



# DRAGONFLIES!!!!!!!!!!

MAGNIFICENT FLYING DRAGONS EVERYWHERE-- GOT TO LOVE THEM!! One of the most magical parts of our local summers is also among the most ancient of living creatures. There were no mammals or birds on Earth when it lived 258 million years ago. In fact, "it was the only flying predator of its time." they have not change all that much, though a fossil imprint collected in Kansas in 1903 by E. H. Sellards, of an extinct dragonfly—Tupus permianus—shows that "it did not hover like dragonflies do today. It does not have struts near the base of the wing that are needed for powerful hovering." Today, they obviously do fly and hover, but what most people do not know is that this phase is only for a few months in our local varieties and a sign of feeding, mating and then old age. The longest part of their lives can be measured in years, but in the state of a nymph or naiad living in bodies of still water. The great news is, they are busily feeding on mosquito larvae, but the bad news is that if you have standing water for dragonfly nymphs, you have standing water for mosquitoes!

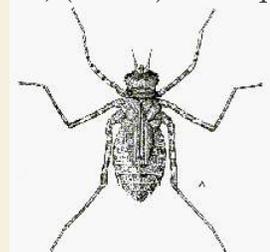
According to The Dragonfly Website at <http://dragonflywebsite.com/> (mostly a small site offering jewelry and "light" books...) "A dragonfly is an insect belonging to the order Odonata, characterized by large multifaceted eyes, two pairs of strong, transparent wings, and an elongated body. Dragonflies are similar to damselflies, but adults hold their wings away from, and perpendicular to the body when at rest.



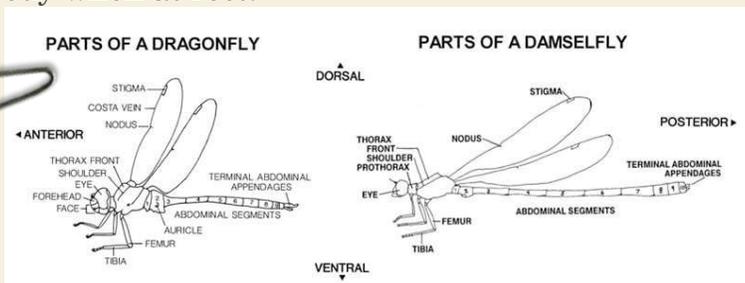
Dragonfly, above, with wings held perpendicular to body; Damselfly, below, with wings held along the body.



Dragonflies typically eat mosquitoes and other small insects. They are valued as predators, since they help control populations of harmful insects. Dragonflies are usually found around lakes, ponds, streams and wetlands because their larvae, known as "nymphs", (below) are aquatic.



Adult dragonflies do not bite or sting humans, though nymphs are capable of delivering a painful but harmless bite.



According to the Office of Public Affairs in Austin, Texas--a state with many varieties--the "larvae are tremendous predators. Dragonfly larvae can feed on newts, tadpoles, small fish and other aquatic life. It's not unusual for them to be the top predators in a pond with small fish.

Unlike butterflies, where the caterpillars can be easy to identify, dragonfly and damselfly larvae are difficult for the nonscientist to identify. Hobbyists can easily, however, try to draw the adult dragonflies and the larvae to their properties by adding backyard ponds and other landscape features with water."

Obviously, with all this farming and irrigation in the greater Capay Valley, we do not need to "create backyard ponds and landscaping" to attract them, but it doesn't hurt to know that they are beneficial and worthy of protection and encouragement. At the right I attempted to capture the many dragonflies hovering by this alfalfa on a typical irrigation canal, but they are not easy to spot. Still, they were everywhere--encouraging me to research them and find, much to my surprise, that they are in this magical flying stage for only a short portion of their lives, but it is what has helped them survive for millions of years: they are in a feeding frenzy when they are in these typical swarms and may wander miles from their original aquatic birth place in search of food and other bodies of water. That ability, and their hard-shelled bodies, is what kept these "dinosaurs" alive when others perished--adaptability!

And from <http://www.holoweb.com/cannon/dragonfl.htm> we get:

"Dragonflies are worldwide in distribution with more than 5,000 described species. There are about 450 species of dragonflies in North America. Adults are usually found near water but are good fliers and may range several miles. They are active during the day, and can be observed" in a feeding frenzy and hunting and mating: "Males of some species are territorial, defending their domain from other males who enter...Nymphs capture and feed on mosquito larvae while adults capture mosquito adults, among other small insects, while in flight.

Visit:

The Dragonfly Website at <http://dragonflywebsite.com/> and: [www.utexas.edu/](http://www.utexas.edu/)



and Office of Public Affairs, P.O. Box

Austin, Texas, 78713 and: <http://www.holoweb.com/cannon/dragonfl.htm> and: <http://kaweahoaks.com/html/dragonflies.htm>,



"Dragonflies and damselflies together make up the insect order Odonata. The Greek word "odon" means tooth, and the name here refers to the toothed jaws of these predatory insects. Fortunately for us, dragonflies and damselflies use their formidable mandibles on mosquitoes, midges, and other pest insects—not us!"

For those of you with a more scientific bent, try:

<http://kaweahoaks.com/html/dragonflies.htm>, A Beginner's Guide to DRAGONFLIES says that Dragonflies form an important part of Wetland wildlife and they play a significant roll in its general ecology. Of the various animal Kingdoms, including plants, animals, bacteria, etc., there is a common further division into just two kingdoms: Chordata, with birds and mammals, and Arthropoda, which includes dragonflies and other animals with external skeletons, invertebrates without a backbone. This means that, in order to accommodate their growth, arthropods must repeatedly shed one 'skin' and grow a new one. The life of a developing arthropod is thus punctuated by a series of moults, during which it is extremely vulnerable. In addition, since respiration cannot take place through their hard external surface, other methods of allowing the inhalation of oxygen have had to evolve.

Insecta. Insects form the largest single group in the animal Kingdom and can be defined as creatures whose bodies have three sections: head, thorax and abdomen, the central one (thorax) bearing three pairs of legs and, in most cases, two pairs of wings. One of the Orders within Insecta is Odonata - and these are our dragonflies!

Odonata. This is an Order of insects whose members are loosely known as 'dragonflies' and which contains two main Suborders: Anisoptera (dragonflies) and Zygoptera (damselflies), with the usual three pairs of legs, two pairs of large, delicate, membranous wings, and a long, slender abdomen. They breathe through spiracles (holes) in the abdomen. During their earlier, larval, stage, the insects live in water and breathe through gills. During both stages, odonates exhibit voracious appetites, feeding exclusively on small animal matter.