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The Mesozooplankton of the Solent-Southampton Water system: A photographic guide

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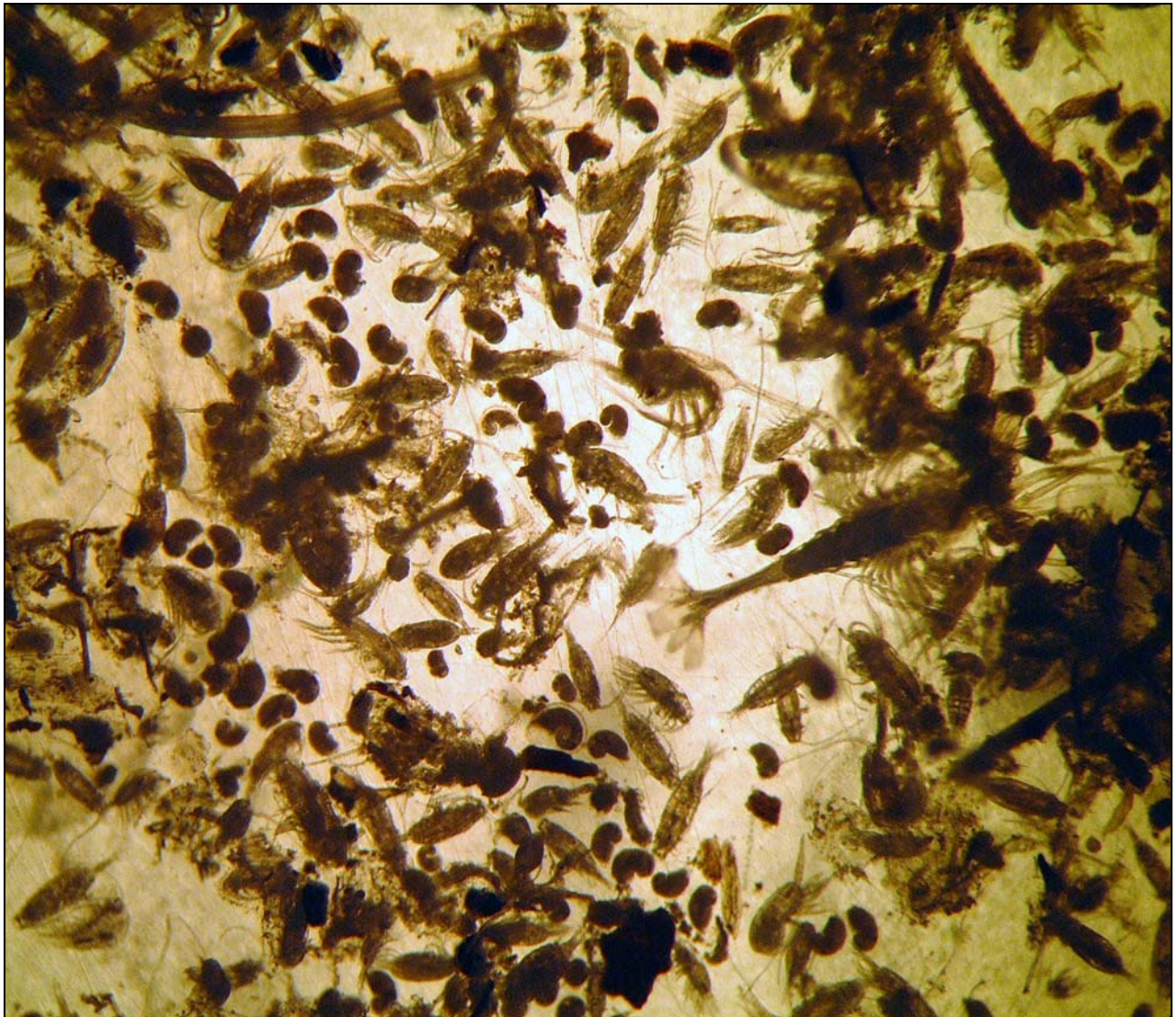
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<i>ABSTRACT</i> <p>The present guide provides a photo-record summary of the taxa recorded in the mesozooplankton of the Solent-Southampton Water system, providing an overview of animals from 12 different phyla, and also commenting on seasonality of occurrence as well as highlighting some taxonomic characteristics identifiable using low-powered dissecting microscopes. With 479 photographs, most of the animals recorded in this system over the past 50 years are included. Taxonomic references, for a complete identification of each animal are also provided. The manual is intended to be helpful in future research and studies within this system and neighboring regions, where almost the same mesozooplankton composition can be found. It could also be used as a photographic aid to the more formal taxonomic guides.</p>	
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The Mesozooplankton of the Solent-Southampton Water system: A Photographic guide.

By

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Note

Last minute additions/corrections.

This guide can be considered as a work in progress and the version present in this file has several minor corrections and feedback comments added in relation to the current printed version available at the: National Oceanographic Library (Southampton Oceanography Centre – European way – Southampton – SO14 3ZH) and at the National Marine Biological Library (Citadel Hill Laboratory – Plymouth - PL1 2PB – UK).

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* indicates that the taxon are being reported for the first time within the zooplankton of this system

Introduction

Zooplankton samples of any given area will contain organisms from several phyla, requiring the use of numerous taxonomic guides for the identification of the different species or group of animals present. These detailed, illustrated taxonomic references are vital, but are usually dispersed in different guides, atlases or individual papers and usually intended for researchers with some prior knowledge in species identification. Students and 'new' researchers however, usually do not have time for searching through countless disparate references or the prior knowledge for the identification of rare species that only appear in low numbers. However, information about species and their spatio-temporal patterns is needed before attempting to quantify any planktonic processes (Soetaert & Van Rijswijk, 1993).

The primary objective of the present work is to give a photo-record summary of the taxa recorded in the mesozooplankton of the Solent-Southampton Water (SW) system, together with a suggested literature needed to identify them. We hope that this manual will be particularly helpful in future research and studies within this system and in neighbouring regions where almost the same mesozooplankton composition would be expected to be found.

This manual is divided in two parts: there is a numbered, working photo-record index intended to be used close to the microscope, where all the specimens expected to be seen can be viewed together and compared. The second part comprises 325 pictures, where each taxa is presented individually together with summarized information about the occurrence of the species in this estuarine system, and some taxonomic features identifiable using a low-power dissecting microscope. References suggested for a complete identification are also given.

Photos were taken at an orientation to give a general overview of the whole animal, as well as highlighting features of taxonomic importance. Most of the pictures were taken from preserved animals because these are more likely to be seen by most of the intended users of this guide. However we have to stress that the colours of live animals are different to the ones presented here and could be useful for the identification on some specimens in live samples. Colouration usually changes with time in preserved samples and an example can be seen below, where a live female specimen of *Centropages hamatus* is shown alongside of a preserved one (Fig 1).

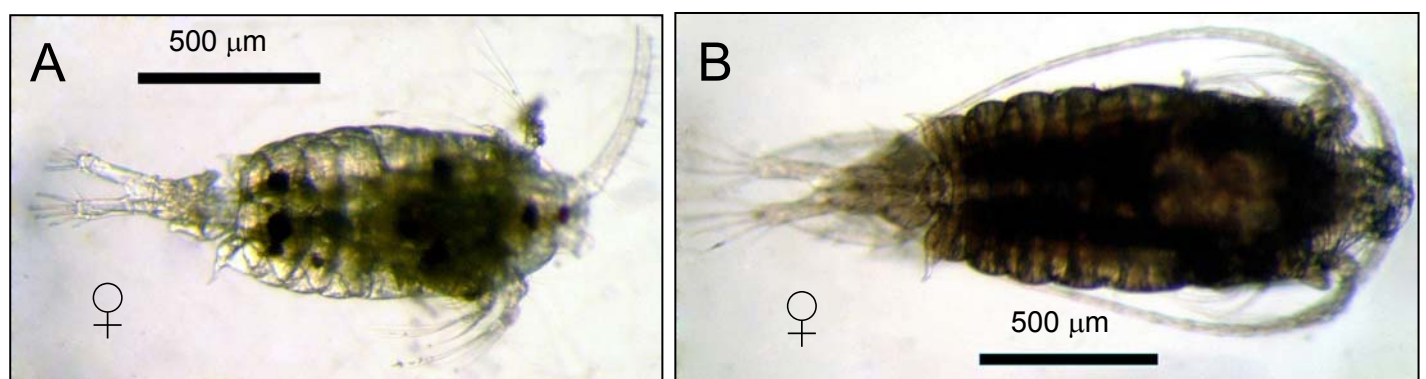


Figure 1 - *Centropages hamatus*: a) Live; b) Preserved in 4% buffered formalin.

Efforts were made to photograph all animals caught in zooplankton samples collected in this system, including some benthic animals that were considered as occasional tycooplankton i.e those animals that spends part of the day/night as plankton.

A total of 152 different taxa are considered in this guide, including 62 of the 90 previously reported in the mesozooplankton of this system, together with 90 taxa reported for the first time within this system. Only 62 of the previously reported taxa in this system were identified, either because the species did not occur in the sampling period (for methods see Muxagata *et al.*, 2004) or they may be included as 'unidentified' specimens. Previously reported *Polydora ciliata* and *Polydora ligni* could in this study be under 'unidentified Spionidae' or in the case of *Necora puber* which are under *Liocarcinus* spp. Taxa were identified to the nearest level possible, with 96 identified to species, 32 to genus and 24 only identified at a lower level i.e. Family, Class, Order or Phylum.

This work is intended to be an aid to the detailed taxonomic guides, and species should ultimately be identified using the references provided. An example of how pictures can be useful has been pointed out by Martin (2000), and refers to cases when the key does not have a general overview of the animals, like the one provided by Paula (1996) for the identification of brachyuran crab larvae. In Paula (1996) key, the impression that species of *Hyas* and *Maja* resembles each other may be given, since the distinction between the larvae of the two lies in the number of lateral spines at the telson furca of each one. A look at photos 134 and 135 shows that these larvae are quite distinct.

The identification of most of organisms was made by E. Muxagata. Taxa identified by the photo-numbers 23, 49, 64, 66 were in identified containers by Dr. E. Castro-Longoria, and taxa 17, 18, 96 to 107 and 109 were identified by Dr. M. Sheader. We would like to acknowledge the support of the crew of the research boat "Bill Conway" that kindly assisted in the collection of the zooplankton samples, and also the support and comments of Dr. G.A. Boxshall from The Natural History Museum.

General characteristics of the region.

The Solent is an extremely busy shallow channel of ~30 km that separates the Isle of Wight from the mainland south coast of the U.K. (Fig. 2). The West Solent has a regular shipping channel of about 20 km in length and 4 km wide continually dredged to maintain average depth of 15 m while the East Solent is wider and deeper (Webber, 1980). Of the estuaries connected to the Solent, Southampton Water with ~11 km in length and 1.9 - 2.5 km wide, is clearly the largest and most important.

Southampton Water is a shallow, partially-mixed coastal plain estuary, with broad intertidal mudflats with shingle and sand on the eastern side and salt marshes on the western side, that runs in a NW - SE direction towards the Solent (Dyer, 1973; Webber, 1980; Dyer, 1982). It is fed by the rivers Test and Itchen at its head and by the Hamble near the mouth (Fig. 2). The rivers Test and Itchen are chalk streams that pass through intensively farmed land (Howard *et al.*, 1995), and with a mean annual discharge of 8.81 and 3.26 m³ s⁻¹, respectively, they are responsible for about 45% of the total inflow of freshwater into the Solent system (Sylaios & Boxall, 1998). The river Hamble, with a mean annual discharge of 0.28 m³ s⁻¹, contributes only a small input of freshwater. The remaining inputs of freshwater into the Solent are the Beaulieu and Lymington rivers on the north-west coast, as well as the Western Yar, Newtown, Medina and Wootton Creek on the Isle of Wight (Webber, 1980).

The Solent-Southampton Water system is essentially marine in character, with little salinity variation within the Solent (31.6 to 34.7) but some stratification at the head of Southampton Water, where salinities as low as 11.7 have been reported (Raymont & Carrie, 1964; Castro-Longoria, 1998; Muxagata *et al.*, 2004).

The water temperature of the Solent-Southampton Water system varies with the season, with temperatures < 9 °C in January – February and > 17 °C in July – August (Raymont & Carrie, 1964; Leakey *et al.*, 1992; Howard *et al.*, 1995; Hirst, 1996; Castro-Longoria, 1998). In the Solent, and depending on season, the water temperature is usually ± 1 °C cooler or warmer than inside Southampton Water (Carr *et al.*, 1980).

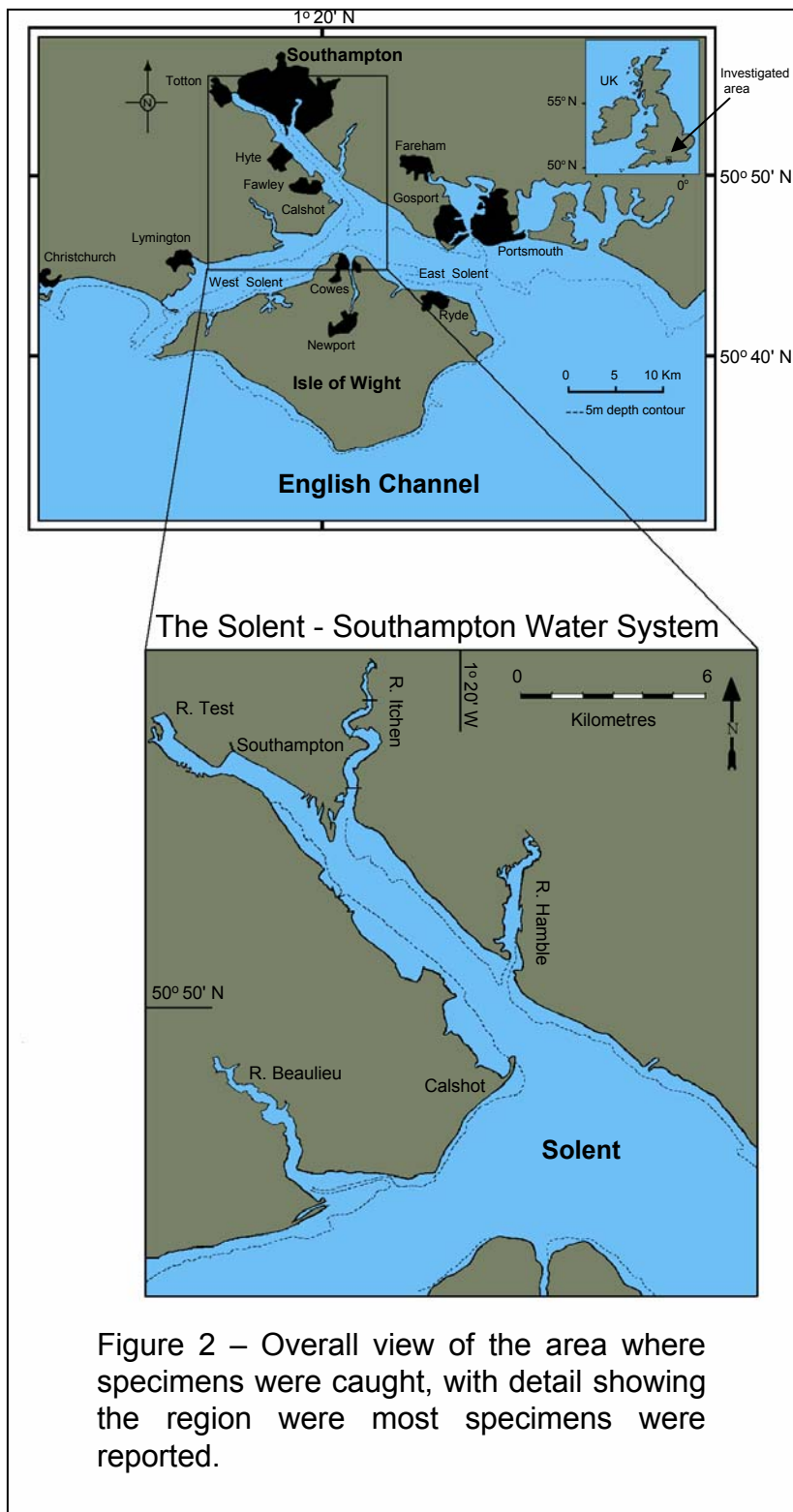


Figure 2 – Overall view of the area where specimens were caught, with detail showing the region where most specimens were reported.

The tidal features of Solent area are complex and are characterised by a 'stand' of high water (double high water) over a period of 2 to 3 hours, where little tidal water movement occurs.

The consequence of this double high water is that the ebb is shortened to around 4 hours instead of 6 hours, which makes ebb currents faster than the corresponding flood, and flushing silt and contaminants in a seaward direction (Webber, 1980). Within the Solent-Southampton Water system, the tidal range varies from 1.5 to 3 m (Webber, 1980).

A number of authors have reported the seasonal cycle of abundance, biomass and production rates for several components of the pelagic community of Southampton Water. Ciliates were studied in detail by Leakey *et al.* (1992) and Kifle & Purdie (1993), bacteria by Antai (1989). Phytoplankton were the subject of several studies (Williams, 1980; Iriarte, 1991; Iriarte, 1993; Iriarte & Purdie, 1994; Howard *et al.*, 1995). Based on these studies Southampton Water can be considered as a productive estuary, with annual rates of primary production estimated at $177\text{g C m}^{-2}\text{ yr}^{-1}$ and $130\text{g C m}^{-2}\text{ yr}^{-1}$ at the middle and mouth respectively, with March and August the most productive months (Iriarte & Purdie, 1994).

The mesozooplankton population of Southampton Water have been described by several authors (Conover, 1957; Soares, 1958; Raymont & Carrie, 1964; Lance & Raymont, 1964; Barlow & Monteiro, 1979; Zinger, 1989; Williams & Reubold, 1990; Lucas, 1993; Lucas & Williams, 1994; Lucas *et al.*, 1995; Hirst,

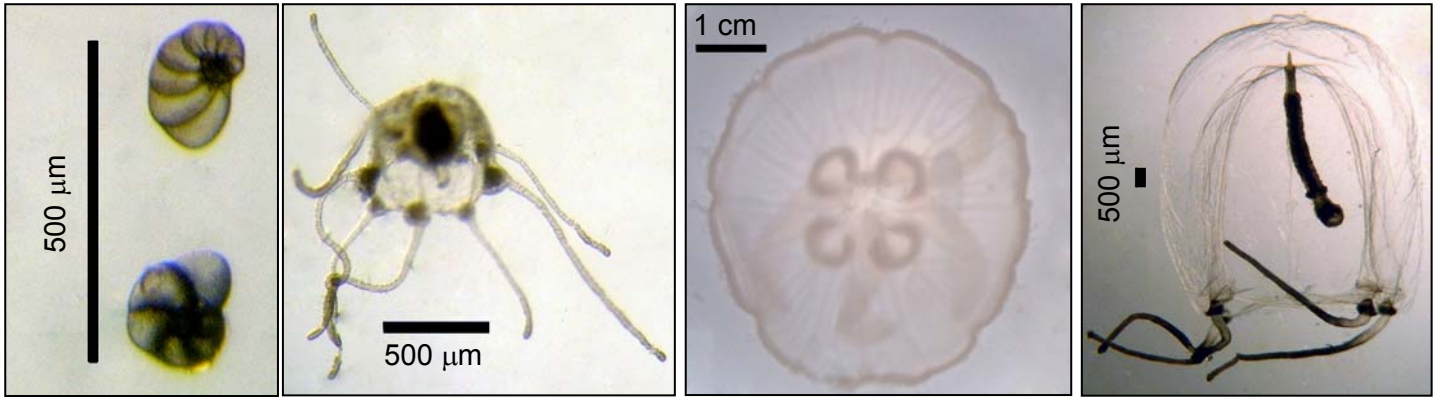
1996; Castro-Longoria & Williams, 1996; Lucas *et al.*, 1997; Castro-Longoria, 1998; Hirst *et al.*, 1999; Chinnery, 2002; Muxagata *et al.*, 2004), but the mesozooplankton of the Solent has only investigated by Castro-Longoria (1998) and Guyard (2000).

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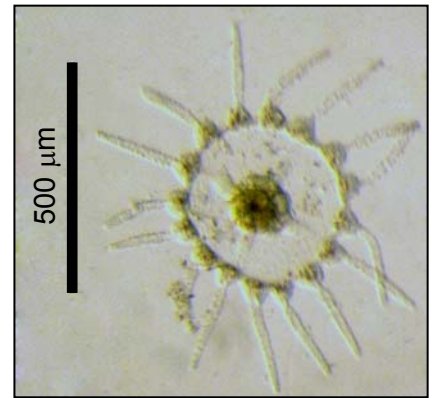
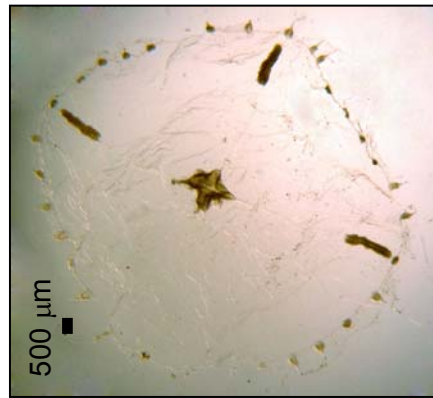
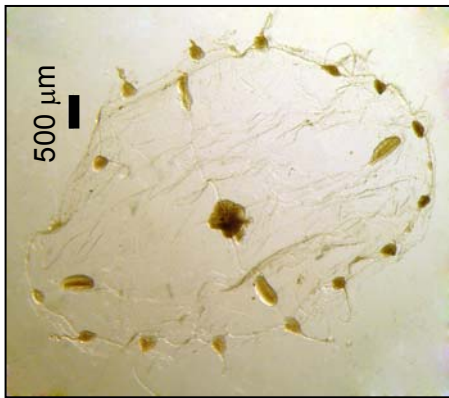


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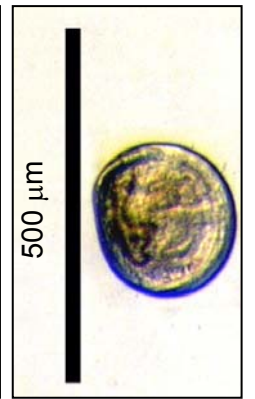
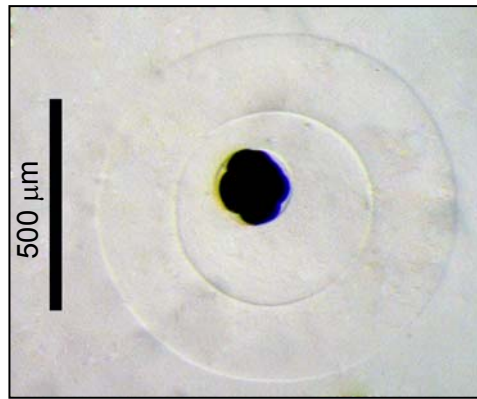
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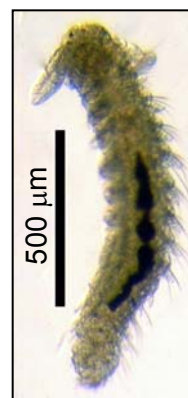
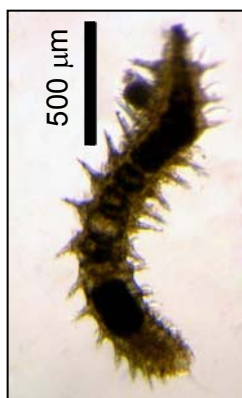


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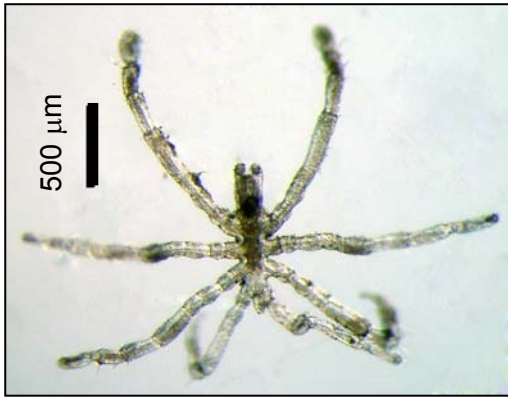
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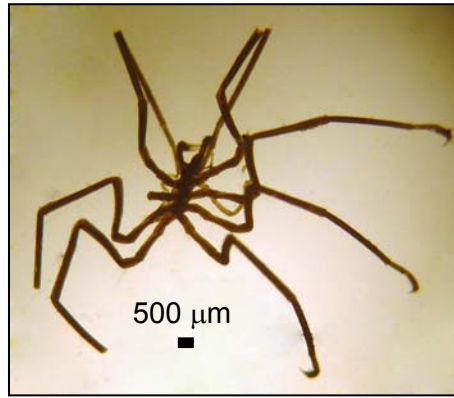
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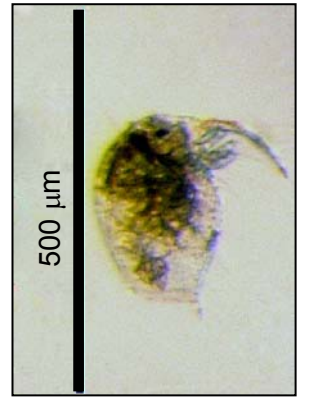
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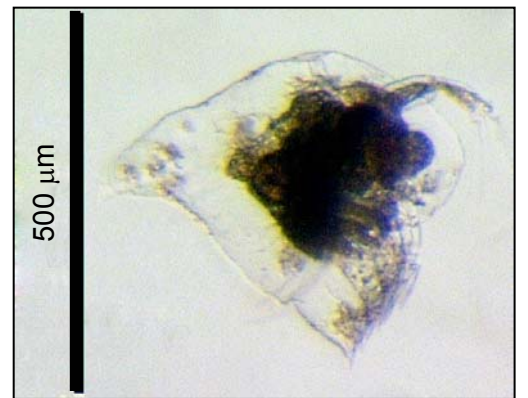
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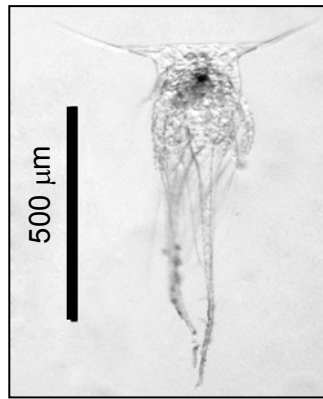
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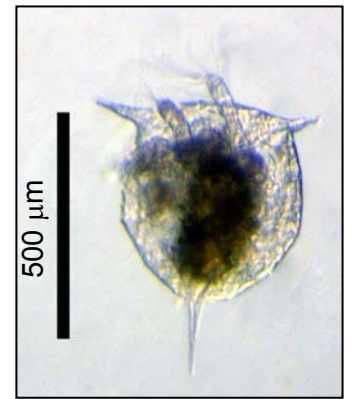
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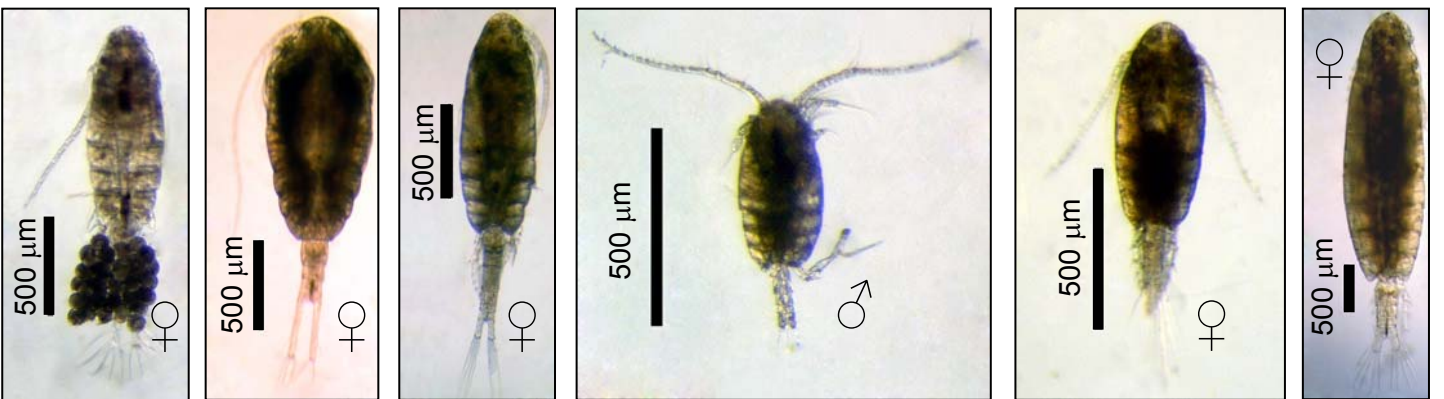
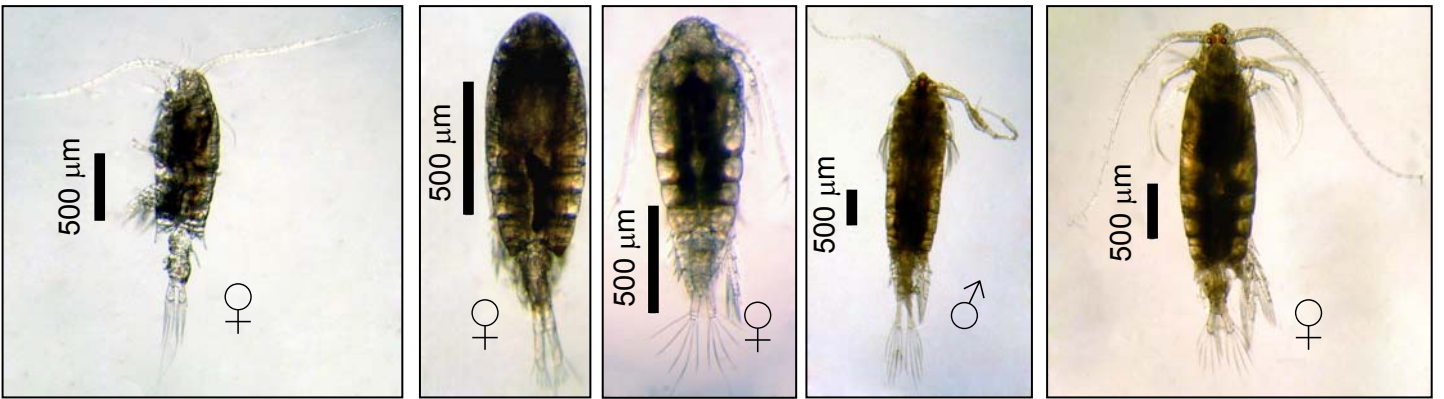
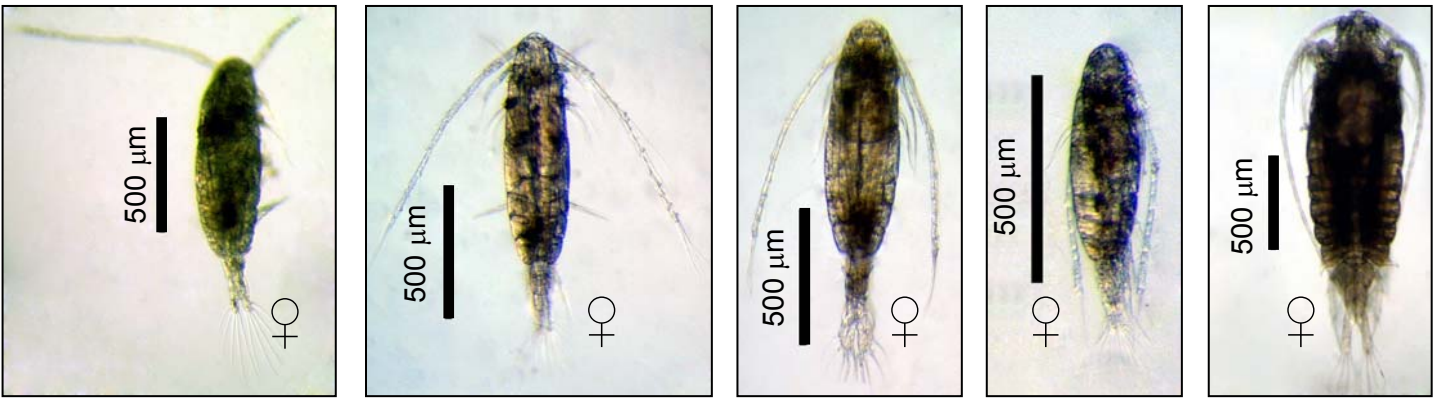
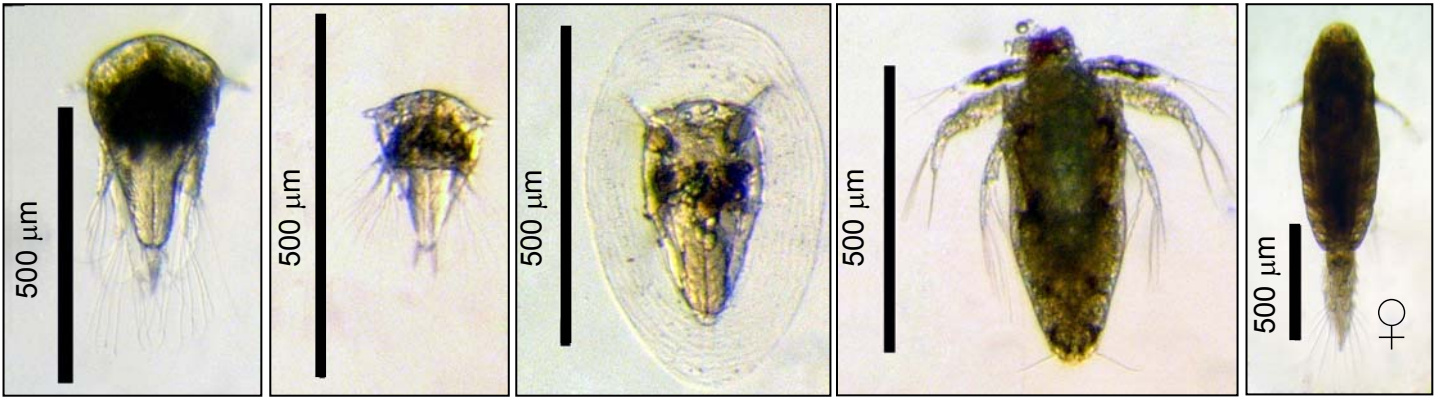
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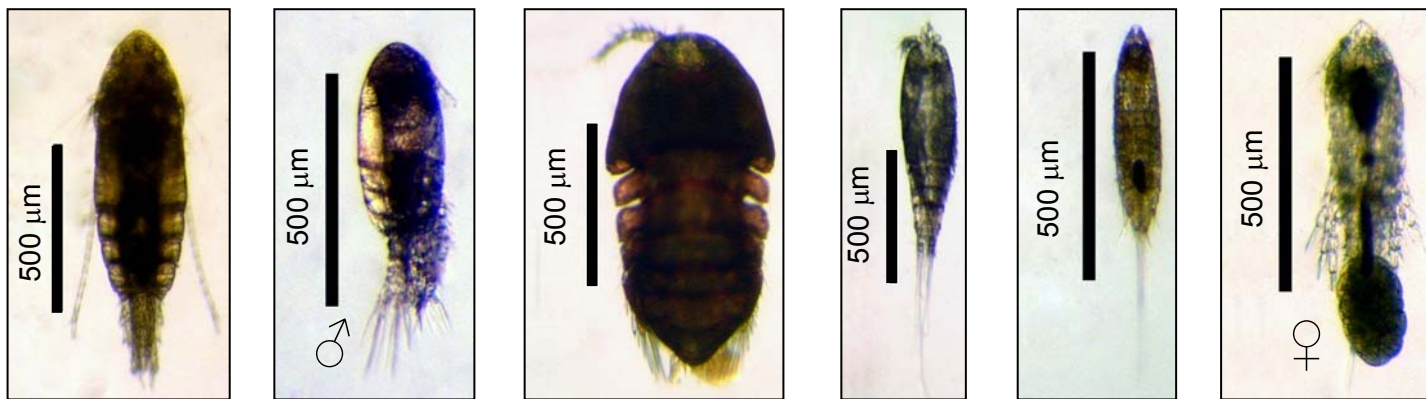


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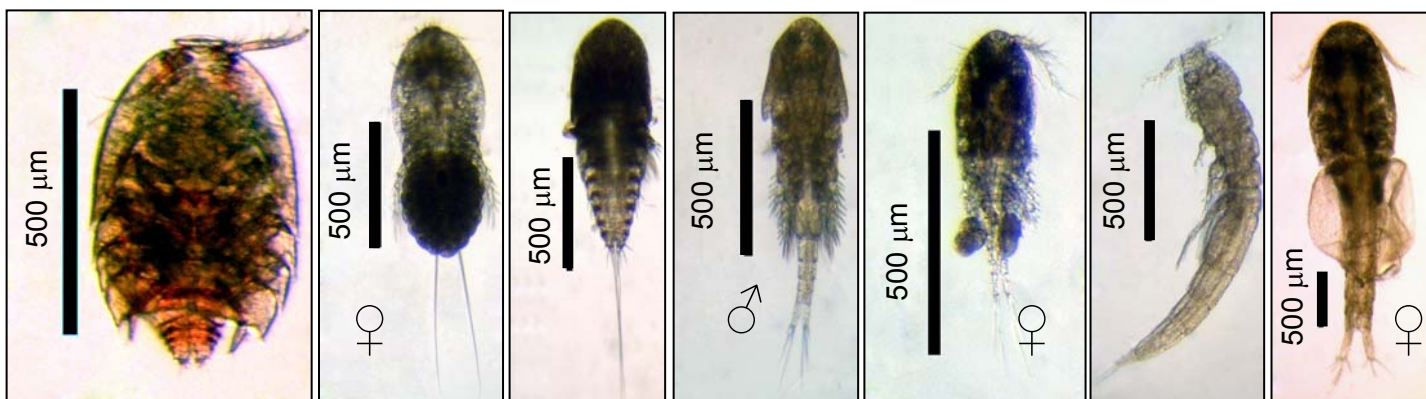
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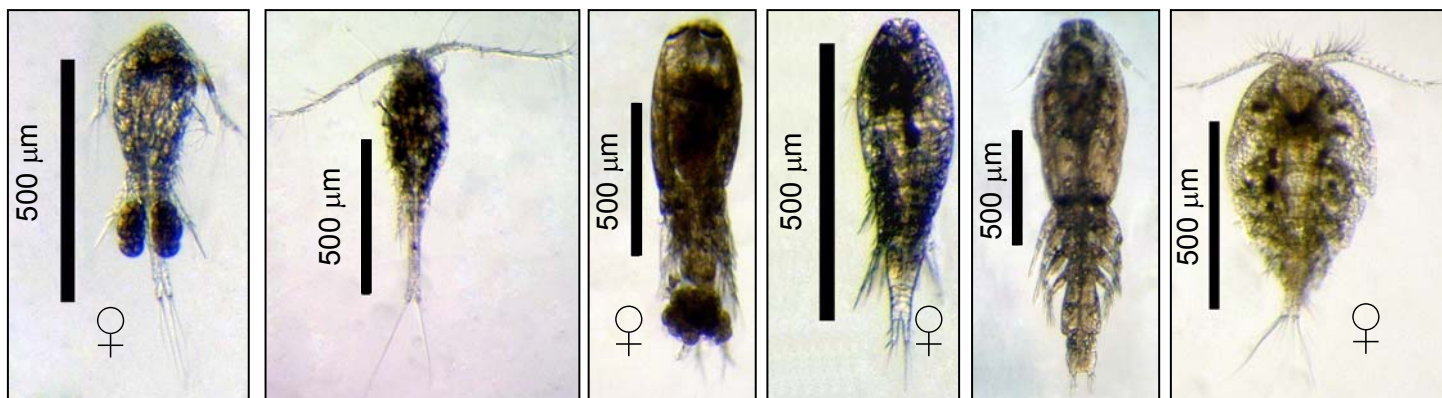
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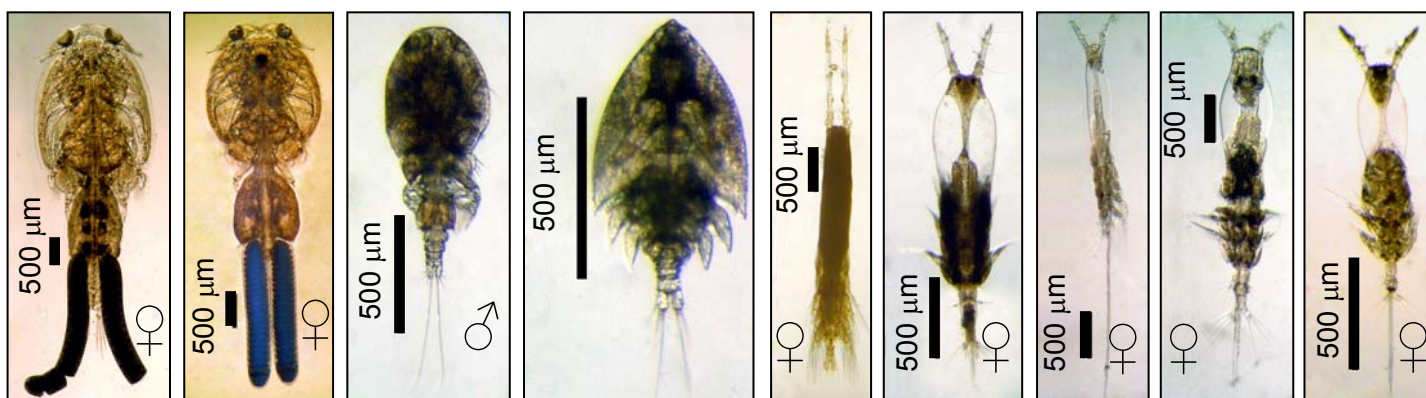
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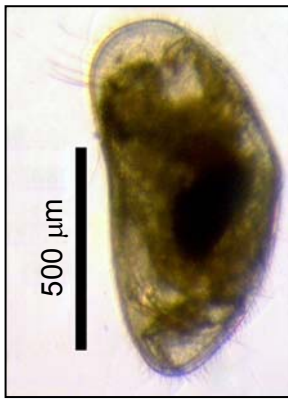
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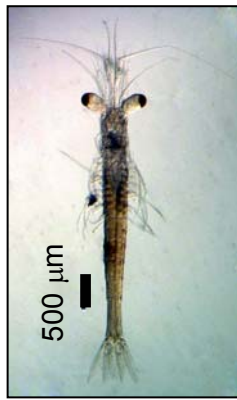
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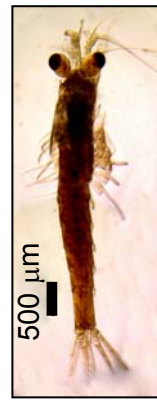
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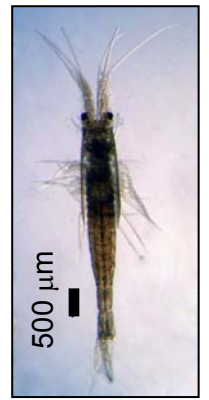
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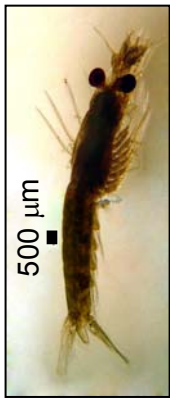
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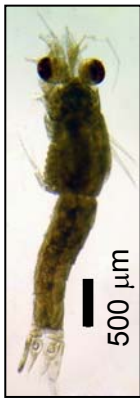
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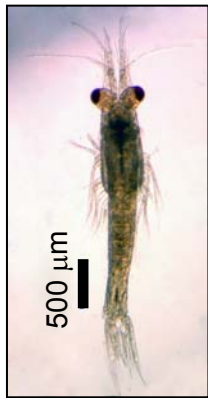
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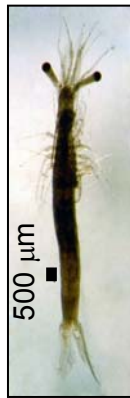
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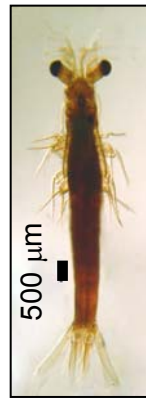
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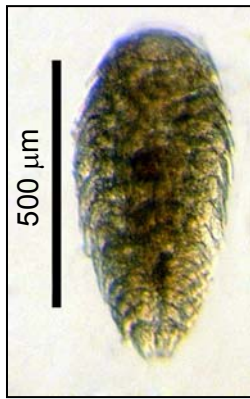
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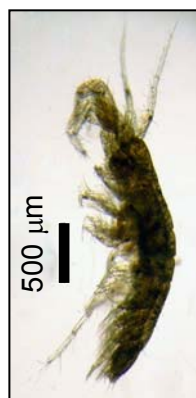
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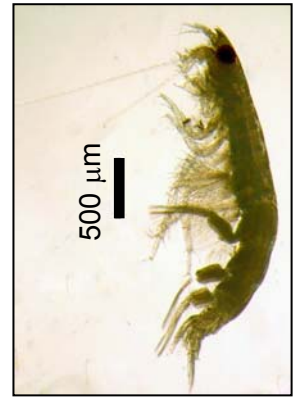
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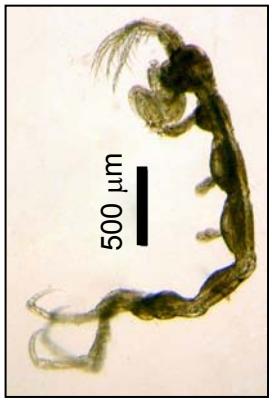
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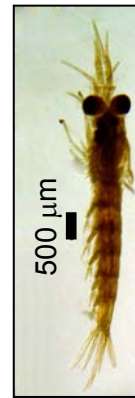
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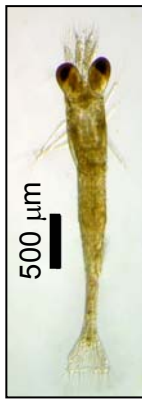
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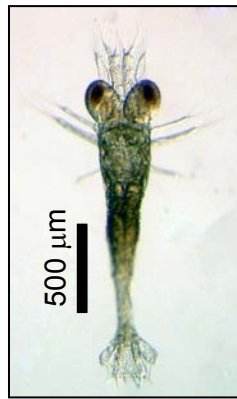
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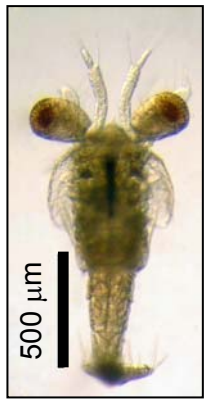
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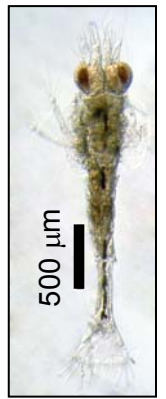
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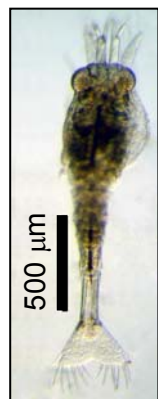
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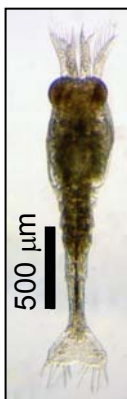
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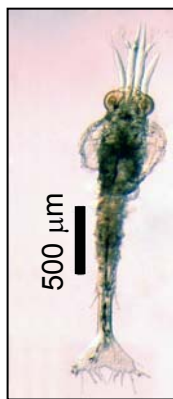
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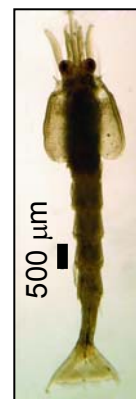
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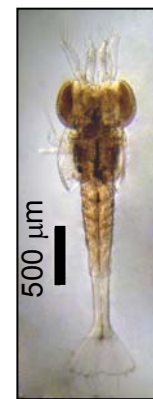
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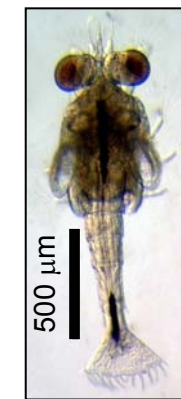
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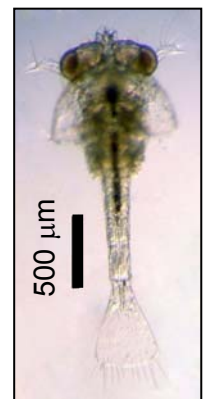
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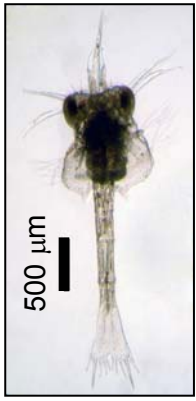
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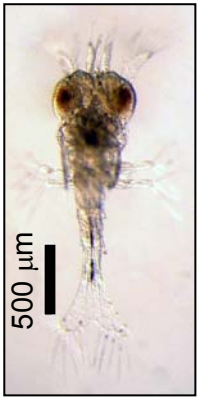
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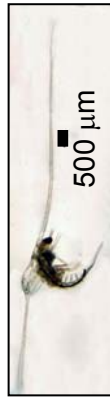
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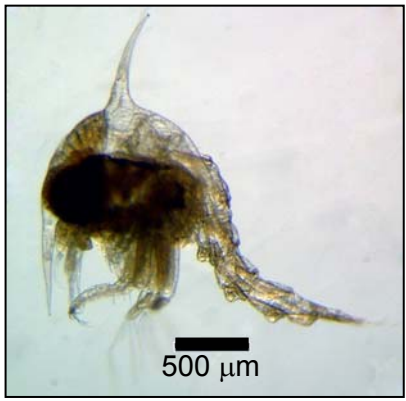
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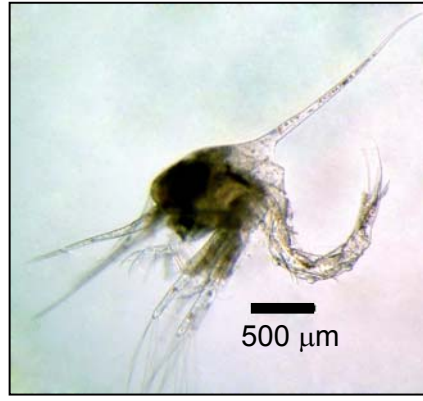
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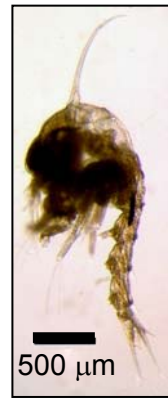
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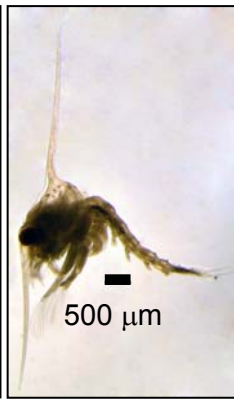
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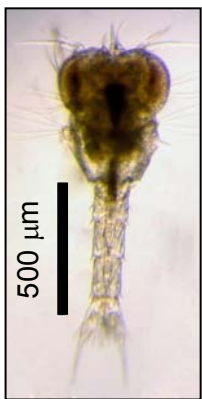
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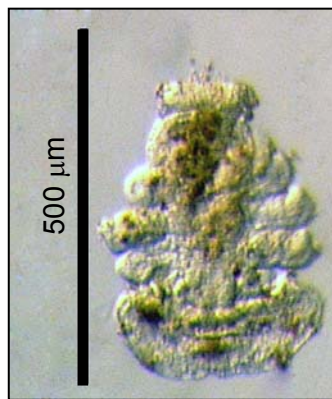
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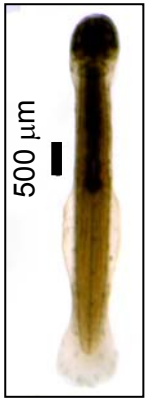
143



144



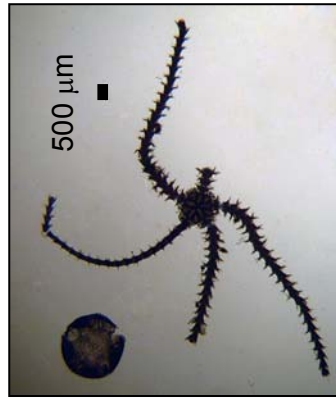
145



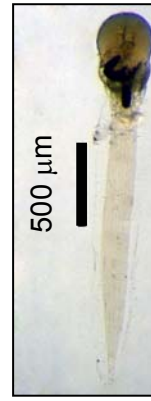
146



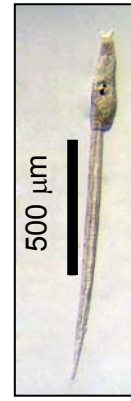
147



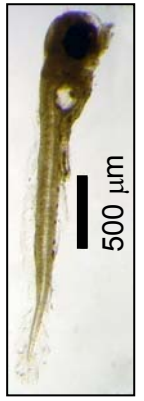
148



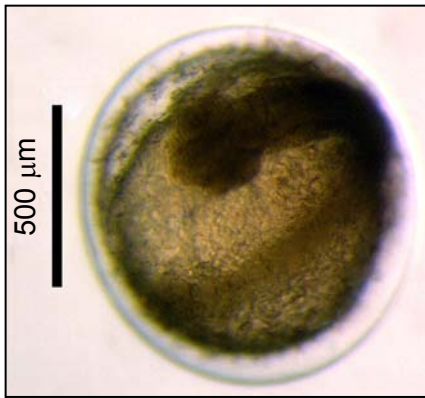
149



150



151



152

001 – Unidentified Foraminifera

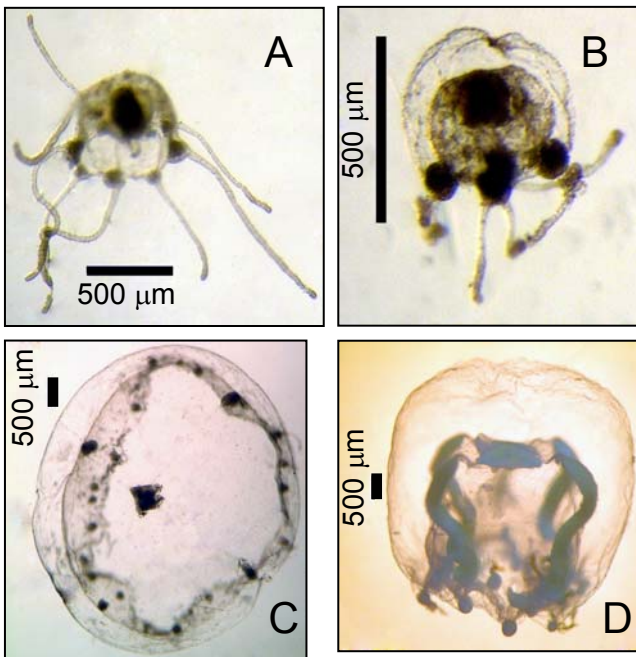


Lateral view.

Remarks:
Foraminiferans are erratically found in plankton samples. Benthic ?.

General description and drawings:
Bé (1967);
Newell & Newell (1977);
Murray (1979);
Boltovskoy (1981);
Lenz (2000).

002 – Unidentified Cnidaria

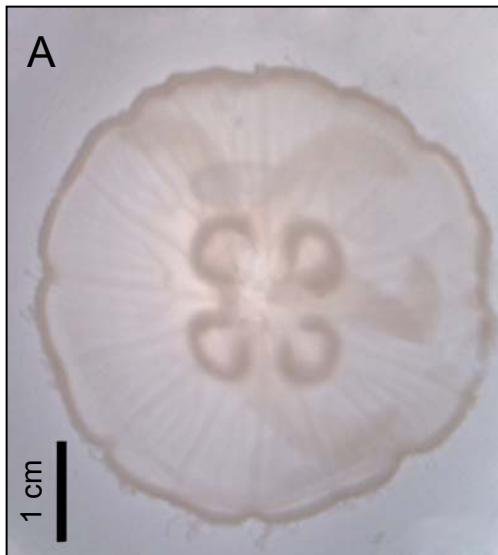


A – Sp.1 - lateral view.
B – Sp.2 - lateral view.
C – Sp.3 - dorsal view.
D – Sp.4 - lateral view.

Remarks:
Four unidentified species from this system.
These forms are usually found from April to August. Meroplanktonic.

General description and drawings:
Newell & Newell (1977);
Todd *et al.* (1996);
Lenz (2000).

003 – *Aurelia aurita*



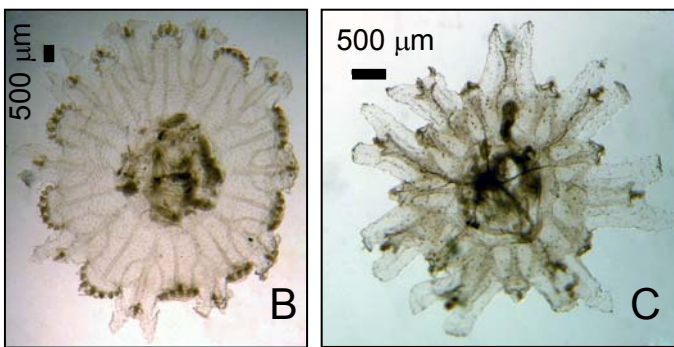
A – Juvenile - adult dorsal view.
B – Late ephyra dorsal view.
C – early ephyra dorsal view.

Remarks:

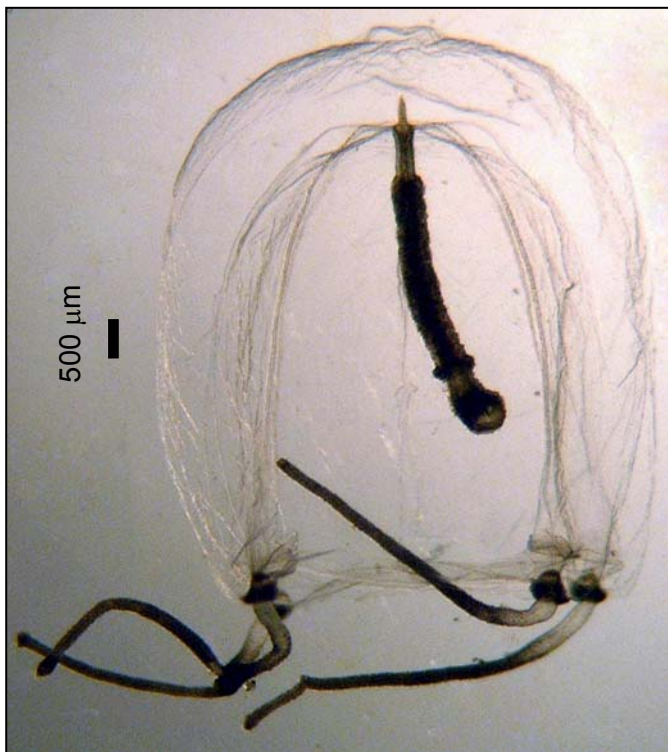
Common, usually found from February to June, rarely seen on the Solent.
Meroplanktonic.

Taxonomic description and drawings:

Newell & Newell (1977);
Russell (1978);
Todd *et al.* (1996);
Lenz (2000).



004 – *Sarsia* sp.



Adult dorsal view.

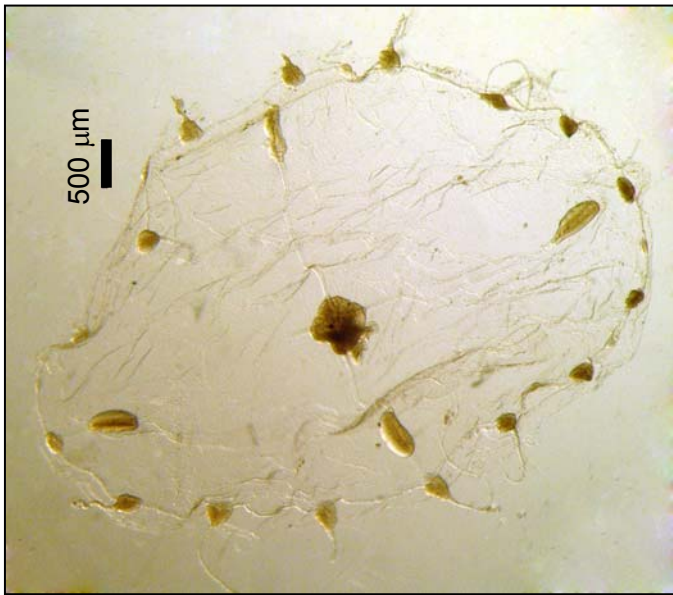
Remarks:

Bell like shape with four tentacles. Relatively common, usually found from March to June. It's occurrence in the Solent are yet to be reported. Meroplanktonic.

Taxonomic description and drawings:

Russell (1950);
Newell & Newell (1977);
Todd *et al.* (1996);
Lenz (2000).

005 – *Phialella quadrata*



Adult dorsal view.

Remarks:

Elongated oval gonads located in distal third of radial canal. 16 to 32 marginal tentacles. Common, usually found in SW from April to July. It's occurrence in the Solent are yet to be reported. Meroplanktonic.

Taxonomic description and drawings:

Russell (1963);

Newell & Newell (1977).

006 – *Clytia hemisphaerica*



Adult dorsal view.

Remarks:

16 to 32 marginal tentacles. Common, usually found from May to September. It's occurrence in the Solent are yet to be reported. Meroplanktonic.

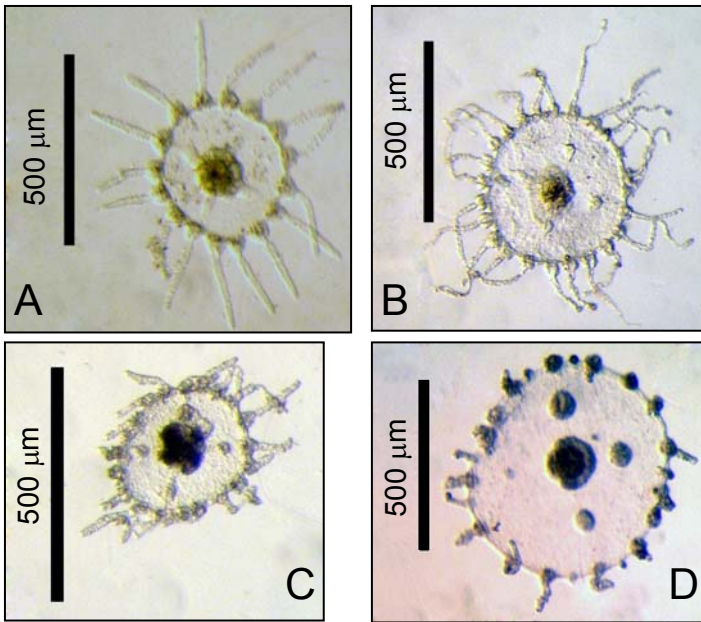
Taxonomic description and drawings:

Russell (1963);

Newell & Newell (1977);

Ramirez & Zamponi (1981).

007 – *Obelia* sp.



- A – Juvenile dorsal view.
- B – Juvenile - adult dorsal view.
- C - Adult -1 dorsal view.
- D - Adult -2 dorsal view.

Remarks:

No satisfactory method to distinguish different *Obelia* species is available.

Relatively common, usually found in July-August. Meroplanktonic.

Taxonomic description and drawings:

Russell (1963);

Newell & Newell (1977).

Ramirez & Zamponi (1981);

Todd *et al.* (1996).

008 – *Pleurobrachia pileus*



A – Dorsal view of fresh specimen.

B – Dorsal view of preserved specimen.

Remarks:

Spherical shaped body. Common, usually found from April to October. Holoplanktonic.

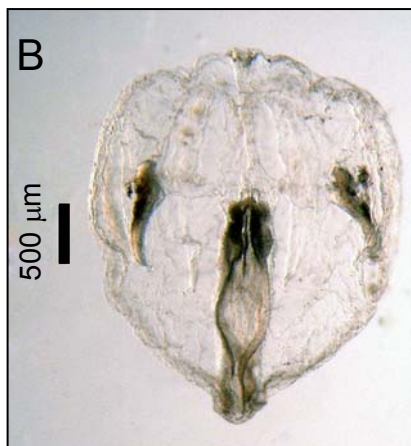
Taxonomic description and drawings:

Greve (1975);

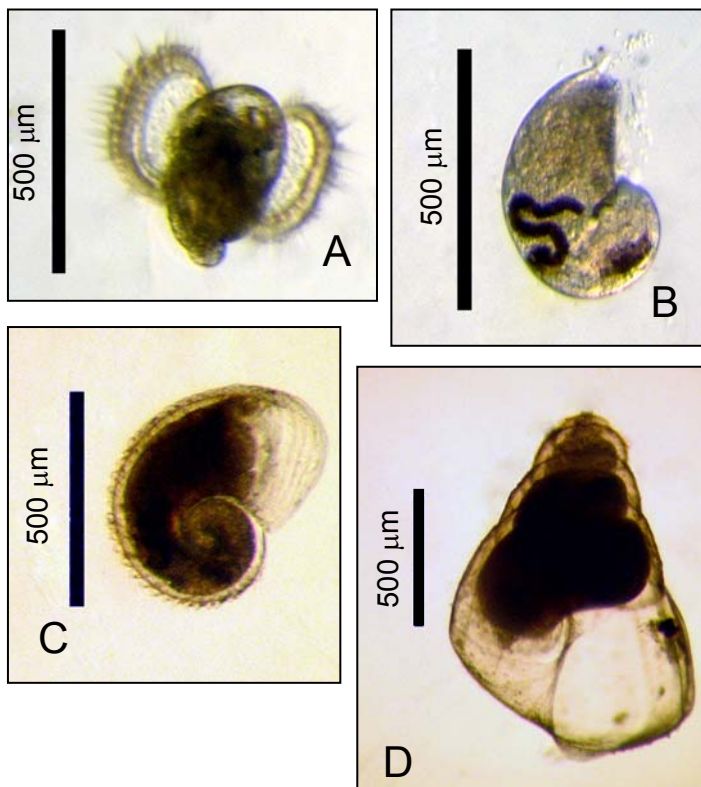
Newell & Newell (1977);

Todd *et al.* (1996);

Lenz (2000).



009 – Gastropod veliger unidentified



- A – Top view.
B – Sp. 1 - Lateral view.
C – Sp. 2 - Lateral view.
D – Sp. 3 - Lateral view.

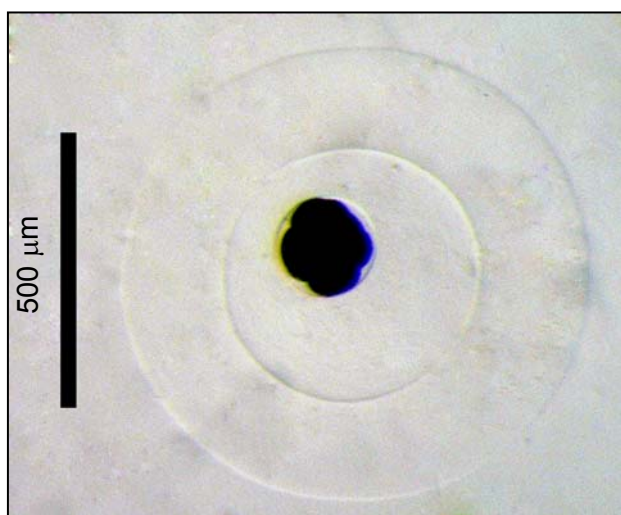
Remarks:

Veliger forms commonly found in this system. The velum and cilia shown in the live specimen shown in A are usually contracted inside the shell in preserved specimens, like the ones shown in B, C and D. Those type of larvae can be found all year round. Meroplanktonic.

General description and drawings:

Fretter & Pilkington (1970);
Newell & Newell (1977);
Todd *et al.* (1996);
Lenz (2000).

010 – *Littorina littorea* egg capsule



Dorsal view.

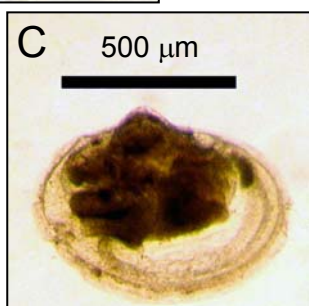
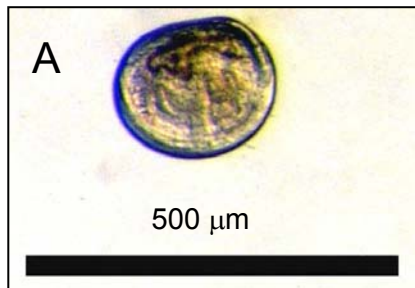
Remarks:

Egg capsule of *L. littorea* are quite common and can be found from May to September. Possibly one of the veligers pictured on 009 above is also from *L. littorea*. Meroplanktonic.

General description and drawings:

Newell & Newell (1977);
Todd *et al.* (1996);

011 – Bivalve veliger unidentified



A – Sp. 1 - lateral view of early stage.
B – Sp. 2 - Lateral view of later stage.
C – Sp. 3 - Lateral view of later stage.

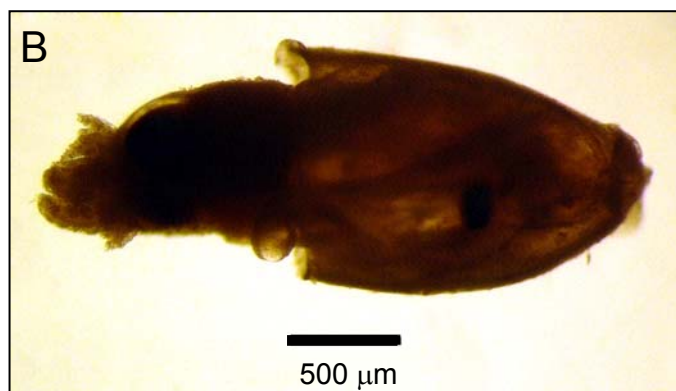
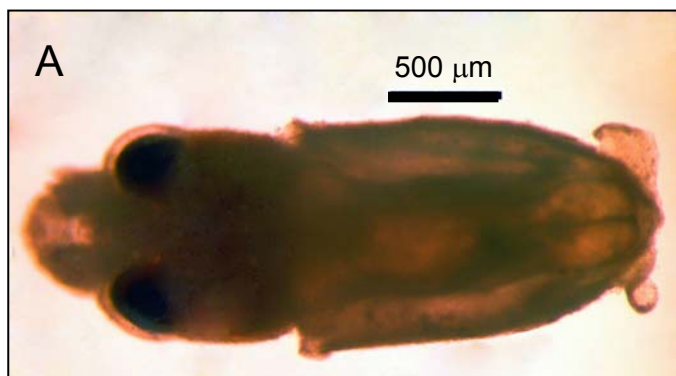
Remarks:

Veliger forms commonly found in Southampton Water all year round. It's occurrence in the Solent are yet to be reported. Meroplanktonic.

General description and drawings:

Newell & Newell (1977);
Todd *et al.* (1996);
Lenz (2000).

012 – Unidentified Cephalopoda



A – Dorsal view of early stage.
B – Lateral view of early stage.

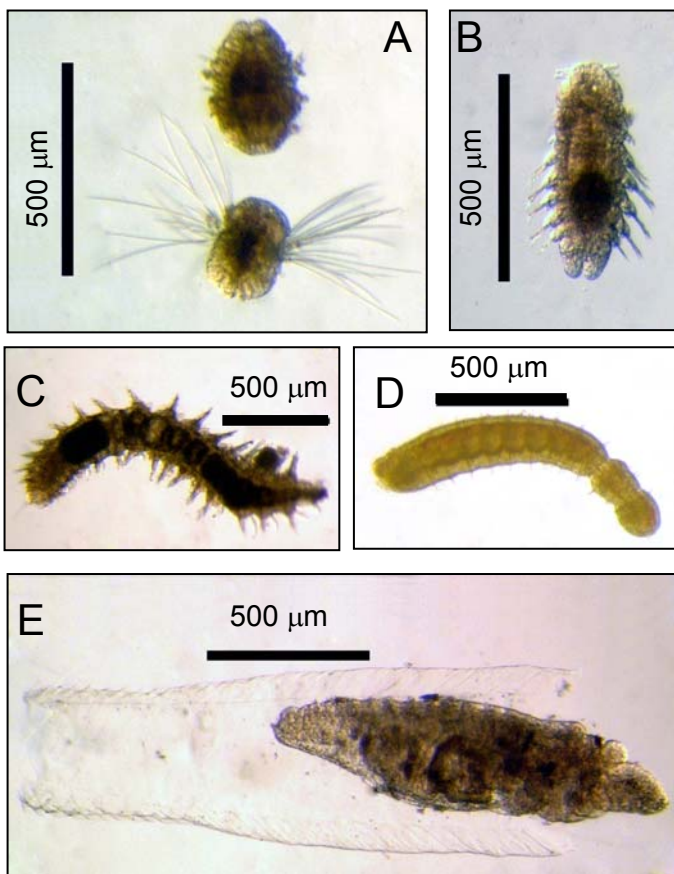
Remarks:

Only a single specimen were found in east Solent samples in August. Meroplanktonic.

General description and drawings:

Todd *et al.* (1996);
Nesis (1999).

013 – Unidentified Polychaeta larvae



- A – earlier stages.
- B – Sp.1 - dorsal view.
- C – Sp.2 - dorsal view.
- D – Sp.3 - dorsal view.
- E – Sp.4 - dorsal view.

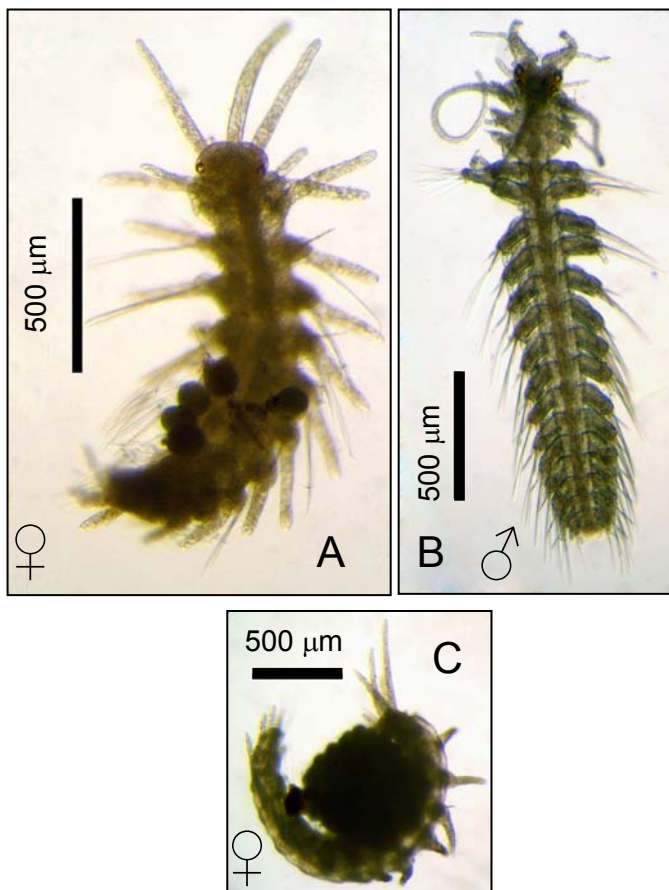
Remarks:

Unidentified polychaeta larvae can be found all year round. Sp.4 (E) possibly *Lanice conchilega* (Guyard, pers.com.). Meroplanktonic.

General description and drawings:

Newell & Newell (1977);
 Stop-Bowitz (1981);
 Todd *et al.* (1996);
 Lenz (2000).

014 – *Autolytus edwardsi*



- A – Female dorsal view.
- B – Male dorsal view.
- C – Female lateral view.

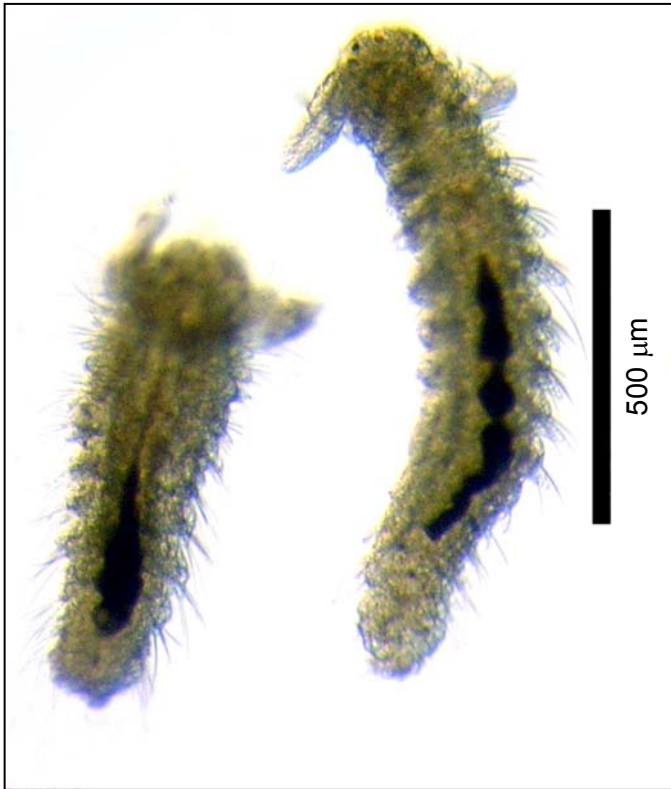
Remarks:

Planktonic female stolon are usually found caring a mass of eggs, as in C. The benthic male can also be caught in plankton samples. Relatively common, usually found from June to August. Meroplanktonic in general.

General description and drawings:

Newell & Newell (1977).

015 – Unidentified *spionidae* larvae



Dorsal view.

Remarks:

Most abundant and common polychaeta larval form, usually found throughout the year. Meroplanktonic.

Taxonomic description and drawings:

Hannerz (1961);

Newell & Newell (1977).

016 – Unidentified Acari



A – Specimen 1 - dorsal view.

B – Specimen 2 - dorsal view.

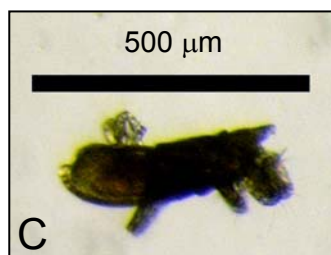
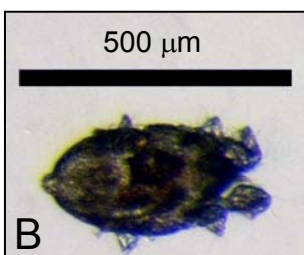
C – Specimen 2 - lateral view.

Remarks:

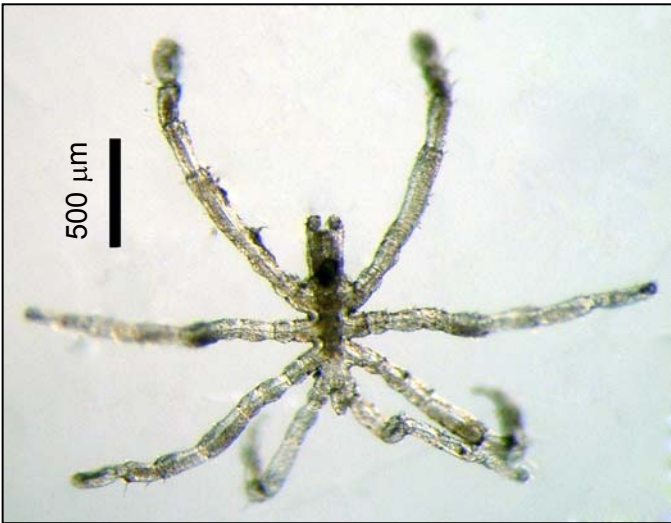
Mites occurs occasionally in plankton samples from this system. Probably from the family Halacaridae. Benthic - Tytoplanktonic.

General description and drawings:

Elliot *et al.* (1990)



017 – *Achelia* sp.



Dorsal view.

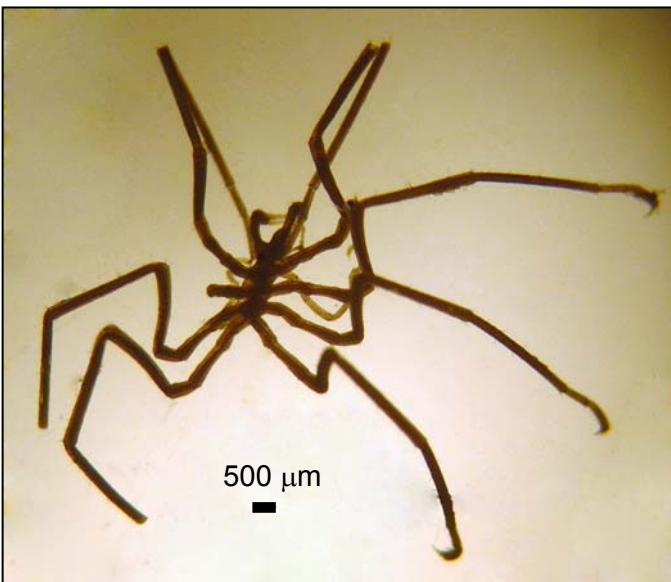
Remarks:

Very rare. Were only caught in plankton samples in July. Benthic-Tycoplanktonic.

Taxonomic description and drawings:

King (1974);
Elliot *et al.* (1990)

018 – *Nymphon brevirostre*



Dorsal view.

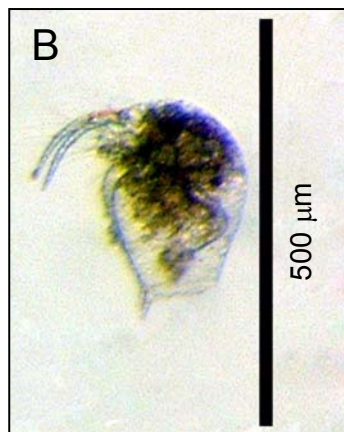
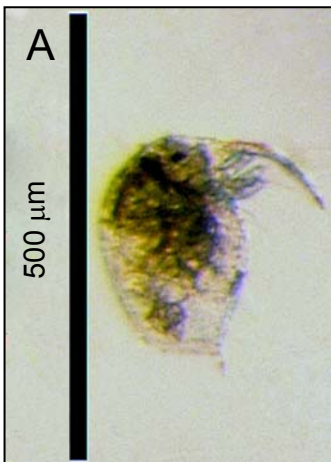
Remarks:

Very rare. Only caught in plankton samples in June, August - September. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

King (1974);
Elliot *et al.* (1990).

019 – *Bosmina* sp.



A – Lateral left side view.
B – Lateral right side view.

Remarks:

Very rare, only a single specimen caught in SW in November. It's occurrence in the Solent are yet to be reported. Possibly *Bosmina coregoni maritima*. Holoplanktonic.

Taxonomic description and drawings:

Apstein (1901);
Rammner (1939);
Della Croce (1974);
Ramírez (1981).

020 – Unidentified *Chydoridae*



Lateral right side view.

Remarks:

Body rectangular with convex dorsal border and straight ventral border. Very rare, found in April and August only in SW samples from the upper estuary. Freshwater species, possibly *Alona costata*. Meroplanktonic.

General description and drawings:

Smirnov (1974);
Montú & Gloeden (1986).

021 – *Daphnia* sp.



Lateral view of two specimens.

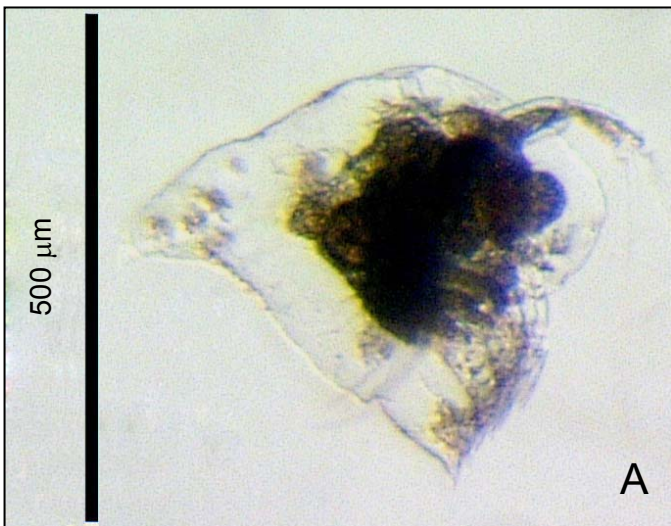
Remarks:

Very rare, several specimens found from February to May only in SW samples from the upper estuary. Freshwater species. Holoplanktonic.

General description and drawings:

Scourfield & Harding (1966);
Montú & Gloeden (1986).

022 – *Evadne nordmanni*



A – Male lateral view.

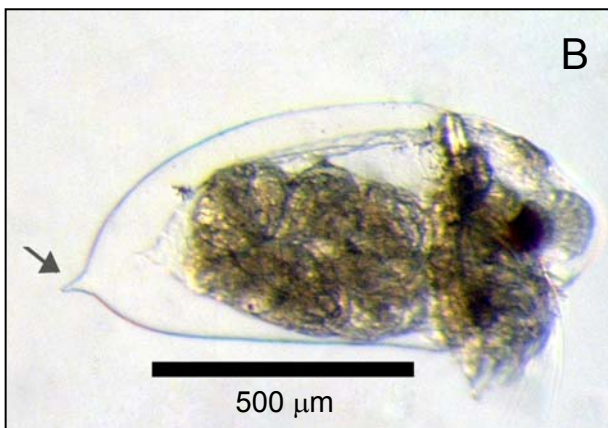
B – Female lateral view (Specimen from Plymouth).

Remarks:

Body triangular with a small terminal spine (← in B). Very rare, only a male were caught in February in SW. It's occurrence in the Solent are yet to be reported Holoplanktonic.

Taxonomic description and drawings:

Apstein (1901);
Rammner (1939);
Della Croce (1974);
Newell & Newell (1977);
Ramírez (1981);
Todd *et al.* (1996);
Lenz (2000).



023 – *Podon* sp.

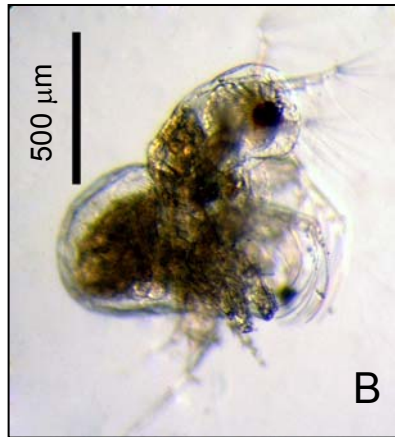


A – lateral view.

B – lateral view (Specimen from Plymouth).

Remarks:

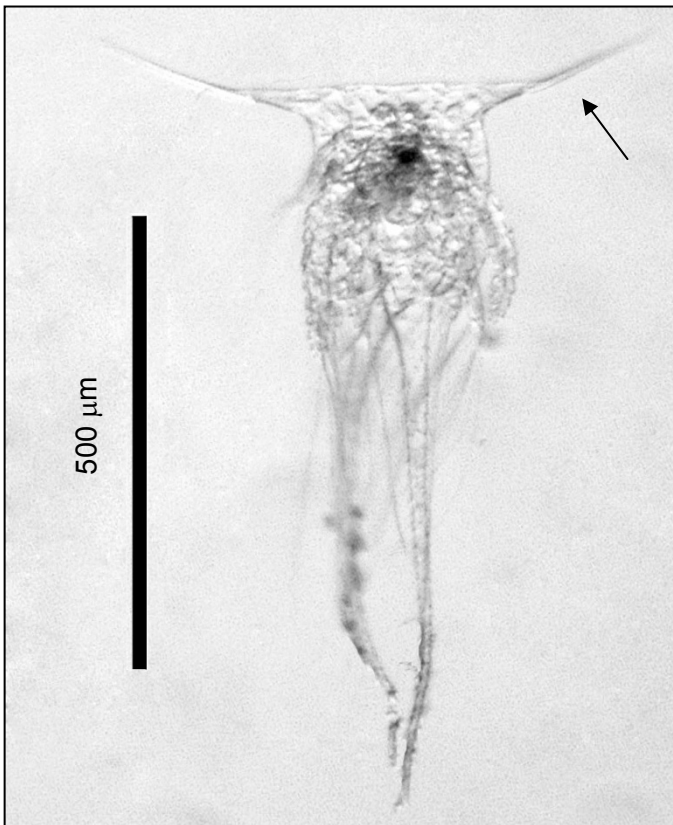
Oval body with a large eye in front of the head. Rare, found only once in the Solent in August. Holoplanktonic.



Taxonomic description and drawings:

Apstein (1901);
Rammner (1939);
Della Croce (1974);
Newell & Newell (1977);
Ramírez (1981);
Todd *et al.* (1996).

024 – *Conchoderma* sp.



Ventral view of naupliar stage 2.

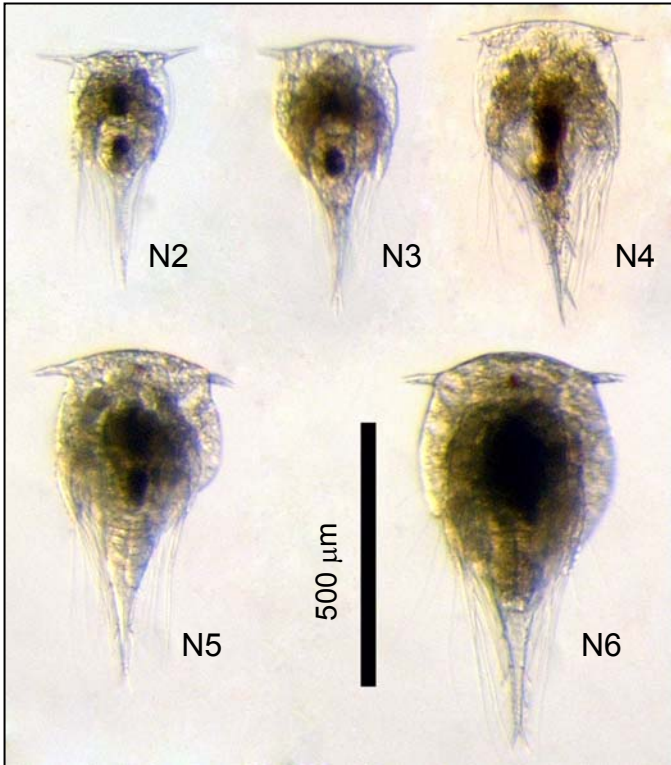
Remarks:

Triangular cephalic shield with very long horns (←), abdominal process and dorsal thoracic spine. Very rare, only one specimen caught in SW in April. Possibly *Conchoderma auritum*. Meroplanktonic.

Taxonomic description and drawings:

Hoek (1909);
Dalley (1984).

025 – *Verruca stroemia*



Ventral view of naupliar stages 2 through 6.

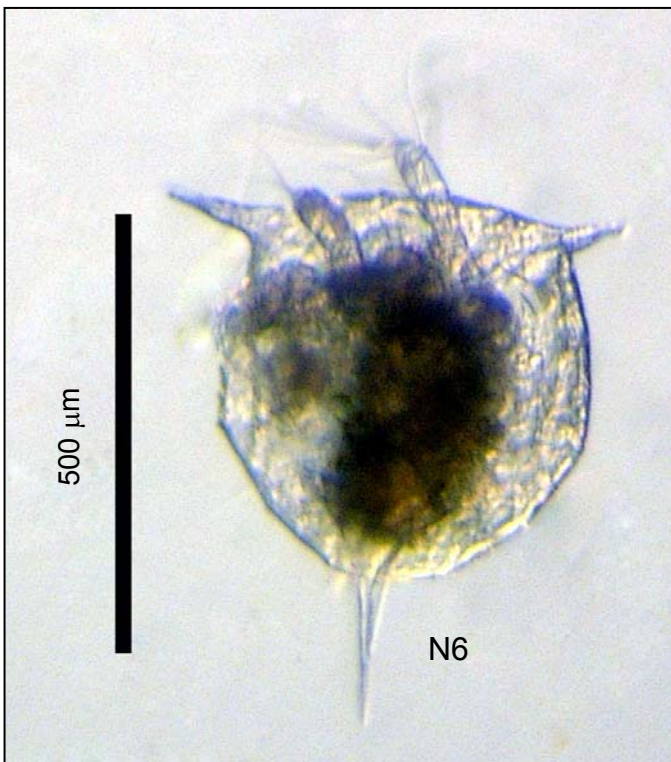
Remarks:

Medium nauplii with triangular cephalic shield with long abdominal process and dorsal thoracic spine. Later stages do not have any spines at the border of the carapace. Common, can be found from January to July. Meroplanktonic.

Taxonomic description and drawings:

Bassindale (1936);
Pyefinch (1948);
Newell & Newell (1977);
Lang (1980).

026 – *Chthamalus stellatus*



Ventral view of naupliar stage 6. (Specimen from Plymouth).

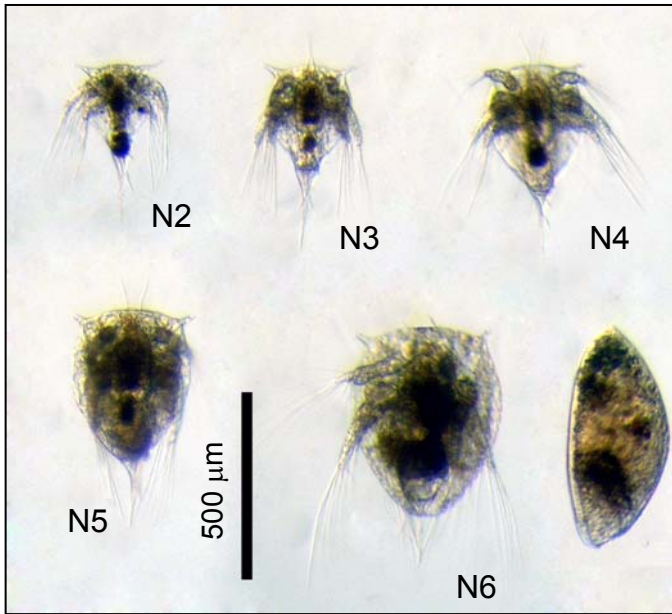
Remarks:

Medium nauplii with rounded cephalic shield with short abdominal process and long dorsal thoracic spine. Later stages do not have any spines at the border of the carapace. Very rare, only two specimens caught in March- April 2001. Meroplanktonic.

Taxonomic description and drawings:

Hoek (1909);
Bassindale (1936);
Newell & Newell (1977);
Lang (1980);
Burrows *et al.* (1999)

027 – *Elminius modestus*



Ventral view of stages 2 through cypris.

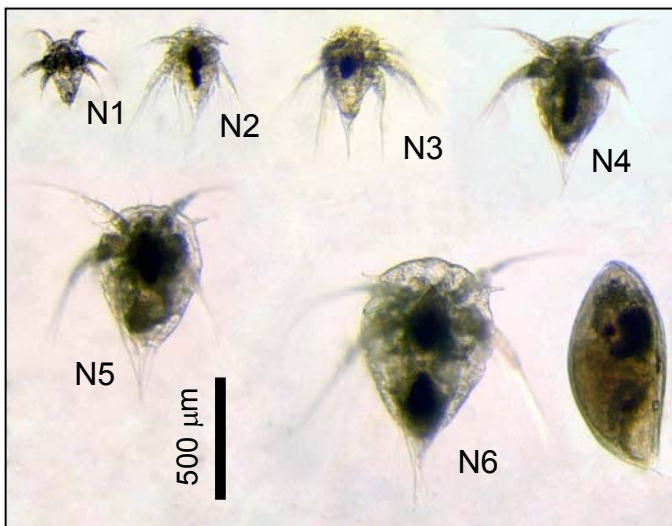
Remarks:

Relatively small nauplii with rounded-triangular cephalic shield, medium abdominal process and dorsal thoracic spine. Later stages have two small spines at the posterior border of the carapace. Very common, larval stages can be found all year round in the plankton. Meroplanktonic.

Taxonomic description and drawings:

Knight-Jones & Waugh (1949);
Newell & Newell (1977);
Lang (1980).

028 – *Semibalanus balanoides*



Ventral view of stages 1 through cypris.

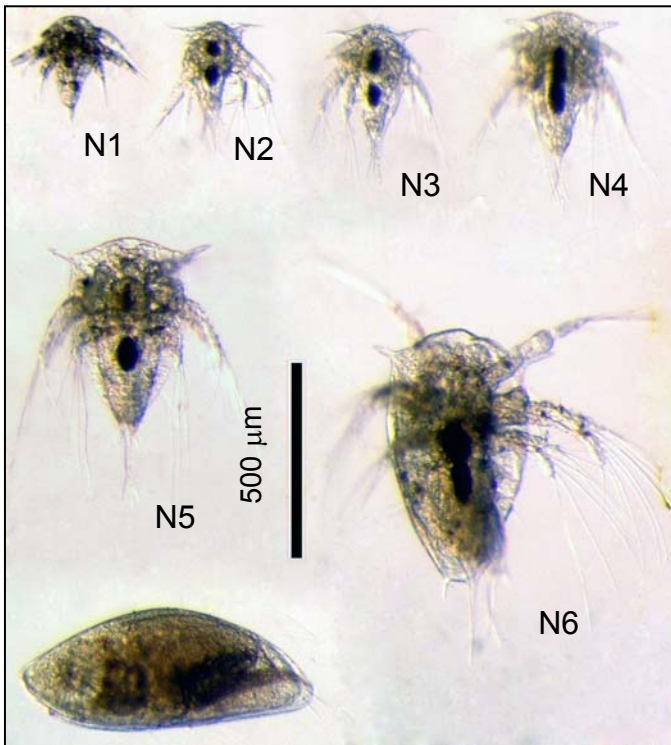
Remarks:

Relatively large nauplii with oval cephalic shield, short abdominal process and long dorsal thoracic spine. Later stages have two strong spines at the posterior border of the carapace. Common, can be found from January to June. Meroplanktonic.

Taxonomic description and drawings:

Bassindale (1936);
Pyefinch (1948);
Crisp (1962);
Newell & Newell (1977);
Lang (1980).

029 – *Balanus crenatus*



Ventral view of stages 1 trough cypris.

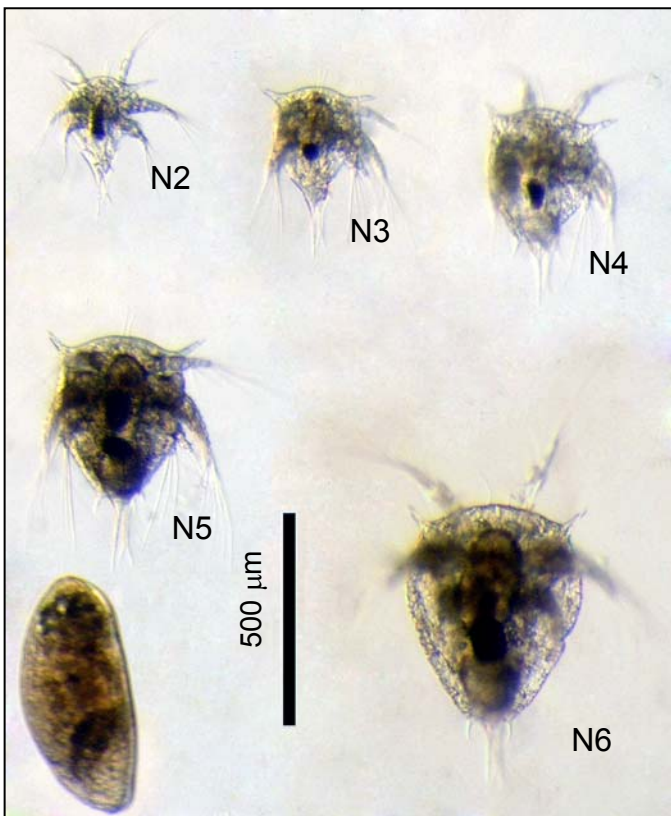
Remarks:

Relatively big nauplii with triangular cephalic shield, long abdominal process and dorsal thoracic spine. Later stages have two long strong spines at the posterior border of the carapace. Common, found from January to August. Meroplanktonic.

Taxonomic description and drawings:

Pyefinch (1948, 1949);
Lang (1980);
Branscomb & Vedder (1982);
Todd *et al.* (1996).

030 – *Balanus improvisus*



Ventral view of stages 2 trough cypris.

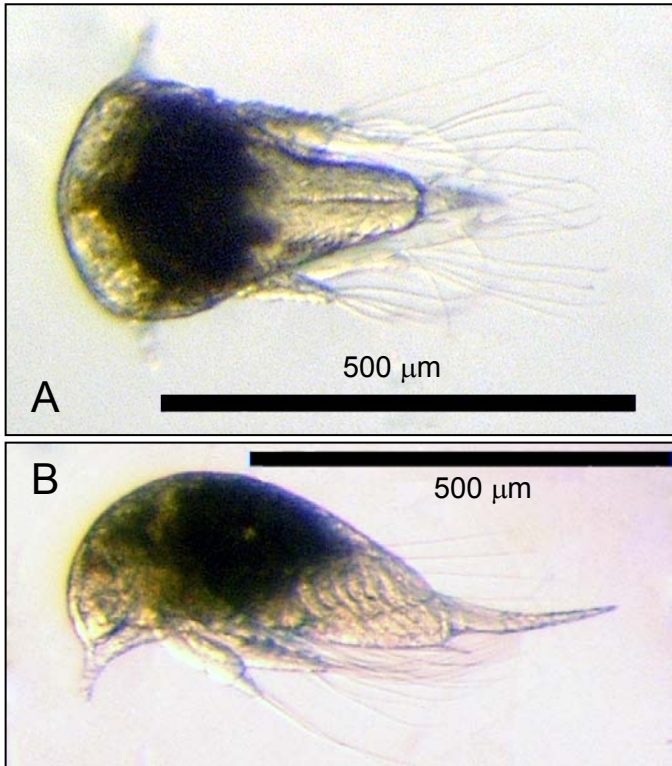
Remarks:

Medium sized nauplii with triangular cephalic shield, medium abdominal process and dorsal thoracic spine. Later stages have two strong spines at the posterior border of the carapace. Common, found from January to October, rarely seen in the Solent. Meroplanktonic.

Taxonomic description and drawings:

Hoek (1909);
Jones & Crisp (1954);
Lang (1979, 1980);
Lee *et al.* (1998).

031 – *Trypetesa* sp.



A – Dorsal view of naupliar stage 3-4.
B – Lateral view of naupliar stage 3-4.

Remarks:

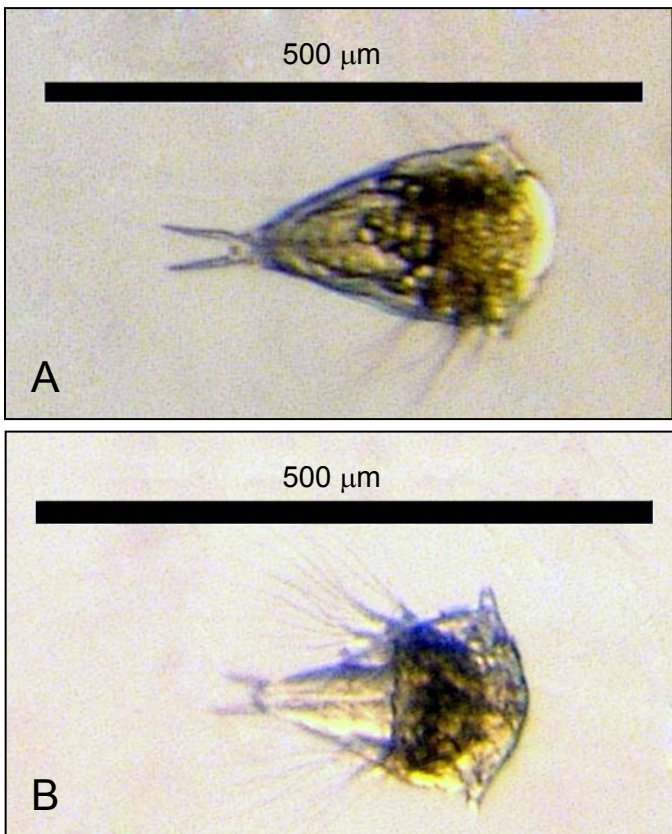
Medium sized nauplii with triangular cephalic shield, strong dorsal thoracic spine and no abdominal process. Very rare, only a single larvae found in SW in July. Possibly the larvae of *Trypetesa lampas*.

Meroplanktonic

Taxonomic description and drawings:

Turquier (1967).

032 – *Sacculina carcini*



A – Ventral view of naupliar stage 1-4.

B – Dorsal view of naupliar stage 1-4.

Remarks:

Small nauplii with triangular carapace with two strong spines at the posterior end. Lack of dorsal thoracic spine and abdominal process. Common, can be found all year round. Meroplanktonic.

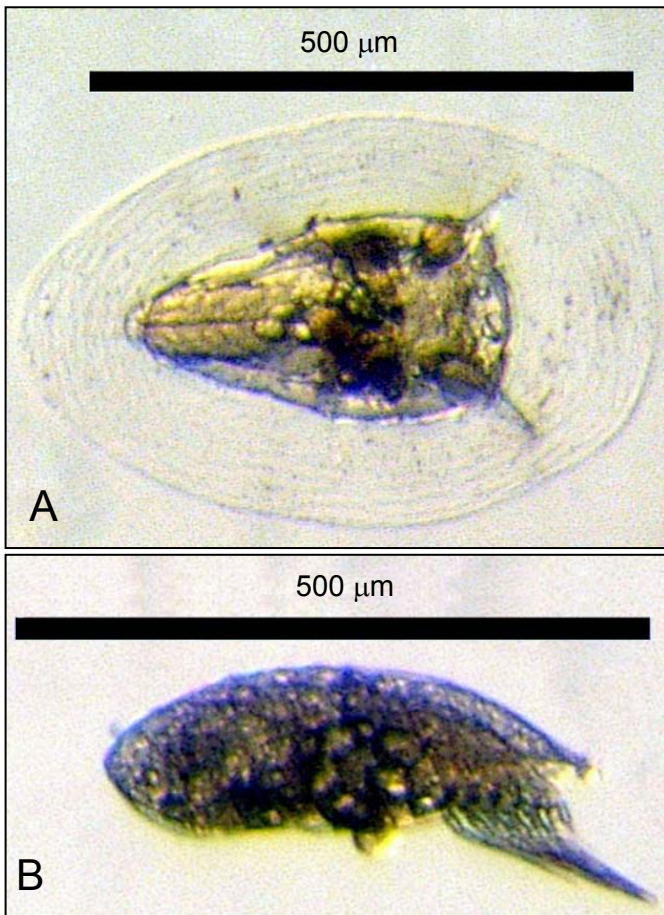
Taxonomic description and drawings:

Hoek (1909);

Walker (1988);

Collis & Walker (1994).

033 – *Peltogaster paguri*



A – Nauplii dorsal view.
B – Cypris lateral view.

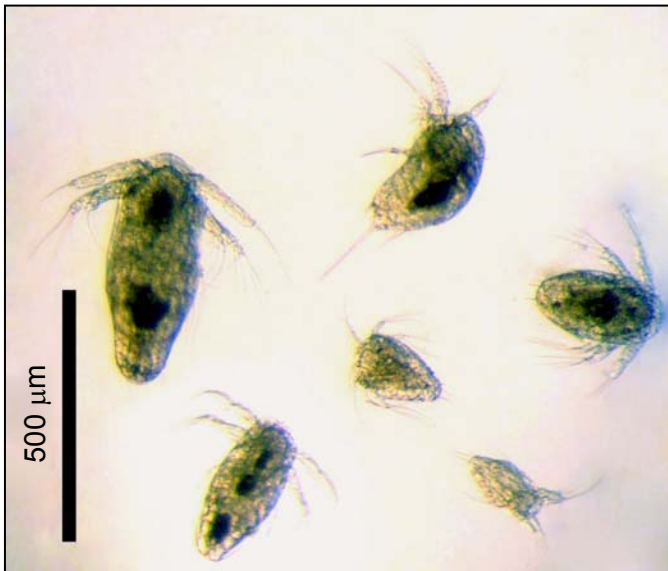
Remarks:

Medium nauplii with characteristic floating ring 'annulus' around the triangular carapace. Relatively common, can be found all year round. Meroplanktonic.

Taxonomic description and drawings:

Hoek (1909);
Veillet (1943);
Schram (1972).

034 – Unidentified copepod nauplii



General view of several copepod nauplii.

Remarks:

Most common and abundant form in the plankton, always present.

General description and drawings:

Ogilvie (1953);
Lovegrove (1956);
Newell & Newell (1977);
Björnberg *et al.* (1994);
Todd *et al.* (1996). (Photos);
Lenz (2000).

035 – *Acartia bifilosa*



A – Male and Female dorsal view.
B – Female lateral left side view.

Remarks:

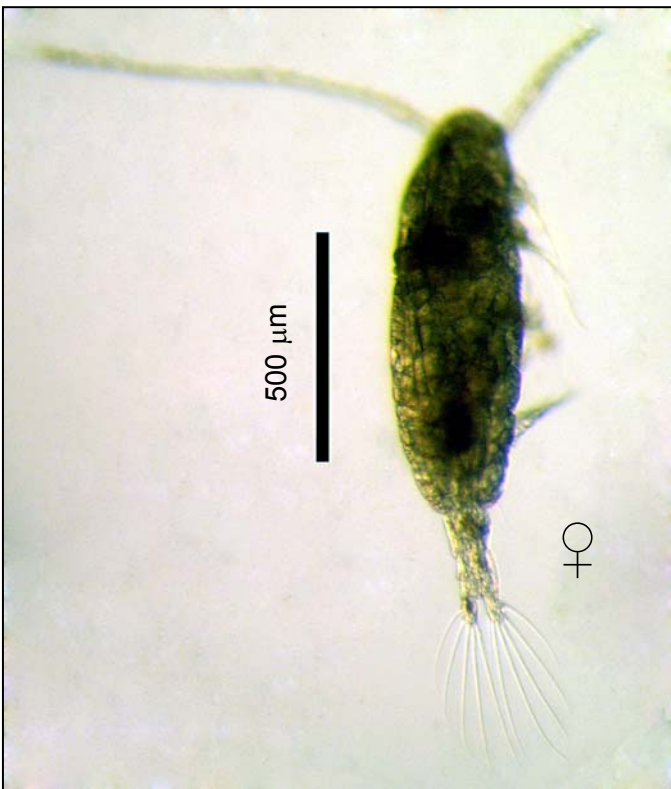
Rostral filaments present. Genital - somite and urosome of females covered with fine hairs. Males are usually identified by its fifth leg. Very common, usually present in the plankton from December to June. Holoplanktonic.

Taxonomic description and drawings:

Sars (1903);
Rose (1933);
Farran (1948 a);
Newell & Newell (1977);
Bradford-Grieve (1999)



036 – *Acartia tonsa*



Female dorsal view.

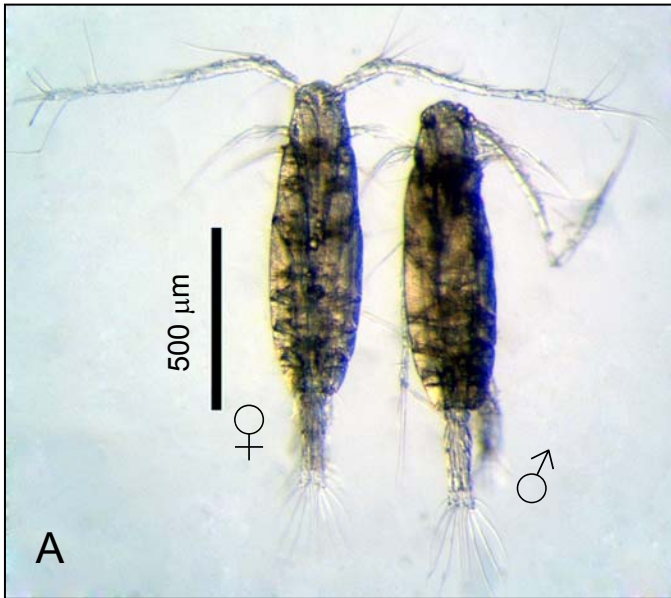
Remarks:

Rostral filaments present. Posterior prosome of females rounded with small spinules on the posterior border. Males are usually identified by its fifth leg. Rare, from July to November, particularly in the upper estuary. Holoplanktonic.

Taxonomic description and drawings:

Sars (1903);
Rose (1933);
Farran (1948 a);
Björnberg (1981);
Bradford-Grieve (1999).

037 – *Acartia clausii*



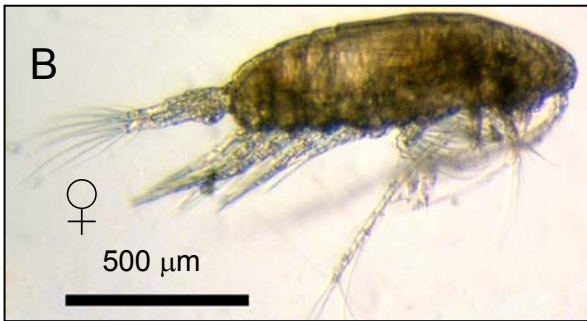
A – Female and male dorsal view.
B – Female lateral right side view.

Remarks:

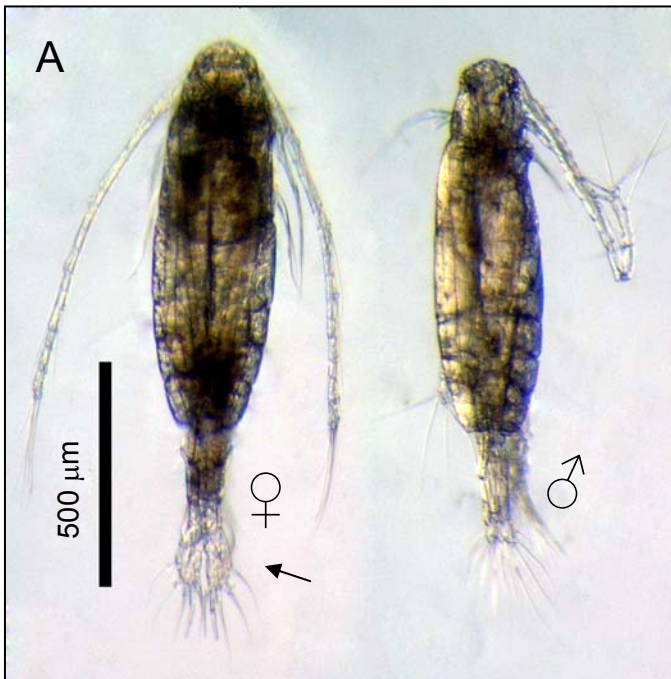
Lack of rostral filaments. Posterior prosome margin and urosome of both males and females bordered by small denticules. Males are usually identified by its fifth leg. Common species, usually present from June to February, but can be found all year round. Holoplanktonic.

Taxonomic description and drawings:

Sars (1903);
Rose (1933);
Farran (1948 a);
Bradford (1976);
Isaac & Moyse (1990);
Bradford-Grieve (1999);
Boxshall & Halsey (2004).



038 – *Acartia discaudata*



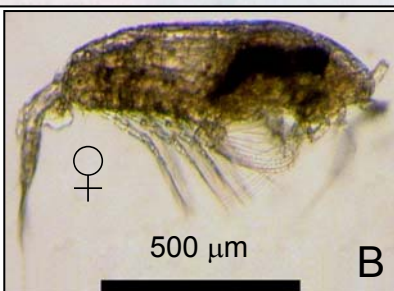
A – Female and male dorsal view.
B – Female lateral right side view.

Remarks:

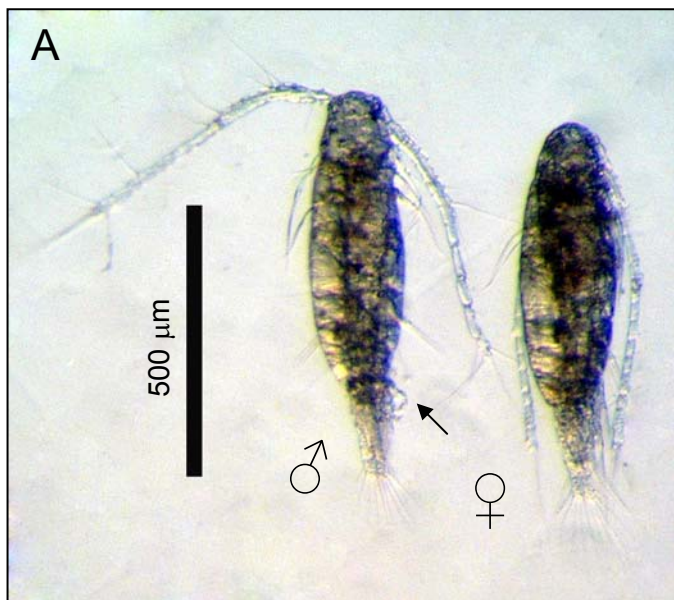
Lack of rostral filaments. Female has caudal rami with a characteristic rounded oval form (← in A). Males are usually identified by its fifth leg. Very common, present in the plankton through all year. Holoplanktonic.

Taxonomic description and drawings:

Sars (1903);
Rose (1933);
Farran (1948 a);
Bradford (1976);
Newell & Newell (1977);
Bradford-Grieve (1999).



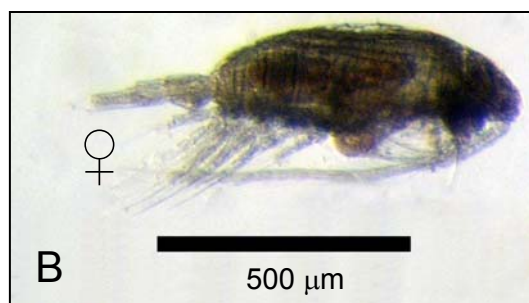
039 – *Acartia margalefi*



A – Male and female dorsal view.
B – Female lateral right side view.

Remarks:

Lack of rostral filaments. Posterior prosome margin and urosome of both male and female bordered by small denticules. Males are usually identified by its fifth leg (← in A). Very similar to *A. clausi*, but of a smaller size. Very common, present all year, particularly in the upper estuary, rarely seen in the Solent. Holoplanktonic.



Taxonomic description and drawings:
Castro-Longoria & Williams (1996);
Bradford-Grieve (1999).

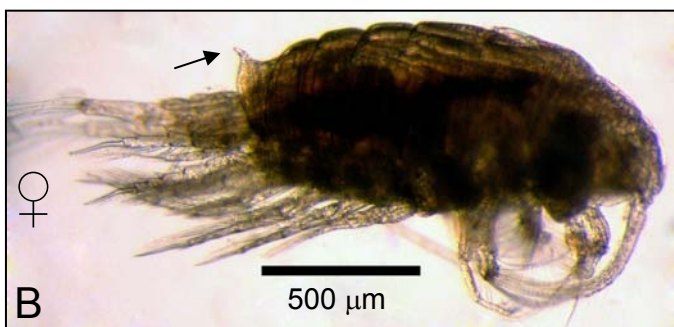
040 – *Centropages hamatus*



A – Male and female dorsal view.
B – Female lateral right side view.

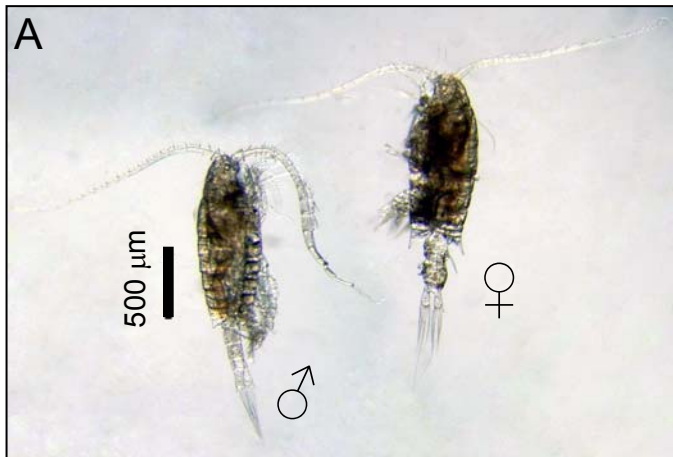
Remarks:

Rostral filaments present. Both male and female with terminal spines on the posterior margin of prosome. The spines on female prosome are clearly asymmetrical with the right side one curved (← in A, B). Male fifth leg has a small chela. Very common, present all year. Holoplanktonic.



Taxonomic description and drawings:
Sars (1903);
Rose (1933);
Farran (1948 b);
Newell & Newell (1977);
Todd *et al.* (1996).

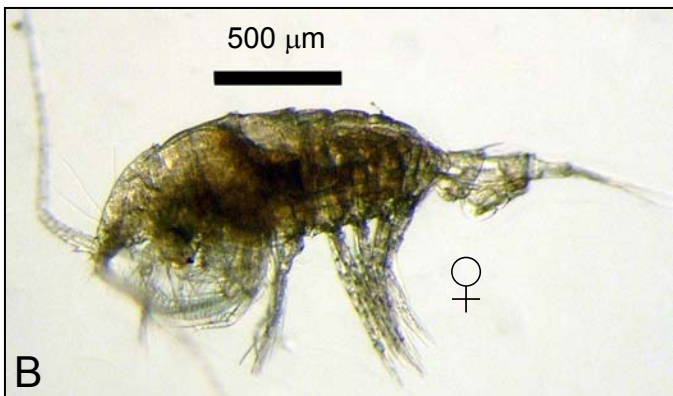
041 – *Centropages typicus*



A – Male and female dorsal view.
B – Female lateral left side view.
(Specimens from the North Sea.)

Remarks:

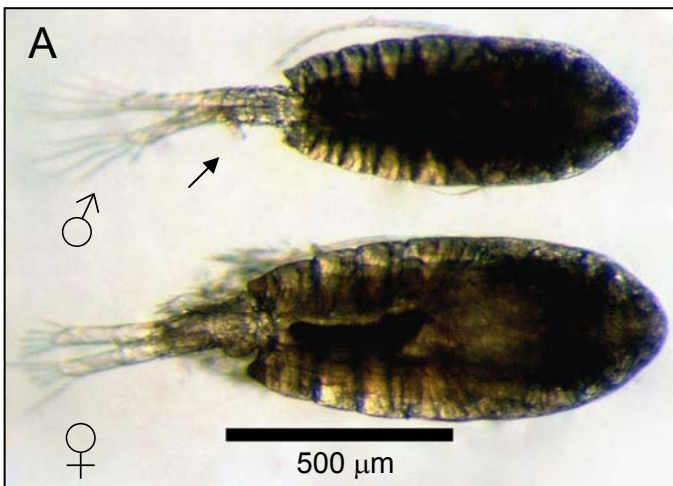
Rostral filaments present. Both male and females with strong terminal spines on the posterior margin of prosome. Male fifth leg has a small strong chela. Very rare, females were detected only in the Solent in August. Holoplanktonic.



Taxonomic description and drawings:

Sars (1903);
Rose (1933);
Farran (1948 b);
Newell & Newell (1977);
Isaac & Moyse (1990);
Todd *et al.* (1996);
Boxshall & Halsey (2004).

042 – *Isias clavipes*



A – Male and female dorsal view.
B – Female lateral left side view.

Remarks:

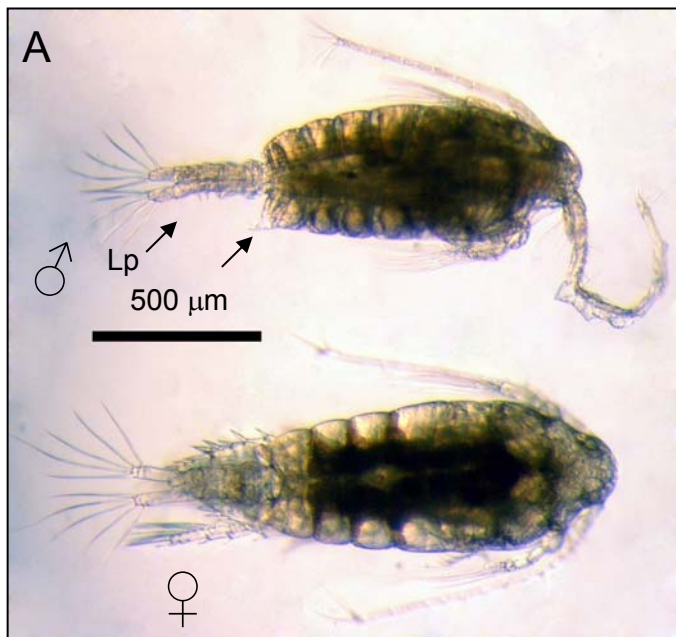
Rostral filaments present. Body elliptical, with the posterior margin of prosome curved, and long urosome. Female with two recurved spines in the genital area (← in B). Male with a characteristic conic lateral projection in the urosome (← in A). Relatively common, present in the plankton of the Solent - SW system from April to November. Holoplanktonic.



Taxonomic description and drawings:

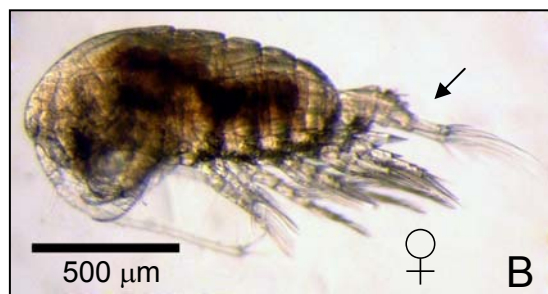
Sars (1903);
Rose (1933);
Newell & Newell (1977).

043 – *Parapontella brevicornis*



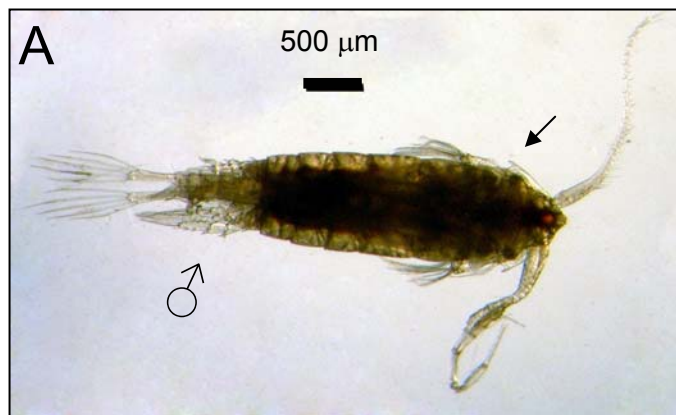
A – Male and female dorsal view.
B – Female lateral left side view.

Remarks:
Rostral filaments present. Body elliptical, female has 2 sub-dorsal spines in the 2nd segment of the urosome (← in B). Posterior margin of male prosome has asymmetrical lobes with the right side one bigger (← in A), they also has small lateral projections on the right side of the 3rd and 4th segments of the urosome (← Lp in A). Relatively common, present in the plankton from May to October. Holoplanktonic.



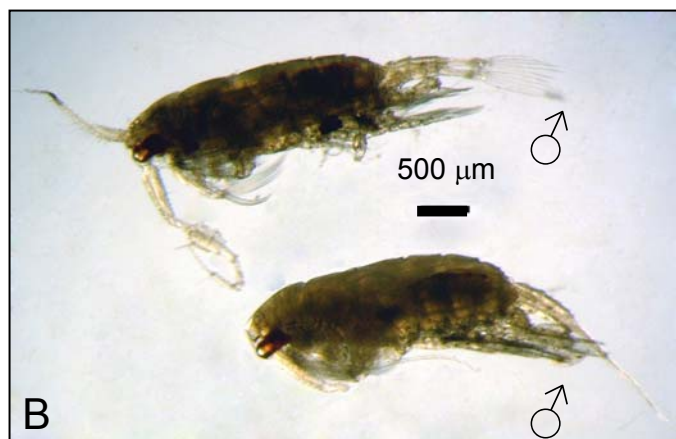
Taxonomic description and drawings:
Sars (1903);
Rose (1933);
Newell & Newell (1977);
Boxshall & Halsey (2004).

044 – *Anomalocera patersoni*



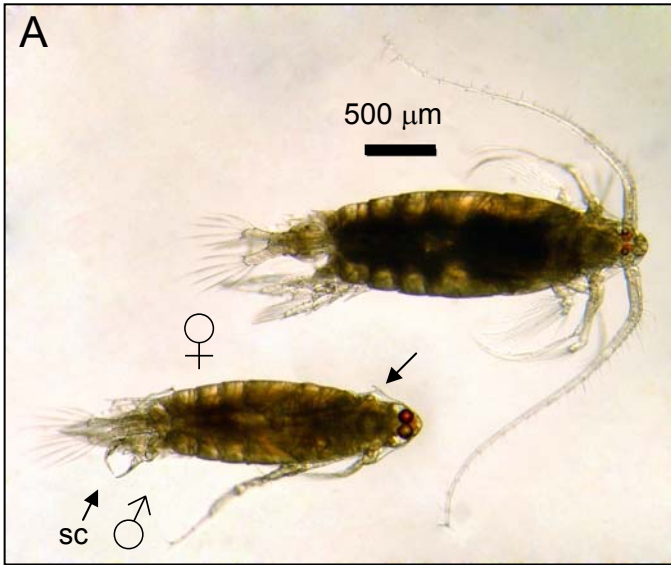
A – Male dorsal view.
B – Two males in lateral left side view.

Remarks:
Paired rostral processes present (See 045 B). Anterior prosome has characteristic arrowhead shape (← in A). Posterior margin of the male prosome is asymmetrical with the right lobe much larger than the left. Male also has fifth leg with subchela (←sc in 045 A). Very rare, only male specimens were caught in the plankton of SW in May and in the Solent in October. Holoplanktonic.



Taxonomic description and drawings:
Sars (1903);
Rose (1933);
Newell & Newell (1977);
Todd *et al.* (1996);
Lenz (2000);
Boxshall & Halsey (2004).

045 – *Labidocera wollastoni*



A – Female and male dorsal view.
B – Male lateral right side view.

Remarks:

Paired rostral processes present (← in B). Anterior prosome has characteristic arrowhead shape (← in A) Posterior margin of female prosome is symmetrical, with triangular shaped lobes. Male fifth leg with subchela (←sc in A). Rare, specimens were found on May, August and September. Holoplanktonic.



Taxonomic description and drawings:

Sars (1903);
Rose (1933);
Newell & Newell (1977);
Todd *et al.* (1996);
Boxshall & Halsey (2004).

046 – *Eurytemora affinis*



A – Female and male dorsal view.
B – Female lateral left side view.

Remarks:

Rostral filaments present. Body elongated with long urosome and caudal rami. Posterior margin of female prosome is symmetrical, with triangular shaped lobes. Relatively common, present from January to September, specially in the upper estuary, rarely seen in the Solent. Holoplanktonic.

Taxonomic description and drawings:

Sars (1903);
Rose (1933);
Newell & Newell (1977);
Todd *et al.* (1996);
Lenz (2000);
Boxshall & Halsey (2004).



047 – *Temora longicornis*

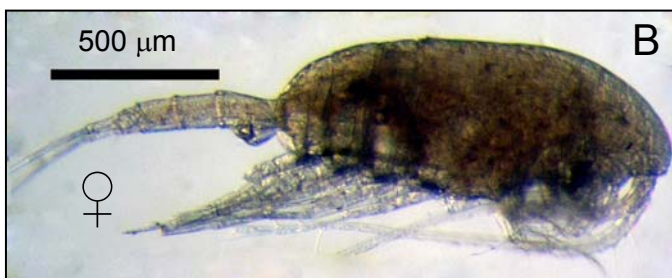


A – Female and male dorsal view.
B – Female lateral right side view.

Remarks:
Rostral filaments present. Pear-shaped prosome, with long caudal rami. Common, present all year round. Holoplanktonic.

Taxonomic description and drawings:
Sars (1903);
Rose (1933);
Newell & Newell (1977);
Isaac & Moyse (1990);
Todd *et al.* (1996). (Photos);
Lenz (2000);
Boxshall & Halsey (2004).

048 – *Pseudocalanus elongatus*

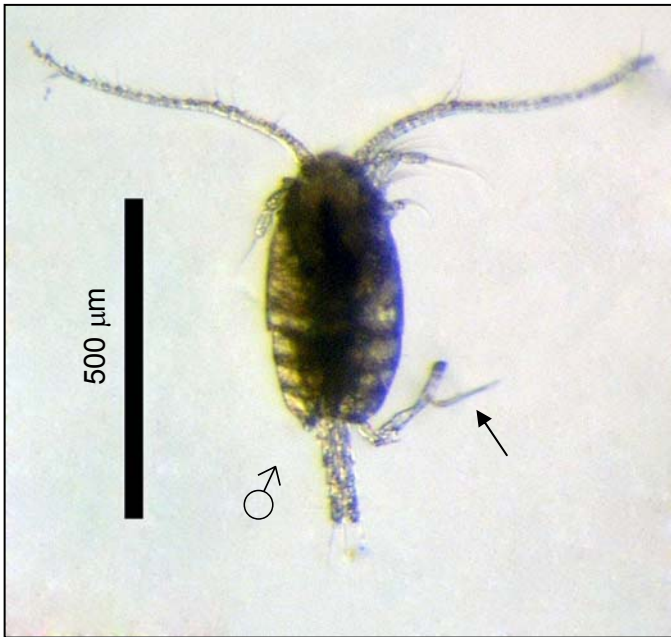


A – Female dorsal view.
B – Female lateral right side view.

Remarks:
Rostral filaments present. Body elongated with long urosome. Common, from September to June. Holoplanktonic.

Taxonomic description and drawings:
Sars (1903);
van Breemen (1908);
Rose (1933);
Farran (1951 a);
Newell & Newell (1977);
Todd *et al.* (1996). (Photos);
Lenz (2000);
Boxshall & Halsey (2004).

049 – *Stephos minor*



Male dorsal view.

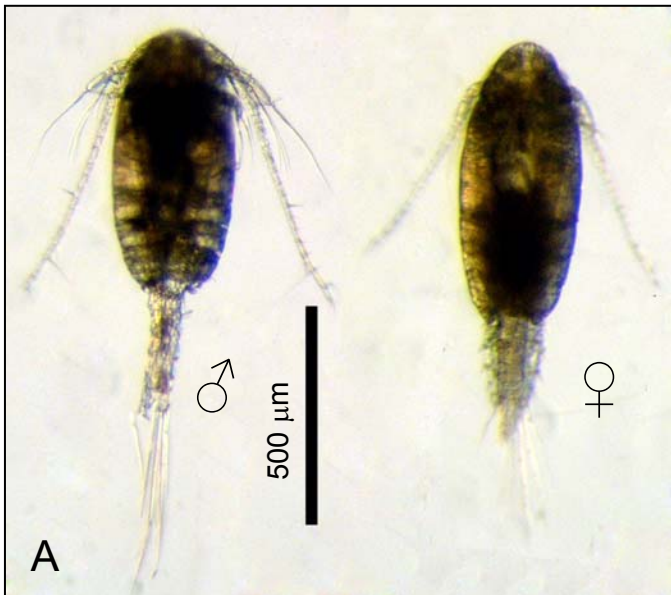
Remarks:

Rostral filaments or processes absent. Body short and compact. Male fifth leg unusually long (←). Very rare, were only found in February in the Solent. Holoplanktonic.

Taxonomic description and drawings:

Sars (1921 a);
Rose (1933).

050 – *Stephos scotti*



A – Male and female dorsal view.

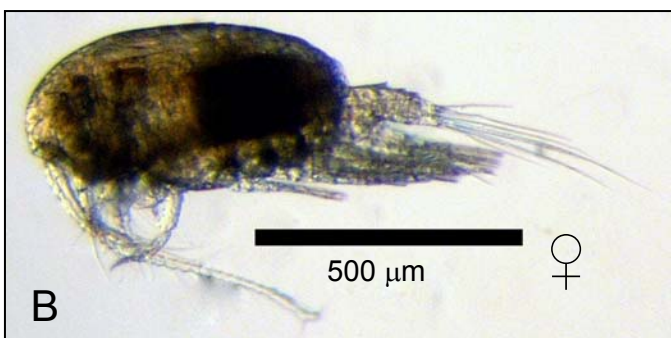
B – Female lateral left side view.

Remarks:

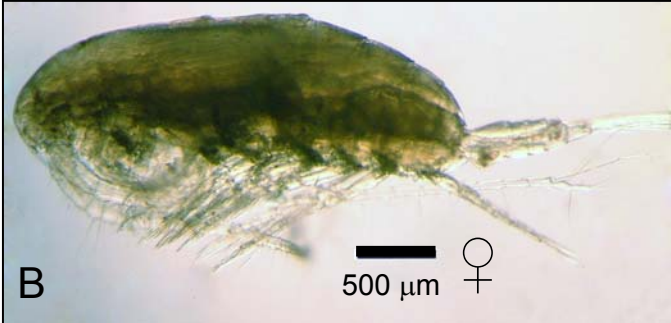
Rostral filaments or processes absent. Body short and compact, more or less elliptical in form. Rare, found in January, March and June. Holoplanktonic.

Taxonomic description and drawings:

Sars (1903);
Rose (1933).



051 – *Calanus helgolandicus*



- A – Female dorsal view.
- B – Female lateral left side view.
- C – Male lateral left side view.

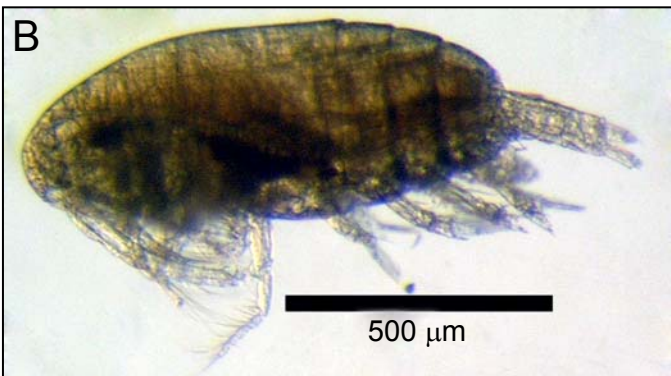
Remarks:

Rostral filaments present. Large, with an elongated body with short urosome. Relatively common, present from January to October. Holoplanktonic.

Taxonomic description and drawings:

Sars (1903);
Rose (1933);
Farran (1951 b);
Todd *et al.* (1996).

052 – *Paracalanus parvus*



- A – Dorsal view.
- B – Lateral left side view.

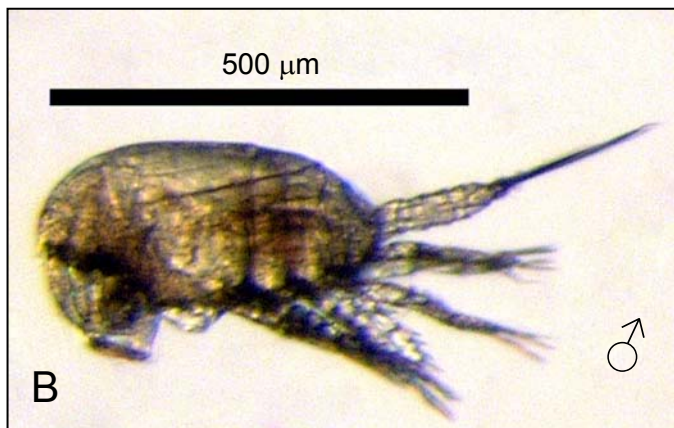
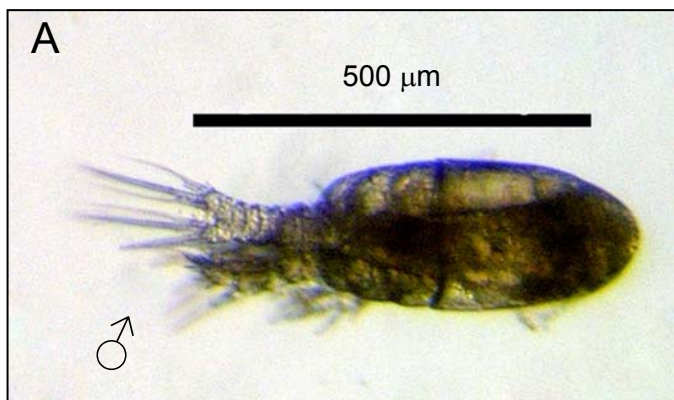
Remarks:

Rostral filaments present. Body elongated with short urosome. Common, present all year round. Holoplanktonic.

Taxonomic description and drawings:

Sars (1903);
Rose (1933);
Farran (1951 c);
Todd *et al.* (1996);
Boxshall & Halsey (2004).

053 – *Pseudocyclopia* sp.

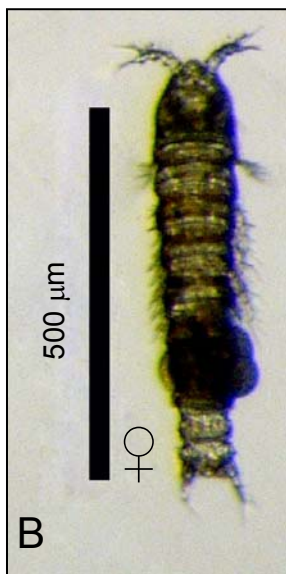


A – Male dorsal view.
B – Male lateral left side view.

Remarks:
Pointed simple rostrum. Body short and compact, laterally compressed, with short urosome. Very rare, only found in SW in March, April and June. Holoplanktonic.

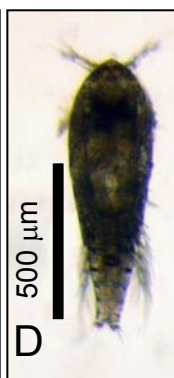
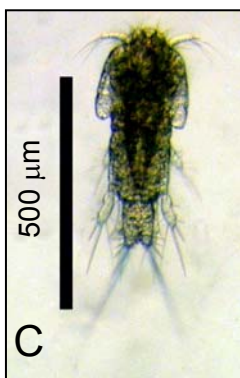
Taxonomic description and drawings:
Sars (1903);
Sars (1921 a);
Rose (1933);
Huys & Boxshall (1991);
Boxshall & Halsey (2004).

054 – Unidentified Harpacticoida



A – Sp.1 - dorsal view.
B – Sp.2 - dorsal view.
C – Sp.3 - dorsal view.
D – Sp.4 - dorsal view.
E – Sp.5 - dorsal view.

Remarks:
Five unidentified species caught in the plankton of this system. Benthic - Tycoplanktonic.



General description and drawings:
Sars (1911);
Sars (1921 a);
Huys & Boxshall (1991);
Huys *et al.* (1996);
Todd *et al.* (1996);
Boxshall & Halsey (2004).

055 – *Canuella* sp.



Dorsal and lateral view.

Remarks:

Body cylindrical, with no apparent division between prosome and urosome. Characteristic large rounded rostrum. Relatively common, can be found all year round. The occurrence of this species in the Solent are yet to be described. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Sars (1911);
Huys *et al.* (1996);
Boxshall & Halsey (2004).

056 – *Microsetella norvegica*

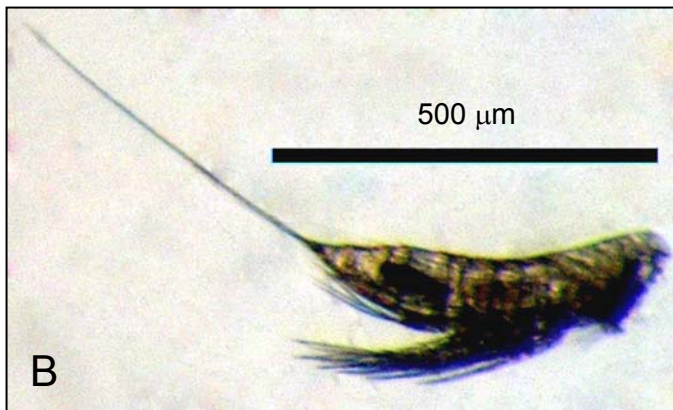


A – Dorsal view.

B – Lateral right side view.

Remarks:

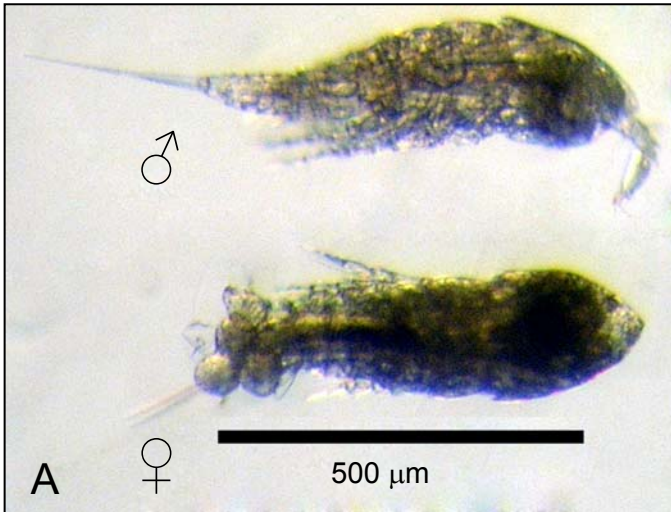
Very small. Body cylindrical, with no apparent division between prosome and urosome. Caudal rami setae longer than prosome + urosome. Very rare, only one specimen caught in January in SW. Holoplanktonic.



Taxonomic description and drawings:

Rose (1933);
Klie (1943);
Wells (1970);
Newell & Newell (1977);
Björnberg (1981);
Huys *et al.* (1996);
Lenz (2000).

057 – *Euterpina acutifrons*



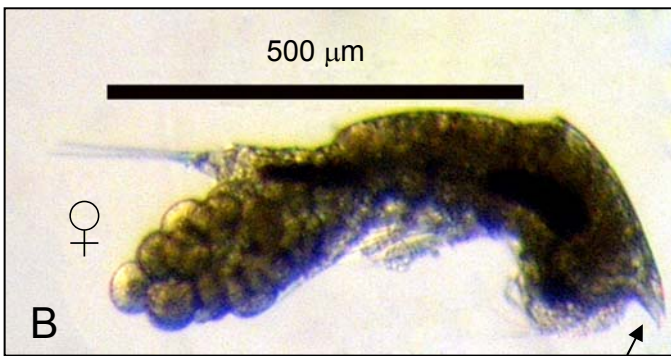
A – Male and female dorsal view.
B – Female lateral right side view.

Remarks:

Body cyclopiform with anterior part of prosome forming a pronounced rostrum (← in B). Very common, can be found all year round. Holoplanktonic.

Taxonomic description and drawings:

Sars (1921 a);
Rose (1933);
Klie (1943);
Wells (1970);
Newell & Newell (1977).
Björnberg (1981);
Huys *et al.* (1996);
Boxshall & Halsey (2004).



058 – *Sacodiscus* sp.



Dorsal view.

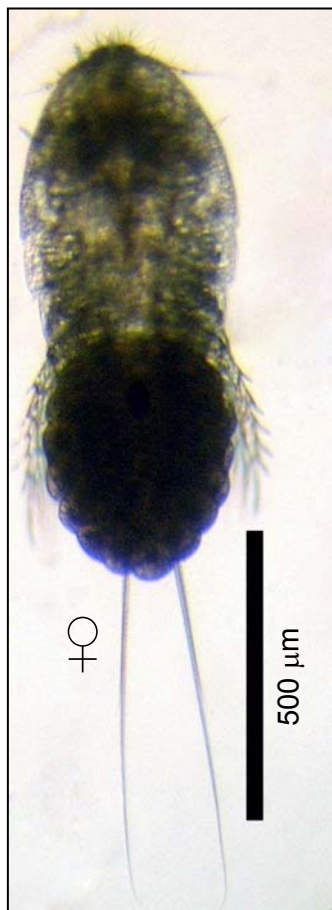
Remarks:

Body rounded dorsoventrally flattened with short urosome. Very rare, were only found in SW in January, March and August. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Sars (1911).

059 – *Tisbe* spp.



Female dorsal view.

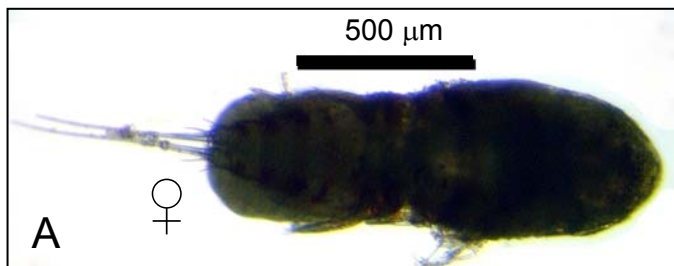
Remarks:

Body dorsoventrally flattened, cyclopiform. Relatively common, found all year round. It's occurrence in the Solent are yet to be reported. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Sars (1911);
Boxshall & Halsey (2004);
Gotto (2004).

060 – *Thalestris* sp



A – Female dorsal view.

B – Female lateral right side view.

C - Lateral right side view.



Remarks:

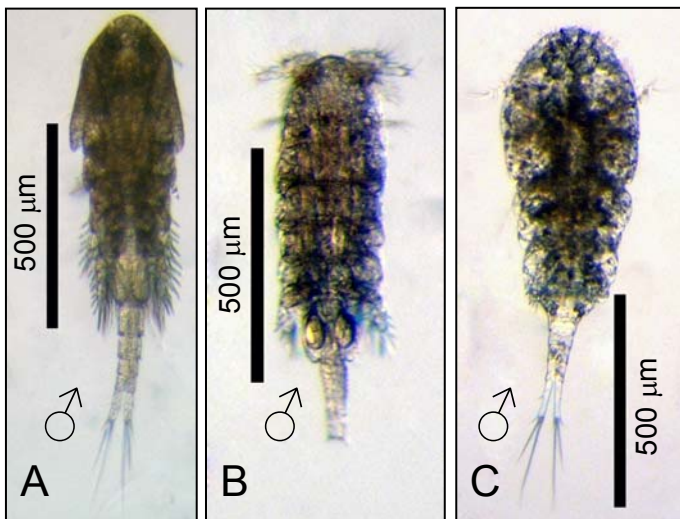
Very big, cyclopiform with well developed triangular rostrum (← in B). Relatively common, found from January to August. It's occurrence in the Solent are yet to be reported. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Sars (1911);
Huys *et al.* (1996);
Boxshall & Halsey (2004).



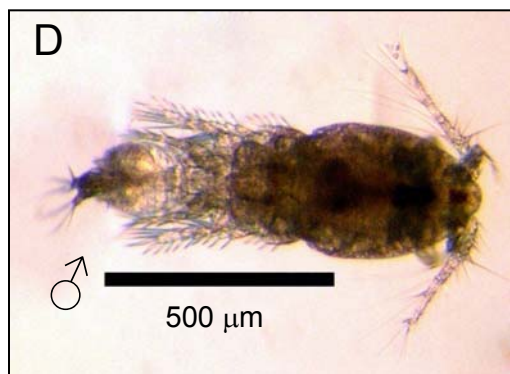
061 – Unidentified Cyclopoida



- A – Sp.1 male dorsal view.
- B – Sp.2 male dorsal view.
- C – Sp.3 male dorsal view.
- D – Sp.4 male dorsal view.

Remarks:

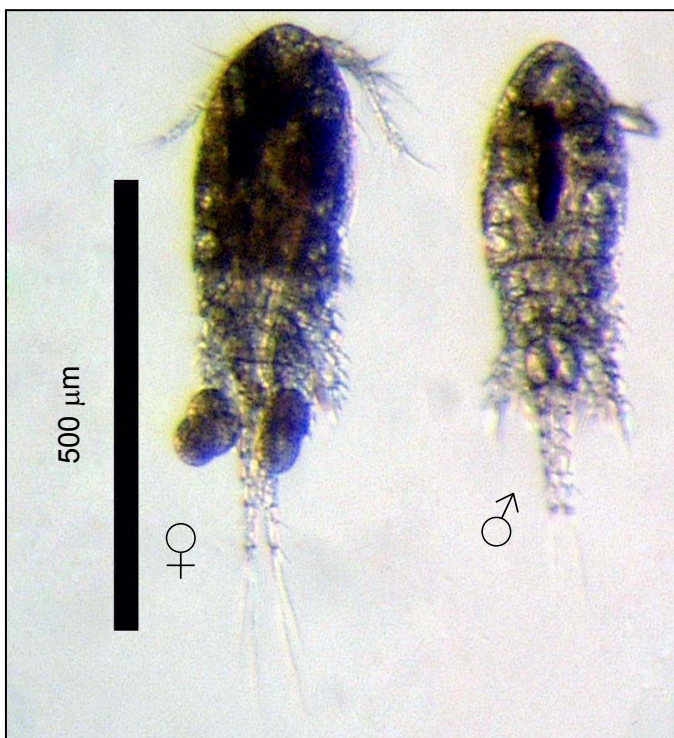
Very rare, four unidentified males of cyclopoids found in this system. They are found erratically on samples. Meroplanktonic?.



General description and drawings:

Sars (1918);
 Sars (1921 a);
 Huys & Boxshall (1991);
 Boxshall & Halsey (2004).

062 - *Cyclopinoides littoralis*



Female and male dorsal view.

Remarks:

Rostrum poorly developed. Relatively common, can be found from January to October. It's occurrence in the Solent are yet to be reported. Meroplanktonic?.

Taxonomic description and drawings:

Sars (1921 a);
 Rose (1933).

063 – Unidentified Notodelphyidae



Dorso-lateral view.

Remarks:

Body compressed and elongated, with characteristic form. Very rare, only caught erratically in SW in February, August and November. Possibly *Doropygus pulex*. Meroplanktonic.

Taxonomic description and drawings:

Sars (1921);
Gotto (2004).

064 – *Notodelphys allmani*

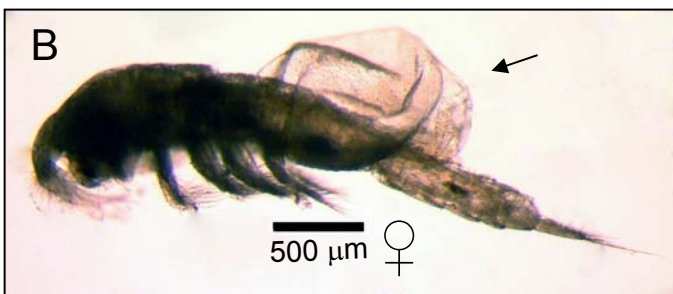


A - Female dorsal view.

B - Female lateral left side view.

Remarks:

Body cycloform, depressed. Female with characteristic incubatory pouch (← in A and B). Very rare, only female specimens observed in December in the Solent. Meroplanktonic.



Taxonomic description and drawings:

Sars (1921);
Huys & Boxshall (1991);
Boxshall & Halsey (2004);
Gotto (2004).

065 – *Oithona nana*



Female and male dorsal view.

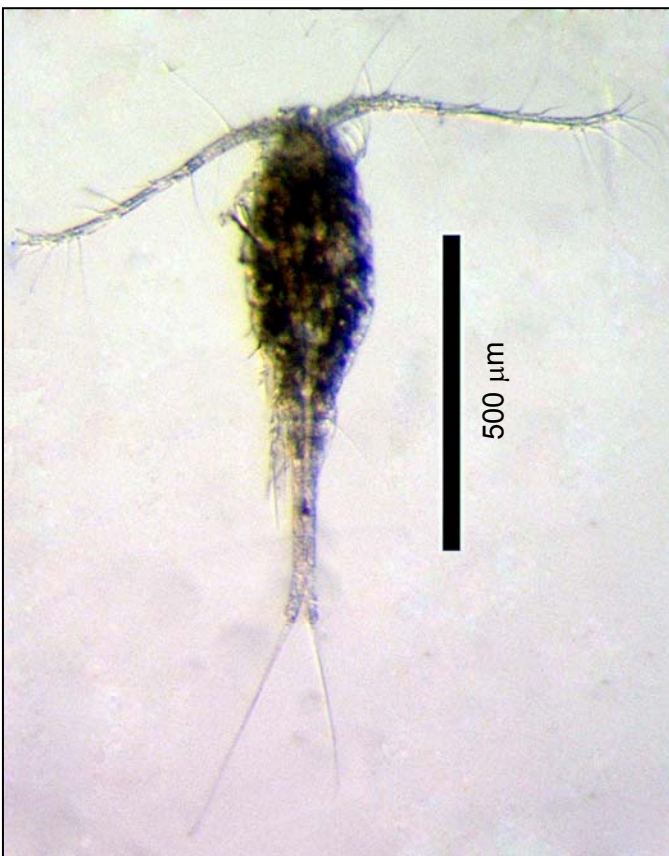
Remarks:

Very small. Prosome oval with long urosome. Very common, can be found all year round, especially in the upper estuary. Rarely seen at the Solent. Holoplanktonic.

Taxonomic description and drawings:

Sars (1918);
Rose (1933);
Newell & Newell (1977);
Björnberg (1981);
Huys & Boxshall (1991).

066 – *Oithona similis*



Female dorsal view.

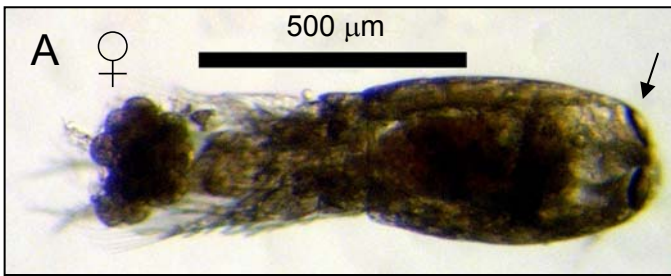
Remarks:

Medium sized. Prosome oval with long urosome. Very rare, species were only reported at the Solent in August. Holoplanktonic.

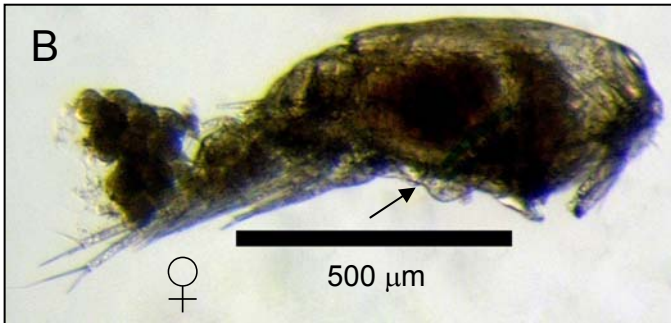
Taxonomic description and drawings:

Sars (1918);
Rose (1933);
Björnberg (1981);
Lenz (2000).

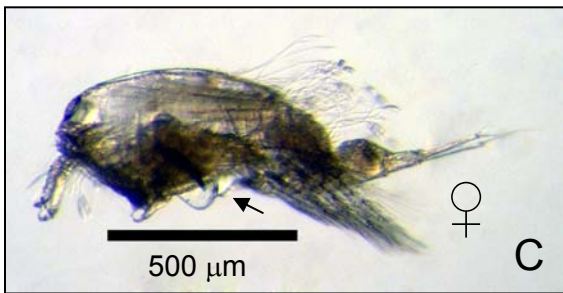
067 – *Corycaeus anglicus*



A – Female dorsal view.
B – Female lateral right side view.
C – Female lateral left side view.

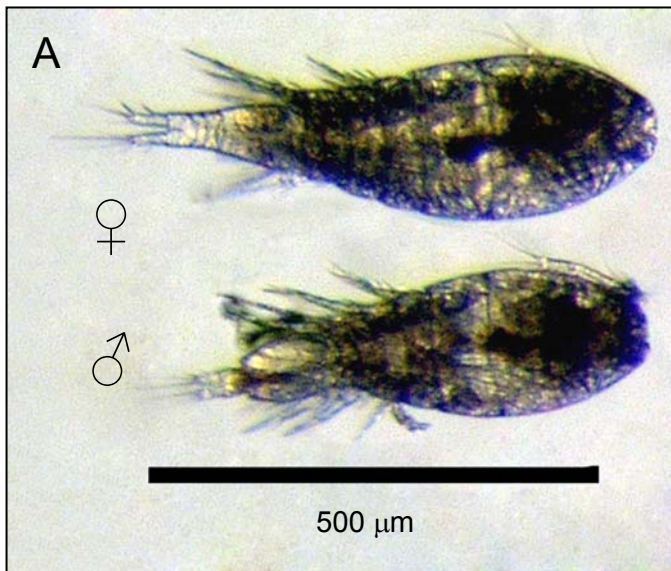


Remarks:
Cephalic segment very large with ocular lenses on the anterior border (← in A). Fixed specimens usually has a characteristic greenish "V" that can be see inside the body (← in B and C). Rare, found from September to March. Holoplanktonic.



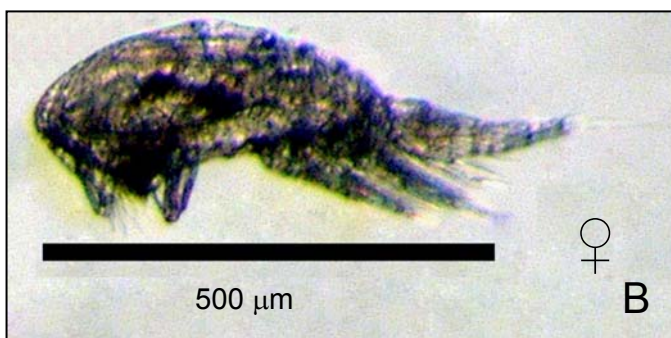
Taxonomic description and drawings:
Sars (1918);
Rose (1933);
Newell & Newell (1977);
Boxshall & Halsey (2004).

068 – *Oncaea* sp .



A – Female and male dorsal view.
B – Female lateral left side view.

Remarks:
Body cyclopiform, very small. Rare, found from July until May. It's occurrence in the Solent are yet to be reported. Possibly *O.curta*. Holoplanktonic.



Taxonomic description and drawings:
Sars (1916);
Boxshall (1977);
Björnberg (1981);
Malt (1983).

069 – Unidentified Siphonostomatoida



A – Lateral and dorsal view.

B – Dorsal view.

C – Dorsal view.

Remarks:

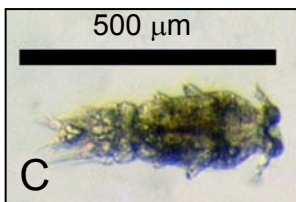
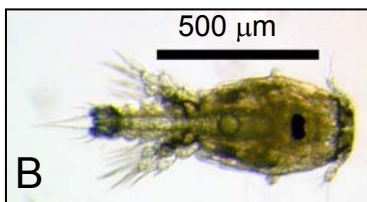
Copepodite stages of unidentified siphonostomatoids are common and can be found all year round. At least five different forms have been observed. Specimen B could be the copepodite of *Caligus elongatus*. Meroplanktonic.

General description and drawings:

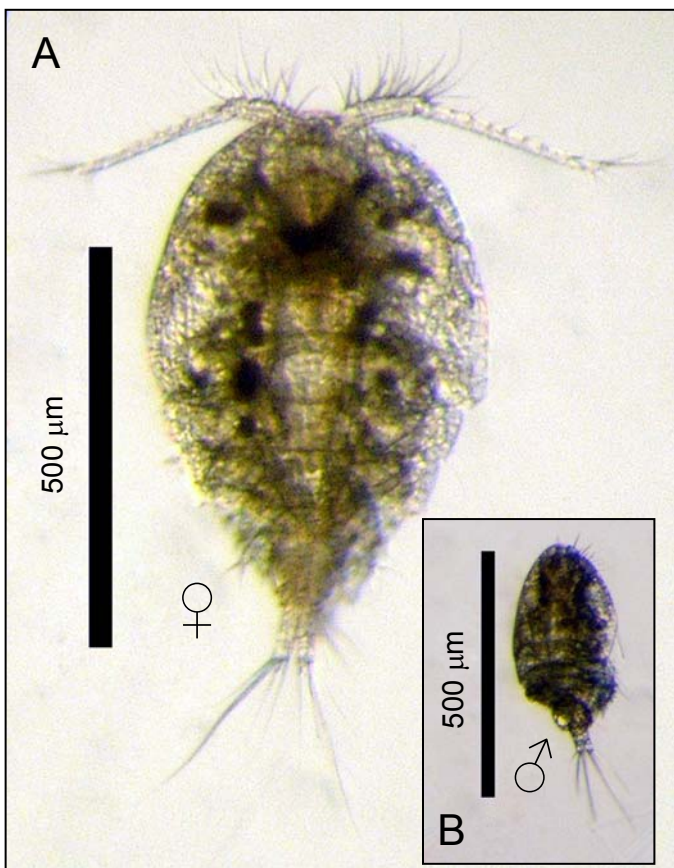
Huys & Boxshall (1991);

Piasecki (1996);

Boxshall & Halsey (2004).



070 – *Asterocheres* sp.



A – Female dorsal view.

B - Male dorsal view.

Remarks:

Body depressed with a cyclopoidic form. Cephalic segment dilated with the posterior part narrowed. Very rare, found on January, April and July. Meroplanktonic.

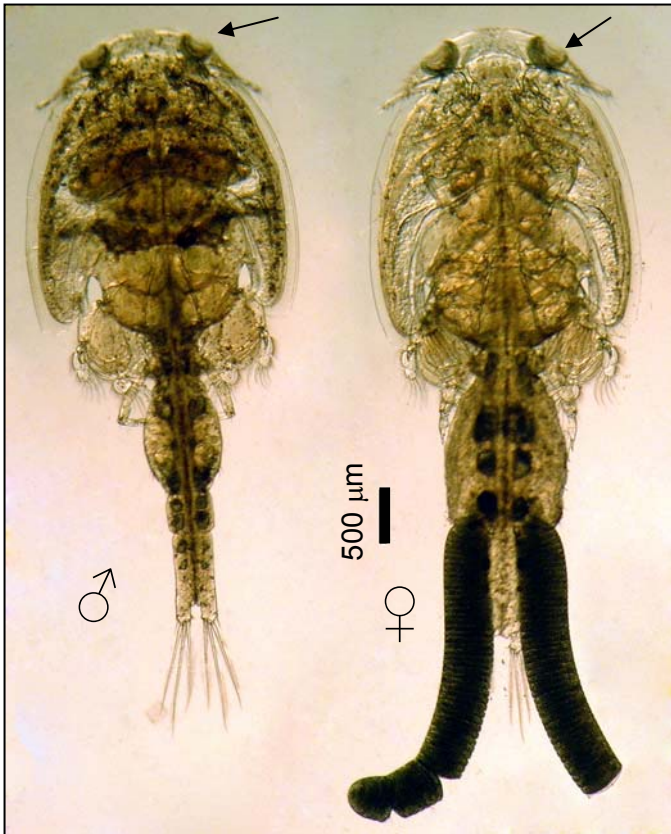
Taxonomic description and drawings:

Sars (1916);

Boxshall & Halsey (2004);

Gotto (2004).

071 – *Caligus elongatus*



Male and female dorsal view.

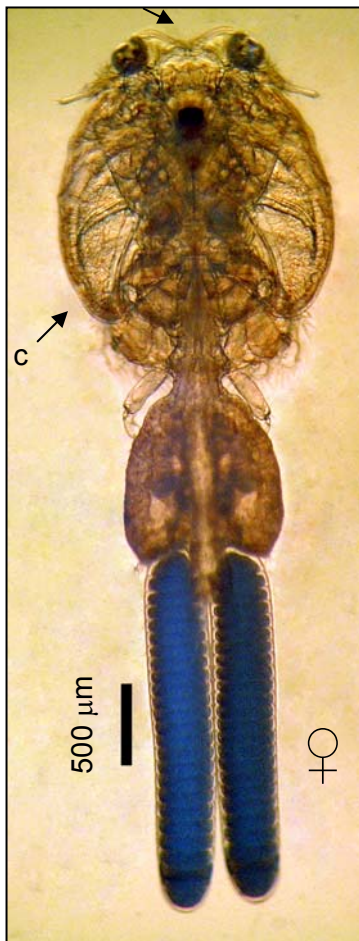
Remarks:

Very large copepod with elongated body dorso-ventrally flattened. Cephalothorax oval with a pair of attachment suckers, or lunules (←). Very rare, found in January and April. Meroplanktonic.

Taxonomic description and drawings:

Kabata (1979);
Isaac & Moyse (1990);
Piasecki (1996);
Todd *et al.* (1996).

072 – *Caligus minimus*



Female dorsal view.

Remarks:

Very large copepod with elongated body dorso-ventrally flattened. Cephalothorax subcircular to oval (← c), with a pair of attachment suckers, or lunules. Frontal plate indented at the middle (←). Very rare, found in August. Meroplanktonic.

Taxonomic description and drawings:

Kabata (1979);

073 – *Cancerilla tubulata*



Male dorsal view.

Remarks:

Male has a general cyclopoidic form. Cephalic segment as long as the rest of the body. 2nd segment well defined and pointing behind. Genital segment well developed and with a characteristic outline (←). Very rare, only a single male specimen were observed in January. Meroplanktonic.

Taxonomic description and drawings:

Sars (1918);
Boxshall & Halsey (2004);
Gotto (2004).

074 – *Bradypontius papillatus*

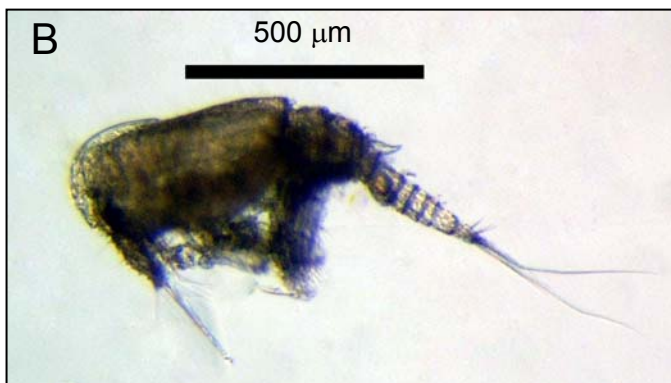


A – Dorsal view.

B – Lateral left side view.

Remarks:

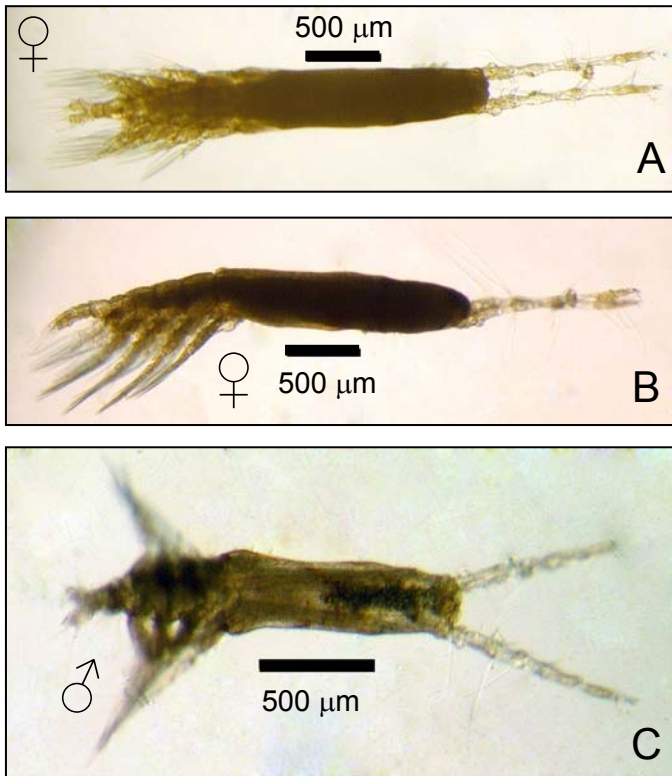
Body with a characteristic triangular form, with Cephalic segment resembling an arrowhead. Very rare, found in March and July. Meroplanktonic.



Taxonomic description and drawings:

Sars (1918);
Boxshall & Halsey (2004);
Gotto (2004).

075 – *Monstrilla conjunctiva*



A – Female dorsal view.
B – Female lateral right side view.
C – Male dorsal view.

Remarks:

In both sexes the body is elongated with the cephalic segment exceeding half the length of the body. Female caudal rami large with five setae. Very rare, only found in January-February. Meroplanktonic.

Taxonomic description and drawings:

Rose (1933);
Sars (1921);
Isaac (1975).

076 – *Monstrilla helgolandica*



A – Female dorsal view.
B – Female lateral left side view.

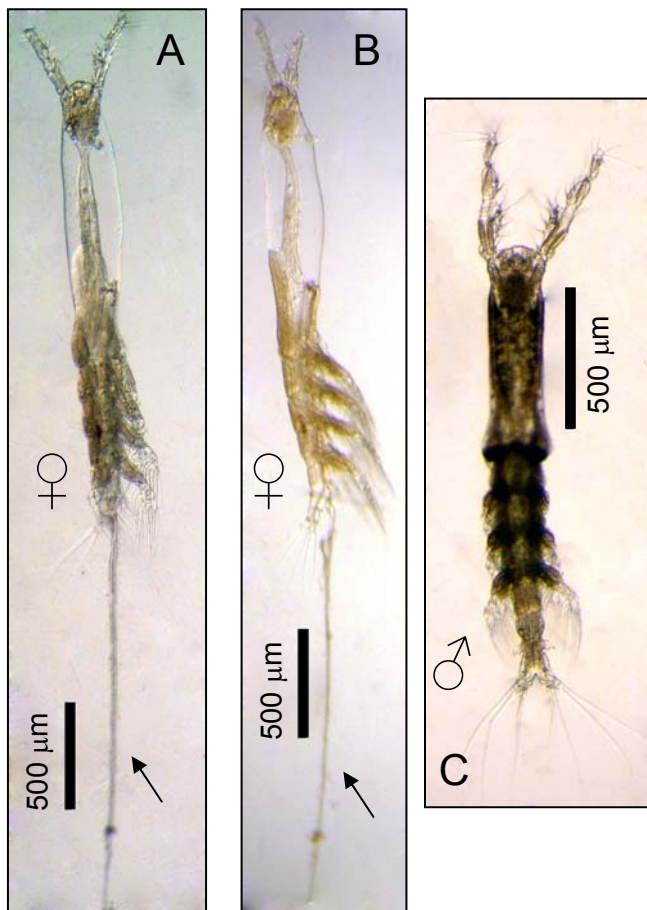
Remarks:

Female body short and with the anterior part dilated. Cephalic segment about half the length of the body. Caudal rami with six setae, with one of them quite small and attached dorsally. Very rare, only a female specimen were caught in September. Meroplanktonic.

Taxonomic description and drawings:

Sars (1921);
Rose (1933);
Isaac (1975);
Huys & Boxshall (1991).

077 – *Cymbasoma longispinosus*

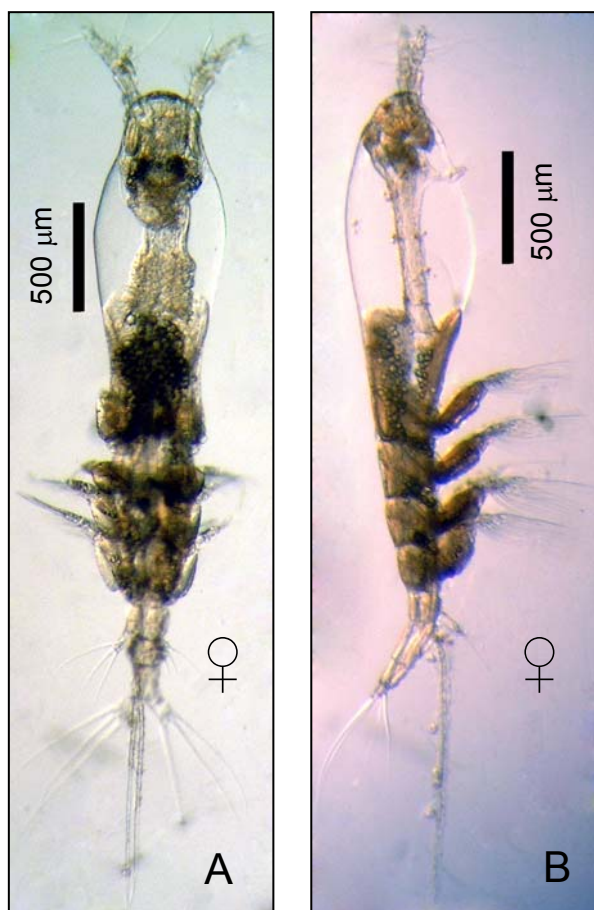


A – Female dorsal view.
 B – Female lateral right side view.
 C – Male dorsal view.

Remarks:
 Female body elongated with the cephalic segment longer than the remaining part of body. Remarkable long ovigerous spine (← in A and B). Caudal rami of females with three setae in contrast with the four found in males. Males are much smaller with the cephalic segment shorter than the rest of body. Very rare, only caught in September. Meroplanktonic

Taxonomic description and drawings:
 Sars (1921);
 Rose (1933);
 Isaac (1975).

078 – *Cymbasoma rigidus*

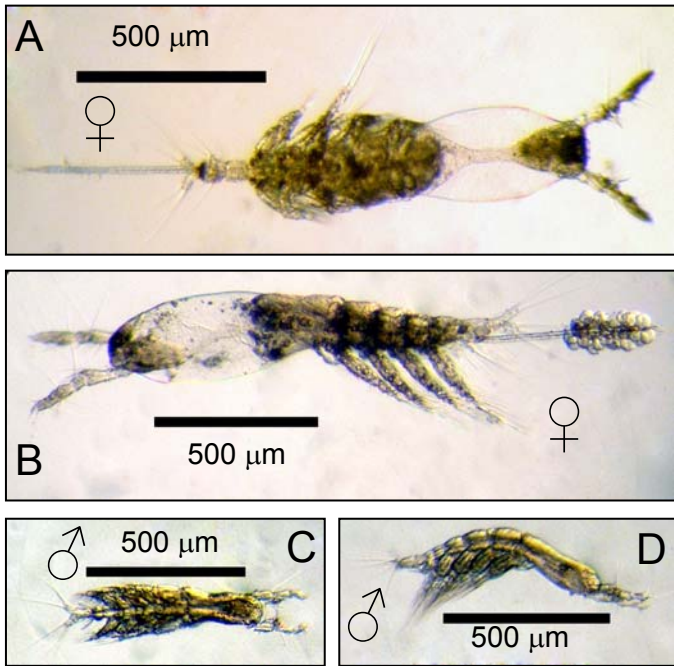


A – Female dorsal view.
 B – Female lateral right side view.

Remarks:
 Cephalic segment of females as long as the remaining part of body and somewhat dilated at the middle. Caudal rami of female with three strong setae, with the outermost one attached to a prominent projection. A fourth caudal rami setae, very fine, can also be seen close to the border of the ventral face. Very rare, only female specimens were caught in May, August and September. Meroplanktonic

Taxonomic description and drawings:
 Sars (1921);
 Rose (1933);
 Isaac (1975).

079 – *Cymbasoma thompsoni*



- A – Female dorsal view.
B – Female lateral left side view.
C – Male dorsal view.
D – Male lateral right side view.

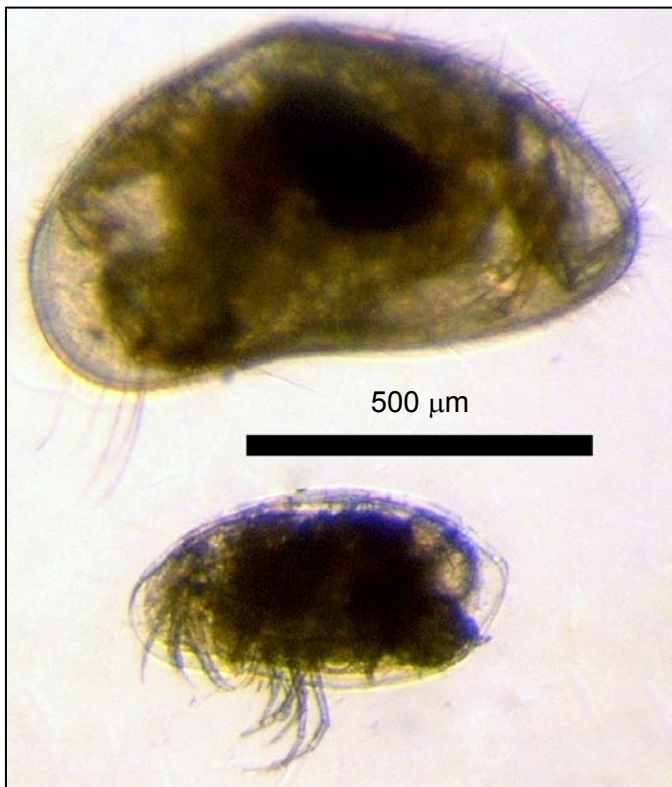
Remarks:

Smallest form of this genus. Male and female with three setae in caudal rami. Rare, found in the plankton from May through October. Meroplanktonic.

Taxonomic description and drawings:

Sars (1921);
Rose (1933);
Isaac (1975).

080 – Unidentified Ostracoda



Lateral view.

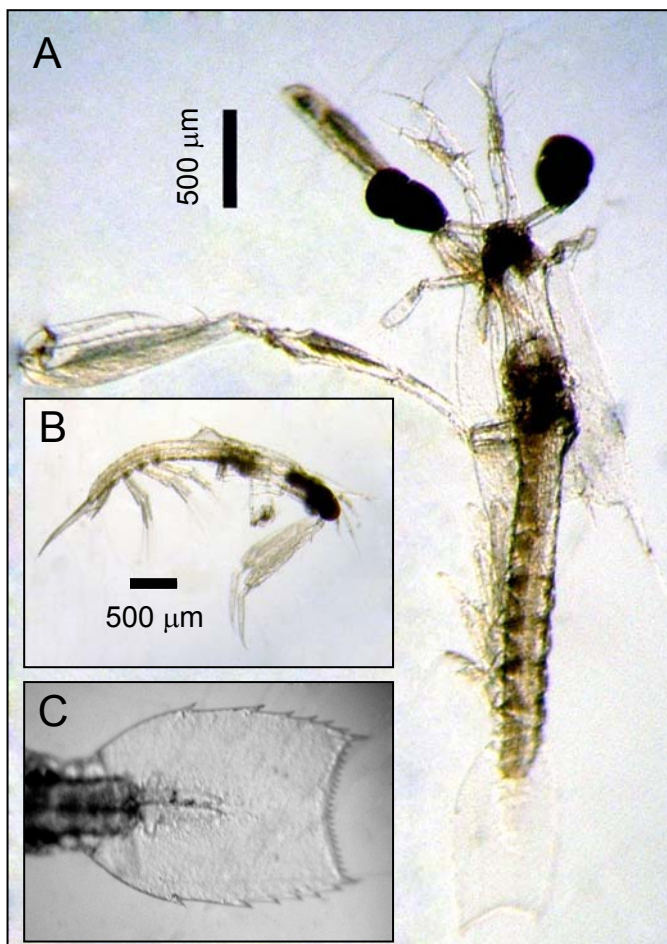
Remarks:

Relatively common in SW from January through October. Ostracods are yet to be described in the Solent. Benthic - Tytoplanktonic.

General description and drawings:

Müller (1901);
Newell & Newell (1977);
Angel (1981);
Athersuch *et al.* (1989);
Isaac & Moyse (1990).

081 – *Rissoides desmaresti*

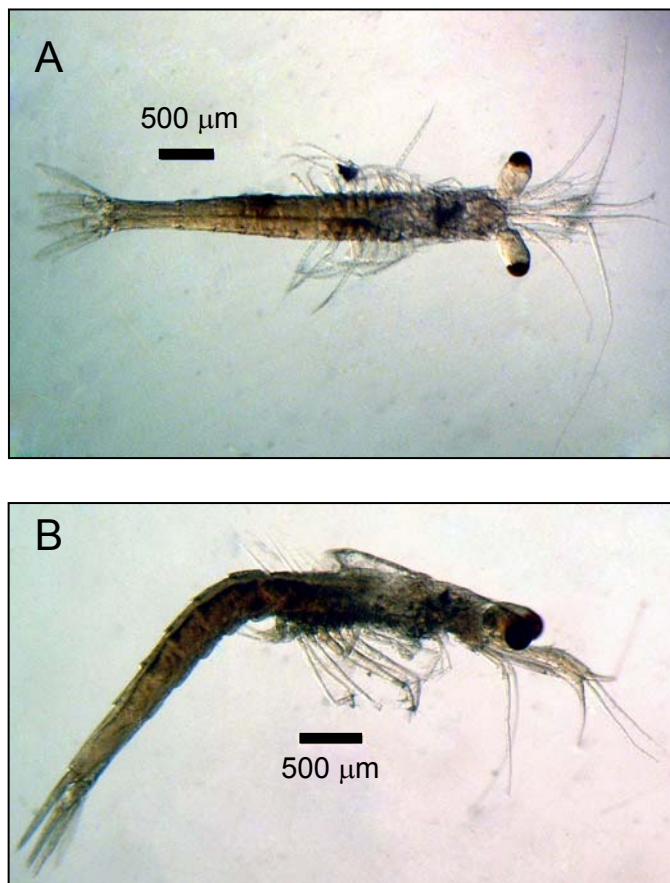


A – Stage 1 dorsal view.
B – Stage 1 lateral right side view.
C – Telson detail of stage 1.

Remarks:
Large larvae with characteristic form. Rare, specimens were caught in samples from July - August. Meroplanktonic.

Taxonomic description and drawings:
Mauchline (1984).

082 – *Siriella armata*

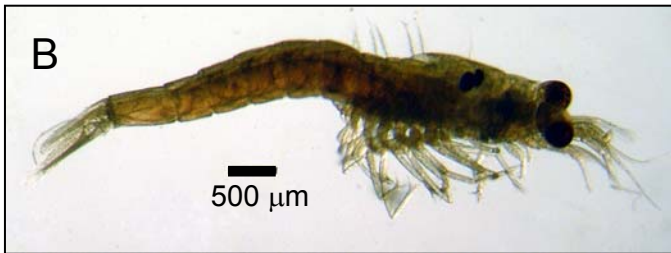


A – Dorsal view.
B – Lateral right side view.

Remarks:
Exouropod divided into a shorter distal segment and a longer proximal portion. Telson is elongated with no apical cleft, and with 4 or 5 small apical spines between the two large lateral ones. Eystalks elongated. Rare specimens found from July through October. The occurrence of this species in the Solent plankton are yet to be reported. Benthic - Tycoplanktonic.

Taxonomic description and drawings:
Nouvel (1950 a);
Makings (1977);
Newell & Newell (1977);
Isaac *et al.* (1990).

083 – *Siriella clausii*



A – Dorsal view.
B – Lateral right side view.

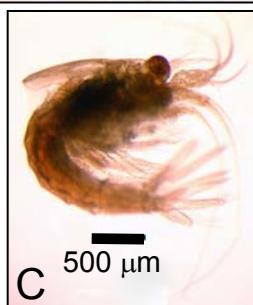
Remarks:

Exouropod divided into a shorter distal segment and a longer proximal portion. Telson is elongated with no apical cleft and with 3 small apical spines of the same size between the two large lateral ones. Rare, specimens can be found in August - October. The occurrence of this species in the Solent plankton are yet to be reported. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Nouvel (1950 a);
Makings (1977);
Newell & Newell (1977);
Isaac *et al.* (1990).

084 – *Anchialina agilis*



A – Dorsal view.
B – Lateral left side view.
C – Lateral right side view.

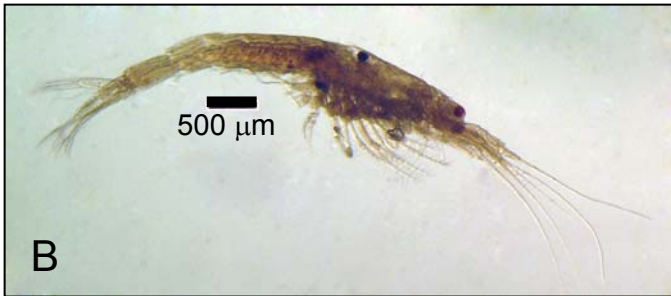
Remarks:

Telson with apical cleft and 20 or more lateral spines on each side. Exouropod with 20 or more small spines on outer margin. Very rare, specimens were only found on January and October. The occurrence of this species in the Solent plankton are yet to be reported. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Nouvel (1950 a);
Makings (1977);
Newell & Newell (1977);
Isaac *et al.* (1990).

085 – *Gastrosaccus sanctus*



A – Dorsal view.
B – Lateral right side view.

Remarks:

Telson twice as long as broad with apical cleft and armed with 5 or 6 lateral spines on each side. Exouropod with spines on outer margin. Rare, only found in August. The occurrence of this species in the Solent plankton are yet to be reported. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Nouvel (1950 a);
Makings (1977);
Newell & Newell (1977);
Isaac *et al.* (1990).

086 – *Leptomysis lingvura*



A – Dorsal view.
B – Lateral left side view.

Remarks:

Telson rounded with lateral spines from base to apex. Endouropod with spines from base to apex. Apical segment of antennal scale with 6 or less setae on each side. Very rare, a single specimen found on April. The occurrence of this species in the Solent plankton are yet to be reported. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Nouvel (1950 b);
Makings (1977);
Newell & Newell (1977);
Isaac *et al.* (1990).

087 – *Mysidopsis gibbosa*



A – Dorsal view.

B – Lateral left side view.

Remarks:

Telson short, being as long as wide and with up to 18 lateral spines on each side. Eyestalk with a characteristic finger-like process projecting outwards from the corneal part (← in B). Rare, specimens were caught on July - August. The occurrence of this species in the Solent plankton are yet to be reported. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

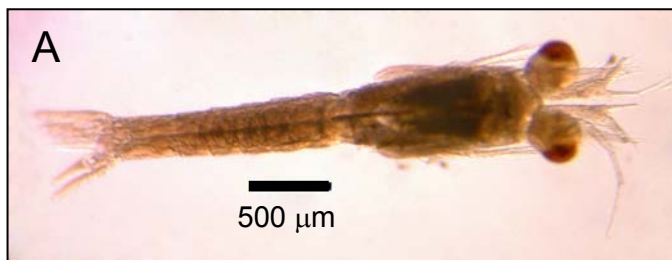
Nouvel (1950 b);

Makings (1977);

Newell & Newell (1977);

Isaac *et al.* (1990).

088 – *Acanthomysis longicornis*



A – Dorsal view.

B – Lateral right side view.

Remarks:

Telson rounded with one or two spines near the base, then without lateral spines on basal third followed by a strong spinose distal two-thirds. Endouropod with few spines on inner margin. Very rare, specimens were found in April and July. The occurrence of this species in the Solent plankton are yet to be reported. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Nouvel (1950 c);

Makings (1977);

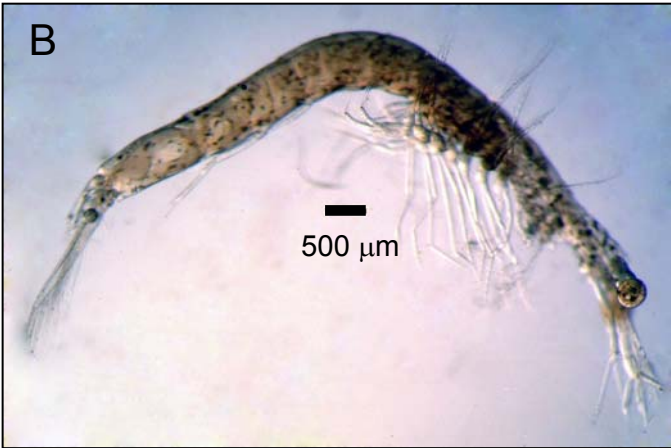
Newell & Newell (1977);

Isaac *et al.* (1990).

089 – *Mesopodopsis slabberi*



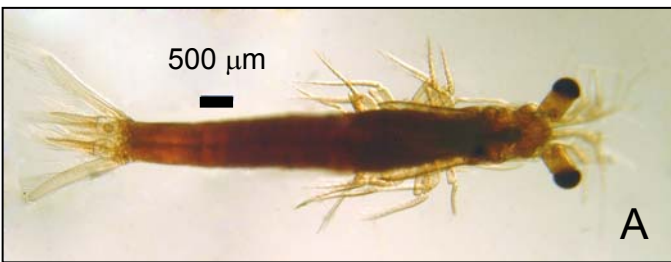
A – Dorsal view.
B – Lateral right side view.



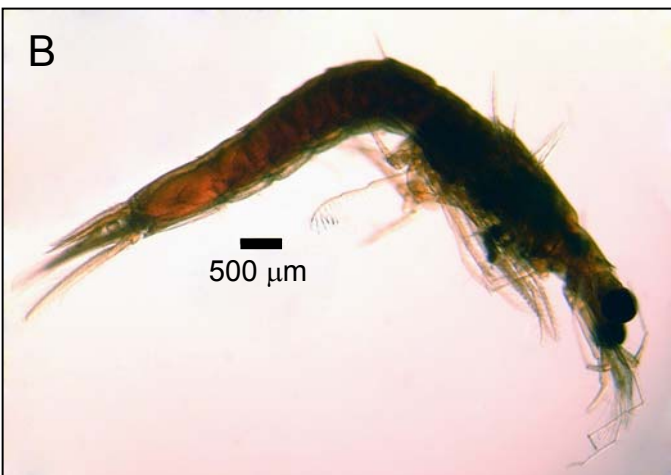
Remarks:
Telson short with apex rounded with several spines flanked by strong spines. Eyestalks long. Common, can be found all year round, especially in the upper estuary. Benthic - Tycoplanktonic.

Taxonomic description and drawings:
Nouvel (1950 c);
Makings (1977);
Newell & Newell (1977);
Isaac *et al.* (1990).

090 – *Paramysis arenosa*



A – Dorsal view.
B – Lateral right side view.



Remarks:
Telson with deep apical cleft and armed with 17-23 lateral spines on each side. Endouropod with about 28 spines on the inner margin with some of them much larger than the others. Very rare, specimens found only on January. The occurrence of this species in the Solent plankton are yet to be reported. Benthic - Tycoplanktonic.

Taxonomic description and drawings:
Nouvel (1950 d);
Makings (1977);
Newell & Newell (1977);
Isaac *et al.* (1990).

091 – *Schistomysis kervillei*



A – Juvenile dorsal view.
B – Lateral left side view.



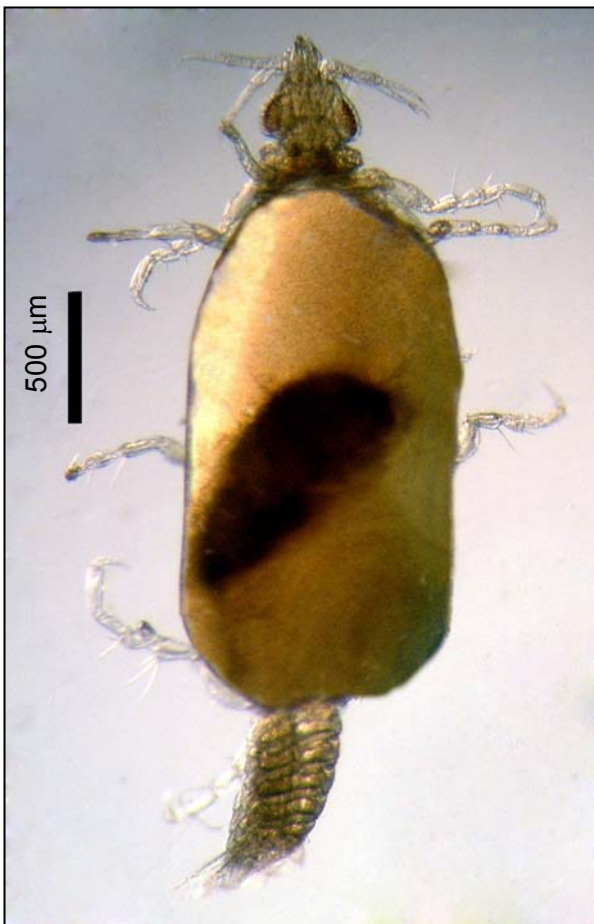
Remarks:

Telson with apical cleft and 30 lateral spines on each side. Endouropod armed with long and short spines on the inner margin. Very rare, found in January and March. The occurrence of this species in the Solent plankton are yet to be reported. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Nouvel (1950 d);
Makings (1977);
Newell & Newell (1977);
Isaac *et al.* (1990).

092 – Unidentified praniza



Dorsal view.

Remarks:

Praniza are ectoparasites on fish, being very rare, and only found on August. Probably the praniza of *Paragnathia formica*. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Tattersall (1911);
Naylor (1957 a);
Newell & Newell (1977);
Isaac *et al.* (1990).

093 – *Idotea* sp.



Dorsal view.

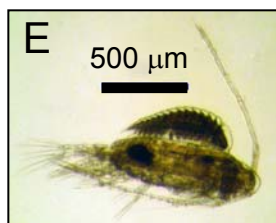
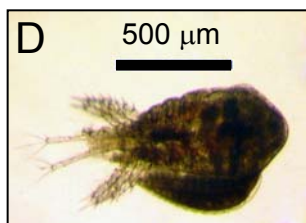
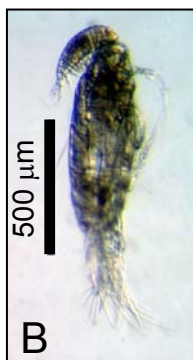
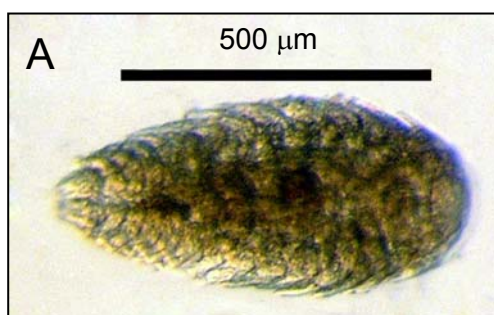
Remarks:

Rare, specimens were found in plankton samples on April. Benthic - Tytoplanktonic.

Taxonomic description and drawings:

Sars (1899);
Tattersall (1911);
Naylor (1957 b);
Newell & Newell (1977);
Isaac *et al.* (1990).

094 – Unidentified cryptonistic form



A – Specimen 1 - dorsal view.

B – Specimen 2 attached to *Acartia* sp.

C – Specimen 3 attached to *Centropages hamatus*.

D – Specimen 4 attached to *Temora longicornis*.

E – Specimen 5 attached to *Acartia* sp.

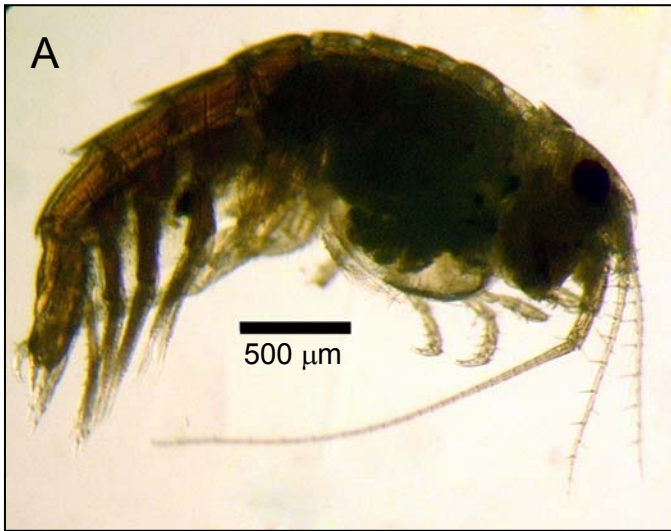
Remarks:

Very common, specimens were caught either freely or attached to copepods on the Solent - SW system all year round. Holoplanktonic.

Taxonomic description and drawings:

Sars (1899);
Tattersall (1911);
Isaac *et al.* (1990).

095 – Unidentified Amphipoda



A – Sp.1 - Lateral right side view.

B – Sp.2- Lateral left side view.

Remarks:

Common, unidentified specimens can be found all year round in the plankton. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Schellenberg (1927);

Lincoln (1979);

Isaac *et al.* (1990).



096 – *Amphilocheus manudens*



Lateral left side view.

Remarks:

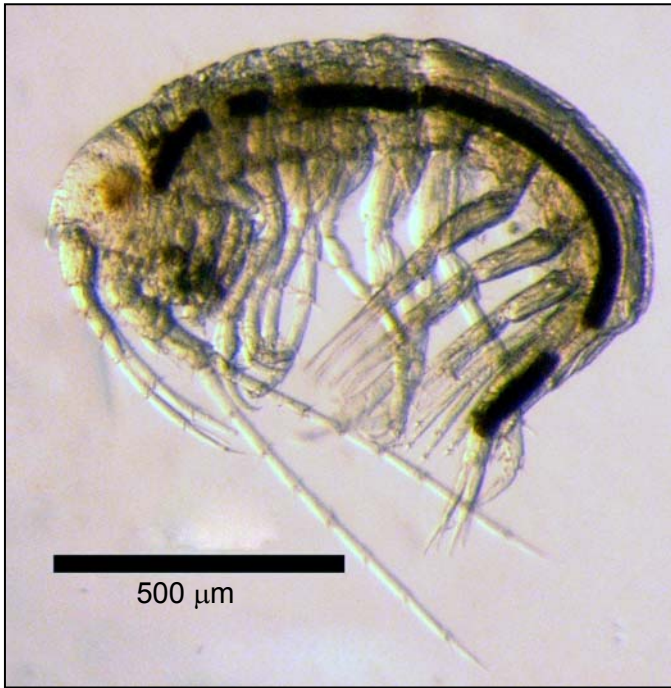
Rare, caught in March, August and October. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Lincoln (1979);

Isaac *et al.* (1990).

097 – *Gitana* sp.



Lateral left side view.

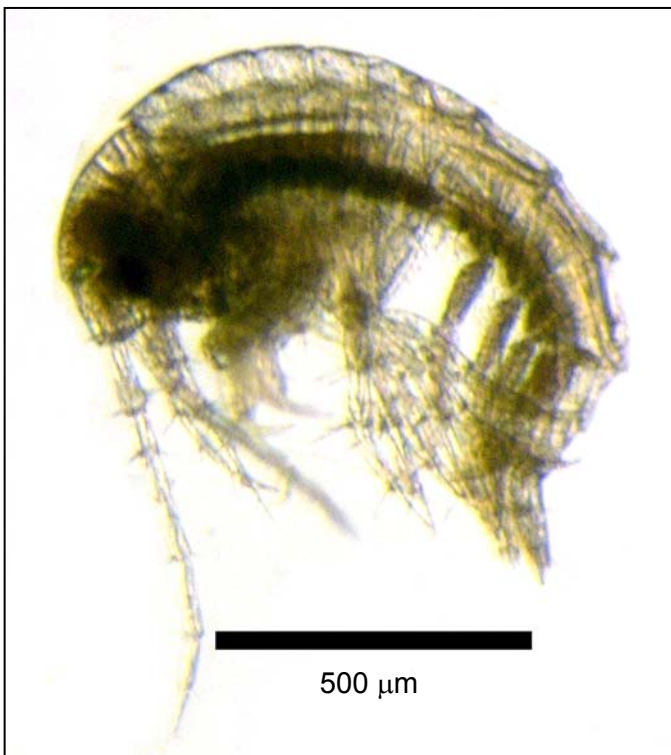
Remarks:

Very rare, only a single specimen were caught in plankton samples on August. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Lincoln (1979);
Isaac *et al.* (1990).

098 – *Parapleustes* sp.



Lateral left side view.

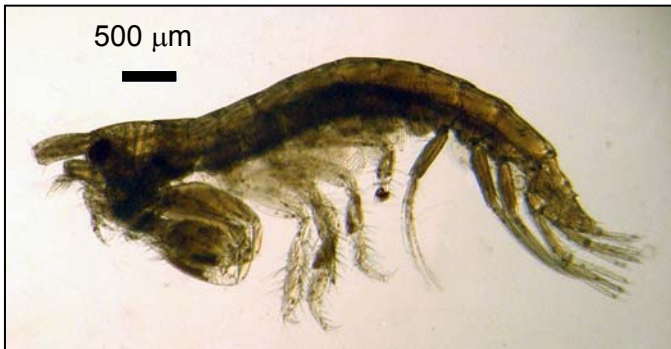
Remarks:

Very rare, a single specimen were caught from plankton samples in July. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Lincoln (1979);
Isaac *et al.* (1990).

099 – *Aora gracilis*



Lateral left side view.

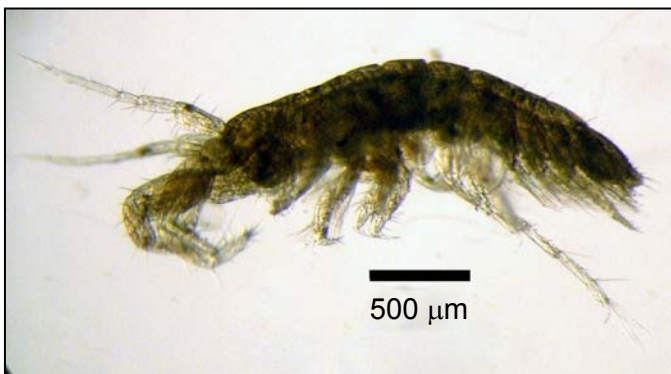
Remarks:

Rare, specimens were caught in April-June and September in the upper estuary. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Lincoln (1979);
Isaac *et al.* (1990).

100 – *Corophium* spp.



Lateral left side view.

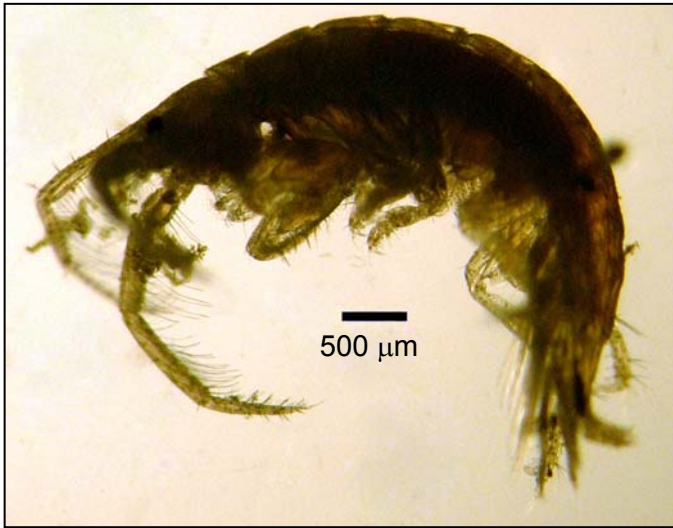
Remarks:

Common, from May through January in plankton samples. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Lincoln (1979);
Isaac *et al.* (1990).

101 – *Jassa* sp.



Lateral left side view.

Remarks:

Relatively common, from March throughout December. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Lincoln (1979);
Isaac *et al.* (1990).

102 – *Apherusa* spp.



Lateral right side view.

Remarks:

Common, found from June to December in plankton samples. At least two species were observed: *A. bispinosa* and *A. ovalipes*. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Lincoln (1979);
Isaac *et al.* (1990).

103 – *Atylus vedlomensis*



Lateral left side view.

Remarks:

Common, found from February to December in plankton samples. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Schellenberg (1927);

Lincoln (1979);

Isaac *et al.* (1990).

104 – *Echinogammarus marinus*



Lateral left side view.

Remarks:

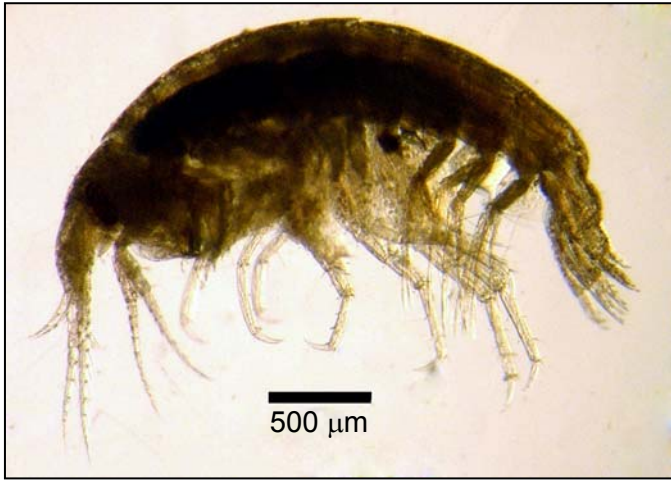
Very rare in the plankton, specimens were only caught in July and October. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Lincoln (1979);

Isaac *et al.* (1990).

105 – *Orchomene humilis*



Lateral left side view.

Remarks:

Rare, specimens were found in plankton samples from January-March, August and October-November. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Lincoln (1979);
Isaac *et al.* (1990).

106 – *Parametaphoxus fultoni*



Lateral left side view.

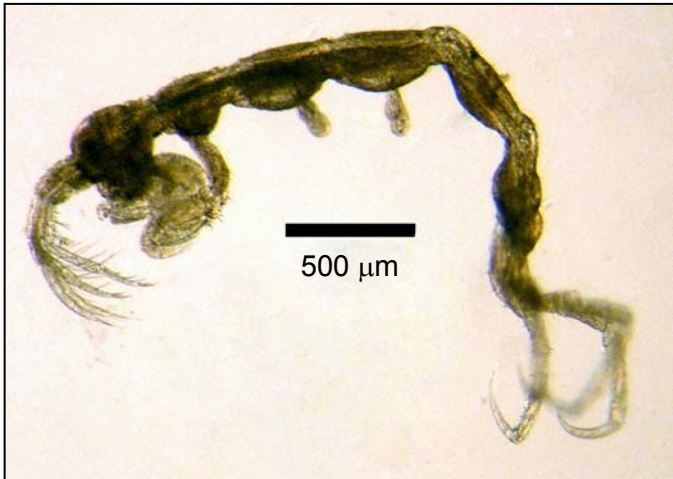
Remarks:

Very rare, a single specimen were caught on August. Benthic - Tycoplanktonic.

Taxonomic description and drawings:

Lincoln (1979);
Isaac *et al.* (1990).

107 – *Pariambus typicus*



Lateral left side view.

Remarks:

Very rare, a single specimen were found in plankton samples on March. Benthic - Tyco planktonic.

Taxonomic description and drawings: Isaac *et al.* (1990).

108 – *Phtisica marina*



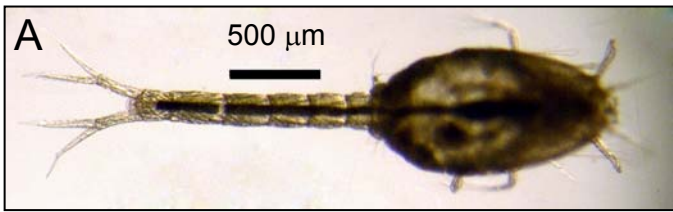
Male lateral left side view.

Remarks:

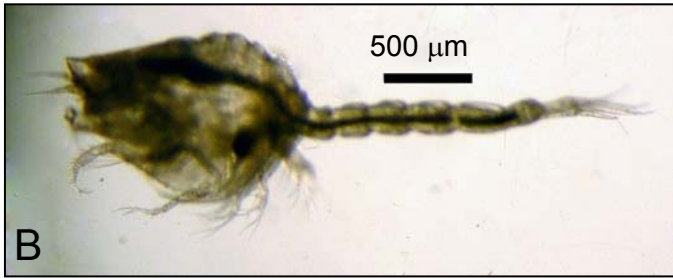
Rare, specimens were found from July to October. Benthic - Tyco planktonic.

Taxonomic description and drawings: Isaac *et al.* (1990).

109 – *Pseudocuma similis*



A – Dorsal view.
B – Lateral left side view.



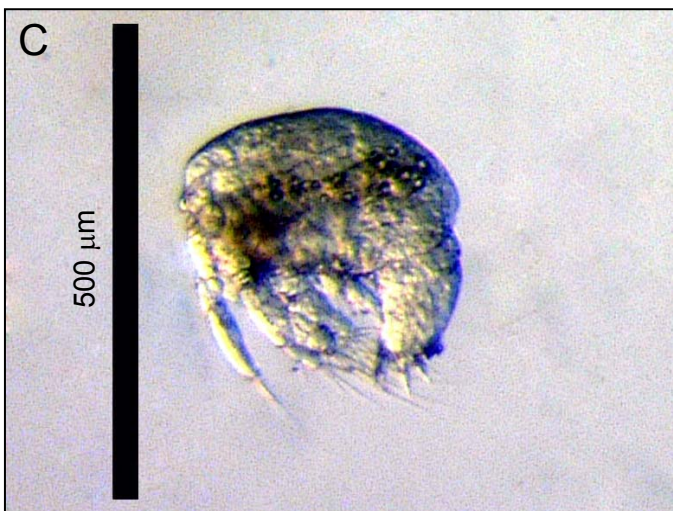
Remarks:
Rare, found in plankton samples from January to August. Benthic - Tytoplanktonic.

Taxonomic description and drawings:
Jones (1957 a);
Jones (1957 b);
Jones (1957 c);
Isaac *et al.* (1990).

110 – Unidentified *Euphausiidae*



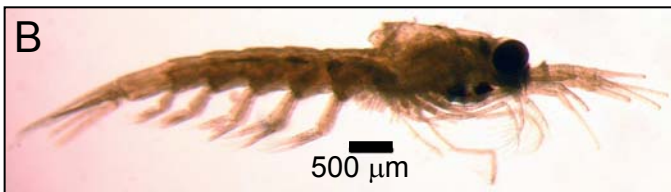
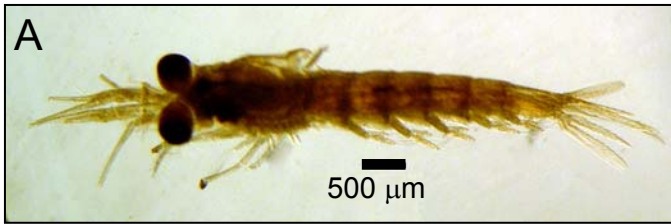
A – Calyptopis II - III dorsal view.
B – Calyptopis II - III lateral right view.
C – Calyptopis I ? lateral left side view.



Remarks:
Common, these forms can be found from December to May. Probably the calyptopis of *Meganyctphanes norvegica*. Holoplanktonic.

General description and drawings:
Mauchline (1971).
Newell & Newell (1977).

111 – *Meganyctphanes norvegica*



A – Furcilia V dorsal view.

B – Furcilia V lateral right side view.

Remarks:

Very rare, specimens were caught on January, April, October and November. Holoplanktonic.

Taxonomic description and drawings:

Heegaard (1948);

Mauchline (1971);

Le Roux (1976);

Newell & Newell (1977);

Todd *et al.* (1996).

112 – *Palaemon* spp.



A – Stage 1 dorsal view.

B – Stage 1 lateral left side view.

Remarks:

Early larval stages with characteristic flat triangular telson. Relatively common, usually found from May to August. Meroplanktonic.

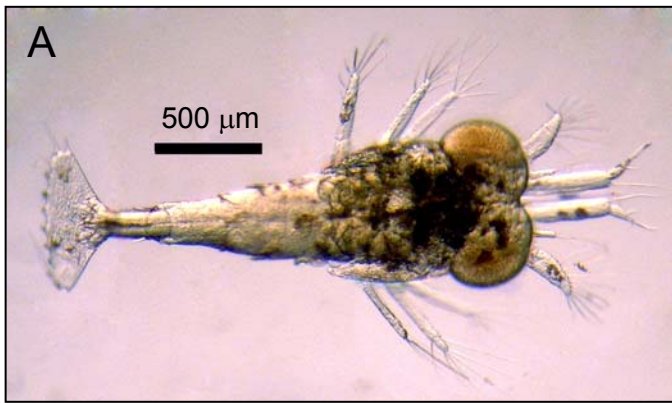
Taxonomic description and drawings:

Williamson (1915);

Fincham & Williamson (1978);

Martin (2000).

113 – *Palaemon elegans*



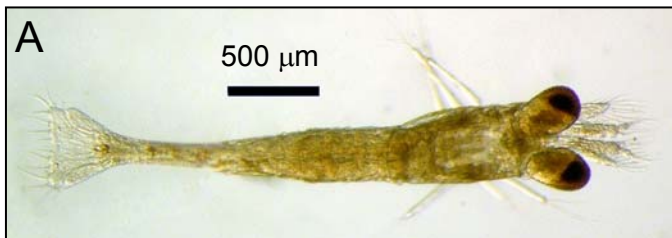
A – Stage 1 dorsal view.
B – Stage 1 lateral left side view.



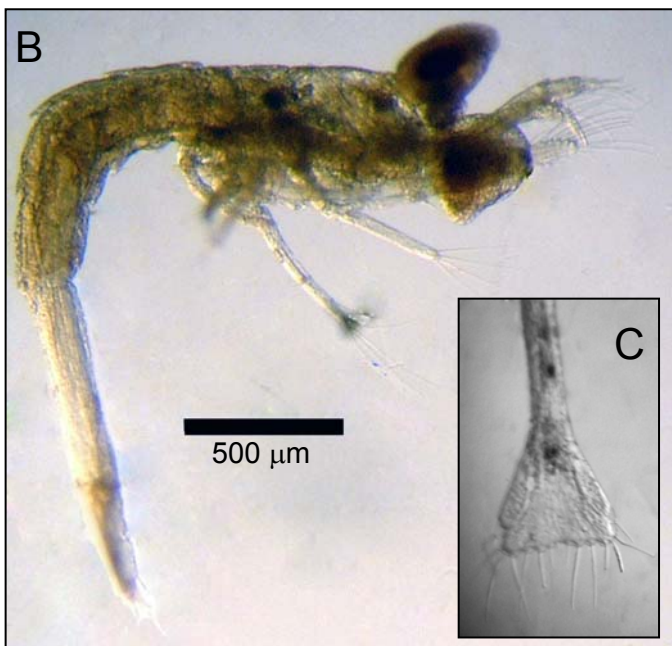
Remarks:
Stage 1 larvae has one pair of spines at the posterior margin of abdominal somite 5 (← in B). Rare, usually found in July- August. Meroplanktonic.

Taxonomic description and drawings:
Fincham & Williamson (1978);
Martin (2000).

114 – *Alpheus glaber*



A – Stage 2 dorsal view.
B – Stage 2 lateral right side view.
C – Telson detail of stage 2.



Remarks:
Larvae with characteristic pointed eyes. Early stages have a flat triangular telson, with characteristic posterior margin. Rare, usually found in July. Meroplanktonic.

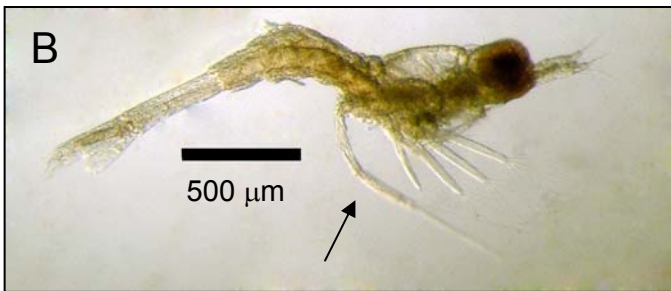
Taxonomic description and drawings:
Williamson (1967);
Martin (2000).

115 – *Athanas nitescens*



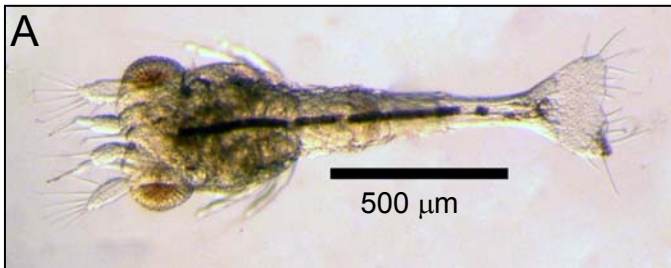
A – Stage 3-4 dorsal view.
B – Stage 3-4 lateral right side view.

Remarks:
Larvae with the fifth pereopod longer than the fourth (← in B). Body usually bent in a “S” shape. Relatively common, usually found from June to September. Meroplanktonic.



Taxonomic description and drawings:
Williamson (1915);
Webb (1921);
Williamson (1967);
Martin (2000).

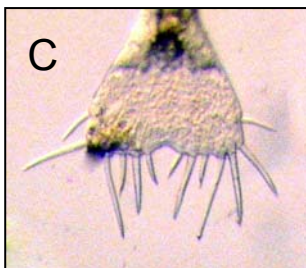
116 – *Hippolyte* spp.



A – Stage 1 dorsal view.
B – Stage 1 lateral left side view.
C – Telson detail of stage 1.

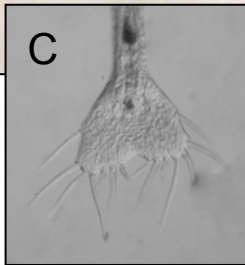
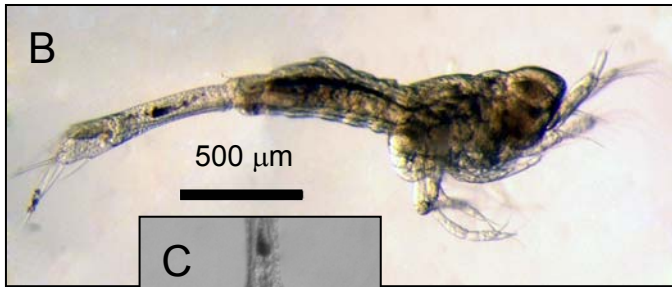
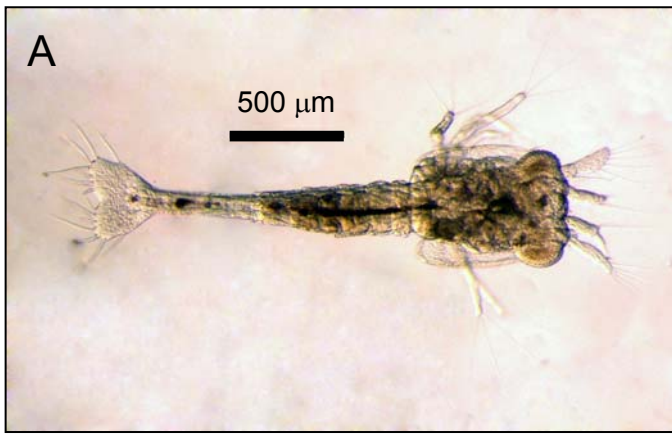


Remarks:
At least two different larvae under *Hippolyte* spp. were observed in this system. *Hippolyte varians* possibly being one of them. Common, found in plankton from March to December. Meroplanktonic.



Taxonomic description and drawings:
Williamson (1915);
Williamson (1957);
Martin (2000).

117 – *Thoralus cranchii*



- A – Stage 1 dorsal view.
- B – Stage 1 lateral right side view.
- C – Telson detail of stage 1.

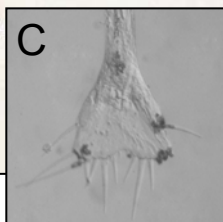
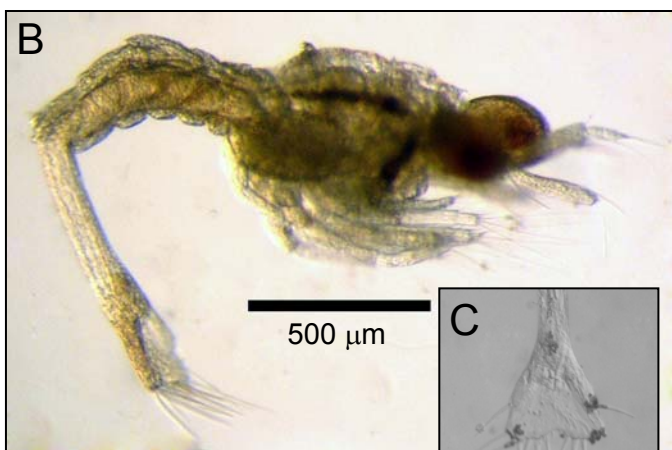
Remarks:

Rostrum absent in stage 1. Has a pair of dorso-lateral spines at abdominal somite 5. Early stages have a flat triangular telson with an invagination in the middle of posterior margin. Common, found from March to October. Meroplanktonic.

Taxonomic description and drawings:

Williamson (1915);
Lebour (1932);
Lebour (1940);
Williamson (1957);
Martin (2000).

118 – *Processa* sp.



- A – Stage 1-2 dorsal view.
- B – Stage 1-2 lateral right side view.
- C – Telson detail of stage 1.

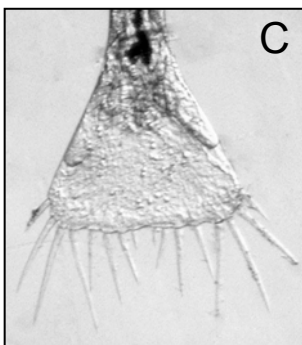
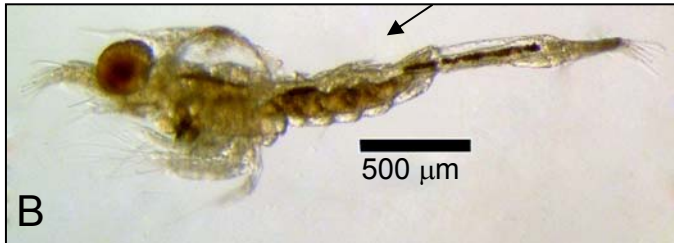
Remarks:

Larvae found here had characteristics of both *P. edulis* and *P. noveli holthuisi*. Relatively common, found from June to September. Meroplanktonic.

Taxonomic description and drawings:

Fincham & Williamson (1978);
Martin (2000).

119 – *Crangon crangon*



- A – Stage 1-2 dorsal view.
- B – Stage 1-2 lateral left side view.
- C – Telson detail of stage 1-2.

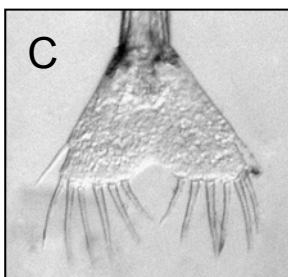
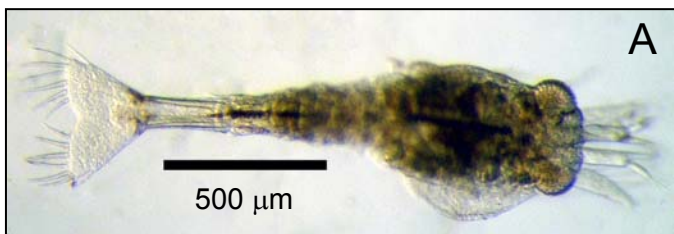
Remarks:

1 dorsal spine on posterior margin of abdominal somite 3 (← in B). It has also a pair of dorso-lateral spines at abdominal somite 5. Telson of early stages is triangular with the posterior margin almost a straight line. Very common found from March to October. Meroplanktonic.

Taxonomic description and drawings:

- Williamson (1915);
- Webb (1921);
- Williamson (1960);
- Todd *et al.* (1996);
- Martin (2000).

120 – *Crangon bispinosus*



- A – Stage 1 dorsal view.
- B – Stage 1 lateral left side view.
- C – Telson detail of stage 1.

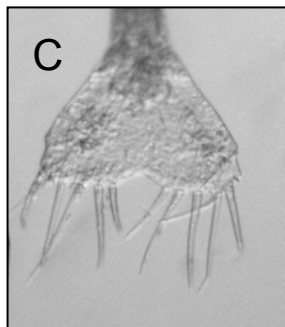
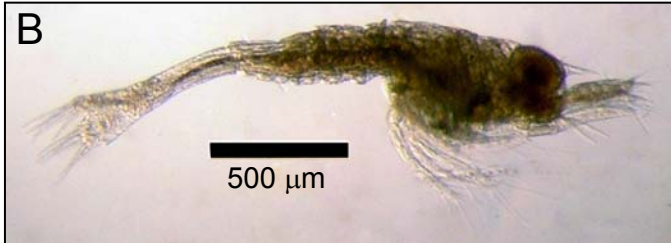
Remarks:

Has a pair of dorso-lateral spines at abdominal somites 3, 4 and 5 (← in B). Early stages have a triangular telson with a moderate depression at the middle of posterior margin. Rare, can be found from May to October. Meroplanktonic.

Taxonomic description and drawings:

- Williamson (1915);
- Williamson (1960);
- Pike & Williamson (1961);
- Martin (2000).

121 – *Crangon trispinosus*



- A – Stage 1 dorsal view.
B – Stage 1 lateral right side view.
C – Telson detail of stage 1.

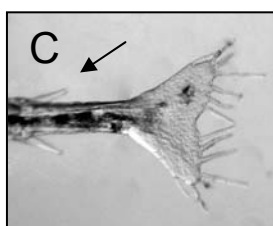
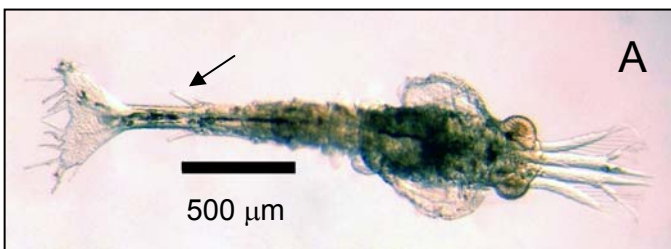
Remarks:

Usually without abdominal spines. In early stages telson is triangular with a rounded posterior margin and a slight depression in the middle. Relatively common, found from March to September. Meroplanktonic.

Taxonomic description and drawings:

Williamson (1915);
Williamson (1960);
Pessani & Godino (1991);
Martin (2000).

122 – *Crangon fasciatus*



- A – Stage 1 dorsal view.
B – Stage 1 lateral left side view.
C – Telson detail of stage 1.

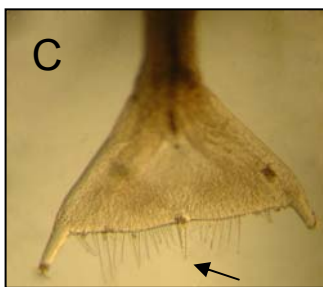
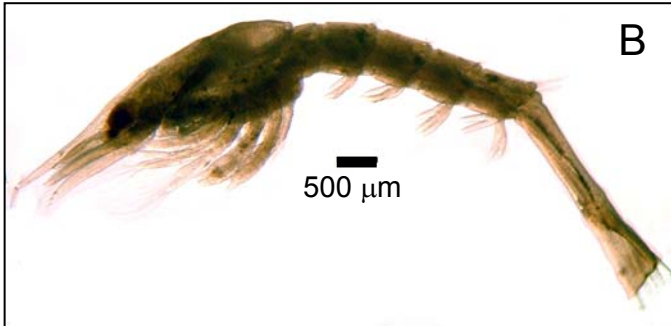
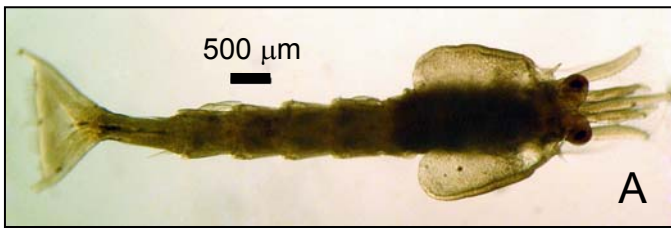
Remarks:

Has a pair of dorso-lateral spines at abdominal somites 3, 4 and 5. The pair at abdominal somite 5 are big, blunt and with a curved tip (← in A, B and C). Common, from May to September. Meroplanktonic.

Taxonomic description and drawings:

Williamson (1915);
Williamson (1960);
Todd *et al.* (1996);
González-Gordillo & Rodríguez (2000);
Martin (2000).

123 – *Axius stirhynchus*

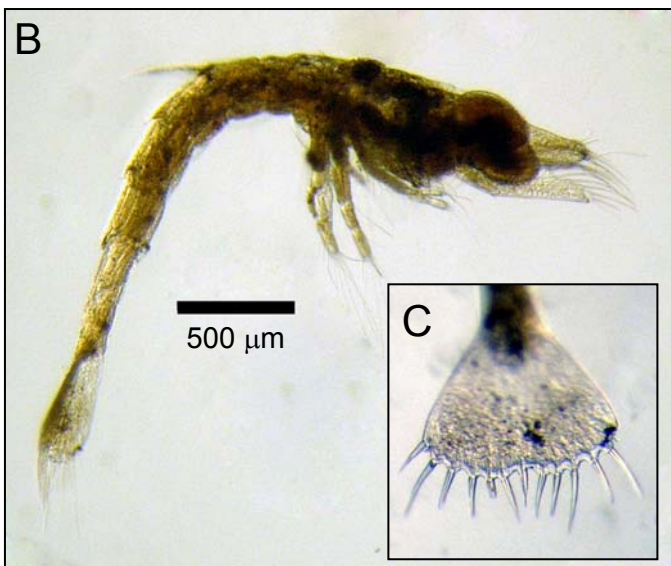
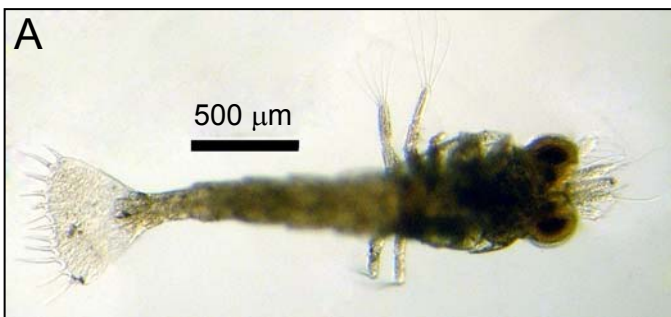


A – Stage 1-2 dorsal view.
B – Stage 1-2 lateral left side view.
C – Telson detail of stage 1-2.

Remarks:
Relatively large larvae with a flat triangular telson with a median spine on the posterior margin (← in C). Very rare, found in July-August. Meroplanktonic.

Taxonomic description and drawings:
Williamson (1915);
Webb (1921);
Ingle (1992);
Todd *et al.* (1996);
Martin (2000).

124 – *Callianassa* sp.



A – Stage 1 dorsal view.
B – Stage 1 lateral right side view.
C – Telson detail of stage 1.

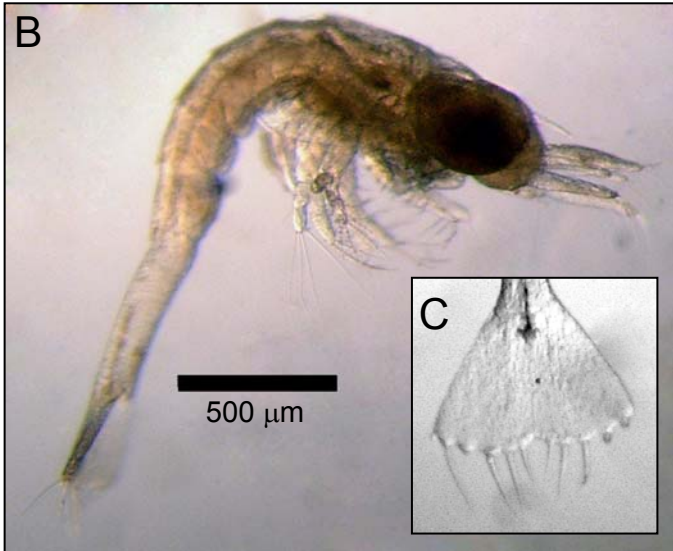
Remarks:
Early stages have a flat triangular telson with a median spine on the posterior margin. Rare, specimens can be found in June. Probably *C. subterranea*. Meroplanktonic.

Taxonomic description and drawings:
Williamson (1915);
Webb (1921);
Ingle (1992);
Todd *et al.* (1996);
Martin (2000).

125 – *Upogebia* sp.



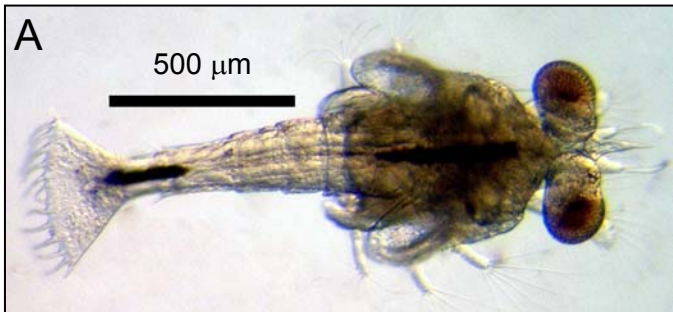
A – Stage 1 dorsal view.
B – Stage 1 lateral right side view.
C – Telson detail of stage 1.



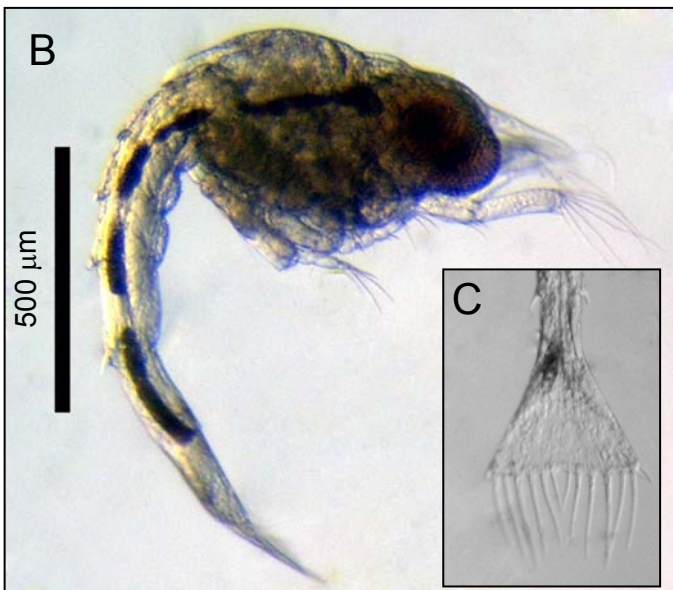
Remarks:
Stage 1 larvae has a triangular telson with rounded posterior margin and a moderate invagination in the middle. Common, found from May to October. Probably *U. deltaura*. Meroplanktonic.

Taxonomic description and drawings:
Williamson (1915);
Ingle (1992);
Todd *et al.* (1996);
Martin (2000).

126 – *Diogenes p. pugilator*



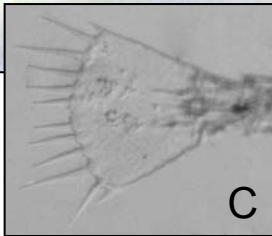
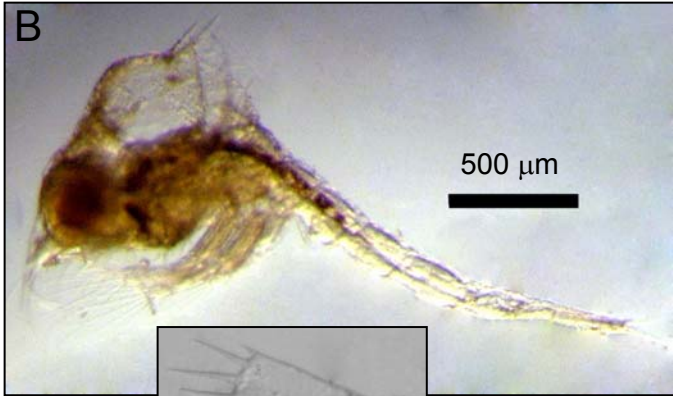
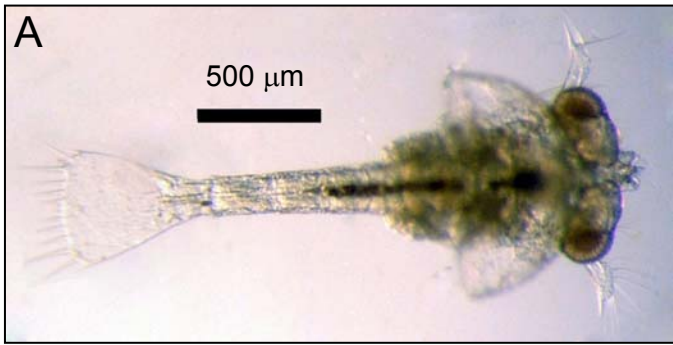
A – Stage 1-2 dorsal view.
B – Stage 1-2 lateral right side view.
C – Telson detail of stage 1-2.



Remarks:
Stage 1 has a flat triangular telson with a slight invagination of posterior margin. Very rare, found in July-August. Meroplanktonic.

Taxonomic description and drawings:
Pike & Williamson (1959);
Martin (2000).

127 – *Anapagurus hyndmanni*



A – Stage 1-2 dorsal view.
B – Stage 1-2 lateral left side view.
C – Telson detail of stage 1-2.

Remarks:

Early stages have a flat telson with a rounded posterior margin. Relatively common, can be found in the plankton from March until October. Meroplanktonic.

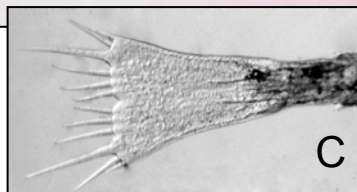
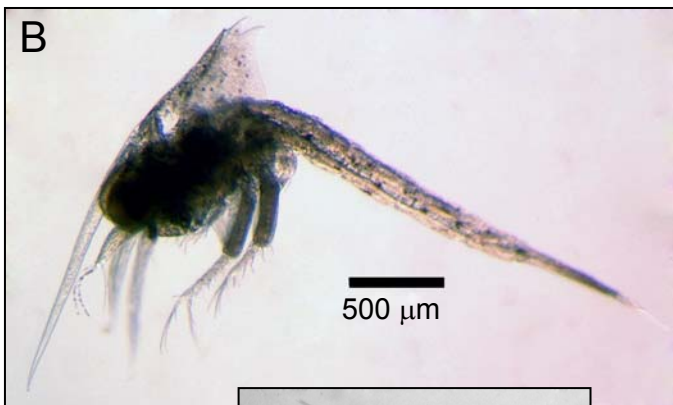
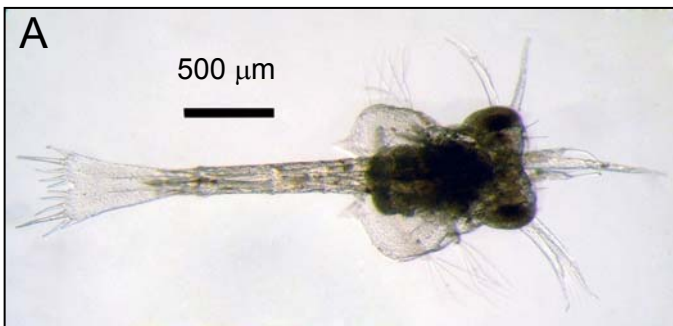
Taxonomic description and drawings:

Pike & Williamson (1959);

Todd *et al.* (1996);

Martin (2000).

128 – *Pagurus bernhardus*



A – Stage 1 dorsal view.
B – Stage 1 lateral left side view.
C – Telson detail of stage 1.

Remarks:

Early stages have a flat triangular telson with a slight invagination of the posterior margin. Rostrum longer than tip of antennal scale. Very common, can be found in the Solent - SW system from January to August. Meroplanktonic.

Taxonomic description and drawings:

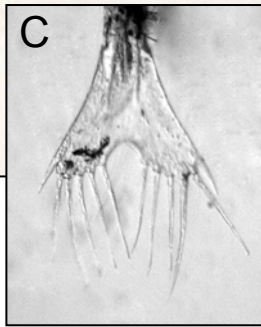
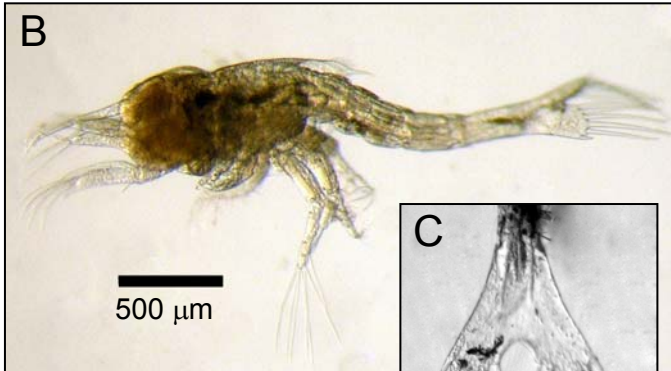
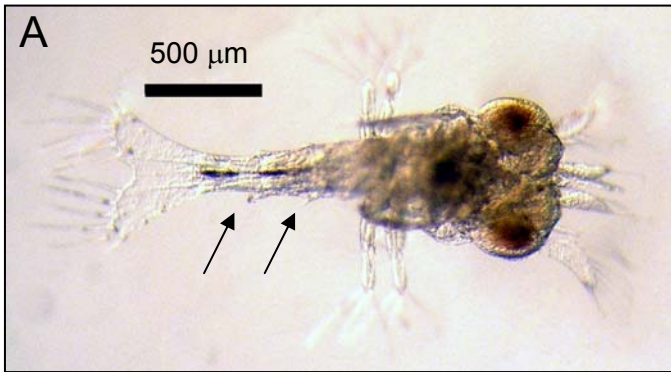
Williamson (1915);

Pike & Williamson (1959);

Todd *et al.* (1996);

Martin (2000).

129 – *Galathea squamifera*



- A – Stage 1 dorsal view.
- B – Stage 1 lateral left side view.
- C – Telson detail of stage 1.

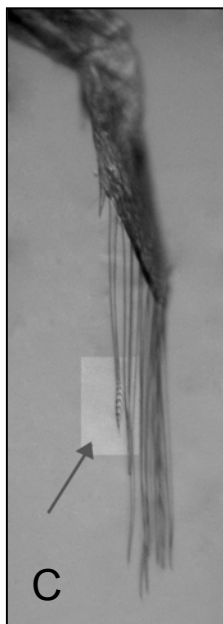
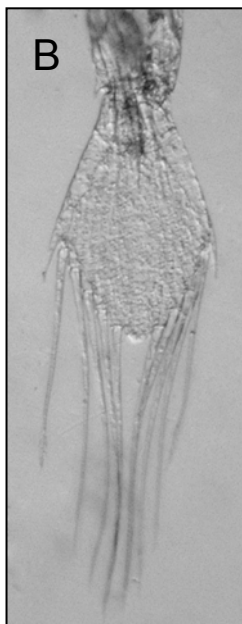
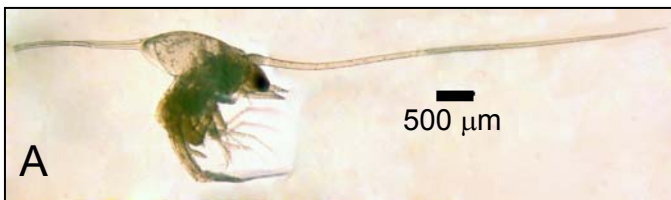
Remarks:

Lateral spines on abdominal somites 4 and 5 are shorter than half width of abdomen (← in A). In early stages telson is flat with a triangular shape with the posterior margin rounded, and with a deep depression at the middle. Common, can be found from January to June. Meroplanktonic.

Taxonomic description and drawings:

Williamson (1915);
 Pike & Williamson (1972);
 Ingle (1992);
 Martin (2000).

130 – *Pisidia longicornis*



- A – Stage 2 lateral right side view.
- B – Dorsal view of telson.
- C – Lateral view of telson.

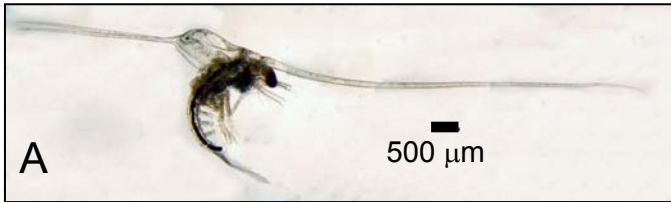
Remarks:

Third filament of telson with hooks at the tip (← in C). Three pairs of pleopods on abdominal somites 2-4 in stage 2. Common, found from May to October. Meroplanktonic.

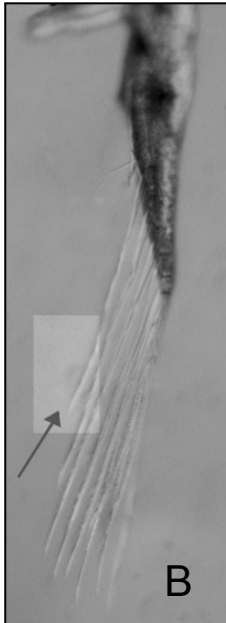
Taxonomic description and drawings:

Williamson (1915);
 Lebour (1943);
 Todd *et al.* (1996);
 Martin (2000).

131 – *Porcellana platycheles*



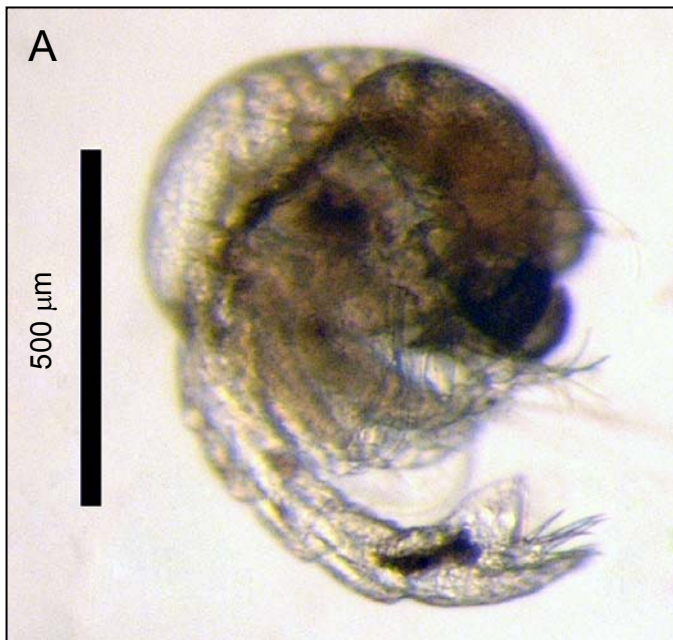
A – Stage 2 lateral right side view.
B – Lateral view of telson.



Remarks:
Third filament of telson without hooks at the tip (← in B). . Four pairs of pleopods on abdominal somites 2-5 in stage 2. Rare, found from June to August. Meroplanktonic.

Taxonomic description and drawings:
Williamson (1915);
Lebour (1943);
Ingle (1992);
González-Gordillo *et al.*, (1996)
Todd *et al.* (1996);
Martin (2000).

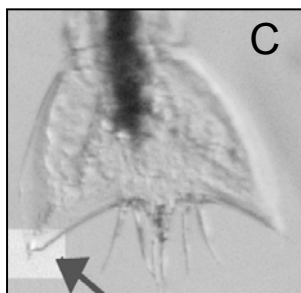
132 – *Ebalia tuberosa*



A – Stage 1-2 lateral right side view.
B – Stage 1-2 view from behind.
C – Telson detail of stage 1-2.

Remarks:
Triangular telson with one lateral spine (← in C). No dorsal or rostral spines on carapace. Larvae are usually curved in a "ball"- shape. Relatively common, found from May to October. Meroplanktonic.

Taxonomic description and drawings:
Lebour (1928);
Ingle (1992);
Paula (1996);
Todd *et al.* (1996);
Martin (2000).



133 – *Ebalia tumefacta*



A – Stage 1-2 lateral right side view.

B – Stage 1-2 view from behind.

C – Telson detail of stage 1-2.

Remarks:

Triangular telson with two additional lateral spines (← in C). No dorsal or rostral spines on carapace. Larvae are usually curved in a "ball"-shape. Very rare, can be found in September –October in SW.

Meroplanktonic.

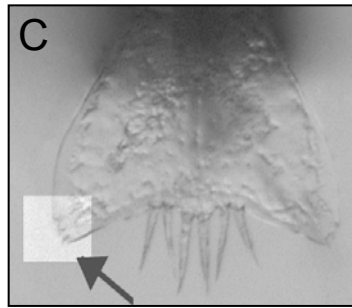
Taxonomic description and drawings:

Williamson (1915);

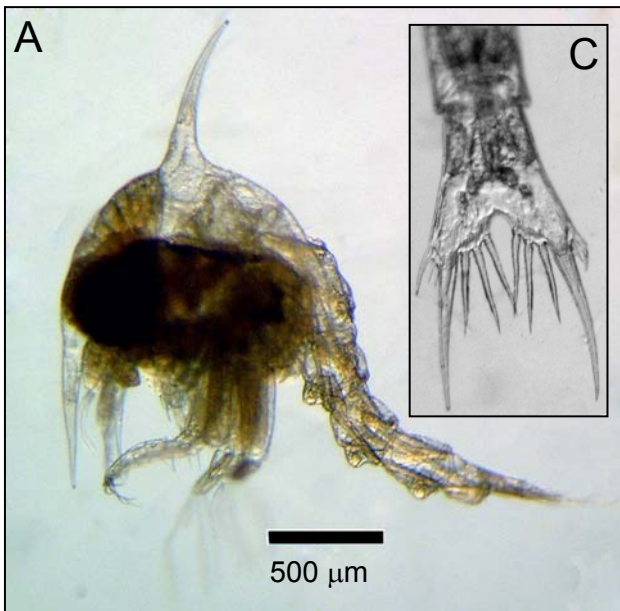
Ingle (1992);

Paula (1996);

Martin (2000).



134 – *Maja squinado*



A – Stage 1 lateral left side view.

B – Stage 1 view from behind.

C – Telson detail of stage 1.

Remarks:

Furca-shaped telson with three lateral spines. Carapace with dorsal, rostral and lateral spines. Very rare, were found only in July. Meroplanktonic.

Taxonomic description and drawings:

Williamson (1915);

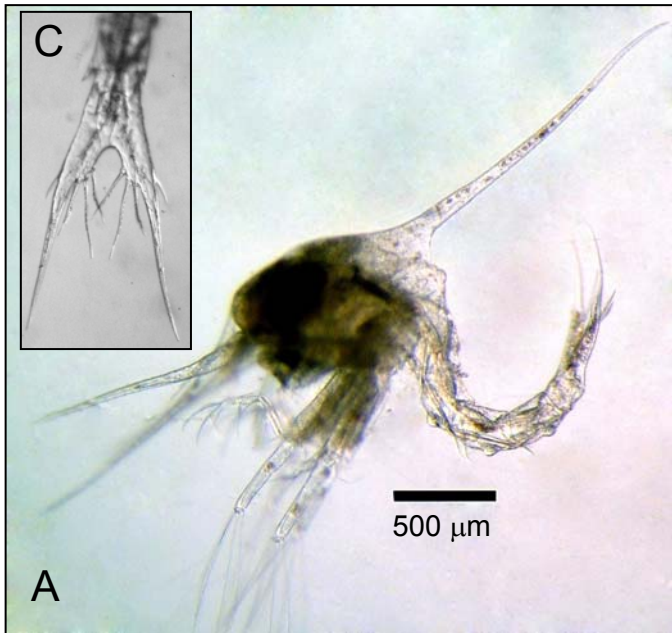
Ingle (1992);

Paula (1996);

Martin (2000).



135– *Hyas* sp.



- A – Stage 1-2 lateral left side view.
- B – Stage 1-2 Dorsal view.
- C –Telson detail of stage 1-2.

Remarks:

Furca-shaped telson, with one lateral spine. Carapace with dorsal, rostral and lateral spines. Relatively common, found from February to May. Meroplanktonic.

Taxonomic description and drawings:

Ingle (1992);
Paula (1996);
Martin (2000).



136 – *Inachus* sp.



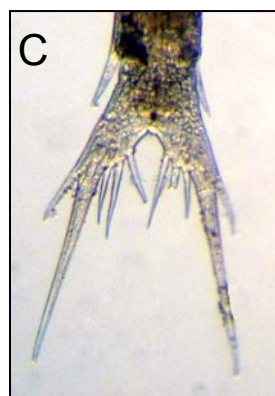
- A – Stage 1-2 lateral left side view.
- B – Stage 1-2 dorsal view.
- C –Telson detail of stage 1-2.

Remarks:

Furca-shaped telson with one large lateral spine. Carapace with only a dorsal spine. Rare, found in June-July and October. Meroplanktonic.

Taxonomic description and drawings:

Williamson (1915);
Ingle (1992);
Paula (1996);
Martin (2000).



137 – *Macropodia* spp.



A – Stage 2 lateral left side view.

B – Stage 1 Dorsal view.

C – Telson detail of stage 1.

Remarks:

Furca-shaped telson with one small lateral spine. Carapace with only a dorsal spine. Very common, found from April to December. Meroplanktonic.



Taxonomic description and drawings:

Ingle (1992);

Paula (1996);

Martin (2000).

138 – *Pisa* sp.



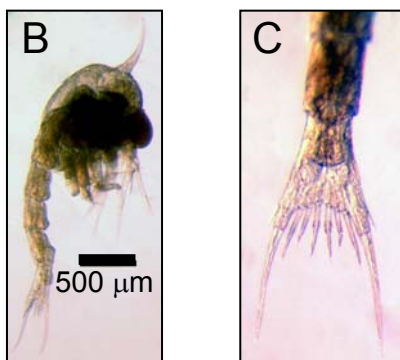
A – Stage 1 lateral left side view.

B – Stage 1 front lateral view.

C – Telson detail of stage 1.

Remarks:

Furca-shaped telson with one small lateral spine. Carapace with a dorsal and very small rostral spine. Rare, found only in June-July. Meroplanktonic.



Taxonomic description and drawings:

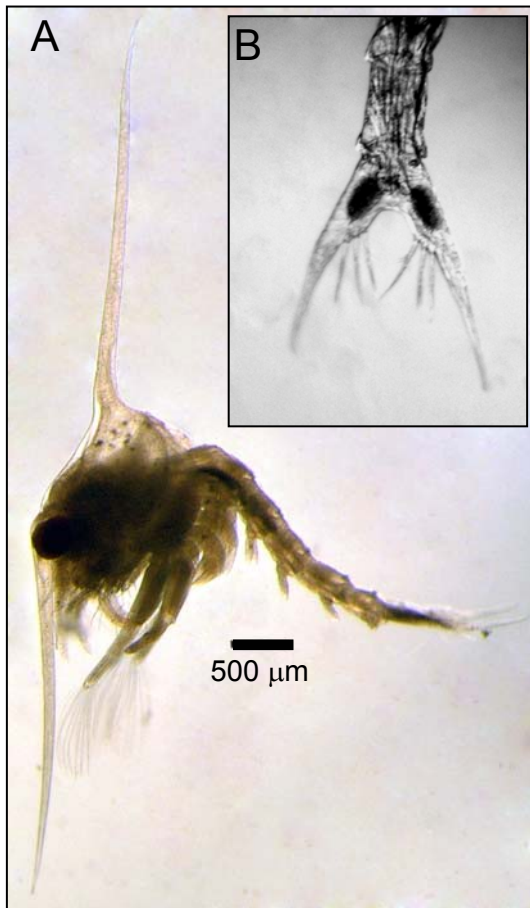
Williamson (1915);

Ingle (1992);

Paula (1996);

Martin (2000).

139 – *Corystes cassivelaunus*



A – Stage 3-4 lateral left side view.
B – Telson detail of stage 3-4

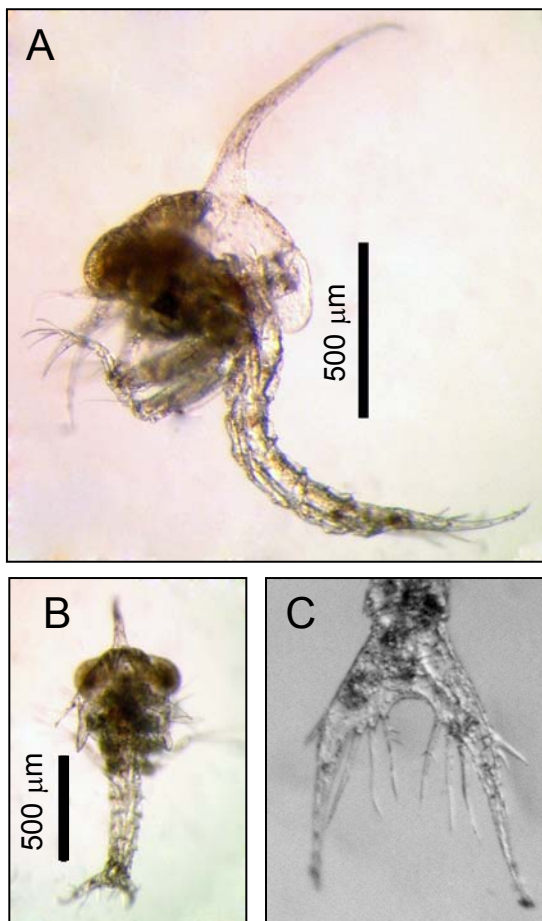
Remarks:

Furca-shaped telson with one small dorsal spine. Carapace with dorsal, rostral and lateral spines. Dorsal and rostral spines are very long and strong. Common from February to May. Meroplanktonic.

Taxonomic description and drawings:

Williamson (1915);
Ingle (1992);
Paula (1996);
Martin (2000).

140 – *Liocarcinus* spp.



A – Larva type lateral left side view.
B – Larva type dorsal view.
C – Telson detail of larval type.

Remarks:

At least four different species of *Liocarcinus* and *Necora puber* could be present with a similar kind of larvae. Telson has a furca-shape. Carapace with dorsal, rostral and lateral spines. This larva type was very common and are present from March to December. Meroplanktonic.

Taxonomic description and drawings:

Williamson (1915);
Rice & Ingle (1975);
Ingle (1992);
Paula (1996);
Martin (2000).

141 – *Carcinus maenas*



A – Stage 1-2 lateral left side view.
B – Telson detail of stage 1-2.

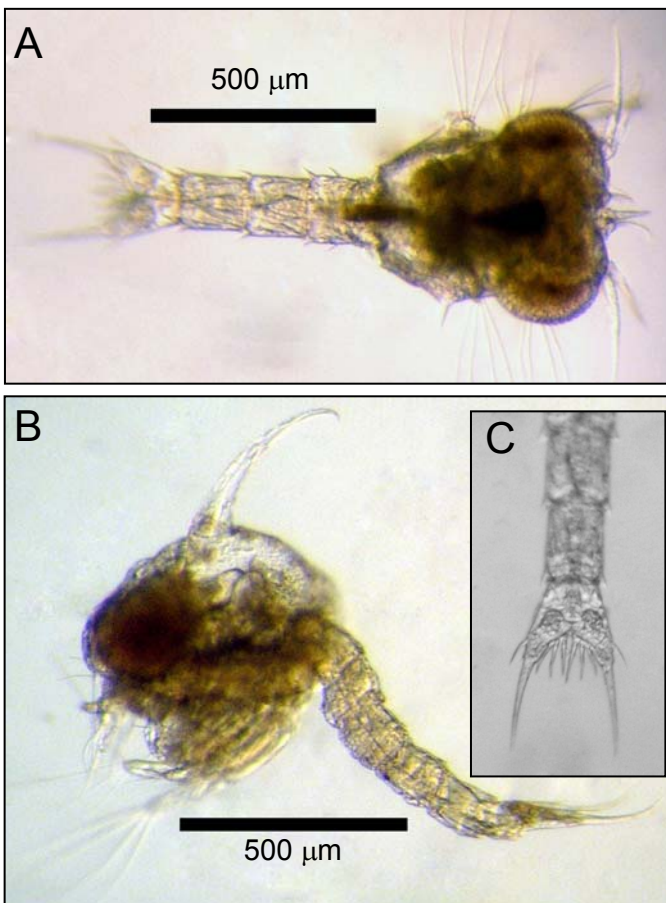
Remarks:

Furca-shaped telson without lateral spines. Carapace with dorsal and rostral spines. Most common decapod species in this system, present in the plankton all year round. Meroplanktonic.

Taxonomic description and drawings:

Williamson (1915);
Rice & Ingle (1975);
Ingle (1992);
Paula (1996);
Todd *et al.* (1996);
Martin (2000).

142 – *Pilumnus hirtellus*



A – Stage 1-2 dorsal view.
B – Stage 1-2 lateral left side view.
C – Telson detail of stage 1-2.

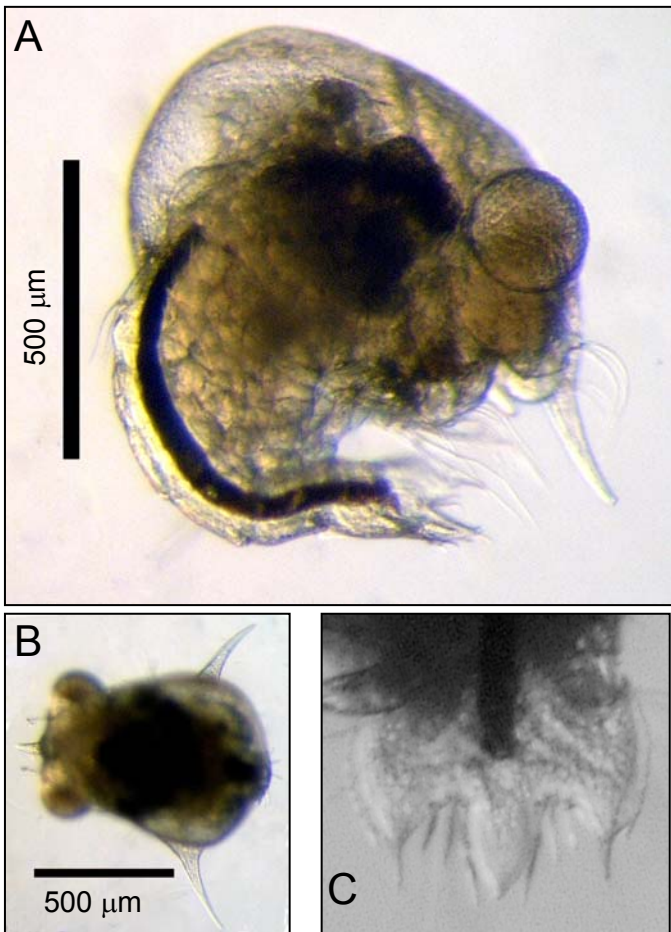
Remarks:

Furca-shaped telson with lateral spines. Carapace with dorsal, rostral and lateral spines. Common from June to October. Meroplanktonic.

Taxonomic description and drawings:

Williamson (1915);
Ingle (1992);
Paula (1996);
Martin (2000).

143 – *Pinnotheres pisum*



A – Stage ? lateral right side view.

B – Stage 1 dorsal view.

C – Telson detail of Stage 1.

Remarks:

Tri-lobed telson. Carapace with rostral and lateral spines. Larvae are usually curved in a "ball"- shape. Common can be found from June to October. Meroplanktonic.

Taxonomic description and drawings:

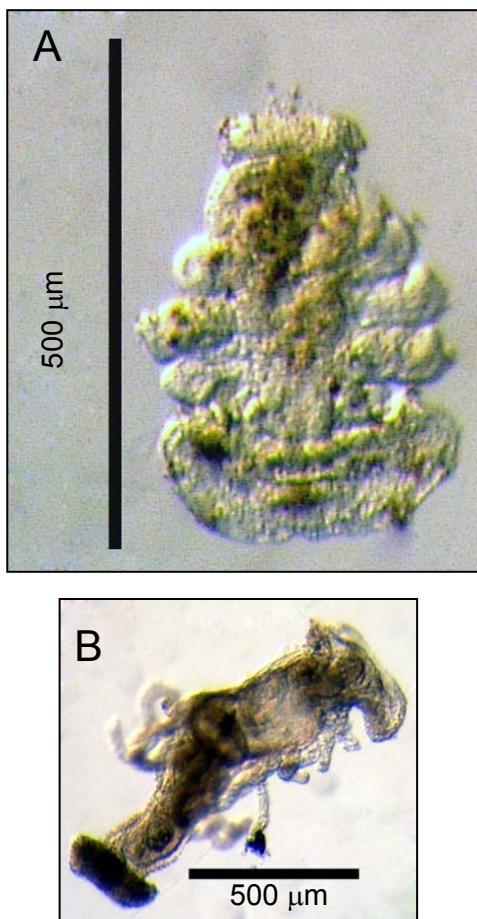
Williamson (1915);

Ingle (1992);

Paula (1996);

Martin (2000).

144 – *Phoronida actinotrocha* larvae



A – Dorsal? view of 8 tentacles larva.

B – Lateral view of >20 tentacles larva (Specimen B from Plymouth).

Remarks:

Characteristic tentaculate larvae. Rare, Only 4 larvae were found in SW in March. Meroplanktonic.

Taxonomic description and drawings:

Forneris (1957);

Newell & Newell (1977);

Emig (1982);

Todd *et al.* (1996);

Lenz (2000).

145 – Bryozoa cyphonaute unidentified



Lateral view.

Remarks:

Larvae laterally flattened with triangular shape. Common, can be found all year round. Possibly *Electra pilosa* (Guyard, pers. com). Meroplanktonic.

General description and drawings:

Ryland (1965);

Newell & Newell (1977);

Todd *et al.* (1996);

Lenz (2000).

146 – *Spadella cephaloptera*



Dorsal view of two specimens.

Remarks:

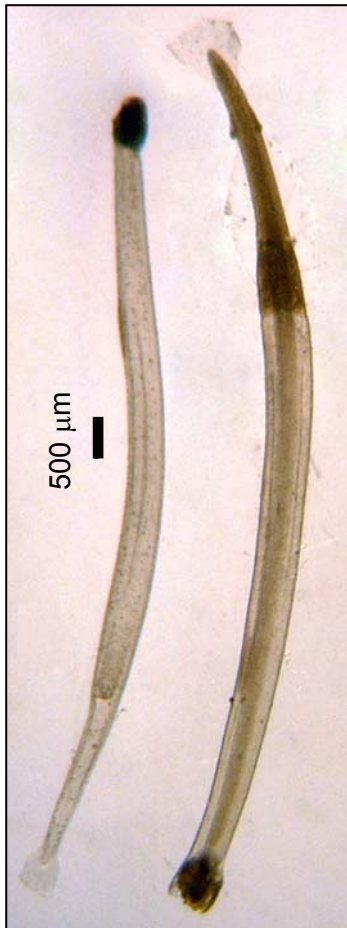
One pair of lateral fins. Very rare in plankton samples. Only found on March and December. Benthic- Tycoplanktonic.

Taxonomic description and drawings:

Russel (1939);

Fraser (1957).

147 – *Sagitta setosa*



Dorsal view of two specimens.

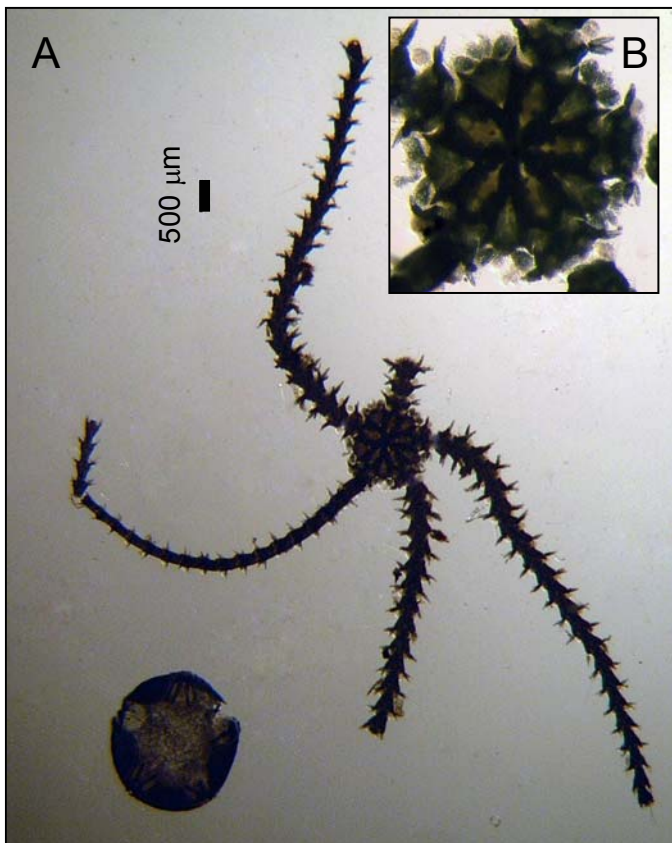
Remarks:

Two pairs of lateral fins with complete rays. Very common. Specimens can be found all year round, particularly in the winter. Holoplanktonic.

Taxonomic description and drawings:

Russel (1939);
Fraser (1957);
Newell & Newell (1977);
Todd *et al.* (1996).

148 – *Amphipholis squamata*



A – Oral? view.

B- Detail of oral disk.

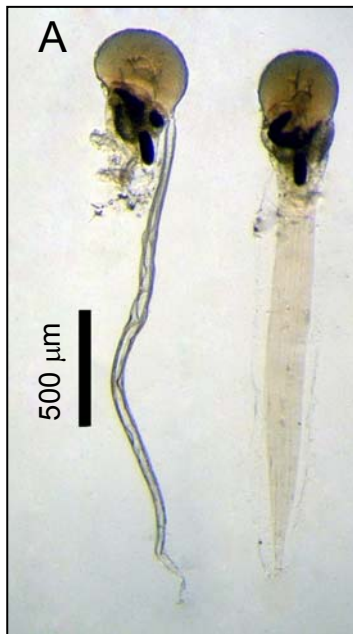
Remarks:

Juvenile - adult of the only echinoderm caught in plankton samples from this system in August. This particular specimen is Benthic - Tycoplanktonic, but larvae are meroplanktonic.

General description and drawings:

Newell & Newell (1977);
Todd *et al.* (1996).

149 – *Oikopleura* sp.



A – Lateral and dorsal view.

B – Lateral view of a specimen with partially built mucous house.

Remarks:

Very common. Specimens can be found all year round. Probably *Oikopleura dioica*. Holoplanktonic.

Taxonomic description and drawings:

Bückmann (1969);

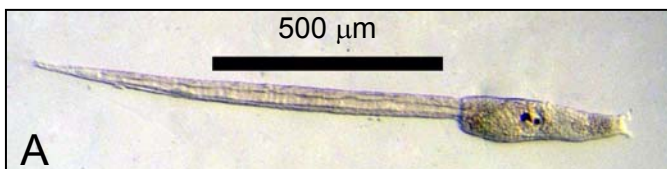
Newell & Newell (1977);

Esnal (1981);

Todd *et al.* (1996).



150 – Unidentified Ascidians



A



B

A – Sp.1 - Lateral view.

B – Sp.2 - lateral view.

C – Sp.3 - lateral view.

Remarks:

Unidentified Ascidian species. Very common, from January to November. Meroplanktonic.



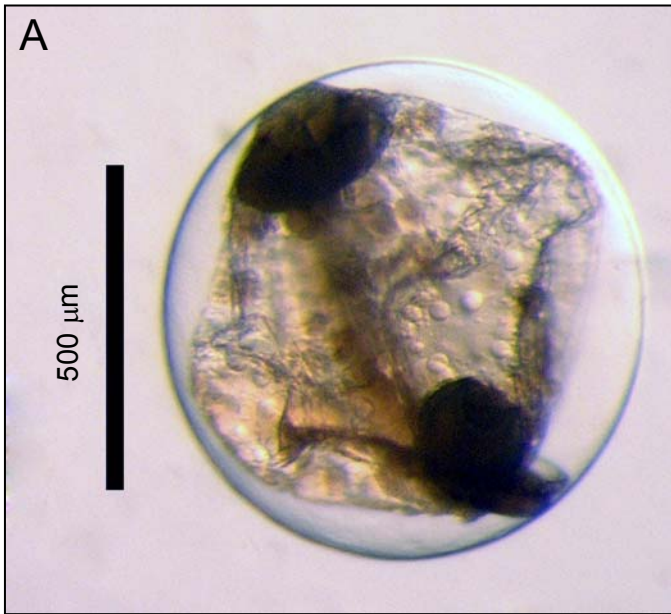
C

Taxonomic description and photos:

Berrill (1950);

Todd *et al.* (1996).

151 – Unidentified fish egg

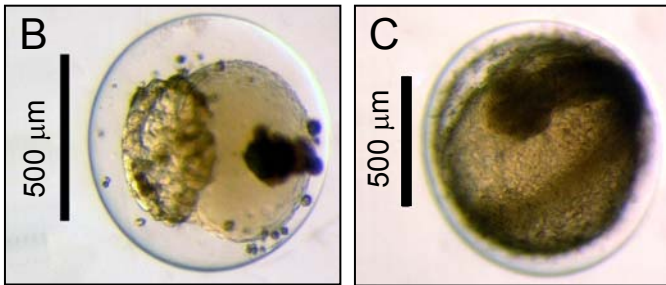


A – Specimen 1.
B – Specimen 2.
C – Specimen 3.

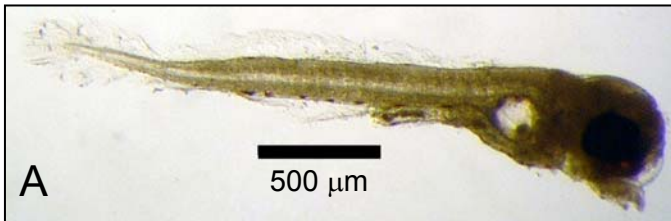
Remarks:

Very common. Fish eggs can be found in the plankton from December throughout July. Meroplanktonic.

General description and drawings:
Newell & Newell (1977).



152 – Unidentified fish larvae



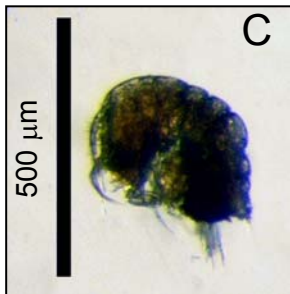
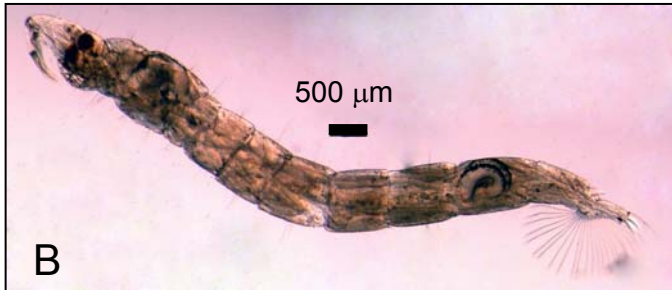
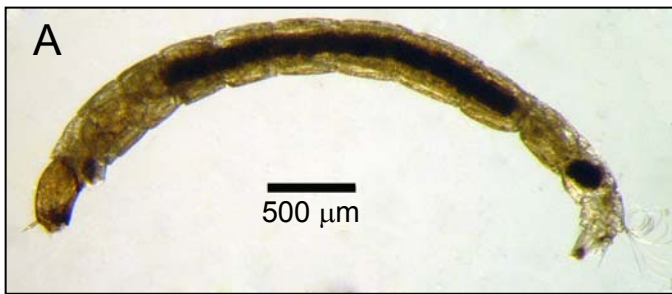
A – Sp.1 - Lateral view.
B – Sp.2 - lateral view.
C – Sp.3 - lateral view.

Remarks:

Three different fish larvae. Very common, they can be found from February until October in plankton samples. Meroplanktonic.

General description and drawings:
Newell & Newell (1977).

153 – Other forms



- A – Insect larvae 1.
 B – Insect larvae 2.
 C – Insect larvae 3/Copepod?.
 D – Mollusca?

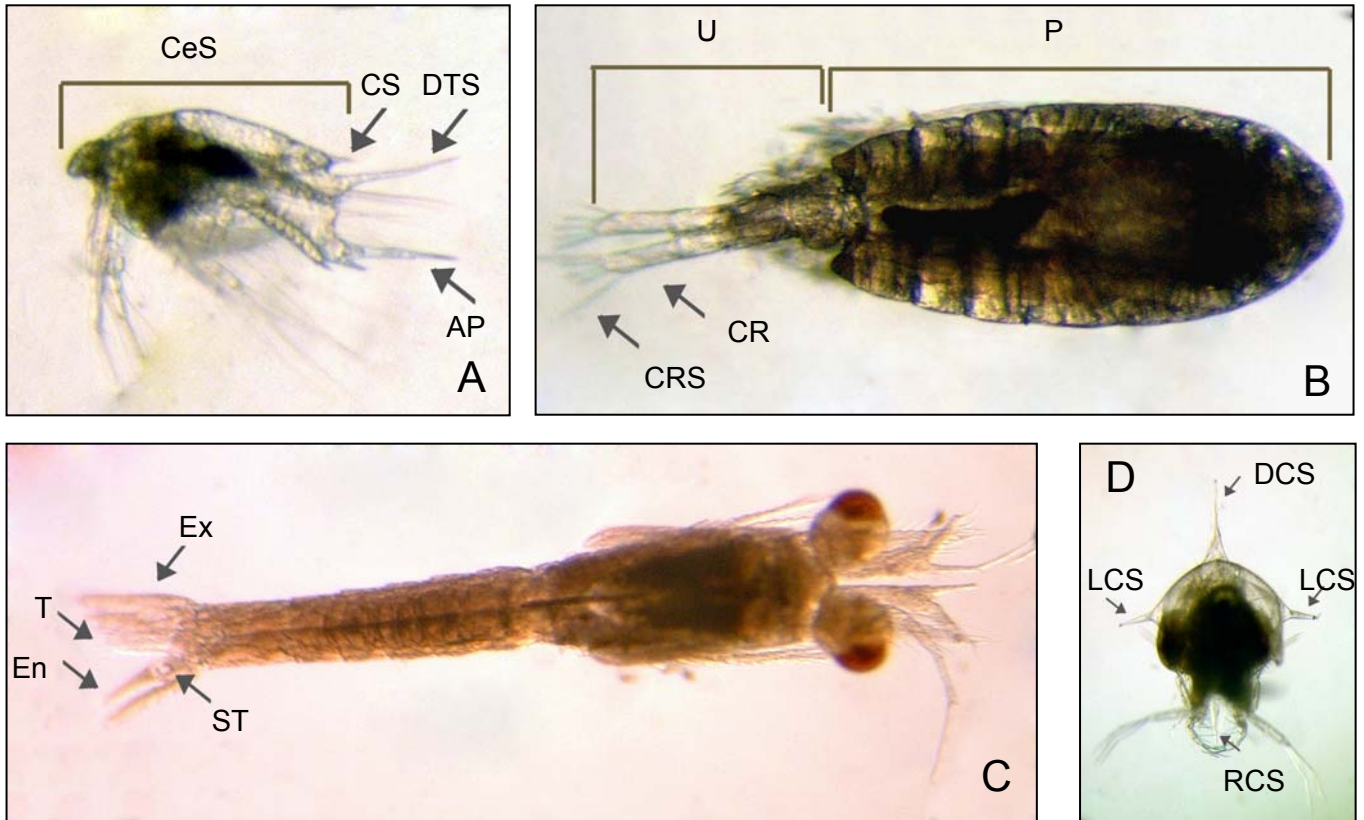
Remarks:

Occasionally some other forms appears in plankton samples of the Solent - SW system, like unidentified insect larvae A&B. Specimen C could possibly be an insect or an harpacticoid copepod of the family Tegastidae. Specimen D could be an early stage of the mollusc *Elysia*. Meroplanktonic? .

Glossary

- Benthos** _____ greek for “depth of the sea”, and refers to those organisms living on/in the substrate floor of water column.
- Holoplankton** _____ classification of the zooplankton according with it's life history, used for those animals that remain in the water column throughout their entire life cycle, such as calanoid copepods, euphausiids and appendicularians.
- Nekton** _____ from the greek “nektes” for “swimming”, and in contrast with plankton are those animals with active free locomotion capabilities.
- Meroplankton** _____ classification of the zooplankton according with it's life history, used for those animals that live as plankton only during part of their life, usually employed for eggs and/or larval stages of benthic and nektonic species, sometimes also used for some adult stages.
- Mesozooplankton** _____ classification of the zooplankton according to it's size, used for organisms within a size range between 200 - 2000 μm.
- Plankton** _____ from the greek “planktos” for “wanderer” or “drifter”, comprising animals, plants and bacteria that have very limited individual movement capabilities, with horizontal distribution related mostly with the movement of the mass of water that the organism is in.
- SW** _____ throughout the text stands for Southampton Water.
- Tycoplankton** _____ classification of the zooplankton according with it's life history, used for animals that actively spend part of the day/night as plankton, such as mysids and other crustaceans, or even for animals that are accidentally swept from the bottom, such some harpacticoid copepods, amphipods, cumaceans, isopods and some ostracods.
- Zooplankton** _____ community of all phagotrophic organisms within 2 μm to 200 cm found in the plankton.

154 – Anatomical characters



A = Lateral view of barnacle nauplius larvae (*Balanus crenatus*, N5).

B = Dorsal view of copepod (*Isias clavipes*).

C = Dorsal view of mysid (*Acanthomysis longicornis*).

D = Rear view of Brachiura larvae (*Maja squinado*).

Abdominal process - Refer to **AP** on photo 154 a

Carapace spine - Refer to **CS** on photo 154 a

Caudal rami - Refer to **CR** on photo 154 b

Caudal rami setae - Refer to **CRS** on photo 154 b

Cephalic segment - Refer to the first segment of Prosome, photo 154 b.

Cephalic shield or Carapace - Refer to **CeS** on photo 154 a

Dorsal carapace spine - Refer to **DCS** on photo 154 d

Dorsal thoracic spine - Refer to **DTS** on photo 154 a

Endouropod - Refer to **En** on photo 154 c (where the statocyst is localized)

Exouropod - Descriptive terminology of mysids. **Ex** on photo 154 c

Lateral carapace spine - Refer to **LCS** on photo 154 d

Prosome - Refer to **P** on photo 154 b

Rostral carapace spine - Refer to **RCS** on photo 154 d

Statocyst - Refer to **St** on photo 154 c

Telson - Refer to **T** on photo 154 c

Urosome - Refer to **U** on photo 154 b

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