

# Insects in Shinjuku Gyoen National Garden : Dragonflies

## Life and Ecology of Dragonflies

Dragonflies are often found near water. This is because dragonfly larvae live in water, and when they become adults, females and males meet, mate, and lay eggs to pass them on to the next generation. Without water, dragonflies cannot develop from egg to larva to adult. It's water that nurtures the life of dragonflies. However, dragonflies do not live near the same water. Suitable water environments differ depending on the type of dragonfly larva. Knowing the environment will increase your chances of finding the dragonfly you are looking for.

## Hatching

Early in the morning, over the course of an hour, larvae turn into dragonflies

## Dragonfly Life Cycle

The life cycle of dragonflies is a cycle of egg => larva => adult, with incomplete metamorphosis not accompanied by pupation as in cicadas and grasshoppers. The larva molts several times and grows to a large size

## Color Change

Immediately after hatching, the dragonflies are whitish, but as they grow, their coloration becomes darker. This is one of the factors that make dragonflies difficult to distinguish.



## Dragonflies are carnivores.

Both larvae and adults are carnivorous. They eat mosquito larvae, daphnia, tadpoles, and small fish. As adults, they feed on other insects. Dragonflies are natural enemies of mosquitoes both in the water and on land. For this reason, there is a story of a tourist attraction that was troubled by the high number of mosquitoes and reduced them by breeding dragonflies.



*Lestes temporalis*

## Dragonfly eyeballs are compound eyes

Dragonfly eyeballs are large and beautiful. Upon closer inspection, dragonfly eyeballs are made up of many small eyes, each of which is hexagonal in shape. Each of these eyes is designed to detect light. What kind of world do they see?