

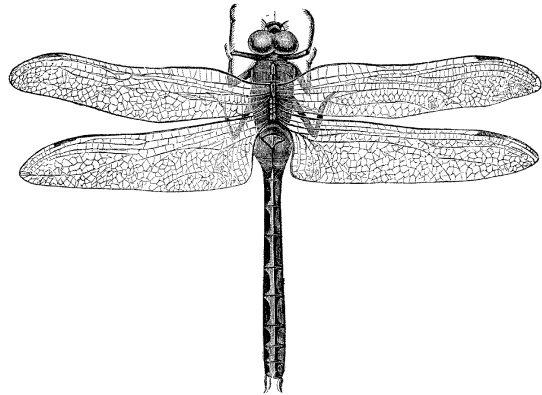
[From Fall 2001]

Mosquito Hawks Aloft

Mosquito hawks are everywhere – maybe even in your own backyard. Look closely. Can you see them soaring aloft with amazing speed and skill, ridding your yard of thousands of mosquitoes, flies and gnats? Mosquito hawks are not birds, although they do fly and some even migrate. Rather, the name is a common description for members of the order Odonata, the group of insects that includes the dragonflies and damselflies. On sunny days, from spring to fall, these aerial acrobats dart every which way over fields and water in search of food or a mate.

Dragonflies and damselflies are easily recognizable by their long slender needle-like abdomens, over-sized eyes, and two pairs of membranous wings. Many species are brightly colored in hues of blue, red, and green. Six legs dangle beneath their thorax to form a loose basket for scooping up insects in mid-air. Although dragonflies and damselflies are similar in appearance, there are distinct differences between them. Dragonflies are generally larger, heavier, and stronger fliers than damselflies. Eyes, which contain thousands of lenses, cover their heads and provide them with a near 360 degree view of the world. Wings are made up of two pairs, front and back, which can move separately, giving them the ability to stop quickly and change directions in mid-air. At rest, dragonflies hold their wings out flat, like those of an airplane. By comparison, damselfly lies are delicate, small and slender with a weak, fluttery flight. Their eyes, while large, are separated, placed more on the side of their head. At rest, damselflies hold their wings over their backs.

One of the earliest insects to appear on earth, dragonflies first soared through the prehistoric jungles of the Carboniferous age over 300 million years ago – that's, 100 million years before dinosaurs and 150 million years before birds! Those early ancestors cruised around on wingspans as large as 24 inches, making them the largest insects that ever lived. Today's dragonflies still resemble those ancient aerialists in appearance, but are considerably smaller. The largest today has a wingspan of 8 inches.



Life as an adult is only a small part of the life span of the odonates. Adults spend their short lives (up to two months) hunting, eating, and mating. The greater part of odonate life occurs underwater where they live for one month to three years or longer depending upon the species. Most dragonflies lay their eggs directly in the water, while a few dragonflies and the damselflies inject their eggs into the stems of aquatic vegetation. The egg hatches into a nymph, an aquatic version of the adult minus the wings.

Damselfly nymphs are small and slender with three feathery gills at the tip of their abdomens. In addition to absorbing oxygen, the gills are also used as rear paddles to move the nymph around the water. Dragonfly nymphs are larger and breathe through gills in their abdomen. The pump that ventilates their gills also creates a spectacular jet propulsion to move the nymph around the water quickly.

Nymphs have a unique extendable scoop-like lower jaw that rapidly shoots forward to capture prey. They feed chiefly on small aquatic insects although the larger species will capture and eat small fish or tadpoles.

When the nymph is ready to emerge into adulthood, it climbs out of the water onto aquatic vegetation. There, its old skin splits open and the new adult emerges and begins pumping fluids around its body and into the wings causing them to expand. When the wings have been "pumped up" and the exoskeleton, or outer casing of the insect, have hardened, the nymph begins its new life as an adult, removed from the water until the time comes to lay eggs again.

Mosquito hawk, devil's darning needle, snake feeder or by whatever common name, dragonflies and damselflies are amazing aerialists, beneficial eaters of pests, and fascinating creatures. Watch for them aloft in your backyard!

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