: Bivalvia: Cuspidariidae: Cuspidaria sp2	1
Mollusca: Bivalvia: Leptonidae?: "Erycina"	1
Mollusca: Bivalvia: Leptonidae?: "Lasaea"	2
Mollusca: Bivalvia: Leptonidae?: Fronsella?	1
Mollusca: Bivalvia: Leptonidae?: Lepton?	1
Mollusca: Bivalvia: Lucinidae: Lucina	1
Mollusca: Bivalvia: Mactridae: Ventomya	1
Mollusca: Bivalvia: Mesodesmatidae?: Ervilia?	1
Mollusca: Bivalvia: Myadoridae: Myadora	1
Mollusca: Bivalvia: Mytilidae: Mitilid	1
Mollusca: Bivalvia: Mytilidae: Musculus sp1	2
Mollusca: Bivalvia: Neoleptonidae: Neolepton	10
Mollusca: Bivalvia: Nuculanidae: Nuculana	1
Mollusca: Bivalvia: Nuculanidae: Nuculana sp2	1
Mollusca: Bivalvia: Nuculidae: Nucula	1
Mollusca: Bivalvia: Nuculidae: Nucula sp2	1
Mollusca: Bivalvia: Pteriidae: Pteria?	1
Mollusca: Bivalvia: Semelidae: Semele	1
Mollusca: Bivalvia: Tellinidae: Tellina sp1	1
Mollusca: Bivalvia: Tellinidae: Tellina sp2	1
Mollusca: Bivalvia: Tellinidae: Tellina sp3	3
Mollusca: Bivalvia: Tellinidae: Tellina sp3	9
Mollusca: Bivalvia: Tellinidae: Tellina sp4	1
Mollusca: Bivalvia: Tellinidae: Tellina sp5	1
Mollusca: Bivalvia: Thyrasiridae: Genaxinus?	1
Mollusca: Bivalvia: Thyrasiridae: Thyrasira	1
Mollusca: Bivalvia: Ungulinidae: Diplodonta??	2
Mollusca: Gastropoda: Epitoniidae: Epitonium scalare	1
Mollusca: Gastropoda: Fascioliidae: Trophonofusus sp.	1
Mollusca: Gastropoda: Terebridae: Terebra sp.	1
Mollusca: Gastropoda: Turridae: Etrema cf. streptonotus	1
Mollusca: Gastropoda: Turridae: Turricula granobalteus	1
Mollusca: Gastropoda: Volutidae: Amoria turneri	1
Mollusca: Gastropoda: Volutidae: Volutoconus hargravesi calcarelliformis	1
Mollusca: Gastropoda: Aeoliidae: Aeolid	1
Mollusca: Gastropoda: Aplysiidae: Aplysia	1
Mollusca: Gastropoda: Costellariidae: Costellariid	1
Mollusca: Gastropoda: Epitoniidae: Epitonium sp1	1

Fauna of the Arafura Sea, Biological Results from SS05 - 2005

<b>Table 4. Taxon</b>	<b>Records</b>
Mollusca: Gastropoda: Epitoniidae: Epitonium sp2	1
Mollusca: Gastropoda: Eulimidae: Eulima	1
Mollusca: Gastropoda: Irvadiidae: Ceratia	3
Mollusca: Gastropoda: Nassariidae: Nassarius	1
Mollusca: Gastropoda: Pyramidellidae: Pyramidellid sp1	2
Mollusca: Gastropoda: Pyramidellidae: Pyramidellid sp2	1
Mollusca: Gastropoda: Rissoidae: Alvania	3
Mollusca: Gastropoda: Rissoidae: Parashiela	1
Mollusca: Gastropoda: Skeneidae: Skeneid sp1	1
Mollusca: Gastropoda: Skeneidae: Skeneid sp2	1
Mollusca: Gastropoda: Turridae: Daphnellid sp1	2
Mollusca: Gastropoda: Turridae: Daphnellid sp2	1
Mollusca: Gastropoda: Vanikoridae: Couthouyia	1
Mollusca: Gastropoda: Vitrinellidae: Vitrinellid?	1
Mollusca: Polyplacophora: Chitonidae: "Chiton" sp1	1
Mollusca: Polyplacophora: Lepidopleuridae: "Chiton" sp2	1
Mollusca: Scaphopoda: Dentaliidae: Dentalium sp1	2
Mollusca: Scaphopoda: Gadiliniidae: Episiphon jamiesoni	1
Phoronida: unidentified: unidentified: ?Phoronid	1

***APPENDIX – Taxa found each sample***



Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Appendix.** Macroinvertebrate species composition of samples from RV Southern 2005 leg 05, Arafura Sea. In the following, repeated listing of the same family and “sp.” indicates separate, distinct species from the same sample that were not identified. The sample data from dredges (DR) and epibenthic sleds (BS) are reported with only the location data of the beginning of the lowering. These lists do not include all species collected in each sample (see text for explanation).

Station	001	Replicate	BS001	Location	Arafura Sea: site A	Gear	Small Epibenthic Sled
Depth (m)	74	Lat	9°54.01'S	Lon	134°30.04'E	Date (GMT)	1/05/2005
Comments	geological sample taken		Sample Description	Greenish grey mud with calcareous particles			
Class	Family	ID					
Polychaeta	Ampharetidae	Ampharetinae sp 1					
Polychaeta	Ampharetidae	Auchenoplax sp					
Polychaeta	Ampharetidae	Melinninae sp 1					
Polychaeta	Ampharetidae	unidentified					
Polychaeta	Capitellidae	Barantolla sp.2					
Polychaeta	Capitellidae	Dodecaseta sp.					
Polychaeta	Capitellidae	Leochrides sp					
Polychaeta	Capitellidae	Mediomastus sp.					
Polychaeta	Capitellidae	Notomastus sp. 3					
Polychaeta	Capitellidae	Promastobranchus huloti					
Polychaeta	Chaetopteridae	Spiochaetopterus sp.					
Polychaeta	Cirratulidae	?Chaetozone sp.					
Polychaeta	Cirratulidae	?juvenile cirratulids					
Polychaeta	Cirratulidae	?Protocirrinieris sp.					
Polychaeta	Cirratulidae	Aphelochaeta sp. 1					
Polychaeta	Cirratulidae	Aphelochaeta sp. 2					
Polychaeta	Cirratulidae	Aphelochaeta sp. 3					
Polychaeta	Cirratulidae	Caulleriella sp. 2					
Polychaeta	Cirratulidae	Cirratulid sp.					
Polychaeta	Cirratulidae	Cirratulus sp.1					
Polychaeta	Cirratulidae	Monticellina sp.1					
Polychaeta	Cirratulidae	Monticellina sp.3					
Polychaeta	Cirratulidae	Tharyx sp.1					
Polychaeta	Cossuridae	Cossura sp.2					
Polychaeta	Eunicidae	Eunice Arafura 4					
Polychaeta	Eunicidae	Marphysa Arafura 1					
Polychaeta	Eunicidae	Marphysa Arafura 2					
Polychaeta	Glyceridae	Glycera onomichiensis					
Polychaeta	Goniadidae	Goniada sp. 2					
Polychaeta	Hesionidae	Hesionid sp. 1					
Polychaeta	Lumbrineridae	Lumbrineris sp.					
Polychaeta	Lumbrineridae	Scoletoma sp. 2					
Polychaeta	Magelonidae	Magelona sp.					
Polychaeta	Magelonidae	Octomagelona sp.					
Polychaeta	Maldanidae	unidentified					
Polychaeta	Nephtyidae	Aglaophamus sp.					
Polychaeta	Nephtyidae	Aglaophamus sp. 3					
Polychaeta	Nephtyidae	Nephtys sp.					
Polychaeta	Nereididae	Gymnonereis sp.					
Polychaeta	Nereididae	Nereis sp.					
Polychaeta	Oeonidae	Drilonereis sp.					
Polychaeta	Opheliidae	Ophelina sp.					
Polychaeta	Paraonidae	unidentified					
Polychaeta	Phyllodocidae	Phyllodoce Arafura 2					
Polychaeta	Pilargidae	Sigambra sp.					
Polychaeta	Pilargidae	Synelmis rigida					
Polychaeta	Polynoidae	Polynoid Arafura 09					
Polychaeta	Sabellidae	Euchone sp.1					
Polychaeta	Sabellidae	Fabricinae sp.1					
Polychaeta	Sigalionidae	Labioleanira sp.					
Polychaeta	Spionidae	Laonice Arafura 2					
Polychaeta	Spionidae	Microspio sp. ?					
Polychaeta	Spionidae	Parapriospio Arafura 1					
Polychaeta	Spionidae	Priospio sp.					
Polychaeta	Spionidae	unidentified					
Polychaeta	Terebellidae	Polycirrus sp					
Polychaeta	Trichobranchidae	Terebellides sp. 2					
Polychaeta	Trichobranchidae	Trichobranchus sp.					
Malacostraca; Amphipoda	Ampeliscidae	sp.					
Malacostraca; Amphipoda	Ampeliscidae	sp.					
Malacostraca; Amphipoda	Ampeliscidae	sp.					
Malacostraca; Amphipoda	Amphipoda	sp.					
Malacostraca; Amphipoda	Amphipoda	sp.					

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Lysianassidae	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	Harpiniinae
Malacostraca; Brachura	Portunidae	Portunus sp. 1
Malacostraca; Caridea	Alpheidae	Alpheus sp. 1
Malacostraca; Caridea	Pasiphaeidae	Leptochela sp. 1
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis nr. munda
Malacostraca; Cumacea	Gynodiastylidae	sp.
Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Isopoda	Anthuridae	Amakusanthura sp.
Malacostraca; Isopoda	Cirolanidae	Natatolana sp.
Malacostraca; Isopoda	Gnathiidae	Bathygnathia sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Hyssuridae	Xenanthura sp.
Malacostraca; Isopoda	Leptanthuridae	Albanthura sp.
Malacostraca; Isopoda	Leptanthuridae	Albanthura sp.
Malacostraca; Isopoda	Leptanthuridae	Bullovanthura sp.
Ophiuroidea	Amphiuridae	Ophiocentrus
Ophiuroidea	Amphiuridae	post larvae
Aplacophora	Neomeniomorpha	Neomeniomorph sp1
Bivalvia	Nuculanidae	Nuculana darwini
Bivalvia	Leptonidae?	Fronsella?
Bivalvia	Leptonidae?	Lepton?
Bivalvia	Myadoridae	Myadora
Bivalvia	Nuculanidae	Nuculana
Bivalvia	Thyrasiridae	Thyrasira
Gastropoda	Fascioliariidae	Trophonofusus sp.

<b>Station</b> 002	<b>Replicate</b> BS002	<b>Location</b> Arafura Sea: Area B	<b>Gear</b> Small Epibenthic Sled
<b>Depth (m)</b> 92	<b>Lat</b> 9°47.947'	<b>Lon</b> 135°22.024'E	<b>Date (GMT)</b> 1/05/2005
<b>Comments</b>	<b>Sample Description</b>		
CAM001: irregular ripples, relatively barren with no obvious biota	Moderately sorted calcareous slightly muddy medium to fine sand (5GT10/1)		
<b>Time (GMT)</b>	1:31:59		

Class	Family	ID
Polychaeta	Acoetidae	Panthalis cf zanzibarensis
Polychaeta	Ampharetidae	Auchenoplax sp 2
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Capitellidae	Notomastus sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Glyceridae	Glycera nicobarica
Polychaeta	Glyceridae	Glycera sp.
Polychaeta	Goniadidae	Goniada sp. 2
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	Lumbrineris sp.
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Opheliidae	Ophelina sp.
Polychaeta	Orbiniidae	Leodamas sp.
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	Aricidea sp.
Polychaeta	Paraonidae	Paradoneis sp.
Polychaeta	Paraonidae	Paraonella sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Phyllodocidae	Phyllodoce Arafura 4
Polychaeta	Pilargidae	Litocorsa sp.
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Poecilochaetidae	Poecilochaetus sp.
Polychaeta	Polygordiidae	Polygordius sp.
Polychaeta	Sabellidae	? Jamineria sp.
Polychaeta	Serpulidae	?Neovermilia sp.
Polychaeta	Sigalionidae	Sigalion sp.
Polychaeta	Spionidae	Microspio sp. ?
Polychaeta	Spionidae	Paraprionospio sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	Spiophanes sp.
Polychaeta	Spionidae	unidentified
Pycnogonida	Endeidae	Endeis mollis
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Brachura	Raninidae	Raninoides serratifrons
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis n-sp nr L. brevipes

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis ornata
Malacostraca; Isopoda	Anthuridae	Amakusanthura sp.
Malacostraca; Isopoda	Bopyridae	unknown sp.
Malacostraca; Isopoda	Paramunnidae	Ascionana sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa cf. acutirostella
Malacostraca; Thalassinidea	Callianassidae	Callianassa cf. acutirostella
Malacostraca; Thalassinidea	Upogebiidae	Upogebia sp. 1
Ophiuroidea	Amphiuridae	Amphioplus cf. seminudus
Ophiuroidea	Amphiuridae	Amphioplus lucidus
Ophiuroidea	Amphiuridae	Amphiura sp arafura 2
Bivalvia	Corbulidae	Corbula
Gastropoda	unidentified	unidentified

**Station** 002 **Replicate** GR001 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 92 **Lat** 9°47.992' **Lon** 135°22.001'E **Date (GMT)** 1/05/2005 **Time (GMT)** 12:14:56  
**Comments** Mostly forams and dead mollusc shells; geology **Sample Description** Moderately sorted calcareous slightly muddy medium sample taken; semiquantitative to fine sand (5GT10/1)

Class	Family	ID
Polychaeta	Ampharetidae	Ampharetinae sp
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Cirratulidae	Aphelochaeta sp. 2
Polychaeta	Cirratulidae	Aphelochaeta sp. 3
Polychaeta	Cirratulidae	Caulleriella sp. 1
Polychaeta	Cirratulidae	Monticellina sp.2
Polychaeta	Glyceridae	unidentified
Polychaeta	Hesionidae	unidentified
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Orbiniidae	Leodamas sp.
Polychaeta	Oweniidae	Galathowenia sp.
Polychaeta	Paraonidae	Aricidea sp. 3
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Paraonidae	Paraonella sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Pilargidae	unidentified
Polychaeta	Poecilochaetidae	Poecilochaetus sp.
Polychaeta	Polygordiidae	Polygordius sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Polychaeta	Terebellidae	Amaeana sp
Malacostraca; Amphipoda	Liljeborgiidae	sp.
Malacostraca; Amphipoda	Oedicerotidae	sp.
Malacostraca; Amphipoda	Stenothoidae	sp.
Malacostraca; Amphipoda	Synopiidae	sp.
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis n-sp nr L. brevipes
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis ornata
Malacostraca; Isopoda	Anthuridae	Amakusanthura sp.
Malacostraca; Isopoda	Paramunnidae	Ascionana sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Ophiuroidea	Amphiuridae	Amphiura sp arafura 2
Bivalvia	Tellinidae	Macoma sp.
Bivalvia	Cardiidae	Venericardia
Bivalvia	Corbulidae	Corbula
Bivalvia	Neoleptonidae	Neolepton
Bivalvia	Tellinidae	Tellina sp4

Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 002 **Replicate** GR002 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 91.2 **Lat** 9°47.986' **Lon** 135°22.007'E **Date (GMT)** 1/05/2005 **Time (GMT)** 12:24:27  
**Comments** Mostly forams and dead mollusc shells; sample elutriated, heavy fraction discarded **Sample Description** Moderately sorted calcareous slightly muddy medium to fine sand (5GT10/1)

Class	Family	ID
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	unidentified
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp. 2
Polychaeta	Glyceridae	Glycera onomichiensis
Polychaeta	Hesionidae	unidentified
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Orbiniidae	Leodamas sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Phyllodocidae	Phyllodoce Arafura 3
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Polygordiidae	Polygordius sp.
Polychaeta	Spionidae	Laonice sp.
Polychaeta	Spionidae	Microspio sp. ?
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	Scolecopsis sp.
Polychaeta	Spionidae	unidentified
Polychaeta	Terebellidae	Amaeana sp
Pycnogonida	Endeidae	Endeis cf. mollis
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Oedicerotidae	sp.
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis n-sp nr L. brevipes
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis ornata
Malacostraca; Isopoda	Paramunnidae	Ascionana sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Ophiuroidea	Amphiuridae	Amphipholis
Gastropoda	unidentified	unidentified

**Station** 002 **Replicate** GR003 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 91.2 **Lat** 9°47.986' **Lon** 135°22.997'E **Date (GMT)** 1/05/2005 **Time (GMT)** 12:31:45  
**Comments** Mostly forams and dead mollusc shells, heavy fraction discarded **Sample Description** Moderately sorted calcareous slightly muddy medium to fine sand (5GT10/1)

Class	Family	ID
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Amphinomidae	unidentified
Polychaeta	Capitellidae	unidentified
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Hesionidae	unidentified
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Orbiniidae	Leodamas sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Polygordiidae	Polygordius sp.
Polychaeta	Sigalionidae	Sigalion sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	Spiophanes sp.
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis n-sp nr L. brevipes
Malacostraca; Isopoda	Paramunnidae	Ascionana sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa cf. acutirostella
Osteichthyes	Ophichthidae	Muraenichthys sp.
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	Amphipholis
Bivalvia	Corbulidae	Corbula
Bivalvia	Neoleptonidae	Neolepton
Bivalvia	Tellinidae	Tellina sp3
Gastropoda	Epitoniidae	Epitonium sp1

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 002 **Replicate** GR085 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 95.2 **Lat** 9°47.993' **Lon** 135°22.026'E **Date (GMT)** 26/05/2005 **Time (GMT)** 1:26:29  
**Comments** Return to previously sampled station. geological bulk sedimentological sample taken. Washed through 5mm screen for large animals. CAM062: bioturbated sandy substrate, current ripples, with scattered to common burrows, sparse large sessile fauna, many small

Class	Family	ID
Polychaeta	Capitellidae	Dodecaseta sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 4
Ophiuroidea	Amphiuridae	Amphioplus depressa
Gastropoda	Turridae	Etrema cf. streptonotus

**Station** 002 **Replicate** GR086 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 92.8 **Lat** 9°47.993' **Lon** 135°22.026'E **Date (GMT)** 26/05/2005 **Time (GMT)** 1:33:51  
**Comments** Return to previously sampled station. Washed through 5mm screen for large animals. CAM062: bioturbated sandy substrate, current ripples, with scattered to common burrows, sparse large sessile fauna, many small fish, poor visibility (water turbid)

Class	Family	ID
Ophiuroidea	Amphiuridae	Amphioplus cf seminudus
Ophiuroidea	Amphiuridae	Amphiura sp arafura 2

**Station** 003 **Replicate** GR004 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 70 **Lat** 9°52.775' **Lon** 135°21.884'E **Date (GMT)** 4/05/2005 **Time (GMT)** 7:03:00  
**Comments** large specimens recovered from 5mm screen wash

Class	Family	ID
Malacostraca; Brachura	Raninidae	Raninoides serratifrons Henderson, 1893
Ophiuroidea	Ophiuridae	Ophiura kinbergi

**Station** 003 **Replicate** GR005 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 69 **Lat** 9°52.788' **Lon** 135°21.891'E **Date (GMT)** 4/05/2005 **Time (GMT)** 7:10:00  
**Comments** CAM002: current ripples with flocculant brown sediment in swales; large burrows, some seen expelling sediment

Class	Family	ID
Polychaeta	Capitellidae	unidentified
Polychaeta	Goniadidae	Goniada sp. 2
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	Lumbrineris sp.
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Polygordiidae	Polygordius sp.
Polychaeta	Polynoidae	unidentified
Polychaeta	Spionidae	Prionospio sp. a
Polychaeta	Spionidae	Prionospio sp. b
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Amphipoda	Podoceridae	sp.
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis n-sp nr L. brevipis
Malacostraca; Isopoda	Paramunnidae	Ascionana sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa cf. acutirostella
Malacostraca; Thalassinidea	Callianassidae	Callianassa cf. acutirostella
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Ophiuroidea	Amphiuridae	Amphiura ambigua
Ophiuroidea	Ophiuridae	Ophiura kinbergi
Bivalvia	Corbulidae	Corbula
Bivalvia	Heterodont	unidentified

Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 005 **Replicate** GR006 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 80 **Lat** 9°50.466' **Lon** 135°16.099'E **Date (GMT)** 4/05/2005 **Time (GMT)** 1:34:00  
**Comments** large specimens recovered from 5mm screen wash **Sample Description** Muddy Sand GLEY1 4/10Y

Class	Family	ID
Malacostraca; Stomatopoda	Eurysquillidae	Coronidopsis serenei
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1

**Station** 005 **Replicate** GR007 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 80 **Lat** 9°50.47'S **Lon** 135°16.099'E **Date (GMT)** 4/05/2005 **Time (GMT)** 1:40:00  
**Comments** elutriated, heavy fraction discarded; CAM004, 77m: bottom soft sediments, many burrows, heavily bioturbated **Sample Description** Muddy Sand GLEY 1 4/10Y

Class	Family	ID
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Glyceridae	Glycera onomichiensis
Polychaeta	Goniadidae	unidentified
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Nephtyidae	Nephtys sp.
Polychaeta	Opheliidae	Ophelina sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Polygordiidae	Polygordius sp.
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Spionidae	unidentified
Polychaeta	Terebellidae	Lysilla sp
Polychaeta	Trichobanchidae	Terebellides sp. 2
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Dexaminidae	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Osteichthyes	Gobiidae	Tryssogobius (cf)
Ophiuroidea	Amphiuridae	Amphiura sp arafura 2

**Station** 006 **Replicate** GR008 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 87 **Lat** 9°50.361' **Lon** 135°20.904'E **Date (GMT)** 4/05/2005 **Time (GMT)** 4:17:08  
**Comments** large specimens recovered from 5mm screen wash **Sample Description** Muddy Sand - calcareous poorly-sorted muddy fine sand; 5GY 5/1

Class	Family	ID
Polychaeta	Polynoidae	unidentified
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1

**Station** 006 **Replicate** GR009 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 87 **Lat** 9°50.356' **Lon** 135°20.888'E **Date (GMT)** 4/05/2005 **Time (GMT)** 4:25:27  
**Comments** elutriated, heavy fraction discarded; mostly forams and mollusc fragments. CAM005 showed silty sandy surface with small ripples **Sample Description** Muddy Sand - calcareous poorly-sorted muddy fine sand; 5GY 5/1

Class	Family	ID
Polychaeta	Ampharetidae	Isolda sp
Polychaeta	Glyceridae	Glycera onomichiensis
Polychaeta	Hesionidae	unidentified
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Orbiniidae	Leodamas sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Phyllodocidae	Phyllodoce unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Poecilochaetidae	Poecilochaetus sp.
Polychaeta	Polygordiidae	Polygordius sp.
Polychaeta	Sabellidae	? Pseudofabriciola
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Spionidae	unidentified
Polychaeta	Terebellidae	Amaeana sp
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Corophioid	sp.

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Caridea	Alpheidae	Alpheus sp. 3
Malacostraca; Isopoda	Anthuridae	Amakusanthura sp.
Malacostraca; Isopoda	Cirolanidae	Natatolana sp.
Malacostraca; Stomatopoda	Squillidae	Lenisquilla gilesi
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 3
Gastropoda	Turridae	Turricula granobalteus

**Station** 007 **Replicate** BS003 **Location** Arafura Sea: Area B **Gear** Small Epibenthic Sled  
**Depth (m)** 82.8 **Lat** 9°50.035' **Lon** 135°17.74'E **Date (GMT)** 4/05/2005 **Time (GMT)** 8:28:15  
**Comments** CAM006 showed scallop, burrows, possible sponge, sea pens  
**Sample Description**

Class	Family	ID
Polychaeta	Capitellidae	Dodecaseta sp.
Polychaeta	Eulepethidae	Eulepethus hamifer
Polychaeta	Glyceridae	Glycera onomichiensis
Polychaeta	Goniadidae	Goniada sp.
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Nephtyidae	Aglaophamus sp. 2
Malacostraca; Dendrobranchiata	Solenoceridae	Solenoceridae sp. 1
Malacostraca; Isopoda	Antheluridae	Anthulura sp.
Malacostraca; Isopoda	Cirolanidae	Natatolana sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 2
Osteichthyes	Bregmacerotidae	Bregmaceros cf nectabanus
Osteichthyes	Ophichthidae	sp.
Ophiuroidea	Amphiuridae	Amphipholis
Ophiuroidea	Amphiuridae	Amphiura sp arafura 2
Bivalvia	Tellinidae	Tellina ovalis

**Station** 007 **Replicate** GR010 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 83 **Lat** 9°50.118' **Lon** 135°17.762'E **Date (GMT)** 4/05/2005 **Time (GMT)** 6:56:45  
**Comments** large specimens recovered from 5mm screen wash  
**Sample Description** calcareous poorly-sorted muddy fine sand 5GY 5/1

Class	Family	ID
Polychaeta	Oweniidae	Galathowenia sp.
Malacostraca; Brachura	Raninidae	Raninoides serratifrons Henderson, 1893
Malacostraca; Stomatopoda	Nannosquillidae	Acanthosquilla multifasciata (Wood-Mason, 1895)

**Station** 007 **Replicate** GR011 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 83 **Lat** 9°50.126' **Lon** 135°17.766'E **Date (GMT)** 4/05/2005 **Time (GMT)** 7:05:04  
**Comments** minor amounts of gravel; mollusc & foram fragments mostly; some organic matter  
**Sample Description** calcareous poorly-sorted muddy fine sand 5GY 5/1

Class	Family	ID
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Promastobranchus huloti
Polychaeta	Goniadidae	Goniada sp.
Polychaeta	Hesionidae	unidentified
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Orbiniidae	Leitoscoloplos sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 3
Polychaeta	Polygordiidae	Polygordius sp.
Polychaeta	Sabellidae	Euchoe sp.1
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Aoridae	sp 1
Malacostraca; Amphipoda	Aoridae	sp 2
Malacostraca; Amphipoda	Kamakidae	sp 1
Malacostraca; Amphipoda	Phoxocephalidae	Birubinae sp 1
Malacostraca; Cumacea	Gynodiastylidae	Gynodiastylis truncatifrons
Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Isopoda	Munnidae	Uromunna sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa cf. acutirostella
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 2
Ophiuroidea	unidentified	post larvae
Bivalvia	Corbulidae	Corbula

Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 008 **Replicate** GR012 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 83 **Lat** 9°49.952' **Lon** 135°19.638'E **Date (GMT)** 4/05/2005 **Time (GMT)** 9:09:59  
**Comments** large specimens recovered from 5mm screen wash **Sample Description** 5GY 6/1; poorly sorted calcareous muddy fine sand; some calcareous gravel; mostly mollusc & foram fragments; organic material

Class	Family	ID
Polychaeta	Capitellidae	Dodecasetta sp.
Polychaeta	Polynoidae	unidentified
Octocorallia	Plexauridae	New Genus 1 sp. B
Ophiuroidea	Ophiacanthidae	Ophiacantha indica
Ophiuroidea	Ophiactidae	Ophiactis

**Station** 008 **Replicate** GR013 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 83 **Lat** 9°49.933' **Lon** 135°19.656'E **Date (GMT)** 4/05/2005 **Time (GMT)** 9:15:45  
**Comments** elutriated, heavy fraction discarded; CAM007 showed small sand ripples & burrows with some rubble; relatively sparse biota **Sample Description** 5GY 6/1; poorly sorted calcareous muddy fine sand; some calcareous gravel; mostly mollusc & foram fragments; organic material

Class	Family	ID
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Ampharetidae	Isolda sp
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Capitellidae	Notomastus sp.
Polychaeta	Capitellidae	Promastobranchus huloti
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Glyceridae	Glycera lapidum
Polychaeta	Goniadidae	Glycinda sp.
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	Lumbrineris sp.
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Oeonidae	Drilonereis sp.
Polychaeta	Orbiniidae	Leitoscoloplos sp.
Polychaeta	Orbiniidae	Leodamas sp.
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Paraonidae	Paraonella sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Pilargidae	Synelmis rigida
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 3
Polychaeta	Polygordiidae	Polygordius sp.
Polychaeta	Polynoidae	Polynoid Arafura 03
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Spionidae	Prionospio sp. a
Polychaeta	Spionidae	Prionospio sp. b
Polychaeta	Spionidae	Spiophanes? sp.
Polychaeta	Terebellidae	Thelepodinae sp
Polychaeta	Terebellidae	unidentified
Polychaeta	Trichobranchidae	Artacamella
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Liljeborgiidae	sp.
Malacostraca; Amphipoda	Lysianassidae	?Tryphosella
Malacostraca; Cumacea	Gynodiastylidae	Dicoides minusculus
Malacostraca; Cumacea	Gynodiastylidae	Gynodiastylis truncatifrons
Malacostraca; Isopoda	Leptanthuridae	Accalathura sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Ophiuroidea	Amphiuridae	Amphiura ambigua
Ophiuroidea	unidentified	post larvae
Bivalvia	Condylocardiidae	"Condylocardia"
Bivalvia	Corbulidae	Corbula
Bivalvia	Heterodont	unidentified
Bivalvia	Neoleptonidae	Neolepton
Bivalvia	Tellinidae	Tellina sp3
Scaphopoda	Gadilinae	Episiphon jamiesoni



## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 009 **Replicate** GR014 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 83 **Lat** 9°49.279' **Lon** 135°19.582'E **Date (GMT)** 4/05/2005 **Time (GMT)** 11:10:59  
**Comments** biology subsample, large specimens recovered **Sample Description** 5Y 4/2; poorly-sorted calcareous muddy medium sand; mostly mollusc & forma fragments; some organic fragments

Class	Family	ID
Gastropoda	Terebridae	Terebra sp.

**Station** 009 **Replicate** GR015 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 83 **Lat** 9°49.294' **Lon** 135°19.599'E **Date (GMT)** 4/05/2005 **Time (GMT)** 11:18:17  
**Comments** elutriated, heavy fraction discarded; CAM008 showed sediment in suspension; sandy irregular ripples; relatively sparse biota **Sample Description** 5Y 4/2; poorly-sorted calcareous muddy medium sand; mostly mollusc & forma fragments; some organic fragments

Class	Family	ID
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Glyceridae	Glycera cinnamomea
Polychaeta	Goniadidae	Goniada sp. 2
Polychaeta	Hesionidae	unidentified
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Paraonidae	Aricidea sp. 3
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Poecilochaetidae	Poecilochaetus sp.
Polychaeta	Polygordiidae	Polygordius sp.
Polychaeta	Sigalionidae	unidentified
Polychaeta	Spionidae	?Microspio Arafura 1
Polychaeta	Spionidae	Prionospio sp. a
Polychaeta	Spionidae	Prionospio sp. b
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis n-sp nr L. brevipes
Malacostraca; Isopoda	Anthuridae	Amakusanthura sp.
Malacostraca; Isopoda	Paramunnidae	Ascionana sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa cf. acutirostella
Ophiuroidea	Amphiuridae	post larvae
Bivalvia	Corbulidae	Corbula
Bivalvia	Heterodont	unidentified
Bivalvia	Tellinidae	Tellina sp3

**Station** 010 **Replicate** GR017 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 82 **Lat** 9°48.774' **Lon** 135°15.412'E **Date (GMT)** 5/05/2005 **Time (GMT)** 3:19:00  
**Comments** elutriated, heavy fraction discarded. CAM009: irregular ripples, poorly defined; large burrows obvious; biota sparse **Sample Description** sandy mud GLEY 1 4/10Y

Class	Family	ID
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Capitellidae	unidentified
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Eunicidae	Marphysa Arafura 1
Polychaeta	Glyceridae	Glycera cinnamomea
Polychaeta	Glyceridae	Glycera nicobarica
Polychaeta	Goniadidae	Goniada sp. 2
Polychaeta	Goniadidae	Goniada sp. 2
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	Lumbrineris sp.
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Oeonidae	Drilonereis sp.
Polychaeta	Oeonidae	Drilonereis sp. 2
Polychaeta	Orbiniidae	Leitoscoloplos sp.
Polychaeta	Orbiniidae	Leodamas sp.

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Paraonidae	Paradoneis sp.
Polychaeta	Paraonidae	Paraonella sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Poecilochaetidae	Poecilochaetus sp.
Polychaeta	Polygordiidae	Polygordius sp.
Polychaeta	Polynoidae	unidentified
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Spionidae	Prionospio sp. a
Polychaeta	Spionidae	Prionospio sp. b
Polychaeta	Trichobranchidae	Terebellides sp.
Malacostraca; Amphipoda	Ampeliscidae	Byblis sp 2
Malacostraca; Amphipoda	Amphilochidae	sp 2
Malacostraca; Amphipoda	Aoridae	unidentifiable
Malacostraca; Amphipoda	Aoridae	unidentifiable
Malacostraca; Amphipoda	Liljeborgiidae	Liljeborgia sp 1
Malacostraca; Amphipoda	Photidae	unidentifiable
Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Isopoda	Cirolanidae	Natatolana sp.
Malacostraca; Isopoda	Cirolanidae	Natatolana sp.
Malacostraca; Isopoda	Munnidae	Uromunna sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa cf. acutirostella
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Osteichthyes	Gobiidae	Tryssogobius (cf)
Ophiuroidea	unidentified	post larvae
Bivalvia	Tellinidae	Tellina sp3
Gastropoda	Nassariidae	Nassarius

<b>Station</b>	011	<b>Replicate</b>	GR018	<b>Location</b>	Arafura Sea: Area B	<b>Gear</b>	Smith-Macintyre Grab
<b>Depth (m)</b>	84	<b>Lat</b>	9°47.768'	<b>Lon</b>	135°16.935'E	<b>Date (GMT)</b>	5/05/2005
<b>Comments</b>	~1 kg sediment removed for geology; elutriated, heavy fraction discarded. CAM010: rippled sandy bed; ripples spread ~20cm & ~2-3 cm deep; bioturbation & burrows lower density than other sites; burrowseen expelling sand			<b>Sample Description</b>	muddy sand; GLEY 1 4/10Y		

Class	Family	ID
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Eunicidae	unidentified
Polychaeta	Lumbrineridae	Lumbrineris sp.
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Orbiniidae	Leodamas sp.
Polychaeta	Paraonidae	Cirrophorus sp.
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Poecilochaetidae	Poecilochaetus sp.
Polychaeta	Polygordiidae	Polygordius sp.
Polychaeta	Spionidae	Malacoceros Arafura 1
Polychaeta	Spionidae	Prionospio Arafura 1
Polychaeta	Spionidae	Prionospio Arafura 3
Polychaeta	Spionidae	Prionospio Arafura 4
Polychaeta	Spionidae	Scolelepis Arafura 1
Polychaeta	Spionidae	unidentified a
Polychaeta	Spionidae	unidentified b
Malacostraca; Amphipoda	Kamakidae	sp 2
Malacostraca; Amphipoda	Liljeborgiidae	Liljeborgia sp 1
Malacostraca; Amphipoda	Oedicerotidae	sp 2
Malacostraca; Amphipoda	Photidae	Photis sp 1
Malacostraca; Amphipoda	unidentifiable	unidentifiable
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis n-sp nr L. brevipes
Malacostraca; Isopoda	Paramunnidae	Ascionana sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Ophiuroidea	Amphiuridae	Amphiura ambigua
Bivalvia	Corbulidae	Corbula
Bivalvia	Heterodont	unidentified
Bivalvia	Tellinidae	Tellina sp2
Bivalvia	Tellinidae	Tellina sp3

Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 012 **Replicate** GR019 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 85 **Lat** 9°47.593' **Lon** 135°16.636'E **Date (GMT)** 5/05/2005 **Time (GMT)** 5:49:00  
**Comments** ~1 kg sediment removed for geology; elutriated, heavy fraction discarded. no camera lowering **Sample Description** muddy sand; GLEY 1 4/10Y

Class	Family	ID
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Hesionidae	unidentified
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Nephtyidae	Nephtys sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Poecilochaetidae	Poecilochaetus sp.
Polychaeta	Polygordiidae	Polygordius sp.
Polychaeta	Sigalionidae	Sigalion sp.
Polychaeta	Spionidae	Malacoceros Arafura 1
Polychaeta	Spionidae	Prionospio Arafura 3
Polychaeta	Spionidae	Prionospio Arafura 4
Polychaeta	Spionidae	Scolecopsis Arafura 1
Polychaeta	Spionidae	unidentified a
Polychaeta	Spionidae	unidentified b
Polychaeta	Spionidae	unidentified c
Polychaeta	Syllidae	?"Syllis corruscans"
Polychaeta	Syllidae	unidentified
Malacostraca; Amphipoda	Aoridae	unidentifiable
Malacostraca; Amphipoda	Liljeborgiidae	Liljeborgia sp 1
Malacostraca; Amphipoda	Oedicerotidae	sp 1
Malacostraca; Amphipoda	Phoxocephalidae	sp 1
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis n-sp nr L. brevipes
Malacostraca; Isopoda	Paramunnidae	Ascionana sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Echinoidea		post larvae
Ophiuroidea	unidentified	post larvae
Bivalvia	Corbulidae	Corbula
Bivalvia	Neoleptonidae	Neolepton
Bivalvia	Tellinidae	Tellina sp3
Bivalvia	Ungulinidae	Diplodonta??
Gastropoda	Aeoliidae	Aeolid

**Station** 013 **Replicate** DR001 **Location** Arafura Sea: Area C East **Gear** Diamantina Dredge  
**Depth (m)** 89 **Lat** 9°24.933' **Lon** 134°18.619'E **Date (GMT)** 10/05/2005 **Time (GMT)** 8:21:00  
**Comments** Large sample of many sessile megafaunal individuals; CAM011 – hard grounds with many sessile fauna (octocorals, crinoids, anemones) **Sample Description** Dredge mostly animals with few muddy sand balls

Class	Family	ID
Polychaeta	Acoetidae	Panthalis cf zanzibarensis
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Ampharetidae	Isolda sp
Polychaeta	Ampharetidae	Melinninae sp 1
Polychaeta	Capitellidae	Leiocapitella sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Capitellidae	Promastobranchus sp.
Polychaeta	Chaetopteridae	chaetopterid sp. 3
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Eunicidae	Eunice Arafura 3
Polychaeta	Flabelligeridae	Pherusa sp.
Polychaeta	Glyceridae	Glycera onomichiensis
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	Scoletoma sp.
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Nereididae	Ceratocephale sp.
Polychaeta	Nereididae	Nicon sp.
Polychaeta	Nereididae	unidentified
Polychaeta	Opheliidae	Ophelina sp. 3

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Litocorsa sp. 2
Polychaeta	Pilargidae	Synelmis sp. 2
Polychaeta	Polynoidae	unidentified
Polychaeta	Polynoidae	unidentified
Polychaeta	Sabellidae	Amphicorina sp.
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Spionidae	?Scolecolepides
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Syllidae	Haplosyllis chamaeleon
Polychaeta	Terebellidae	Thelepus sp
Polychaeta	Trichobranchidae	Terebellides sp.
Malacostraca; Amphipoda	Ampeliscidae	Byblis sp 1
Malacostraca; Amphipoda	Amphilochidae	sp 1
Malacostraca; Amphipoda	Aoridae	unidentifiable
Malacostraca; Amphipoda	Caprellidae	unidentifiable
Malacostraca; Amphipoda	Hyperiidea	sp 1
Malacostraca; Amphipoda	Icilliidae	Icillius sp
Malacostraca; Amphipoda	Iphimediidae	Iphimedia sp
Malacostraca; Amphipoda	Ischyroceridae	Cerapus sp 1
Malacostraca; Amphipoda	Ischyroceridae	Erichthonius sp
Malacostraca; Amphipoda	Ischyroceridae	sp 1
Malacostraca; Amphipoda	Kamakidae	sp 1
Malacostraca; Amphipoda	Leucothoidae	Leucothoe sp
Malacostraca; Amphipoda	Melitidae	Ceradocus sp
Malacostraca; Amphipoda	Melitidae	Hornellia sp ?
Malacostraca; Amphipoda	Melitidae	Mallacoota sp 1
Malacostraca; Amphipoda	Melitidae	Mallacoota sp 2
Malacostraca; Amphipoda	Melitidae	Mallacoota sp 3
Malacostraca; Amphipoda	Photidae	sp 1
Malacostraca; Amphipoda	Pleustidae	Tepidopleustes sp
Malacostraca; Amphipoda	Podoceridae	unidentifiable
Malacostraca; Amphipoda	Stenothoidae	Stenothoe sp
Malacostraca; Amphipoda	Stenothoidae	Stenothoe sp 2
Malacostraca; Amphipoda	Synopiidae	sp 1
Malacostraca; Amphipoda	Synopiidae	Tyron sp
Malacostraca; Amphipoda	unidentifiable	unidentifiable
Malacostraca; Anomura	Chirostylidae	Urotychodes sp. 1
Malacostraca; Anomura	Galatheidae	Galathea sp. 1
Malacostraca; Anomura	Galatheidae	Galathea sp. 1
Malacostraca; Anomura	Galatheidae	Galathea sp. 3
Malacostraca; Anomura	Galatheidae	Munida agave
Malacostraca; Anomura	Galatheidae	Munida agave
Malacostraca; Anomura	Porcellanidae	Petrolisthes sp.1
Malacostraca; Brachura	Pilumnidae	Pilumnus sp. 1
Malacostraca; Brachura	Portunidae	Thalamita danae
Malacostraca; Caridea	Alpheidae	Synalpheus sp. 1
Malacostraca; Cumacea	Gynodiastylidae	Gynodiastylis
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis
Malacostraca; Isopoda	Anthuridae	Amakusanthura sp.
Malacostraca; Isopoda	Cirolanidae	Neocirolana sp.
Malacostraca; Isopoda	Gnathiidae	Gnathia sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Sphaeromatidae	Cassidina sp.
Malacostraca; Isopoda	Sphaeromatidae	Cilicea sp.
Malacostraca; Isopoda	Xenosellidae	Xenosella (cf) sp.
Octocorallia	Acanthogorgiidae	Acanthogorgia sp. D
Octocorallia	Acanthogorgiidae	Versluysia ramosa
Octocorallia	Acanthogorgiidae	Versluysia ramosa
Octocorallia	Anthothelidae?	Anthothelia? (encrusting Echinogorgia sp B )
Octocorallia	Ellisellidae	Ellisella sp. A
Octocorallia	Ellisellidae	Verrucella sp. B
Octocorallia	Ellisellidae	Verrucella sp. B
Octocorallia	Ellisellidae	Viminella sp. A
Octocorallia	Ellisellidae	Viminella sp. B
Octocorallia	Ellisellidae	Viminella sp. B
Octocorallia	Ellisellidae	Viminella sp. C
Octocorallia	Keroeidae	Keroeides cf. gracilis
Octocorallia	Keroeidae	Keroeides cf. pallida
Octocorallia	Keroeidae	Keroeides koreni
Octocorallia	Keroeidae	Keroeides sp. E
Octocorallia	Keroeidae	Keroeides sp. F
Octocorallia	Melithaeidae	?Acabaria
Octocorallia	Melithaeidae	Acabaria cf. serrata
Octocorallia	Melithaeidae	Acabaria cf. serrata
Octocorallia	Melithaeidae	Melithaea sp. A
Octocorallia	Nephtheidae	unidentified

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Octocorallia	Nidaliidae	Chironophthya sp. A
Octocorallia	Parisididae	Parisis fruticosa Verrill, 1864
Octocorallia	Plexauridae	Astrogorgia sp. A
Octocorallia	Plexauridae	Astrogorgia sp. B
Octocorallia	Plexauridae	Astrogorgia sp. C
Octocorallia	Plexauridae	Bebryce philippi Th. Studer, 1889
Octocorallia	Plexauridae	Bebryce philippi Th. Studer, 1889
Octocorallia	Plexauridae	Discogorgia cf. dentata
Octocorallia	Plexauridae	Echinogorgia sp. A
Octocorallia	Plexauridae	Echinogorgia sp. A
Octocorallia	Plexauridae	Echinogorgia sp. A
Octocorallia	Plexauridae	Echinogorgia sp. B
Octocorallia	Plexauridae	Echinogorgia sp. B
Octocorallia	Plexauridae	Echinogorgia sp. C
Octocorallia	Plexauridae	Echinogorgia sp. C
Octocorallia	Plexauridae	New Genus 1 sp. A
Octocorallia	Plexauridae	Villogorgia cf. zimmermani
Octocorallia	Plexauridae	Villogorgia cf. zimmermani
Octocorallia	Plexauridae	Villogorgia sp. B
Octocorallia	Plexauridae	Villogorgia sp. B
Octocorallia	Subergorgiidae	Subergorgia koellikeri
Crinoidea	Calometridae	Calometridae sp 2
Crinoidea	Calometridae	Calometridae sp 2
Crinoidea	Comasteridae	Comatula pectinata
Crinoidea	Comasteridae	Comatula pectinata
Crinoidea	Eudiocrinidae	Eudiocrinus tenuissimus
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	Amphioplus ochroleuca
Ophiuroidea	Amphiuridae	Amphioplus ochroleuca
Ophiuroidea	Euryalidae	Asteromorpha koehleri
Ophiuroidea	Euryalidae	Asteromorpha koehleri
Ophiuroidea	Euryalidae	Euryale asperum
Ophiuroidea	Gorgonocephalidae	unidentified
Ophiuroidea	Ophiacanthidae	Ophiacantha dallasi
Ophiuroidea	Ophiacanthidae	Ophiacantha dallasi
Ophiuroidea	Ophiacanthidae	Ophiacantha indica
Ophiuroidea	Ophiotrichidae	Ophiothela danae
Ophiuroidea	Ophiotrichidae	Ophiothrix
Ophiuroidea	Ophiotrichidae	Ophiothrix
Ophiuroidea	Ophiotrichidae	Ophiothrix
Ophiuroidea	Ophiuridae	Ophiozonoida obscura
Bivalvia	Heterodont	unidentified
Bivalvia	Tellinidae	Tellina sp3

Station 013 **Replicate** GR020 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 87 **Lat** 9°25.08'S **Lon** 134°18.78'E **Date (GMT)** 10/05/2005 **Time (GMT)** 5:55:00  
**Comments** geology sediment sample, few animals removed **Sample Description** Bioclastic sand 5Y 5/2

<b>Class</b>	<b>Family</b>	<b>ID</b>
Malacostraca; Brachura	Majidae	Phalangipus hystrix (Miers, 1886)

Station 013 **Replicate** GR021 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 88 **Lat** 9°25.081' **Lon** 134°18.779'E **Date (GMT)** 10/05/2005 **Time (GMT)** 6:14:00  
**Comments** elutriated, heavy fraction discarded. CAM011: hard grounds with many sessile fauna (octocorals, crinoids, anemones) **Sample Description** Bioclastic sand 5Y 5/2

<b>Class</b>	<b>Family</b>	<b>ID</b>
Osteichthyes	Ptereleotridae	Ptereleotris sp.

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 014 **Replicate** GR023 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 97 **Lat** 9°24.141' **Lon** 134°14.268'E **Date (GMT)** 10/05/2005 **Time (GMT)** 9:26:00  
**Comments** CAM012: softy muddy substrate with some mounds, fecal pellets rolling in current, no megafauna **Sample Description** muddy silt GLEY 1 4/10Y

Class	Family	ID
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Flabelligeridae	Pherusa sp.2
Polychaeta	Glyceridae	unidentified
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	Lumbrineris sp.
Polychaeta	Nereididae	Leonnates persica
Polychaeta	Oeonidae	Notocirrus sp.
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Litocorsa sp. 2
Polychaeta	Spionidae	Laonice sp.
Polychaeta	Spionidae	Prionospio sp. a
Polychaeta	Spionidae	Prionospio sp. b
Malacostraca; Amphipoda	Ampeliscidae	Byblis sp 2
Malacostraca; Amphipoda	Ischyroceridae	sp 2
Malacostraca; Amphipoda	Melphidippidae	sp 1
Malacostraca; Amphipoda	Phoxocephalidae	sp 1
Malacostraca; Amphipoda	Stenothoidae	sp 2
Malacostraca; Cumacea	Bodotriidae	Cyclaspis
Malacostraca; Cumacea	Gynodiastylidae	Gynodiastylis
Malacostraca; Cumacea	Gynodiastylidae	Gynodiastylis sierra
Malacostraca; Isopoda	Desmosomatidae	Prochelator sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Osteichthyes	Bregmacerotidae	Bregmaceros sp.
Ophiuroidea	Amphiuridae	Amphiura sp arafura 4

**Station** 015 **Replicate** BS004 **Location** Arafura Sea: Area C East **Gear** Small Epibenthic Sled  
**Depth (m)** 105 **Lat** 9°22.66'S **Lon** 134°12.87'E **Date (GMT)** 10/05/2005 **Time (GMT)** 6:57:55  
**Comments** small haul; only one bin of material **Sample Description** sandy mud

Class	Family	ID
Polychaeta	Ampharetidae	Amphicteis sp
Polychaeta	Ampharetidae	Isolda sp
Polychaeta	Ampharetidae	Melinninae sp 1
Polychaeta	Amphinomidae	unidentified
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Capitellidae	Promastobranchnus huloti
Polychaeta	Capitellidae	Promastobranchnus sp.
Polychaeta	Capitellidae	unidentified
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Flabelligeridae	Diplocirrus sp. 2
Polychaeta	Glyceridae	unidentified
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	Aglaophamus sp. 2
Polychaeta	Nereididae	Tylonereis sp.
Polychaeta	Orbiniidae	Leitoscoloplos sp. 2
Polychaeta	Orbiniidae	Naineris sp.
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Paraonidae	Paradoneis sp.
Polychaeta	Paraonidae	Paraonella sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Phyllodocidae	Protomystides Arafura 1
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Polynoidae	Polynoid Arafura 08
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	Prionospio-Minuspio group
Polychaeta	Trichobranchidae	Terebellides sp. 2
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Hyperiidea	sp.

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Malacostraca; Amphipoda	Lysianassidae	Tryphosella
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Anomura	Galatheidae	Munida sp. 4
Malacostraca; Caridea	Alpheidae	Alpheus compressus
Malacostraca; Caridea	Alpheidae	Alpheus sp. 2
Malacostraca; Cumacea	Gynodiastylidae	Zimmeriana
Malacostraca; Cumacea	Lampropidae	Paralamprops (?)
Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Dendrobranchiata	Luciferidae	Lucifer sp. 1
Malacostraca; Euphasiacea	unidentifiable	unidentifiable
Malacostraca; Isopoda	Antheluridae	Anthulura sp.
Malacostraca; Isopoda	Desmosomatidae	Prochelator sp.
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Stomatopoda	Squillidae	Areosquilla sp. 1 (postlarva)
Malacostraca; Thalassinidea	Callianassidae	?Anacalliax sp. 1
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Osteichthyes	Gobiidae	Obliquogobius sp.?
Osteichthyes	Gobiidae	sp.
Osteichthyes	Leiognathidae	sp.
Osteichthyes	Menidae	Mene maculata
Echinoidea		post larvae
Ophiuroidea	unidentified	post larvae
Bivalvia	Nuculanidae	Nuculana darwini
Bivalvia	Nuculanidae	Nuculana darwini
Bivalvia	Mactridae	Ventomya

**Station** 015 **Replicate** GR025 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 106 **Lat** 9°22.63'S **Lon** 134°12.83'E **Date (GMT)** 10/05/2005 **Time (GMT)** 2:30:00  
**Comments** sample elutriated, heavy fraction discarded. CAM013:  
**Sample Description** silty sea floor, heavily bioturbated with burrows,  
occasional mounds and a few fish

Class	Family	ID
Polychaeta	Ampharetidae	Melinninae
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Cirratulidae	Monticellina sp.2
Polychaeta	Cirratulidae	Tharyx sp.1
Polychaeta	Eunicidae	Eunice Arafura 3
Polychaeta	Flabelligeridae	Therochaeta sp. 3
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	Aglaophamus sp. 2
Polychaeta	Nereididae	Tylonereis sp.
Polychaeta	Orbiniidae	Leitoscoloplos sp. 2
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	unidentified
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 2
Polychaeta	Sabellidae	? Pseudofabriciola
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Spionidae	polydorid unidentified
Polychaeta	Spionidae	Prionospio Arafura 2
Polychaeta	Spionidae	Prionospio brown_nose
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Cumacea	Leuconidae	Leucon
Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Isopoda	Desmosomatidae	Desmosoma sp.
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Echinoidea		post larvae

**Station** 016 **Replicate** GR026 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 87.2 **Lat** 9°24.1'S **Lon** 134°11.66'E **Date (GMT)** 10/05/2005 **Time (GMT)** 7:40:19  
**Comments** biology subsample from geology sample  
**Sample Description** poorly sorted calcareous muddy fine to medium sand;  
some gravel, carbonate clasts; mollusc & foram  
fragments; fresh to intermediat preservation; 5Y 5/4

Class	Family	ID
Gastropoda	Epitoniidae	Epitonium scalare

Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Station 016 Replicate GR027 Location Arafura Sea: Area C East Gear Smith-Macintyre Grab  
 Depth (m) 87.2 Lat 9°24.097' Lon 134°11.675'E Date (GMT) 10/05/2005 Time (GMT) 7:49:18  
 Comments sample elutriated, heavy fraction discarded. CAM014: poorly sorted calcareous muddy fine to medium sand;  
 patchy hard places among silty bioturbated sand; some gravel, carbonate clasts; molluc & foram  
 occasionally large macrofauna – octocorals, fragments; fresh to intermediat preservation; 5Y 5/4  
 antipatherians, sea fans, sea whips, fish, possible  
 diffuse hydroids

Class	Family	ID
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Capitellidae	Promastobranchnus sp.
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Chrysopetalidae	Paleaequor setula
Polychaeta	Glyceridae	Glycera lapidum
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Maldanidae	unidentified
Polychaeta	Nereididae	Gymnonereis sp.
Polychaeta	Nereididae	Nereis sp.
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Phyllodocidae	Mystides Arafura 1
Polychaeta	Phyllodocidae	Phyllodoce unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Synelmis sp. 2
Polychaeta	Pilargidae	unidentified
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 2
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Spionidae	unidentified
Polychaeta	Terebellidae	Polycirrus sp
Polychaeta	Trichobranchiidae	Terebellides sp.
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Caprellidae	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Lysianassidae	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Amphipoda	Synopiidae	sp.
Malacostraca; Caridea	Alpheidae	Alpheus acutocarinatus
Malacostraca; Caridea	Alpheidae	Automate sp. 1
Malacostraca; Caridea	Processidae	Processa sp. 1
Malacostraca; Cumacea	Gynodiastylidae	Gynodiastylis truncatifrons
Malacostraca; Isopoda	Arcturidae	Arcturid sp.
Malacostraca; Isopoda	Arcturidae	Neasticilla sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Munnidae	Uromunna sp.
Malacostraca; Isopoda	Munnoid n.fam.	New Genus cf. Salvatiella sp.
Malacostraca; Isopoda	Munnopsidae	Disconectes sp.
	Eurycopinae	
Malacostraca; Isopoda	Xenosellidae	Xenosella (cf) sp.
Ophiuroidea	unidentified	post larvae
Bivalvia	Mytilidae	Musculus sp1
Gastropoda	Rissoidae	Parashiela



## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 017 **Replicate** GR029 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 88 **Lat** 9°23.61'S **Lon** 134°10.3'E **Date (GMT)** 10/05/2005 **Time (GMT)** 11:43:12  
**Comments** **Sample Description**

sample elutriated, heavy fraction discarded. CAM015:  
a field of sea pens on soft sediments, fish, minimal  
current; occasional large sessile megafauna –  
gorgonians, black corals; extensive sand Arafura Sea –  
Areas with silt and intermittant patches of hard

Class	Family	ID
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Hesionidae	Hesionid sp. 2
Polychaeta	Nereididae	Nicon sp.
Polychaeta	Oweniidae	?Myriowenia
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa sp. 2
Polychaeta	Polynoidae	Polynoid Arafura 07
Polychaeta	Sabellidae	? Pseudofabriciola
Polychaeta	Sigalionidae	Labioleanira sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Polychaeta	Terebellidae	Pista sp
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Amphilocheidae	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Dexaminidae	sp.
Malacostraca; Amphipoda	Hyperiidea	sp.
Malacostraca; Amphipoda	Ischyroceridae	Cerapus
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Photidae	sp.
Malacostraca; Amphipoda	Synopiidae	sp.
Malacostraca; Amphipoda	Synopiidae	sp.
Malacostraca; Amphipoda	Portunidae	Thalamita sp. 1
Malacostraca; Caridea	Alpheidae	Alpheus sp. 1
Malacostraca; Caridea	Pasiphaeidae	Leptochela sp. 1
Malacostraca; Cumacea	Gynodiastylidae	Gynodiastylis truncatifrons
Malacostraca; Isopoda	Gnathiidae	Gnathia sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Munnidae	Uromunna sp.
Ophiuroidea	Amphiuridae	Amphiura ambigua

**Station** 018 **Replicate** DR002 **Location** Arafura Sea: Area C East **Gear** Diamentina Dredge  
**Depth (m)** 99 **Lat** 9°23.106' **Lon** 134°10.122'E **Date (GMT)** 11/05/2005 **Time (GMT)** 6:52:00  
**Comments** **Sample Description**

Dredge probably got full of mud prior to reaching  
rocky ridge muddy bioclastic sand

Class	Family	ID
Polychaeta	Ampharetidae	Amphicteis sp
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Eunicidae	Eunice Arafura 1
Polychaeta	Eunicidae	Marphysa Arafura 1
Polychaeta	Eunicidae	Nematonereis Arafura 1
Polychaeta	Glyceridae	unidentified
Polychaeta	Hesionidae	unidentified
Polychaeta	Nereididae	Leonnates persica
Polychaeta	Opheliidae	Ophelina sp.
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Caprellidae	sp.
Malacostraca; Amphipoda	Ischyroceridae	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Anomura	Paguridae	Paguridae sp. 1
Malacostraca; Caridea	Alpheidae	Alpheus sp. 1
Malacostraca; Caridea	Alpheidae	Automate sp. 1
Malacostraca; Caridea	Alpheidae	Synalpheus sp. 1

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Isopoda	Bopyridae	unknown sp.
Malacostraca; Isopoda	Leptanthuridae	Accalathura sp.
Malacostraca; Isopoda	Leptanthuridae	Leptanthura sp.
Malacostraca; Isopoda	Paramunnidae	Heterosignum sp.
Octocorallia	Parisididae	Parisis fruticosa Verrill, 1864
Ophiuroidea	Ophiotrichidae	Ophiotrichidae
Bivalvia	Heterodont	unidentified

**Station** 018 **Replicate** GR030 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 103 **Lat** 9°23.171' **Lon** 134°10.043'E **Date (GMT)** 11/05/2005 **Time (GMT)** 3:45:00  
**Comments** few specimens from geology sample **Sample Description** GLEY 1 4/10y, bioclastic muddy sand

Class	Family	ID
Malacostraca; Anomura	Galatheididae	Munida sp. 2
Malacostraca; Brachura	Corystidae	Jonas sp. 1
Bivalvia	Hemidonacidae	Hemidonax arafurensis

**Station** 018 **Replicate** GR031 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 103 **Lat** 9°23.17'S **Lon** 134°10.04'E **Date (GMT)** 11/05/2005 **Time (GMT)** 3:51:00  
**Comments** sample elutriated, heavy fraction discarded. CAM016: rocky outcrops with many species of sessile filterfeeding megafauna (mostly cnidarians) and a few fish; several cracks in rock around 20cm wide **Sample Description** GLEY 1 4/10y, bioclastic muddy sand

Class	Family	ID
Polychaeta	Ampharetidae	Ampharetinae sp
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Cirratulidae	unidentified
Polychaeta	Eunicidae	unidentified
Polychaeta	Glyceridae	Glycera lapidum
Polychaeta	Hesionidae	unidentified
Polychaeta	Maldanidae	unidentified
Polychaeta	Nereididae	Gymnonereis sp.
Polychaeta	Onuphidae	Hyalinoecia sp.
Polychaeta	Orbiniidae	Leodamas sp.
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 2
Polychaeta	Polynoidae	Polynoid Arafura 06
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Spionidae	Prionospio Arafura 1
Polychaeta	Spionidae	Prionospio Arafura 2
Polychaeta	Spionidae	Prionospio Arafura 3
Malacostraca; Amphipoda	Ampeliscaidae	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Caridea	Alpheidae	Alpheus sp. 3
Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Isopoda	Antheluridae	Anthulura sp.
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	Amphioplus lucidus
Ophiuroidea	Amphiuridae	post larvae
Bivalvia	Heterodont	unidentified

**Station** 019 **Replicate** DR003 **Location** Arafura Sea: Area C East **Gear** Diamentina Dredge  
**Depth (m)** 103 **Lat** 9°22.91'S **Lon** 134°9.84'E **Date (GMT)** 11/05/2005 **Time (GMT)** 9:51:00  
**Comments** dredge full of thick sediment – no rocks; geological sample taken – A; biology – B **Sample Description** muddy sand

Class	Family	ID
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Echinoidea		post larvae

Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 019 **Replicate** GR032 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 108 **Lat** 9°22.99'S **Lon** 134°9.78'E **Date (GMT)** 11/05/2005 **Time (GMT)** 8:40:00  
**Comments** sample not quantitative; washed only topwater and surface ooze **Sample Description** muddy sand with bioclasts 5Y 5/2

Class	Family	ID
Polychaeta	Ampharetidae	Amphicteis sp
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Ampharetidae	Isolda sp
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Maldanidae	Maldanid sp. 2
Polychaeta	Nereididae	Gymnonereis sp.
Polychaeta	Opheliidae	Armandia sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Phyllodocidae	Protomystides Arafura 1
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Polynoidae	Polynoid Arafura 02
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Polychaeta	Terebellidae	Lanicides sp
Polychaeta	Trichobranchidae	Terebellides sp. 2
Malacostraca; Amphipoda	Amphilochidae	unidentifiable
Malacostraca; Amphipoda	Ischyroceridae	sp 3
Malacostraca; Amphipoda	Melitidae	Linguimaera sp 1
Malacostraca; Amphipoda	Melitidae	sp 2
Malacostraca; Brachura	Cyclodorippidae	Ketamia limatula
Malacostraca; Caridea	Alpheidae	Alpheus sp. 1
Malacostraca; Cumacea	Bodotriidae	sp.
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis n-sp nr L. brevipes
Malacostraca; Cumacea	Leuconidae	Leucon
Malacostraca; Isopoda	Cirolanidae	Neocirolana sp.
Malacostraca; Isopoda	Desmosomatidae	Echinopleura (cf.) sp.
Malacostraca; Isopoda	Joeropsidae	Joeropsis sp.
Echinoidea		post larvae
Ophiuroidea	unidentified	post larvae
Bivalvia	Tellinidae	Tellina sp3
Gastropoda	Aplysiidae	Aplysia
Gastropoda	Iravadiidae	Ceratia

**Station** 019 **Replicate** GR033 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 108 **Lat** 9°22.99'S **Lon** 134°9.78'E **Date (GMT)** 11/05/2005 **Time (GMT)** 8:46:00  
**Comments** possible topwater loss; non-quantitative; sample elutriated, heavy fraction discarded. CAM017: muddy bioturbated sand Arafura Sea – Areas with sparse megafauna, fecal pellets and burrows; some harder Arafura Sea – Areas with sessile megafauna (sea whips, f) **Sample Description** several large rocks; bioclastic gravel & sand

Class	Family	ID
Polychaeta	Ampharetidae	Isolda sp 1
Polychaeta	Ampharetidae	Melinninae sp 1
Polychaeta	Amphinomidae	unidentified
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Eunicidae	Eunice sp.2
Polychaeta	Hesionidae	Hesionid sp. 2
Polychaeta	Hesionidae	unidentified
Polychaeta	Nephtyidae	Nephtys sp.
Polychaeta	Nereididae	Gymnonereis sp.
Polychaeta	Opheliidae	Armandia sp.
Polychaeta	Oweniidae	Myriochele sp
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Polynoidae	unidentified
Polychaeta	Sabellidae	Euchoe sp.1
Polychaeta	Serpulidae	Vermiliopsis infundibulum glandigera group

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Polychaeta	Sigalionidae	unidentified
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Polychaeta	Trichobranchidae	Terebellides sp. 2
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Amphilochidae	sp.
Malacostraca; Amphipoda	Caprellidae	sp.
Malacostraca; Amphipoda	Corophiidae	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Amphipoda	Podoceridae	sp.
Malacostraca; Anomura	Galatheidae	Munida sp. 4
Malacostraca; Brachura	Majidae	Majidae gen. 2
Malacostraca; Brachura	Pilumnidae	Pilumnus sp. 1
Malacostraca; Caridea	Alpheidae	Batella sp. 1
Malacostraca; Cumacea	Bodotriidae	Cyclaspis
Malacostraca; Cumacea	Bodotriidae	Cyclaspis
Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Isopoda	Cirolanidae	Neocirolana sp.
Malacostraca; Isopoda	Corallanidae	Lanocira sp.
Malacostraca; Isopoda	Desmosomatidae	Echinopleura (cf.) sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Joeropsidae	Joeropsis sp.
Malacostraca; Isopoda	Joeropsidae	Joeropsis sp.
Malacostraca; Isopoda	Joeropsidae	Joeropsis sp.
Malacostraca; Isopoda	Leptanthuridae	Leptanthura sp.
Malacostraca; Isopoda	Munnidae	Uromunna sp.
Malacostraca; Isopoda	Munnoid n.fam.	New Genus cf Astrurus ornatus sp.
Malacostraca; Isopoda	Munnopsidae	Disconectes sp.
	Eurycopinae	
Malacostraca; Isopoda	Paramunnidae	Heterosignum sp.
Malacostraca; Isopoda	Sphaeromatidae	Cilicæa sp.
Octocorallia	Plexauridae	Bebryce Philippi Th. Studer, 1889
Octocorallia	Plexauridae	New genus 3 sp. A
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	Amphioplus ochroleuca
Ophiuroidea	Amphiuridae	post larvae
Ophiuroidea	Ophiacanthidae	Ophiacantha dallasi
Ophiuroidea	Ophiactidae	Ophiactis macrolepidota
Ophiuroidea	Ophiactidae	Ophiactis macrolepidota
Ophiuroidea	Ophionereididae	Ophionereis semoni
Ophiuroidea	Ophiuridae	post larvae
Aplacophora	Neomeniomorpha	Neomeniomorph sp3
Bivalvia	Heterodont	unidentified
Bivalvia	Neoleptonidae	Neolepton
Bivalvia	Pteriomorph	unidentified
Bivalvia	Tellinidae	Tellina sp3
Cephalopoda	Loligidae (?)	unidentifiable
Gastropoda	Epitoniidae	Epitonium sp2
Gastropoda	Eulimidae	Eulima
Gastropoda	Rissoidae	Alvania
Gastropoda	Skeneidae	Skeneid sp2
Gastropoda	Turridae	Daphnellid sp2
Gastropoda	Vanikoridae	Couthouyia
Gastropoda	Vitrinellidae	Vitrinellid?
Polyplacophora	Lepidopleuridae	"Chiton" sp2

**Station** 020 **Replicate** DR005 **Location** Arafura Sea: Area C East **Gear** Diamentina Dredge  
**Depth (m)** 110 **Lat** 9°21.38'S **Lon** 134°7.16'E **Date (GMT)** 11/05/2005 **Time (GMT)** 12:25:00  
**Comments** subsamples: A – geological sample; B – biology; C – coral rock fragments **Sample Description** muddy sand with coral rubble and shells

Class	Family	ID
Polychaeta	Ampharetidae	Amphicteis sp
Polychaeta	Capitellidae	Anotomastus sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Capitellidae	Promastobranthus sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Eunicidae	Eunice sp.2
Polychaeta	Eunicidae	Nematonereis Arafura 2

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Polychaeta	Flabelligeridae	Pherusa sp.2
Polychaeta	Flabelligeridae	Therochaeta granulosus
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	Scoletoma sp. 2
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Maldanidae	unidentified
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	Nephtys sp.
Polychaeta	Nereididae	Nicon sp.
Polychaeta	Opheliidae	Armandia sp.
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Polynoidae	unidentified
Polychaeta	Sigalionidae	Sigalion sp. 2
Polychaeta	Spionidae	Laonice sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Terebellidae	Lanicides sp
Polychaeta	Trichobranchidae	Terebellides sp.
Pycnogonida	Nymphonidae	Nymphon sp
Malacostraca; Amphipoda	Amphilocheidae	sp.
Malacostraca; Amphipoda	Aoridae	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Stenothoidae	sp.
Malacostraca; Anomura	Galatheidae	Galathea sp. 1
Malacostraca; Caridea	Alpheidae	Alpheus sp. 1
Malacostraca; Caridea	Alpheidae	Automate sp. 1
Malacostraca; Caridea	Pandalidae	Plesionika sp. 1
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis
Malacostraca; Cumacea	Nannastacidae	Schizotrema
Malacostraca; Isopoda	Cirolanidae	Neocirolana sp.
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Janiridae	janirid gen. indet. sp.
Malacostraca; Isopoda	Leptanthuridae	Albanthura sp.
Malacostraca; Isopoda	Munnopsidae	Disconnectes sp.
Malacostraca; Isopoda	Eurycopinae	
Malacostraca; Isopoda	Paramunnidae	Heterosignum sp.
Octocorallia	Acanthogorgiidae	Anthogorgia grandiflora
Octocorallia	Acanthogorgiidae	Versluysia ramosa
Octocorallia	Ellisellidae	Nicella sp. D?
Octocorallia	Subergorgiidae	Annella reticulata
Crinoidea	Calometridae	Calometridae sp 2
Crinoidea	Calometridae	Calometridae sp 2
Crinoidea	Eudiocrinidae	Eudiocrinus tenuissimus
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	Amphioplus ochroleuca
Ophiuroidea	Asteroschematidae	Astroceras
Ophiuroidea	Euryalidae	Euryale asperum
Ophiuroidea	Gorgonocephalidae	Astroboa nuda
Ophiuroidea	Gorgonocephalidae	Astrocladus exiguus
Ophiuroidea	Ophiacanthidae	Ophiacantha dallasi
Bivalvia	Mytilidae	Musculus sp1
Polyplacophora	Chitonidae	"Chiton" sp1

**Station** 020 **Replicate** GR035 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 101 **Lat** 9°21.37'S **Lon** 134°7.086'E **Date (GMT)** 11/05/2005 **Time (GMT)** 11:07:00  
**Comments** sample may have lost topwater – nonquantitative; bioclastic sand and gravel; recovery only 1/5  
sample elutriated, heavy fraction discarded; CAM018:  
rocky bottom, fissures and ledges; hard bare surfaces  
interspersed with silty sloping Arafura Sea – Areas;  
“garden” of sea fans & octocorals; visibility

Class	Family	ID
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Capitellidae	Promastobranchus sp.
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Eunicidae	Eunice Arafura 1
Polychaeta	Flabelligeridae	Pherusa sp.
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	Paraonella sp.
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Amphilocheidae	sp 1
Malacostraca; Amphipoda	Aoridae	unidentifiable

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Malacostraca; Amphipoda	Dexaminidae	unidentifiable
Malacostraca; Amphipoda	Melitidae	Linguimaera sp 1
Malacostraca; Amphipoda	Phoxocephalidae	unidentifiable
Malacostraca; Anomura	Galatheidae	Munida sp. 4
Malacostraca; Cumacea	Gynodiastylidae	Allodiastylis
Malacostraca; Cumacea	Gynodiastylidae	sp.
Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Isopoda	Gnathiidae	Gnathia sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Joeropsidae	Joeropsis sp.
Malacostraca; Isopoda	Joeropsidae	Joeropsis sp.
Malacostraca; Isopoda	Munnoid n.fam.	New Genus cf Astrurus ornatus sp.
Octocorallia	Ellisellidae	Nicella sp. G
Crinoidea	Eudiocrinidae	Eudiocrinus tenuissimus
Echinoidea		post larvae
Ophiuroidea	Ophiactidae	Ophiactis macrolepidota
Bivalvia	Heterodont	unidentified
Bivalvia	Leptonidae?	"Lasaea"
Bivalvia	Neoleptonidae	Neolepton
Bivalvia	Tellinidae	Tellina sp3
Scaphopoda	Dentaliidae	Dentalium sp1

**Station** 021 **Replicate** GR037 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 112 **Lat** 9°21.38'S **Lon** 134°4.97'E **Date (GMT)** 11/05/2005 **Time (GMT)** 1:39:00  
**Comments** CAM019: muddy substrate, occasional burrows; turbidity in water high  
**Sample Description** sandy mud GLEY 1 5/5GY

Class	Family	ID
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Barantolla sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Cossuridae	Cossura sp.
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Hesionidae	unidentified
Polychaeta	Nephtyidae	Aglaophamus sp. 3
Polychaeta	Oeononidae	Drilonereis sp.
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Oweniidae	Galathowenia sp.
Polychaeta	Paraonidae	Aricidea sp.
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Sigalionidae	unidentified
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Caprellidae	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	Harpiniinae
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Cumacea	Gynodiastylidae	Zimmeriana
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 2
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	Amphioplus depressa

**Station** 022 **Replicate** GR038 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 121 **Lat** 9°22.547' **Lon** 134°3.585'E **Date (GMT)** 11/05/2005 **Time (GMT)** 4:02:20  
**Comments** sieved all for biology; only small geology sample removed; mostly quantitative  
**Sample Description** oozy mud GY 5/3; calcareous poorly sorted, very fine sand grains (<300 micron)

Class	Family	ID
Polychaeta	Amphinomidae	unidentified
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	Scoletoma sp. 2
Polychaeta	Maldanidae	unidentified
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Paralacyniidae	Paralacynia paradoxa

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Polychaeta	Paraonidae	Aricidea sp.
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Paraonidae	Paradoneis sp.
Polychaeta	Pilargidae	unidentified
Polychaeta	Spionidae	Prionospio Arafura 1
Polychaeta	Spionidae	Prionospio Arafura 2
Polychaeta	Spionidae	Prionospio brown_nose
Polychaeta	Spionidae	Spiophanes Arafura 1
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Caridea	Alpheidae	Alpheus kagoshimanus Hayashi & Nagata, 2000
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis attenuata
Malacostraca; Thalassinidea	Callianassidae	Callianassa cf. acutirostella
Octocorallia	Nidaliidae	Orlikia palmata
Echinoidea		post larvae
Aplacophora	Neomeniomorpha	Neomeniomorph sp3
Bivalvia	Tellinidae	Tellina sp5

**Station** 022 **Replicate** GR039 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 121 **Lat** 9°22.56'S **Lon** 134°3.6'E **Date (GMT)** 11/05/2005 **Time (GMT)** 4:11:25  
**Comments** washed entire sample. CAM020: soft flocculant sediment; bioturbated with many burrows approx. 50-100 per metre square; occasional fish; turbid layer starts at 85mwo  
**Sample Description** oozy mud GY 5/3; calcareous poorly sorted, very fine sand grains (<300 micron)

Class	Family	ID
Polychaeta	Ampharetidae	Melinninae sp 2
Polychaeta	Capitellidae	Barantolla sp.
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Hesionidae	unidentified
Polychaeta	Nephtyidae	Aglaophamus sp. 2
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Paraonidae	Paradoneis sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Sigalionidae	Sigalionid sp. 4
Polychaeta	Spionidae	Prionospio Arafura 1(?)
Polychaeta	Spionidae	unidentified
Polychaeta	Terebellidae	Streblosoma sp
Polychaeta	Trichobranchidae	Terebellides sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa cf. acutirostella
Echinoidea		post larvae

**Station** 023 **Replicate** DR006 **Location** Arafura Sea: Area C East **Gear** Diamantina Dredge  
**Depth (m)** 138 **Lat** 9°20.961' **Lon** 134°3.457'E **Date (GMT)** 11/05/2005 **Time (GMT)** 9:42:06  
**Comments** no sediment  
**Sample Description** sample contains: solitary corals; indurated limestone (worm tubes, weathered vesicles – many chunks up to 25cm diameter, well developed weathering rinds); staghorn coral (shallow water) – older (later sea level); carnivorous corals (deep water) – younger

Class	Family	ID
Polychaeta	Lumbrineridae	Scoletoma sp.
Octocorallia	Plexauridae	Discogorgia cf. dentata

**Station** 023 **Replicate** GR040 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 140 **Lat** 9°20.939' **Lon** 134°3.444'E **Date (GMT)** 11/05/2005 **Time (GMT)** 8:06:52  
**Comments** specimen removed from rock  
**Sample Description** single large boulder – no sediment; indurated crust (large vesicles); well-developed weathering rind; burrows filled with mud

Class	Family	ID
Octocorallia	Acanthogorgiidae	Acanthogorgia sp. C

Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 023 **Replicate** GR041 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 140 **Lat** 9°20.938' **Lon** 134°3.445'E **Date (GMT)** 11/05/2005 **Time (GMT)** 8:14:07  
**Comments** geology sample sieved for biology; nearly quantitative sample elutriated, heavy fraction discarded. **Sample Description** poorly sorted calcareous gravelly mud (high water content); 5Y 5/4

Class	Family	ID
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Capitellidae	unidentified
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Hesionidae	unidentified
Polychaeta	Nephtyidae	Aglaophamus sp. 2
Polychaeta	Nereididae	Neanthes sp.
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Orbiniidae	Leitoscoloplos sp. 2
Polychaeta	Oweniidae	Myriochele sp
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Malacostraca; Anomura	Galatheidae	sp.
Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Isopoda	Munnopsidae	Lionectes sp.
	Lipomerinae	
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	post larvae
Bivalvia	Leptonidae?	"Lasaea"
Scaphopoda	Dentaliidae	Dentalium sp1

**Station** 023 **Replicate** GR042 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 140 **Lat** 9°20.94'S **Lon** 134°3.43'E **Date (GMT)** 11/05/2005 **Time (GMT)** 8:36:41  
**Comments** sample elutriated, heavy fraction discarded. CAM021: soft bottom, turbid benthic layer, poor visibility; sparse megafauna, occasional sea whip; patches of firmer substrate with sessile megafauna (gorgonian, black coral, crinoid); some sandy mud **Sample Description** poorly sorted calcareous gravelly mud (high water content); 5Y 5/4

Class	Family	ID
Malacostraca; Caridea	Alpheidae	Alpheus cf kagoshimanus Hayashi & Nagata, 2000
Malacostraca; Isopoda	Leptanthuridae	Accalathura sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa cf. lignicola Alcock & Anderson,

**Station** 025 **Replicate** DR007 **Location** Arafura Sea: Area C East **Gear** Diamentina Dredge  
**Depth (m)** 111 **Lat** 9°19.72'S **Lon** 134°1.75'E **Date (GMT)** 12/05/2005 **Time (GMT)** 3:12:00  
**Comments** subsamples: A, geology ; B, biology, C, large coral fragments **Sample Description** muddy sand

Class	Family	ID
Polychaeta	Ampharetidae	Amphicteis sp
Polychaeta	Capitellidae	Scyphoproctus sp.
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Maldanidae	unidentified
Polychaeta	Maldanidae	unidentified
Polychaeta	Nereididae	Leonnates persica
Polychaeta	Oenonidae	Drilonereis sp.
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis ambigua
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Echinoidea		post larvae



## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 025 **Replicate** GR045 **Location** Arafura Sea: Area C East **Gear** Smith-Macintyre Grab  
**Depth (m)** 111 **Lat** 9°19.746' **Lon** 134°1.754'E **Date (GMT)** 12/05/2005 **Time (GMT)** 1:48:01  
**Comments** sample nonquantitative, hard to wash with bioclasts, sand and heavy clay; clay clods rinsed but not sieved. CAM023: hard bottom with patches of softer bioturbated ground; many large sessile megafauna (many sea whips, gorgonians, sponges, soft coral) and o

**Sample Description**  
 poorly sorted calcareous muddy medium sand 5Y 5/4

Class	Family	ID
Polychaeta	Ampharetidae	Isolda sp 2
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Capitellidae	Promastobranthus huloti
Polychaeta	Capitellidae	Promastobranthus sp.
Polychaeta	Chrysopetalidae	Paleanotus sp.
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Flabelligeridae	Therochaeta sp.
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Nereididae	Leonnates persica
Polychaeta	Orbiniidae	Leitoscoloplos sp. 2
Polychaeta	Oweniidae	Myriochele sp
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Polynoidae	unidentified
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Sigalionidae	unidentified
Polychaeta	Spionidae	Laonice Arafura 1
Polychaeta	Spionidae	Laonice sp.
Polychaeta	Spionidae	Prionospio Arafura 3
Polychaeta	Spionidae	Prionospio Arafura 6
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Brachura	Leucosiidae	Leucosiidae sp. 1
Malacostraca; Caridea	Processidae	Processa sp. 1
Malacostraca; Cumacea	Gynodiastylidae	Gynodiastylis sierra
Malacostraca; Cumacea	Gynodiastylidae	Gynodiastylis truncatifrons
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis ambigua
Malacostraca; Cumacea	Gynodiastylidae	sp.
Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Isopoda	Anthuridae	Amakusanthura sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Hyssuridae	Hyssura sp.
Malacostraca; Isopoda	Munnoid n.fam.	New Genus cf Austrurus ornatus sp.
Malacostraca; Isopoda	Munnoid n.fam.	New Genus cf. Salvatiella sp.
Malacostraca; Isopoda	Munnopsidae	Lionectes sp.
	Lipomerinae	
Osteichthyes	unidentified	larva
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	post larvae
Bivalvia	Heterodont	unidentified
unidentified	unidentified	?Phoronid

**Station** 026 **Replicate** GR046 **Location** Arafura Sea: Area C Centre **Gear** Smith-Macintyre Grab  
**Depth (m)** 147 **Lat** 9°15.48'S **Lon** 133°48'E **Date (GMT)** 12/05/2005 **Time (GMT)** 6:05:00  
**Comments** subsamples A, geology; B, biology; nearly quantitative. CAM024: flat & soft sea floor, bioturbated & burrowed; few fish

**Sample Description**  
 mud 5Y 5/3

Class	Family	ID
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Maldanidae	unidentified
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Ancistrosyllis sp.

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Spionidae	Prionospio sp.
Malacostraca; Caridea	Alpheidae	Alpheus sp. 1
Malacostraca; Cumacea	Nannastacidae	Campylaspis?
Malacostraca; Isopoda	Desmosomatidae	Chelator sp.
Osteichthyes	Bregmacerotidae	Bregmaceros sp.

**Station** 027 **Replicate** GR047 **Location** Arafura Sea: Area C Centre **Gear** Smith-Macintyre Grab  
**Depth (m)** 112 **Lat** 9°22.87'S **Lon** 133°39.88'E **Date (GMT)** 13/05/2005 **Time (GMT)** 12:23:00  
**Comments** subsamples A, geology; B, biology – surface ooze and top water only; elutriated, heavy fraction discarded  
**Sample Description** 5y 5/4 muddy sand

Class	Family	ID
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Eunicidae	Eunice Arafura 1
Polychaeta	Flabelligeridae	unidentified
Polychaeta	Hesionidae	Hesionid sp. 2
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Maldanidae	unidentified
Polychaeta	Nereididae	Nereis sp.
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Oweniidae	?Myriowenia
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	Aricidea sp. 3
Polychaeta	Phyllodocidae	Phyllodoce unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Polynoidae	Polynoid Arafura 05
Polychaeta	Polynoidae	Polynoid Arafura 10
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Spionidae	Prionospio Arafura 1(?)
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Amphilocheidae	sp.
Malacostraca; Amphipoda	Aoridae	sp.
Malacostraca; Amphipoda	Caprellidae	sp.
Malacostraca; Amphipoda	Ischyroceridae	sp.
Malacostraca; Amphipoda	Lysianassidae	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Amphipoda	Podoceridae	sp.
Malacostraca; Amphipoda	Podoceridae	sp.
Malacostraca; Brachura	Palicidae	Paliculus sp. 1
Malacostraca; Cumacea	Bodotriidae	sp.
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Leptanthuridae	Bulloganthura sp.
Malacostraca; Isopoda	Munnoidea n.fam.	New Genus cf. Salvatiella sp.
Malacostraca; Isopoda	Santiidae	New Genus sp.
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	Amphioplus depressa
Bivalvia	Neoleptonidae	Neolepton
Bivalvia	Tellinidae	Tellina sp3
Gastropoda	unidentified	unidentified

**Station** 027 **Replicate** GR048 **Location** Arafura Sea: Area C Centre **Gear** Smith-Macintyre Grab  
**Depth (m)** 112 **Lat** 9°22.87'S **Lon** 133°39.89'E **Date (GMT)** 13/05/2005 **Time (GMT)** 12:29:00  
**Comments** sample elutriated, heavy fraction discarded; ophiuroid at this site showing escape bioluminescence.  
CAM025: level bioturbated bottom covered with detritus & faecal pellets (no current ripples)  
**Sample Description** 5y 5/4 muddy sand

Class	Family	ID
Polychaeta	Ampharetidae	Amphicteis sp
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Ampharetidae	Isolda sp
Polychaeta	Ampharetidae	Melinninae sp 1
Polychaeta	Amphinomidae	Chloeia sp.

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Promastobranchus sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Eunicidae	Eunice Arafura 3
Polychaeta	Eunicidae	Eunice Arafura 4
Polychaeta	Eunicidae	Marphysa Arafura 1
Polychaeta	Flabelligeridae	Diplocirrus sp.
Polychaeta	Glyceridae	Glycera lapidum
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	Lumbrineris sp.
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Maldanidae	unidentified
Polychaeta	Nereididae	Leonnates persica
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Oweniidae	Galathowenia sp.
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Synelmis rigida
Polychaeta	Polynoidae	Polynoid Arafura 07
Polychaeta	Sabellidae	?Chone
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Polychaeta	Trichobranchidae	Terebellides sp. 2
Malacostraca; Amphipoda	Ampeliscaidae	sp.
Malacostraca; Amphipoda	Amphilocheidae	sp.
Malacostraca; Amphipoda	Amphilocheidae	sp.
Malacostraca; Amphipoda	Caprellidae	sp.
Malacostraca; Amphipoda	Ischyroceridae	sp.
Malacostraca; Amphipoda	Ischyroceridae	sp.
Malacostraca; Amphipoda	Melitidae	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Amphipoda	Podoceridae	sp.
Malacostraca; Amphipoda	Synopiidae	sp.
Malacostraca; Cumacea	Bodotriidae	sp.
Malacostraca; Cumacea	Gynodiastylidae	Gynodiastylis
Malacostraca; Cumacea	Gynodiastylidae	Zimmeriana vibrissa (?)
Malacostraca; Isopoda	Anthuridae	Amakusanthura sp.
Malacostraca; Isopoda	Arcturidae	Neasticilla sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Leptanthuridae	Accalathura sp.
Echinoidea	Irregular echinoid	unidentified
Ophiuroidea	Amphiuridae	post larvae
Ophiuroidea	Ophioleucidae	Ophioleuce seminudum
Ophiuroidea	unidentified	post larvae

**Station** 028 **Replicate** GR049 **Location** Arafura Sea: Area C Centre **Gear** Smith-Macintyre Grab  
**Depth (m)** 122 **Lat** 9°20.029' **Lon** 133°41.452'E **Date (GMT)** 13/05/2005 **Time (GMT)** 4:23:20  
**Comments** subsamples A, geology; B, biology – surface ooze and top water only; nonquantitative  
**Sample Description** poorly sorted calcareous sandy mud, with some gravel 5Y 5/4; gravel clods are all calcareous, mostly mollusc fragments, fresh to intermediate preservation

Class	Family	ID
Polychaeta	Ampharetidae	Melinninae sp 2
Polychaeta	Capitellidae	Promastobranchus sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Flabelligeridae	Pherusa sp.
Polychaeta	Glyceridae	Glycera lapidum
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	unidentified
Polychaeta	Oweniidae	Myriochele sp
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	Aricidea sp. 3
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 3
Polychaeta	Polynoidae	unidentified
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Spionidae	genus ?
Polychaeta	Spionidae	Laonice sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Trichobranchidae	Terebellides sp.
Malacostraca; Amphipoda	Ampeliscaidae	sp.
Malacostraca; Amphipoda	Amphilocheidae	sp.

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Dexaminidae	sp.
Malacostraca; Amphipoda	Ischyroceridae	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Brachura	Cyclodorippidae	Ketamia limatula
Malacostraca; Caridea	Alpheidae	Alpheus compressus
Malacostraca; Cumacea	Gynodiastylidae	Dicoides
Malacostraca; Cumacea	Gynodiastylidae	sp.
Malacostraca; Isopoda	Anthuridae	Amakusanthura sp.
Malacostraca; Isopoda	Gnathiidae	Bathygnathia sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Munnidae	Munna sp.
Malacostraca; Isopoda	Santiidae	New Genus sp.
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	Amphioplus depressa
Ophiuroidea	Amphiuridae	Amphipholis squamata
Bivalvia	Heterodont	unidentified
Bivalvia	Tellinidae	Tellina sp3

**Station** 029 **Replicate** GR051 **Location** Arafura Sea: Area C Centre **Gear** Smith-Macintyre Grab  
**Depth (m)** 187 **Lat** 9°18.225' **Lon** 133°41.805'E **Date (GMT)** 13/05/2005 **Time (GMT)** 7:00:37  
**Comments** subsamples A, geology; B, biology – surface ooze and top water only; not quantitative  
**Sample Description** poorly-sorted slightly gravelly mud, 5Y 5/3; high water content on surface, calcareous gravel clasts have fresh preservation

Class	Family	ID
Polychaeta	Apistobranchidae	Apistobranchus sp.
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	unidentified
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Sphaerodoridae	Sphaerephesia sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Munnopsidae	Eurycope sp.
	Eurycopinae	
Echinoidea	Irregular echinoid	unidentified
Ophiuroidea	Amphiuridae	Amphioplus depressa
Ophiuroidea	unidentified	post larvae

**Station** 029 **Replicate** GR052 **Location** Arafura Sea: Area C Centre **Gear** Smith-Macintyre Grab  
**Depth (m)** 187 **Lat** 9°18.21'S **Lon** 133°41.82'E **Date (GMT)** 13/05/2005 **Time (GMT)** 7:11:06  
**Comments** elutriated, heavy fraction discarded. CAM028: turbid, poor visibility; bioturbated, sparse megafauna interspersed with hard grounds having much megafauna  
**Sample Description** poorly-sorted slightly gravelly mud, 5Y 5/3; high water content on surface, calcareous gravel clasts have fresh preservation

Class	Family	ID
Polychaeta	Apistobranchidae	Apistobranchus sp.
Polychaeta	Capitellidae	Barantolla sp.2
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Cirratulidae	Aphelochaeta sp. 1
Polychaeta	Cirratulidae	Monticellina sp.1
Polychaeta	Cirratulidae	Tharyx sp.1
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Glyceridae	Glycera onomichiensis
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Maldanidae	unidentified
Polychaeta	Nereididae	Gymnonereis sp.
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	unidentified
Polychaeta	Polynoidae	Polynoid Arafura 03
Polychaeta	Spionidae	Prionospio sp.

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Melitidae	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	Harpiniinae
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Brachura	Cyclodorippidae	Ketamia limatula
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 2
Echinoidea	Irregular echinoid	unidentified
Ophiuroidea	Amphiuridae	Amphioplus depressa
Ophiuroidea	Amphiuridae	Amphipholis squamata

**Station** 030 **Replicate** GR054 **Location** Arafura Sea: Area C Centre **Gear** Smith-Macintyre Grab  
**Depth (m)** 151 **Lat** 9°13.65'S **Lon** 133°41.9'E **Date (GMT)** 13/05/2005 **Time (GMT)** 10:24:09  
**Comments** elutriated, heavy fraction discarded. CAM029: turbid, poorly-sorted calcareous slightly sandy mud, 5Y 5/3; poor visibility; bioturbated, sparse megafauna sand & grains are forams and mollusc fragments; high interspersed with hard grounds having much megafauna water content at surface

Class	Family	ID
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Apistobranchidae	Apistobranchus sp.
Polychaeta	Capitellidae	Barantolla sp.
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Chaetopteridae	unidentified
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	Aglaophamus sp. 2
Polychaeta	Nereididae	Gymnonereis sp.
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Phyllodocidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Spionidae	Prionospio sp. a
Polychaeta	Spionidae	Prionospio sp. b
Malacostraca; Amphipoda	Melitidae	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Cumacea	Gynodiastylidae	Zimmeriana
Malacostraca; Isopoda	Desmosomatidae	Desmosoma sp.
Malacostraca; Isopoda	Desmosomatidae	Prochelator sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Paramunnidae	"Pentamunna" sp.
Aplacophora	Neomeniomorpha	Neomeniomorph sp3
Bivalvia	Nuculanidae	Yoldia lata
Bivalvia	Mesodesmatidae?	Ervilia?

**Station** 031 **Replicate** BS005 **Location** Arafura Sea: Area C Centre **Gear** Small Epibenthic Sled  
**Depth (m)** 165 **Lat** 9°5.641'S **Lon** 133°44.786'E **Date (GMT)** 14/05/2005 **Time (GMT)** 10:52:00  
**Comments** small sample – net bag not closed properly – leaked sample. Seafloor condition via CAM030: turbid, poor visibility; bioturbated oozy mud, sparse megafauna high water content mud 5Y 5/3

Class	Family	ID
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	Aglaophamus sp. 3
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Sigalionidae	Labioleanira sp. 2
Polychaeta	Spionidae	Minuspio group
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Terebellidae	Terebellinae sp
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Hyperidea	sp.

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Malacostraca; Amphipoda	Leucothoidae	sp.
Malacostraca; Dendrobranchiata	Luciferidae	Lucifer sp. 1
Malacostraca; Isopoda	Desmosomatidae	Desmosoma sp.
Malacostraca; Isopoda	Desmosomatidae	Desmosoma sp.
Malacostraca; Isopoda	Munnopsidae	Eurycope sp.
	Eurycopinae	
Malacostraca; Isopoda	Santiidae	New Genus sp.
Osteichthyes	Carangidae	sp.
Echinoidea	Irregular echinoid	unidentified
Bivalvia	Pteriidae	Pteria?

**Station** 032 **Replicate** BS006 **Location** Arafura Sea: Area C Centre **Gear** Small Epibenthic Sled  
**Depth (m)** 158 **Lat** 9°12.331' **Lon** 133°38.903'E **Date (GMT)** 14/05/2005 **Time (GMT)** 7:14:48  
**Comments** large sample – 2 fish bins full of soft sediment.  
 Seafloor condition via CAM031: turbid, poor visibility; bioturbated oozy mud, sparse megafauna  
**Sample Description** high water content mud 5Y 5/3

Class	Family	ID
Polychaeta	Amphinomidae	Paramphinome sp.
Polychaeta	Capitellidae	Barantolla sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Capitellidae	Promastobranchus sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Glyceridae	Glycera lapidum
Polychaeta	Hesionidae	Hesionid sp. 1
Polychaeta	Lumbrineridae	Lumbrineriopsis sp.
Polychaeta	Lumbrineridae	Scoletoma sp. 2
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Magelonidae	Octomagelona sp. 2
Polychaeta	Maldanidae	Maldanid sp. 2
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Sigalionidae	Sigalionid sp. 4
Polychaeta	Spionidae	Parapriospio sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Terebellidae	Amaeana sp
Polychaeta	Terebellidae	Pista sp
Polychaeta	Trichobranchidae	Terebellides sp.
Malacostraca; Amphipoda	Hyperiidea	sp 2
Malacostraca; Amphipoda	Melitidae	unidentifiable
Malacostraca; Amphipoda	Melitidae	Victoriopisa sp 1
Malacostraca; Amphipoda	Urothoidae	Urothoides sp
Malacostraca; Brachura	Pilumnidae	Rhizopinae 2
Malacostraca; Cumacea	Gynodiastylidae	Litogynodiastylis brevipes
Malacostraca; Cumacea	Gynodiastylidae	Zimmeriana n-sp.
Malacostraca; Isopoda	Anthuridae	Amakusanthura sp.
Malacostraca; Isopoda	Cirolanidae	Natatolana sp.
Malacostraca; Isopoda	Desmosomatidae	Paradesmosoma sp.
Malacostraca; Isopoda	Leptanthuridae	Bulloganthura sp.
Malacostraca; Isopoda	Leptanthuridae	Leptanthura sp.
Malacostraca; Isopoda	Leptanthuridae	Leptanthura sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Malacostraca; Thalassinidea	Callianassidae	Eucalliax sp. 1
Osteichthyes	unidentified	larva
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	post larvae
Aplacophora	Chaetodermomorpha	Chaetodermomorph sp1

**Station** 034 **Replicate** BS007 **Location** Arafura Sea: Area C West **Gear** Small Epibenthic Sled  
**Depth (m)** 210 **Lat** 9°1.834'S **Lon** 133°6.34'E **Date (GMT)** 17/05/2005 **Time (GMT)** 1:05:12  
**Comments** Large sample, two bins full oozy mud. Subsample taken for sedimentology. CAM033: uneven mounded buturbated seafloor with occasional fish and large holes (Nephropids?)  
**Sample Description** high water content unconsolidated calcareous mud (poorly sorted) 5Y 5/4

Class	Family	ID
Polychaeta	Ampharetidae	Ampharetinae sp 3
Polychaeta	Ampharetidae	Ampharetinae sp 4
Polychaeta	Ampharetidae	Melinninae sp 2
Polychaeta	Amphinomidae	Chloeia sp.

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Amphinomidae	unidentified
Polychaeta	Capitellidae	Barantolla sp.
Polychaeta	Capitellidae	Barantolla sp.
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Capitellidae	Nonatus sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Capitellidae	unidentified
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Chrysopetalidae	Chrysopetalum sp.
Polychaeta	Cossuridae	Cossura sp.
Polychaeta	Cossuridae	Cossura sp.
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Cossuridae	Cossurella sp.
Polychaeta	Eunicidae	unidentified
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Magelonidae	Magelona sp.
Polychaeta	Maldanidae	Maldanid sp. 2
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Nephtyidae	Aglaophamus sp. 2
Polychaeta	Oeonidae	Drilonereis sp.
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Orbiniidae	Leitoscoloplos sp. 2
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Paraonidae	Paradoneis sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Phyllodocidae	Sige Arafura 1
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Sigalionidae	unidentified
Polychaeta	Spionidae	Minuspio group
Polychaeta	Spionidae	Paraprionospio Arafura 1
Polychaeta	Spionidae	Prionospio Arafura 7
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified a
Polychaeta	Spionidae	unidentified b
Malacostraca; Amphipoda	Ampeliscaidae	sp.
Malacostraca; Amphipoda	Colomastigidae	?Colomastix
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Haustorioid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Amphipoda	Pronoidae	sp.
Malacostraca; Caridea	Alpheidae	Alpheus compressus
Malacostraca; Cumacea	Leuconidae	Leucon
Malacostraca; Isopoda	Desmosomatidae	Desmosoma sp.
Malacostraca; Isopoda	Desmosomatidae	Eugerdella sp.
Malacostraca; Isopoda	Desmosomatidae	Prochelator (cf.) sp.
Malacostraca; Isopoda	Leptanthuridae	Bullowanthuria sp.
Malacostraca; Isopoda	Leptanthuridae	Leptanthuria sp.
Osteichthyes	Trichiuridae	sp.
Echinoidea		post larvae
Echinoidea		post larvae
Ophiuroidea	unidentified	post larvae
Aplacophora	Chaetodermomorpha	Chaetodermomorph sp2
Aplacophora	Neomeniomorpha	Neomeniomorph sp2
Bivalvia	Cuspidariidae	Cuspidaria sp2
Bivalvia	Heterodont	unidentified
Bivalvia	Lucinidae	Lucina
Bivalvia	Nuculanidae	Nuculana sp2
Bivalvia	Nuculidae	Nucula sp2
Bivalvia	Thyrasiridae	Genaxinus?
Gastropoda	Iravadiidae	Ceratia
Gastropoda	Iravadiidae	Ceratia
Gastropoda	Pyramidellidae	Pyramidellid sp1
Gastropoda	Pyramidellidae	Pyramidellid sp1
Gastropoda	Pyramidellidae	Pyramidellid sp2
Gastropoda	Rissoidae	Alvania
Gastropoda	Rissoidae	Alvania
Gastropoda	Turridae	Daphnellid sp1
Gastropoda	Turridae	Daphnellid sp1

Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Station	037	Replicate	GR056	Location	Arafura Sea: Area C West	Gear	Smith-Macintyre Grab
Depth (m)	126	Lat	9°5.924'S	Lon	133°11.891'E	Date (GMT)	17/05/2005
Comments	Non-quantitative, geology sample removed; washed only surface oozy layer and topwater			Date (GMT)	17/05/2005	Time (GMT)	3:36:46
				Sample Description	calcareous slightly muddy coarse sand & gravel, poorly sorted, sand & gravel fractions mostly mollusc fragments, 5Y 5/4		
Class	Family	ID					
Polychaeta	Ampharetidae	Melinninae sp 2					
Polychaeta	Amphinomidae	Chloeia sp.					
Polychaeta	Amphinomidae	Linopherus sp.					
Polychaeta	Capitellidae	Notomastus sp. 3					
Polychaeta	Chaetopteridae	Spiochaetopterus sp.					
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae					
Polychaeta	Eunicidae	Eunice Arafura 1					
Polychaeta	Glyceridae	Glycera lapidum					
Polychaeta	Hesionidae	unidentified					
Polychaeta	Lumbrineridae	Scoletoma sp.					
Polychaeta	Magelonidae	Octomagelona sp.					
Polychaeta	Maldanidae	Maldanid sp. 3					
Polychaeta	Nereididae	Ceratocephale sp.					
Polychaeta	Opheliidae	Ophelina sp. 3					
Polychaeta	Oweniidae	Myriowenia					
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa					
Polychaeta	Paraonidae	unidentified					
Polychaeta	Pholoidae	Pholoid Arafura 1					
Polychaeta	Pilargidae	Litocorsa sp. 2					
Polychaeta	Pilargidae	Synelmis sp. 2					
Polychaeta	Pisionidae	Pisione cf. gopalai					
Polychaeta	Poecilochaetidae	Poecilochaetus sp.					
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 2					
Polychaeta	Polynoidae	unidentified					
Polychaeta	Sabellidae	Euchone sp.3					
Polychaeta	Sabellidae	Fabricinae sp.1					
Polychaeta	Sigalionidae	unidentified					
Polychaeta	Spionidae	Laonice Arafura 1					
Polychaeta	Spionidae	Malacoceros Arafura 1					
Polychaeta	Spionidae	Prionospio Arafura 5					
Polychaeta	Spionidae	unidentified a					
Polychaeta	Spionidae	unidentified b					
Polychaeta	Syllidae	?Erinaceusyllis sp.					
Polychaeta	Syllidae	?Eusyllinae sp. 4					
Polychaeta	Syllidae	?Eusyllinae sp. 5					
Polychaeta	Syllidae	?Karroosyllis sp?					
Polychaeta	Syllidae	Exogone [E.] heterosetosa					
Polychaeta	Syllidae	Exogone [Exogone] cf. longicornis					
Polychaeta	Syllidae	Exogone [Exogone] sp. 2					
Polychaeta	Syllidae	Exogone [Parexogone] sp.1					
Polychaeta	Syllidae	Perkinsyllis sp.1					
Polychaeta	Syllidae	Prosphaerosyllis cf isabellae					
Polychaeta	Syllidae	Prosphaerosyllis cf magnoculata					
Polychaeta	Syllidae	Prosphaerosyllis cf nathani					
Polychaeta	Syllidae	Sphaerosyllis sp.1					
Polychaeta	Syllidae	Syllis [Langerhansia] sp.1					
Polychaeta	Syllidae	Syllis sp.3					
Polychaeta	Syllidae	Trypanosyllis sp.2					
Polychaeta	Syllidae	Westheidesyllis corallicola					
Polychaeta	Terebellidae	abranchiata sp.					
Polychaeta	Terebellidae	Lanice sp					
Malacostraca; Amphipoda	Ampeliscaidae	sp.					
Malacostraca; Amphipoda	Ampeliscaidae	sp.					
Malacostraca; Amphipoda	Amphipoda	sp.					
Malacostraca; Amphipoda	Amphipoda	sp.					
Malacostraca; Amphipoda	Amphipoda	sp.					
Malacostraca; Amphipoda	Ischyroceridae	sp.					
Malacostraca; Amphipoda	Oedicerotidae	sp.					
Malacostraca; Amphipoda	Phoxocephalidae	sp.					
Malacostraca; Amphipoda	Synopiidae	sp.					
Malacostraca; Cumacea	Lampropidae	Hemilamprops					
Malacostraca; Isopoda	Gnathiidae	Indet sp.999					
Malacostraca; Isopoda	Joeropsidae	Joeropsis sp.					
Malacostraca; Isopoda	Joeropsidae	Scaphojoeropsis sp.					
Malacostraca; Isopoda	Leptanthuridae	Indet sp.999					
Malacostraca; Isopoda	Munnidae	New Genus sp.					
Malacostraca; Isopoda	Munnidae	New Genus sp.					
Echinoidea		post larvae					
Ophiuroidea	unidentified	post larvae					
Bivalvia	Heterodont	unidentified					
Gastropoda	Volutidae	Volutoconus hargravesi calcarelliformis					



## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 037 **Replicate** GR057 **Location** Arafura Sea: Area C West **Gear** Smith-Macintyre Grab  
**Depth (m)** 126 **Lat** 9°5.925'S **Lon** 133°11.897'E **Date (GMT)** 17/05/2005 **Time (GMT)** 3:46:09  
**Comments** quantitative, sand & gravel elutriated (molluscs probably not quantitative) and then discarded; took subsample of washed sand & shell gravel. CAM036: relatively flat hard bottom; shelly sand with no burrows; many large sessile filterfeeding megafauna; she  
**Sample Description** calcareous slightly muddy coarse sand & gravel, poorly sorted, sand & gravel fractions mostly mollusc fragments, 5Y 5/4

Class	Family	ID
Polychaeta	Ampharetidae	Isolda sp
Polychaeta	Ampharetidae	Melinninae sp 2
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Eunicidae	Lysidice Arafura 1
Polychaeta	Eunicidae	Lysidice Arafura 1
Polychaeta	Glyceridae	unidentified
Polychaeta	Hesionidae	unidentified
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Maldanidae	unidentified
Polychaeta	Nereididae	Ceratocephale sp.
Polychaeta	Oeonidae	Halla sp.
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	Allia sp.
Polychaeta	Paraonidae	Paraonella sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa sp. 2
Polychaeta	Pilargidae	Synelmis sp. 2
Polychaeta	Polynoidae	unidentified
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Spionidae	Laonice sp.
Polychaeta	Spionidae	Microspio sp. ?
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Polychaeta	Syllidae	unidentified
Polychaeta	Terebellidae	abranchiatae sp.
Polychaeta	Terebellidae	Pista sp
Polychaeta	Trichobranchidae	Terebellides sp. 2
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Cyproideidae	sp.
Malacostraca; Amphipoda	Lysianassidae	?Tryphosella
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Amphipoda	Synopiidae	sp.
Malacostraca; Brachura	Majidae	Majidae gen. 1
Malacostraca; Cumacea	Gynodiastylidae	Gynodiastylis truncatifrons
Malacostraca; Isopoda	Bopyridae	unknown sp.
Malacostraca; Isopoda	Cirolanidae	Neocirolana sp.
Malacostraca; Isopoda	Cirolanidae	Neocirolana sp.
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Malacostraca; Isopoda	Janiridae	janirid gen. indet. sp.
Malacostraca; Isopoda	Joeropsidae	Joeropsis sp.
Malacostraca; Isopoda	Joeropsidae	Scaphojoeropsis sp.
Malacostraca; Isopoda	Leptanthuridae	Bullowanthuria sp.
Malacostraca; Isopoda	Leptanthuridae	Leptanthura sp.
Echinoidea	Irregular echinoid	unidentified
Ophiuroidea	Amphiuridae	post larvae
Bivalvia	Heterodont	unidentified
Bivalvia	Ungulinidae	Diplodonta??

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Station 038 Replicate DR009 Location Arafura Sea: Area C West Gear Rock Dredge  
 Depth (m) 170 Lat 9°10.832' Lon 133°24.822'E Date (GMT) 17/05/2005 Time (GMT) 8:36:49  
 Comments dredge taken up the slope

**Sample Description**  
 Large fragments of limestone; strongly cemented, weathered and encrusted, rind 0.5cm thick. Limestone is coarsegrained of mostly mollusc shells - beach, finge gravel (mostly mollusc shells. Lithotypes: coarse limestone, limestone with black stain (mangan

Class	Family	ID
Polychaeta	Acoetidae	Panthalis cf zanzibarensis
Octocorallia	Ellisellidae	Nicella sp. B
Octocorallia	Ellisellidae	Verrucella sp. A
Octocorallia	Keroeidae	Keroeides sp. D
Octocorallia	Parisididae	Parisis fruticosa Verrill, 1864

Station 038 Replicate DR010 Location Arafura Sea: Area C West Gear Diamentina Dredge  
 Depth (m) 174 Lat 9°10.781' Lon 133°24.744'E Date (GMT) 17/05/2005 Time (GMT) 9:30:19  
 Comments dredge taken at top of bank

**Sample Description**  
 Several rocks consisting of coarse limestone, sample mostly consisting of oyster shells and sessile megafaunal filterfeeders

Class	Family	ID
Polychaeta	Ampharetidae	Ampharetinae sp
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Capitellidae	Barantolla sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Eunicidae	Eunice Arafura 2
Polychaeta	Euprosinidae	Euprosine sp.
Polychaeta	Glyceridae	Glycera brevicirris
Polychaeta	Glyceridae	Glycera lapidum
Polychaeta	Hesionidae	unidentified
Polychaeta	Nereididae	Nicon sp.
Polychaeta	Opheliidae	Ophelina sp.
Polychaeta	Pholoidae	Pholoid Arafura 1
Polychaeta	Poecilochaetidae	Poecilochaetus sp.
Polychaeta	Polynoidae	Lepidonotus sp. 1
Polychaeta	Polynoidae	Polynoid Arafura 01
Polychaeta	Polynoidae	unidentified
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Serpulidae	Ditrupe sp.
Polychaeta	Serpulidae	Vermiliopsis infundibulum glandigera group
Polychaeta	Spionidae	unidentified
Polychaeta	Syllidae	Brevicirrosyllis mariae
Polychaeta	Syllidae	Eusyllinae sp.1
Polychaeta	Syllidae	Eusyllinae sp.2
Polychaeta	Syllidae	Eusyllinae sp.3
Polychaeta	Syllidae	Haplosyllis sp.
Polychaeta	Syllidae	n.gen.1
Polychaeta	Syllidae	Opisthodonta morena
Polychaeta	Syllidae	Prosphaerosyllis sp.1
Polychaeta	Syllidae	Syllis sp.1
Polychaeta	Syllidae	Syllis sp.2
Polychaeta	Syllidae	Syllis sp.3
Polychaeta	Syllidae	Trypanosyllis sp.1
Polychaeta	Syllidae	Trypanosyllis sp.2
Polychaeta	Syllidae	unidentified
Polychaeta	Trichobranchidae	Trichobranchus sp.
Pycnogonida	Austrodecidae	Pantopipetta sp
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Amphilochidae	sp.
Malacostraca; Amphipoda	Caprellidae	sp.
Malacostraca; Amphipoda	Colomastigidae	Colomastix
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Dexaminidae	sp.
Malacostraca; Amphipoda	Iphimediidae	sp.
Malacostraca; Amphipoda	Melitidae	sp.
Malacostraca; Amphipoda	Stenothoidae	sp.
Malacostraca; Amphipoda	Synopiidae	sp.
Malacostraca; Anomura	Galatheididae	Galathea sp. 2
Malacostraca; Caridea	Alpheidae	Alpheus sp. 2
Malacostraca; Caridea	Alpheidae	Synalpheus sp. 1

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Malacostraca; Caridea	Alpheidae	Synalpheus sp. 1
Malacostraca; Cumacea	Gynodiastylidae	sp.
Malacostraca; Cumacea	Nannastacidae	Schizotrema
Malacostraca; Isopoda	Antheluridae	Anthomuda sp.
Malacostraca; Isopoda	Antheluridae	Anthulura sp.
Malacostraca; Isopoda	Cirolanidae	Neocirolana sp.
Malacostraca; Isopoda	Cirolanidae	Neocirolana sp.
Malacostraca; Isopoda	Gnathiidae	Gnathia sp.
Malacostraca; Isopoda	Gnathiidae	Gnathia sp.
Malacostraca; Isopoda	Gnathiidae	Gnathia sp.
Malacostraca; Isopoda	Gnathiidae	Gnathia sp.
Malacostraca; Isopoda	Joeropsidae	Joeropsis sp.
Malacostraca; Isopoda	Joeropsidae	Scaphojoeropsis sp.
Malacostraca; Isopoda	Leptanthuridae	Leptanthura sp.
Malacostraca; Isopoda	Munnoid n.fam.	New Genus cf Astrurus ornatus sp.
Malacostraca; Isopoda	Paramunnidae	Ascionana sp.
Malacostraca; Isopoda	Paramunnidae	New Genus (Antlers) sp.
Octocorallia	Acanthogorgiidae	Acanthogorgia sp. B
Octocorallia	Ellisellidae	Nicella sp. A
Octocorallia	Ellisellidae	Nicella sp. A
Octocorallia	Ellisellidae	Nicella sp. B
Octocorallia	Ellisellidae	Nicella sp. C
Octocorallia	Ellisellidae	Nicella sp. D
Octocorallia	Keroeidae	Keroeides sp. A
Octocorallia	Keroeidae	Keroeides sp. B
Octocorallia	Keroeidae	Keroeides sp. C
Octocorallia	Nephtheidae	Scleronephthya sp A
Octocorallia	Nephtheidae	Scleronephthya sp B
Octocorallia	Nidaliidae	Nephtyigorgia sp. B
Octocorallia	Parisididae	Parisis fruticosa Verrill, 1864
Octocorallia	Parisididae	Parisis fruticosa Verrill, 1864
Octocorallia	Plexauridae	Discogorgia cf. dentata
Octocorallia	Plexauridae	New genus 2 sp. A
Crinoidea	Calometridae	Calometridae sp 1
Crinoidea	Calometridae	Calometridae sp 1
Crinoidea	Comasteridae	Comasteridae
Crinoidea	Comasteridae	Nemaster grandis
Echinoidea		post larvae
Echinoidea	Cidaridae	Cidaridae sp 1
Echinoidea	Cidaridae	Cidaridae sp 2
Ophiuroidea	Amphiuridae	Amphiura sp arafura 5
Ophiuroidea	Gorgonocephalidae	Asteroporpa indicus
Ophiuroidea	Ophiuridae	Ophiomusium scalare
Bivalvia	Spondylidae	Spondylus electus

**Station** 038 **Replicate** GR058 **Location** Arafura Sea: Area C West **Gear** Smith-Macintyre Grab  
**Depth (m)** 128 **Lat** 9°10.777' **Lon** 133°24.815'E **Date (GMT)** 17/05/2005 **Time (GMT)** 7:19:20  
**Comments** nonquantitative, sample on hard ground, little sediment retained; sample is only gravel from bottom of grab  
**Sample Description** calcareous poorly sorted slightly muddy sandy gravel, sand fraction is coarse, sand & gravel fractions are carbonate fragments, fresh to int preservation, maybe some lithics & terrigenous sands (beach sand?), 5Y 5/4

Class	Family	ID
Malacostraca; Amphipoda	Amphilochidae	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Cumacea	Gynodiastylidae	Zimmeriana n-sp.
Malacostraca; Cumacea	Nannastacidae	Nannastacus
Malacostraca; Isopoda	Munnidae	Munna sp.

**Station** 038 **Replicate** GR059 **Location** Arafura Sea: Area C West **Gear** Smith-Macintyre Grab  
**Depth (m)** 128 **Lat** 9°10.771' **Lon** 133°24.815'E **Date (GMT)** 17/05/2005 **Time (GMT)** 7:20:34  
**Comments** nonquantitative, sample on hard ground, little sediment retained; sample consists of gravel washings only  
**Sample Description** calcareous poorly sorted slightly muddy sandy gravel, sand fraction is coarse, sand & gravel fractions are carbonate fragments, fresh to int preservation, maybe some lithics & terrigenous sands (beach sand?), 5Y 5/4

Class	Family	ID
Malacostraca; Anomura	Chirostylidae	Urotychodes sp. 1
Octocorallia	Ellisellidae	Nicella sp. A
Octocorallia	Plexauridae	Bebryce Philippi Th. Studer, 1889
Crinoidea	Calometridae	Calometridae sp 1

Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 038 **Replicate** GR060 **Location** Arafura Sea: Area C West **Gear** Smith-Macintyre Grab  
**Depth (m)** 129 **Lat** 9°10.774' **Lon** 133°24.82'E **Date (GMT)** 17/05/2005 **Time (GMT)** 7:37:40  
**Comments** nonquantitative, sample on hard ground, little sediment retained; sample consists of gravel washings only. CAM037: hard seafloor with rocky outcrops, ledges and separated rocks with intervening muddy sediment patches; many large sessile filterfeeding meg  
**Sample Description** calcareous poorly sorted slightly muddy sandy gravel, sand fraction is coarse, sand & gravel fractions are carbonate fragments, fresh to int preservation, maybe some lithics & terrigenous sands (beach sand?), 5Y 5/4

Class	Family	ID
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Ampharetidae	Isolda sp
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Capitellidae	Promastobranthus sp.
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Eunicidae	Eunice Arafura 1
Polychaeta	Glyceridae	Glycera lapidum
Polychaeta	Glyceridae	Glycera onomichiensis
Polychaeta	Hesionidae	unidentified
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Pholoidae	Pholoid Arafura 1
Polychaeta	Pilargidae	Synelmis sp. 2
Polychaeta	Sabellidae	Amphicorina sp.
Polychaeta	Sabellidae	Euchone sp.2
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Sabellidae	Fabricinae sp.2
Polychaeta	Sabellidae	Sabellinae sp.1
Polychaeta	Spionidae	genus ?
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Syllidae	?Eusyllinae sp. 5
Polychaeta	Syllidae	?Eusyllinae sp. 6
Polychaeta	Syllidae	Brevicirrosyllis mariae
Polychaeta	Syllidae	Erinaceusyllis sp.2
Polychaeta	Syllidae	Exogone [Parexogone] sp.2
Polychaeta	Syllidae	Exogone [Sylline] fustifera
Polychaeta	Syllidae	n.gen.1
Polychaeta	Syllidae	Prosphaerosyllis cf magnoculata
Polychaeta	Syllidae	Prosphaerosyllis cf nathani
Polychaeta	Syllidae	Prosphaerosyllis sp. 1
Polychaeta	Syllidae	Syllis sp.2
Polychaeta	Syllidae	Syllis sp.3
Polychaeta	Syllidae	Trypanosyllis sp.2
Malacostraca; Amphipoda	Amphilochidae	sp.
Malacostraca; Amphipoda	Aristiidae	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Cumacea	Gynodiastylidae	Zimmeriana n-sp.
Malacostraca; Cumacea	Nannastacidae	Scherocumella sp. 1
Malacostraca; Decapoda	unidentifiable	unidentifiable
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Malacostraca; Isopoda	Joeropsidae	Joeropsis sp.
Malacostraca; Isopoda	Joeropsidae	Scaphojoeropsis sp.
Malacostraca; Isopoda	Leptanthuridae	Leptanthura sp.
Malacostraca; Isopoda	Munnoid n.fam.	New Genus cf Astrurus ornatus sp.
Malacostraca; Isopoda	Munnopsidae	Disconnectes sp.
	Eurycopinae	
Malacostraca; Isopoda	Paramunnidae	Ascionana sp.
Malacostraca; Isopoda	Santiidae	New Genus sp.
Octocorallia	Pteroeididae	Pteroeides (juvenile colony)
Crinoidea	Calometridae	Calometridae sp 1
Echinoidea		post larvae
Ophiuroidea	unidentified	post larvae
Aplacophora	Neomeniomorpha	Neomeniomorph sp3

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Station 039 Replicate GR061 Location Arafura Sea: Area C West Gear Smith-Macintyre Grab  
 Depth (m) 124 Lat 9°10.251' Lon 133°23.535'E Date (GMT) 17/05/2005 Time (GMT) 10:47:00  
 Comments nonquantitative, sample only elutriation of gravel, sedimentological sample taken  
 Sample Description poorly sorted calcareous muddy coarse sand, gravel and asnd fractions are calcareous (intermediate preservation), 5Y 5/4 (Munsell)

Class	Family	ID
Polychaeta	Ampharetidae	Isolda sp 1
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Glyceridae	Glycera lapidum
Polychaeta	Hesionidae	unidentified
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Phyllodocidae	Phyllodoce unidentified
Polychaeta	Pilargidae	Litocorsa sp. 2
Polychaeta	Polynoidae	unidentified
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Sigalionidae	unidentified
Polychaeta	Spionidae	Laonice sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Terebellidae	unidentified
Malacostraca; Amphipoda	Amphilocheidae	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Ischyroceridae	sp.
Malacostraca; Amphipoda	Leucothoidae	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Amphipoda	Synopiidae	sp.
Malacostraca; Anomura	Galatheidae	Munida agave
Malacostraca; Brachyura	unidentifiable	unidentifiable
Malacostraca; Cumacea	Bodotriidae	sp.
Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Cumacea	Nannastacidae	Scherocumella sp.1
Malacostraca; Cumacea	Nannastacidae	Schizotrema
Malacostraca; Isopoda	Gnathiidae	Gnathia sp.
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Malacostraca; Isopoda	Munnoid n.fam.	New Genus cf Astrurus ornatus sp.
Malacostraca; Isopoda	Munnopsidae	Disconectes sp.
	Eurycopinae	
Malacostraca; Isopoda	Paramunnidae	New Genus (Antlers) sp.
Malacostraca; Isopoda	Paramunnidae	Tethygonium sp.
Octocorallia	Acanthogorgiidae	Acanthogorgia sp. A
Octocorallia	Ellisellidae	Nicella sp. E
Echinoidea	Regular echinoid	unidentified
Ophiuroidea	Amphiuridae	Amphipholis squamata
Ophiuroidea	Ophiacanthidae	Ophiacantha dallasi
Ophiuroidea	Ophiotrichidae	Macrophiothrix
Ophiuroidea	unidentified	post larvae
Aplacophora	Neomeniomorpha	Neomeniomorph sp3
Bivalvia	Mytilidae	Mitilid
Bivalvia	Neoleptonidae	Neolepton
Gastropoda	Skeneidae	Skeneid sp1
Gastropoda	unidentified	unidentified

Station 039 Replicate GR062 Location Arafura Sea: Area C West Gear Smith-Macintyre Grab  
 Depth (m) 124 Lat 9°10.264' Lon 133°23.537'E Date (GMT) 17/05/2005 Time (GMT) 10:57:00  
 Comments nonquantitative, sample only elutriation of gravel, topwater lost. CAM038: hard pavement, sandy & calcareous surface, scattered patches of bioturbated soft sediment; negligible current, low turbidity, good visibility; many large sessile filter-feeding meg  
 Sample Description poorly sorted calcareous muddy coarse sand, gravel and asnd fractions are calcareous (intermediate preservation), 5Y 5/4 (Munsell)

Class	Family	ID
Polychaeta	Ampharetidae	Melinninae sp 3
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Eunicidae	Eunice sp.
Polychaeta	Glyceridae	unidentified
Polychaeta	Hesionidae	Hesionid sp. 2
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 3

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Polychaeta	Polynoidae	Polynoid Arafura 01
Polychaeta	Polynoidae	unidentified
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Spionidae	unidentified
Polychaeta	Trichobranchidae	Terebellides sp. 2
Malacostraca; Amphipoda	Ampeliscaidae	Ampelisca sp 1
Malacostraca; Amphipoda	Amphilocheidae	unidentifiable
Malacostraca; Amphipoda	Aoridae	Bemlos sp 1
Malacostraca; Amphipoda	Colomastigidae	Colomastix sp 1
Malacostraca; Amphipoda	Leucothoidae	Leucothoe sp 1
Malacostraca; Amphipoda	Phoxocephalidae	sp 1
Malacostraca; Amphipoda	Synopiidae	sp 1
Malacostraca; Amphipoda	Synopiidae	sp 2
Malacostraca; Anomura	Galatheidae	Munida agave
Malacostraca; Caridea	Alpheidae	Synalpheus sp. 2
Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Cumacea	Nannastacidae	Nannastacus
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Malacostraca; Isopoda	Munoid n.fam.	New Genus cf Astrurus ornatus sp.
Echinoidea		post larvae
Ophiuroidea	unidentified	post larvae

**Station** 040 **Replicate** GR063 **Location** Arafura Sea: Area C West **Gear** Smith-Macintyre Grab  
**Depth (m)** 141 **Lat** 9°9.028'S **Lon** 133°23.45'E **Date (GMT)** 18/05/2005 **Time (GMT)** 12:53:04  
**Comments** nonquantitative, sedimentology sample taken, top water and surface only washed **Sample Description** calcareous muddy medium sand, sponge spicules (?), 5Y 5/3

Class	Family	ID
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Ampharetidae	Melinninae sp 1
Polychaeta	Amphinomidae	Chloeia sp.
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Amphinomidae	unidentified
Polychaeta	Capitellidae	Promastobranthus huloti
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Glyceridae	Glycera lapidum
Polychaeta	Hesionidae	unidentified
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Nephtyidae	unidentified
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Litocorsa sp. 2
Polychaeta	Polynoidae	unidentified
Polychaeta	Sabellidae	Amphicorina sp.
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Leucothoidae	sp.
Malacostraca; Cumacea	Dyastylidae	Dimorphostylis
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Joeropsidae	Scaphojoeropsis sp.
Malacostraca; Isopoda	Munnidae	Uromunna sp.
Echinoidea	Irregular echinoid	unidentified
Bivalvia	Tellinidae	Tellina sp1

**Station** 040 **Replicate** GR064 **Location** Arafura Sea: Area C West **Gear** Smith-Macintyre Grab  
**Depth (m)** 141 **Lat** 9°9.005'S **Lon** 133°23.449'E **Date (GMT)** 18/05/2005 **Time (GMT)** 1:08:14  
**Comments** quantitative, sand elutriated but not retained (molluscs nonquantitative). CAM039: flat sandy bottom, reasonably hard with some bioturbation with intermittent sand ripples (less than ~10cm wave length, less than ~5 cm high); occasional filterfeeders, smal **Sample Description** calcareous muddy medium sand, 5Y 5/3

Class	Family	ID
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Ampharetidae	Isolda sp
Polychaeta	Capitellidae	Promastobranthus huloti
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Glyceridae	Glycera brevicirris
Polychaeta	Goniadidae	Goniada sp. 2
Polychaeta	Hesionidae	unidentified

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Polychaeta	Lumbrineridae	unidentified
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Nephtyidae	unidentified
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Litocorsa sp. 2
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Pilargidae	Synelmis rigida
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 2
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Spionidae	unidentified
Polychaeta	Terebellidae	Amaeana sp
Polychaeta	Terebellidae	Polycirrus sp
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Santiidae	New Genus sp.

**Station** 041 **Replicate** GR065 **Location** Arafura Sea: Area C West **Gear** Smith-Macintyre Grab  
**Depth (m)** 199 **Lat** 9°7.585'S **Lon** 133°25.287'E **Date (GMT)** 18/05/2005 **Time (GMT)** 3:17:00  
**Comments** semiquantitative – sedimentology sample removed; **Sample Description** high water content mud 5Y 5/2  
washed remaining sample

Class	Family	ID
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Nephtyidae	unidentified
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Paraonidae	Aricidea sp. 2
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Trichobranchidae	Terebellides sp.
Polychaeta	Trichobranchidae	Terebellides sp. 2
Malacostraca; Amphipoda	Lysianassoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Cumacea	Leuconidae	Leucon
Echinoidea	Irregular echinoid	unidentified

**Station** 041 **Replicate** GR066 **Location** Arafura Sea: Area C West **Gear** Smith-Macintyre Grab  
**Depth (m)** 199 **Lat** 9°7.587'S **Lon** 133°25.289'E **Date (GMT)** 18/05/2005 **Time (GMT)** 3:38:00  
**Comments** fully quantitative – washed entire sample through **Sample Description** high water content mud 5Y 5/2  
0.33mm screen. CAM040: flat bioturbated bottom,  
worm tubes & occasional holes (15cm across)

Class	Family	ID
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Cossuridae	unidentified
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Maldanidae	Maldanid sp. 2
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Orbiniidae	Leitoscoloplos sp. 2
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Sigalionidae	Labioleanira sp. 3
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Cumacea	Leuconidae	Leucon
Malacostraca; Isopoda	Desmosomatidae	Whoia (cf) sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Echinoidea	Irregular echinoid	unidentified

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 042 **Replicate** DR011 **Location** Arafura Sea: Area C West **Gear** Rock Dredge  
**Depth (m)** 204 **Lat** 9°7.018'S **Lon** 133°24.725'E **Date (GMT)** 18/05/2005 **Time (GMT)** 7:11:00  
**Comments** specimens extracted from thick mud. CAM041: bioturbated muddy bottom interspersed with rocky outcrops having large sessile filter feeders  
**Sample Description** 80% mud, 10% shells; lithologies marly limestone, coarse limestone, corals

Class	Family	ID
Octocorallia	Nidaliidae	Nephythygorgia sp. A
Holothuroidea	Psolidae	Psolus

**Station** 043 **Replicate** DR012 **Location** Arafura Sea: Area C West II **Gear** Rock Dredge  
**Depth (m)** 226 **Lat** 9°5.312'S **Lon** 133°2.989'E **Date (GMT)** 19/05/2005 **Time (GMT)** 2:17:00  
**Comments** several specimens washed from thick mud  
**Sample Description** dredge half full of clayey mud & shell grit; lithotypes deep water barnacle shells, corals, weathered limestone, grey limestone

Class	Family	ID
Polychaeta	Eunicidae	Eunice Arafura 1
Holothuroidea	Psolidae	Psolus
Ophiuroidea	Ophiactidae	Ophiactis
Ophiuroidea	Ophiactidae	Ophiactis macrolepidota

**Station** 043 **Replicate** GR068 **Location** Arafura Sea: Area C West II **Gear** Smith-Macintyre Grab  
**Depth (m)** 226 **Lat** 9°5.378'S **Lon** 133°25.106'E **Date (GMT)** 19/05/2005 **Time (GMT)** 12:02:00  
**Comments** nonquantitative, sedimentology sample taken, top water and surface ooze only washed  
**Sample Description** 5Y 5/3 bioclastic muddy grit

Class	Family	ID
Polychaeta	Apistobranchidae	Apistobranchus sp.
Polychaeta	Capitellidae	Promastobranchus sp.
Polychaeta	Cirratulidae	Aphelochaeta sp. 3
Polychaeta	Cirratulidae	Chaetozone sp.1
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Eunicidae	Marphysa Arafura 1
Polychaeta	Flabelligeridae	Diplocirrus sp. 2
Polychaeta	Glyceridae	Glycera onomichiensis
Polychaeta	Hesionidae	unidentified
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Magelonidae	Octomagelona sp. 2
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	unidentified
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Orbiniidae	Leitoscoloplos sp. 2
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 2
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Spionidae	unidentified
Polychaeta	Trichobranchidae	Terebellides sp. 2
Malacostraca; Amphipoda	Caprellidae	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	Harpiniinae
Malacostraca; Isopoda	Desmosomatidae	Prochelator sp.
Malacostraca; Isopoda	Paramunnidae	Pleurogonium-pulchrum group sp.
Malacostraca; Isopoda	Thambematidae	Thambema sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Echinoidea		post larvae
Bivalvia	Heterodont	unidentified



Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 043 **Replicate** GR069 **Location** Arafura Sea: Area C West II **Gear** Smith-Macintyre Grab  
**Depth (m)** 226 **Lat** 9°5.365'S **Lon** 133°25.09'E **Date (GMT)** 19/05/2005 **Time (GMT)** 12:15:00  
**Comments** sample with shell grit and coral debris (saved example) elutriated; stem sections of stalked crinoid present. CAM042: bioturbated soft sediments interspersed with hard rocky surfaces having sessile filterfeeders, including stalked crinoid  
**Sample Description** 5Y 5/3 bioclastic muddy grit

Class	Family	ID
Polychaeta	Ampharetidae	Melinninae sp 2
Polychaeta	Apistobranchidae	Apistobranchus sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Capitellidae	Promastobranchus sp.
Polychaeta	Capitellidae	unidentified
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Glyceridae	Glycera lapidum
Polychaeta	Hesionidae	Hesionid sp. 2
Polychaeta	Lumbrineridae	Lumbrineris sp.
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Maldanidae	Maldanid sp. 4
Polychaeta	Nereididae	Nicon sp.
Polychaeta	Orbiniidae	Leitoscoloplos sp. 2
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Synelmis rigida
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 2
Polychaeta	Polynoidea	unidentified
Polychaeta	Spionidae	genus ?
Polychaeta	Spionidae	Laonice sp.
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Polychaeta	Syllidae	?Erinaceusyllis sp.
Polychaeta	Syllidae	Exogone [Exogone] sp. 2
Polychaeta	Syllidae	Perkinsyllis cf hartmannshroederiae
Polychaeta	Terebellidae	Lysilla sp
Polychaeta	Terebellidae	Polycirrus sp
Polychaeta	Terebellidae	Streblosoma sp
Polychaeta	Trochochaetidae	Trochochaetus sp.
Malacostraca; Amphipoda	Caprellidae	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Anomura	Galatheidae	Munida sp. 1
Malacostraca; Caridea	Alpheidae	Batella sp. 1
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Malacostraca; Isopoda	Munnopsidae	Disconectes sp.
	Eurycopinae	
Malacostraca; Isopoda	Paramunnidae	Pleurogonium-pulchrum group sp.
Malacostraca; Isopoda	Paramunnidae	Tethygonium sp.
Crinoidea	Isocrinidae	stalk pieces
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	Amphioplus depressa
Bivalvia	Heterodont	unidentified

**Station** 044 **Replicate** DR013 **Location** Arafura Sea: Area C West II **Gear** Diamantina Dredge  
**Depth (m)** 216 **Lat** 9°1.863'S **Lon** 133°14.654'E **Date (GMT)** 19/05/2005 **Time (GMT)** 6:16:41  
**Comments** CAM043: rubbly rocky substrate with exposed pebbles and patches of muddy gravel or sand; relatively sparse biota including crinoids, anenomes and a few fish  
**Sample Description** lithotypes: encrusted oyster shells, mudstone, weathered mudstone with muddy gravel

Class	Family	ID
Octocorallia	Keroeidae	Keroeides sp. B
Gastropoda	Volutidae	Amoria turneri

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 045 **Replicate** DR014 **Location** Arafura Sea: Area C West II **Gear** Rock Dredge  
**Depth (m)** 234 **Lat** 9°1.81'S **Lon** 133°14.72'E **Date (GMT)** 19/05/2005 **Time (GMT)** 8:46:36  
**Comments** Two kinds of burrows in rocks: large made by fan worms (chemical burrowing); short made by Pholids bivalves (mechanical burrowing). CAM044: visibility limited water turbid, rocky substrate with veneer of sediment & sediment patches; biota sparse – starfi  
**Sample Description** Lithotypes: calcareous sandy mud with mudstone gravel fragments; weathered & lithified mudstone; sand dwelling gastropod; semi-lithified calcareous mudstone – highly burrowed and weathered.

Class	Family	ID
Bivalvia	Pholadidae	Barnea sp.

**Station** 045 **Replicate** GR072 **Location** Arafura Sea: Area C West II **Gear** Smith-Macintyre Grab  
**Depth (m)** 227 **Lat** 9°1.806'S **Lon** 133°14.681'E **Date (GMT)** 19/05/2005 **Time (GMT)** 7:33:15  
**Comments** grab broken on hard ground – no sediment sample; small sea star recovered from grab a few hours later  
**Sample Description** large rock lost on recovery

Class	Family	ID
Asteroidea	Asteriidae	unidentified

**Station** 047 **Replicate** BS009 **Location** Arafura Sea: Area C West II **Gear** Small Epibenthic Sled  
**Depth (m)** 233 **Lat** 9°1.838'S **Lon** 133°15.015'E **Date (GMT)** 20/05/2005 **Time (GMT)** 1:57:47  
**Comments** CAM046: bioturbated soft bottom with large depressions & mounds, pockmarks, few sessile animals, many small fish  
**Sample Description** bag 1/3 full oozy mud & some shell grit; sedimentological sample taken – calcareous slightly sandy mud, 5Y 4/4

Class	Family	ID
Polychaeta	Capitellidae	Barantolla sp.
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Flabelligeridae	Brada sp.
Polychaeta	Hesionidae	unidentified
Polychaeta	Longosomatidae	n.sp.
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Nephtyidae	Aglaophamus sp.
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Oweniidae	Galathowenia sp.
Polychaeta	Paraonidae	Aricidea sp. 2
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Sigalionidae	unidentified
Malacostraca; Amphipoda	Pronoidae	sp.
Malacostraca; Cumacea	Leuconidae	Leucon
Malacostraca; Cumacea	unidentifiable	unidentifiable
Malacostraca; Isopoda	Desmosomatidae	Desmosoma sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Crinoidea	Isocrinidae	stalk pieces
Echinoidea		post larvae
Aplacophora	Neomeniomorpha	Neomeniomorph sp3
Bivalvia	Condylocardiidae	"Condylocardia"
Bivalvia	Heterodont	unidentified

**Station** 048 **Replicate** GR073 **Location** Arafura Sea: Area C West II **Gear** Smith-Macintyre Grab  
**Depth (m)** 222 **Lat** 9°0.122'S **Lon** 133°12.058'E **Date (GMT)** 20/05/2005 **Time (GMT)** 3:39:00  
**Comments** nonquantitative sample – only surface ooze & topwater washed; sedimentological sample taken; only 1 burrowing echoid present  
**Sample Description** bioclastic muddy sand 5Y 4/2

Class	Family	ID
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Capitellidae	Leiocapitella sp.
Polychaeta	Capitellidae	Notomastus sp.
Polychaeta	Flabelligeridae	unidentified
Polychaeta	Lumbrineridae	Scoletoma sp. 2
Polychaeta	Lumbrineridae	Scoletoma sp. 3
Polychaeta	Maldanidae	Maldanid sp. 2
Polychaeta	Nephtyidae	unidentified

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Phoxocephalidae	Harpiniinae
Malacostraca; Cumacea	Leuconidae	Leucon
Malacostraca; Isopoda	Desmosomatidae	Whoia (cf) sp.
Malacostraca; Isopoda	Leptanthuridae	Bullockanthura sp.
Echinoidea	Irregular echinoid	unidentified
Ophiuroidea	unidentified	post larvae
Bivalvia	Condylocardiidae	"Pachykalia"
Bivalvia	Corbulidae	Corbula
Bivalvia	Leptonidae?	"Erycina"
Bivalvia	Neoleptonidae	Neolepton

**Station** 048 **Replicate** GR074 **Location** Arafura Sea: Area C West II **Gear** Smith-Macintyre Grab  
**Depth (m)** 222 **Lat** 9°0.11'S **Lon** 133°12.055'E **Date (GMT)** 20/05/2005 **Time (GMT)** 3:51:00  
**Comments** 15 fragile burrowing echinoids present; elutriated shell  
**Sample Description** bioclastic muddy sand 5Y 4/2  
 grit. CAM047: bioturbated soft sediment with large burrows containing fish & sea urchin

Class	Family	ID
Polychaeta	Ampharetidae	Amphicteis sp
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	unidentified
Polychaeta	Cirratulidae	unidentified
Polychaeta	Cossuridae	Cossura sp.
Polychaeta	Glyceridae	unidentified
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	unidentified
Polychaeta	Nephtyidae	unidentified
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Orbiniidae	Leitoscoloplos sp. 2
Polychaeta	Oweniidae	Myriochele sp
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	Aricidea sp. 2
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Paraonidae	Paradoneis sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa sp. 2
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Melitidae	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Isopoda	Leptanthuridae	Leptanthura sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Osteichthyes	Bregmacerotidae	Bregmaceros sp.
Echinoidea	Irregular echinoid	unidentified
Ophiuroidea	Amphiuridae	post larvae

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Station 049 Replicate GR075 Location Arafura Sea: Area C West II Gear Smith-Macintyre Grab  
 Depth (m) 161 Lat 9°5.78'S Lon 133°17.207'E Date (GMT) 20/05/2005 Time (GMT) 8:26:00  
 Comments nonquantitative, sedimentology sample taken, top water and surface only washed  
 Sample Description grab 1/2 full; coarse bioclastic muddy sand 5Y 5/3

Class	Family	ID
Polychaeta	Ampharetidae	Ampharetinae sp 1
Polychaeta	Ampharetidae	Auchenoplax sp
Polychaeta	Amphinomidae	unidentified
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Cirratulidae	?Dodecaceria
Polychaeta	Eunicidae	Eunice Arafura 1
Polychaeta	Eunicidae	unidentified
Polychaeta	Flabelligeridae	Pherusa sp.
Polychaeta	Glyceridae	Glycera brevicirris
Polychaeta	Hesionidae	unidentified
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Nephtyidae	unidentified
Polychaeta	Nereididae	Leonnates persica
Polychaeta	Oweniidae	Myriochele sp
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	Paraonella sp.
Polychaeta	Pilargidae	Ancistrosyllis sp.
Polychaeta	Pilargidae	Litocorsa sp. 2
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 3
Polychaeta	Spionidae	Prionospio sp. a
Polychaeta	Spionidae	Prionospio sp. b
Polychaeta	Terebellidae	Terebellinae sp
Malacostraca; Amphipoda	Ampeliscidae	sp 2
Malacostraca; Amphipoda	Amphilochidae	sp 1
Malacostraca; Amphipoda	Aoridae	unidentifiable
Malacostraca; Amphipoda	Caprellidae	sp 2
Malacostraca; Amphipoda	Eusiridae	Harpinioides sp 1
Malacostraca; Amphipoda	Kamakidae	sp 3
Malacostraca; Amphipoda	Photidae	Photis sp 1
Malacostraca; Amphipoda	Podoceridae	sp 1
Malacostraca; Cumacea	Bodotriidae	Cyclaspis
Malacostraca; Isopoda	Desmosomatidae	Eugerdella sp.
Malacostraca; Isopoda	Munnidae	Munna sp.
Malacostraca; Isopoda	Thambematidae	Thambema sp.
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	Amphioplus personatus
Ophiuroidea	unidentified	post larvae
Bivalvia	Heterodont	unidentified

Station 049 Replicate GR076 Location Arafura Sea: Area C West II Gear Smith-Macintyre Grab  
 Depth (m) 161 Lat 9°5.787'S Lon 133°17.203'E Date (GMT) 20/05/2005 Time (GMT) 8:37:00  
 Comments washings of rock only  
 Sample Description large rock in jaws of grab

Class	Family	ID
Octocorallia	Parisididae	Parisia fruticosa Verrill, 1864

Station 049 Replicate GR077 Location Arafura Sea: Area C West II Gear Smith-Macintyre Grab  
 Depth (m) 161 Lat 9°5.782'S Lon 133°17.195'E Date (GMT) 20/05/2005 Time (GMT) 8:46:00  
 Comments ophiuroid found on rock only  
 Sample Description rock in jaws of grab plus sandy bioclastic sediment

Class	Family	ID
Ophiuroidea	Amphiuridae	Amphioplus personatus

Station 049 Replicate GR078 Location Arafura Sea: Area C West II Gear Smith-Macintyre Grab  
 Depth (m) 162 Lat 9°5.783'S Lon 133°17.208'E Date (GMT) 20/05/2005 Time (GMT) 8:54:00  
 Comments entire sample elutriated; CAM048: hard substrate with scattered boulders, visibility limited by particulates in water column; large sessile epifauna visible including sponges, sea anemones, octocorals, black corals and stalked/unstalked crinoids  
 Sample Description bioclastic sandy mud with shell gravel 5Y 5/3

Class	Family	ID
Polychaeta	Flabelligeridae	Therochaeta sp.

Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 050 **Replicate** BS011 **Location** Arafura Sea: Area C South **Gear** Small Epibenthic Sled  
**Depth (m)** 178 **Lat** 9°11.997' **Lon** 133°26.109'E **Date (GMT)** 21/05/2005 **Time (GMT)** 3:00:10  
**Comments** sled with doors retied open; sample had much thick clayey mud – suspect sled dug deeper than surface layer  
**Sample Description** calcareous poorly sorted mud (with some thick clay) 5Y 5/4

Class	Family	ID
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Notomastus sp.
Polychaeta	Capitellidae	Promastobranchus sp.
Polychaeta	Chaetopteridae	unidentified
Polychaeta	Cossuridae	Cossura sp.
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Flabelligeridae	Diplocirrus sp. 2
Polychaeta	Glyceridae	Glycera lapidum
Polychaeta	Glyceridae	Glycera onomichiensis
Polychaeta	Goniadidae	Goniada sp. 2
Polychaeta	Hartmaniellidae	Hartmaniella Arafura 1
Polychaeta	Hesionidae	Hesionid sp. 1
Polychaeta	Lumbrineridae	Scoletoma sp. 2
Polychaeta	Nereididae	Leonnates persica
Polychaeta	Nereididae	unidentified
Polychaeta	Oeonidae	Drilonereis sp.
Polychaeta	Paraonidae	Aricidea sp. 2
Polychaeta	Phyllodoceidae	Phyllodoce Arafura 1
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Polynoidae	unidentified
Polychaeta	Sabellidae	Chone australiensis Hartmann-Schröder_1979
Polychaeta	Sigalionidae	Sigalionid sp. 4
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified a
Polychaeta	Spionidae	unidentified b
Polychaeta	Terebellidae	Polycirrus sp
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Amphilocheidae	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Aoridae	?Xenocheira
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Anomura	Galatheididae	Munida sp. 3
Malacostraca; Cumacea	Gynodiastylidae	Zimmeriana n-sp.
Malacostraca; Cumacea	Leuconidae	Leucon
Malacostraca; Isopoda	Cirolanidae	Natatolana sp.
Malacostraca; Isopoda	Desmosomatidae	Mirabilicoxa sp.
Malacostraca; Isopoda	Desmosomatidae	Whoia (cf) sp.
Malacostraca; Isopoda	Gnathiidae	Elaphognathia sp.
Malacostraca; Isopoda	Ischnomesidae	Mixomesus sp.
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	Amphipholis squamata
Bivalvia	Clavagellidae	unidentified

**Station** 051 **Replicate** BS010 **Location** Arafura Sea: Area C South **Gear** Small Epibenthic Sled  
**Depth (m)** 175 **Lat** 9°13.15'S **Lon** 133°29.412'E **Date (GMT)** 21/05/2005 **Time (GMT)** 11:26:00  
**Comments** sled doors had closed owing to damaged ropes; suspect doors did not open on bottom; sample small, washed entire bag contents. NB: station numbers out of temporal sequence  
**Sample Description** calcareous poorly sorted soft mud

Class	Family	ID
Polychaeta	Capitellidae	Barantolla sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Sigalionidae	Labioleanira sp.
Polychaeta	Trichobranchidae	Terebellides sp.
Malacostraca; Isopoda	Leptanthuridae	Leptanthura sp.
Malacostraca; Thalassinidea	Callianassidae	Callianassa sp. 1
Bivalvia	Nuculidae	Nucula
Gastropoda	Costellariidae	Costellariid

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Station 053 Replicate DR015 Location Arafura Sea: Area C South Gear Rock Dredge  
 Depth (m) 155 Lat 9°10.565' Lon 133°29.764'E Date (GMT) 21/05/2005 Time (GMT) 7:08:24  
**Comments**  
 Recovered some specimens from mud. CAM051: rocky substrate, some overhangs, with sessile filter feeders, grading downslope to soft silty mud and no epifauna

Class	Family	ID
Polychaeta	Eunicidae	unidentified
Malacostraca; Anomura	Galatheidae	Galathea sp. 1
Malacostraca; Brachura	Pilumnidae	Pilumnus sp. 2
Malacostraca; Brachura	Portunidae	Charybdis sp. 1
Malacostraca; Brachura	Xanthidae	Pilodius sp. 1
Octocorallia	Parisididae	Parisis fruticosa Verrill, 1864
Octocorallia	Plexauridae	?New genus
Octocorallia	Plexauridae	?New genus
Octocorallia	Plexauridae	Paracis sp. A
Crinoidea	Calometridae	Calometridae sp 3
Bivalvia	Arcidae	Barbatia iota
Bivalvia	Chamidae	Chama cf. isaacooki

Station 053 Replicate GR080 Location Arafura Sea: Area C South Gear Smith-Macintyre Grab  
 Depth (m) 136 Lat 9°10.54'S Lon 133°29.672'E Date (GMT) 21/05/2005 Time (GMT) 5:04:47  
**Comments**  
 non-quantitative sample – sedimentology sample taken, washed ony surface sediments away

Class	Family	ID
Polychaeta	Chaetopteridae	Spiochaetopterus sp.
Polychaeta	Chrysopetalidae	Arichlidon hanneloreae
Polychaeta	Eunicidae	Eunice Arafura 1
Polychaeta	Glyceridae	unidentified
Polychaeta	Hesionidae	unidentified
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Synelmis rigida
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 3
Polychaeta	Polynoidae	Polynoid Arafura 04
Polychaeta	Sabellidae	Amphicorina sp.
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Spionidae	unidentified
Polychaeta	Terebellidae	Lanicides sp
Malacostraca; Amphipoda	Caprellidae	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Amphipoda	Corophioid	sp.
Malacostraca; Brachura	Pilumnidae	Rhizopinae 2
Malacostraca; Cumacea	Gynodiastylidae	Dayus
Malacostraca; Cumacea	Gynodiastylidae	Gynodiastylis
Malacostraca; Cumacea	Nannastacidae	Nannastacus
Malacostraca; Isopoda	Cirolanidae	Neocirolana sp.
Malacostraca; Isopoda	Gnathiidae	Indet sp.999
Malacostraca; Isopoda	Hyssuridae	Neohyssura sp.
Malacostraca; Isopoda	Joeropsidae	Joeropsis sp.
Malacostraca; Isopoda	Joeropsidae	Scaphojoeropsis sp.
Malacostraca; Isopoda	Paramunnidae	New Genus (Antlers) sp.
Malacostraca; Isopoda	Paramunnidae	Tethygonium sp.
Echinoidea		post larvae
Ophiuroidea	Amphiuridae	Amphioplus personatus
Ophiuroidea	Amphiuridae	Amphiura sp arafura 3
Ophiuroidea	Amphiuridae	post larvae
Aplacophora	Neomeniomorpha	Neomeniomorph sp3
Bivalvia	Heterodont	unidentified
Bivalvia	Neoleptonidae	Neolepton
Bivalvia	Pteriomorph	unidentified

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Station 055 Replicate GR081 Location Arafura Sea: Area C South Gear Smith-Macintyre Grab  
 Depth (m) 174 Lat 9°9.259'S Lon 133°29.086'E Date (GMT) 21/05/2005 Time (GMT) 9:35:41  
 Comments nonquantitative, sedimentology sample taken, top water and surface only washed Sample Description poorly sorted calcareous gravelly mud (5Y 5/4) with 1 cobble of coarse limestone

Class	Family	ID
Polychaeta	Ampharetidae	Amphicteis sp
Polychaeta	Ampharetidae	Melinninae sp 1
Polychaeta	Amphinomidae	Paramphinome sp.
Polychaeta	Apistobranchidae	Apistobranchus sp.
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Eunicidae	Marphysa Arafura 1
Polychaeta	Flabelligeridae	unidentified
Polychaeta	Glyceridae	unidentified
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	Lumbrineriopsis sp.
Polychaeta	Lumbrineridae	Scoletoma sp. 3
Polychaeta	Magelonidae	Octomagelona sp.
Polychaeta	Maldanidae	unidentified
Polychaeta	Nephtyidae	unidentified
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Orbiniidae	Leodamas sp.
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	Aricidea sp. 2
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Paraonidae	Paradoneis sp.
Polychaeta	Paraonidae	Paraonella sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Litocorsa annamita
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Poecilochaetidae	Poecilochaetus sp. 2
Polychaeta	Polynoidae	Polynoid Arafura 05
Polychaeta	Sabellidae	Euchone sp.1
Polychaeta	Sabellidae	Fabricinae sp.1
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified
Malacostraca; Amphipoda	Amphilochidae	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Malacostraca; Amphipoda	Phoxocephalidae	sp.
Malacostraca; Anomura	Paguridae	Paguridae sp. 1
Malacostraca; Cumacea	Gynodiastylidae	Dicoides siphonatus
Malacostraca; Cumacea	Gynodiastylidae	Gynodiastylis pygmaeoinvolutata
Malacostraca; Cumacea	Nannastacidae	Campylaspis
Malacostraca; Dendrobranchiata	Solenoceridae	Solenoceridae sp. 2
Malacostraca; Isopoda	Anthuridae	Amakusanthura sp.
Malacostraca; Isopoda	Desmosomatidae	Prochelator sp.
Malacostraca; Isopoda	Hyssuridae	Belura sp.
Malacostraca; Isopoda	Ischnomesidae	Mixomesus sp.
Malacostraca; Isopoda	Paramunnidae	"Pentamunna" sp.
Echinoidea		post larvae
Holothuroidea	unidentified	unidentified
Aplacophora	Neomeniomorpha	Neomeniomorph sp3
Bivalvia	Cuspidariidae	Cuspidaria sp1
Bivalvia	Heterodont	unidentified
Bivalvia	Mactridae	unidentified
Bivalvia	Semelidae	Semele

Station 056 Replicate BS012 Location Arafura Sea: Area C South Gear Small Epibenthic Sled  
 Depth (m) 182 Lat 9°9.727'S Lon 133°31.958'E Date (GMT) 22/05/2005 Time (GMT) 1:32:53  
 Comments sedimentology sample taken, large volume of sediment subsampled. CAM053: soft bioturbated substrate, poor visibility, few megafauna Sample Description poorly sorted calcareous mud, 5Y 5/3

Class	Family	ID
Polychaeta	Capitellidae	Barantolla sp.
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Capitellidae	Notomastus sp. 3
Polychaeta	Cirratulidae	Aphelochaeta sp. 2
Polychaeta	Cossuridae	Cossura sp.2
Polychaeta	Hesionidae	unidentified

## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

Polychaeta	Lumbrineridae	unidentified
Polychaeta	Magelonidae	Octomagelona sp. 2
Polychaeta	Maldanidae	Maldanid sp. 1
Polychaeta	Nephtyidae	Aglaophamus sp. 2
Polychaeta	Opheliidae	Ophelina sp. 2
Polychaeta	Paralacydoniidae	Paralacydonia paradoxa
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Ancistrosyllis sp.
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Sigalionidae	Sigalionid sp. 4
Polychaeta	Spionidae	Prionospio sp.
Polychaeta	Spionidae	unidentified a
Polychaeta	Spionidae	unidentified b
Malacostraca; Amphipoda	Melitoid	sp.
Malacostraca; Amphipoda	Oxycephalidae	Rhabdosoma
Echinoidea	Irregular echinoid	unidentified

**Station** 057 **Replicate** BS013 **Location** Arafura Sea: Area D **Gear** Small Epibenthic Sled  
**Depth (m)** 107 **Lat** 9°32.923' **Lon** 133°57.801'E **Date (GMT)** 24/05/2005 **Time (GMT)** 9:32:00  
**Comments** large sample, washed 1.5 bin full, with shell wash into 100% ethanol; geology bulk sample also taken.  
**Sample Description** sandy mud 5Y 5/2  
 CAM054: fairly featureless muddy bottom with some bioturbation and burrows

Class	Family	ID
Ophiuroidea	Ophiuridae	post larvae

**Station** 060 **Replicate** BS014 **Location** Arafura Sea: Area D **Gear** Small Epibenthic Sled  
**Depth (m)** 95 **Lat** 9°36.628' **Lon** 134°10.952'E **Date (GMT)** 24/05/2005 **Time (GMT)** 9:27:49  
**Comments** large sample, washed 1.2 bin full; excluded clods and shell grit; no geology bulk sedimentology sample.  
**Sample Description** sandy mud 5Y 5/2  
 Camera fairly featureless muddy bottom with some bioturbation and burrows

Class	Family	ID
Polychaeta	Ampharetidae	Ampharetinae sp 1
Polychaeta	Ampharetidae	Melinninae sp 1
Polychaeta	Capitellidae	cf Peresiella sp.
Polychaeta	Capitellidae	Dodecaseta sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Cossuridae	Cossurella sp.
Polychaeta	Eunicidae	Eunice Arafura 1
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	Lumbrineris sp.
Polychaeta	Nephtyidae	unidentified
Polychaeta	Nereididae	Leonnates persica
Polychaeta	Opheliidae	Ophelina sp. 3
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Polynoidae	unidentified
Polychaeta	Spionidae	Prionospio sp.
Malacostraca; Amphipoda	Ampeliscidae	Byblis sp 2
Malacostraca; Amphipoda	Hadziidae?	unidentifiable
Malacostraca; Amphipoda	Liljeborgiidae	Liljeborgia sp 1
Malacostraca; Amphipoda	Lysianassidae	Waldeckia sp
Malacostraca; Amphipoda	Melitidae	sp 1
Malacostraca; Amphipoda	Photidae	sp 2
Malacostraca; Amphipoda	Phoxocephalidae	Brolginae sp 1
Malacostraca; Isopoda	Leptanthuridae	Leptanthura sp.
Malacostraca; Isopoda	Leptanthuridae	Leptanthura sp.
Malacostraca; Thalassinidea	Calocarididae	Calocarididae sp. 1



## Appendix – Species composition of samples from Arafura Sea (SS05/2005)

**Station** 061 **Replicate** GR082 **Location** Arafura Sea: Area D **Gear** Smith-Macintyre Grab  
**Depth (m)** 93 **Lat** 9°37.579' **Lon** 134°14.36'E **Date (GMT)** 24/05/2005 **Time (GMT)** 10:52:06  
**Comments** not quantitative, geology bulk sedimentology sample taken; excluded clods and shell grit after elutriation. Camera shows fairly featureless muddy bottom with some bioturbation and burrows  
**Sample Description** calcareous sandy mud, unconsolidated 5Y 5/4

Class	Family	ID
Polychaeta	Amphinomidae	Linopherus sp.
Polychaeta	Capitellidae	Mediomastus sp.
Polychaeta	Chaetopteridae	unidentified
Polychaeta	Cirratulidae	Aphelochaeta sp. 1
Polychaeta	Cirratulidae	Aphelochaeta sp. 2
Polychaeta	Hesionidae	unidentified
Polychaeta	Lumbrineridae	Lumbrineris sp.
Polychaeta	Nephtyidae	Nephtys sp.
Polychaeta	Paraonidae	Levinsenia sp.
Polychaeta	Paraonidae	Paraonella sp.
Polychaeta	Paraonidae	unidentified
Polychaeta	Pilargidae	Sigambra sp.
Polychaeta	Pilargidae	Sigambra sp.2
Polychaeta	Spionidae	Paraprionospio sp.
Polychaeta	Spionidae	Prionospio sp.
Malacostraca; Amphipoda	Ampeliscidae	sp.
Malacostraca; Amphipoda	Amphipoda	sp.
Osteichthyes	Bregmacerotidae	Bregmaceros cf nectabanus
Echinoidea		post larvae

**Station** 063 **Replicate** BS015 **Location** Arafura Sea: Area D **Gear** Small Epibenthic Sled  
**Depth (m)** 90 **Lat** 9°39.701' **Lon** 134°22.456'E **Date (GMT)** 25/05/2005 **Time (GMT)** 6:23:00  
**Comments** large sample, washed 1.2 bin full; excluded clods and shell grit; geology bulk sedimentology sample taken. Camera shows fairly featureless muddy bottom with some bioturbation and burrows  
**Sample Description** calcareous sandy mud, unconsolidated 5Y 5/1

Class	Family	ID
Osteichthyes	Ophichthidae	Muraenichthys sp.

**Station** 064 **Replicate** GR083 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 103 **Lat** 9°44.317' **Lon** 135°15.949'E **Date (GMT)** 25/05/2005 **Time (GMT)** 5:37:49  
**Comments** washed through 5mm screen for large animals; geological bulk sedimentology sample taken  
**Sample Description** poorly sorted calcareous fine sand 5Y 5/3, intermediate preservation of carbonate grains, sand fraction mostly foram and mollusc fragments

Class	Family	ID
Polychaeta	Onuphidae	Diopatra sp.
Octocorallia	Plexauridae	Trimuricea sp. A

**Station** 064 **Replicate** GR084 **Location** Arafura Sea: Area B **Gear** Smith-Macintyre Grab  
**Depth (m)** 102 **Lat** 9°44.316' **Lon** 135°15.947'E **Date (GMT)** 25/05/2005 **Time (GMT)** 5:46:28  
**Comments** washed through 5mm screen for large animals. CAM061: bioturbated sandy substrate with scattered to common burrows, sparse large sessile fauna, many small fish, poor visibility (water turbid)  
**Sample Description** poorly sorted calcareous fine sand 5Y 5/3, intermediate preservation of carbonate grains, sand fraction mostly foram and mollusc fragments

Class	Family	ID
Malacostraca; Brachura	Pilumnidae	Rhizopinae 1
Malacostraca; Thalassinidea	Callianassidae	Callianassa cf. acutirostella