

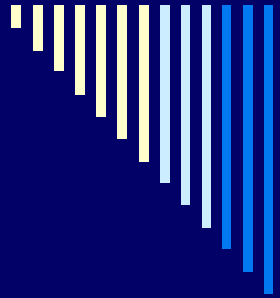
Part II: Copepoda

Xiamen University
Department of Oceanography



References

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 - Huys R., G.A. Boxshall, 1991. Copepod Evolution. The Ray Society, London. 468 p.
 - Mauchline, J. 1998. The Biology of Calanoid Copepods. Advances in Marine Biology, 33. 710 p.
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Introduction

Gunnerus(1770) *Monoculus finmarchicus*
(*Calanus fimarchicus*)

1873-1876 Challenger Expedition
《Challenger Report》

1889 Plankton Expedition
《Ergebnisse der Plankton Expedition》



1 General Morphology

1.1 External Features

1.1.1 Body Partition and Metamerism

1.1.2 Appendages

1.1.2.1 Antennules

1.1.2.2 Antennae

1.1.2.3 Mandibula

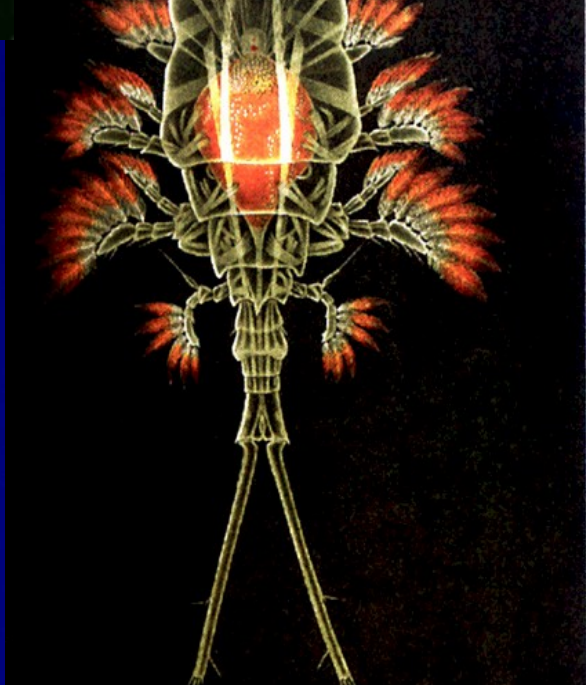
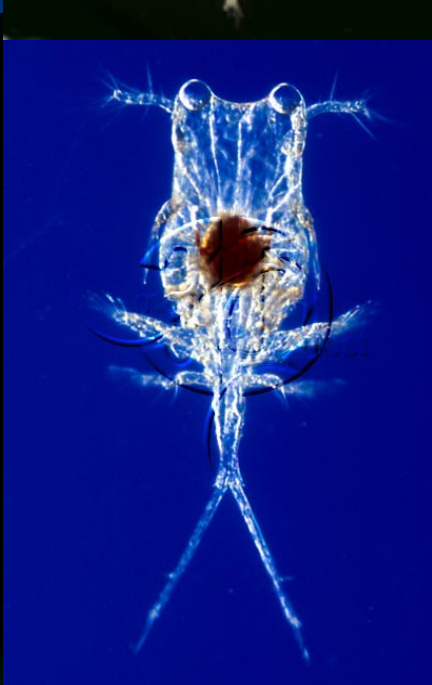
1.1.2.4 Maxillules

1.1.2.5 Maxillae

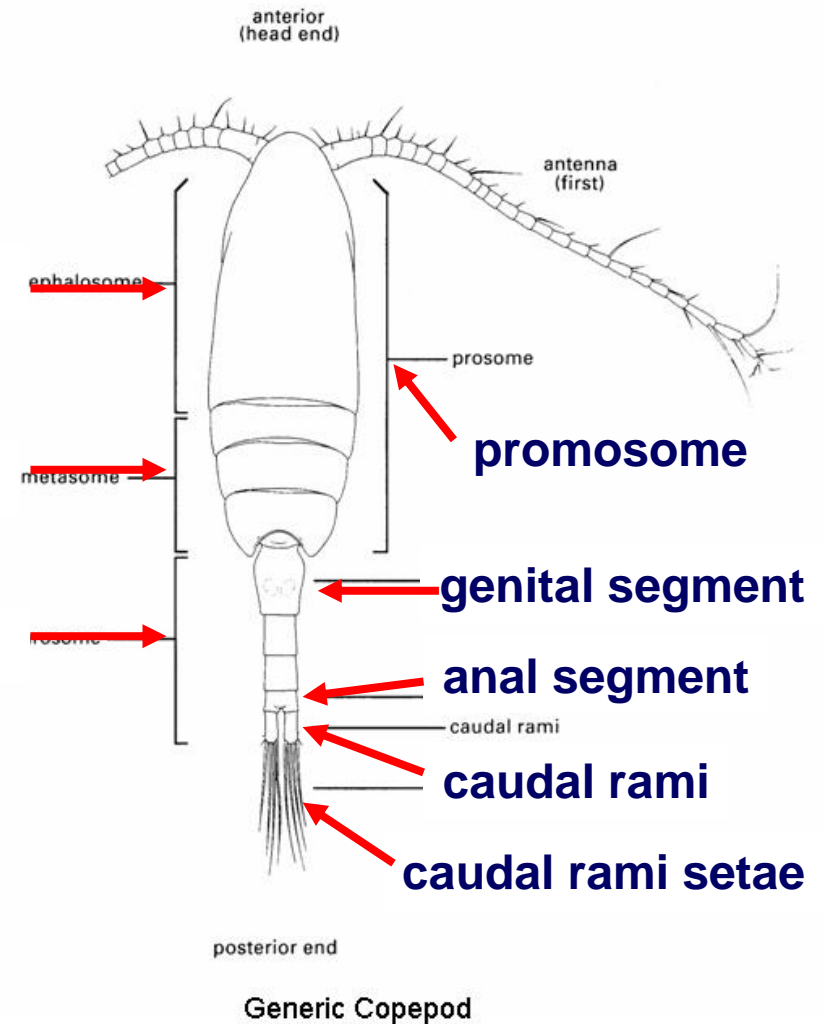
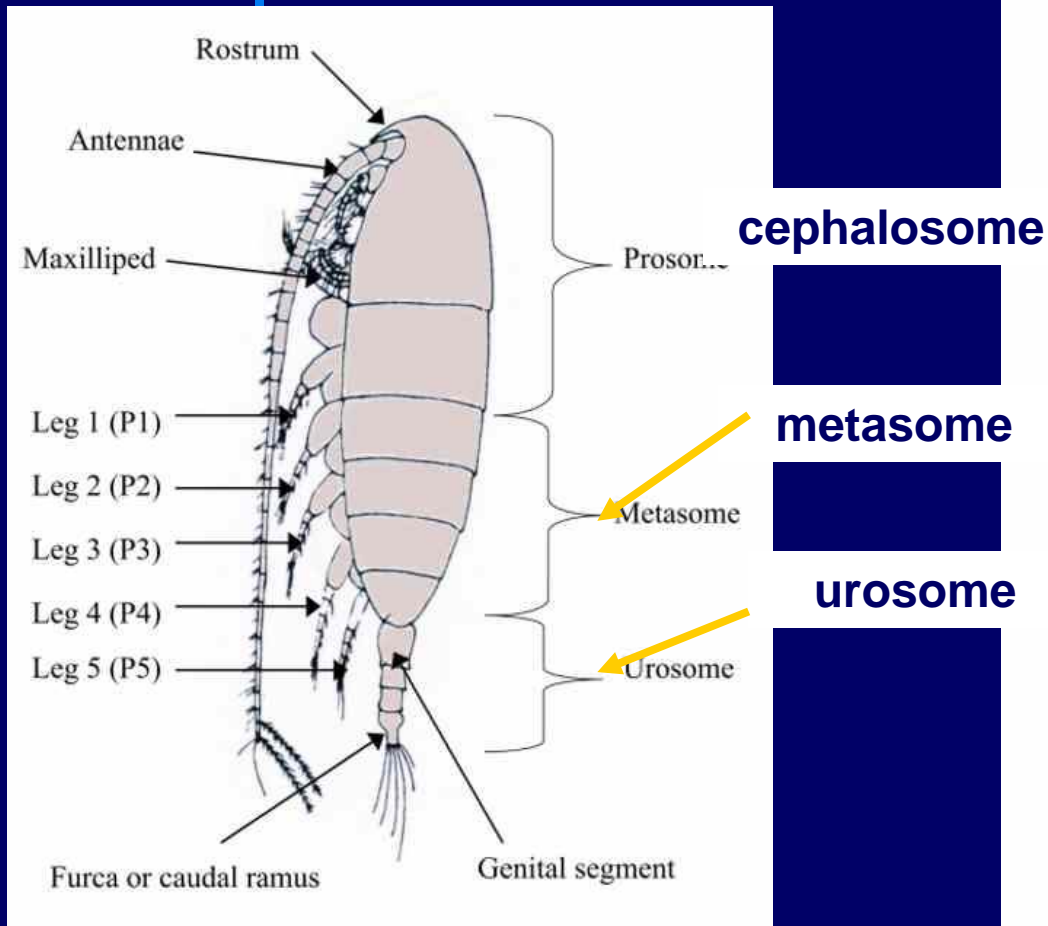
1.1.2.6 Maxillipeds

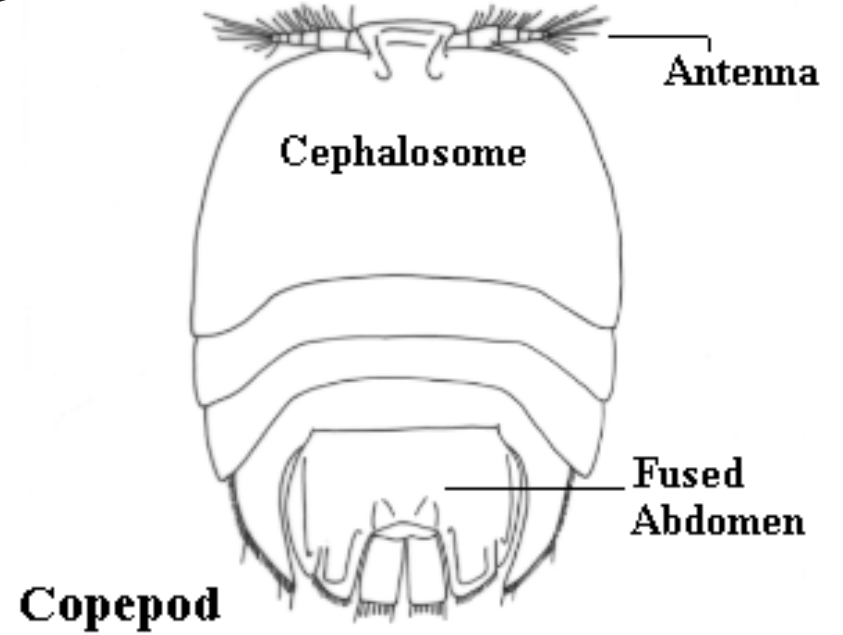
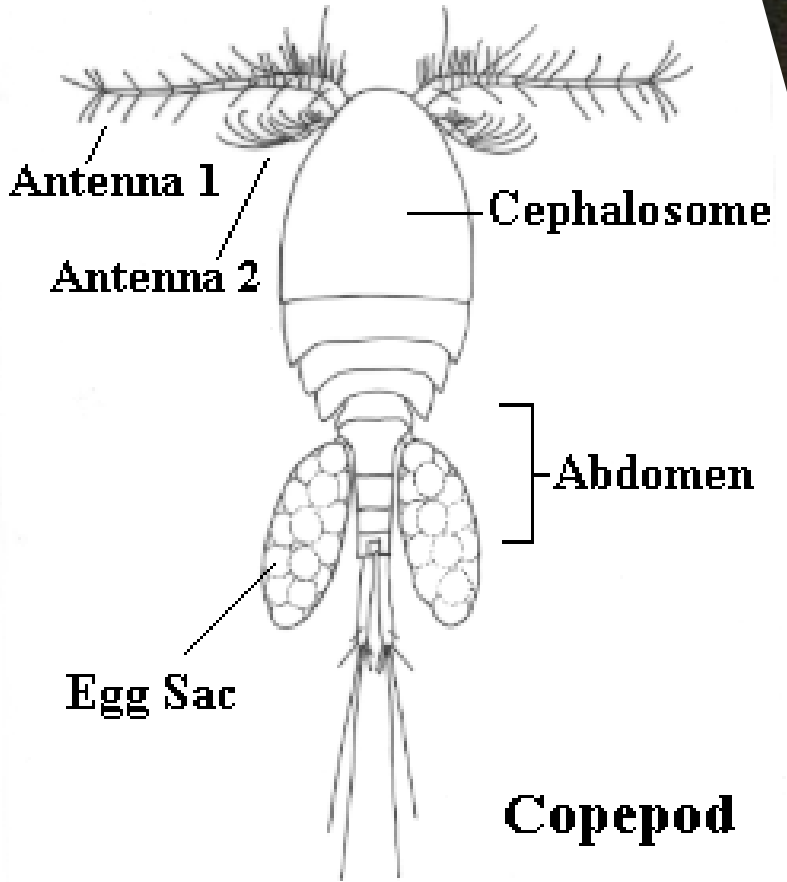
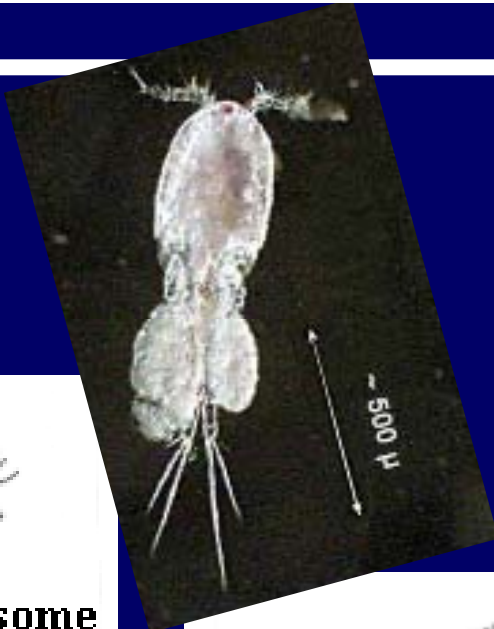
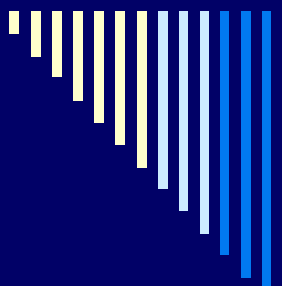
1.1.2.7 Pereiopods

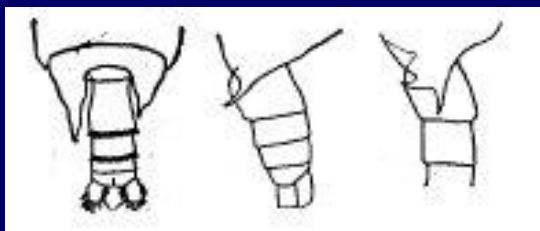
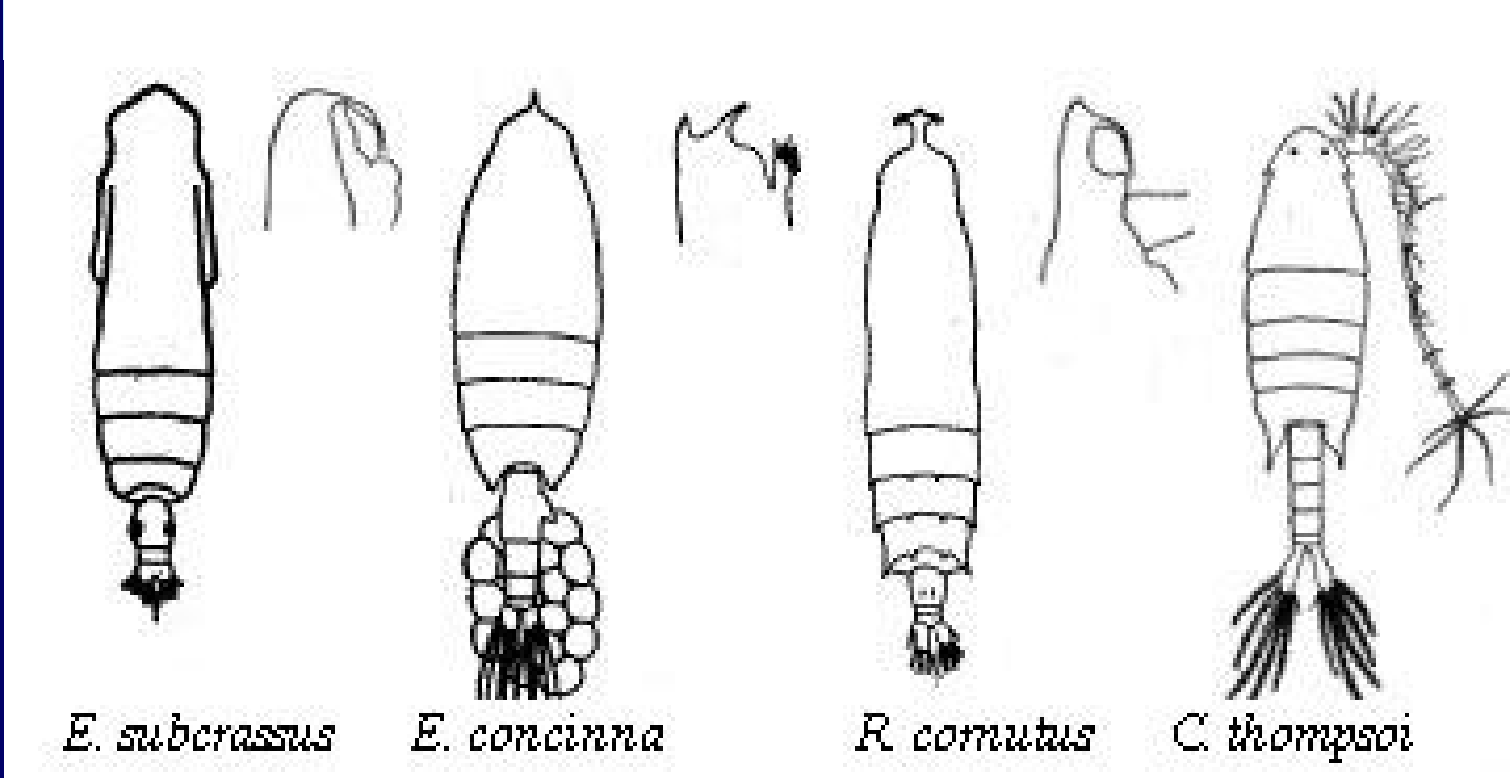
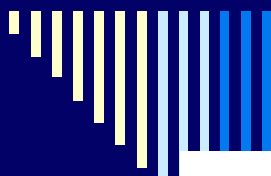




1.1.1 Body Partition and Metamerism

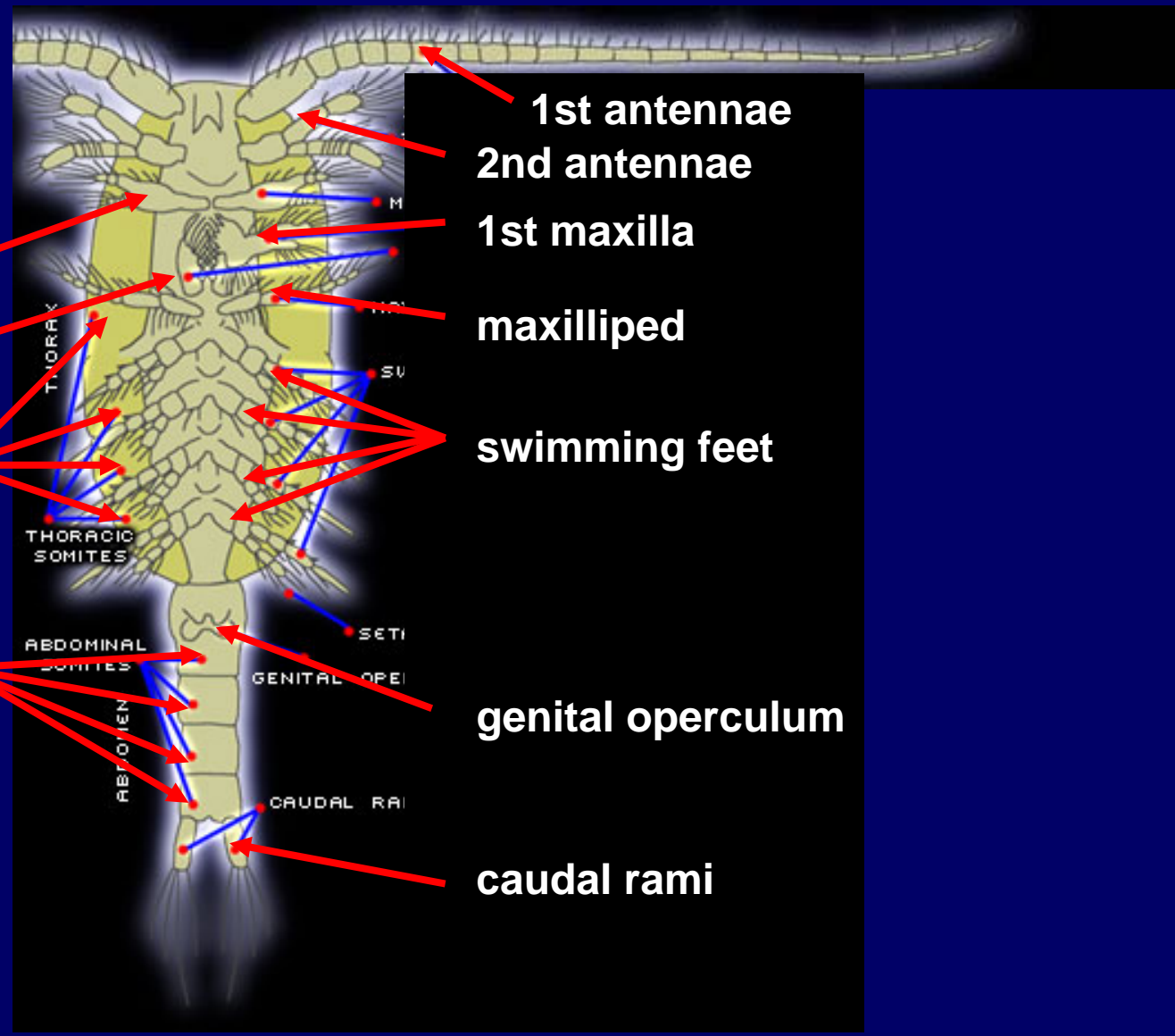
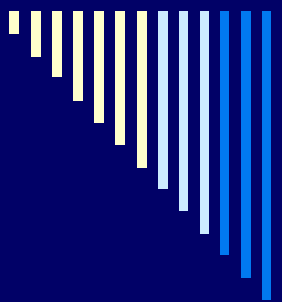






postero-lateral angles





mandible

2nd maxilla

thoracic somites

abdominal somites

1st antennae

2nd antennae

1st maxilla

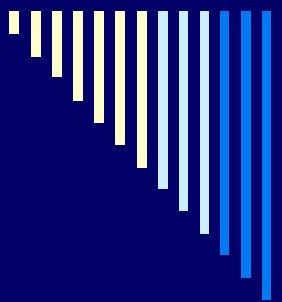
maxilliped

swimming feet

genital operculum

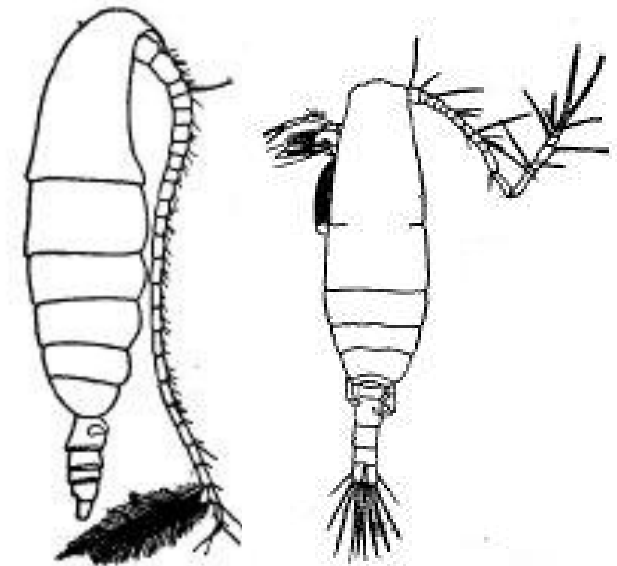
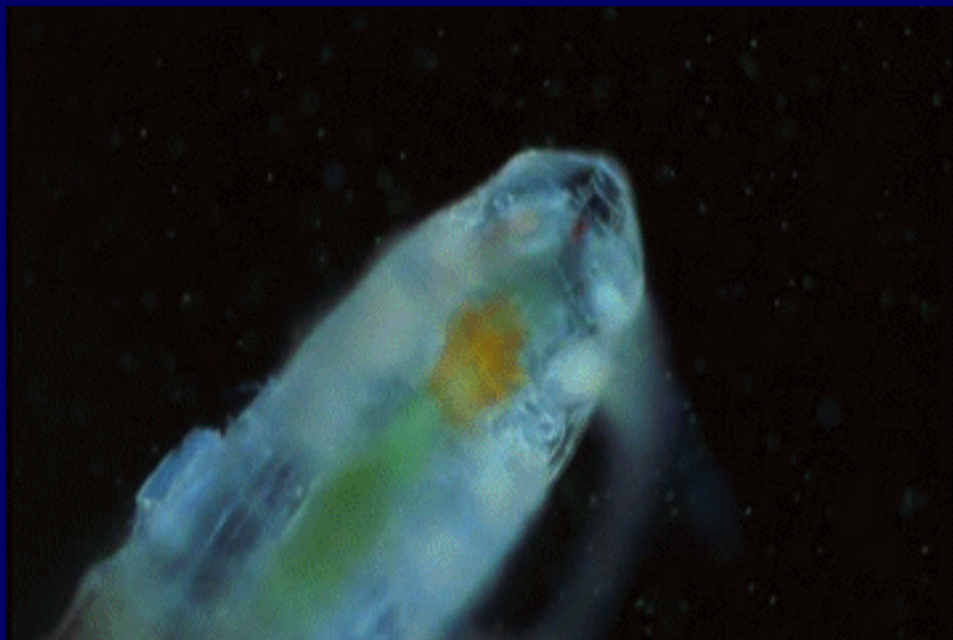
caudal rami



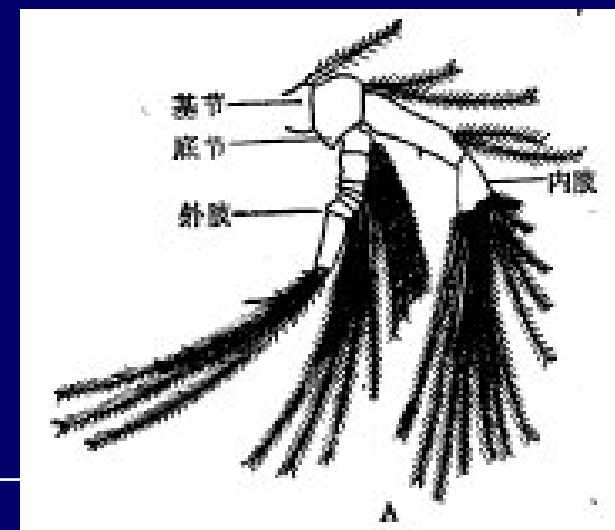


1.1.2.1 Anntennules

1.1.2.2 Antennae



Anntennules
Calanus sinicus (L)
Acartia clausi(R)



1.1.2.3 Mandibula



mandibula

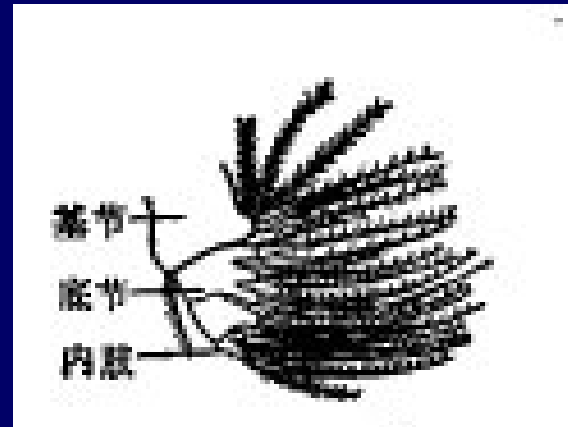


SEM of Mandibula

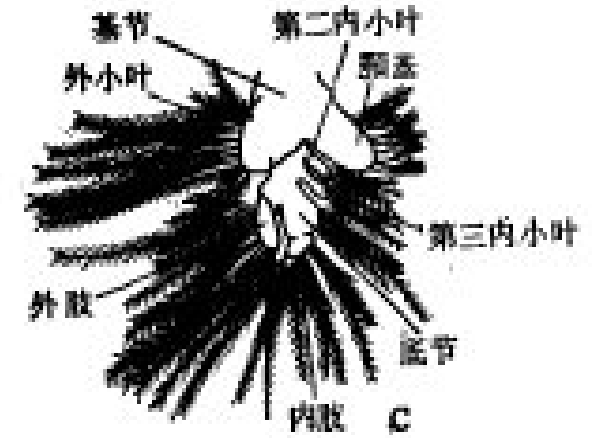


1.1.2.4 Maxillula

1.1.2.5 Maxillae

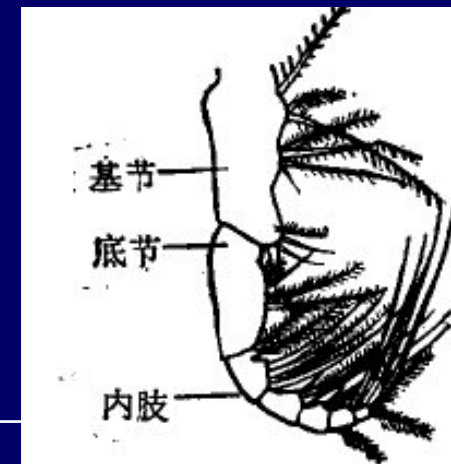


maxillae



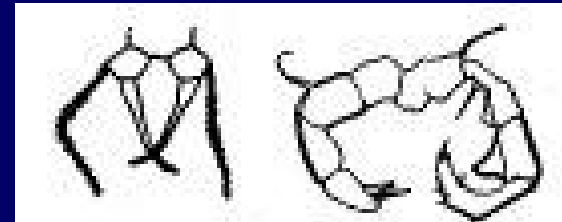
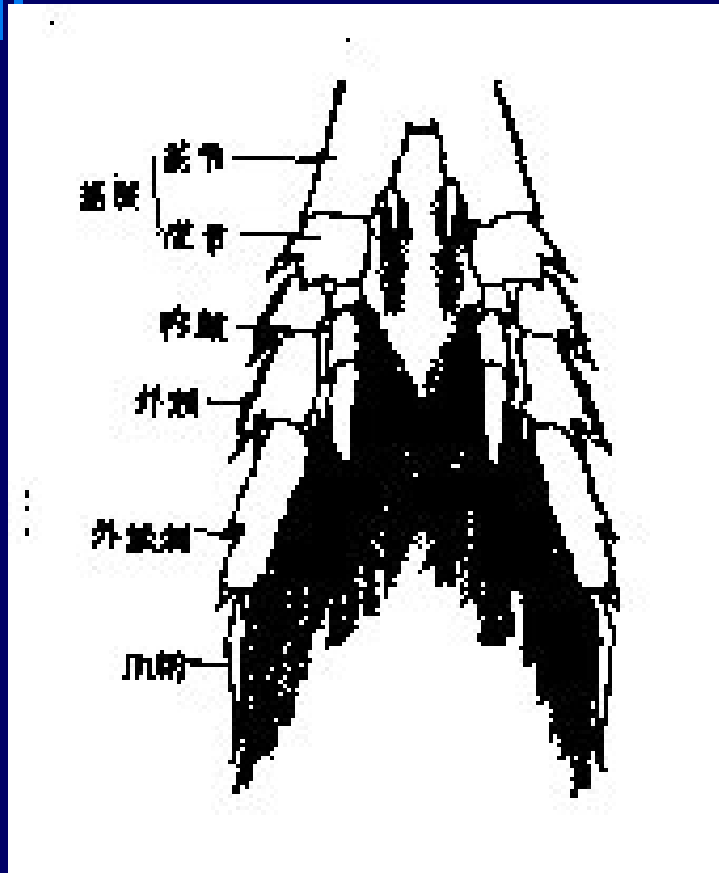
maxillula

□ 1.1.2.6 Maxilliped

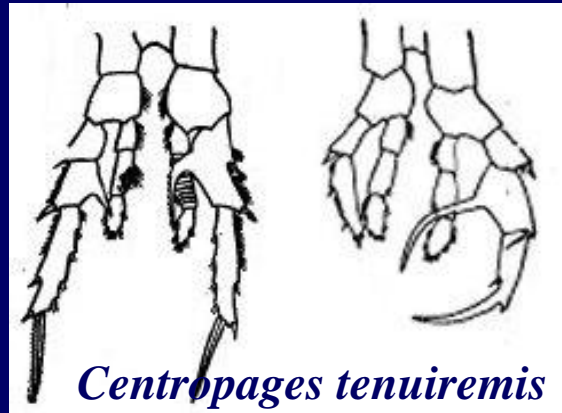


maxilliped

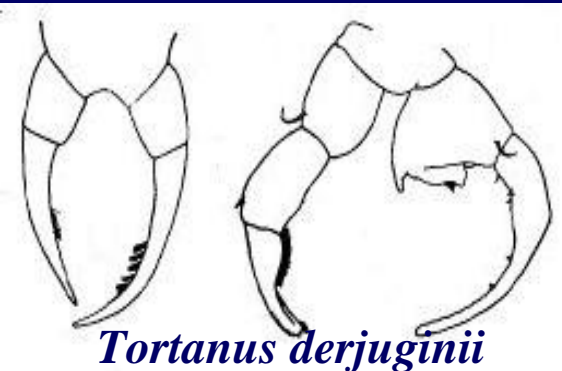
1.1.2.7 Pereiopods



Acartia clausi



Centropages tenuiremis



Tortanus derjuginii

1.2 Internal Structure

1.2.1 Digestive System

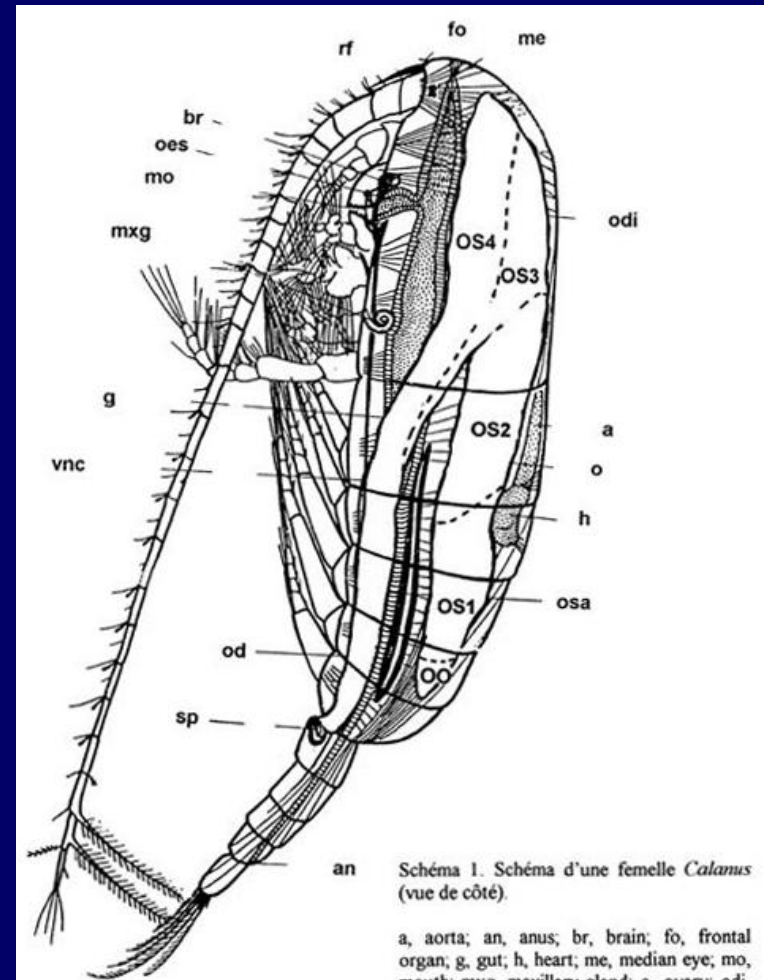
1.2.2 Musculature

1.2.3 Excretory System

1.2.4 Circulatory System

1.2.5 Nervous System and Sense Organs

1.2.6 Reproductive System



an Schéma 1. Schéma d'une femelle *Calanus* (vue de côté).

a, aorta; an, anus; br, brain; fo, frontal organ; g, gut; h, heart; me, median eye; mo, mouth; mxg, maxillary gland; o, ovary; odi, oviducal diverticula; oes, oesophagus; oo, oogony; osa, oil sac; OS1, 2, 3, 4 oocyte development stages 1, 2, 3, 4; rf, rostral filament; sp, spermathecal sac; vnc, ventral nerve cord.
(modifié d'après Marshall et Orr, 1955)