

The Life Aquatic

Many insects spend their entire lives in water and many others spend only part of their life histories as aquatic forms. The need for water is almost universal for life forms and sometimes body structure is dictated by this to live in water.

Caddis flies, which in the adult state look like primitive moths, lay their eggs on stones or plants overlooking streams. The newly hatched larvae drop into the water and begin building protective cases of silk, incorporating various bits of the environment on the silk for camouflage. The bits can be small sticks, pebbles, or other naturally occurring substances in the stream. As a larva grows, it adds on to the elongated case. To move about and feed, the larva extends its head and thorax out of the case and slowly inches its way forward dragging the case behind. It can very quickly pop back into the case if danger approaches. Next time you are near a stream, look for these little critters moving across stones or on the bottom. After the larvae reach a proper size, they form a pupa and emerge as a moth-like air breathing adult.



Dobsonflies, which can reach a wing expanse of up to five inches, also have aquatic larvae, but they are free living. They hide under stones in a stream and feed on small creatures in the water. The larvae are so large that they are sometimes used as fish bait, in this case being called hellgrammites. Dobsonflies are attracted to lights at night and can sometimes be seen flying around porch or security lights. They have long gray speckled wings and small bodies. They sort of resemble enormous lacewings. The males have huge mandibles, more frightening than useful.

Offspring of dragonflies are truly remarkable. You may have seen a female dragonfly skimming over a small pond while dipping the end of her abdomen into the water at intervals. Actually, she was laying eggs that sink to the bottom and eventually turn into tiny immatures that have mottled gray and brown bodies. They are perfectly camouflaged in their watery environment. The unusual thing about the nymphs, as they are called, is that they have a trapdoor shaped lower jaw that has two grasping pinchers at the outer end. Almost too fast for the eye to see, this nymphal dragonfly can shoot out the jaw and grasp whatever prey it is having for dinner. When full grown the immature form leaves the water, climbing up on a twig and it then transforms into an adult aerial dragonfly.

Many insects live in the water, but breathe air instead of having lungs like the above examples. Mosquito larvae require air and lie just under the surface of the water with their air siphons sticking out. If they are disturbed, they move like “wrigglers”, temporarily wiggling down to the bottom of their watery environ. Some spiders, diving beetles and water boatmen (a true bug) carry bubbles of air with them as they wend their way through their chosen medium. You might say that these critters have snorkels or scuba gear built in.

In insects and related arthropods, there is a tremendous variation in the body structures they exhibit to fit into different environments. Adaptation to an aquatic life is just one of a myriad number of ways to survive

