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AQUATIC CRITTERS

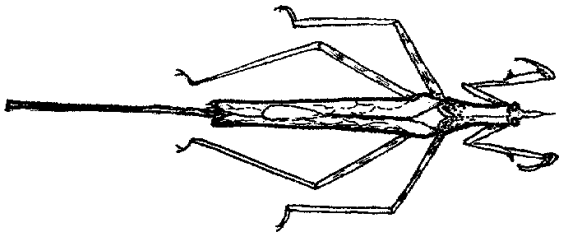
Quick Finder Key

For further information about things you may find in aquatic systems refer to the following books:

Pond Life
A Golden Guide
Western Publishing Company Inc.
ISBN 0-307-24017-7

A Guide to the Study of Fresh-Water Biology
Needham and Needham
McGraw-Hill Publishing Company
ISBN 0-07-046137-6

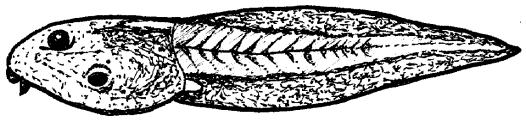
Aquatic Entomology
W. Patrick McCafferty
Jones and Bartlett Publishers, Inc.
ISBN 0-86720-017-0



75 mm

Water Scorpion

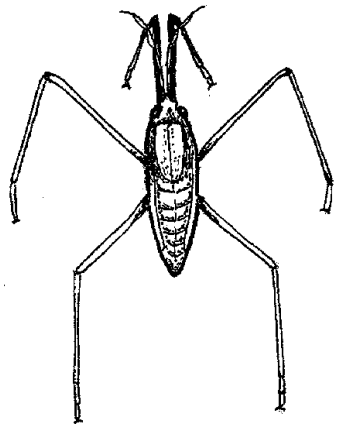
Water scorpions grow to 75 mm long and have front legs that are modified for grabbing prey. They use the two long breathing tubes coming from the end of the abdomen to reach up to the surface and get air. They eat insects and small fish. During mating season, the water scorpions leave the water and fly in search of a mate. They will occasionally mistake a parking lot or a black car for a pond, land on it and quickly die from the heat.



75 mm

Tadpole

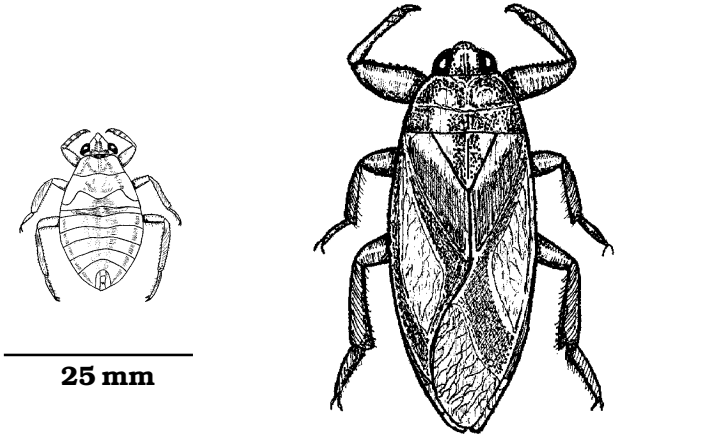
The tadpole is a young toad or frog. Tadpoles grow up to 75 mm long and are green, brown or black. They can be found in shallow ponds, ditches, containers and streams. Tadpoles mostly eat dead plants. Some tadpoles live up to two years before they change into a frog or toad.



30 mm

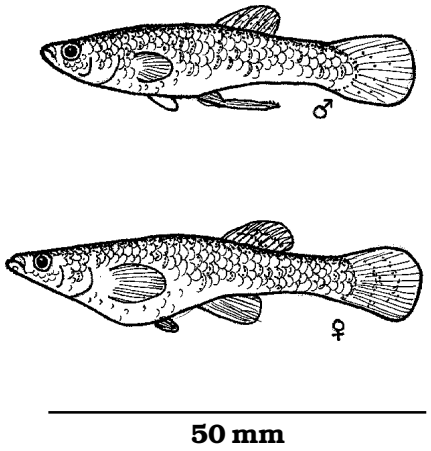
Water Striders

Water striders, also called "pond skaters", glide on the surface of the water. They grow up to 30 mm in length. They feed on small insects which they grab with their two shorter fronts legs. The remaining two pairs of legs are much longer. The middle pair of legs is used for pushing the water strider forward, while the hind pair of legs is used for steering.



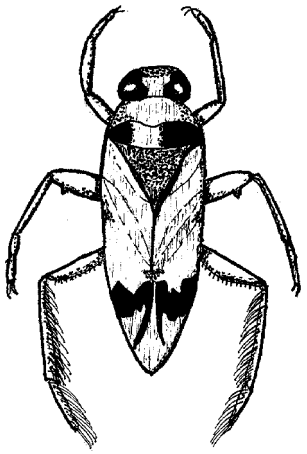
Giant Water Bugs

The smaller giant water bug can grow up to 25 mm; the giant water bugs up to 75 mm in length. They eat insects, tadpoles and small fish. Giant water bugs grab prey with large front legs and inject a poison into the animal with their proboscis. This poison turns the animal's insides into a jelly which the water bug then sucks out. After mating, the female smaller giant water bug glues her eggs on to the back of the male. He will carry the eggs on his back until they hatch. Giant water bugs can bite. **Do not touch them.**



Mosquito Fish

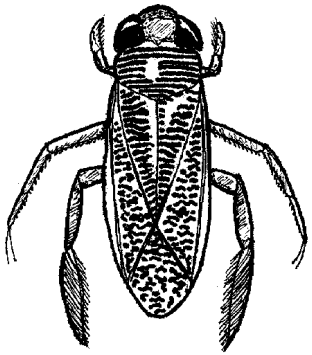
Mosquito fish are also called *Gambusia*. They grow up to 50 mm long. The male is much smaller then the female. *Gambusia* feed on small animals that are at or near the surface. Because they eat large numbers of mosquito larvae, they have been used throughout Florida for mosquito control.



16 mm

Backswimmers

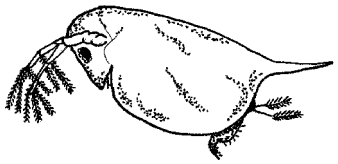
Backswimmers have a boat-shaped body and paddle-shaped legs. Their hind legs are much longer than their middle legs. Adults range between 5-16 mm in length. Backswimmers hold a supply of air on the underside of their body and beneath the wings. They feed on other insects, crustaceans and small fish. These insects are often confused with the waterboatmen. One method of telling the difference between the two is by looking at the forelegs, which are much longer on the backswimmer than on the waterboatmen.



11 mm

Water Boatmen

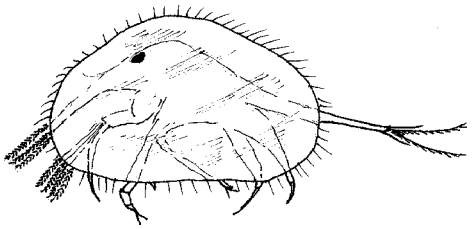
Water Boatmen grow up to 11 mm long. They are found in a variety of aquatic habitats including running water, still pools and ponds, brackish and intertidal areas. They have a boat-shaped back and long hind legs modified for swimming. When underwater, the insect is usually surrounded by a silvery bubble which they use to breathe. Water boatmen will float on the surface unless they hold on to a submerged object. Their diet varies considerably depending upon the species. Some feed on plants, others on decaying matter and some are active predators of small animals. Water Boatmen can be distinguished from backswimmers by the short modified forelegs and the short modified beak.



3 mm

Waterfleas

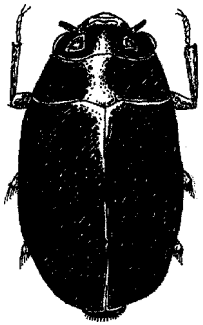
Waterfleas usually measure up to 3 mm and are flattened side to side. They swim by using their enlarged second pair of antennae. This accounts for their jerky movement as they move through the water. Their body is enclosed in a thin, transparent shell. The females can lay eggs every two to three days and can lay up to 13 billion eggs in a 60 day period. They eat algae, microscopic animals and other organic matter.



3 mm

Seed Shrimp

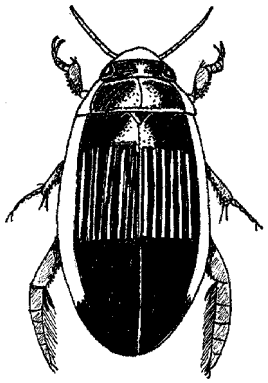
These are clam-like animals found in all kinds of fresh water. They are very small, usually less then 3 mm. They have two shells without growth lines. Some species have dark patterns on their shells. The two pairs of antennae protrude from the shell when it is open and help it swim. In some species of seed shrimp there are no males known. Females lay unfertilized eggs which then hatch and grow into females. Many are found in very calm water with silt bottoms or among rooted plants.



10 mm

Whirligig Beetles

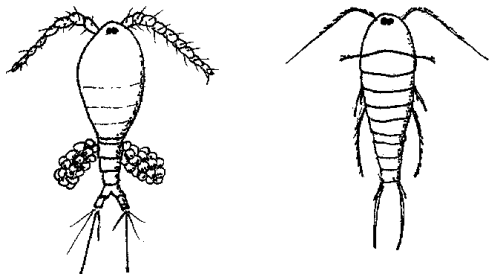
Whirligig Beetles are blackish, oval and somewhat shiny. They grow up to 6 - 10 mm long. Their front pair of legs are long and used for grabbing prey which is mostly small insects. The remaining two pairs of legs are short and do not extend out past the body. They are usually found swimming on the surface of the water, spinning around wildly. This behavior gives them the name whirligig beetle. One very unique feature of this beetle is that is has two pairs of eyes. One pair looks above the surface of the water, while the other pair looks below the water's surface.



25 mm

Predaceous Diving Beetle

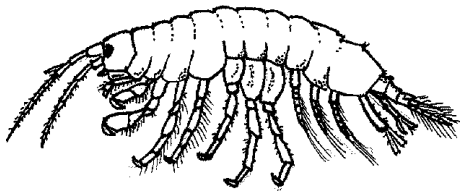
Predaceous diving beetles are common in most lakes and ponds. The larvae, often called water tigers, and the adults eat insects and other small water animals. The larvae are elongated ranging from 3-25 mm in length, with slender legs and usually strongly tapered at the end. The adults are good fliers and are often attracted to lights.



3 mm

Copepods

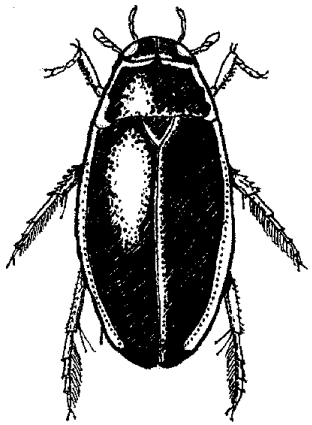
Copepods are also called "waterhoppers", referring to their jerky movement through the water. They are usually less then 3 mm in length and can be found in a variety of aquatic habitats. Their bodies are somewhat pear-shaped and taper down to a forked tail. They have six pairs of legs, the first of which is modified for feeding. Copepods eat microscopic organisms and any kind of decayed matter. Females can often be found with two pouches of eggs hanging from their sides. A common copepod is the "Cyclops", named for the single large eye in the middle of its head.



11 mm

Scud

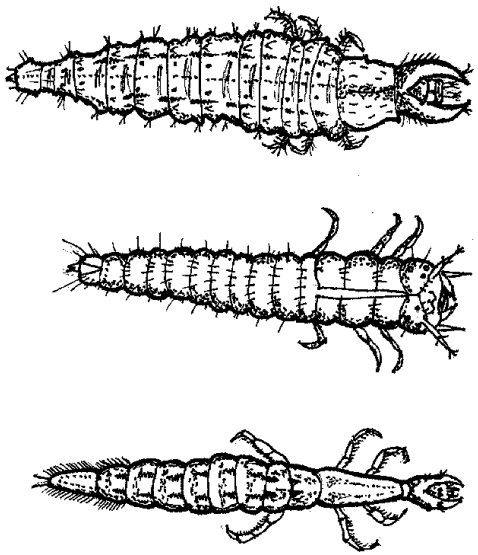
Scuds are also called side-swimmers. These animals are flattened sideways. When mature they range between 5-20 mm. They feed on pieces of decaying plants and animals. Scuds have seven pairs of legs. The first two pairs are modified for grasping. Scuds are usually found in shallow water and are often resting on plants or submerged debris.



40 mm

Water Scavenger Beetle

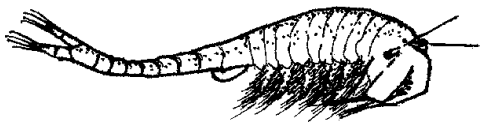
There are many different kinds of beetles which live in the water. Some feed on plants, some feed on animals and some feed on dead things. Water scavenger beetles range in size from 1 to 40 mm. They breathe by carrying an air bubble with them under the water. When this air supply runs out, they swim to the surface and get a new bubble.



60 mm

Beetle Larvae

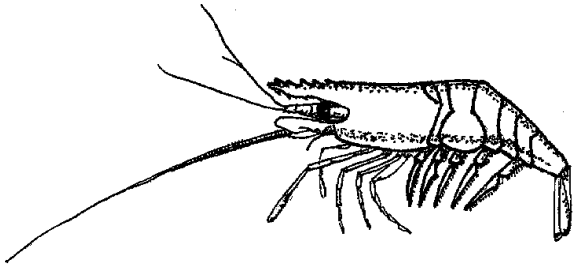
The larvae of water beetles are active swimmers. They range in size from 1 mm to 60 mm. They eat insects and small fish in the water. Beetle larvae use a breathing tube similar to the mosquito larva's siphon to get air at the surface of the water.



25 mm

Fairy Shrimp

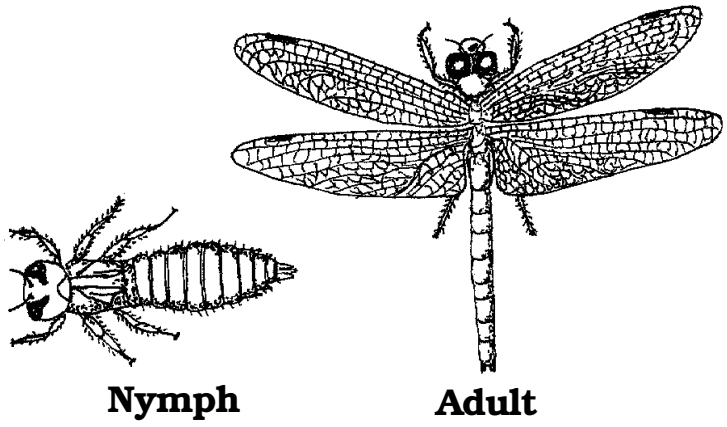
Fairy shrimp are found in small ponds and temporary pools. They are seldom more than 25 mm long. Fairy shrimp swim on their backs using 11 pairs of leaf-like swimming legs. Their body is divided into a head and trunk and does not have a carapace or shell.



35 mm

Freshwater Shrimp

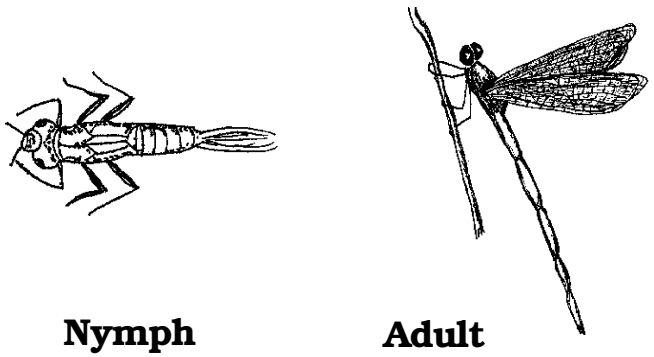
Freshwater shrimp are also called prawns. They are generally 25-35 mm long and their body is usually clear. They are found in shallow water, living among the plants. They feed on dead and decaying pieces of plants and animals. They are related to the shrimp we eat. Often they are found carrying egg masses underneath thier bodies.



75 mm

Dragonfly Nymph

Dragonfly nymphs grow up to 75 mm long. Their bodies are fairly wide. A long lower jaw helps them catch their food. Dragonfly nymphs feed on aquatic insects and other small animals. As adults, dragonflies are often called mosquito hawks because they eat mosquitoes. They have four large wings which are held out to the sides when they are at rest.

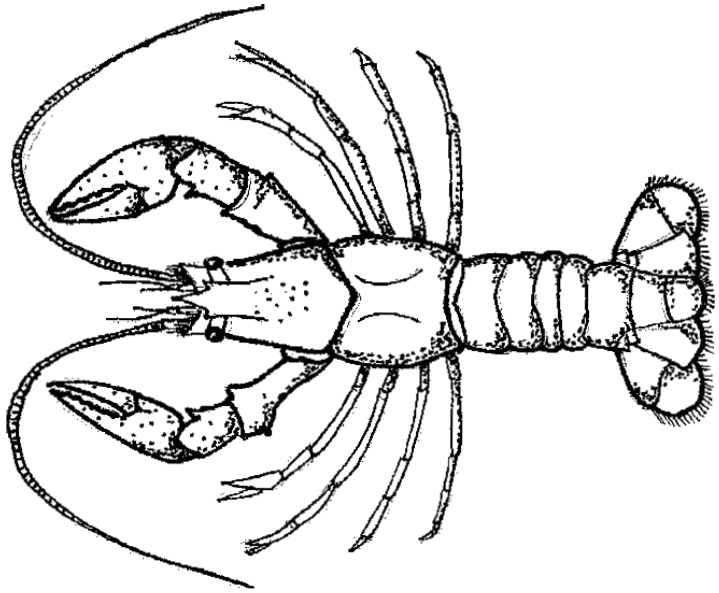


Nymph **Adult**

25 mm

Damselfly Nymph

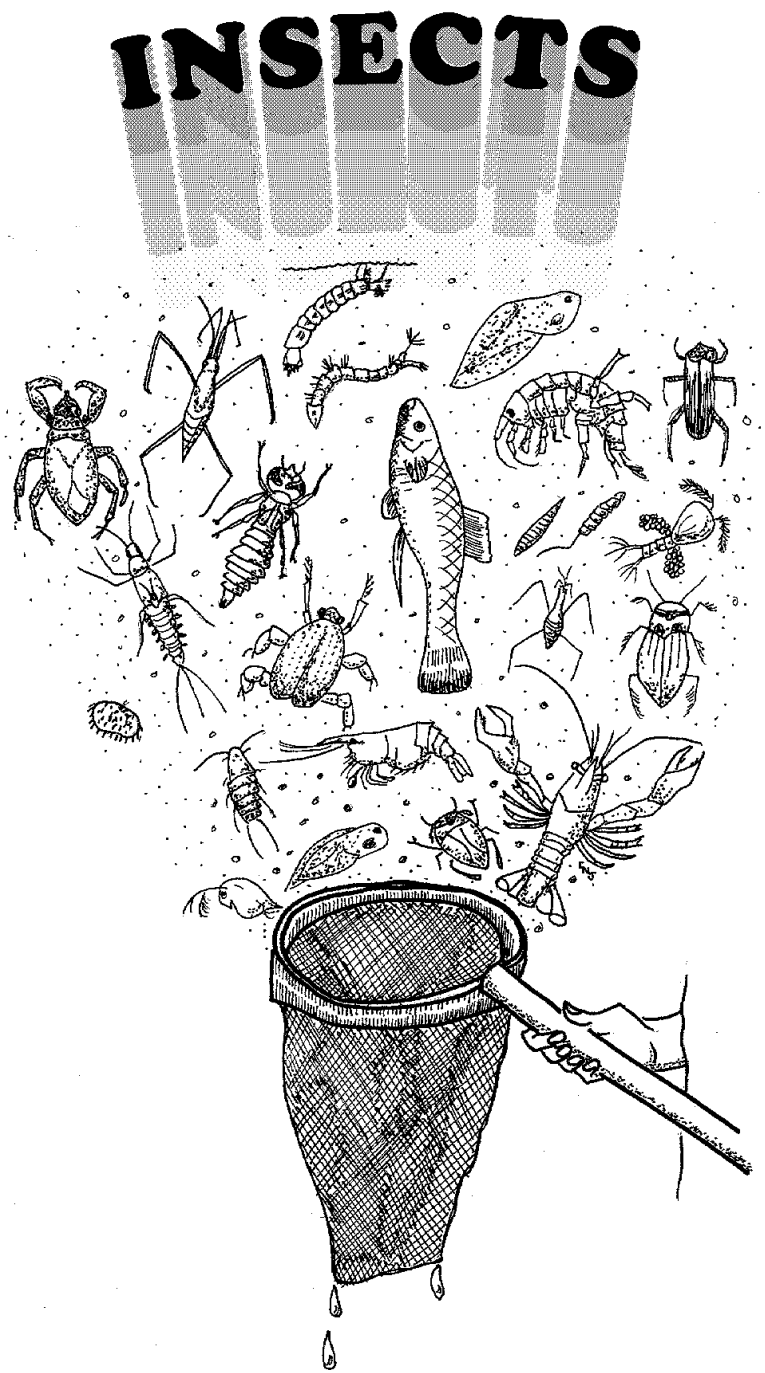
Damselfly nymphs grow up to 25 mm long and are either green or brown. They are often found in ponds or streams crawling on plants in search of food. They feed on small animals which live in the water. The three structures sticking out from the tip of the abdomen are gills, which they use to breathe.

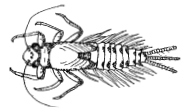


125 mm

Crayfish

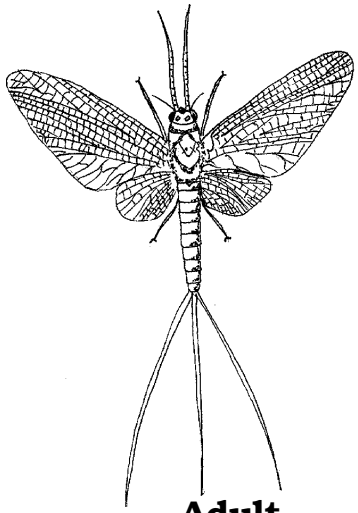
Crayfish live in freshwater ponds, lakes, ditches and streams. Crayfish are related to crabs, lobster and shrimp. They grow up to 125 mm long and have ten legs. They usually eat plants. However, they will eat other animals. During the dry season, they hide in tunnels which they dig into the mud. Their tunnels are easy to find because crayfish use mudballs to build chimneys around the entrance hole.





Nymph

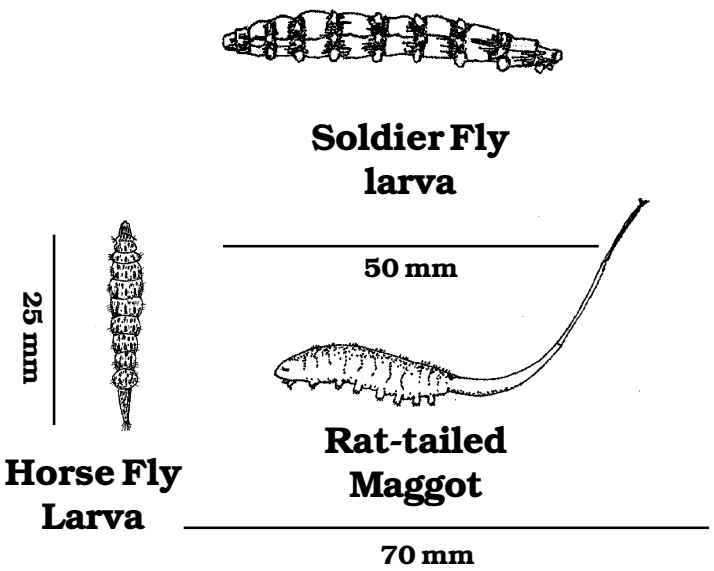
25 mm



Adult

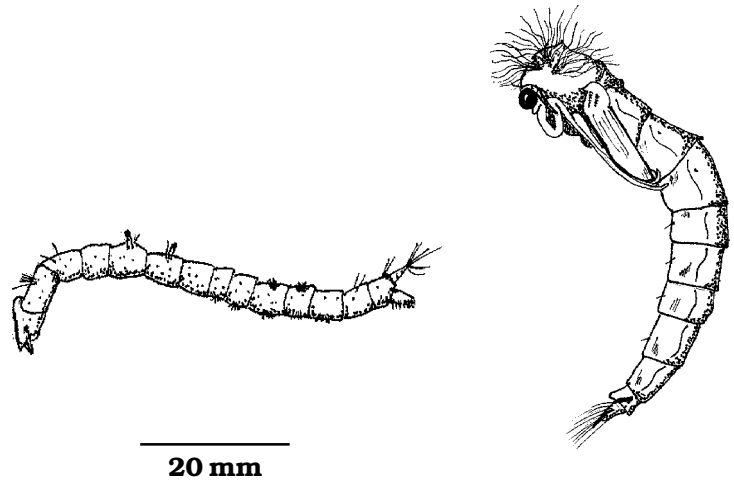
Mayfly Nymph

If an insect undergoes metamorphosis and does not have a pupal stage, the juvenile (larval) stage is called a nymph. Mayfly nymphs grow to about 25 mm long. There are rows of leaf-like gills along the sides of the abdomen which end with three feathery tail-like structures. They feed on small animals in the water. When they mature into adults, mayflies have four wings which they fold across their back when they are at rest. Some mayflies may live as adults for only a few hours.



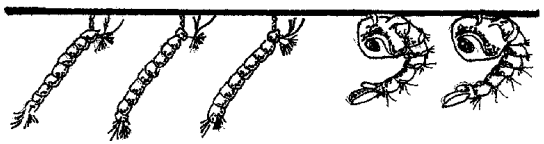
Fly Larvae

A large variety of fly larvae can be found in aquatic environments. Two commonly found are the rat-tailed maggot, also called drone fly larva, and the soldier fly larva. The rat-tailed maggot lives in debris found on the bottom and may reach 70 mm when fully extended. It has a single breathing tube which resembles a tail. The soldier fly grows up to 50 mm. It is stiff and covered with a thick skin. It often appears lifeless. Other larvae often found are the horse fly and deer fly larvae. These reach a length of 25 mm, are tapered at both ends and have a series of fleshy rings which encircle the body.



Midges

Midge larvae and pupa can be found in almost all aquatic habitats. Adult midges resemble mosquitoes. However, they do not bite. The larvae are usually rounded and range from 2-20 mm in length. They are found in a variety of colors, including green, red, yellow and white. Red midge larvae are called bloodworms. Most midge larvae live on the bottom and some build tubes to live in. The midge pupae are variable. Some live within cylindrical cocoons, while others resemble the pupae of mosquitoes. There are over 2,000 species in North America, and they are considered to be some of the most widely adapted of all the aquatic insects.



Larvae **Pupae**

15 mm

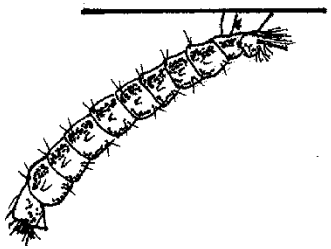
6 mm

Mosquito Larvae and Pupae

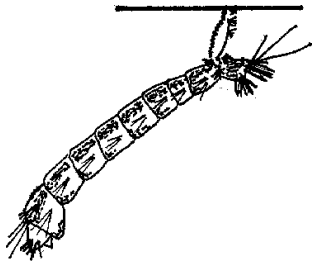
Mosquito larvae and pupae can live wherever there is standing water. The larvae grow to about 15 mm long and breathe through a siphon at the end of their abdomen. The pupae are up to 6 mm across and breathe through two tubes on their back called trumpets. The larvae feed constantly on pieces of dead plants and animals. The pupae never eat. Mosquito larvae and pupae are eaten by many different kinds of animals.

Three Kinds of Mosquito Larvae

Anopheles



Aedes



Culex