DRAGONFLY

Dragonfly Life Cycle

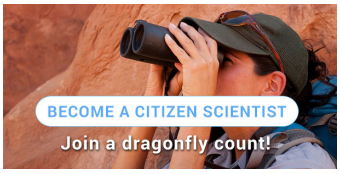
Dragonfly Life Cycle

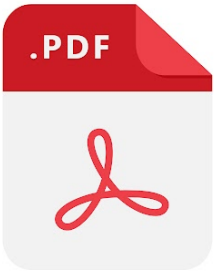
Let's learn about the life cycle of dragonflies as they transform from eggs, to nymphs to awesomely beautiful flying machines! These fascinating insects have four distinct stages: egg, larval (or nymph), emergence, and adult. We will explore them briefly.

THE EGG STAGE

Female dragonflies, like hawkers and darners, lay endophytic eggs. This means that scythe-like ovipositors are used to inject these elongated eggs into plant stems, leaves, rotten wood, or debris that is at or near the surface of a water source. Sometimes the eggs are injected directly into stream or pond sediment.

Other dragonflies, like emeralds, skimmers and clubtails, extrude round exophytic eggs from a special pore on the underside of their abdomens. There are two methods for depositing eggs: flying low over water and dropping their eggs as they go; or dipping the tips of their abdomens into water, releasing their eggs. The eggs sink to the bottom sediment or are deposited onto aquatic vegetation. Dragonflies that lay their eggs directly into water can produce thousands of eggs during their lifetime.





Start Download (Print PDF)

View Template (PDF)

Ad ClearEditPDF



Once deposited, the time required for egg hatching is quite variable - from days to months or more.

THE LARVAL OR NYMPH STAGE

Most of a dragonfly's life is spent in the larval stage. Typical larval development is one or two years, but it can range from a few months to over 5 years, depending, in part, upon ambient water temperatures. (Warmer temperatures generally equate to shorter larval development periods.)

Dragonfly nymphs have six legs, wing sheaths, and an extendable hinged jaw. During this aquatic stage, nymphs breathe through gills that are located inside their rectums. Dragonflies pull water into their rectum to breathe. The act of expelling water from their rectums allows them to propel forward to catch their desired prey. Like their adult counterparts, nymphs have a voracious appetite and are accomplished predators. They will eat insect larvae, crustaceans, worms, snails, leeches, tadpoles and even small fish.

In warm climates, the dragonfly larval stage may only take a few months but, in colder climates, this stage can last several years. During this stage, dragonfly larvae will molt between 9 and 17 times as they proceed toward their emergence as an adult.

DRAGONFLY EMERGENCE

The dragonfly's final larval molt takes place out of water. For several days, the final-stage larvae live near the water margin. As they get ready for their final molt, they start breathing air. The larvae then climb up emergent vegetation where they redistribute their body fluids, as they push their thorax, head, legs and wings out of the larval skin. They rest for about 30 minutes allowing their legs to harden before the abdomen emerges from the larval skin (exoskeleton). This emergence process takes about three hours.

THE ADULT STAGE

After emergence, the young dragonfly must then wait hours (sometimes days) for their wings to harden before taking their first flight. The newly emerged dragonfly's first flight is weak and rather short, only a few meters. It will also take days for the dragonfly's full coloration to become evident. As their bodies and wings harden, they begin hunting for food. In about a week, they acquire their adult coloration and sexual maturity. The life expectancy of adult dragonflies is generally no more than one to two weeks, however, some dragonflies can live six to eight weeks. This is probably why dragonflies do not waste any time getting to the mating game! Click here to learn more about dragonfly mating.