

# **COPEPODA**

## **ORDER - CALANOIDA**

# COPEPODA

## CLASSIFICATION

Phylum	: Arthropoda
Sub- Phylum	:
Super class	:
Class	: Crustacea
Sub- Class	: Copepoda (Milne Edwards, 1840)
Super Order	: Gymnoplea
Order	: Platycopioida
	: Calanoida
	: Misophrioida
	: Cyclopoida
	: Gelyelloida
	: Mormonilloida
	: Harpacticoida
	: Poecilostomatoida
	: Siphonostomatoida
	: Monstrilloida

## **GENERAL MORPHOLOGY**

Copepods are a group of lower crustaceans passing consecutively through a series of nauplius and copepodid stages, each transition being achieved by means of a moult. The anterior part of the body is broad and bears jointed appendages whereas the posterior part ends in a fork or furca (caudal rami). Copepods vary in size from 0.3 mm to 18.0 mm. Almost all marine copepods have an entirely or largely vitreous body while alive. Preserved copepods rapidly lose their hyaline consistency and become cloudy and dark. The terminology used varies with different authors, the common terms used are as follows.

1. Head, thorax and abdomen
2. Prosome, metasome and Urosome
3. Cephalosome, thorax and abdomen

The terms used here are according to Huys and Boxshall (1991). In many species the head is not distinct from the thorax but is fused with one or more thoracic somites to form a cephalothorax or Cephalosome.

The body comprises of an anterior cephalosome of 6 somites and a post cephalic trunk of 9 somites plus the anal somite termed as urosome and the caudal furca, which represents the telson. The cephalosome consists of 5 cephalic somites and first thoracic somite, which bears the maxillipeds. All copepods have the first thoracic somite fully incorporated into the cephalosome. The post cephalic trunk comprises the second to sixth thoracic somites each of which bears a pair of biramous swimming legs, the genital (7<sup>th</sup> thoracic) somite which bears the genital opening or openings in both sexes, and 4 post genital abdominal somites. The abdominal somites are all limbless although the anal somite bears a pair of setiferous caudal rami. In many species the trunk somites are fused to each other or to the cephalosome.

In the calanoida, the major movable articulation of the body is located between the fifth and sixth thoracic somites. In the Harpacticoida, Cyclopoida, Poecilostomatoida, Mormonilloida and Siphonostomatoida the major movable articulation of the body occurs between the fourth and fifth thoracic somites. The structure of the appendages is variable. Fifth leg is the main identifying feature and is usually asymmetrical in males. The segmentation of the appendages and the arrangement of spines, spinules, hooks, setae and other formations on the segments are important characteristics in identification. In general males are rare and small in size and remain unknown for many species.

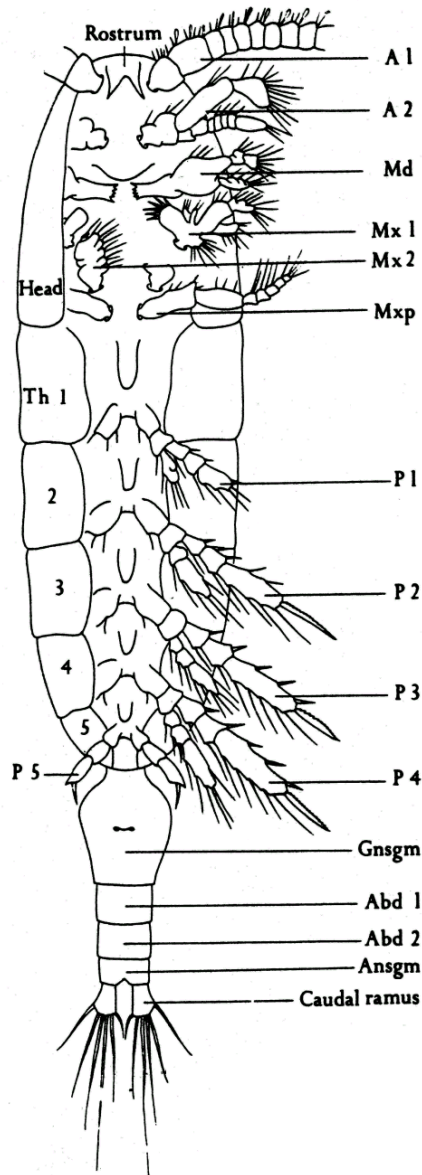
Over 10,000 species of 200 families are currently described. The additions of new species are continuing.

## **HABITAT**

Copepods have successfully colonised all salinity regimes from freshwater, marine and hypersaline inland waters and all three regimes from subzero polar waters to hot springs and also in all depths. Majority are marine. Some are commensals and parasites.

## **REFERENCES**

- Brodsky, K.A., 1950. Calanoida of the far eastern and polar seas of the U.S.S.R. *Tabl. and Faunae U.R.S.S., Zool. Inst. Acad. Sci.*, **35**: 1-442.
- Owre, H.B. and M. Foyo, 1967. Copepods of the Florida Current. *Fauna Caribaea*, No. **1**: 1-137.
- Hys, R. and G.A. Boxshall, 1991. Copepod evolution. *The Ray Society: Series 159, London*. 1-468.



### DIAGRAMATIC REPRESENTATION OF CALANOID COPEPOD

(Ventral view) After Bradford, 1972.

Terminology used by some taxonomists are given in parenthesis

A1- First antennae (antennule); A2 – Second antennae (antenna); Md – Mandible;

Mx 1 – First Maxillae (maxillule); Mx 2 – Second maxillae (maxilla);

Mx p - Maxillepeds; P1 to P5 – Pereopods (swimming legs);

Gnsgm – Genital segment; Abd – Abdominal segment; Ansgm – Anal segment.

# COPEPODA

Prepared by Dr. Rosamma Stephen

## **FAMILY : CALANIDAE**

- Genus : *Canthocalanus*  
*Canthocalanus pauper* (Giesbrecht)
- Genus : *Cosmocalanus*  
*Cosmocalanus darwinii* (Lubbock)
- Genus : *Undinula*  
*Undinula vulgaris* (Dana)
- Genus : *Nannocalanus*  
*Nannocalanus minor* (Claus) 1863
- Genus : *Neocalanus*  
*Neocalanus gracilis* Dana 1849  
*Neocalanus robustior* (Giesbrecht) 1888
- Genus : *Mesocalanus*  
*Mesocalanus tenuicornis* (Dana) 1849

## **FAMILY : PARACALANIDAE**

- Genus : *Paracalanus*  
*Paracalanus indicus* Wolfenden  
*Paracalanus aculeatus* Giesbrecht  
*Paracalanus denudatus* Sewell  
*Paracalanus parvus* Giesbrecht
- Genus : *Acrocalanus*  
*Acrocalanus gracilis* Giesbrecht  
*Acrocalanus longicornis* Giesbrecht  
*Acrocalanus monachus* Giesbrecht  
*Acrocalanus gibber* Giesbrecht

## **FAMILY: MEGACALANIDAE**

- Genus : *Megacalanus*  
*Megacalanus princeps* Wolfenden, 1904

Genus : *Bradycalanus*  
*Bradycalanus gigas* Sewell 1948

Genus : *Bathycalanus*  
*Bathycalanus bradyi* (Wolfenden) 1905

**FAMILY: PSEUDOCALANIDAE**

Genus : *Spinocalanus*  
*Spinocalanus magnus* Wolfenden

Genus : *Monacilla*  
*Monacilla typica* G. O. Sars, 1905

Genus : *Drepanopsis*  
*Drepanopsis frigidus* Wolfenden, 1911

**FAMILY: LUCICUTIDAE**

Genus : *Lucicutia*  
*Lucicutia clausi* (Giesbrecht) 1892  
*Lucicutia flavicornis* (Claus) 1863  
*Lucicutia wolfendini* Wolfenden 1904  
*Lucicutia maxima* Steuer 1904  
*Lucicutia bicornuta* Wolfenden, 1905

**FAMILY: ARIETELLIDAE**

Genus : *Phyllopus*  
*Phyllopus bidentatus* Brady 1883  
*Phyllopus impar* Farran 1908  
*Phyllopus muticus* Sars 1925

Genus : *Arietellus*  
*Arietellus giesbrechti* Sars 1905  
*Arietellus simplex* Sars 1905

Genus : *Paraugaptilus*  
*Paraugaptilus buchani* Wolfenden 1904

**FAMILY : METRIDIIDAE**

Genus : *Pleuromamma*  
*Pleuromamma abdominalis* (Lubbock) 1856  
*Pleuromamma xiphias* (Giesbrecht) 1889  
*Pleuromamma gracilis* (Claus) 1863

*Pleuromamma quadrungulata* (Dahl)1893  
*Pleuromamma indica* Wolfenden, 1905

Genus : *Metridia*  
*Metridia lucens* Boeck 1864  
*Metridia princeps* Giesbrecht, 1892

Genus : *Gaussia*  
*Gaussia princeps* T. Scott, 1893  
*Gaussia scotti* (Giesbrecht, 1897)  
*Gaussia sewelli* sp. nov. Saraswathy, 1973

**FAMILY : THARYBIDAE**

Genus : *Undinella*  
*Undinella brevipes* Farran, 1908

**FAMILY : AETIDEIDAE**

Genus : *Aetideus*  
*Aetideus acutus* Farran  
*Aetideus giesbrechti* Cleve

Genus : *Euchirella*  
*Euchirella amoena* Giesbrecht  
*Euchirella bitumida* With  
*Euchirella indica* Vervoort  
*Euchirella messinensis* (Claus)  
*Euchirella rostrata* Claus  
*Euchirella venusta* Giesbrecht

Genus : *Gaetanus*  
*Gaetanus kruppi* Giesbrecht  
*Gaetanus latifrons* Sars  
*Gaetanus minor* Farran

Genus : *Gaidius*  
*Gaidius pungens* Giesbrecht, 1895

Genus : *Aetideopsis*  
*Aetideopsis rostrata* Sars, 1903

Genus : *Chiridius*  
*Chiridius poppei* Giesbrecht, 1892

- Genus : *Pseudochirella*  
*Pseudochirella obtusa* (Sars), 1905
- Genus : *Chirundina*  
*Chirundina streetsii* Giesbrecht, 1895
- Genus : *Undeuchaeta*  
*Undeuchaeta major* Giesbrecht, 1888

