

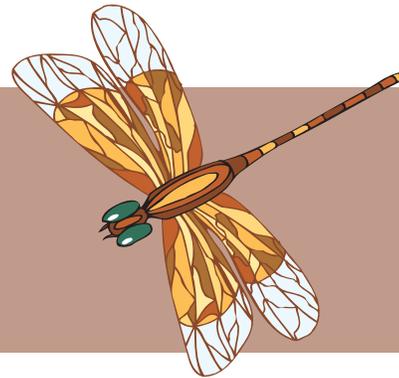


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# Dragonfly

*Anax junius*

by M. Grunberg and N. Allen



**D**ragonflies can be found in almost any wetland area. They are large, beautiful insects that come in a variety of sizes and colors.

Dragonflies belong to the insect order Odonata, which means “toothed ones.” They received this name because their jaws have toothlike ridges. They are one of the oldest known insects. Fossils have been found that are more than 300 million

years old, so we know that dragonflies lived as long ago as the dinosaurs.

One of the most common types of dragonfly is the green darner. It has a green head and body and is about 2 to 3 inches long, with a wingspan of 4 inches. Green darners are found near ponds, swamps, lakes, and streams throughout North America.

Dragonflies’ favorite foods are flies and mosquitoes. They eat so many insects that they help control insect populations, so they are very useful to humans.

Many types of animals eat dragonflies. Birds such as swallows, kingbirds, and small hawks eat both adult dragonflies and larvae. Frogs catch them with their sticky tongues. Dragonfly larvae will even eat each other. Some types of fish jump out of the water to catch a flying or perched dragonfly. Because they must hide from these predators, dragonflies have great vision and can take off quickly.

The presence of dragonflies may be a sign of a healthy ecosystem, because dragonflies are sensitive to pollution.



Photo: Steve Hill

The presence of dragonflies may be a sign of a healthy ecosystem.

*Mindi Grunberg, student in fisheries and wildlife, and Nancy Allen, fisheries and wildlife faculty, Oregon State University.*



## Species description

Like all insects, dragonflies have three body parts. An adult dragonfly has a pair of compound eyes on its head. Each eye may contain as many as 28,000 lenses. Behind the head is the thorax. It connects three pairs of legs and two pairs of large wings. The average wingspan is 1 to 3 inches. The thorax connects to the abdomen, which is long, slender, and segmented.

During mating, the male attaches to the female by grabbing her behind the head with a clasp at the end of his body. The female brings her abdomen forward so that her eggs are fertilized. The pair stays attached until the female deposits the eggs.

Most females lay their eggs in water or mud. Others deposit their eggs on plant material above or below the surface of the water. The eggs normally are laid in batches of hundreds, and the larvae inside start to develop soon after the eggs are laid.

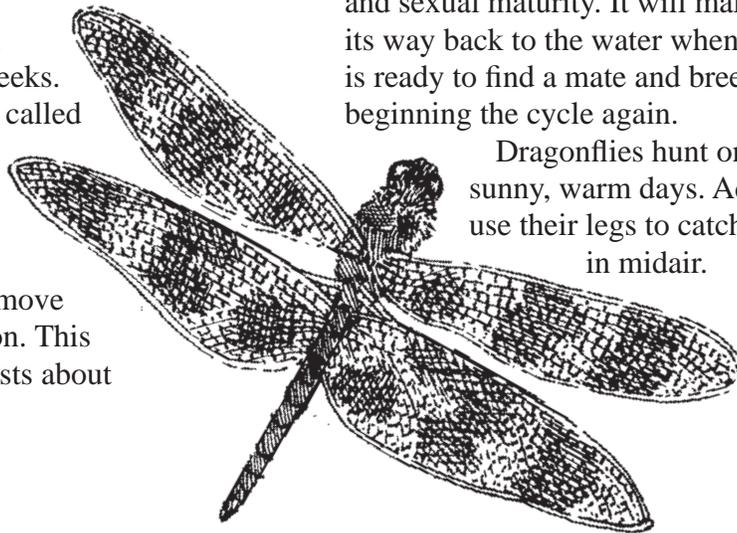
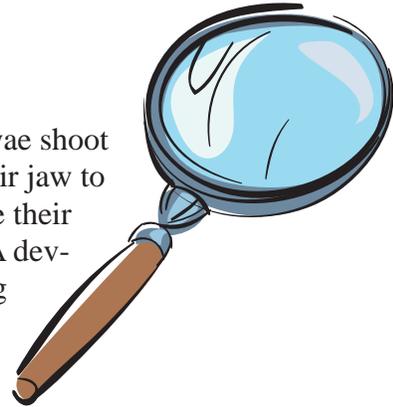
Larvae hatch within 1 to 3 weeks. Larvae also are called nymphs. They live in the water, breathe by oxygen exchange, and move by jet propulsion. This stage usually lasts about 2 years.

Larvae shoot out their jaw to capture their food. A developing larva molts or sheds its skin in order to grow. It molts 8 to 12 times before becoming an adult with wings.

The process of transforming from larva to adult is called metamorphosis. This change happens around May to July. The nymph climbs out of the water onto a plant. It breaks its casing, and an adult dragonfly emerges. Before the dragonfly can fly, it must rest and dry in the sun so that its wings stiffen and harden.

After resting, the young adult flies away from the water. The dragonfly's adult life will last only a few weeks to a month. During this time, the dragonfly will attain full coloration and sexual maturity. It will make its way back to the water when it is ready to find a mate and breed, beginning the cycle again.

Dragonflies hunt only on sunny, warm days. Adults use their legs to catch prey in midair.





## Where they live and why

Dragonflies live in ponds, rivers, wetlands, and marshes. There are many different species of dragonflies, and they differ in where they like to live. Some live only in cool streams or rivers, others in ponds or still, clear waters, and some in marshy places. The acidity of the water, the amount and type of aquatic vegetation, and the temperature all affect where larvae live.



Photo: LaYonda Walton

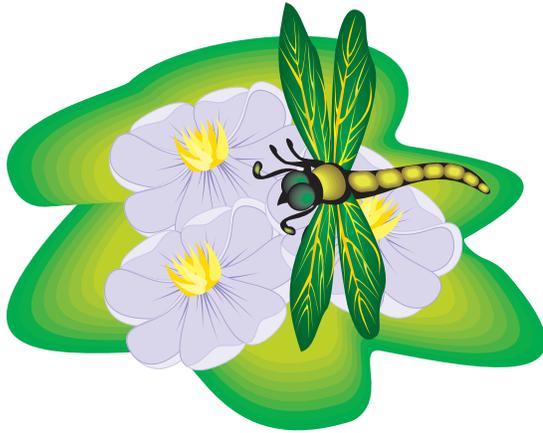
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## Creating habitat



Because dragonflies develop in water, it is necessary to protect and conserve this habitat. One way to help dragonflies find homes is to create a wetland or pond. For more information, see *Create a Garden Pond for Wildlife*, listed under “Learn more!” Other features that may attract dragonflies include aquatic vegetation, floating logs, and protruding branches.





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## Fun facts

-  Dragonflies can fly backwards and hover like a helicopter.
-  Dragonflies beat their wings about 30 times per second.
-  Dragonfly eyes have as many as 28,000 lenses.
-  Dragonflies can fly at speeds up to 30 miles per hour.
-  Even though dragonflies look like they are able to sting, they are harmless to people.

## Learn more!

*Create a Garden Pond for Wildlife.*  
S. Lamb and N. Allen. 2002. EC 1548.  
Oregon State University.  
Desert USA. <http://www.desertusa.com/mag98/nov/papr/drangonflies.html>

Illinois Department of Natural Resources.  
<http://dnr.state.il.us/lands/education/classrm/wingleg/dragonfl.htm>  
KidFish. <http://www.kidfish.bc.ca/>



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