

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

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

INTRODUCTION

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

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

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

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

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

MATERIALS AND METHODS

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

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

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

RESULTS

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

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

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

DISCUSSION

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

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

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

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

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

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

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

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

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

Table 1 (cont.)

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

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

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

Table 2 (cont.)

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

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