

Marine Invertebrates in the Plankton

Ooh, look at this!

- heard many times during team sorting last week

Major Taxa

Crustaceans
 Crabs (zoea, megalopae)
 Copepods
 Barnacles (nauplii, molts)
 Cladocerans (branchiopods)
Cnidarians
Ctenophores
Chaetognaths & Larvaceans
Polychaetes (syllids)
Molluscs (snail egg cases, veligers)
Echinoderms (plutei, bipinnaria)

Major Themes

Habitat Description
Sampling Methods
Diversity
Matching Form and Function

Top Ten List

Top "ten" ideas to investigate and understand about this habitat:

5. Plankton as a habitat: spatial and temporal structure
4. Exploring species diversity and abundance in the plankton
3. Functional similarities among taxa
2. Interactions among organisms
1. Links to benthic habitats

Questions

How do the structure and dynamics of the plankton community compare to those in the other habitats we are studying? Should plankton be classified as a 'habitat'?

Are tidal cycle, depth, and other factors that vary in time and space likely to affect the local plankton assemblage? By which mechanisms, and in which directions?

How do planktonic organisms accomplish tasks such as locomotion, feeding, and defense? Are there functional similarities among taxa? What factors might be operating to conserve these similarities?

What are the consequences to benthic invertebrates of having a planktonic larval stage with respect to dispersal, gene flow, and local adaptation? Do they also apply to organisms that are strictly planktonic (e.g., copepods)?

A Guide to
**Marine Coastal Plankton
and Marine Invertebrate
Larvae**

Second Edition

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Quick Flip Reference

sections are indicated by the plate numbers underneath the illustrations in the quick flip reference below. Illustrations below will not identify all unknown organisms being investigated, but should give a good indication of where to look in the main body of this text to identify organisms similar in attributes to those illustrated below. If your mystery plankton is morphologically unusual for its group, perhaps telltale characteristics, such as setae or eyespots, will lead you to the correct section. If all fails, flip through the book. Chances are you will quickly find something similar to your organism.

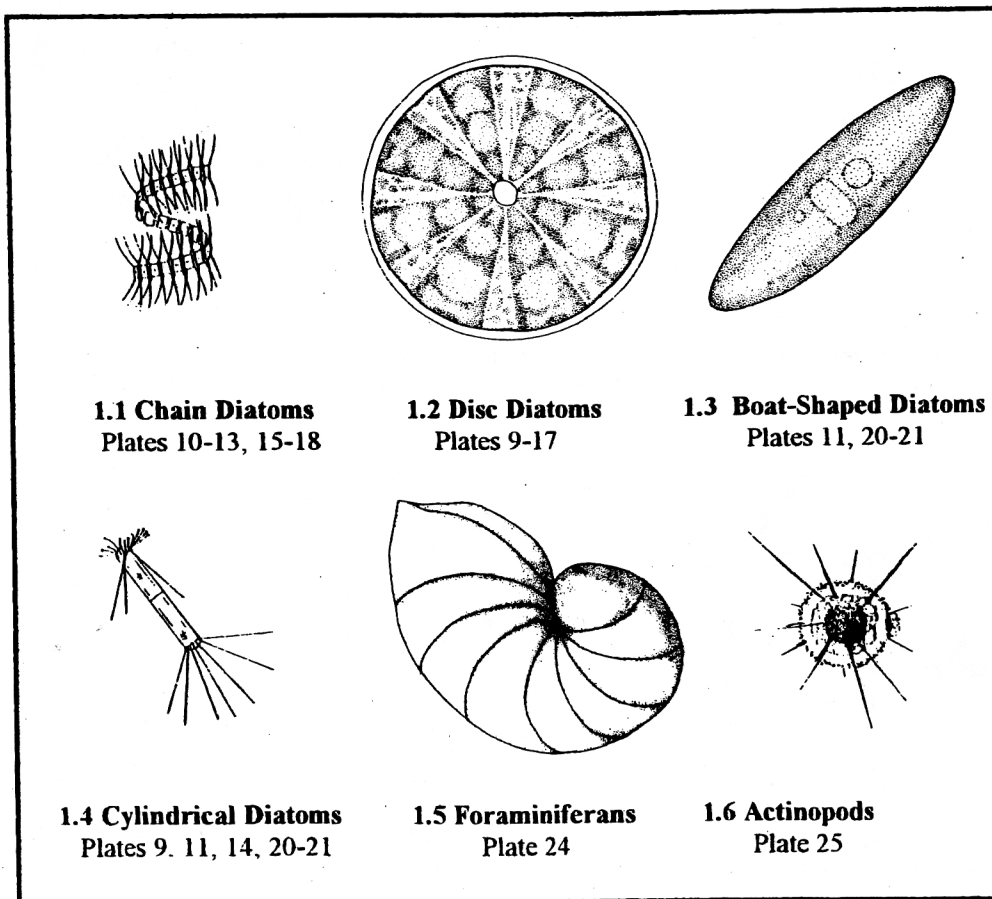


Plate 1. Quick Flip Reference: Diatoms, Foraminiferans & Actinopods

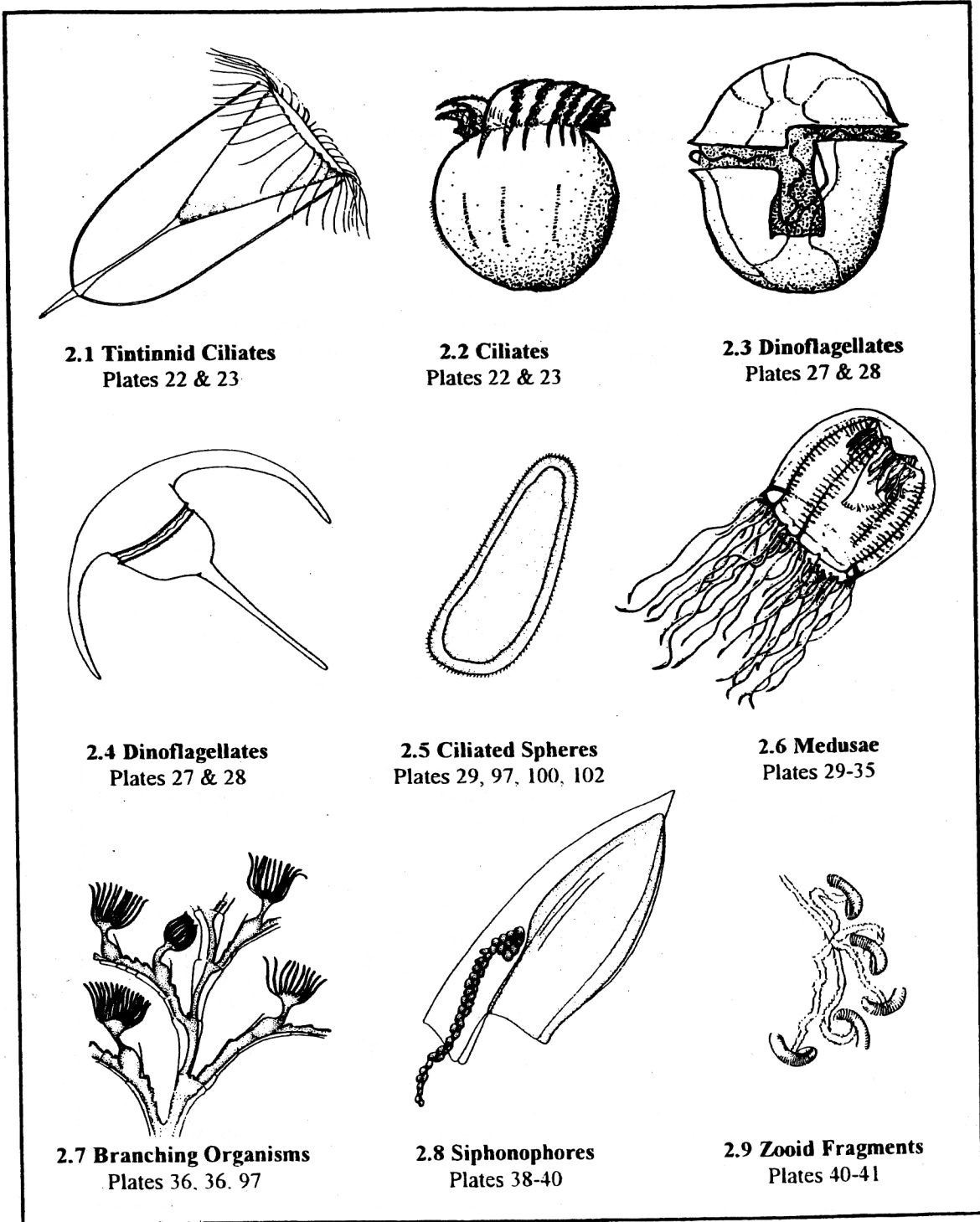
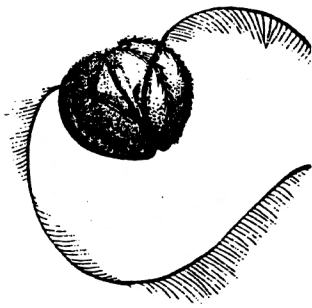
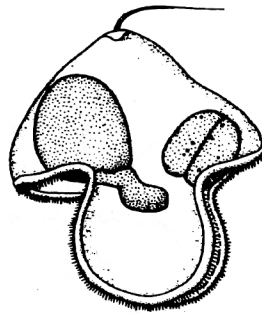


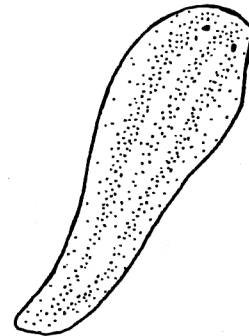
Plate 2. Quick Flip Reference: Ciliates, Dinoflagellates, Cnidarians & Miscellaneous



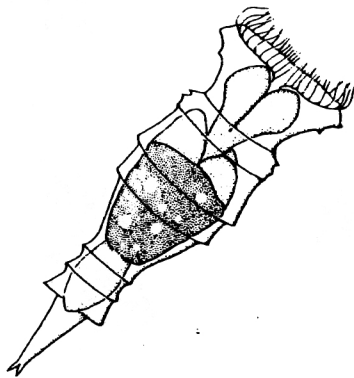
3.1 Ctenophores
Plate 42



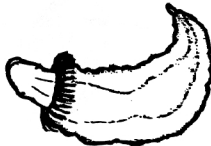
3.2 Pilidia
Plates 43-44



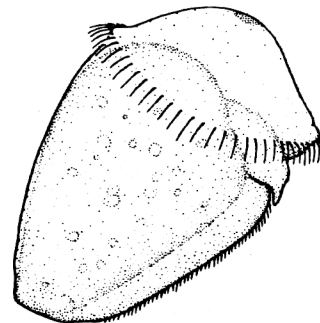
3.3 Unsegmented Worms
Plates 44-48, 50, 97-98



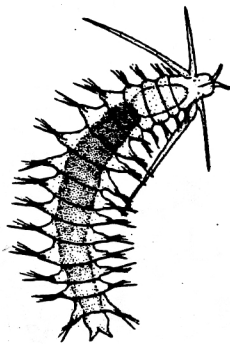
3.4 Rotifers
Plate 48



3.5 Pelagosphaera
Plate 49



3.6 Trochophores
Plates 49-51, 53, 55, 89, 107



3.7 Polychaetes
Plates 52-58



3.8 Eggs
Plates 54, 89, 100, 109-110

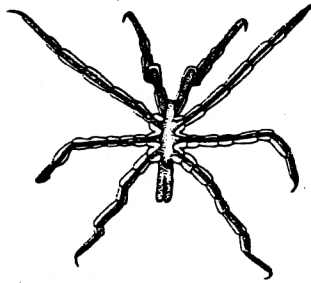


3.9 Mitraria
Plate 57

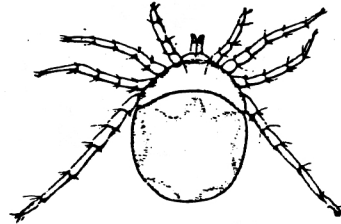
Plate 3. Quick Flip Reference: Ctenophores, Pilidia, Vermiformes, Eggs



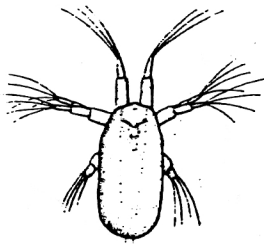
4.1 Polygordius
Plate 57



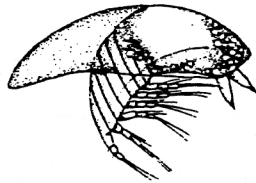
4.2 Pycnogonids
Plate 59



4.3 Salt Water Mites
Plate 59



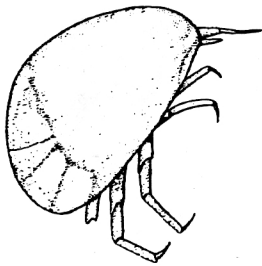
4.4 Crustacean Nauplii
Plates 60-61, 65, 79



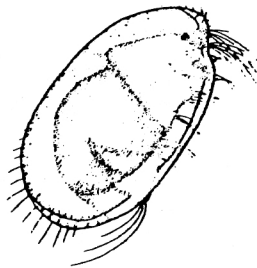
4.5 Barnacle Cypris
Plate 61



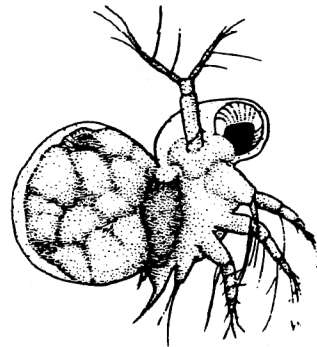
4.6 Barnacle Molt
Plate 61



4.7 Ostracod
Plates 62-63

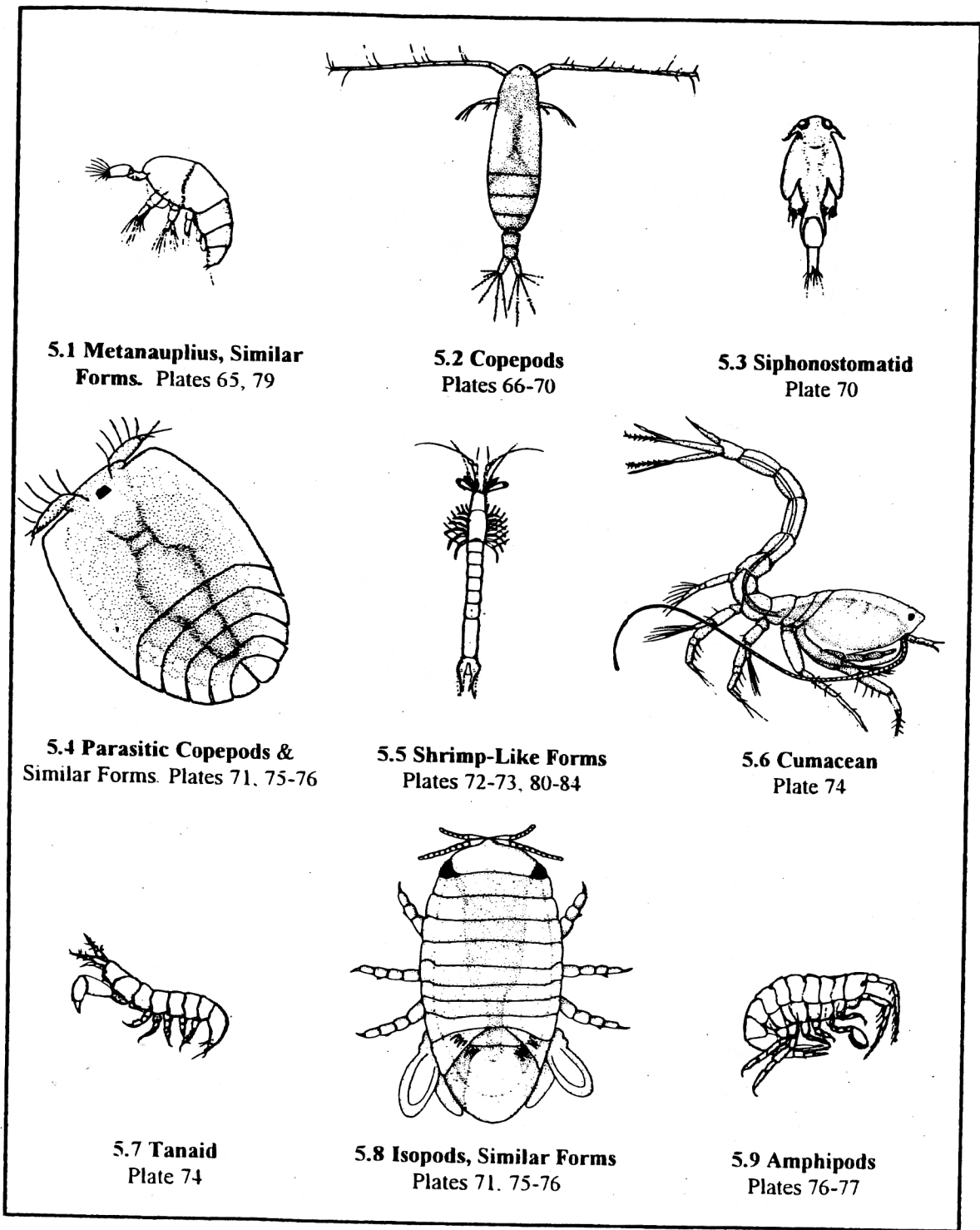


4.8 Ostracod
Plates 62-63



4.9 Cladocera
Plate 63

Plate 4. Quick Flip Reference: *Polygordius*, Various Crustaceans



5.1 Metanauplius, Similar Forms. Plates 65, 79

5.2 Copepods
Plates 66-70

5.3 Siphonostomatid
Plate 70

5.4 Parasitic Copepods & Similar Forms. Plates 71, 75-76

5.5 Shrimp-Like Forms
Plates 72-73, 80-84

5.6 Cumacean
Plate 74

5.7 Tanaid
Plate 74

5.8 Isopods, Similar Forms
Plates 71, 75-76

5.9 Amphipods
Plates 76-77

Plate 5. Quick Flip Reference: Various Crustaceans

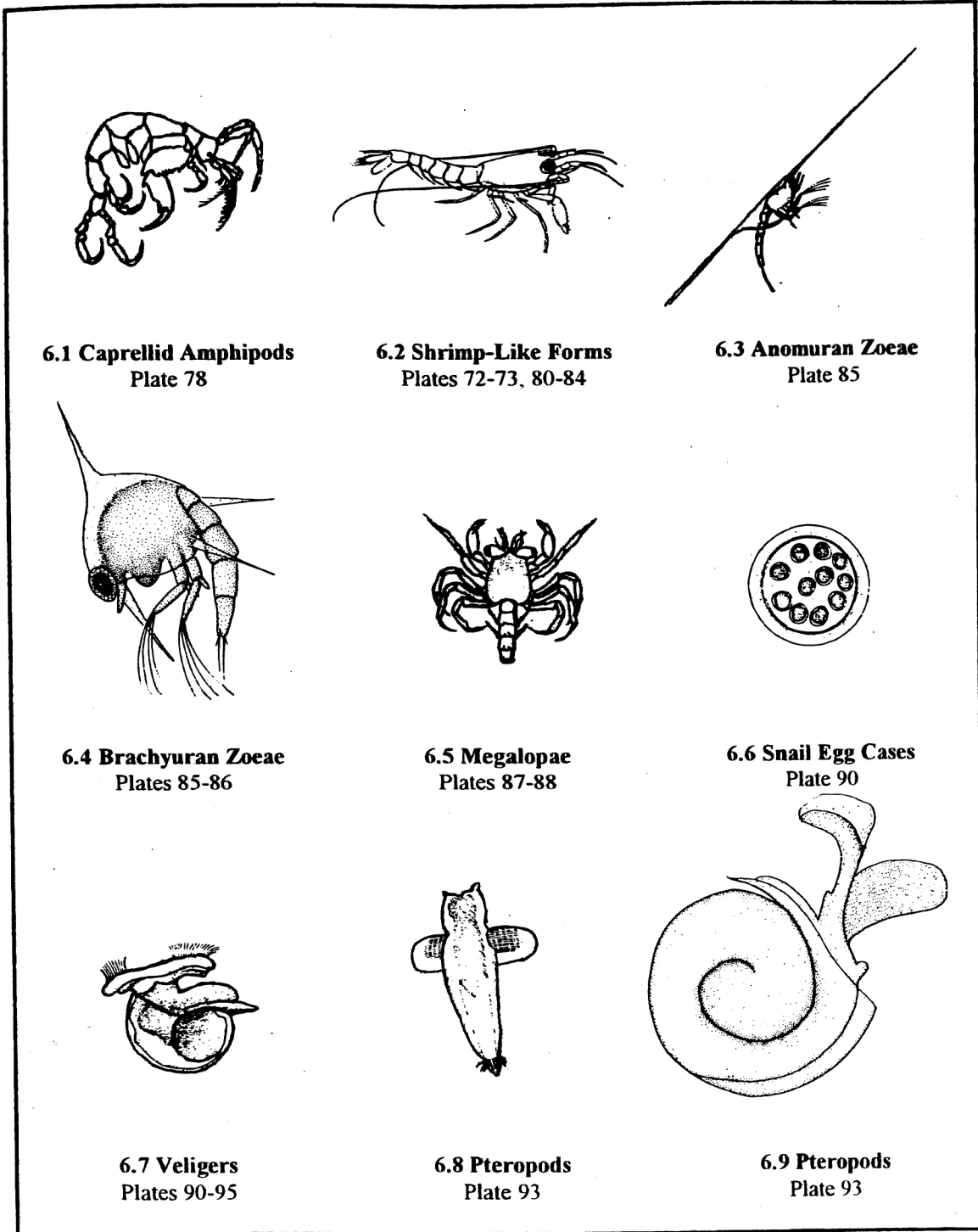
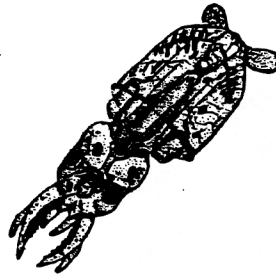


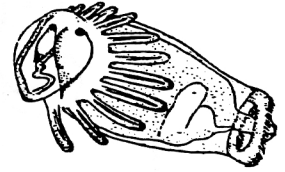
Plate 6. Quick Flip Reference: Crustaceans and Molluscs



7.1 Nudibranchs
Plate 94



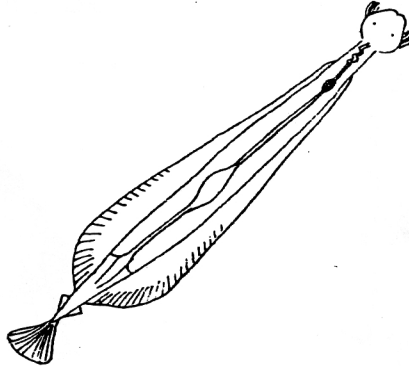
7.2 Cephalopods
Plate 96



7.3 Actinotroch
Plate 98



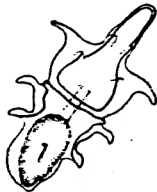
7.4 Lingula
Plate 99



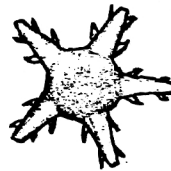
7.5 Chaetognath
Plate 99



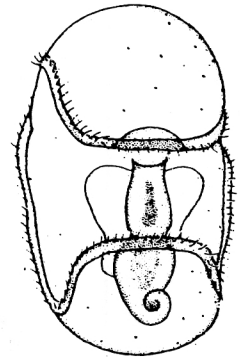
7.6 Pediveliger
Plate 95



7.7 Late Bipinnaria
Plates 100-102

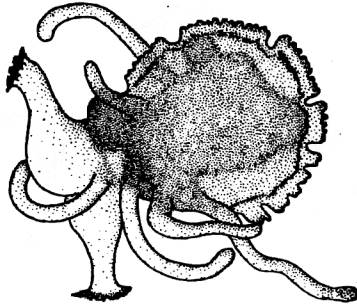


7.8 Echinoderm Juveniles
Plates 101, 103-104

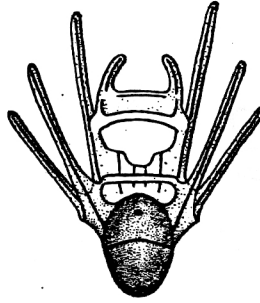


7.9 Bipinnaria, Similar Forms
Plates 100, 102, 105

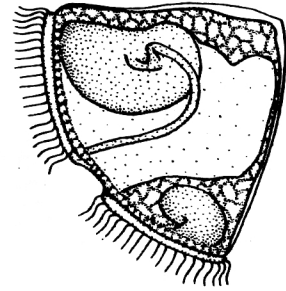
Plate 7. Quick Flip Reference: Molluscs and Deuterostomes



8.1 Late Echinoderm Larvae
Plates 101, 104



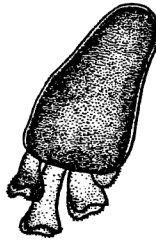
8.2 Plutei
Plates 103-104



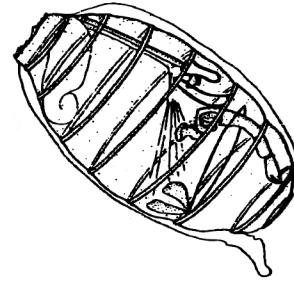
8.3 Cyphonautes
Plate 97



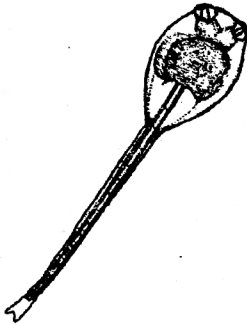
8.4 Brachiolaria
Plate 101



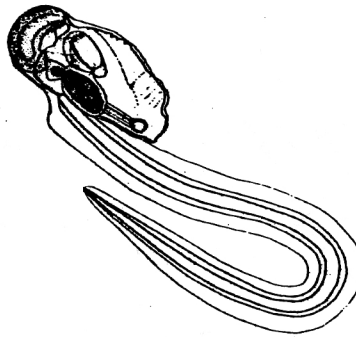
8.5 Pentacula
Plate 102



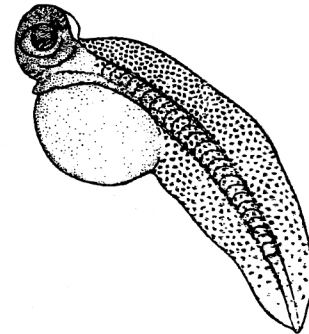
8.6 Barrel Forms
Plates 102, 108



8.7 Tadpole Larva
Plate 106



8.8 Larvacean
Plate 107



8.9 Larval Fish
Plates 109-112

Plate 8. Quick Flip Reference: Deuterostomes