

The benthic Crustacea of subantarctic Marion and Prince Edward Islands: Illustrated keys to the species and results of the 1982-1989 University of Cape Town Surveys

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The benthic fauna of subantarctic Marion and Prince Edward Islands was sampled over the period 1982-1989 by dredging, scuba-diving and intertidal surveys. This paper comprises illustrated keys for the identification of all Crustacea recorded from the islands during this and previous surveys. Summaries are also provided of the depth distributions, abundances and habitats of all species collected during the 1982-1989 surveys. A total of 125 species of Crustacea is now known from the islands, of these 49 are new records for the area including 12 presumed new species. The current fauna comprises 2 new records of Cirripedia (1 unidentified); 71 species of Amphipoda (of which 17 are new records and include 8 presumed new species); 32 species of Isopoda (including 19 new records of which 4 are new species); 10 Tanaidacea (8 new records); and 11 Decapoda (of which 4 are new records). The new species are identified to genus and are not formally described in this paper.

Die bentiese fauna van subantarktiese Marion- en Prins Edward-eiland is gedurende die tydperk 1982-1989 gemonster deur middel van baggerwerk, onderwaterduik en tussengetyopnames. Hierdie artikel bevat geïllustreerde sleutels vir die identifikasie van alle Crustacea van die eilande wat opgeteken is gedurende hierdie en vorige opnames. Opsommings word gegee van diepteverspreiding, volopheid en habitat van alle spesies wat gedurende 1982-1989 versamel is. 'n Totaal van 125 Crustacea-spesies is tans bekend, waarvan 49 nuut vir die gebied aangeteken is. Hiervan is 12 vermeende nuwe spesies. Die bestaande fauna bevat 2 nuut aangetekende Cirripedia (1 ongeïdentifiseer); 71 spesies Amphipoda (waarvan 17 nuut aangeteken is, insluitend 8 vermeende nuwe spesies); 32 spesies Isopoda (insluitend 19 nuut aangeteken, 4 nuwe spesies); 10 Tanaidacea (8 nuut aangeteken); en 11 Dekapoda (4 nuut aangeteken). Die nuwe spesies is geïdentifiseer volgens genus en word nie formeel beskryf nie.

Introduction

The two islands of the Prince Edward group are of particular interest because of their relative youth and extreme isolation. Both are summits of recent volcanoes just off the crest of the mid-Atlantic ridge. They arose about 250 000 years ago (McDougall 1971). Marion Island (46°54'S, 37°45'E) is 290 km², while Prince Edward Island (46°38'S, 37°57'E), is one-seventh its size

and lies 22 km NNE of Marion. Biogeographically the islands form part of the Kerguelen Province of subantarctic islands, which includes the Crozet archipelago (925 km away), as well as the Kerguelen Islands and Heard Island (Knox 1960, Knox & Lowry 1976, Kensley 1980). The nearest continental land mass is southern Africa, with Cape Town lying 2 300 km to the north-west.

There have been several expeditions to the Prince Edward Islands which have sampled the marine fauna and flora, including those of the British *Challenger* (1873-1876) and *Discovery* (1935), and subsequent surveys by the French ship *Marion-Dufresne*. South African research began with land-based surveys that concentrated on the intertidal and shallow-water benthos and included work by Fuller (1967), De Villiers (1976) and Blankley & Grindley (1985). More recently, this research was extended offshore by the University of Cape Town, with dredging being undertaken from the SA *Agulhas* over the period 1984-1989. The identification of benthic species has posed a major problem during each of the recent surveys, despite the fact that the material from successive expeditions has been referred to international taxonomic authorities. Previous work has been undertaken by scientists from a large number of countries and over a protracted period of time. Isolated detailed monographs reviewing particular groups have appeared, but these remain largely inaccessible to the more generalist worker. Furthermore many are now out-of-date in terms of the nomenclature employed. This situation prompted the present series of identification guides, which is intended to synthesise information on the benthic invertebrate fauna of Marion and Prince Edward Islands and to present it in a manner that will allow relatively easy identification by the non-specialist.

The guides are designed in the form of a series of illustrated keys covering the major invertebrate groups. Specific characters are amplified in an attempt to distinguish Marion Island species from close relatives which are found elsewhere. Despite this, it must be stressed that no key can ever provide definitive identification. By their very nature, keys distill information. The most important monographs which need to be consulted to obtain more detailed descriptions are given in the reference list.

Undescribed species are included in the keys under their South African Museum catalogue number (SAM), although they are named only to generic level: They will be formally described in later monographs.

This particular paper covers the Crustacea. It draws on information from the following collections: *Challenger* expedition of 1873-76 (Hoek 1883, Beddard 1884, 1886, Miers 1886, Bate 1888, Henderson 1888 & Stebbing 1888) and *Discovery* expedition of 1935 (Sheppard 1933, 1957, Barnard 1930, 1931, 1932), material from both of which is housed in the British Museum (Natural History), now the Natural History Museum, London. Also included are records from the South African expeditions of 1965-66 (Fuller 1967, Cléret 1971) and 1972-73 (De Villiers 1976) and the 1976 voyage MD 08 of the *Marion-Dufresne* (Arnaud & Hureau 1979, Shiino 1978, Ledoyer 1979, Kensley 1980, Bellan-Santini and Ledoyer 1986), the material from the latter is housed at Station Marine d'Endoume, Marseille — and later at Laboratoire de Malacologie, Muséum national d'Histoire naturelle, Paris). The Soviet Antarctic Expedition of 1970-1975 was reported by Kuskakin and Vasina (1980, 1982a & 1982b). Additional data came from intertidal and subtidal surveys undertaken in 1979 (Blankley and Grindley 1985) and 1982, quantitative subtidal scuba-sampling in 1989 (Beckley & Branch 1992), and extensive recent offshore surveys by the University of Cape Town over the period 1984-89 (GM Branch *et al* 1992), the material from which is housed in the South African Museum, Cape Town. Table 1 summarises the previously unpublished records for Crustacea derived from the University of Cape Town surveys, in relation to abundance, depth, substratum and habitat. New records for the Prince Edward Islands are shown in the systematic list. A more detailed analysis of this information and a description of community patterns appears in GM Branch *et al* (1992).

Where possible the illustrations were taken from actual specimens collected by the University of Cape Town. Others were adapted from depictions in the existing literature, notably from Bellan-Santini 1972a, 1972b, Bellan-Santini and Ledoyer 1974 and 1986, Lowry and Stoddart 1983, JL Barnard 1969, Kensley 1978a and 1980, Beddard 1886, Henderson 1888, Menzies 1962, Sieg 1980a, 1980b and 1986 and Sieg & Winn 1981.

ML Branch was responsible for the overall compilation of the manuscript. CL Griffiths identified and helped write the key to the amphipods, J Sieg was responsible for the final identification of the tanaids and B Kensley oversaw the isopod and decapod sections.

Acknowledgements

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programme was led by Dr Lynnath Beckley. Many of the staff and students from the University of Cape Town participated in both the collection and sorting of this material. In this connection, especial thanks are due to Gillian Burbidge. Colin Attwood ably provided the computer analysis for Table 1. Dr R Lemaitre examined *Pagurodes inarmatus* and *Sympagurus dimorphus*. Elizabeth Hoensen and the staff of the SA Museum are gratefully acknowledged for the smooth transfer of the massive collection to the South African Museum.

Systematic list of species

* = New records

‡ = New species (included in the keys but not named beyond generic level).

Page numbers refer to pages in the keys.

CLASS CRUSTACEA	Page
Subclass Cirripedia	7
Order Thoracica	
Suborder Lepadomorpha (Goose barnacles)	
* <i>Scalpellum flavum</i> Hoek, 1883	7
Subclass Malacostraca	
Superorder Peracarida	
Order Amphipoda	8
Suborder Gammaridea	
Family Acanthonotozomatidae	
<i>Gnathiphimedia urodentata</i> Bellan-Santini and Ledoyer, 1986	9
Family Amphilochidae	
<i>Gitanopsis marionis</i> (Stebbing, 1888)	11
<i>Gitanopsis squamosa</i> (Thomson, 1880)	11
Family Coroppiidae	
<i>Gammaropsis longitarsus</i> (Schellenberg, 1931)	18
‡ <i>Gammaropsis</i> sp. SAM A40364	18
<i>Haplocheira barbimana</i> (Thomson, 1879)	10
<i>Lembos</i> sp. (listed by Bellan-Santini and Ledoyer, 1986)	18
Family Didymocheliidae	
<i>Didymochelia edwardi</i> Bellan-Santini and Ledoyer, 1986	9
Family Eophliantidae	
* <i>Cylindrylloides mawsoni</i> Nicholls, 1938 (listed as Eophliantidae by Blankley and Grindley, 1985)	10
Family Eusiridae	
<i>Atyloella magellanica</i> (Stebbing, 1888)	20
<i>Atylopsis emarginatus</i> Stebbing, 1888	21
* <i>Djerboa furcipes</i> Chevreux, 1906	20
<i>Eusiroides aberrantis</i> Bellan-Santini and Ledoyer, 1986	21
<i>Eusiroides georgianus</i> KH Barnard, 1932	19
* <i>Gondogeneia spinicoxa</i> Bellan-Santini and Ledoyer, 1974	21
<i>Harpinioides drepanocheir</i> Stebbing, 1888	21
* <i>Oradarea edentata</i> Thurston, 1974	20
<i>Oradarea ocellata</i> Thurston, 1974	20

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Family Gammaridae		Family Pardaliscidae	
<i>Ceradocopsis dufresni</i> Bellan-Santini and Ledoyer, 1986	19	<i>Pardalisca marionis</i> Stebbing, 1888	10
<i>Ceradocopsis kergueleni</i> Schellenberg, 1926	19	Family Phoxocephalidae	
* <i>Paramoera fissicauda</i> (Dana, 1852) (listed as Eusiridae by Blankley and Grindley, 1985)	20	<i>Harpinia obtusifrons</i> Stebbing, 1888	10
<i>Pontogeneiella brevicornis</i> (Chevreux, 1906)	20	Family Pleustidae	
<i>Schraderia gracilis</i> Pfeffer, 1888	19	‡ ? <i>Pleusymtes</i> sp. SAM A40378	19
Family Haustoriidae		Family Podoceridae	
<i>Carangolia cornuta</i> Bellan-Santini and Ledoyer, 1986	14	<i>Podocerus danae</i> Stebbing, 1888	16
<i>Cardenio paurodactylus</i> Stebbing, 1888	14	<i>Podocerus danae armatus</i> Bellan-Santini & Ledoyer, 1986	16
<i>Urothoe marionis</i> Bellan-Santini and Ledoyer, 1986	15	* <i>Podocerus capillimanus</i> Nicholls, 1938	16
<i>Urothoides lachneessa</i> Stebbing, 1888	15	Family Sebidae	
Family Ischyroceridae		<i>Seba saundersii</i> Stebbing, 1875	9
<i>Cerapus oppositus</i> KH Barnard, 1932	17	Family Stegocephalidae	
? = <i>Cerapus</i> (?) <i>tubularis</i> Say, 1817 (as listed by de Villiers, 1976)		<i>Andaniella integripes</i> Bellan-Santini & Ledoyer, 1986	12
? <i>Ischyrocerus</i> sp. (listed by Bellan-Santini and Ledoyer, 1986)	18	Family Stenothoidae	
‡ <i>Ischyrocerus</i> sp. SAM A40363	18	<i>Probolisca ovata</i> (Stebbing, 1888)	11
? <i>Jassa alonsoae</i> Conlan, 1990	18	<i>Proboloides elliptica</i> (Schellenberg, 1931)	11
<i>Pseudorichthonyx gausi</i> Schellenberg, 1926	17	‡ <i>Proboloides</i> sp. A SAM A40358	11
<i>Pseudischyrocerus crenatipes</i> Bellan-Santini and Ledoyer, 1986	17	‡ <i>Proboloides</i> sp. B SAM A40360	11
<i>Pseudischyrocerus distichon</i> (KH Barnard, 1930)	17	<i>Pseudothaumatelson cyproides</i> Nicholls, 1938	11
<i>Ventojassa georgiana</i> (Schellenberg, 1931)	17	<i>Stenothoe</i> sp. (listed by Bellan-Santini & Ledoyer, 1986)	11
= <i>Parajassa georgiana</i> Schellenberg, 1931	17	<i>Thaumatelson herdmani</i> Walker, 1906	11
Family Leucothoidae		Family Stilipedidae	
<i>Leucothoe spinicarpa</i> (Abildgaard, 1879)	15	<i>Alexandrella inermis</i> Bellan-Santini and Ledoyer, 1986	10
‡ <i>Leucothoe</i> sp. SAM A40379	15	Family Talitridae	
Family Liljeborgiidae		* <i>Hyale grandicornis</i> (Kroyer, 1945)	16
<i>Liljeborgia longicornis</i> (Schellenberg, 1931)	15	* <i>Hyale hirtipalma</i> (Dana, 1852)	16
<i>Liljeborgia pseudomacronyx</i> Bellan-Santini and Ledoyer, 1986	15	‡ SAM A40361 New genus	16
Family Lysianassidae		Suborder Caprellidea	
<i>Acontiostoma marionis</i> Stebbing, 1888	14	Family Aeginellidae	
<i>Cheirimedon femoratus</i> (Pfeffer, 1888)	13	‡ ? <i>Eupariambus</i> sp. SAM A40356	8
<i>Hippomedon kergueleni</i> (Miers, 1875)	13	Order Isopoda	22
<i>Kerguelenia antiborealis</i> Bellan-Santini and Ledoyer, 1986	14	Suborder Epicaridea	
* <i>Lepidepocreella tridactyla</i> Bellan-Santini, 1972	13	Family Bopyridae	
<i>Parawaldeckia kidderi</i> (Smith, 1876) (listed as <i>Shackletonia</i> sp. by Blankley and Grindley, 1985)	14	* SAM A40366 New genus and species	23
<i>Pseudorchomene coatsi</i> (Chilton, 1912)	13	Suborder Valvifera	
<i>Stomacontion acutibasalis</i> (Bellan-Santini & Ledoyer, 1974)	14	Family Arcturidae	
<i>Stomacontion pepinii</i> (Stebbing, 1888)	14	* <i>Antarcturus aculeatus</i> Kussakin, 1967	24
Family Oedicerotidae		<i>Microarcturus hirticornis</i> (Monod, 1926)	24
? <i>Monoculodes antarcticus</i> KH Barnard, 1932 (listed by Bellan-Santini & Ledoyer, 1986)	11	<i>Neastacilla marionensis</i> (Beddard, 1886)	23
<i>Monoculodes scrabriculosus</i> KH Barnard, 1932	11	Family Pseudidotheidae	
? <i>Oediceroides cinderella</i> Stebbing, 1888 (listed by Bellan-Santini & Ledoyer, 1986)	11	<i>Arcturides cornutus</i> Studer, 1882	23
		Suborder Anthuridea	
		Family Paranthuridae	
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		Suborder Flabellifera	
		Family Serolidae	
		<i>Serolis septemcarinata</i> Miers, 1847	26

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Family Aegidae		= <i>Tanais nierstraszi</i> Stebbing, 1919	
* <i>Aega</i> cf. <i>crozetensis</i> Kussakin and Vassina, 1982	26	* <i>Pancoloides litoralis</i> (Vanhöffen, 1914)	34
<i>Aega falklandica</i> Kussakin, 1967	26	= <i>Tanais litoralis</i> Vanhöffen, 1914 partim	
* <i>Aega semicarinata</i> Miers, 1875a	26	* <i>Sinelobus stanfordi</i> (Richardson, 1901)	34
Family Sphaeromatidae		* <i>Zeuxo phytalensis</i> Sieg, 1980	34
‡ <i>Cymodocella</i> sp. SAM A40368	27	<i>Zeuxoides helleri</i> (Gerstaecker, 1888)	34
* <i>Dynamenella eatoni</i> (Miers, 1875b)	27	* <i>Zeuxoides pseudolitoralis</i> , Sieg 1980	34
* <i>Euvalentina darwini</i> (Cunningham, 1871)	27	= <i>Tanais litoralis</i> Vanhöffen, 1914, partim	
* <i>Exosphaeroma gigas</i> (Leach, 1818)	27		
Suborder Gnathiidea		Superorder Eucarida	
Family Gnathiidae		Order Decapoda	35
<i>Gnathia antarctica</i> (Studer, 1884)	25	Suborder Natantia (swimming prawns)	
Suborder Asellota		Family Campylonotidae	
Family Dendrotonidae		<i>Campylonotus capensis</i> Bate, 1888	35
* <i>Acanthomunna spinipes</i> (Vanhöffen, 1914)	29	Family Hippolytidae	
Family Joeropsidae		* <i>Chorismus antarcticus</i> (Pfeffer, 1887)	35
<i>Joeropsis curvicornis</i> (Nicolet, 1849)	28	<i>Nauticaris marionis</i> Bate, 1888	35
<i>Joeropsis marionis</i> Beddard, 1886	28	Family Nematocarcinidae	
Family Janiridae		* <i>Nematocarcinus lanceopes</i> Bate, 1888	35
* <i>Austrofilium furcatus</i> Hodgson, 1910	28	Suborder Reptantia	
* <i>Austroniscus ectiformis</i> Vanhöffen, 1914	28	Section Brachyura (true crabs)	
<i>Iais pubescens</i> (Dana, 1852)	28	Family Hymenosomatidae	
* <i>Ianisera trepidus</i> Kensley, 1976	28	<i>Halicarcinus planatus</i> Fabricius, 1793	35
* <i>Notasellus sarsi</i> Pfeffer, 1887	29	Section Anomura	
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<i>Munna instructa</i> Cleret, 1973 TP3.1	30	<i>Lithodes murrayi</i> Henderson, 1888	36
* <i>Munna neglecta</i> Monod, 1931	30	* <i>Paralomis aculeatus</i> (Henderson, 1888)	36
* <i>Munna neozelanica</i> Chilton, 1892	30	Family Paguridae (hermit crabs)	
Family Santiidae		* <i>Pagurodes inarmatus</i> Henderson, 1888	36
<i>Santia bicornis</i> (Cleret, 1973)	29	Family Parapaguridae (anemone crab)	
* <i>Santia</i> cf. <i>hofsteni</i> (Nordenstam, 1933)	29	<i>Sympagurus dimorphus</i> (Studer, 1883)	36
* <i>Santia</i> cf. <i>marmoratus</i> (Vanhöffen, 1914)	29	= <i>Parapagurus dimorphus</i> (Studer, 1883)	
Family Pleurogonidae		Family Galatheidae	
‡ <i>Munnogonium</i> sp. SAM A40375	30	* <i>Munida spinosa</i> Henderson, 1888	37
‡ <i>Paramunna</i> sp. SAM A40373	30	Family Chirostylidae	
		<i>Uroptychus insignis</i> Henderson, 1888	37
Order Tanaidacea	31		
Suborder Monokonophora		Summary of species	
Superfamily Apseudoidea		Cirripedia : 1 species, 1 new record	
Family Apseudidae		Amphipoda : 71 species, 17 new records, 8 new species	
<i>Apseudes spectabilis</i> (Studer, 1884)	31	Isopoda : 32 species, 19 new records, 4 new species	
Suborder Dikonophora		Tanaidacea : 10 species, 8 new records	
Superfamily Paratanaoidea		Decapoda : 11 species, 4 new records.	
Family Paratanaidae		Total Crustacea : 125 species, 49 new records, 12 new species.	
* <i>Paratanais oculatus</i> (Vanhöffen, 1914)	32		
Family Leptocheliidae			
* <i>Pseudonototanais werthi</i> (Vanhöffen, 1914)	32		
Family Nototanaidae			
* <i>Nototanais antarcticus</i> (Hodgson, 1902)	33		
* <i>Nototanais dimorphus</i> (Beddard, 1886)	33		
= <i>Paratanais dimorphus</i>			
Superfamily Tanaoidea			
Family Tanaidae			
<i>Allotanais hirsutus</i> (Beddard, 1886a)	33		
= <i>Tanais hirsutus</i> , = <i>Anatanais hirsutus</i>			

Key to the subclasses and orders

- 1 Body enclosed in a shell of calcareous plates; legless; attached forms; (barnacles).
Subclass: **Cirripedia** A (p 7)

Shrimp-like or crab-like, mobile, legged forms.
Subclass: **Malacostraca** 2
- 2 Carapace absent or if present not fused to the thorax; brood pouch under the thorax of females; thoracic appendages include a pair of maxillipeds and seven pairs of pereopods; eyes sessile.
Superorder: **Peracarida** 3

Carapace and whole of the thorax fused into a single unit; eyes stalked and mobile.
Superorder: **Eucarida** 5
- 3 Carapace covering two thoracic segments (cephalothorax) followed by six visible pereon segments; body elongate; 1 pair of terminal, multijointed to 2-jointed elongate uropods; pereopod 1 (cheliped) chelate.
Order: **Tanaidacea** D (p 31)

Carapace absent thus seven pereon segments visible; pereopods 1 & 2 chelate or simple; uropods terminal or lateral, not multijointed.
..... 4
- 4 Body usually laterally compressed; usually three pairs of uropods; pereopods 1 & 2 (gnathopods) differ from the remaining 5 pereopods and may be chelate.
Order: **Amphipoda** B (p 8)

Body usually dorsoventrally flattened; one pair of uropods; pereopods 1-7 may be subchelate but are structurally similar.
Order: **Isopoda** C (p 22)
- 5 Seven pairs of walking legs used to filter food.
Order: **Euphausiacea** krill, planktonic, not represented in this key.

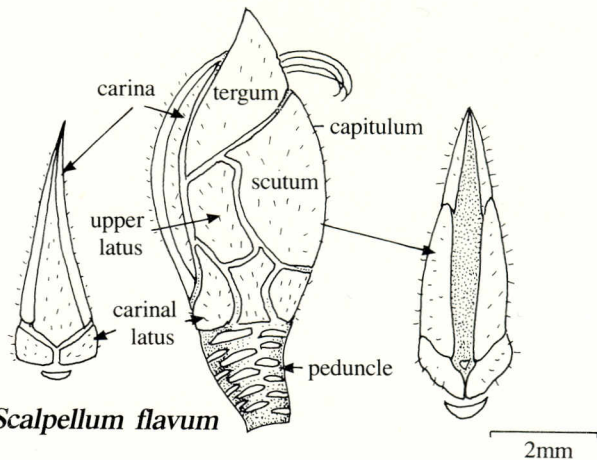
First three pairs of thoracic limbs reduced to mouth parts, leaving five pairs of walking legs on the thorax; shrimps, crabs, rocklobsters.
Order: **Decapoda** E (p 35)

1 Body attached by a fleshy stalk or peduncle; plates restricted to upper part (capitulum).

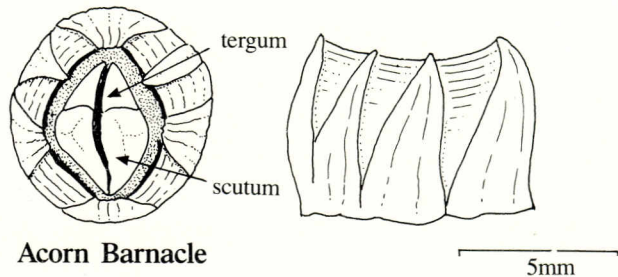
Suborder **Lepadomorpha** — Goose barnacles.
Peduncle short, tapering proximally, bearing about 7 rows of four to five crescent-shaped scales; capitulum with 13 valves covered by a thin membrane with fine cuticular spines; carina very long, simple and bowed, upper roof of which is convex; scutum about twice as long as broad; tergum triangular, similar size to scutum; upper latus very large and quadrangular; infra median latus narrow; carinal latus elongate with the umbo near the base.
Scalpellum flavum Hoek, 1883

Body without peduncle; plates attached directly to the substratum.

Suborder **Balanomorpha** Acorn barnacles.
(Two unidentified specimens were collected.)



Scalpellum flavum



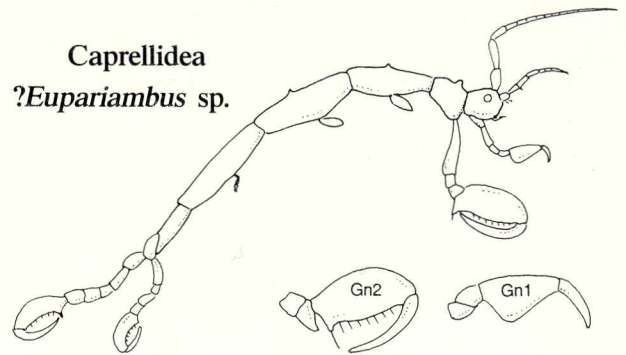
Acorn Barnacle

B Amphipoda

Characteristics of the suborders (After Griffiths 1976)

Suborder: Caprellidea

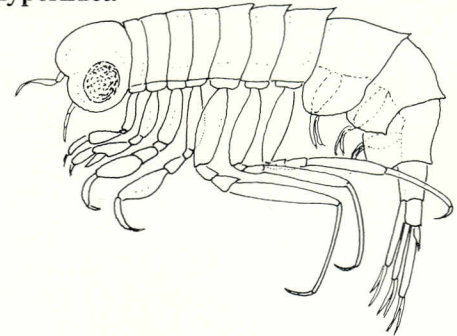
Slender, elongate, cylindrical, usually living amongst weeds; head fused to pereon segment 2; pereon often with less than 7 pairs of limbs, coxae absent; pleon and its appendages vestigial; eyes usually small. (Only 2 specimens recorded from Marion Island in the 1984-1989 benthic survey — both representing an unidentified species of the family Aeginellidae, close to *Eupariambus* sp. SAM A40356 & SAM A40357)



Suborder: Hyperiidea

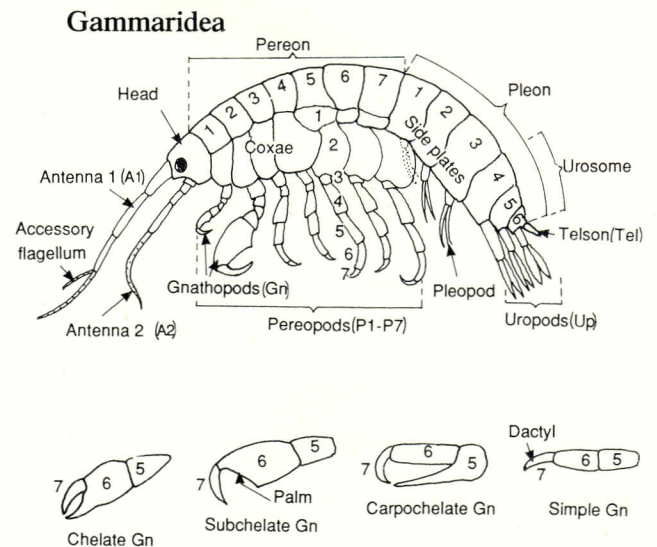
Pelagic, semi-transparent; head not fused with second pereon segment; eyes usually large; palp of maxilliped absent; pereon with 7 pairs of limbs, coxae small or absent; pleon usually well developed with 3 pairs of biramous pleopods and 3 pairs of uropods. (Although a few species of Hyperiidae were recovered in the benthic collections around Marion Island, they are planktonic in habit and are hence not considered further.)

Hyperiidea



Suborder: Gammaridea

Usually benthic, opaque; head not fused with second pereon segment; eyes moderate to absent; palp of maxilliped present (with rare exception); pereon with 7 pairs of limbs, coxae well developed; pleon usually of 6 segments carrying 3 pairs of pleopods and usually 3 pairs of uropods.



Amphipoda — Gammaridea

Key to the species

1 Gnathopods both chelate, although the chelae may be very small, (segment three of gnathopod 2 elongate).
..... 2

Gnathopods simple or subchelate.
..... 4

2 Large dorsal processes on pereon segments 6 and 7, pleon segments 1-3 and urosome segment 1; coxae long, acutely-pointed ventrally; gnathopods minutely chelate; uropod 3 biramus; telson shallowly cleft: mouthparts styliform, piercing.

Gnathiphimedia urodentata Bellan-Santini & Ledoyer, 1986

Pleon dorsally smooth; anterior coxae not ventrally pointed; uropod 3 uniramus or without rami; telson entire.

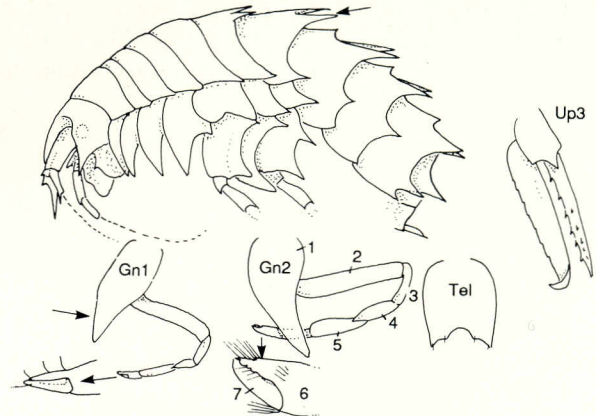
..... 3

3 Urosome segment 1 with characteristic hook-shaped dorsal process; uropod 3 reduced, without rami; pereopods 5-7, article 2 and 4 both narrow.

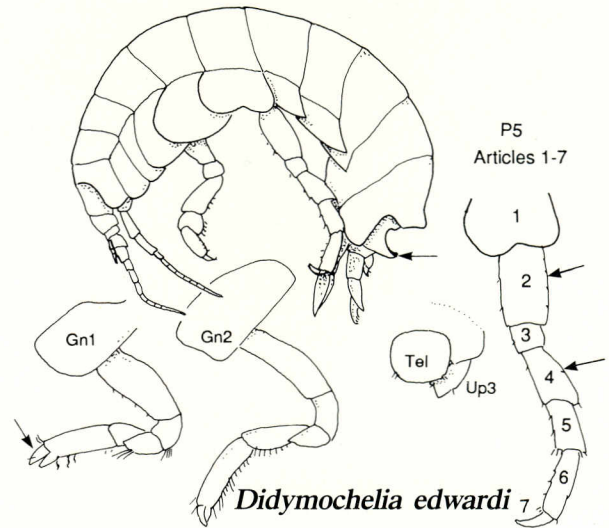
Didymochelia edwardi Bellan-Santini & Ledoyer, 1986

Urosome segment 1 dorsally smooth; uropod 3 with single long ramus; pereopods 5-7, article 2 dilated, article 4 expanded and projected distally.

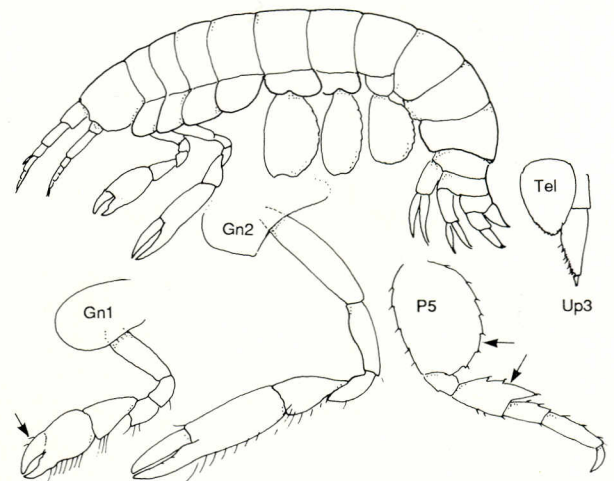
Seba saundersii Stebbing, 1875



Gnathiphimedia urodentata

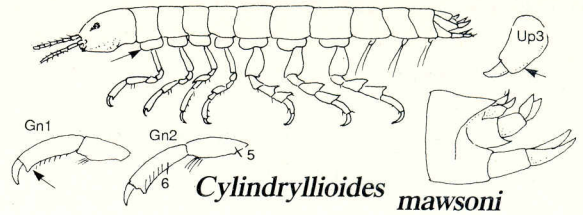


Didymochelia edwardi



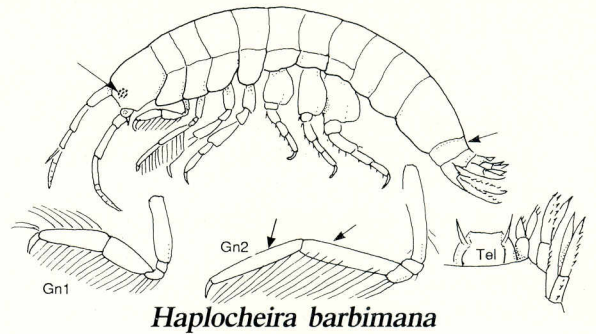
Seba saundersii

4 Coxae small, length not exceeding height of pereon segments; gnathopods simple or weakly subchelate, article 5 of gnathopod 2 at least as long as article 6.
..... 5



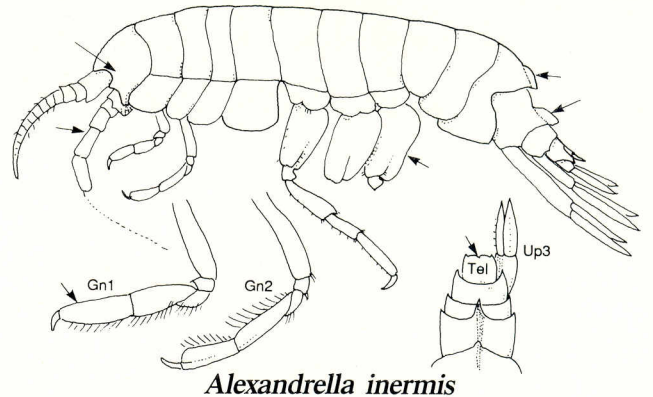
Coxae large or gnathopods distinctly subchelate, or both.
..... 8

5 Body cylindrical; uropod 3 reduced, uniramus; urosome segments 2 and 3 coalesced; gnathopods weakly subchelate.
Cylindrylloides mawsoni Nicholls, 1938



Body laterally flattened; uropod 3 large and biramus; gnathopod 1 (and usually 2) simple.
..... 6

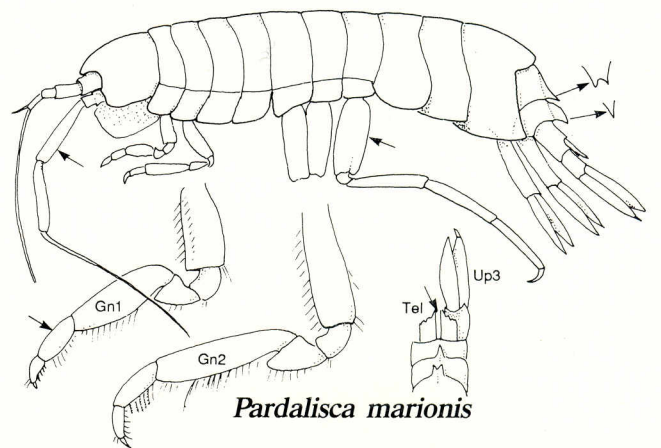
6 Urosome smooth; eyes present; gnathopod 2, articles 5 and 6 very elongate, setose posteriorly; uropod 3, inner ramus half length of outer.
Haplocheira barbimana (Thomson, 1879)



Urosome dorsally keeled; eyes absent; uropod 3, rami equal.
..... 7

7 Dorsal keel on pleon segment 3 and urosome segment 1; telson entire; antennae, first three articles very short; gnathopod 1, article 6 as long as 5; pereopods with expanded article 2.
Alexandrella inermis Bellan-Santini & Ledoyer, 1986

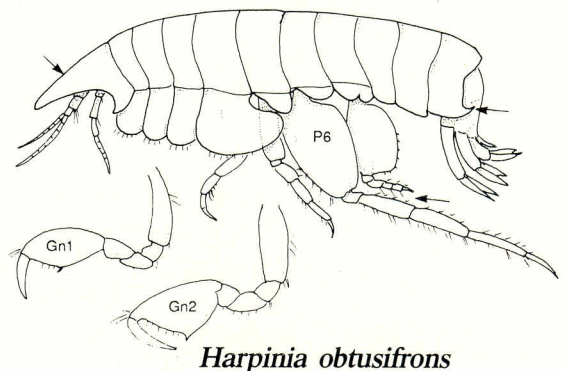
Pleon segment 3 smooth; urosome segment 1 with a pair of teeth, segment 2 with one; telson deeply cleft; antennae long; gnathopod 1, article 6 smaller and narrower than 5.
Pardalisca marionis Stebbing, 1888



8 Head with a pronounced rostrum; pereopods strongly setose.
..... 9

Head lacks pronounced rostrum.
..... 12

9 Head covered by large hood-like rostrum overlapping bases of antennae; pleon segment 3, posterior edge of side-plate with a pronounced distal hook; pereopod 6 much longer than 7; telson cleft.
Harpinia obtusifrons Stebbing, 1888



Rostrum not hood-like, antennae terminal; pereopod 7 longer than 5 and 6; telson entire.
(Oedicerotidae) 10

- 10 Antenna 2 enlarged, at least 1,5 x length of antenna 1; gnathopod 2, article 5 projects at right angles and does not guard the posterior margin of article 6.

? *Oediceroides cinderella* Stebbing, 1888

Antenna 2 less than 1,5 x length of antenna 1; gnathopod 2, article 5 with elongate lobe that guards posterior margin of article 6.

..... 11

- 11 Pereopod 3 setose along the whole anterior margin of article 6; gnathopod 2 palm oblique and as long as hind margin.

Monoculodes scrabriculosus KH Barnard, 1932

Pereopod 3, anterior margin of article 6 setose only distally; gnathopod 2 palm shorter than hind margin.

? *Monoculodes antarcticus* KH Barnard, 1932

- 12 Coxae 2-4 very large, overlapping and concealing reduced coxa 1, gnathopod 2 subchelate, article 5 shorter than 6.

..... 13

Coxae 2-4 small or large but not concealing coxa 1, (or if coxa 1 concealed, gnathopods simple and article 5 longer than 6.)

..... 21

- 13 Uropod 3 biramus.
(*Amphilochidae*) 14

Uropod 3 with single 2-segmented ramus.
(*Stenothoidae*) 15

- 14 Telson narrowly triangular ending in three small points; mandibular palp setose.

Gitanopsis squamosa (Thomson, 1880)

Telson triangular, terminally rounded; mandibular palp not setose.

Gitanopsis marionis (Stebbing, 1888)

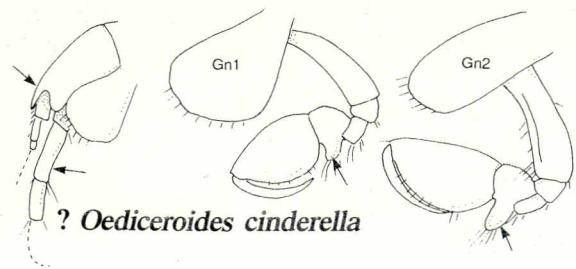
- 15 Article 2 of pereopod 7 expanded into a flattened posterior lobe 16

Article 2 of pereopod 7 narrow and linear, lacking posterior lobe 19

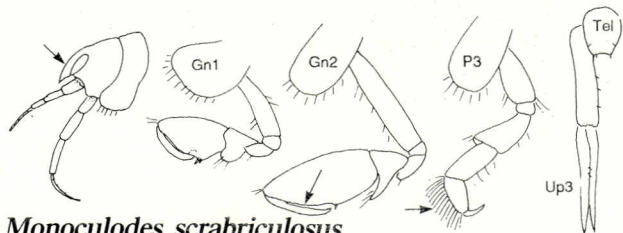
- 16 Gnathopods dissimilar, gnathopod 1 article 4 with a rounded projection, articles 5 and 6 elongate; antenna 2 as long as body; pereopods 5-7 article 4 narrow, as long as article 2; mandibular palp present.

Proboloides sp. A. SAM A40358

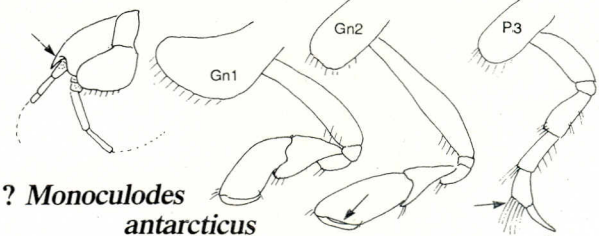
Gnathopods similar, gnathopod 1 not as above; pereopods 5-7 article 4 shorter than 2 17



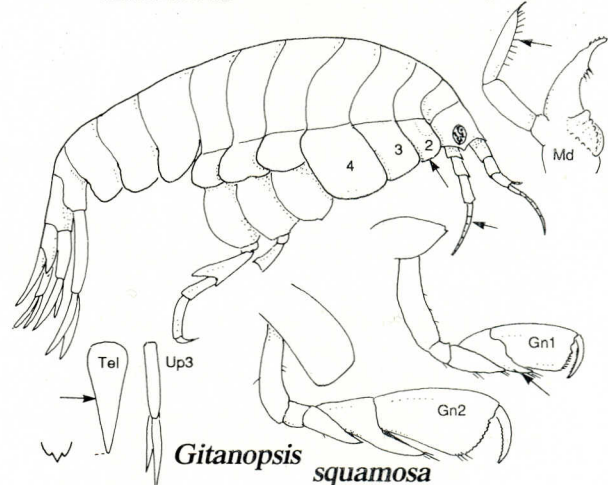
? *Oediceroides cinderella*



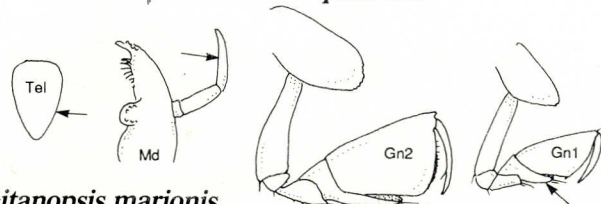
Monoculodes scrabriculosus



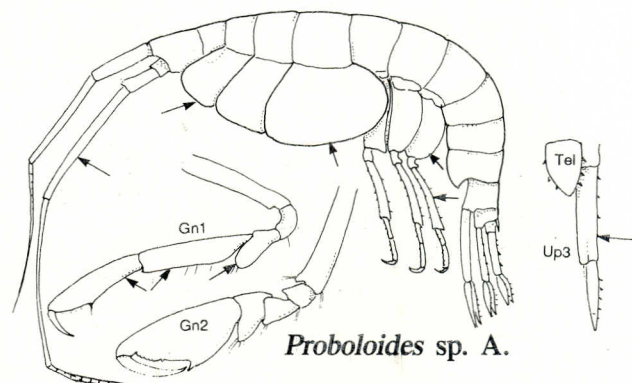
? *Monoculodes antarcticus*



Gitanopsis squamosa



Gitanopsis marionis



Proboloides sp. A.

- 17 Pereopods 5-7, article 4 not lobed posteriorly; pereopod 6, article 2 not expanded; mandibular palp 3-articulate.

Probolooides elliptica (Schellenberg, 1931)

- Pereopods 5-7, article 4 postero-distally lobed; pereopod 6 and 7 article 2 expanded; mandibular palp absent or bi-articulate.

..... 18

- 18 Mandible without palp.

Stenothoe sp. listed by Bellan-Santini and Ledoyer (1986)

Mandible with a flat 2 articulate palp.

Probolooides sp. B SAM A40359 & SAM A 40360

- 19 Urosome segments smooth and separate; telson not thickened; article 1 of antenna 1 not lobed distally; mandibular palp one-segmented.

Probolisca ovata (Stebbing, 1888).

Either urosome or telson dorsally keeled; urosome segments coalesced.

..... 20

- 20 Urosome segment 1 with large dorsal ridge; antenna 1, article 1 with a distal lobe overlapping article 2; mandibular palp 1-segmented.

Pseudothaumatelson cyproides Nicholls, 1938

Urosome smooth but telson dorsally ridged; antenna 1, article 1 not distally lobed; mandibular palp 3-segmented.

Thaumatelson herdmani Walker, 1906

- 21 Coxae large, as tall as body segments; gnathopod 1 simple or weakly subchelate; article 3 of gnathopod 2 often elongate.

..... 22

Coxae small to moderate sized, shorter than body segments; gnathopods strongly subchelate; article 3 of gnathopod 2 not elongate.

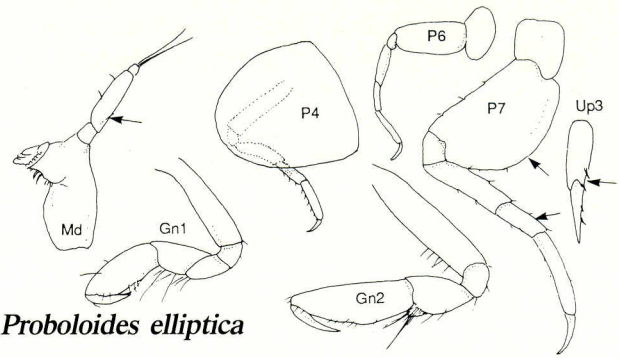
..... 35

- 22 Gnathopod 2, article 3 elongate; antenna 1 short and stout, articles 2 and 3 of peduncle much shorter than 1.

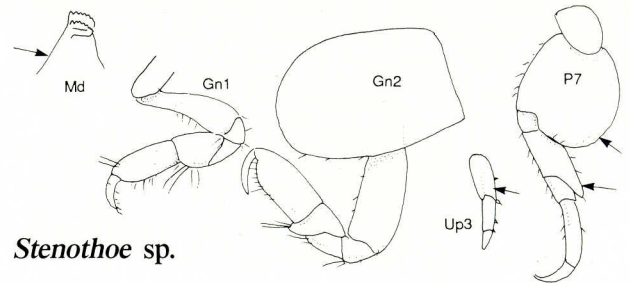
..... 23

Gnathopod 2, article 3 not elongate; antenna 1 may be short but articles 2 and 3 usually as long as 1; pereopods strongly spinose and setose. (Haustoriidae)

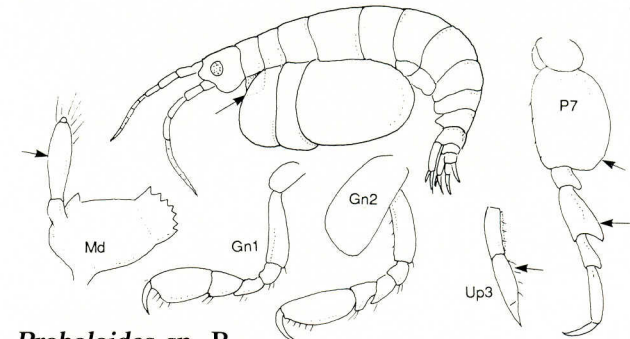
..... 32



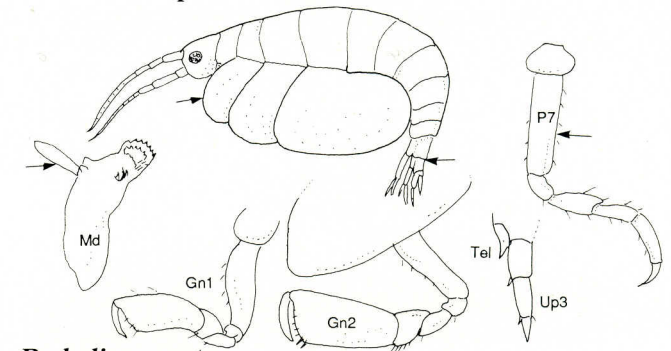
Probolooides elliptica



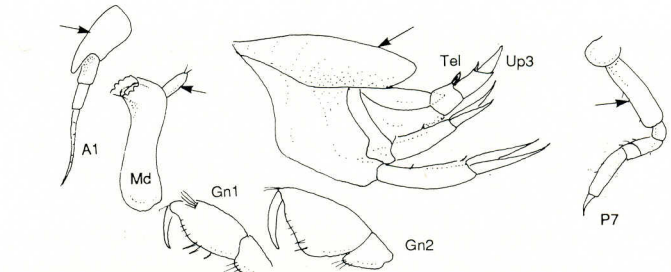
Stenothoe sp.



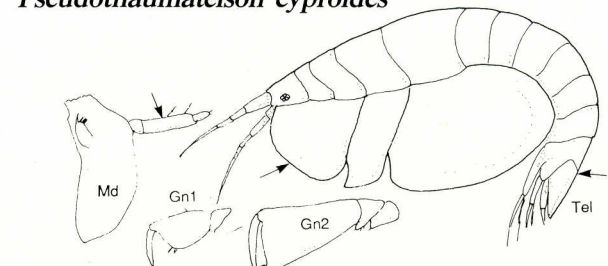
Probolooides sp. B



Probolisca ovata

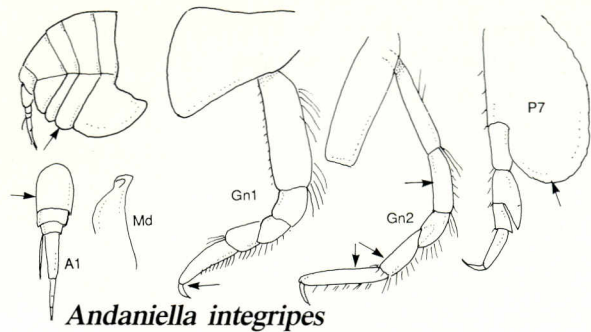


Pseudothaumatelson cyproides



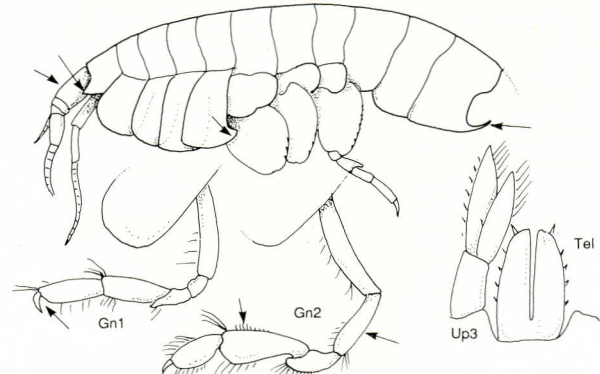
Thaumatelson herdmani

- 23 Both gnathopods simple, article 6 longer than 5; mandible without molar or palp; pereopods 7, article 2 very large and strongly lobed distally; pereopods 5 and 6, article 2 narrow.
Andaniella integripes Bellan-Santini and Ledoyer, 1986



- Gnathopod 2, and often 1, article 5 as long or longer than 6; mandible with palp.
(Lysiannassidae) 24

- 24 Gnathopod 1 subchelate (sometimes weakly so); telson cleft.
..... 25

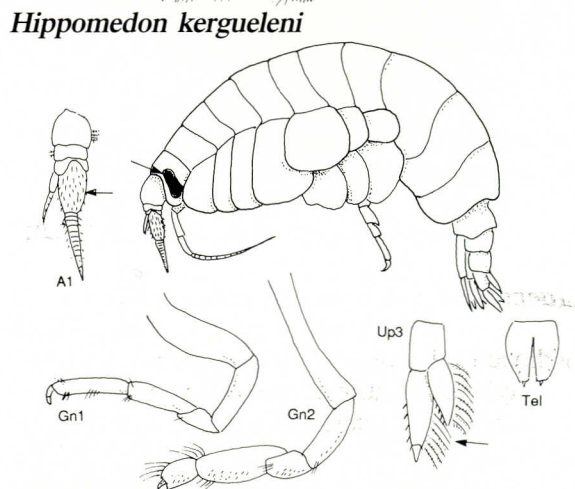


- Gnathopod 1 simple; telson entire.
..... 27

- 25 Pleon segment 3, posterior corner of side-plate produced into a strongly upturned tooth; anterior corner of the head pointed; eye indistinct.
Hippomedon kergueleni (Miers, 1875)

- Pleon segment 3, side-plate rounded or square, not strongly produced; corner of head rounded; eye large, not obscured by coxa 1.
..... 26

- 26 Gnathopod 1 articles 5 and 6 elongate, length > 3x width palm oblique; antenna 1, article 1 of flagellum elongate (as long as the peduncle) and covered with easthetascs (hairs).
Pseudorchomene coatsi (Chilton, 1912)

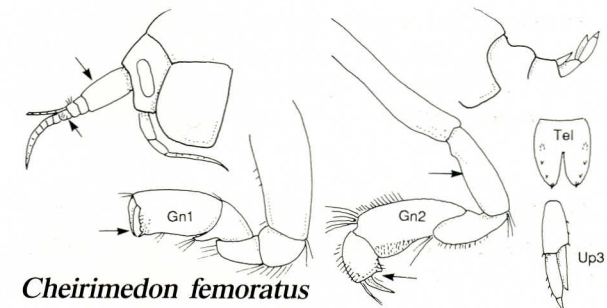


- Gnathopod 1 article 6 broad, length < 2x width palm flat, article 5 triangular; antenna 1 in female, article 1 of flagellum small (as short as articles 2 or 3 of peduncle), not setose.
Cheirimedon femoratus (Pfeffer, 1888)

Pseudorchomene coatsi

- 27 Coxae 1 and 2 small, partly hidden by forward projecting coxa 3; pleon segment 3 with triangular dorsal tooth.
Lepidepecreella tridactyla Bellan-Santini, 1972

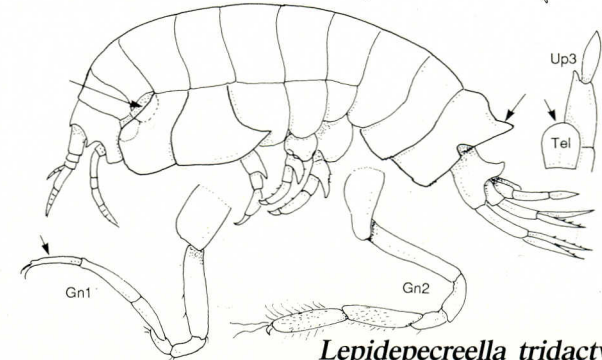
- Coxae 1-3 subequal in size, coxa 1 projecting forwards to at least partly conceal head; pleon segment 3 dorsally smooth.
..... 28



Cheirimedon femoratus

- 28 Head totally concealed by coxa 1; dorsal hump on urosome segment 1; uropod 3 greatly reduced, with single minute ramus, or both rami absent.
..... 29

- Head only partly covered by coxa 1; urosome segment 1 dorsally smooth; uropod 3 biramus, although inner ramus reduced.
..... 31



Lepidepecreella tridactyla

29 Pereopod 7, article 2 broadly rounded posteriorly, not posterior-distally pointed.

Acontiostoma marionis Stebbing, 1888

Pereopod 7, article 2 posteriorly expanded and produced to a distal point.

30

30 Telson longer than broad, terminating in two short spines.

Stomacontion acutibasalis (Bellan-Santini and Ledoyer, 1974)

Telson broader than long, with 6 strong terminal spines.

Stomacontion pepinii (Stebbing, 1888)

31 Eye large, black: gnathopod 2 relatively short and stout (twice length of coxa 2).

Parawaldeckia kidderi (Smith, 1876)

Eyes absent; gnathopod 2 long and slender (three times length of coxa 2).

Kerguelenia antiborealis Bellan-Santini & Ledoyer, 1986

32 Gnathopod 2 very elongate, simple and strongly setose, folded between articles 5 and 6, lacking dactyl; gnathopod 1 of female simple, gnathopod 1 of male subchelate; uropod 3 rami large, subequal; coxa 1 tiny, covered by coxa 2.

Cardenio paurodactylus Stebbing, 1888

Gnathopod 2 not very elongate or setose, not folded, dactyl present; uropod 3 inner ramus considerably shorter than outer; coxa 1 not much smaller than 2.

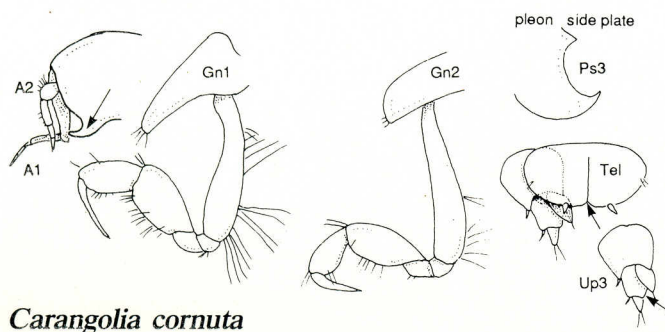
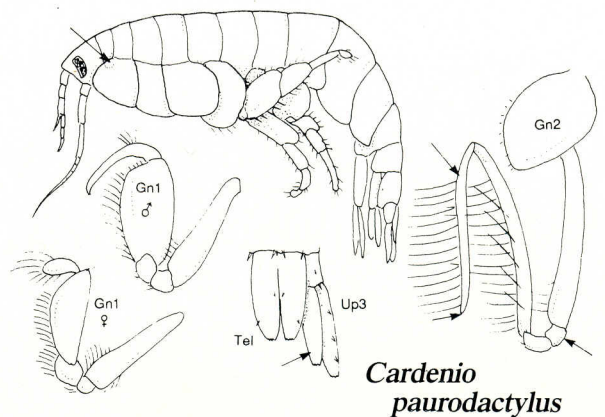
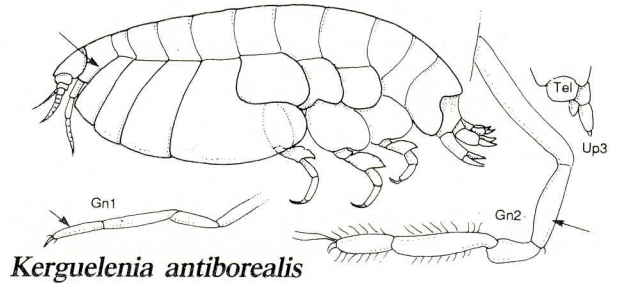
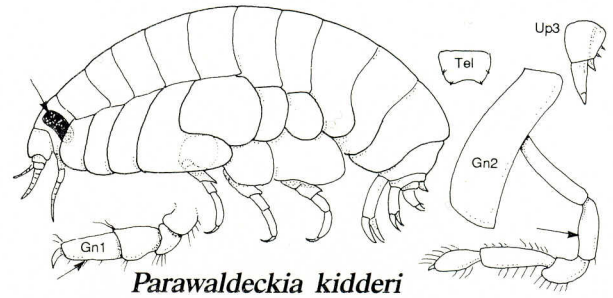
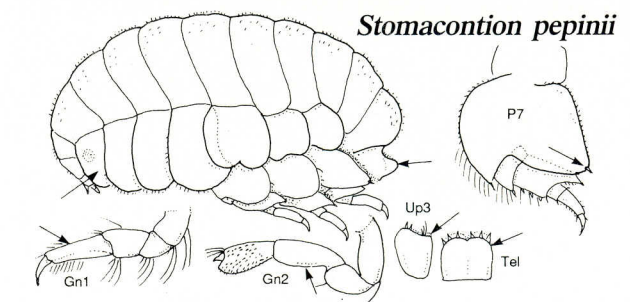
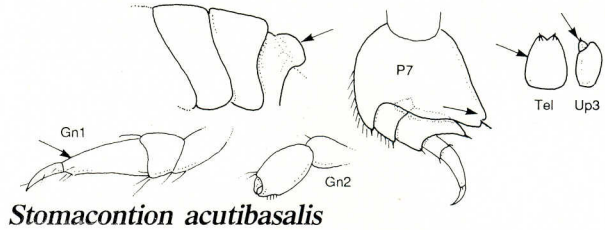
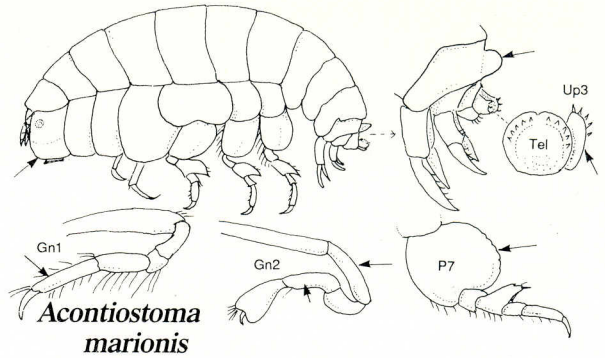
33

33 Anterior corner of head produced into an elongate tooth; uropod 3, rami reduced, both shorter than peduncle; telson short, broad and minutely cleft.

Carangolia cornuta Bellan-Santini & Ledoyer, 1986

Anterior corner of head not toothed; uropod 3, outer ramus much longer than peduncle; telson deeply cleft.

34



Carangolia cornuta

Cardenio paurodactylus

- 34 Pereopod 6, article 2 greatly expanded posteriorly and distally; pereopod 7, article 2 expanded and extending distally to end of article 4; uropod 3, outer ramus about 4x length of inner.

Urothoides lachneessa Stebbing, 1888

Pereopod 6, article 2 not greatly expanded posteriorly or distally; pereopod 7, article 2 not extending distally beyond the tip of article 3; uropod 3, outer ramus twice length of inner.

Urothoe marionis Bellan-Santini & Ledoyer, 1986

- 35 Gnathopod 1 and 2, article 5 projects beneath article 6 to protect it for one third or more of its length; coxae moderate sized, thin; uropod 3 large, biramus, extends beyond uropod 2 36

Gnathopod 1 article 5 not as above, or if so then coxae small and uropod 3 uniramus 39

- 36 Gnathopod 1 carpochelate (claw formed by articles 5-7); uropod 3, huge peduncle longer than rami; telson entire; antenna 1, accessory flagellum minute or absent.

(*Leucothoidae*) 37

Gnathopod 2 strongly subchelate. Uropod 3 large, peduncle shorter than rami; telson deeply cleft; antenna 1 with long accessory flagellum.

(*Liljeborgidae*) 38

- 37 Gnathopod 1, dactyl very short; telson short, length 2x width; gnathopod 2, palm with teeth; pereopods 5-7, article 2 smooth; exoskeleton smooth.

Leucothoe sp. SAM A40379

Gnathopod 1, dactyl elongate, overlaps the projection of article 5; gnathopod 2, palm rounded, finely serrated; telson long, length 4x width; pereopods 5-7, article 2 expanded with serrated margins; exoskeleton textured.

Leucothoe spinicarpa (Abilgaard, 1879)

- 38 Pleonal segments 1-5 with 3:3:0:1:1 dorsal teeth respectively.

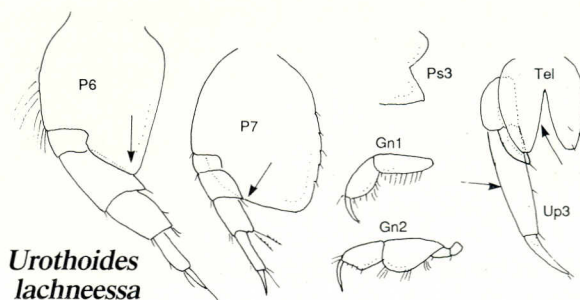
Liljeborgia longicornis (Schellenberg, 1931)

Pleonal segments 1-5 with 1:1:0:1:0 dorsal teeth respectively.

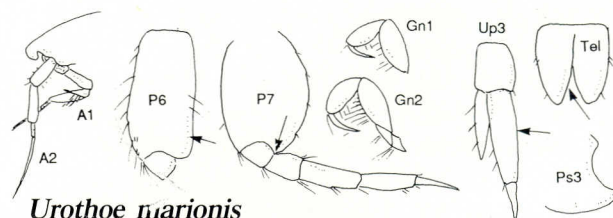
Liljeborgia pseudomacronyx Bellan-Santini & Ledoyer, 1986

- 39 Antenna 1 shorter than pereon and than antenna 2, without accessory flagellum; mandibular palp absent; uropod 3 short, uniramus; telson thick and cleft — conical lobes set at an angle to one another (*Talitroidea*) 40

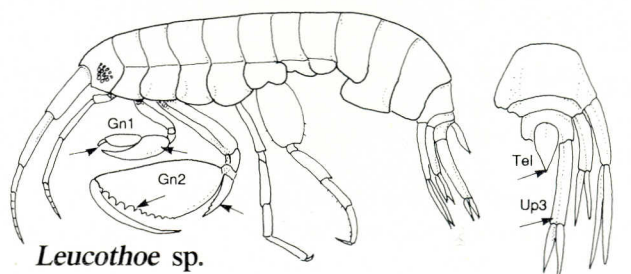
Antenna 1 longer than pereon, usually with accessory flagellum; mandibular palp present 42



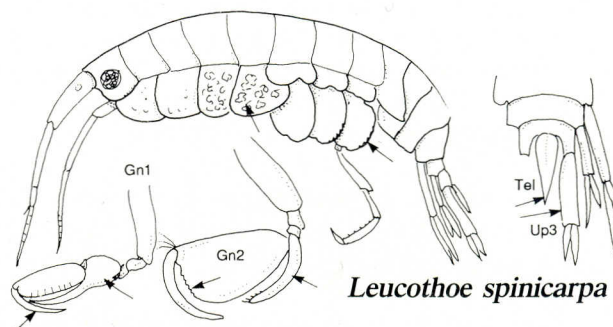
Urothoides lachneessa



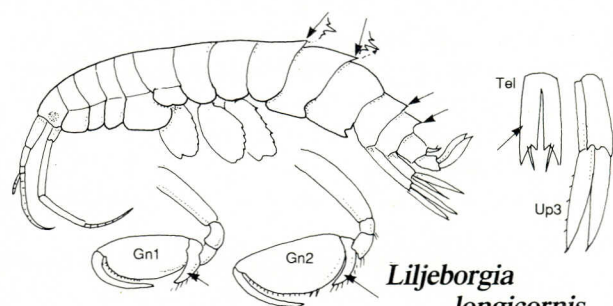
Urothoe marionis



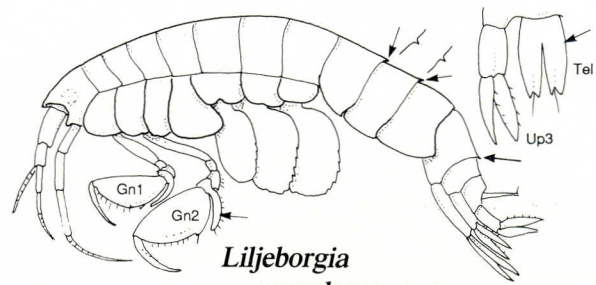
Leucothoe sp.



Leucothoe spinicarpa



Liljeborgia longicornis



Liljeborgia pseudomacronyx

40 Male gnathopod 2 large, palm very setose and oblique, poorly defined from hind margin; eyes pale.
Hyale hirtipalma (Dana, 1852)

Male gnathopod 2, palm not setose, distinct angle between palm and hind margin; eyes dark.
..... 41

41 Male gnathopod 2, article 5 not projecting between articles 4 and 6, palm oblique; uropods 1 and 2 extending well beyond short uropod 3; coxae do not project forward to partly cover head.
Hyale grandicornis (Kroyer, 1945)

Male gnathopod 2, article 5 projecting between 4 and 6 to form a large lobe, palm transverse; uropod 2 not projecting beyond 3; coxa 1 large, projecting forward beyond front of head.
Talitridae ? new genus SAM A40361

42 Urosome segment 1 elongate, more than twice as long as 2; body strongly depressed; coxae small; telson entire; uropod 3 reduced and lacking rami.
(Podoceridae) 43

Urosome segment 1 not much longer than 2; uropod 3 with one or two rami.
..... 44

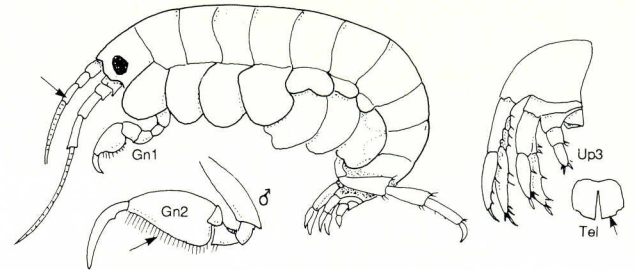
43 Dorsal teeth on pereon segments 3-7 and pleon segments 1-3; gnathopod 2 large, twisted to lie under the body, palm with several teeth distally and a large semicircular excision near defining tooth.
Podocerus danae (Stebbing, 1888)

Body dorsally smooth, lacking teeth; gnathopod 2 large, palm evenly convex with small serrated teeth for most of its length and a very setose inner margin.
Podocerus sp. ? *P. capillimanus* SAM A40362

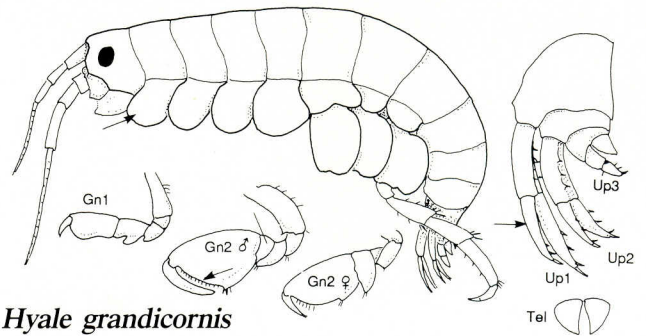
44 Telson short, fleshy, entire; uropod 3 with short rami; tubicolous; antennae long and setose, accessory flagellum present; gnathopod 2 usually well developed toothed, larger than gnathopod 1; pereopods glandular.
..... 45

Telson elongate, laminar, usually cleft; uropod 3 bears elongate rami; free living; antennae usually not very setose; pereopods not glandular.
Eusiridae & Gammaridae..... 55

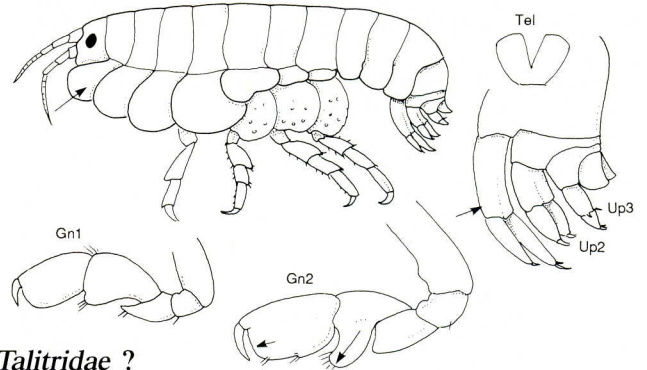
45 Uropod 3 rami shorter than elongate peduncle, outer ramus with hooked tip or hooked spines at tip; if rami reduced then male gnathopod 2 carpochele (dactyl closing on article 5).
(Ischyroceridae) 46



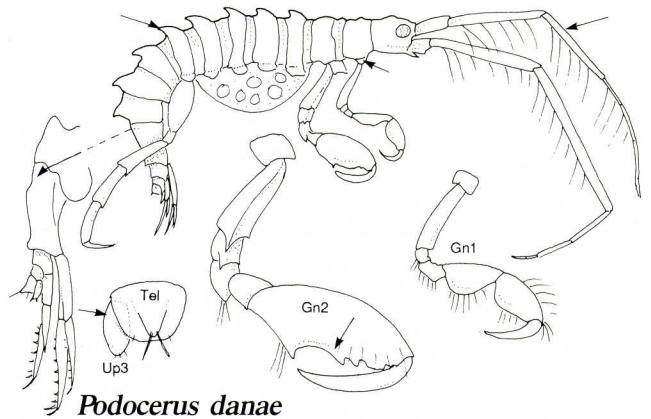
Hyale hirtipalma



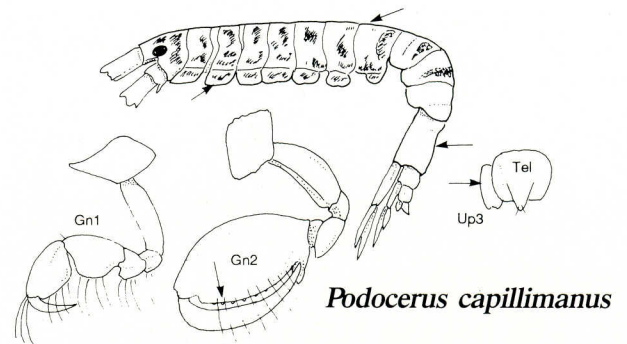
Hyale grandicornis



Talitridae ?
SAM A40361



Podocerus danae



Podocerus capillimanus

Uropod 3 rami longer than peduncle, rami not hooked.

(Corophiidae) 53

46 Male gnathopod 2, article 5 greatly expanded, larger than 6 and forming the 'hand' on which articles 6 and 7 close (carpochele); uropod 3 uniramus.

..... 47

Gnathopod 2 subchelate, article 6 longer than 5, which is not expanded.

..... 48

47 Uropod 2 uniramus; male gnathopod 2, article 6 slender and curved; antenna 1, article 1 swollen with distal projections.

Cerapus oppositus KH Barnard, 1932

Uropod 2 biramus, inner ramus reduced; male gnathopod 2, article 6 almost as broad as long, much shorter than article 5.

Pseuderichthonius gaussi Schellenberg, 1926

48 Urosome segments 1 and 3 each with small, paired dorso-lateral teeth; pereopods 6 and 7, article 2 posteriorly crenulate; pereopod 5, article 4 expanded and similar in width to article 2.

Pseudischyrocerus crenatipes Bellan-Santini and Ledoyer, 1986

Urosome segments dorsally smooth; pereopods 5-7, article 2 posteriorly smooth, article 4 not expanded

..... 49

49 Uropod 3, rami dorsally and terminally smooth or with short spines or setae.

..... 50

Uropod 3, outer ramus with a strong terminal spine and two triangular dorsal teeth.

..... 52

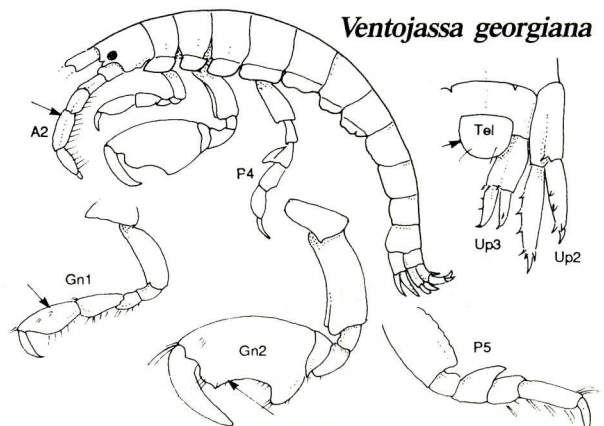
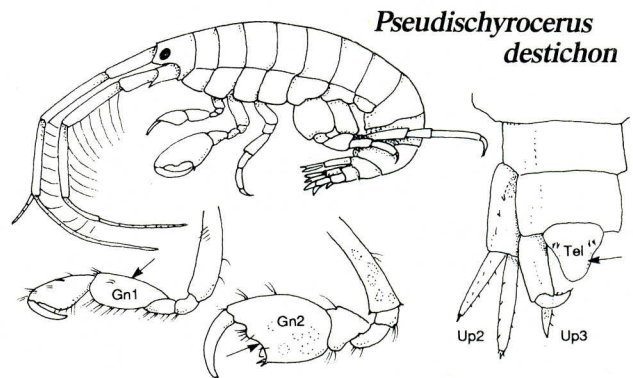
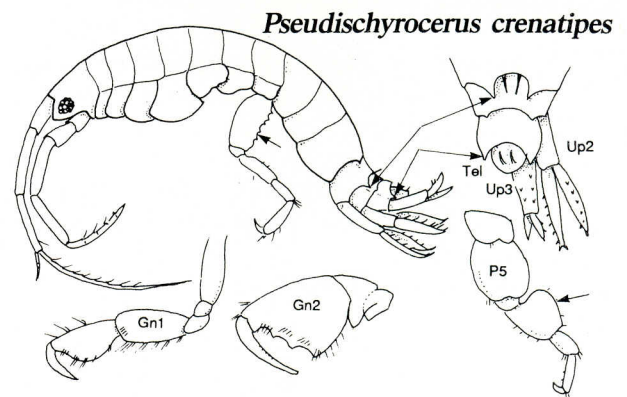
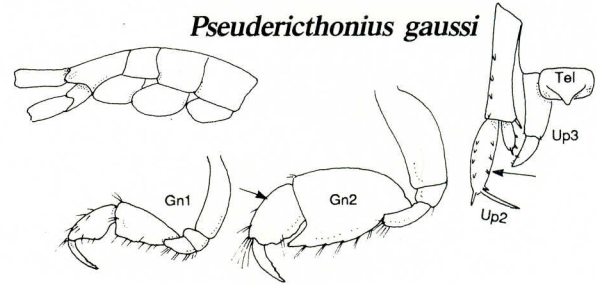
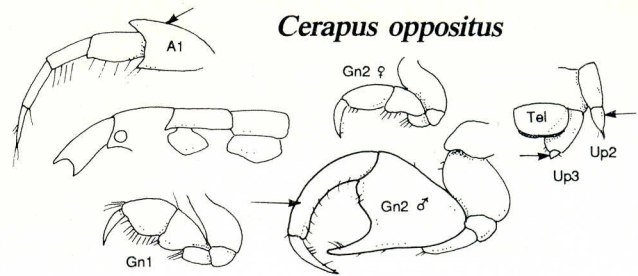
50 Telson constricted terminally with a bluntly rounded tip; gnathopod 1, article 5 longer than article 6; male gnathopod 2 palm almost transverse; coxae moderate sized, thin, rectangular in shape.

Pseudischyrocerus distichon (KH Barnard, 1930)

Telson smoothly rounded, semicircular; gnathopod 1, article 6 longer than 5.

..... 51

51 Gnathopod 2, palm very oblique with a distal tooth and large proximal concavity, dactyl stout; uropod 3, peduncle about twice length of rami; antenna 2, stout, without flagellum, curved to meet at the tips to form a circle with filtering hairs facing the centre; *Ventojassa georgiana* Schellenberg, 1931



Gnathopod 2, palm only slightly oblique, as long as hind margin, without large teeth; uropod 3, peduncle four times length of minute rami.

? *Ischyrocerus* sp. 1 listed by Bellan-Santini & Ledoyer, (1986)

- 52 Male gnathopod 2, palm very oblique with a large characteristic 'thumb' when male fully mature; common.

Jassa alonsoae Conlan, 1990

Gnathopod 2, palm oblique but not much longer than hind margin, bearing large triangular distal tooth but no thumb; coxa 1 longer than 2.

? *Ischyrocerus* sp. 2 SAM A 40363

- 53 Gnathopod 2 powerful much larger than 1, article 5 small and triangular, palm with a broad flat tooth near the articulation of the dactyl.

Gammaropsis sp. SAM A 40364

Gnathopod 2 slender and similiar in size to gnathopod 1, article 5 elongate, equal in length to article 6.

..... 54

- 54 Urosome segment 1 with a pair of latero-dorsal keels; gnathopod 2 larger than 1, palm strongly oblique.

Gammaropsis longitarsus (Schellenberg, 1931)

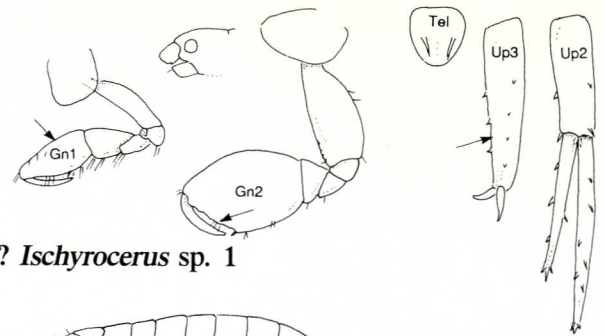
Urosome not keeled; gnathopods 1 and 2 about equal in size; palm of gnathopod 2 almost transverse.

Lembos sp. Bellan-Santini and Ledoyer, 1986

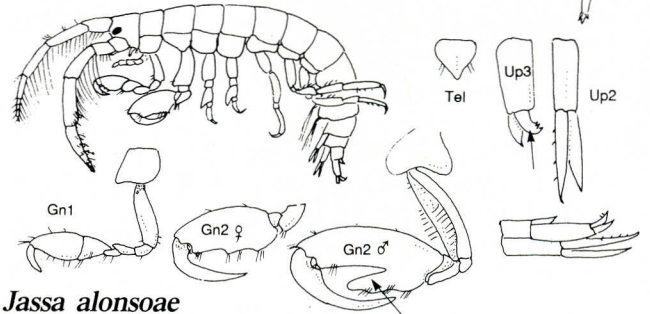
- 55 Antenna 1 much longer than 2.

..... 56

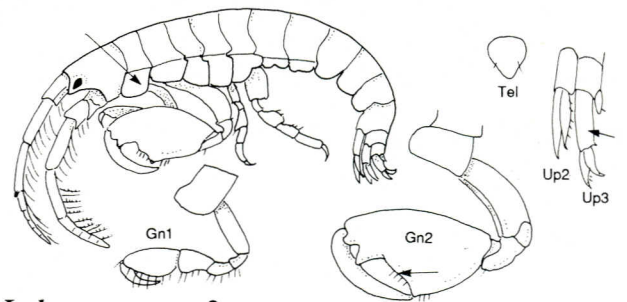
Antenna 1 shorter or only slightly longer than antenna 2, accessory flagellum absent or very small. (*Eusiridae*) 58



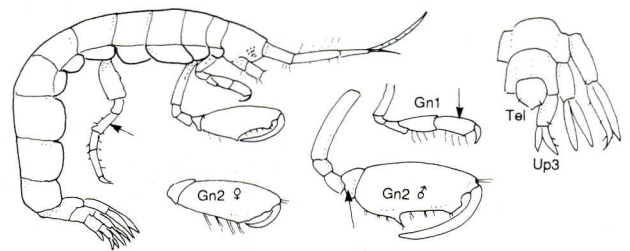
? *Ischyrocerus* sp. 1



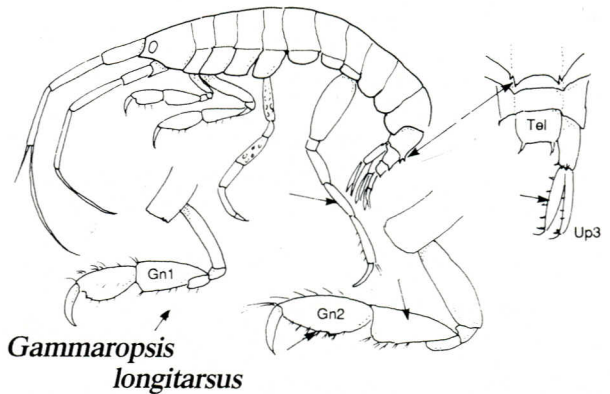
Jassa alonsoae



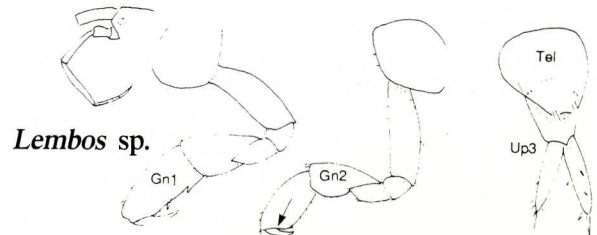
? *Ischyrocerus* sp. 2



Gammaropsis sp.



Gammaropsis longitarsus

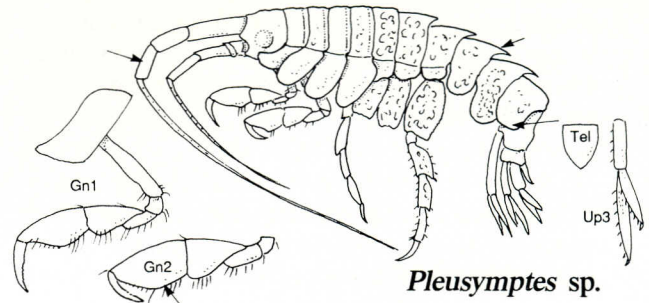


Lembos sp.

56 Telson entire; accessory flagellum on antenna 1, small or absent. (**Pleustidae**).

Large dorsal spines on pereon segments 5-7 and pleon segments 1 and 2; pleonal side plates with blunt posterior corners; surface with characteristic mottled texture.

Pleusymtes sp. SAM A 40378



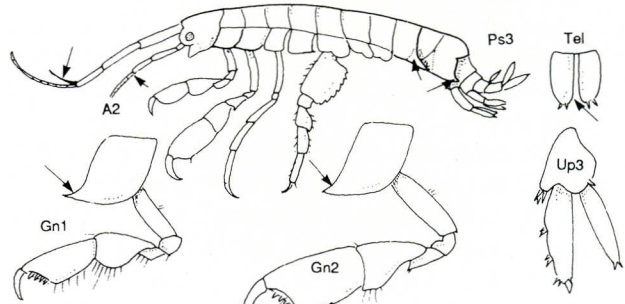
Pleusymtes sp.

Telson deeply cleft; accessory flagellum on antenna 1 long and multi-articulate.

(**Gammaridae**) 57

57 Single pair of compound eyes; coxae 1 and 2, lower anterior corner produced into an acute point; pleon side plates 1 and 3 with an acutely produced posterior ventral corner; antenna 2 very short, usually not exceeding the peduncle of antenna 1.

Ceradocopsis kergueleni Schellenberg, 1926



Ceradocopsis kergueleni

Eyes unusual, comprised of diffuse ocelli scattered on the posterior half of the head; coxa 1 and 2 quadrate, anterior angle not produced; antenna 2 short but exceeds peduncle of antenna 1; pleon side plates not strongly produced.

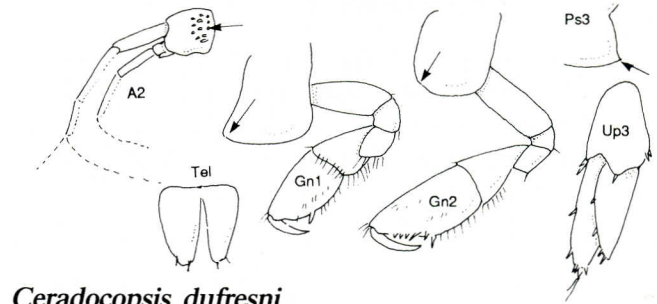
Ceradocopsis dufresni Bellan-Santini and Ledoyer, 1986

58 Telson long, tapering, at least 50% cleft; eyes always present.

..... 59

Telson entire or notched, but less than 50% cleft; eyes present or absent.

..... 64



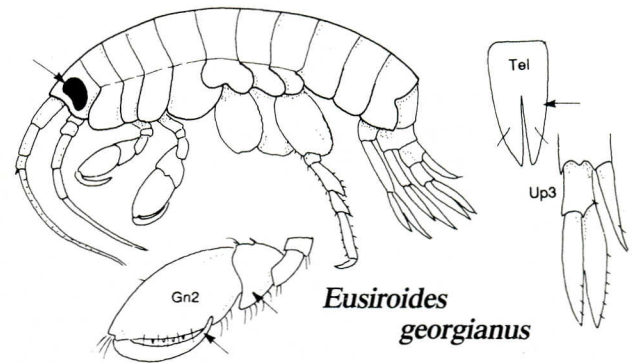
Ceradocopsis dufresni

59 Gnathopod 2, article 5 short, less than half length of 6, posteriorly lobed; palm strongly oblique, poorly defined, dactyl closes inside palm; eye large, black, bean-shaped; exoskeleton porcellanous.

Eusiroides georgianus KH Barnard, 1932

Gnathopod 2, article 5 more than half length of 6; palm short, transverse, well defined from hind margin, dactyl does not close inside palm.

..... 60



Eusiroides georgianus

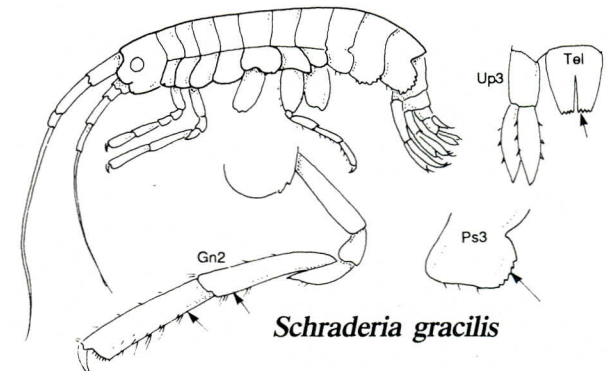
60 Gnathopods 1 and 2, articles 5 and 6 narrow, elongate and parallel-sided, length > 3x width; telson truncated at tip, not pointed.

Gnathopods 1 and 2, articles 5 and 6 stout, length < 2x width, widening distally; telson tapers to a blunt point.

..... 62

61 Pleon dorsally smooth, pleonal side plates strongly serrated posteriorly; eye pale, round; telson with a truncated, serrated tip.

Schraderia gracilis Pfeffer, 1888



Schraderia gracilis

Pleon segments 1 and 2 each with single, medio-dorsal tooth on the posterior margin; pleonal side plates not serrated, a strongly curved point on the postero-ventral corner; eye large, dark and square; telson with a smooth, flat tip.

Djerboa furcipes Chevreux, 1906

- 62 Lower front corner of head and upper lip both produced into points; pleonal side plate 3 with a semi-circular notch above pointed ventral corner; eye round with a dark margin.

Atyoella magellanica (Stebbing, 1888)

Head and upper lip without points; pleonal side plate 3 bluntly rounded; eyes square or bean-shaped.

..... 63

- 63 Eyes very large, dark, rectangular; coxa 1 less than height of pereon segment 1, not extending forward beneath head; antenna 1, accessory flagellum small, articulate; telson elongate with a terminal spine to each tip; (common).

Paramoera fissicauda (Dana, 1852)

Eyes moderate sized, dark, bean-shaped; coxa 1 longer than height of pereon segment 1, extending forward beneath head; accessory flagellum absent; telson tapering to blunt tips without terminal spines.

Pontogeneiella brevicornis (Chevreux, 1906)

- 64 Telson entire, terminally rounded or pointed; gnathopod 2 elongate and slender, articles 5 and 6 length > 3x width; pleon side plates, posterior corner drawn into a curved point.

..... 65

Telson terminally notched or cleft; gnathopod 2 articles 5 and 6 not elongate and slender; pleon side plates posteriorly rounded.

..... 66

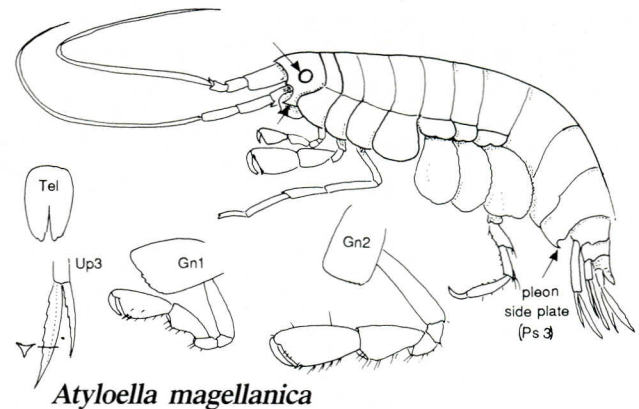
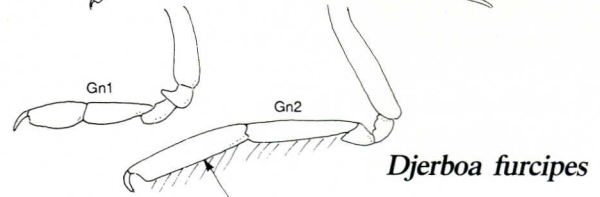
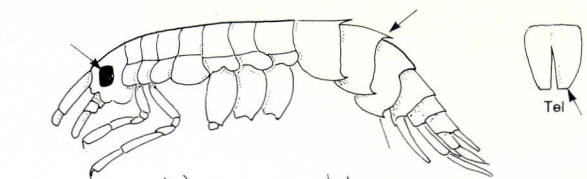
- 65 Pleon segment 1 with a minute tooth and 2 with a larger tooth on the postero-dorsal margin; gnathopod 2 palm transverse, articles 5 and 6 equal in length; telson tip rounded, finely scalloped.

Oradarea ocellata Thurston, 1974

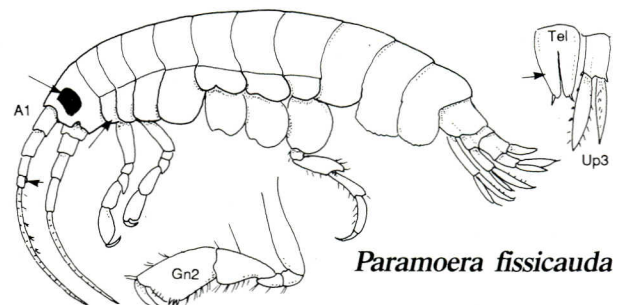
Pleon segments 1 and 2 postero-dorsally smooth; gnathopod 2 palm oblique, article 6 longer than 5; telson pointed.

Oradarea ? edentata Thurston, 1974

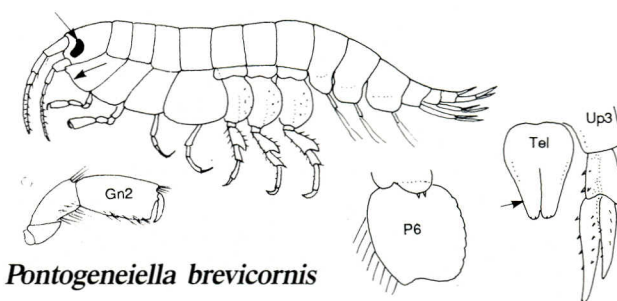
SAM A 40365



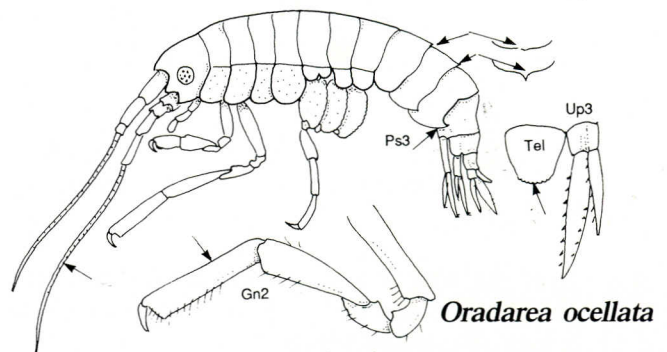
Atyoella magellanica



Paramoera fissicauda



Pontogeneiella brevicornis



Oradarea ocellata



Oradarea ? edentata

66 Eyes large, obvious; telson lobes terminally rounded.
..... 67

Eyes absent or pale, not obvious; telson lobes terminally pointed 68

67 Antenna 1 shorter than 2, every second or third segment of the flagellum dilated and bearing a tuft of hairs; telson one third cleft; eye large rectangular; gnathopods, palm defined from hind margin; coxae small; coxae 5 and 6 with strong spines on posterior margin.

Gondogeneia spinicoxa Bellan-Santini and Ledoyer, 1974

Antenna 1, flagellum of uniform width; telson with a small terminal notch; eye consists of diffuse ocelli; gnathopods characteristic, article 6 elongate and evenly tapering, palm not defined from hind margin; coxae moderate sized; coxae 5 and 6, posterior margin without spines.

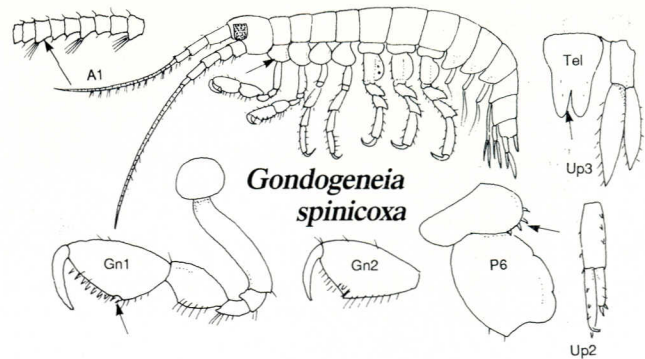
Harpinioides drepanocheir Stebbing, 1888

68 Pleon dorsally smooth; gnathopod twisted to lie beneath the body, dactyl closes on inside of palm; telson shape characteristic, concave tip, cleft for a short distance.

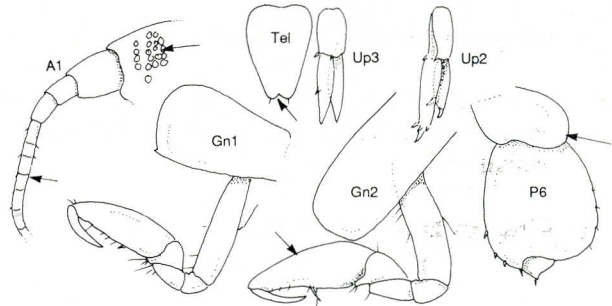
Eusiroides aberrantis Bellan-Santini and Ledoyer, 1986

Pleon segments 1 and 2 with small dorsal teeth on posterior margin; gnathopod, dactyl short and does not overlap the palm; telson with a wide, concave, terminal notch.

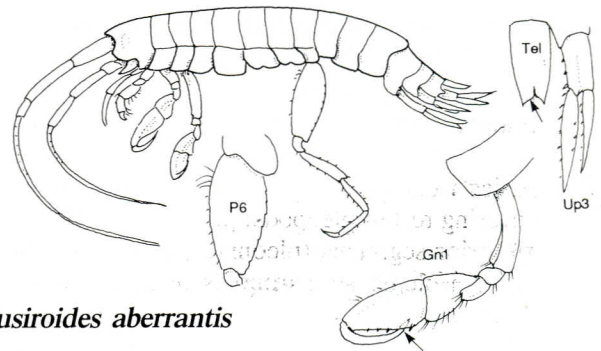
Atylopsis emarginatus Stebbing, 1888



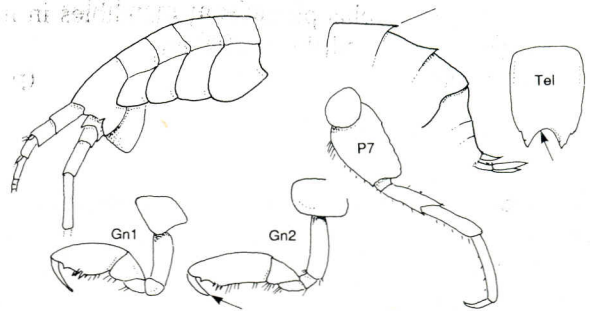
Gondogeneia spinicoxa



Harpinioides drepanocheir



Eusiroides aberrantis

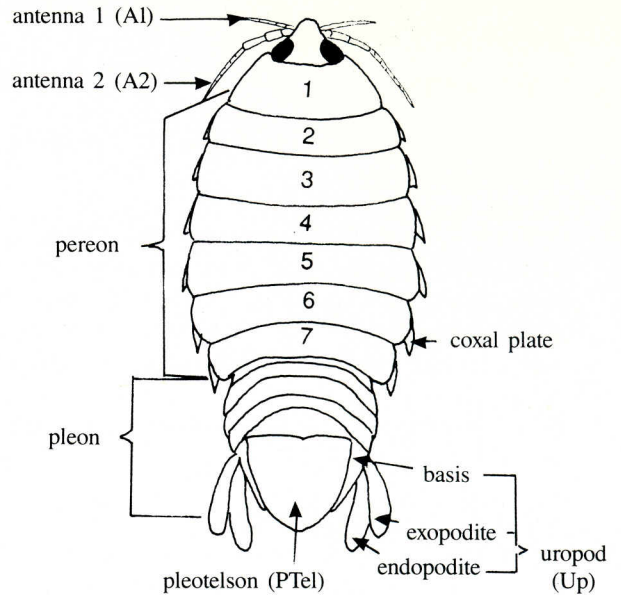


Atylopsis emarginatus

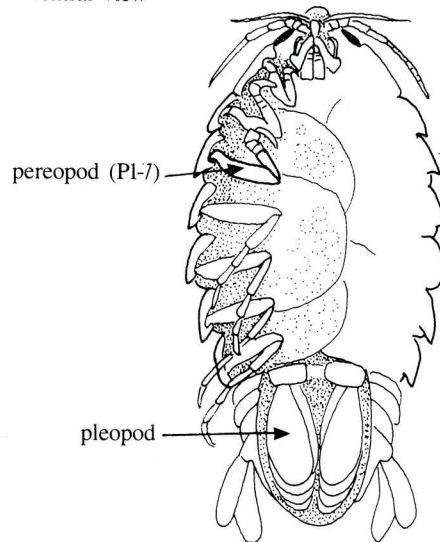
C Isopoda

Key to the suborders (After Kensley, 1978)

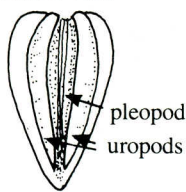
- 1 Parasitic on other crustaceans; body usually asymmetrical.
Epicaridea (p 23)
Free living or parasitic on fish; body usually symmetrical. 2
- 2 Uropods lateral or ventral. 3
Uropods terminal or dorsal. 5
- 3 Uropods ventral, folded under pleotelson to form an operculum covering branchial chamber.
Valvifera (p 23)
Uropods lateral or absent. 4
- 4 Body elongate, cylindrical; uropods often partially folded over telson or pleotelson.
Anthuridea (p 25)
Body never elongate and cylindrical; uropods flattened, not arched over pleotelson, forming a tail-fan with pleotelson.
Flabellifera (p 25 & 26)
- 5 At least one pair of pleopods forming operculum covering rest of pleopods; pleon with at least three posterior segments (pleonites) fused to the telson to form pleotelson; uropods often terminal.
Asellota (p 25 & 28)
Operculate pleopods not present; pleon with at least five pleonites plus pleotelson; mandibles in male projecting beyond the cephalon.
Gnathiidea (p 25)



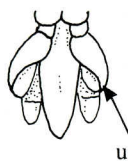
Ventral view



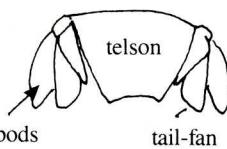
Valvifera
Pleotelson
ventral view



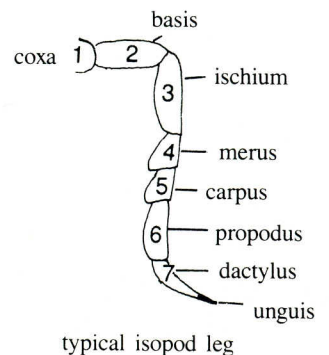
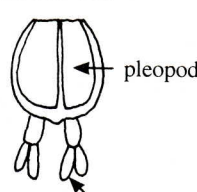
Anthuridea



Flabellifera



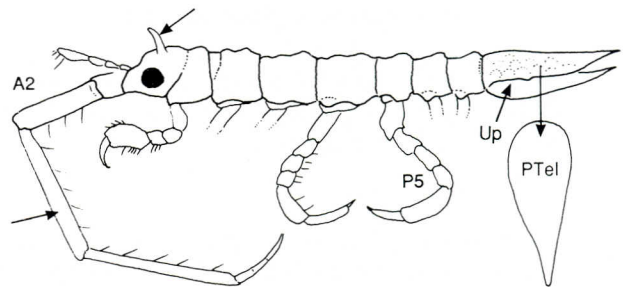
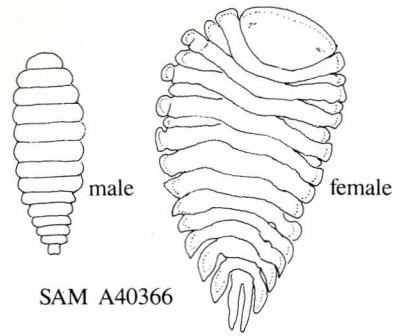
Asellota
pleotelson
ventral view



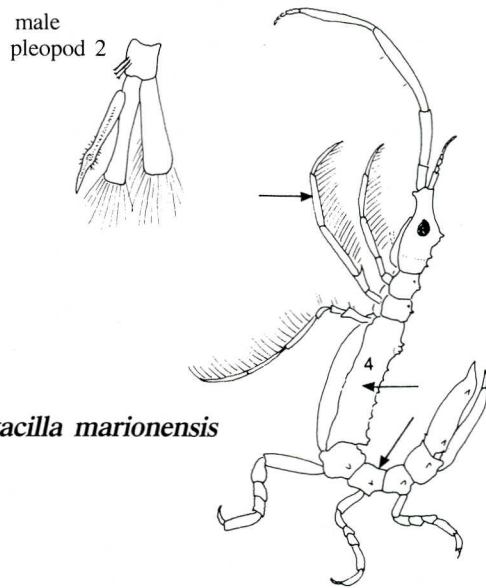
Isopoda

Key to the species

- 1 Parasitic on crustaceans; body usually asymmetrical. Suborder **Epicaridea**
 Female large and asymmetrical; male small, symmetrical, attached to female; cephalon wide, anterior four pleonites laterally bilobed and rounded; coxae well defined; uropods uniramous.
 Family **Bopyridae**
 SAM A40366 & SAM A40367 found on the shrimp *Nauticaris marionis*.
 Free living or parasitic on fish; body usually symmetrical. 2
- 2 Uropods ventral, folded under pleotelson, operculate, covering the branchial chamber.
 Suborder **Valvifera** 3
 Uropods lateral, terminal, dorsal or absent. 8
- 3 All pereopods stout and ambulatory with short stiff hairs; body long and cylindrical, not flexed, usually with a pair of spines on cephalon above large eyes, remainder of the body bumpy, without spines; pleotelson smooth, with scaly pattern, narrow with an acutely pointed tip; antennae long, stout; common on octocoral *Thouarella variabilis*.
Arcturides cornutus Studer, 1882
 Pereopods 1-4 setose, 5-7 ambulatory; body cylindrical, often flexed (geniculate).
 Family **Arcturidae** 4
- 4 Pereon segment 4 cylindrical, much longer than preceding segments; body strongly geniculate; body with varying degree of tuberculation, pereon segment 4 female more tuberculate than male.
Neastacilla marionensis (Beddard, 1886)
 Pereon segment 4 similar in length to preceding segments. 5



Arcturides cornutus



Neastacilla marionensis

- 5 Antennae shorter than body; lateral margin of the cephalon incised; three pairs of head spines; eye large, circular, light brown; body covered with large and small spines with characteristic arrangement on pleotelson; operculum smooth, often with brown pigmentation.

Microarcturus hirticornis (Monod, 1926)

Antennae as long as or longer than body; lateral margin of cephalon not incised.

..... 6

- 6 One pair of spines on head and three pairs on each pereon segment, variable degree of spination; body length usually 16 and 20 mm; pleotelson bulged in the centre with a flattened rim, bears a pair of long terminal spines and few long spines; operculum smooth; found at moderate depths up to 500 m.

Antarcturus aculeatus Kussakin, 1967

More than one pair of head spines; operculum not smooth. (Closely related species not recorded from Marion or Prince Edward Islands).

..... 7

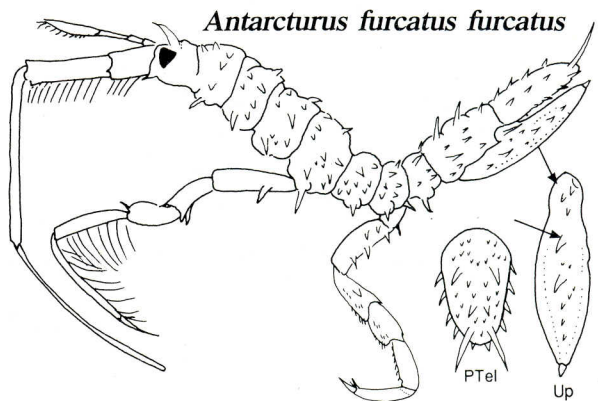
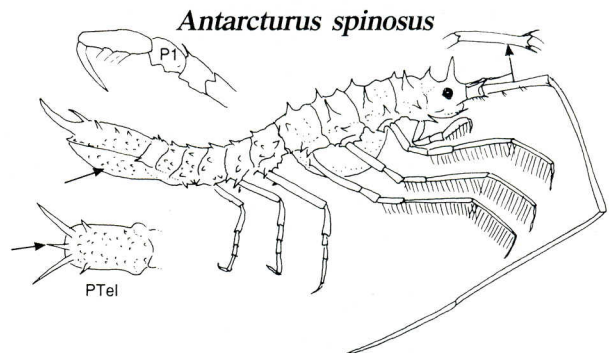
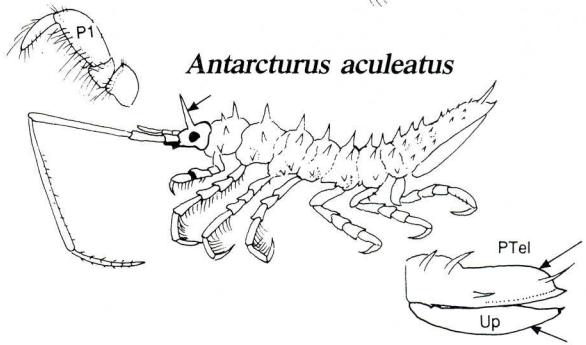
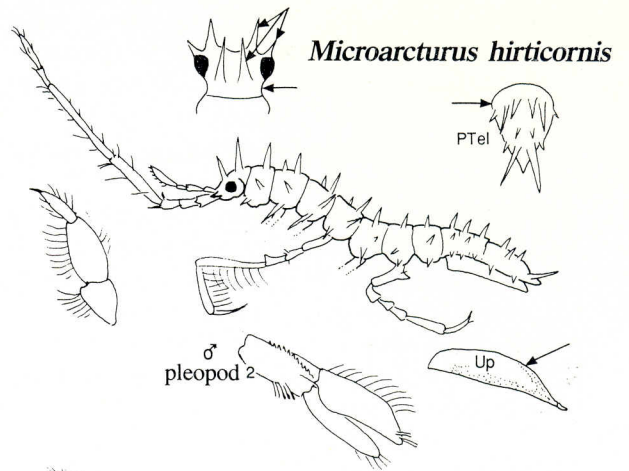
- 7 Pleotelson with a median spine between two long terminal spines; eye circular; abyssal at depths of 1500 m or more near the Crozet Islands.

Antarcturus spinosus (Beddard, 1886a)

Pleotelson without a median spine but body covered with large and small spines; operculum with a row of large spines; eyes large, black, triangular; body length 25-45 mm.

(Recorded from Crozet Islands at about 150 m).

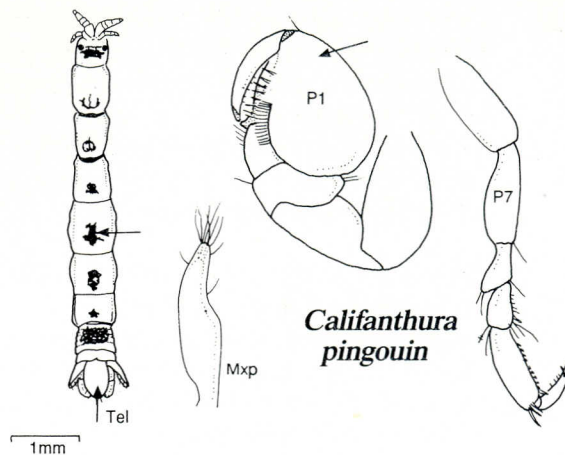
Antarcturus furcatus furcatus (Studer, 1882)



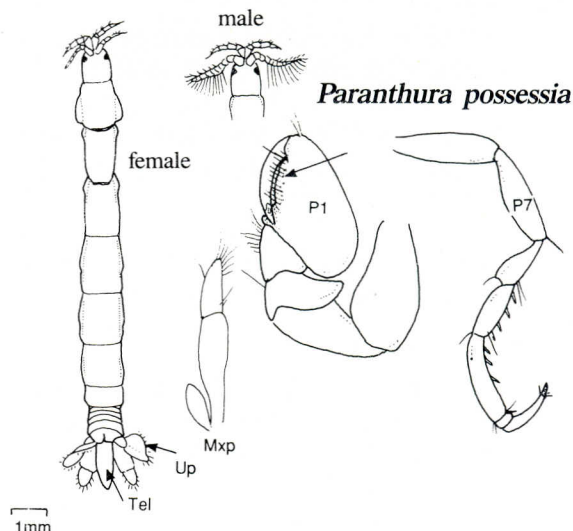
- 8 Body elongate, cylindrical; eyes present; uropods lateral, uropodal exopod often arches dorsally over pleotelson; male antenna 1 often elongate and brush-like; female antennae short and stout.
Suborder **Anthuridea** 9

Body flattened, usually circular or oval in outline, if elongate then without eyes and with small terminal uropods. 10

- 9 Cephalon and each segment with middorsal blotch of red-brown pigment; pair of dorso-lateral eyes; pereopod 1, propodus almost circular with a dense comb-like fringe of spines on inner surface; telson broadly oval; shallow water — 10 m.
Califanthura pingouin (Kensley, 1980)



Integument firm, shiny, not pigmented; eyes on latero-dorsal margin, triangular; pereopod 1, propodus oval with an irregular fringe of hairs on inner margin; telson narrowly oval; uropodal exopod outer margin slightly sinuous; depth 300-500 m.
Paranthura possessia Kensley, 1980.



- 10 Only 5 pairs of pereopods present; pleon consists of at least 5 pleonites plus pleotelson, much narrower than pereon; male pereonites 1 and 2 fused to cephalon; pereopod 2 modified to form flattened pylopods which cover the mouth; male mandibles large, project forward; female pereonites 2 to 5 fused together, inflated; uropods flattened, lateral to telson.

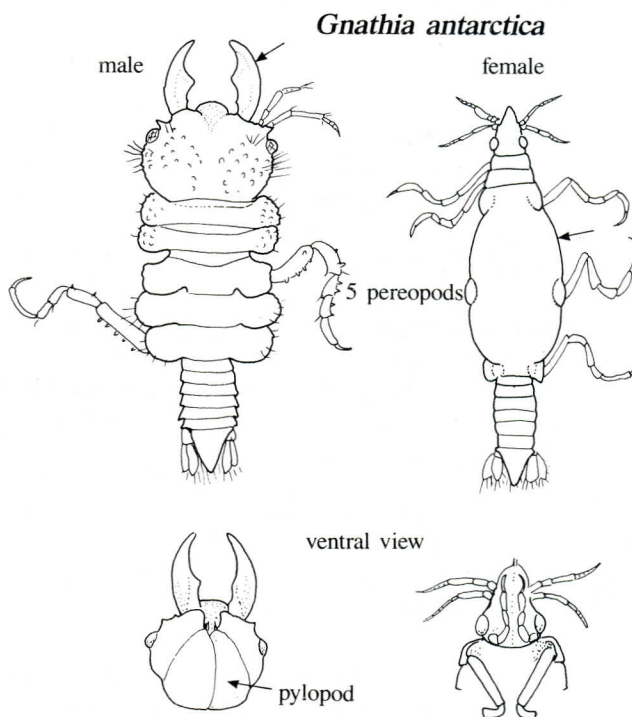
Suborder **Gnathiidea**
Mandibles with large medial tooth; telson tapering to narrow point.
Gnathia antarctica (Studer, 1884)

7 pairs of pereopods; pleon with 5 or fewer free pleonites and usually of similar width to pereon. 11

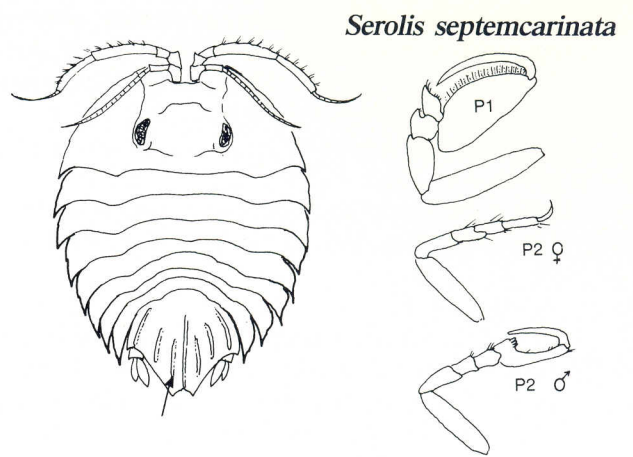
- 11 Uropods lateral, flattened, forming a tail-fan with pleotelson.
Suborder **Flabellifera** 12

Uropods terminal or dorsal, usually not flattened and may be very reduced; operculum formed from at least one pair of pleopods, covers remaining pleopods.

Suborder **Asellota** 20



- 12 Body broad and flattened, almost circular in outline; pleon consists of 3 free segments (pleonites) plus pleotelson; uropod, rami both moveable.
 Family **Serolidae**
 Pleotelson bears seven longitudinal ridges, terminal margin broadly notched; eyes large, paired.
Serolis septemcarinata Miers, 1847

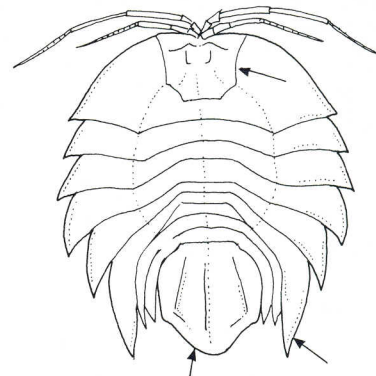


(Three other *Serolis* species recorded from Crozet and Kerguelen Islands are:

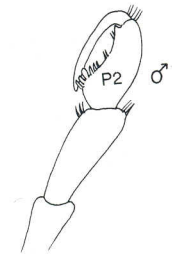
Serolis antarctica: Eyes absent; pereon segment 7 lateral margins extend back beyond pleotelson; pleotelson, margin entire, three longitudinal dorsal ridges; deep water near Crozet Islands, 1300 fathoms.

Serolis cornuta: Eyes present; pleotelson, margin coarsely serrated, four middorsal spines; from Crozet and Kerguelen Islands.

Serolis latifrons: Eyes absent; pleotelson not ridged, terminal margin notched; from Crozet and Kerguelen Islands.)



Serolis antarctica



Body longer than broad; pleon consists of 1, 4 or 5 free segments (pleonites) plus pleotelson.

..... 13

- 13 Eyes very large, cover more than half of the cephalon; pleon of 5 free segments plus pleotelson; pereopods 1-3 prehensile, 4-7 ambulatory.

Family **Aegidae**
 14

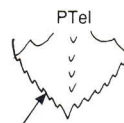
Eyes obvious but small; pleon of one free segment plus pleotelson.

Family **Sphaeromatidae**
 16

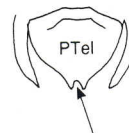
- 14 Pleotelson with a concave terminal margin forming two blunt points; surface pocked with a pair of large circular depressions on dorsal surface; uropod, endopodite triangular, terminal end flat; eyes large but do not almost meet in the centre.

Aega semicarinata Miers, 1875a

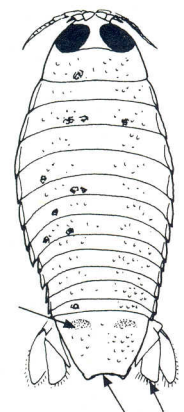
Serolis cornuta



Serolis latifrons



Aega semicarinata



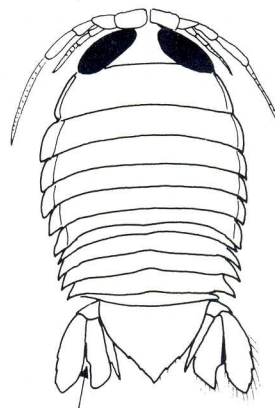
Pleotelson terminally pointed, margin serrated; uropod, endopodite not triangular, lateral margin notched; eyes extremely large almost meeting in centre and cover entire anterior margin of cephalon.

..... 15

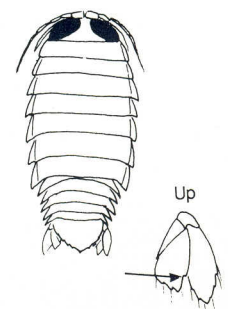
- 15 Large, 37 x 25mm; exoskeleton sturdy, thick; telson pointed, margin finely serrate; uropod, endopodite lateral margin notched.

Aega falklandica Kussakin, 1967

Aega falklandica

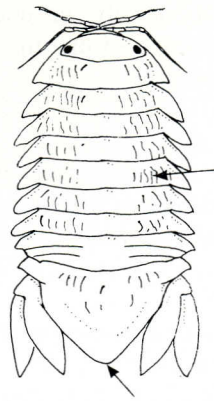


Aega cf. crozetensis

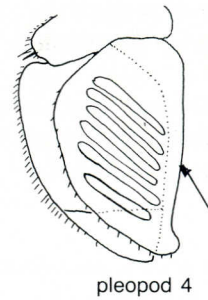


Small, up to 24 x 10mm; telson margin strongly serrate; uropod, endopodite with very slight notch.
Aega cf. crozetensis Kussakin & Vasina, 1982

- 16 Pleopods 4 and 5, inner ramus pleated, outer ramus membranous. (**Sphaeromatinae**). Body slightly grayish with shallow white furrows laterally on the pereonites; often curled into a ball; pleotelson, tip rounded; uropods large and pointed. *Iais pubescens*, a small white asellote isopod, lives between the appendages on the ventral surface. ***Exosphaeroma gigas*** (Leach, 1818)



Exosphaeroma gigas

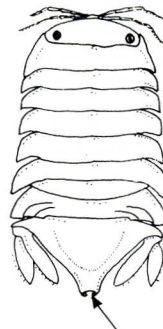


pleopod 4

Pleopods 4 and 5 both rami pleated. (**Dynameninae**). Either body brown-pigmented or pleotelson curled or with a notched tip.

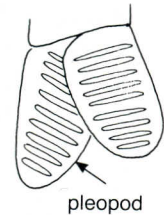
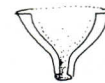
..... 17

- 17 Pleotelson curled under to form a tube. ***Cymodocella* sp.** SAM A40368, SAM A40369 & SAM A40370



***Cymodocella* sp.**

ventral view
PTel



pleopod

Pleotelson not tubular.

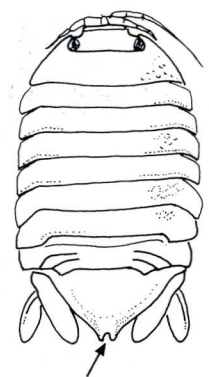
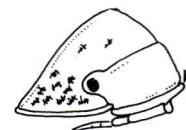
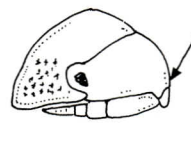
..... 18

- 18 Pleotelson margin with a terminal notch, smooth or rough; pleopods 4 and 5 rami not jointed; uropod rami similar; cephalon with a transverse ridge anteriorly; common subantarctic species. ***Dynamenella eatoni*** (Miers, 1875b)

(***Dynamenella huttoni*** (Thomson, 1879) which occurs commonly in South Africa and New Zealand is always smooth and shiny and lacks the anterior ridge to the cephalon. Earlier records of *D. huttoni* from Marion Island are in fact *D. eatoni*.)

Dynamenella huttoni

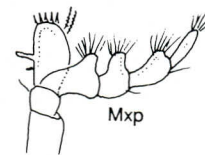
Dynamenella eatoni



Pleotelson margin entire; pleopods 4 and 5, exopodite jointed; uropod, exopodite less than half length of endopodite.

..... 19

- 19 Pleotelson tapering terminally to a flattened tip; body length up to 15mm, brown; maxilliped with no coupling hook; uropod, rami paddle-shaped. ***Euvalentinia darwini*** (Cunningham, 1871)

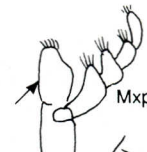
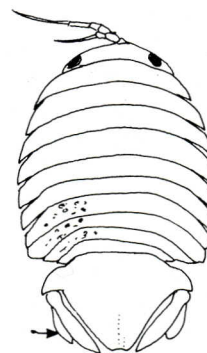


Mxp

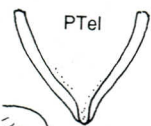
Pleotelson smooth, rounded terminally, tip feebly emarginate; maxilliped with one coupling hook; uropod, exopod stylet-shaped, attached to endopod at midpoint of lateral border; recorded from Falkland, Crozet and Kerguelen Islands.

Cassidinopsis emarginata (Guérin-Méneville, 1843)

Euvalentinia darwini



Mxp



PTel

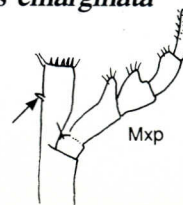
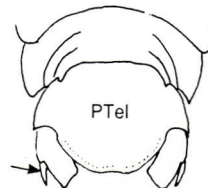
- 20 Eyes absent or dorsal, not bulging from margin of the cephalon.

..... 21

Eyes on lateral bulges of cephalon or dorso-laterally positioned.

..... 26

Cassidinopsis emarginata



Mxp

pleopod

- 21 Antennae short, stout and bent laterally; uropods minute, inserted in terminal incision of margin of pleotelson; coxae absent; eyes large.
Family *Joeropsidae* 22

Antennae long, or short and slender; uropods not minute, terminally inserted but not in incision of margin of pleotelson; coxae may be dorsally visible.
..... 23

- 22 Pleotelson, lateral margin with a single strong tooth; pereonites, lateral margins smooth; dark band of brown pigment across cephalon and along middorsal surface; eyes dark, towards anterior third of cephalon; 5-6 mm long.
Joeropsis curvicornis (Nicolet, 1849)

Pleotelson, lateral margin with many small teeth; pereonites, lateral margins serrated; body pale, not pigmented; eyes large, brown with many ommatidia, in posterior third of cephalon; 4 mm long.
Joeropsis marionis Beddard, 1886

- 23 Eyes absent; body narrow, elongate, at least five times as long as wide; cephalon and pleotelson oblong, longer than wide; antenna segments 3 and 4 long, flagellum short; uropod, exopod much shorter than endopod; dactyls present on all pereopods.
Austroniscus ectiformis Vanhöffen, 1914

Two pairs of small eyes (ommatidia) placed close together.
..... 24

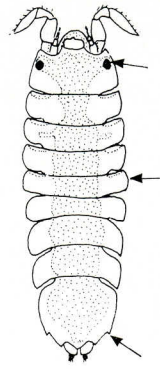
- 24 Antenna 2, segments 1-3 more than twice length of cephalon; anterior margin of cephalon straight, deeply notched antero-laterally at insertion of antenna; pleotelson broader than long; uropod more than half length of pleotelson.
Austrofilius furcatus Hodgson, 1910

Antenna 2, segments 1-3 the same length as cephalon, inserted in very shallow depressions in the anterior margin of the cephalon.
..... 25

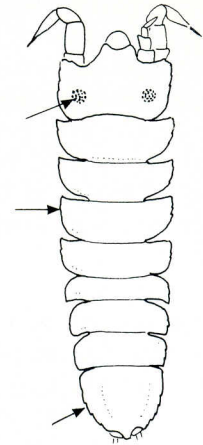
- 25 Pleotelson almost circular; body oblong-ovate, soft, white, numerous lateral setae; commensal on isopod *Exosphaeroma gigas*.
Iais pubescens (Dana, 1852)

Pleotelson longer than broad, sides straight, bluntly pointed at tip, margin finely serrated; body oblong, uniform width; eyes of two ommatidia almost fused, far back on head; antenna segment 1 broad, flat; body firm with short hairs; free living.
Ianisera trepidus Kensley, 1976

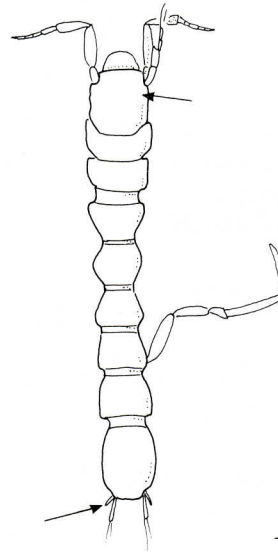
Joeropsis curvicornis



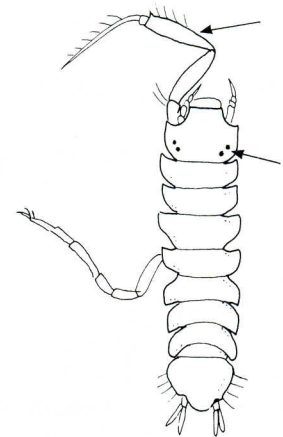
Joeropsis marionis



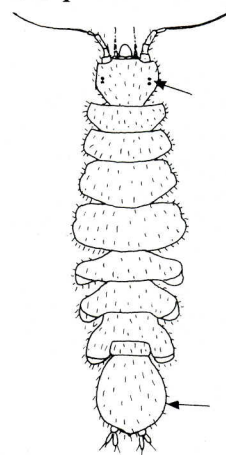
Austroniscus ectiformis



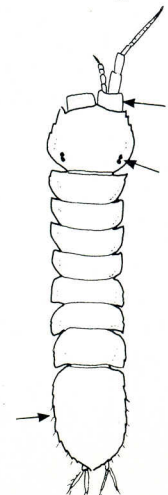
Austrofilius furcatus



Iais pubescens



Ianisera trepidus



26 Uropod well developed with a distinct basis, exopodite and endopodite. 27

Uropod small, reduced and without a basis. 31

27 Antenna 2 much longer than body; uropod large, longer than pleotelson. 28

Antenna 2 shorter than body; uropods much shorter than pleotelson. 29

28 Cephalon with straight anterior margin; pleotelson bulged, margin entire; uropods massive, biramous (often missing) inserted dorso-laterally; entire body and long legs covered with spines; pereopods with single apical claw; body oval, 3-6 mm.
Acanthomunna spinipes (Vanhöffen, 1914)

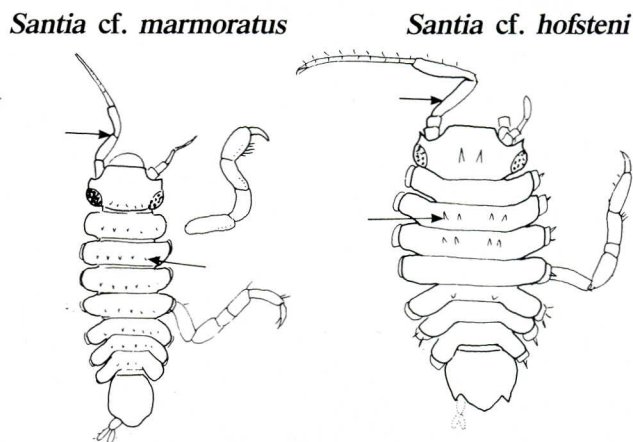
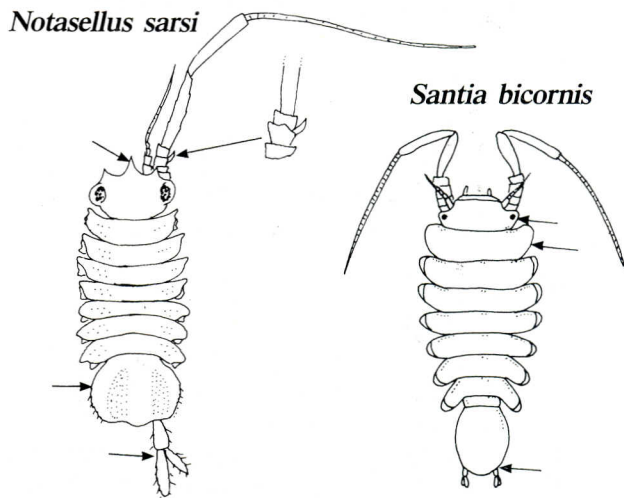
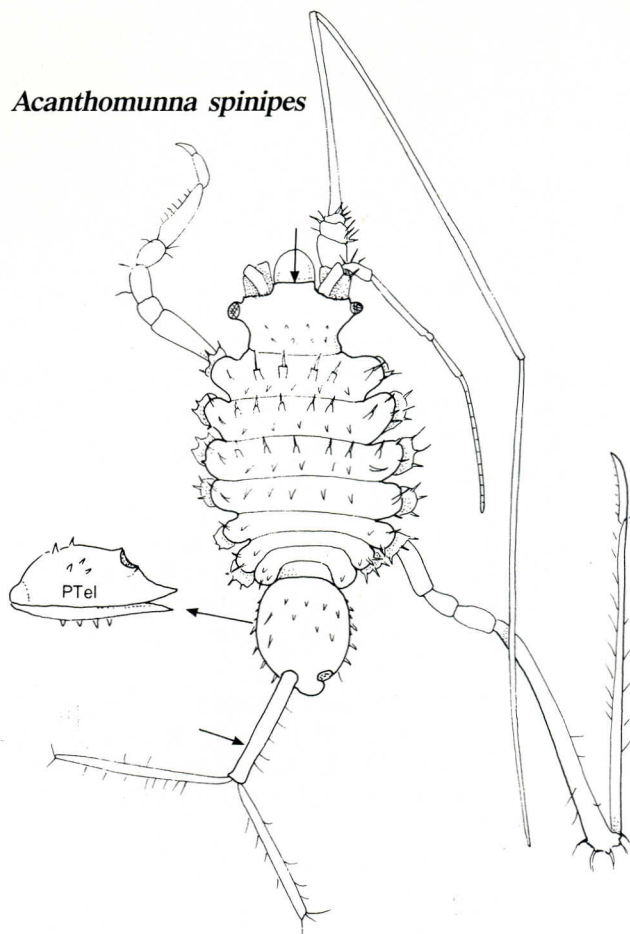
Cephalon with median anterior point; pleotelson flat, transparent and slightly depressed on either side, blunt point between uropods, margin finely serrated; uropods as long as pleotelson, flattened, inserted terminally; body pale pink, may have brown spots; eyes brown.
Notasellus sarsi Pfeffer, 1887

29 Pereonite 1 inflated, obviously wider than cephalon; eyes small, black on rounded projections; pleotelson oval; uropod about two-fifths length of pleotelson.
Santia bicornis (Cléret, 1973)

Pereonite 1 neither inflated nor obviously wider than cephalon; eyes large made up of many ommatidia, occur posterior-laterally on angular projections; pleotelson notched or indented where uropods arise. 30

30 Body length 3x width, all pereonites of similar width; antenna about half the length of body; body with very short spines especially along posterior margins of pereonites.
Santia cf. marmoratus (Vanhöffen, 1914)
SAM A40371

Body length 2x width, broadly oval; antenna two-thirds length of body; body with a few large spines.
Santia cf. hofsteni Nordenstam, 1933
SAM A40372



- 31 Antenna 2 shorter than body; eyes small, dark, on narrow, tapering lateral processes of cephalon. Family **Pleurogoniidae** 32

Antennae 2 at least as long as body; eyes large, lateral processes of cephalon bear an anterior projection. Family **Munnidae** 33

- 32 Pereonite 1 not inflated laterally; pleotelson flat, forms a continuous, smooth, oval outline with the rest of body; male pereopod 1 strongly carpocheilate **Paramunna** sp. SAM A40373.

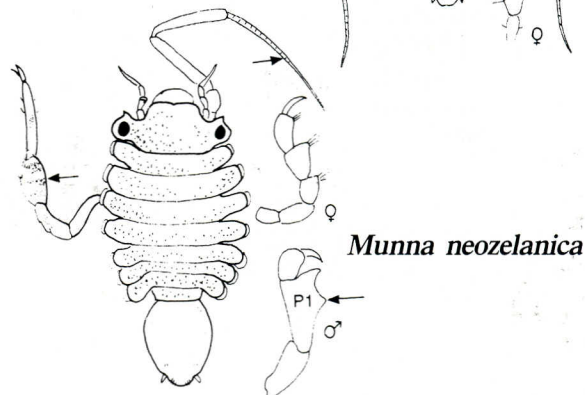
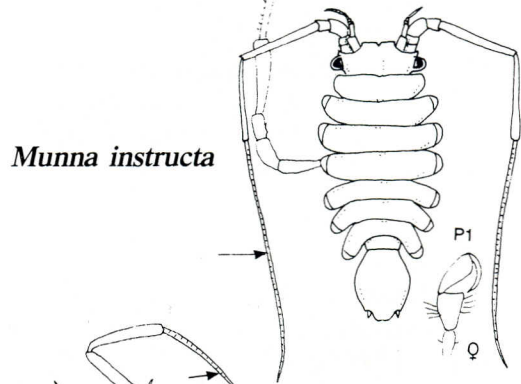
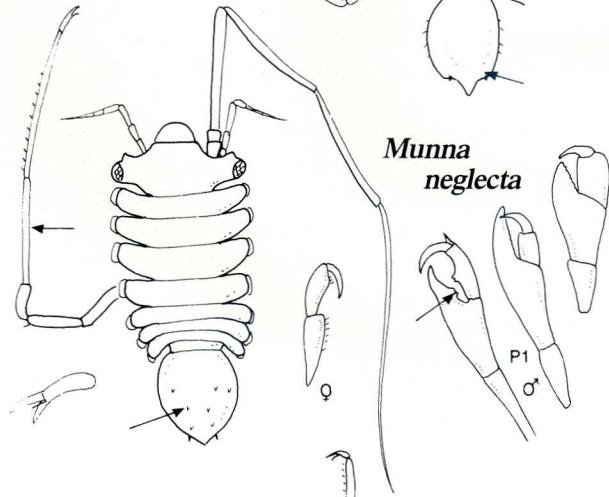
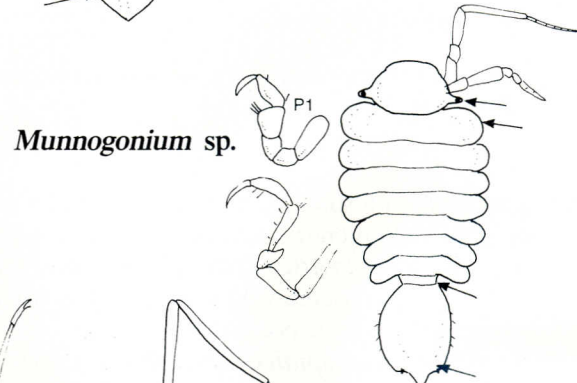
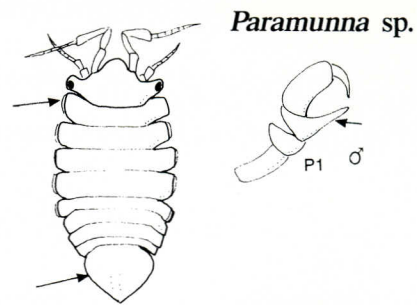
Pereonites 1 and 2 inflated laterally; pleotelson bulged, oval with a terminal point, separated from the rest of the body by a narrow segment. **Munnogonium** sp. SAM A40374 & SAM A40375.

- 33 Pereopods much longer than body; eyes large, dark brown; pleotelson with a few short blunt spines; male pereopod 1 flattened with tooth-like projections on the inner surfaces of the propodus and the dactylus. **Munna neglecta** Monod, 1931

Pereopods not much longer than body; pleotelson with a few hairs, male pereopod 1 carpocheilate with smooth inner surface to the propodus and dactylus. 34

- 34 Eyes fairly small and black; body narrowly oval, white; male pereopod 1 broad and flat, carpus projected into a flat thumb with a smooth convex outer margin; antenna, flagellum almost as long as body. **Munna instructa** Cléret, 1973

Eyes large brownish; body broadly oval with brown pigment spots; male pereopod 1 broad and flat, carpus with a large tooth on outer margin and a short triangular thumb; antenna, flagellum shorter than body; pereopods fairly short and stout with brown stripes. **Munna neozelanica** Chilton, 1909



D Tanaidacea

- 1 Body more or less cylindrical; antenna 1 with only one flagellum; mandible without palp.
Suborder: **Tanaidomorpha** 2

Body more or less dorso-ventrally depressed; antenna 1 with inner and outer flagellum; mandible with palp.

Superfamily: **Apseudoidea**

Cephalothorax with a lateral notch; rostrum narrowly concentric at the base with a median spine; chela of cheliped oval in shape, immovable finger armed with a tooth mid-way along its length, articles 2 and 3 fused (ischio-basis) with a strong anterior/dorsal spine and a small ventral spine; left mandible, incisor 4-dentate, lacinia mobilis 4-dentate; common.

Apseudes spectabilis (Studer, 1884)

(*Apseudes antarcticus*, Beddard 1886 has been recorded from Kerguelen Island but not the Prince Edward Islands. Cephalothorax rectangular with small lateral constrictions; rostrum with a broadly concentric base and acute median spine; chela on cheliped of female lacks a tooth on the immovable finger, male chela triangular in shape, fused articles 2 and 3 (ischio-basis) has a large ventral spine; left mandible, incisor smooth, lacinia mobilis 5-dentate.)

(*Apseudes crozetensis* Shiino 1978, recorded from the Crozet Islands but not the Prince Edward Islands, is very similar to *A. spectabilis*. Cephalothorax with very marked lateral spines; rostrum triangular; cheliped with large processes on the immovable finger and the ischio-basis and two pointed processes on the lower border of the carpus; left mandible, incisor and lacinia mobilis broad, 4-dentate.)

- 2 Pleon with 5 similar segments (pleonites), 5 pairs of biramous pleopods; pereopods 1-3 or all with ischium present (7 articles); uropods typically biramous.

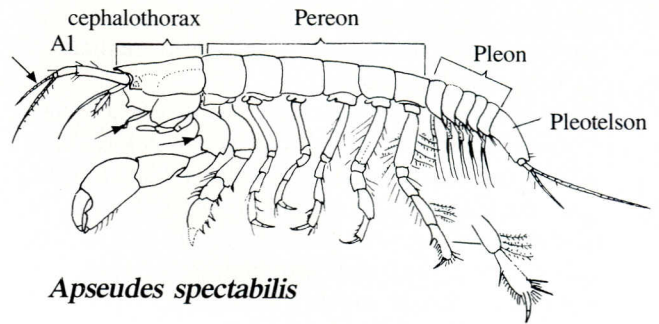
Superfamily **Paratanaoidea**

..... 3

Pleon segments 1-3 large, 4-6 smaller, only three pairs of biramous pleopods; pereopods all lack an ischium (6 articles); uropods uniramous; eyes on small antero-lateral projections.

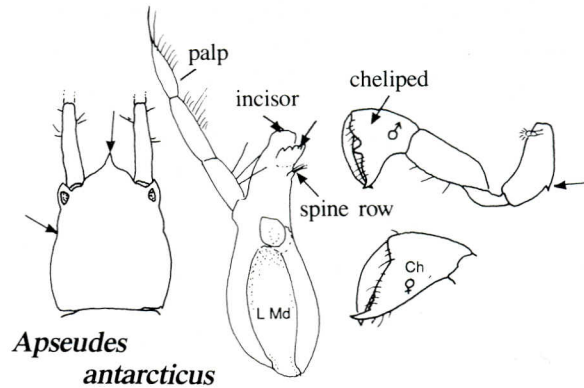
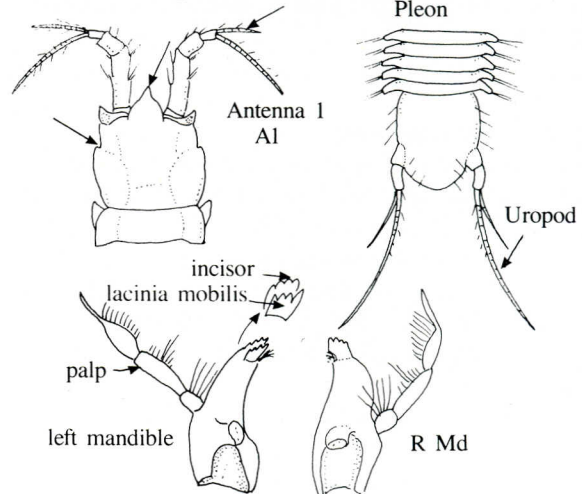
Superfamily **Tanaoidea**

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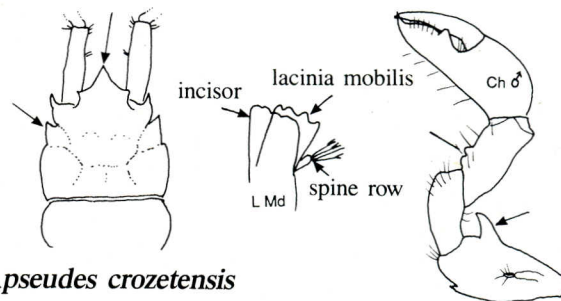


Apseudes spectabilis

Dorsal view of cephalothorax



Apseudes antarcticus



Apseudes crozetensis

- 3 Uropod, endopodite always with more than 2 segments; maxilliped, bases never fused medially.

Family: **Leptocheiliidae**

Male cheliped of characteristic shape: chela broad, smooth finger and thumb curved in sickle-shape with broad oval space between them when closed; male maxilliped reduced, only bases and remnants of one palpal segment present; female maxilliped, bases with 2 setae near articulation of palp.

Pseudonototanaeis werthi (Vanhöffen, 1914)

Uropod, endopodite only 2-segmented; mouth parts in the male reduced, only a modified maxilliped remaining.

..... 4

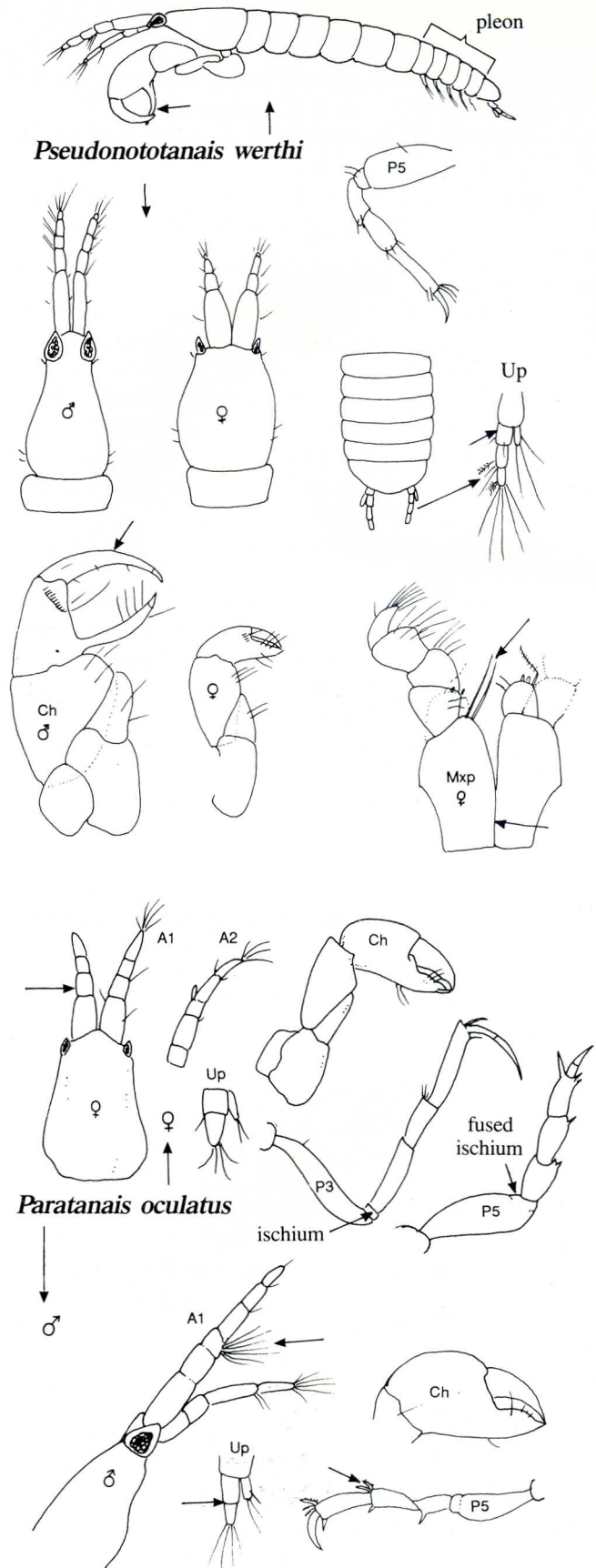
- 4 Family: **Paratanaidae**

Male: Antenna 1, 7-segmented, segment 2 enlarged and laterally depressed, 3-4 small, annular, the fourth with a large bunch of hairs (aesthetacs), 5-6 elongate with large aesthetacs and 7 with a terminal aesthetac; cheliped similar to female but stronger. Female: Antenna 1, 4-segmented; maxilliped, bases laterally expanded forming a plate-like structure.

Paratanaeis oculatus (Vanhöffen, 1914)

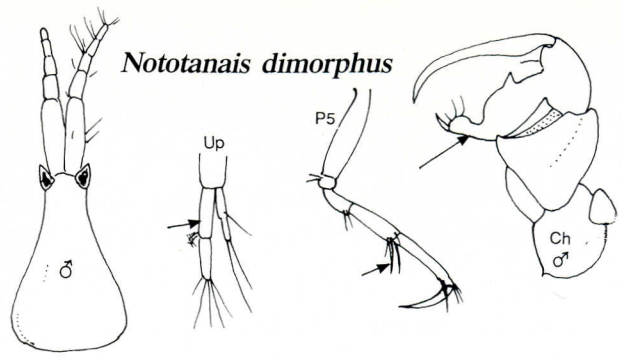
Male: Antenna 1, 5-segmented, segments 1 and 2 elongate, and 3-5 shorter with few aesthetacs; cheliped larger than female with a swollen thumb. Female: Antenna 1, 3-segmented; maxilliped, bases fused medially, not laterally expanded.

Family: **Nototanaidae** 5



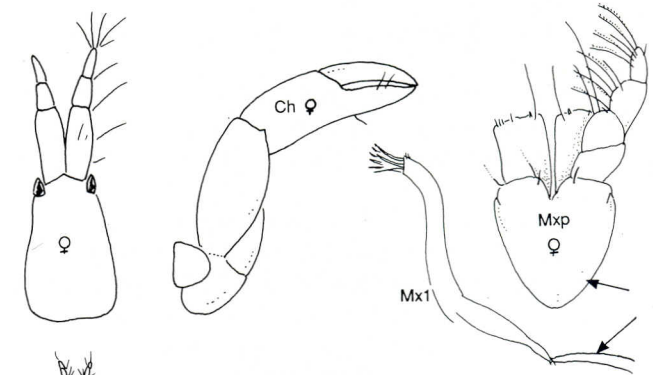
5 Uropod long, endopodite length 9x width; maxilla 1, palp with two terminal bristles; pereopods 4-6, carpus with long slender spines; male cheliped characteristic, thumb of chela with two flattened bulges, the larger proximal one bears a large tooth, dactylus long and narrow; carapace narrower anteriorly.

Nototanaeis dimorphus (Beddard, 1886)



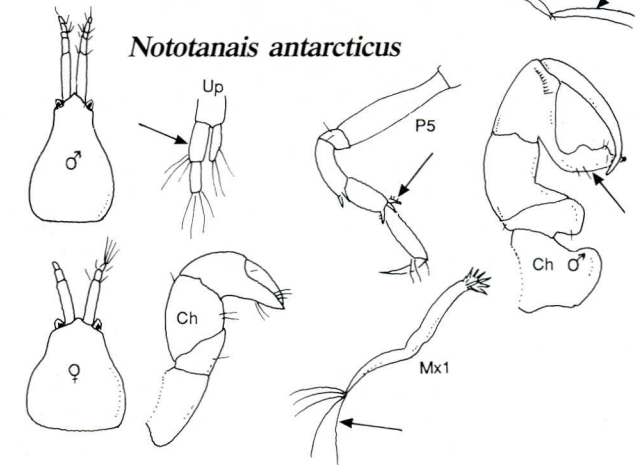
Uropod short, endopodite length less than 5x width; maxilla 1, palp with 5 terminal bristles; pereopod 4-6, carpus with short finely-haired spines; male cheliped characteristic, thumb of chela with two small flattened distal bulges.

Nototanaeis antarcticus (Hodgson, 1902)



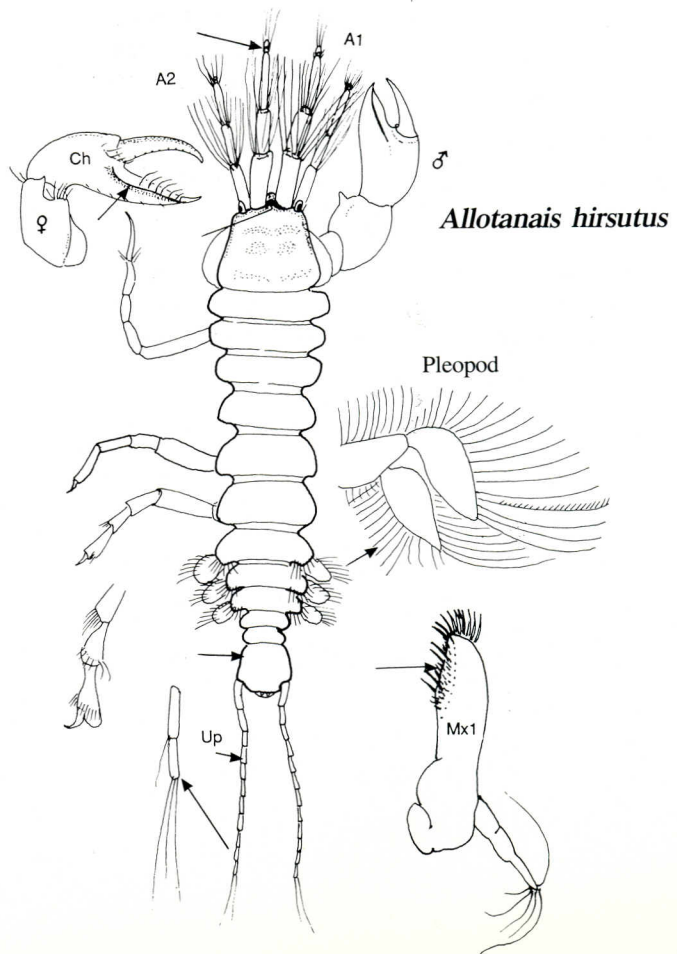
6 Uropods filiform with many-segmented flagellum; antennae longer than the carapace, stout, first three segments elongate, long setae encircle each joint; pereon half as long as body; pleon one third as long as body; carapace anterior border with a blunt conical rostrum; chela with a dark ridge and row of setae along dorsal margin of fixed finger; maxilla 1 characteristic: inner-terminal area covered with fine hairs on both surfaces plus 8 terminal spines and three pairs of spines along inner distal margin.

Allotanaeis hirsutus (Beddard, 1886a)



Uropods, flagellum short of 4-5 joints; pereon more than half length of body; antennae shorter than carapace, with progressively shorter segments and short setae at joints; carapace, frontal margin evenly arched; maxilla 1 stout, ending in 8 teeth.

..... 7



- 7 Uropods, 4-segmented, terminal endopod segment elongate, typically as long as preceding segment. 8

Uropod terminal endopodal segment short, typically less than half the length of the preceding one. 9

- 8 Pleon 5-segmented, row of dorsal hairs on pleon segment 1.
Zeuxo phytalensis Sieg, 1980

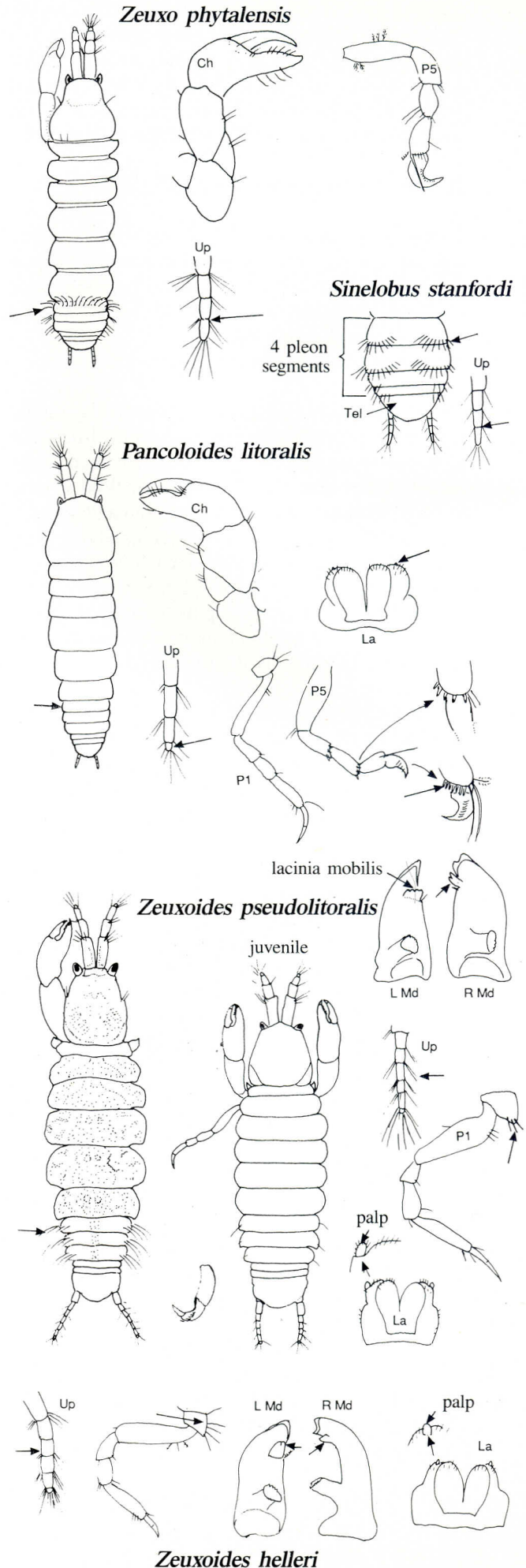
Pleon 4-segmented, pleon segments 1 and 2 with a dorso-lateral semicircle of hairs.
Sinelobus stanfordi Richardson, 1901

- 9 Labium lacks a small palp; pleon segments 1-3 without semicircular row of setae on dorsal surface; pleopod 3 somewhat reduced compared to 1 and 2; pereopods 4-6, carpal spines strongly developed; uropods at most of three normal and one tiny, reduced terminal joint.
Pancoloides litoralis (Vanhöffen, 1914)
(= *Tanais litoralis* Vanhöffen, 1914, partim)

Labium with small distal palp; pleon segments 1-3 with a semicircular row of setae on either side of dorsal surface; pleopods 1-3 equal; pereopods 4-6, carpal spines not strongly developed; uropods of four to six normal and one tiny, terminal joint. 10

- 10 Right mandible, lacinia mobilis with two short teeth; left mandible, lacinia mobilis broad and 4-dentate; pereopod 1, article 1 (coxa) bears three bristles and is visible when the animal is viewed from the dorsal surface; larger animals with mottled purple-brown markings, juveniles pale; common.
Zeuxoides pseudolitoralis Sieg, 1980
(= *Tanais litoralis*, Vanhöffen 1914 partim & *T. litoralis* sensu Shiino, 1978)

Right mandible, lacinia mobilis with one tooth; left mandible, lacinia mobilis narrow, with two teeth; pereopod 1, coxa lies beneath body and bears four bristles.
Zeuxoides helleri (Gerstaecker, 1888)
(syn. *Tanais gracilis* Heller, 1865)



E Decapoda

- 1 Swimming prawns; pleopods feathery; body compressed laterally; maxilliped 3 elongate, resembling pereopods.
Suborder: **Natantia** 2

Bottom dwellers; pleopods not feathery, may be foliose or reduced; body dorsoventrally flattened; maxilliped 3 small.
Suborder: **Reptantia** 5

- 2 Rostrum shorter than carapace and with 4 or fewer teeth on lower surface; pleon segment 6 slightly longer than 5 3

Rostrum longer than carapace and with 5 or more teeth on lower surface; pleon segment 6 approximately twice the length of 5 4

- 3 Carapace with two large, frontal spines below eye extending posteriorly as two lateral ridges; pleon segment 1 overlaps carapace; rostrum with 5 dorsal and 4 ventral teeth, eye large.

Campylonotus capensis Bate, 1888

Carapace smooth with two small, frontal spines below eye; carapace overlaps pleon segment 1; rostrum with more than 8 dorsal teeth and one to four ventral teeth; eye small; pereopod 1 short with a large stout chela (cheliped 1); pereopod 2 long with a long slender chela (cheliped 2); common.

Nauticaris marionis Bate, 1888

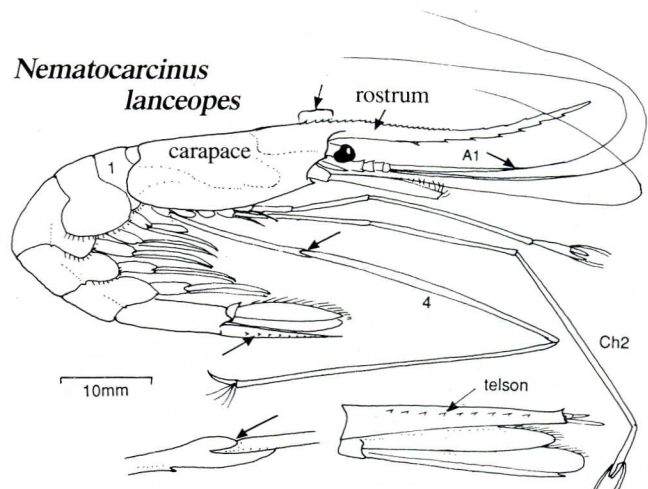
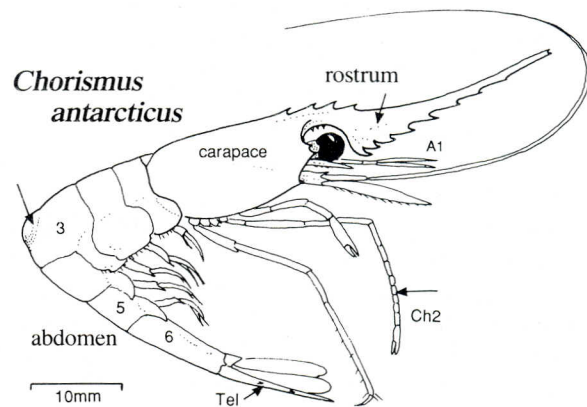
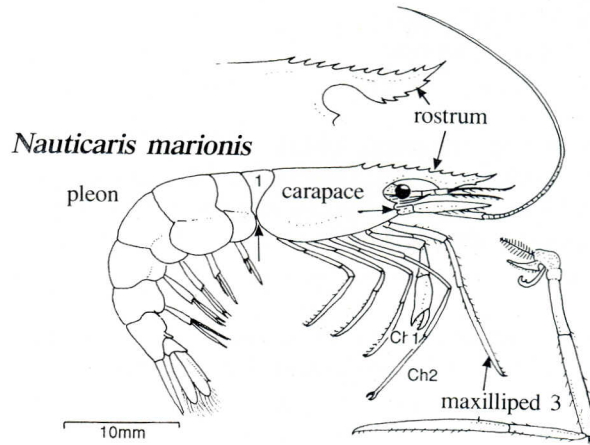
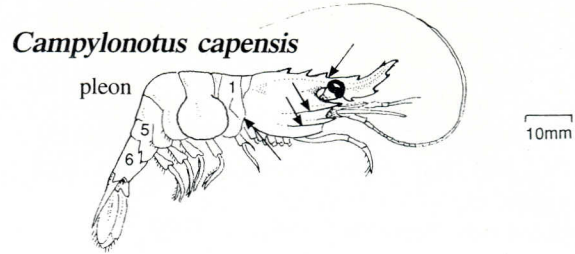
- 4 Rostrum flattened and deep in front of eye, with four dorsal teeth and about 8 large ventral teeth; antenna 1 flagellae shorter than rostrum; cheliped 2, carpus long and multi-articulate; pereopods shorter than abdomen, joints not reinforced; pleon segment 3 with dorsal tubercle; telson bears two lateral spines; eyes large.

Chorismus antarcticus (Pfeffer, 1887)

Rostrum long, narrow, straight with up to 50 small dorsal teeth (4-6 teeth behind the post orbital edge of the carapace) and 5-8 ventral teeth; antenna 1, slender flagellae much longer than the rostrum; cheliped 2, carpus very long, not multi-articulate; pereopods very long, slender; pleonite 3 smooth; telson with a row of 9-11 dorso-lateral spines down each side; eyes moderate sized; eggs oval.

Nematocarcinus lanceopes Bate, 1888

(*Nematocarcinus longirostris* Bate, 1888 differs in that the long narrow rostrum has 6-9 teeth behind the post orbital edge of the carapace and usually 1-5 ventral teeth; telson smooth with a row of 6-8 dorso-lateral spines down each side; eggs round. *N. proximus*, a synonym of *N. longirostris* was recorded abyssally between Marion and Crozet Islands by Bate 1988. These *Nematocarcinus* species have been revised by Tiefenbacher, 1990.)



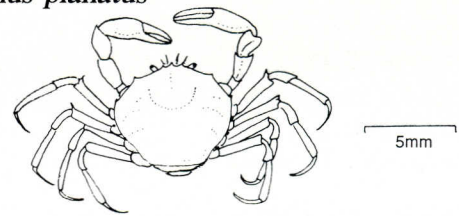
- 5 True crabs typically with five pairs of well developed walking legs (pereopods) including one pair of chelipeds.

Section: **Brachyura**

Small crab; carapace round, smooth and convex, about 5 mm long; pereopods smooth; nippers large and equal in size; common.

Halicarcinus planatus Fabricius, 1793

Halicarcinus planatus



Anomuran crabs with fifth legs reduced; body and limbs usually spiny.

Section: **Anomura**

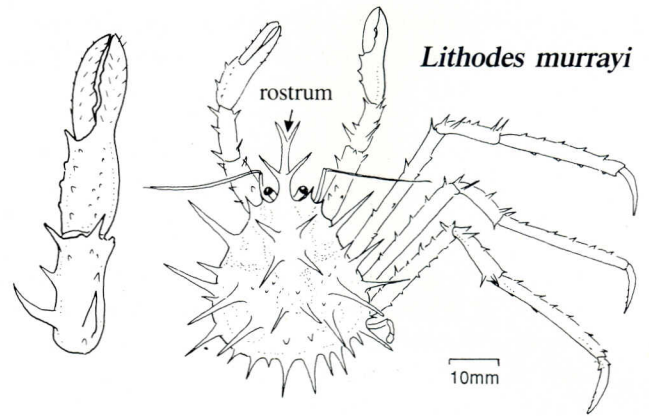
- 6

- 6 Abdomen reduced, folded ventrally; carapace rounded, very spined; pereopods 1-4 long and well developed, may be over 150 mm long; stone crabs. Family **Lithodidae** 7

Abdomen extended, with well developed uropods, or soft and coiled and protected in a mollusc shell. 8

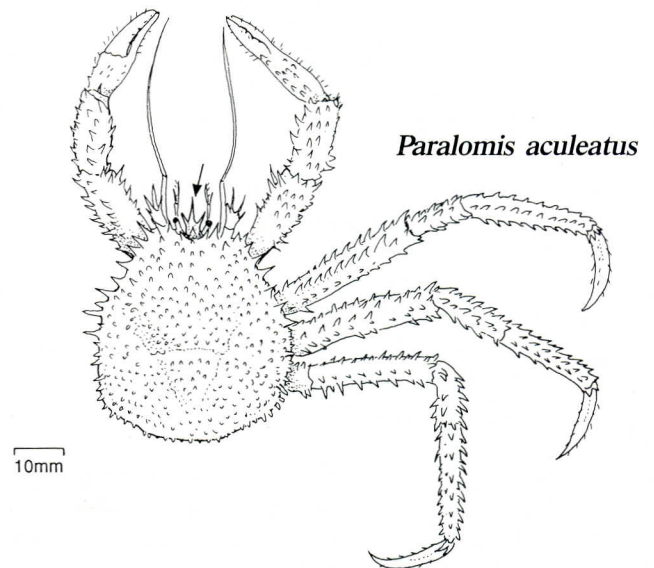
- 7 Rostrum long, almost half the length of the carapace, five-spined, terminating in two prominent diverging spines; carapace bears approximately ten large dorsal conical spines and twenty large marginal spines; pereopods with a few large spines; antenna 2, segment 2 of peduncle has a conical spine on its outer and distal margin.

Lithodes murrayi Henderson, 1888



Rostrum less than one fifth of carapace length, three-spined; carapace densely covered with small conical tubercles, margin with larger spines anteriorly; pereopods bearing several rows of spines; antenna 2, acicle spiny and freely moveable on segment 2 of the peduncle. (Single male specimen recorded off Prince Edward Island, depth 600 m by the "Challenger Expedition".)

Paralomis aculeatus Henderson, 1888

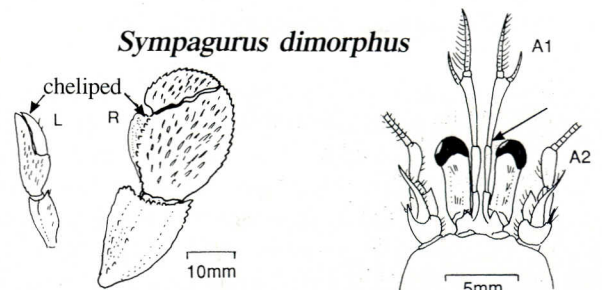


- 8 Abdomen soft, coiled, protected by a mollusc shell. Family **Paguridae** hermit crabs. 9

Abdomen well developed, symmetrical; lobster-like. 10

- 9 Right cheliped much larger and stouter than left, carpus covered with dense mat of hairs, stout and broad with dactylus bent almost at right angles to the upper border when closed (especially in the female); eyes large; eye stalk as long as peduncle of antenna 2 and half the peduncle of antenna 1; common hermit crabs which frequently have 'anemones' attached to their shells.

Sympagurus dimorphus (Studer, 1883)



Chelipeds subequal, carpus with few hairs, long and narrow, dactylus about half length of carpus and lying parallel to it; eyes small; eye stalks length equal to half the peduncle of antenna 2.

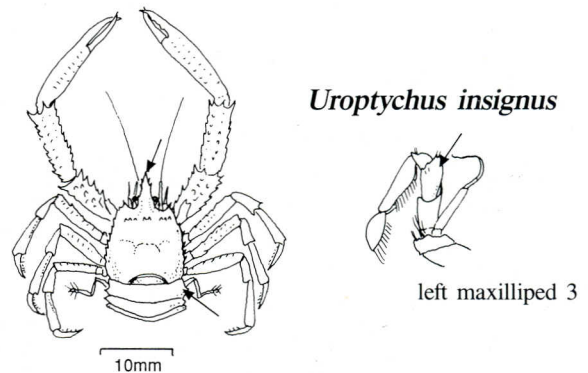
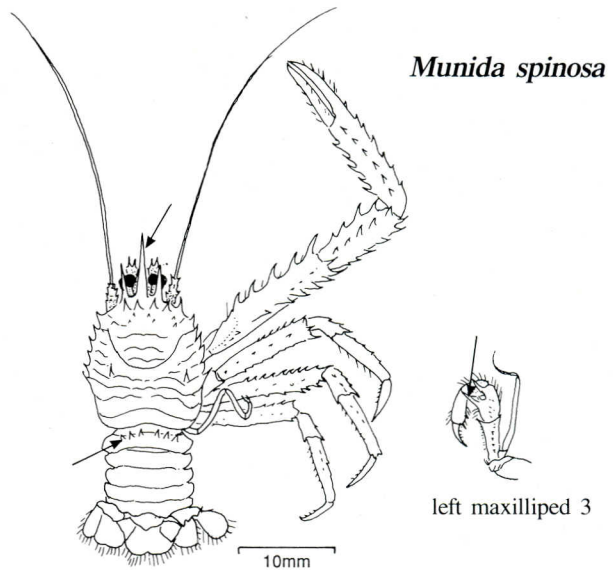
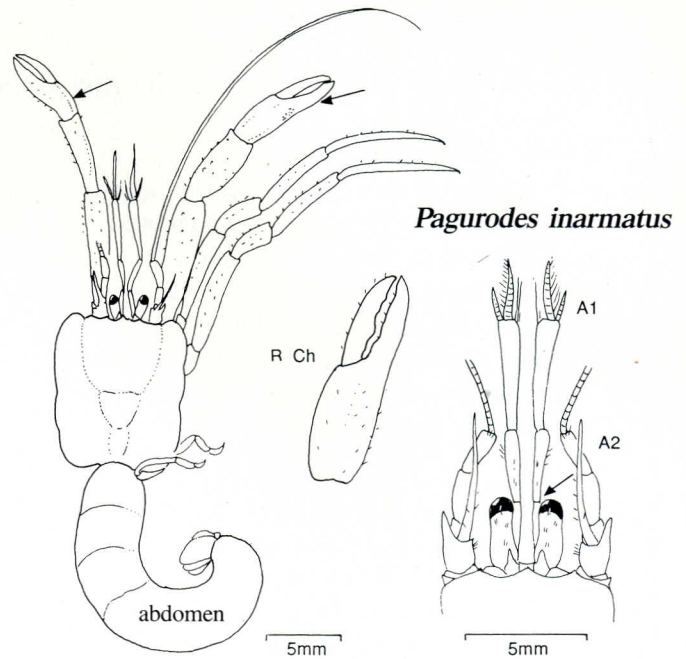
Pagurodes inarmatus Henderson, 1888

- 10 Rostrum slender, styliform with well developed supraorbital spines on either side of its base; eyes large; carapace, with strongly developed transverse ridges, 6-10 anterior spines, 7 lateral spines and a pair of spines in the posterior dorsal region; abdomen smooth apart from the 6 prominent spines on the anterior margin of segment 2; chelipeds and limbs elongate, slender, with several rows of large spines; maxilliped 3, article 4 bears two large and one small spine; orange when live.

Munida spinosa Henderson, 1888

Rostrum with two pairs of small lateral spines; eyes small; carapace smooth to slightly glabrous with a transverse row of short, stout spinules in anterior region and small spines along lateral margin; abdomen smooth to glabrous, segment 1 small, segment 2 overlaps carapace on outer edges; chelipeds robust, of moderate length, with tuberculate spines, fingers cross distally; pereopods comparatively smooth with a few spines on anterior margin; maxilliped 3 article 4 lacks spines. (6 specimens collected off Prince Edward Island in 600 m by the *Challenger* Expedition.)

Uroptychus insignis Henderson, 1888



40°

50°

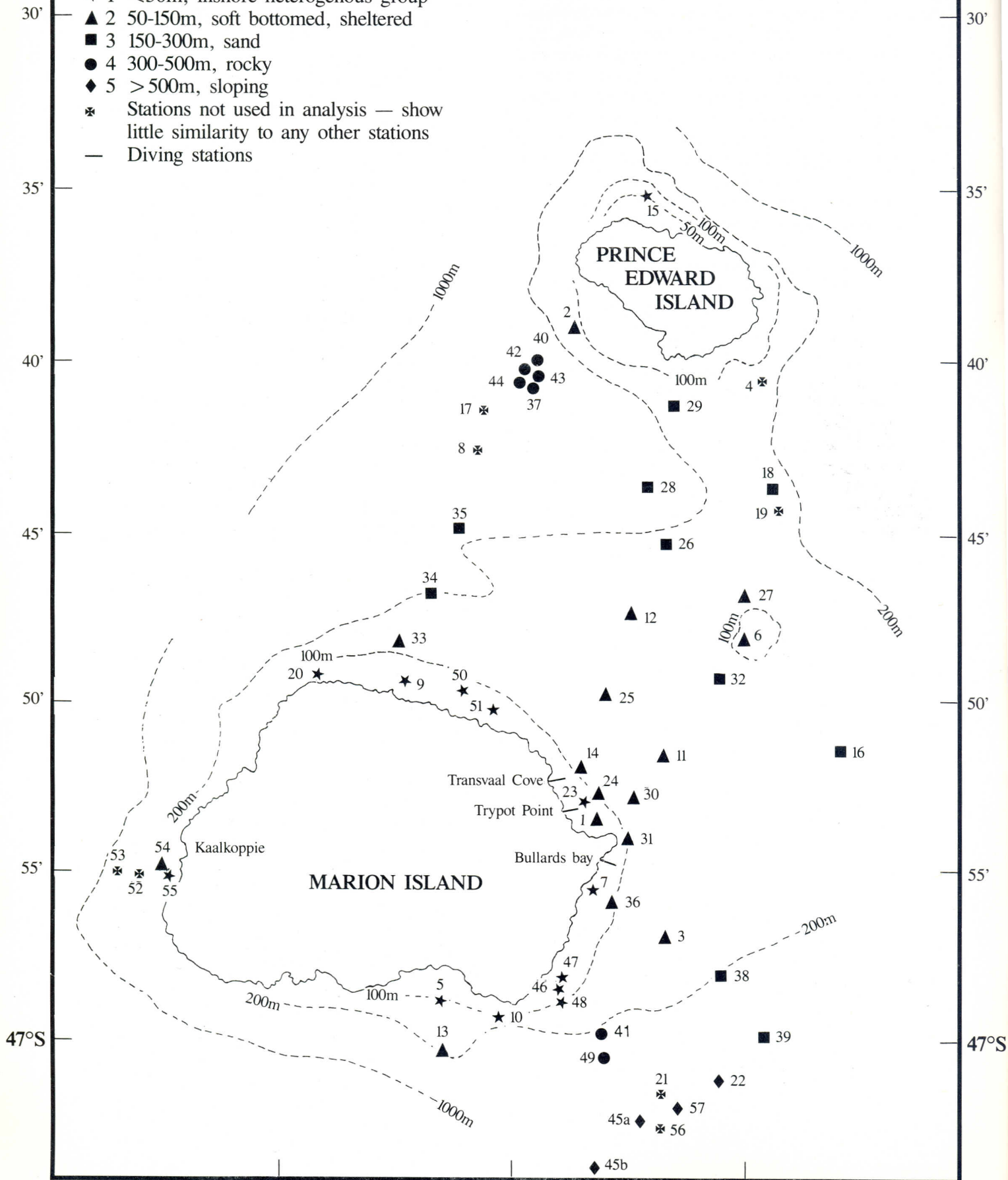
38°E

Fig 1

Map of Prince Edward Islands showing station positions and community groups

Key to community groups

- ★ 1 <50m, inshore heterogenous group
- ▲ 2 50-150m, soft bottomed, sheltered
- 3 150-300m, sand
- 4 300-500m, rocky
- ◆ 5 >500m, sloping
- ✱ Stations not used in analysis — show little similarity to any other stations
- Diving stations



Discussion

Crustacea (with 126 species) comprised one of the most species-rich classes occurring around Marion and Prince Edward Islands. Bryozoa, Polychaeta, Mollusca, Porifera and Echinodermata formed the other dominant taxa. The Decapoda only contributed 11 species, which were generally large in size and usually confined to the deeper dredged samples. Among them was the stone crab *Lithodes murrayi* which can reach a leg span of over 1 m, although only smaller specimens of 150-300 mm leg span were collected by the dredge. The Natantia prawns and *Munida spinosa* and *Uroptychus insignis* are usually about 100 mm long. The only brachyuran crab collected, *Halicarcinus planatus*, barely reached 10 mm body length but was abundant intertidally and to depths of 100 m and was especially associated with the holdfasts of *Macrocystis laevis*. The Amphipoda (71 species), Isopoda (32 species) and Tanaidacea (10 species) occurred most abundantly in 0-15 m depths associated with algae, but some Isopoda and Amphipoda were confined to deep rocky stations where they were associated with octocorals. Although small in size (rarely above 10 mm length) they reached high densities in some stations with a maximum of 9442 amphipods m^{-2} and 4197 isopods m^{-2} at 5 m at Bullards Bay (Beckley and Branch, 1992). The Cirripedia were of negligible importance, unlike continental shores where barnacles dominate. Only six small specimens of the goose barnacle *Scalpellum flavum* were collected, all attached to rock at deep stations, and two specimens of unidentified acorn barnacles were found.

The species of Crustacea recorded from Marion and Prince Edward Islands during the 1982-1989 University of Cape Town Surveys are listed in Table 1 (p 40 & p 41). The localities and stations are shown in Fig 1 (p 38). Collections were made at 8 intertidal sites and 44 scuba-diving samples were collected, 36 being taken during a quantitative survey at 5, 10 and 15 m depths at Bullards Bay, Trypot Point and Transvaal Cove (Beckley and Branch, 1992). The results of the 57 dredge collections are given in two sections. The first relates the modal abundance of individual species to the substrate types which ranged from volcanic rock, through gravel to black volcanic sand, the second records the abundance of species within community groups which were identified by a Brey-Curtis similarity analysis of the species composition at each station (Branch, Attwood *et al* 1992).

The composition of species within the community groups shown on the map, Fig 1 were characterised as follows.

Group 1. A heterogeneous inshore community found around the Island in < 50 m depth where the amphipod *Atyloella magellanica*, tanaid *Allotanais hirsutus* and decapod *Halicarcinus planatus* were common.

Group 2. This was a shallow (50-100 m), soft-sediment community dominated by several species of bivalve, the large brachiopod *Magellania kerguelensis*, the urchin *Pseudechinus marionis* and the tubicolous polychaete *Lanice conchilega*. The most common Crustacea were *Nauticaris marionis*, *Halicarcinus planatus*, *Allotanais hirsutus*, *Aapseudes spectabilis*, *Notasellus sarsi* and

Atyloella magellanica.

Group 3. This was a deeper (150-300 m), soft-sediment community between the Islands and had a similar species composition to group 2 but, associated with an increase in the abundance of bryozoans and octocorals, the isopod *Arcturides cornutus* was common, as was the anemone-hermit crab *Sympagurus dimorphus*.

Group 4. This group comprised a cluster of stations south-west of Prince Edward Island and two stations south-east of Marion Island. These were deep (300-500 m) rocky-bottomed localities with an abundance of octocorals, especially *Thouarella variabilis*, and the large ophiuroid basket stars. Several Crustacea are associated with the octocorals, and many of these are spiny including amphipods *Lepidepecreella tridactyla*, *Leucothoe spinicarpa* and *Podocerus danae*, and isopods *Acanthomunna spinipes*, *Aega cf. crozetensis*, *Antarcturus aculeatus*, *Arcturides cornutus* and *Neastacilla marionensis*. The Decapoda *Chorismus antarcticus*, *Nauticaris marionis*, *Munida spinosa* and *Sympagurus dimorphus* were common to abundant. No Tanaids were found at the deeper stations. This group yielded 4 new amphipod species: *?Pleusymtes sp.*, *Leucothoe sp.*, *Proboloides sp. A* and the first caprellid record for the area, *?Eupariambus sp.*

Group 5. This group comprised deep (> 500 m), sloping, rocky-bottomed sites to the south-east of Marion Island. This was not as rich in species as group 4 and most of the Crustacea were in very low numbers. The benthic prawns *Campylonotus capensis* and *Nematocarcinus lanceopes* as well as the hermit crab *Pagurodes inarmatus* were collected only in this area, the last two species being new records.

Group 6. The intertidal community was influenced by the zonation of the algae in which the small Crustacea found shelter and food. Amphipods were common amongst the *Porphyra* in the upper littoral zones, *Hyale grandicornis* and *Jassa alonsoae* being most common. Lower on the shore *Hyale hirtipalma* was common amongst the *Rhodomenia*. The isopods *Dynamenella eatoni* and *Exospheroma gigas* were common, especially in the boulder regions. The crab *Halicarcinus planatus* extended into this zone where it occurred amongst the *Durvillaea antarctica*. Tanaids were rarely recorded in the intertidal.

Group 7. Scuba-sampling between 5-15 m depths at Bullards Bay, Trypot Point and Transvaal Cove, yielded a rich fauna of Amphipoda (23 species), Isopoda (19 species), Tanaidacea (10 species) and a single species of crab, the common small *Halicarcinus planatus*. The abundant amphipods were *Atyloella magellanica*, *Haplocheira barbimana* and *Jassa alonsoae* while *Hyale hirtipalma* and *Seba saundersii* were common. There were undescribed species of *Proboloides*, *Ischyrocerus* and *Gammaropsis*. The two abundant isopods were *Joeropsis curvicornis* and *Dynamenella eatoni* while *Exospheroma gigas* and *Ianisera trepidus* were common. There were undescribed species of *Paramunna* and *Munnogonium* and 9 new records. All the species of tanaid were found in the scuba samples and *Zeuxoides pseudolitoralis* was abundant and *Aapseudes spectabilis* and *Allotanais hirsutus* were common.

Table 1

Summary of the species of Crustacea recorded from Marion and Prince Edward Islands during the 1982-89 University of Cape Town Surveys.

Species	No of Records			Depth m		Modal abundance in substrates						Abundance in communities						
	Int	Dv	Dr	Min	Max	rock			sand			Offshore		Int	Div			
						A	B	C	D	E	F	1	2	3	4	5	6	7
CRUSTACEA																		
CIRRIPEDIA																		
<i>Scalpellum flavum</i>	—	—	4	165	510	1	0	0	0	1	0	—	—	p	p	—		
Acorn barnacles	—	—	2	145	208	0	0	0	0	1	0	—	—	r	—	—		
AMPHIPODA																		
Gammaridea:																		
<i>Acontiosoma marionis</i>	1	2	—	0	15												r	r
<i>Alexandrella inermis</i>	—	—	1	510	510	1	0	0	0	0	0	—	—	—	r	—		
<i>Andaniella integripes</i>	—	—	1	510	510	1	0	0	0	0	0	—	—	—	r	—		
<i>Atyloella magellanica</i>	3	25	7	0	140	5	0	2	5	2	1	c	c	—	—	—	r	a
<i>Cardenio paurodactylus</i>	—	—	4	44	420	0	0	5	1	0	4	p	—	—	r	—		
<i>Ceradocopsis kergueleni</i>	—	—	2	200	475	1	0	0	0	0	1	—	—	r	r	—		
<i>Cylindrylloides mawsoni</i>	2	14	—	0	15												r	c
<i>Djerboa furcipes</i>	—	—	1	52	52	0	0	0	0	0	1	r	—	—	—	—		
<i>Eusiroides aberrantis</i>	—	—	1	527	527	1	0	0	0	0	0	—	—	—	r	—		
<i>Eusiroides georgianus</i>	—	—	1	49	49	0	0	0	1	0	0	r	—	—	—	—		
<i>Gammaropsis longitarsus</i>	—	1	1	15	49	0	0	0	1	0	0	r	—	—	—	—	—	r
<i>Gammaropsis</i> sp. SAM A40364	—	4	—	5	10												—	p
<i>Gitanopsis squamosa</i>	—	2	—	10	15												—	r
<i>Gondogeneia spinicoxa</i>	2	3	—	0	5												r	r
<i>Harpinia obtusifrons</i>	—	6	4	10	200	0	0	1	1	0	1	r	r	r	—	—	—	p
<i>Haplocheira barbimana</i>	2	27	3	0	49	1	0	0	1	0	0	r	—	—	—	—	r	a
<i>Hippomedon kergueleni</i>	—	—	4	44	107	0	0	0	1	1	5	r	r	—	—	—		
<i>Hyale grandicornis</i>	3	1	—	0	10												p	r
<i>Hyale hirtipalma</i>	8	9	—	0	15												c	c
? <i>Ischyrocerus</i> sp.2 SAM A40363	—	10	—	5	10												—	p
<i>Jassa alonsoae</i>	8	33	—	0	15												c	a
<i>Kerguelenia antiborealis</i>	—	—	1	510	510	1	0	0	0	0	0	—	—	—	r	—		
<i>Lepidepecreella tridactyla</i>	—	—	3	290	527	1	1	0	0	0	0	—	—	—	c	—		
<i>Leucothoe spinicarpa</i>	—	3	5	5	527	1	0	0	0	1	0	—	r	r	c	—	—	r
<i>Leucothoe</i> sp. SAM A40379	—	—	2	355	527	1	0	0	0	0	0	—	—	—	r	—		
<i>Liljeborgia longicornis</i>	—	—	6	45	355	1	1	2	1	0	0	r	r	—	p	—		
<i>Liljeborgia pseudomacronyx</i>	—	—	2	85	200	0	0	0	0	0	1	—	r	r	—	—		
<i>Oradarea edentata</i>	—	1	1	10	52	0	0	0	0	0	1	r	—	—	—	—	—	r
<i>Oradarea ocellata</i>	—	15	4	10	510	1	0	0	3	0	1	r	—	—	r	—	—	p
<i>Paramoera fissicaudata</i>	3	3	—	0	10												r	r
<i>Parawaldeckia kidderi</i>	—	3	—	5	5												—	r
<i>Pardalisca marionis</i>	—	—	1	165	165	0	0	0	0	1	0	—	—	—	r	—		
<i>Pleusymtes</i> sp. SAM A40378	—	—	1	510	510	1	0	0	0	0	0	—	—	—	r	—		
<i>Podocerus capillimanus</i>	—	16	—	5	15												—	p
<i>Podocerus danae</i>	—	—	6	200	527	1	1	0	0	0	1	—	—	r	a	—		
<i>Pontogeneiella brevicornis</i>	3	5	1	0	45	1	0	0	0	0	0	r	—	—	—	—	r	p
<i>Probolisca ovata</i>	—	5	—	10	15												—	p
<i>Probolooides</i> sp.A SAM A40358	—	—	1	510	510	1	0	0	0	0	0	—	—	—	r	—		
<i>Probolooides</i> sp.B SAM A40360	2	2	—	0	15												r	r
<i>Pseudischyrocerus crenatipes</i>	—	—	1	527	527	1	0	0	0	0	0	—	—	—	r	—		
<i>Pseudischyrocerus distichon</i>	—	—	3	474	693	2	1	0	0	0	0	—	—	—	p	—		
<i>Schradera gracilis</i>	—	—	2	120	140	0	0	0	0	1	1	—	r	—	—	—		
<i>Seba saundersii</i>	—	13	—	5	10												—	c
<i>Ventojassa georgiana</i>	—	1	—	10	10												—	r
Talitridae sp. SAM A40361	—	—	1	693	693	1	0	0	0	0	0							
Caprellidea																		
<i>Eupariambus</i> sp. SAM A40356	—	—	2	179	527	1	0	0	0	1	0	—	—	r	r	—		
ISOPODA																		
<i>Acanthomunna spinipes</i>	—	—	5	210	510	1	0	0	0	1	0	—	—	r	c	—		
<i>Aega</i> cf. <i>crozetensis</i>	—	—	8	106	697	1	0	0	0	1	1	—	r	r	a	r		
<i>Aega semicarinata</i>	—	—	1	49	49	0	0	0	1	0	0	r	—	—	—	—		
<i>Antarcturus aculeatus</i>	—	—	4	474	527	1	1	0	0	0	0	—	—	—	c	r		
<i>Arcturides cornutus</i>	—	—	19	139	697	1	3	0	0	1	1	—	r	c	a	r		

Table 1 (continued)

Species	No of Records			Depth m		Modal abundance in substrates						Abundance in communities							
	Int	Dv	Dr	Min	Max	rock	sand					Offshore		Int	Div				
							A	B	C	D	E	F	1	2	3	4	5	6	7
CRUSTACEA																			
ISOPODA																			
<i>Austrofilius furcatus</i>	—	2	—	15	15													—	r
<i>Austroniscus ectiformis</i>	—	2	—	5	5													—	r
<i>Califanthura pingouin</i>	—	7	—	5	15													—	p
<i>Cymodocella</i> sp. SAM A40368	3	2	—	0	15													r	—
<i>Dynamenella eatoni</i>	2	40	6	0	52	2	0	0	1	0	1		p	—	—	—	—	c	a
<i>Euvallentinia darwini</i>	—	—	2	44	71	0	0	1	3	0	0		r	—	—	—	—	—	—
<i>Exosphaeroma gigas</i>	2	9	2	0	52	2	0	0	0	0	1		p	—	—	—	—	c	c
<i>Gnathia antarctica</i>	—	—	1	210	210	0	0	0	0	1	0		—	—	r	—	—	—	—
<i>Iais pubescens</i>	—	7	—	5	15													—	p
<i>Ianisera trepidus</i>	—	11	—	5	15													—	c
<i>Joeropsis curvicornis</i>	—	36	4	5	228	0	0	1	2	1	2		r	r	r	—	—	—	a
<i>Joeropsis marionis</i>	—	9	1	140	140	0	0	0	0	1	0		—	r	—	—	—	—	p
<i>Microarcturus hirticornis</i>	—	—	6	200	355	1	1	0	0	1	1		—	—	p	p	—	—	—
<i>Munna instructa</i>	—	2	—	5	15													—	r
<i>Munna neglecta</i>	—	6	1	5	510	1	0	0	0	0	0		—	—	—	r	—	—	r
<i>Munna neozelanica</i>	—	4	—	5	15													—	r
<i>Munnogonium</i> sp. SAM A40375	—	4	—	5	10													—	r
<i>Neastacilla marionensis</i>	—	—	4	140	290	2	2	0	0	3	0		—	p	—	c	—	—	—
<i>Notasellus sarsi</i>	—	6	4	10	474	0	1	0	1	1	0		r	c	—	p	—	—	—
<i>Paranthura possessia</i>	—	—	1	210	210	1	0	0	0	0	0		—	—	—	r	—	—	—
<i>Paramunna</i> sp. SAM A40373	—	1	—	5	5													—	r
<i>Santia bicornis</i>	—	—	—	—	—													—	—
<i>Santia</i> cf. <i>hofsteni</i>	—	1	—	15	15													—	r
<i>Santia</i> cf. <i>marmoratus</i>	—	3	—	5	5													—	r
<i>Serolis septemcarinata</i>	—	—	10	49	480	1	1	0	0	1	1		r	p	p	—	r	—	—
<i>Bopyridae</i> SAM A40366	—	—	2	49	290	0	1	0	1	0	0		r	—	—	r	—	—	—
TANAIDACEA																			
<i>Allotanais hirsutus</i>	—	11	21	10	391	0	0	0	5	1	4		c	c	r	—	—	—	p
<i>Apseudes spectabilis</i>	—	13	16	5	368	1	1	0	0	2	1		—	a	c	—	—	—	c
<i>Nototanais antarcticus</i>	—	1	—	5	5													—	r
<i>Nototanais dimorphus</i>	—	3	—	10	15													—	r
<i>Pancoloides litoralis</i>	—	6	—	5	10													—	r
<i>Paratanais oculatus</i>	—	6	—	5	10													—	r
<i>Pseudonototanais werthi</i>	—	6	—	5	15													—	p
<i>Sinolobius stanfordi</i>	—	1	—	5	5													—	r
<i>Zeuxo phyalensis</i>	—	22	—	5	15													—	p
<i>Zeuxoides pseudolitoralis</i>	—	28	—	5	15													—	a
DECAPODA																			
<i>Campylonotus capensis</i>	—	—	3	480	697	1	0	0	0	0	0		—	—	—	—	P	—	—
<i>Chorismus antarcticus</i>	—	—	4	475	527	2	0	0	0	0	0		—	—	—	c	—	—	—
<i>Halicarcinus planatus</i>	6	33	18	5	150	1	2	1	4	1	1		a	c	—	—	—	c	c
<i>Lithodes murrayi</i>	—	—	2	475	510	1	0	0	0	0	0		—	—	—	p	—	—	—
<i>Nauticaris marionis</i>	3	4	40	5	697	1	5	1	2	4	1		a	a	c	c	p	r	r
<i>Nematocarcinus lanceopes</i>	—	—	2	697	750	4	0	0	0	0	0		—	—	—	—	p	—	—
<i>Munida spinosa</i>	—	—	8	368	697	1	1	0	0	0	0		—	—	r	a	r	—	—
<i>Paralomis aculeatus</i>	—	—	—	—	—													—	—
<i>Sympagurus dimorphus</i>	—	—	18	106	693	1	1	0	1	1	1		—	p	c	a	—	—	—
<i>Paguroides inarmatus</i>	—	—	1	697	697	2	0	0	0	0	0		—	—	—	—	r	—	—

The number of stations at which each species was recorded is given for intertidal (Int), scuba-diving (Dv) and dredging (Dr) surveys. For these three survey methods 8, 44 and 57 stations were sampled, respectively. Maximum and minimum depths are given. The modal abundance of each species is shown in relation to substratum where the modal abundance is expressed as follows: 0= absent, 1=1-5, 2=6-15, 3=16-30, 4=31-50, 5=51-100 individuals per sample. Substrate types are: A=>60% rock, B=10-60% rock, C=>50% gravel, D=sand with 5%-50% gravel, E=sand with >5% mud, F=100% sand.

Abundance is also summarised in relation to five community groups recognised by similarity analyses of the offshore dredged material (community groups 1-5, see map in Fig 1) or for intertidal (Int group 6 <5m depth) and shallow-water scuba-samples (Dv, group 7, 5-15m). Abundance was ranked as —= absent, r=rare, p=present, c=common, a=abundant. Ranking was assigned on the basis of the product of the modal abundance and the percentage of stations within a community group at which the species was collected.

Geographical distribution

The fauna of Marion and Prince Edward Islands contains many species in common with neighbouring Crozet and Kerguelen Islands. Fewer species are in common with other subantarctic localities and only cosmopolitan species are shared with the Antarctic Peninsula or the southern continents.

Of the 71 species of Amphipoda known for Marion Island, 28 also occur at either Crozet or Kerguelen Islands; 18 of the 71 species have been recorded only from Marion which include 8 new undescribed species from the UCT collection and 10 new species from the *Marion Dufresne* 1976 survey (Bellan-Santini & Ledoyer 1986). Many of the amphipods are widespread throughout the Southern Ocean and some are cosmopolitan, occurring at New Zealand, South Africa and South America. The distribution and a synonymical biography of the marine gammaridean Amphipoda of the Southern Ocean is summarised by Lowry & Bullock (1976). According to Bellan-Santini & Ledoyer (1974) 81 species of Amphipoda have been reported from Kerguelen (24 of these also at Marion) and 16 from Crozet (11 of these also at Marion). Knox and Lowry, 1977, analysed the zoogeography of the benthic amphipods of the Southern Ocean. They divided the fauna into four distinct areas; the Subantarctic, the Magellanic, the Scotia and the East Antarctic. In the Subantarctic area, which linked the Kerguelen, Crozet and Prince Edward Islands with Auckland, Campbell and Macquarie Islands, 50% of the species were endemic while a pool of circumsubantarctic species tied the loosely knit group together and linked it to the Magellanic area (composed of Tierra del Fuego, Falkland Islands and Burdwood bank). The circumsubantarctic species included *Hyale hirtipalma*, *Gitanopsis squamosa*, *Acontistoma marionis*, *Paramoera fissicauda* and *Probolisca ovata*, which are all algal-living amphipods and could have been dispersed on floating rafts of algae by the West Wind Drift. The present results, while expanding the records from 13 to 71 species from Marion Island and from 59 to 81 for Kerguelen, reinforce this grouping because of the 28 species shared between Marion, Crozet and Kerguelen Islands, 24 are either cosmopolitan or shared with other subantarctic Islands.

Kensley compares the geographical distribution of the known species of Isopoda from Crozet, Prince Edward and Marion Islands (Kensley, 1980) with other subantarctic localities. The isopods from the subantarctic waters of the Indian Ocean are summarised by Kussakin and Vasina (1982). The 21 new records of Isopoda from Marion Island which are documented here bring the total to 35, and of these only 6 have not already been recorded from either Crozet or Kerguelen Islands. Four of these 6 were new species, while *Ianisera trepidus* and *Santia* cf. *hofsteni* have been recorded from the Indian Ocean subantarctic Islands of St Paul and Amsterdam.

Geographical distribution of the tanaids was taken from Shino 1978, and Sieg 1980. Of the 11 species of tanaid recorded here from Marion Island, 8 are new records. Nine of the species also occur at Kerguelen Island. Of

the remaining species 2 were rare; *Nototanais antarcticus* is usually confined to the antarctic and *Sinolobus stanfordi* is a Californian species whose presence at Marion Island needs confirmation.

The decapods were more abundant in the deeper stations to the west and south of the Prince Edward Islands where sampling had not previously been undertaken and yielded 4 new records. Four species of swimming prawns were recorded from Marion Island. By far the most widespread and abundant was *Nauticarid marionis* which also occurs in smaller numbers at Kerguelen and Crozet Islands (Ledoyer, 1979). Parasitic isopods of the family Bopyridae were found in the gill chambers of *N. marionis*. The only true crab was the small round *Halicarcinus planatus* which is also known from Kerguelen. There were four anomuran decapods. The stone crab *Lithodes murrayi* is widespread in distribution and usually more successfully caught in a baited trap, hence the low dredge numbers. *Munida spinosa* was locally abundant in the deep rocky zone south-west of Prince Edward Island, as was the anemone hermit crab *Sympagurus dimorphus* which also occurred in the deeper waters between the Islands.

In summary the order Amphipoda is the most species-rich order of Crustacea at Marion Island, has more endemic species and shares a smaller percentage of species with the Kerguelen Islands than do the other orders. However, all orders showed strong affinities with both Crozet and Kerguelen Islands and the 49 new records reinforce the placement of Marion Island in the Kerguelen province which can be loosely linked with other subantarctic islands.

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