

Common Green Darner (*Anax junius*)

Description



Figure 1: The male Common Green Darner has a green head and thorax with a bright blue abdomen. By Dennis Deck.

The Common Green Darner (*Anax junius*) is Oregon's largest dragonfly, about 3 inches in length and wing span. It is one of the most common dragonfly species throughout the state, except at high elevation. The Green Darner's distinctive color makes it easy to distinguish from other dragonflies, even on the wing. Males (Figure 1) have solid green eyes and thorax (midsection) and a bright blue abdomen (hind section), while females (Figure 2) have a reddish abdomen.



Figure 2: Females have a reddish abdomen. By Dennis Deck.

Feeding Behavior

Dragonflies are the ultimate predator, hunting on the wing for any smaller insect including: flies, mosquitoes, butterflies and moths, and even other dragonflies. While many dragonflies perch to wait for prey, the Common Green Darner typically hunts in continuous flight. It uses its front legs to capture insects and put them in its mouth. In a half hour the Green Darner can consume its own body weight in insects. The Green Darner usually feeds over water, but it can also feed far from the pond.

Dragonfly flight is unique since each wing is powered separately. This gives dragonflies precise control when flying in virtually any direction, like a helicopter, and at a range of speeds. Slow motion film clips on YouTube show dragonflies flying and landing with amazing maneuverability.

Reproduction

Mating is a rather dramatic affair. The male transfers his sperm to the base of his abdomen. Then he grasps a female by the neck with structures at the end of his abdomen. She swings her abdomen forward to collect his sperm and grasps his abdomen in the process. This position is known as "the mating wheel" with the female upside down (Figure 3). Surprisingly, the dragonflies can fly quite strongly in this position.

Eventually, the female straightens her abdomen, while the male still grasps her head. While they fly low over a pond the female touches the water with her abdomen to attach her fertilized eggs to stems and leaves. The Green Darner may mate several times with different mates.

After about a week, the eggs hatch aquatic nymphs (Figure 4). These nymphs are voracious predators stalking insects, tadpoles, and small fish in the pond. To grow, a nymph molts (sheds) its exoskeleton (hard skin), several times before reaching maturity.



Figure 3: Common Green Darners in a mating wheel. David A. Hofmann, 08/17/2009 Flickr, CC BY-NC-ND 4.0 <https://creativecommons.org/licenses/by-nc-nd/4.0/>

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Finally, the nymph climbs out of the water onto vegetation and molts one last time. The nymph pumps fluid into its wings to make them expand and stiffen. The emerging dragonfly must remain perched until its wings dry, so it is vulnerable to predators during this time.

Distribution

The Common Green Darner lives throughout North America and south to Panama. On the Refuge, look for this species anywhere during the summer, but especially along the ditch bordering the gravel road that parallels Road 99W. Even without binoculars you can usually pick out this species by its distinctive color pattern as it works up and down the ditch.

This darner is one of a handful of dragonfly species that migrate in the fall, though not all individuals migrate. The migrants gather in large numbers along the coast in the fall. When conditions are right, they head south. Little is understood about this migration. The Xerces Society and other organizations formed the Migratory Dragonfly Partnership to encourage citizen participation in studying darner migration.

Fun Facts

- The Common Green Darner is Washington's state insect.
- Darners were apparently named after the darning-needle. Old popular names included "devil's darning needle" and "eye pokers".
- Fossils of primitive dragonflies are as much as 325 million years old. Thus, they predate the dinosaurs. One huge dragonfly species had a wing span of 30 inches!
- Eyes take up much of the head of a dragonfly and allow it to see in almost every angle except behind. These are compound eyes, which have roughly 30,000 facets and are especially sensitive to motion.
- Do dragonflies bite people? Yes, if you catch one and hold it, it will defend itself by biting if its mandibles can reach your skin. The bite is usually not strong enough to break the skin.



Figure 4: Aquatic nymph stage.
http://www.fcps.edu/islandcreeks/ecology/green_darner.htm

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Resources

- Kerst, C. and Gordon, S. (2011). *Dragonflies and Damselflies of Oregon: A Field Guide*. Corvallis, Oregon: OSU Press
- Michel, F.L. and Lasswell, J.L. (2005). *A Dazzle of Dragonflies*. College Station, Texas: Texas A&M University Press
- Dragonflies and Damselflies of the Northwest and Beyond website: <http://odonata.bogfoot.net>
- Dragonflies of Oregon and Washington website: <http://dirttime.ws/Dragonfly/Dragonflies.htm>
- World Dragonfly Association: <https://worlddragonfly.org/resources/do-dragonflies-bite-or-sting/>