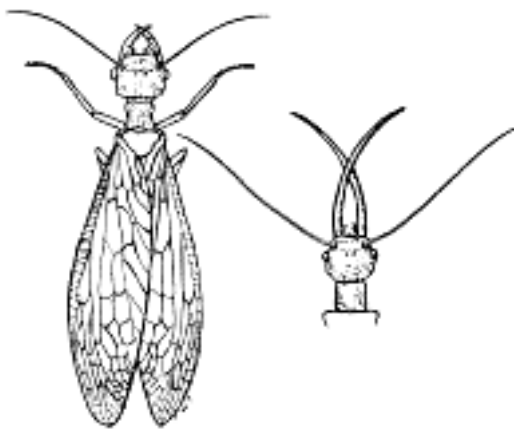




## Some Aquatic Insects

Dobsonflies; Mayflies; Midges; Stoneflies; Caddisflies

### Dobsonflies



*Left: Female Dobsonfly,*

*Right: Head of Male Dobsonfly (note large mandibles)*

The most spectacular of the aquatic insects is the dobsonfly, *Corydalus cornutus*. This is the largest species of dobsonfly found in New York, having a wing spread of 4 to 5 inches. It is usually found near water, but at night it may be attracted some distance to bright lights. The wings of both males and females are net-veined, and the mandibles (jaws) of the female are inconspicuous, while those of the male are long and sickle-like.

The larvae, often called hellgrammites, are found under stones in swift moving streams, and are used by fishermen for bait.

Before you try them for bait remember these insects have strong jaws and can inflict a painful bite. The larvae may live for three years before transforming to adults, and may be as long as 2 or 3 inches when full-grown. Hellgrammites are predaceous insects that feed on small aquatic life.

### Mayflies

#### *Adult Mayfly*

Mayflies are soft-bodied, slender insects that may be seen flying in great clouds moving across streams and lakes at twilight in an up-and-down-motion mating dance. Fishermen model many "dry flies" after these fragile insects. The adults have two or three long tail filaments and may be seen when attracted to lights in the early evening. Generally the adults hide in trees and shrubs close to aquatic areas until the mating flight. Hundreds of these insects move off the vegetation and into the air, fly about 1/2 hour during which time some of them mate, and then return to vegetation for cover or to the surface of the water to lay eggs.



The nymphs live in clear fresh waters and feed on vegetable matter, including diatoms and desmids (which make the gold-green color upon stones of the brook bottom). They will also feed on soft tissues of larger plants, either alive or dead.

## Midges



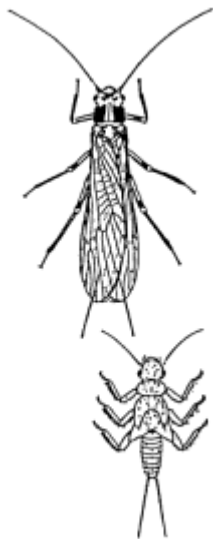
*Adult midges*

Aquatic midges often occur in large swarms. Some resemble mosquitoes, but they do not bite. Midges breed in water, and under summer conditions several generations may occur each year. Larval stages serve as food for fish in the aquatic habitat. Adults are relatively short lived, about 10 days at most. The males of many species swarm at dusk, and mating occurs when females enter the swarms.

Their presence causes a great annoyance to homeowners who live near the aquatic breeding sites. In some instances the midges may be so numerous as to cover sides of houses. Turning off lights or use of yellow lights at night when midge swarms are active (dusk and for about 1 hour thereafter) can help reduce the annoyance.

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## Stoneflies



*Top: Adult Stonefly,  
Bottom: Stonefly Nymph*

Adult stoneflies are usually found near water in shady places. Adults and shed nymphal skins of these insects can be seen on trees, rocks, or other vegetation. The adults may be attracted to lights at night. They range from 1/2 to 2 inches in length and are dark colored, brown or yellow or pale green. The adults do not fly very far. In contrast to the caddisflies, discussed below, stoneflies hold their wings close to the body, giving them a flattened appearance.

Stonefly nymphs are found under stones, around branches, or in debris in the streambed. Most are vegetarians, feeding on dead organic matter, but a few are predaceous.

When the nymph completes development, it crawls out of the water and takes firm hold on a rock, stick or other nearby object. Very soon it goes through the final molt, the nymphal skin splits right down the center of the back, and the adult stonefly emerges. Within a few minutes, the wings are hardened and the insect is ready for flight. The adults live only a few weeks.

Stoneflies, like mayflies, may occur by the millions at bright lights near bodies of water. In such instances they are an extreme annoyance. There is, however, no way to control them without seriously altering their larval habitat. They do not last long.

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## Caddisflies



*Adult Caddisfly*



*Larva with case*



*Case*

The caddisflies are small to medium-sized insects that look somewhat like moths in overall appearance. The wings are usually held roof-like over the abdomen when the adult insect is at rest. Unlike moths, the wings and body are covered with hairs, not scales.

The larvae are aquatic, living in lakes and streams. Most of the larvae construct "portable homes" or cases. Many types of materials are used in the case construction, including small stones, sand grains, leaves, sticks, conifer needles, and even small snail shells, all held together by silken threads. The cases are often found attached to vegetation near the aquatic site. The larvae feed on algae or small aquatic animals, with a few species being predaceous on insects. After the larval stage is completed, the insect pupates inside the case and seals the entrance with silk.

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