

## Caddisflies

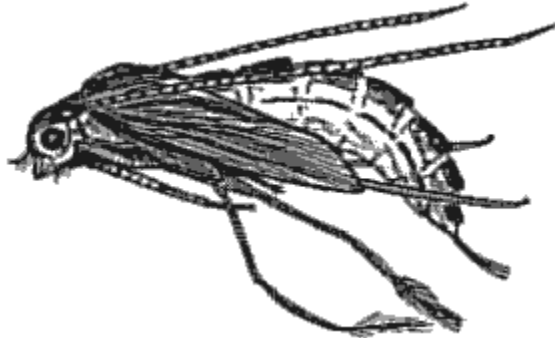
- are the aquatic cousins to butterflies and moths. The adult looks much like a moth except that it doesn't have the scaly wings or the siphon tube of the moth.
- Caddis flies go through egg, larva, pupa and adult stages. Adult mating usually occurs on the ground or among shoreline vegetation. After fertilization the female skims over the lake surface depositing eggs. The eggs are often bright green in color and are usually laid in strands. The eggs sink to the bottom, hatch into larva, and the young larva then form cocoon-like casings. Adults live from two weeks to two months. Most caddis flies have one or two generations per year but some of the larger species take two years to complete a generation.
- The larva grows within its casing which is remade or enlarged about 5 times before the larva pupates. About three weeks prior to emergence, the larva seals the entrance to the casing and pupates within. When developed the pupa breaks the seal, crawls out, swims to the surface and hatches into an adult. Pupal skins are often seen floating on the surface. The larvae are grub-like in appearance and can hide within their protective casings. The larvae make their casings by binding together small rocks, twigs, leaves or other materials. The materials and design of this casing can be used to determine the species of caddis fly. Within the casing the larva pupates and when developed, the pupa looks much like the adult but with under-developed wings. It has longish legs and antenna and a well-developed abdomen. The abdomen usually has eight segments and a row of gills along the sides and on many species the abdomen is wider at the posterior than near the thorax. With the smallish thorax, this gives the pupa a somewhat pyramidal shape. Adults are much like the pupa but with fully developed wings. The wings give the adult an even more pyramidal shape than the pupa. Some adults have wings that are transparent.
- Larva slowly crawls along the lake bottom carrying their portable casing. After the caddisfly pupates, the pupa crawls out of it's casing and may immediately swim to the surface or spend some time on the lake bottom depending on it's readiness for adulthood. At the surface the pupa breaks the water surface tension and is stationary for a couple of minutes while the adult breaks opens the pupal shell, hatches and dries its wings prior to taking flight. After mating, the adult female is back on the lake and skimming over the water surface while she lays her eggs. She is actually running on the water surface tension as opposed to flying.
- Caddisflies are able to withstand a wide variety of water conditions. However, they seem to prefer shallow, cool, well oxygenated waters. A few caddisflies are predacious but most obtain food from Algae, diatoms, plants and animal materials that have settled to the lake bottom. These foods are more abundant and available around weed beds than a muddy or sandy bottom. They are easy prey for the trout and their populations are among the first to decrease as trout populations increase. Trout readily feed on the adult and pupa stages but seldom on the larva since it rarely leaves its casing.
- Caddisflies are one of the last aquatic bugs to start hatching in the spring and

one of the first to disappear in the fall. This means that during the time they are available to the trout they are one of the primary foods. Indeed, from the last week in June until about mid-July they are often the main food source of the trout.

**Larva:**



**Pupa:**



**Adult:**



- Adults are usually eaten by fish while they are hatching and letting their wings dry, or when they return to the lake for laying eggs. When the caddisfly is laying eggs you will see it 'skimming' over the waters surface.