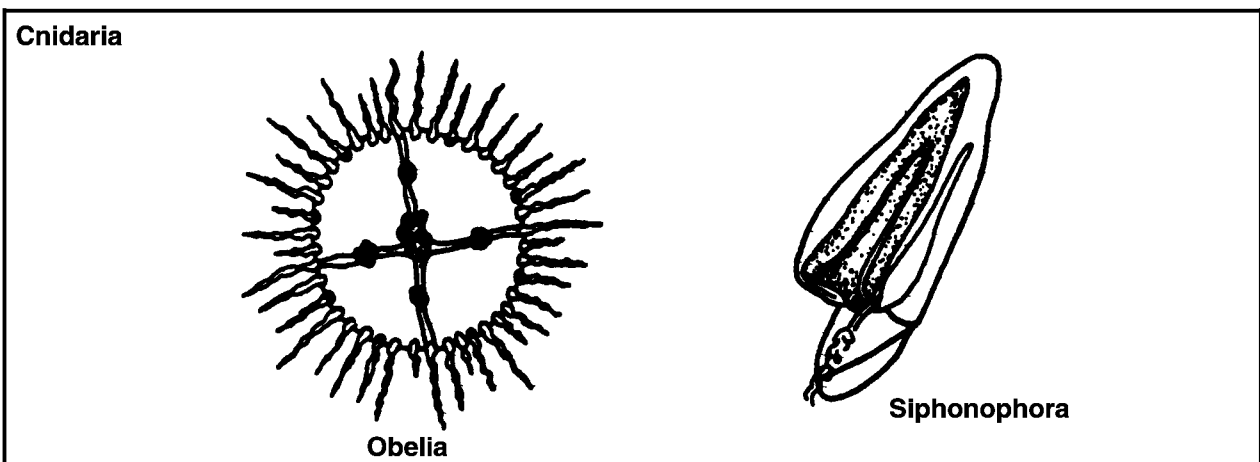
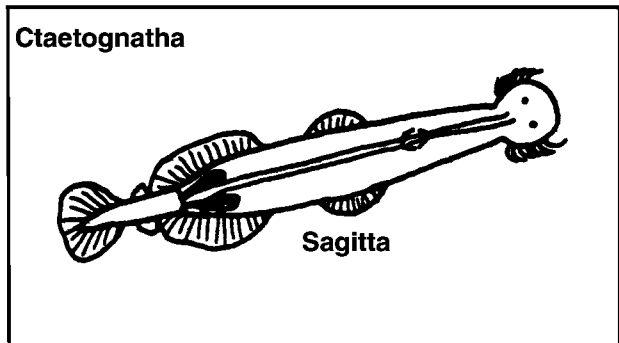
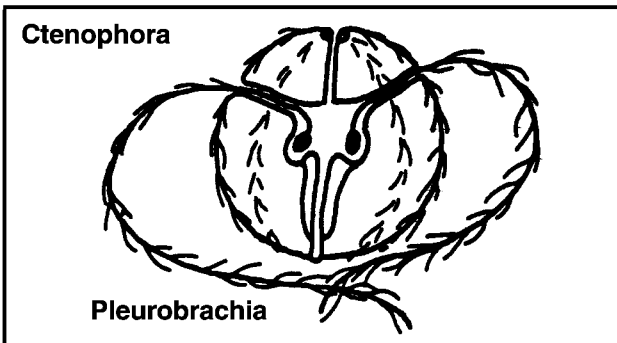
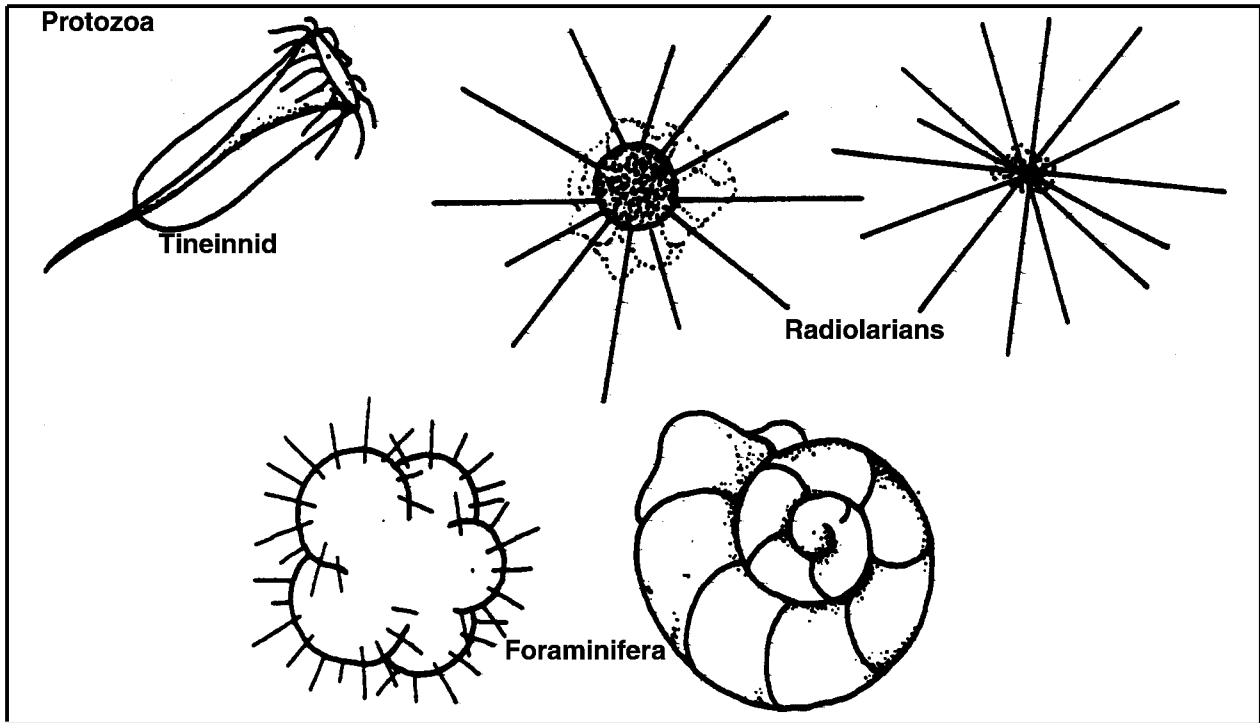
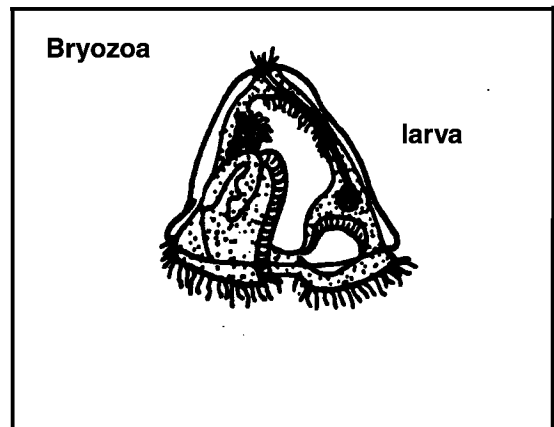
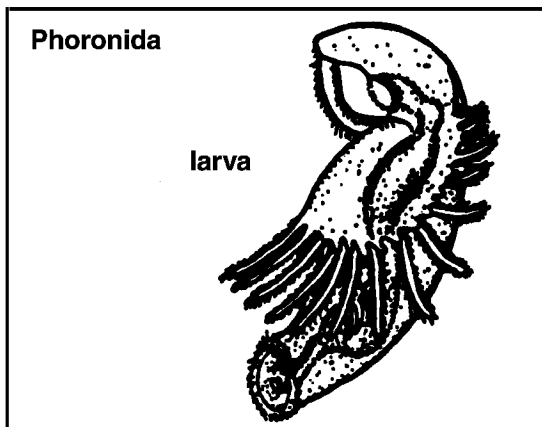
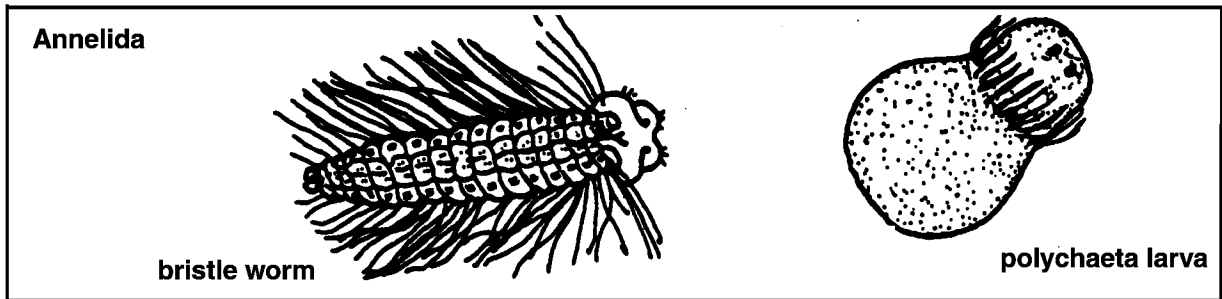
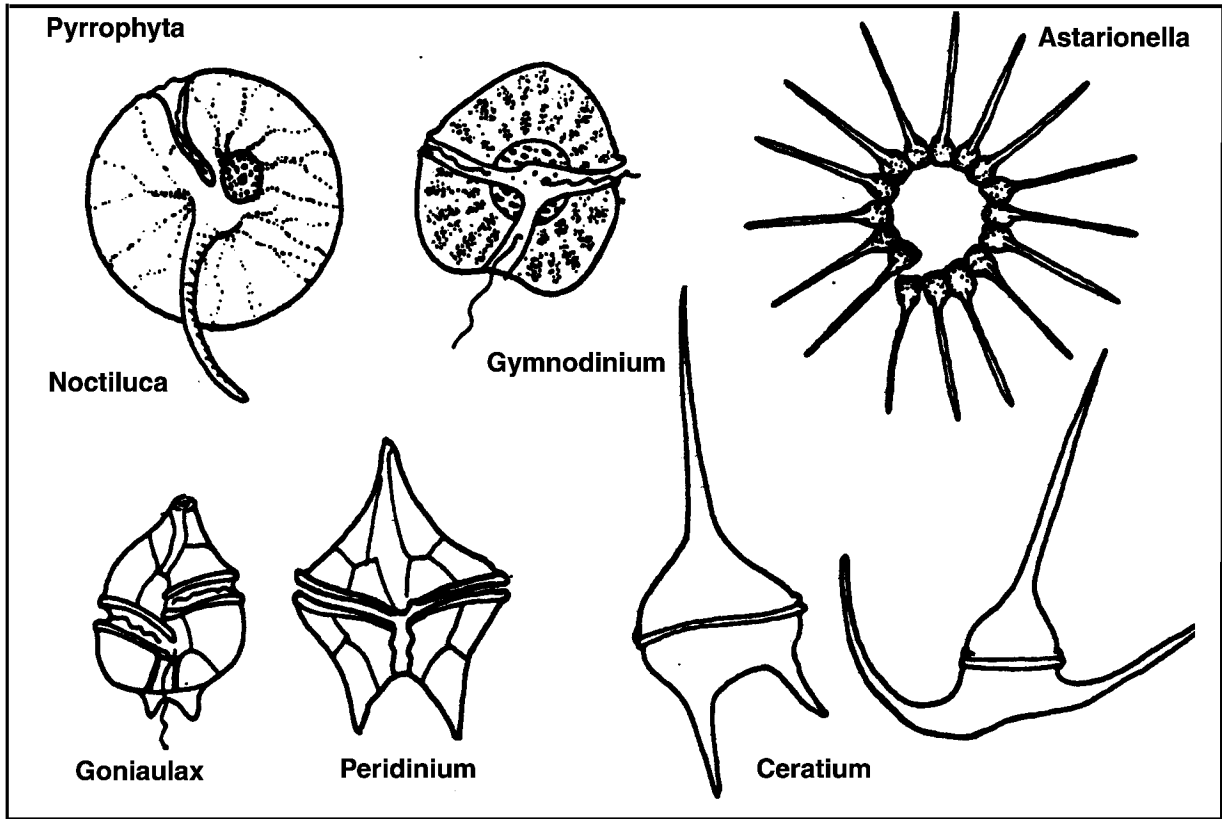


# Plankton Identification Sheet #1



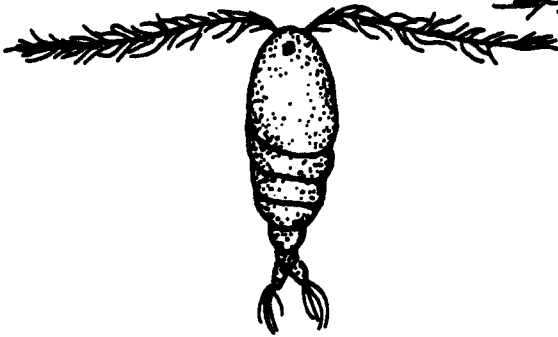
Images courtesy of For Sea, Marine Science Society of the Pacific Northwest

## Plankton Identification Sheet #2

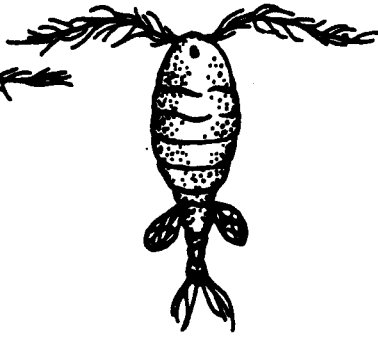


# Plankton Identification Sheet #3

## ARTHROPODA



Calanoid Copepod



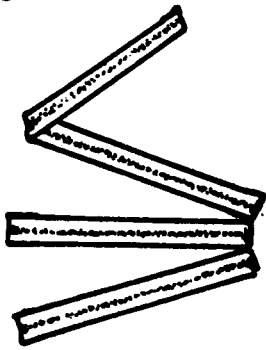
Cyclopoid Copepod



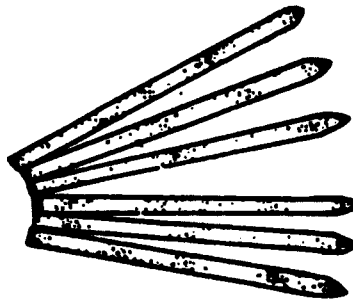
Nauplius larve

## CHRYSOPHYTA

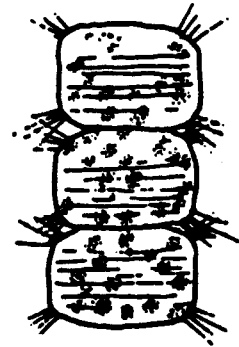
### Diatoms



Thalassionema



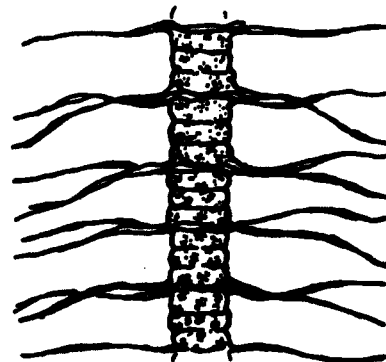
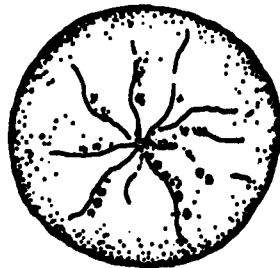
Thalassiothrix



Lauderia



Coscinodiscus

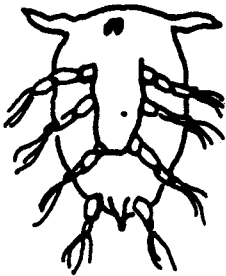


Chaetoceros

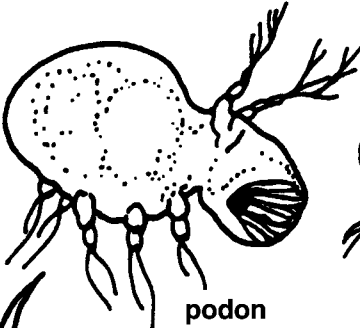


# Plankton Identification Sheet #4

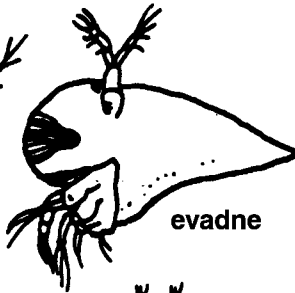
## ARTHROPODA



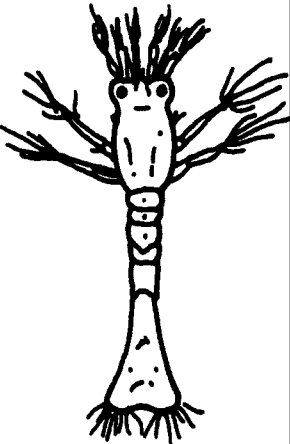
barnacle nauplius



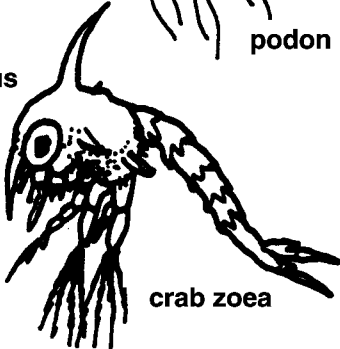
podon



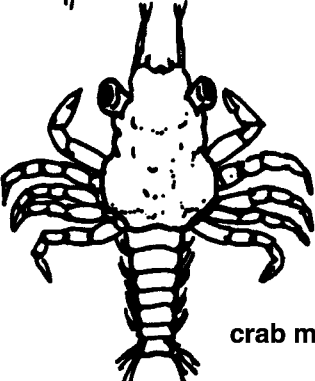
evadne



shrimp larva

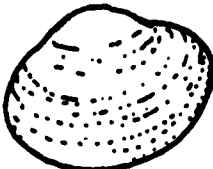


crab zoea

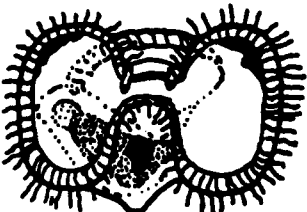


crab megalops

## MOLLUSCA

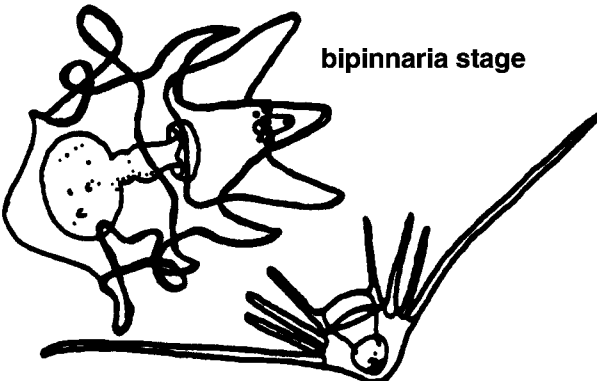


clam larva



veliger gastropod larva

## ECHINODERMATA

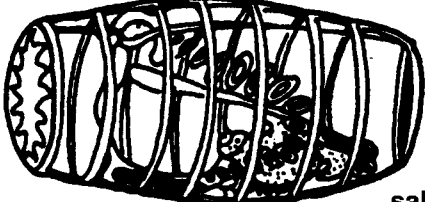


bipinnaria stage

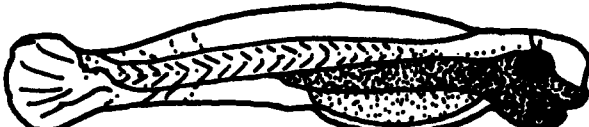


Ophiopluteus stage

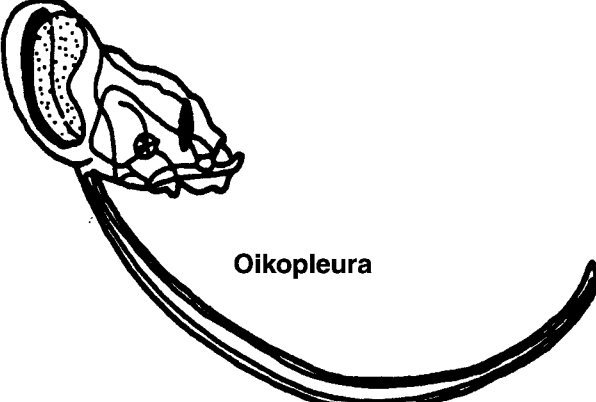
## CHORDATA



salp



fish larva

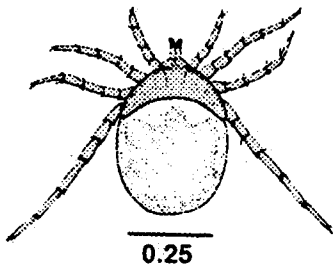


Oikopleura

# R/V SeaWorld UCLA Cruising Classroom ZOOPLANKTON IDENTIFICATION GUIDE

## Phylum Arthropoda

Subphylum Chelicerata  
Class Arachnida

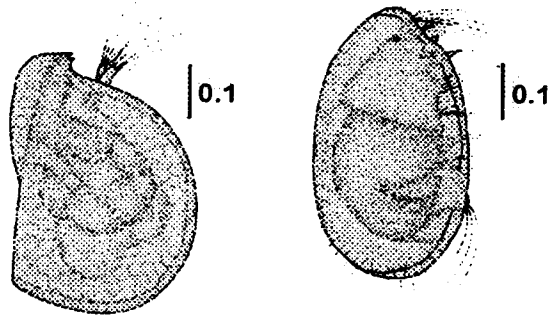


0.25

SALT WATER MITE

## Phylum Arthropoda

Subphylum Crustacea  
Class Ostracoda (OSTRACODS)

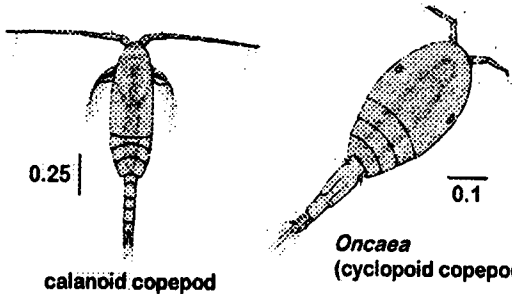


0.1

0.1

## Phylum Arthropoda

Subphylum Crustacea  
Class Copepoda (COPEPODS)

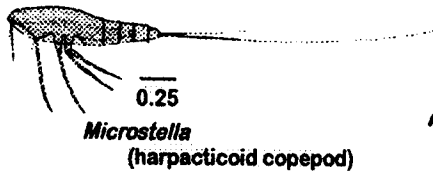


0.25

0.1

calanoid copepod

*Oncaea*  
(cyclopoid copepod)



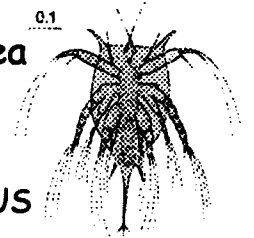
0.25

ADULTS

*Microstella*  
(harpacticoid copepod)

## Phylum Arthropoda

Subphylum Crustacea  
Class Cirripedia

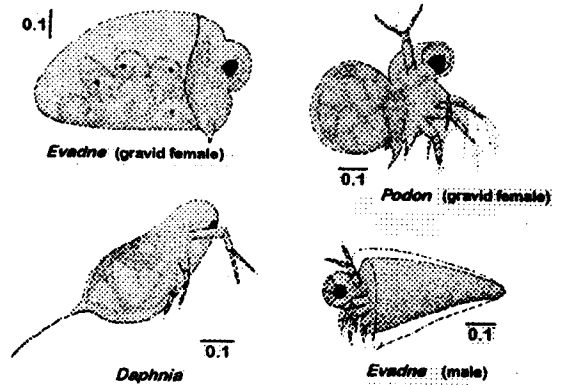


0.1

Early Larval Stage- NAUPLIUS

## Phylum Arthropoda

Subphylum Crustacea  
Class Branchiopoda



0.1

0.1

0.1

0.1

*Evadne* (gravid female)

*Podon* (gravid female)

*Daphnia*

*Evadne* (male)

0.1

0.25

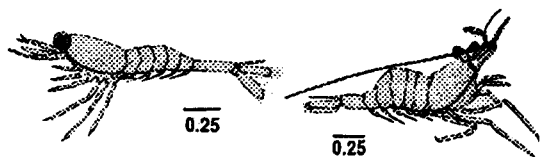
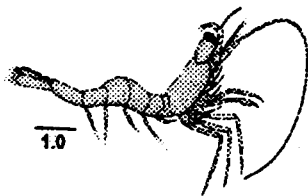
Early Larval Stage- NAUPLII

# Phylum Arthropoda

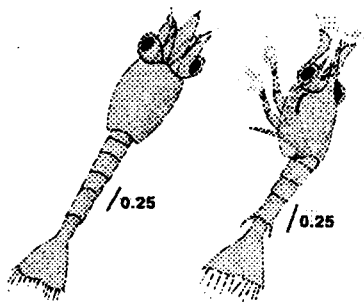
## Subphylum Crustacea

Class Malacostraca  
Order Decapoda  
Infraorder Caridea (SHRIMP)

ADULTS



LARVAE

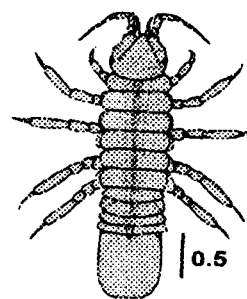
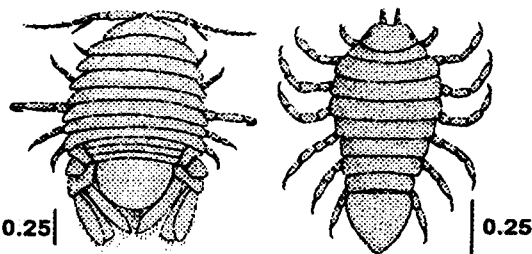


MYSIS ZOEA

# Phylum Arthropoda

## Subphylum Crustacea

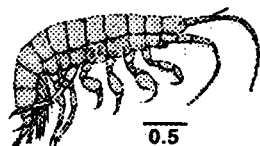
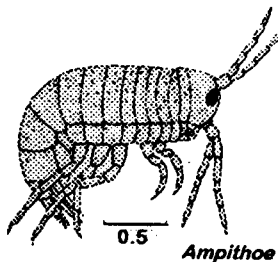
Class Malacostraca  
Order Isopoda (ISOPODS)



# Phylum Arthropoda

## Subphylum Crustacea

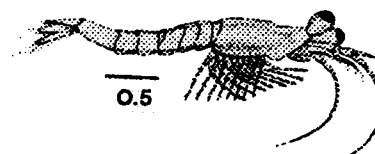
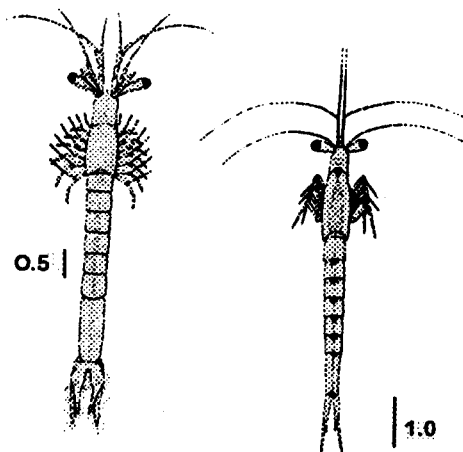
Class Malacostraca  
Order Amphipoda (AMPHIPODS)



# Phylum Arthropoda

## Subphylum Crustacea

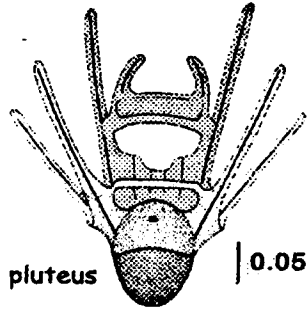
Class Malacostraca  
Order Mysidacea (MYSIDS)



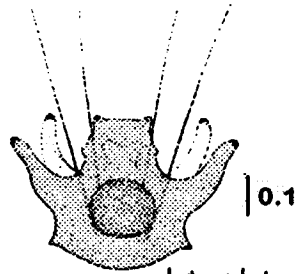
scale: 1 mm

# Phylum Echinodermata

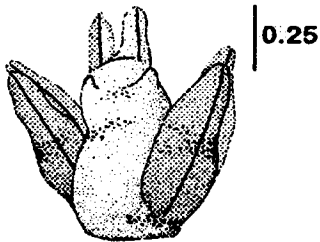
Class Echinoidea (SEA URCHINS)  
LARVAL FORMS



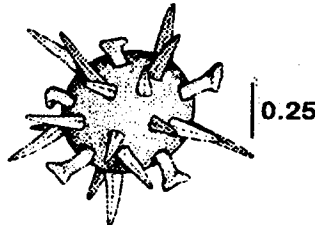
pluteus



late-pluteus



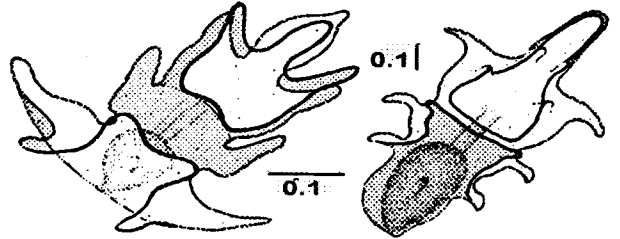
early metamorphosis



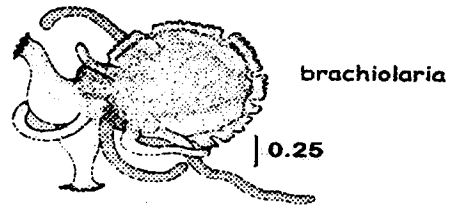
juvenile

# Phylum Echinodermata

Class Asterozoidea (SEA STARS)  
LARVAL FORMS

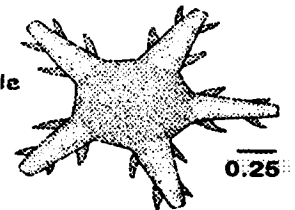


late bipinnaria



brachiolaria

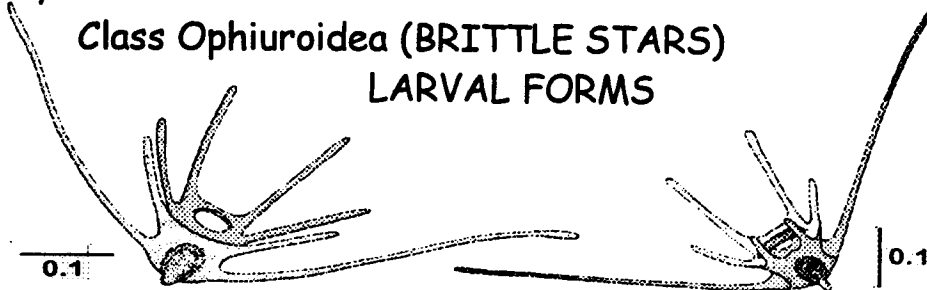
metamorphosis to juvenile



0.25

# Phylum Echinodermata

Class Ophiurozoidea (BRITTLE STARS)  
LARVAL FORMS



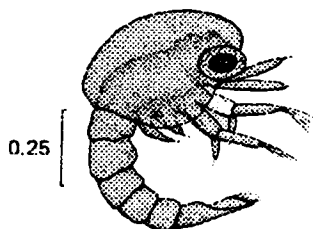
0.1

0.1

# Phylum Arthropoda Subphylum Crustacea Class Malacostraca

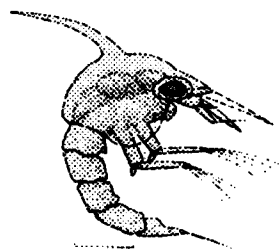
Order Decapoda Infraorder Brachyura (CRABS)

LARVAL FORMS



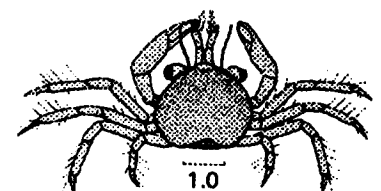
0.25

pre-zoea



0.5

zoea



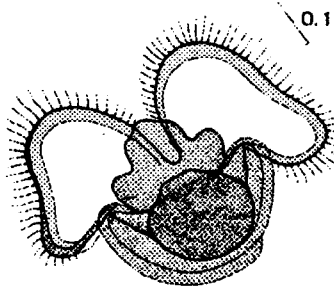
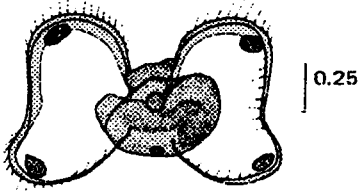
1.0

megalop

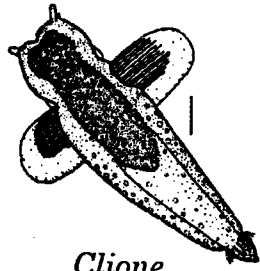
scale: 1 mm

**Phylum Mollusca**  
**Class Gastropoda**  
**(SNAILS)**

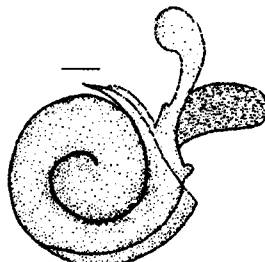
Early larval stage -  
**VELIGER**



**Phylum Mollusca**  
**Class Pteropoda**  
**(PTEROPODS)**



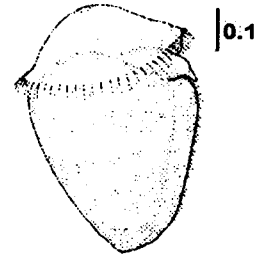
*Clione*  
 scale bar = 100µm



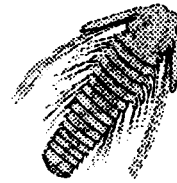
*Limacina*  
 scale bar = 100µm

**Phylum Annelida**  
**Class Polychaeta**  
**(worms)**  
**LARVAL FORMS**

Early Larval  
 Stage: **TROCHOPHORE**



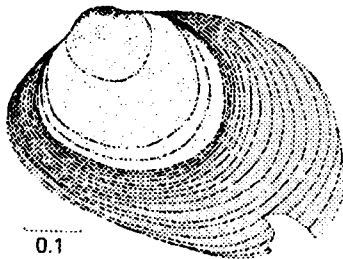
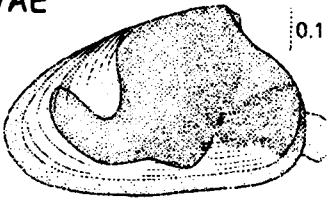
Later larval stage



**Phylum Mollusca**

**Class Bivalvia (CLAMS, MUSSELS)**

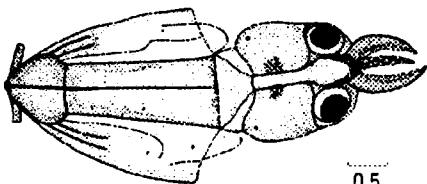
LARVAE



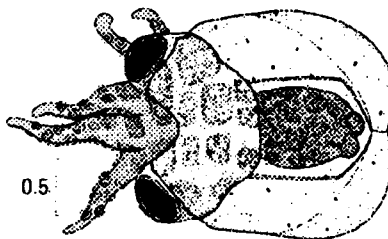
**Phylum Mollusca**

**Class Cephalopoda (SQUID, OCTOPUS)**

LARVAE

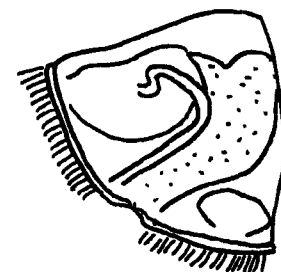


*Loligo*



*Octopus*

**Phylum Bryozoa**  
**(BRYOZOANS)**  
**LARVAL FORMS**



0.1

scale: 1 mm



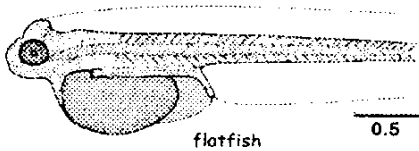
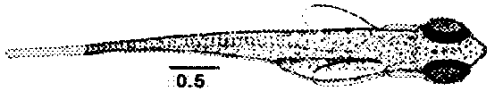
# Phylum Chordata

Subphylum Vertebrata

Class Osteichthyes

(BONY FISH)

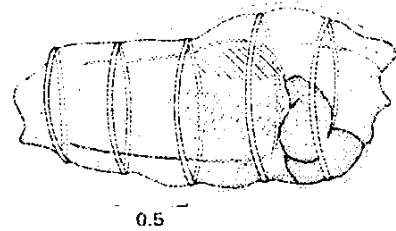
## LARVAL FORMS



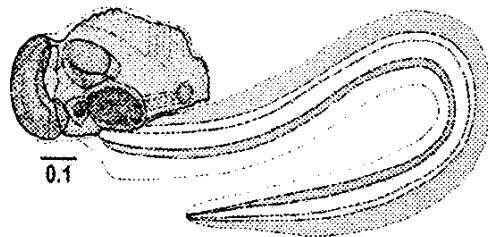
# Phylum Chordata

Subphylum Urochordata

Class Thaliacea (SALPS)



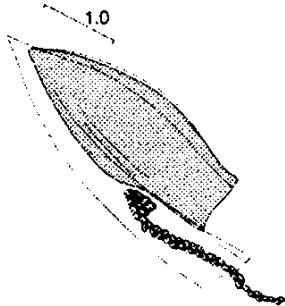
Class Appendicularia (APPENDICULARIANS)



# Phylum Cnidaria

Class Hydrozoa

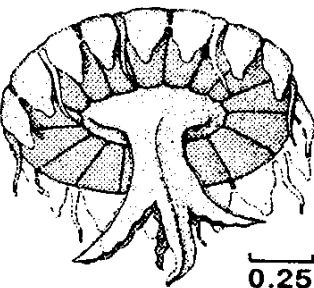
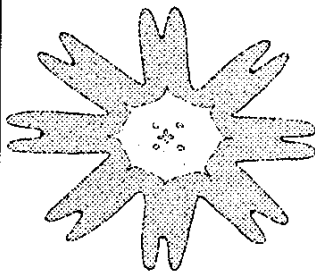
siphonophores



Class Scyphozoa

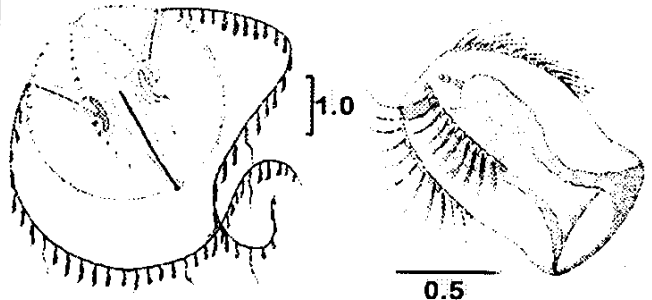
ephyra of moon jelly

juvenile moon jelly



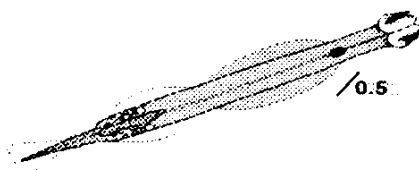
# Phylum Ctenophora

(CTENOPHORES)



# Phylum Chaetognatha

(ARROW WORMS)

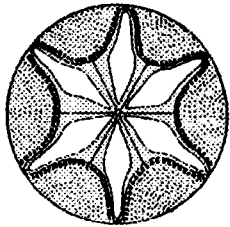


scale: 1 mm

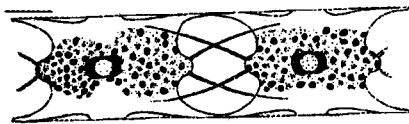
# PHYTOPLANKTON IDENTIFICATION GUIDE

## DIATOMS Phylum Bacillariophyta

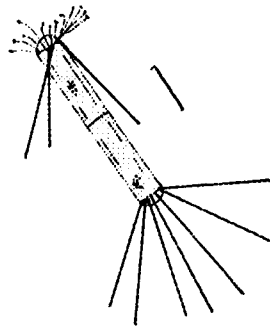
### CENTRIC DIATOMS



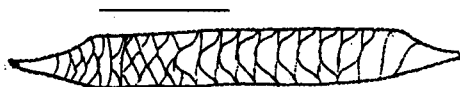
*Asterolampra*  
scale bar = 10  $\mu$ m



*Odontella*  
scale bar = 25  $\mu$ m

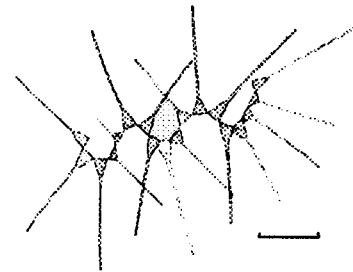


*Corethron*  
scale bar = 50  $\mu$ m

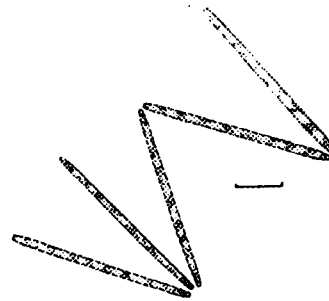


*Rhizosolenia*  
scale bar = 50  $\mu$ m

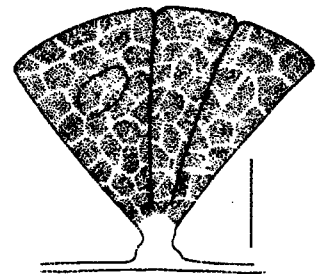
### PENNATE DIATOMS



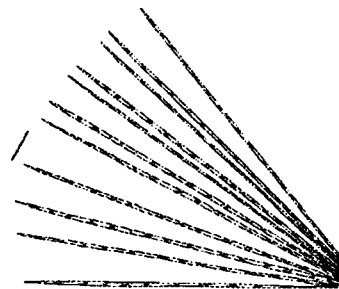
*Asterionella*  
scale bar = 50  $\mu$ m



*Thalassionema*  
scale bar = 100  $\mu$ m



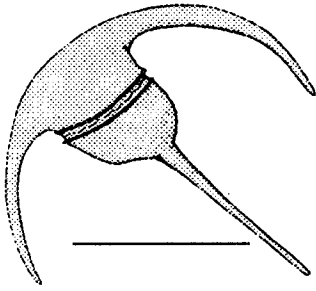
*Licmophora*  
scale bar = 100  $\mu$ m



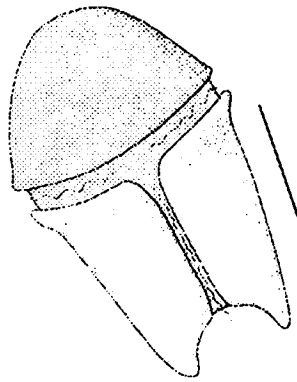
*Thalassiothrix*  
scale bar = 100  $\mu$ m

# DINOFLAGELLATES

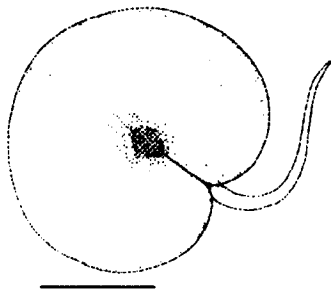
## Phylum Dinophyta



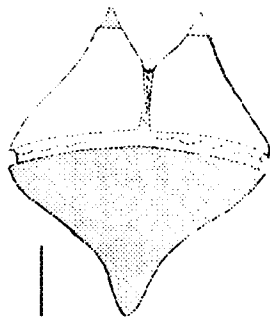
*Ceratium*  
scale bar = 25  $\mu\text{m}$



*Gymnodinium*  
scale bar = 25  $\mu\text{m}$

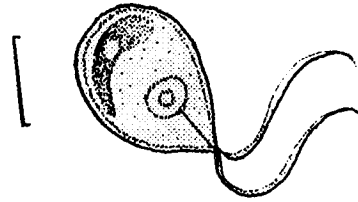


*Noctiluca scintillans*  
scale bar = 100  $\mu\text{m}$



*Protoperidinium*  
scale bar = 25  $\mu\text{m}$

# MARINE FLAGELLATES



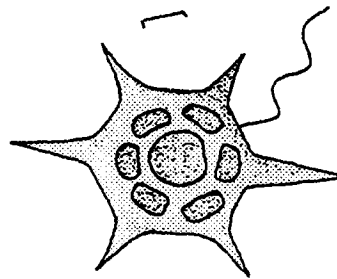
*Dunaliella*  
scale bar = 10  $\mu\text{m}$

Class Chlorophyceae  
Phylum Chlorophyta



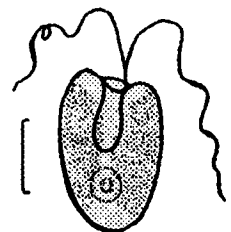
*Emiliana huxleyi*  
scale bar = 1  $\mu\text{m}$

Phylum Prymnesiophyta



*Dictyocha*  
scale bar = 10  $\mu\text{m}$

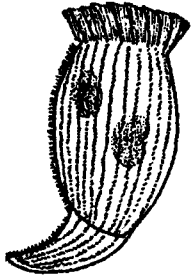
Class Dictyochophyceae  
Phylum Chrysophyta



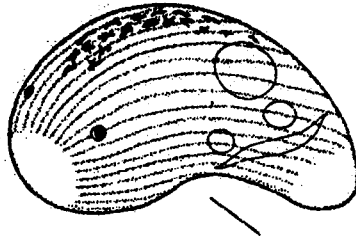
*Cryptomonas*  
scale bar = 10  $\mu\text{m}$   
Phylum Cryptophyta

## MARINE CILIATES

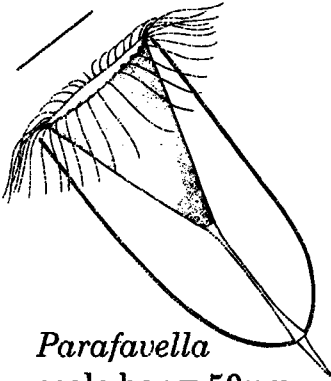
### Phylum Ciliophora



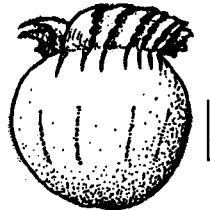
*Strombidinopsis*  
scale bar = 50µm



*Chlamydodon*  
scale bar = 25µm



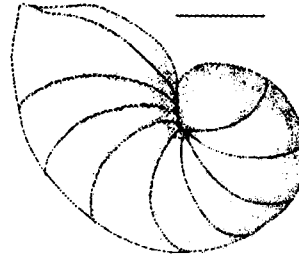
*Parafavella*  
scale bar = 50µm



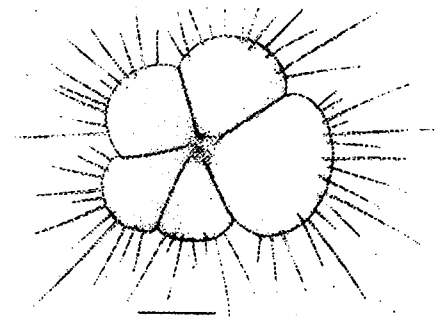
*Strobilidium*  
scale bar = 10µm

## FORAMINIFERANS

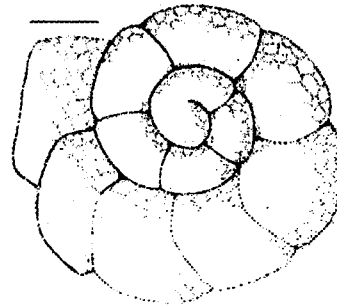
### (marine ameboid protozoa)



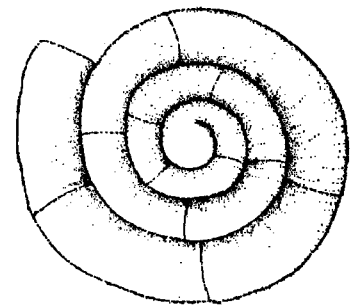
Family Nonionidae  
scale bar = 25



Family Globorotaliidae  
scale bar = 25



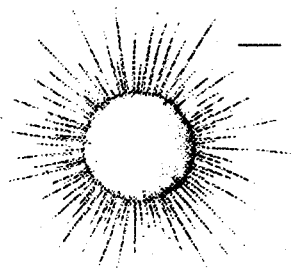
Family Discorbidae  
scale bar = 25µm



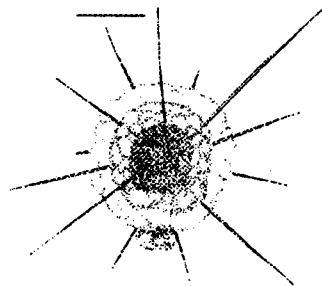
Family Epistomariidae  
scale bar = 25

## RADIOLARIANS

### (marine ameboid protozoa)



scale bar = 25µm



scale bar = 25µm