



CHIRONOMIDS AND CHAOBORUS are the larva of tiny flies called midges. They are also called glass worms because they are almost completely transparent. Glass worms live in freshwater before developing into flies.

They are about 2 mm long and can be seen in shallow waters as tiny silvery flashes wriggling or darting through the water.

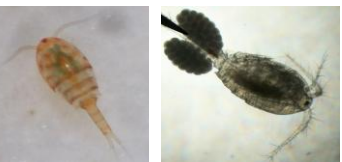


These baby insects are **PREDATORS** in the freshwater ecosystem, because they feed on other tiny animals. They are not plankton, but are included here because while growing in the water, they eat mosquito larvae and plankton like *Bosmina* and *Daphnia*.



COPEPODS are tiny crustaceans (relatives of crabs, lobsters, shrimps, crawfish and *Daphnia*). Their name means “oar-foot swimmers” because of the way they use their flat antennae to propel themselves through the water. They are about 2-3 mm long.

They are usually the easiest zooplankton to find in freshwater because they are so plentiful. Copepods are important members of the aquatic ecosystem, grazing on algae and other plankton and providing food for young fish. The bottom pictures show a kind of copepod called “cyclops”. The one on the right has egg packets attached to her tails bristles.



ROTIFERS are tiny zooplankton about 0.5 -1.5 mm long. Their name means “wheel bearer” because of the motion of the cilia that they use for swimming and filtering water.

They are important in the aquatic food web because they eat algae and detritus (dead plant and bacteria etc) from the water and are a food source for small fish and other plankton like copepods.



OSTRACODS are tiny crustaceans about 2mm long called “seed shrimp” because they look like small seeds in the water. They are sometimes also referred to as mussel shrimp because their body sits between two hinged shells. Because of these solid shells and their ability to thrive in diverse habitats and climates, their fossils are abundant.

They are easy to collect from shore or shallower water and easy to identify by the markings on their shells and their smooth swimming motion.

They are important in aquatic ecosystems as filter feeders on bacteria, algae, detritus and protists. They are also food for small amphibians and fish.



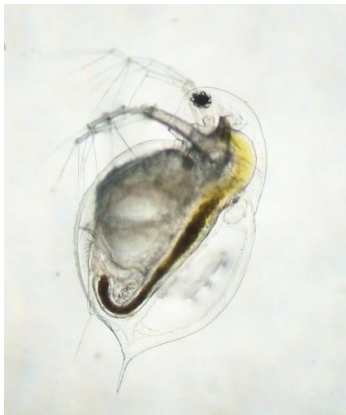
LYNCEUS are relatives of brine shrimp that are around 0.5 -1 mm long. They're called "clam shrimp" because of their similar body structure and hinged shell. They feed mainly as scavengers of detritus (dead matter). Their color changes depending on what they have eaten.

In the picture, the two eyes of the baby can be seen through the mother's transparent shell. The babies develop from eggs, but aren't released from the mother's shell until they develop into tiny young called nauplii.



BOSMINA are 0.5-1mm long zooplankton relatives of Daphnia (below). Bosmina are transparent and rounded with large rostrums that resemble the trunk of an elephant.

They eat algae and protozoa (single-celled animals) by filtering them from the water or grabbing with their legs. They are very abundant in spring and summer, providing an important food source for young fish.



DAPHNIA are tiny crustaceans that are dominant members of the plankton community of virtually all lakes and ponds. They are considered a keystone species in freshwater ecosystems because they are the primary grazers of algae and a primary food source for fish. They can range from around 0.5 to 5mm in size.

Because they are sensitive to changes in water quality, they are used as a test organism by the EPA for monitoring water quality.

They are commonly referred to as "water fleas" because of the hopping motion they make while swimming and the red color they get when the oxygen levels in the water are low.

Much more fascinating information and many awesome images of these species can be found by visiting the following sources, all of which I consulted in preparing this guide:

<http://www.ucmp.berkeley.edu/phyla/rotifera/rotifera.html>

<http://www.microscopy-uk.org.uk>

<http://www.ucmp.berkeley.edu/arthropoda/crustacea/maxillopoda/ostracoda.html>

<http://www.cst.cmich.edu/users/mcnau1as/zooplankton%20web/bosmina/bosmina.html>

Ecology and classification of North American freshwater invertebrates by James H. Thorp & Alan P. Covich; ISBN 978-0126906479

Guide to Microlife by Kenneth Rainis & Bruce Russell; ISBN 0-531-11266-7

Wikipedia commons (search by phylum name, ex: rotifer, copepod, daphnia, etc)

This guide prepared by Melissa Pompilius, UAB, May 2011; all rights reserved; content provided for educational purposes only