

# Damselflies and Dragonflies

Order: Odonata

INSECTS with both pairs of wings membranous, usually transparent unless pigmented, with many cross veins.

- EPHEMEROPTERA – Mayflies
- PLECOPTERA – Stoneflies
- NEUROPTERA – Neuropterans
- ODONATA – Damselflies and Dragonflies
- HOMOPTERA – Cicadas, Leafhoppers, Aphids and allies

Dragonflies and Damselflies, Primitive Winged Insects of the Order: ODONATA, live near water and lay their eggs on water plants, their larvae live in the water. They are predators and eat other insects and even tadpoles and small fish. The larvae live in the water for one year, feeding on tadpoles and water insects, shedding their skins as they grow. When they are fully grown, they climb the stems of water plants. They shed their skins and emerge as adult dragonflies or damselflies. Odonata have unique mating habits - the male priming secondary genitalia at the base (front) of his abdomen before grasping the 'neck' of his mate with claspers at the tip of his abdomen. The pair then fly around 'in tandem' for a time, and if the female accepts the male she will curl her abdomen forwards so that her genitalia contact the male's secondary genitalia whereupon she can be impregnated by the male's secondary penis. It is the ladies choice whether or not she receives her mate's sperm. Odonata represent an intermediate stage between the earliest insects to become terrestrial in which females pick up sperm packets placed by the male on the ground so that there is no union of genitalia (as in Collembola today), and all other insects in which there is union of genitalia. After impregnation the male dragonfly either stays in tandem for a while, to prevent other males coupling with his mate, or he keeps guard over her from a short distance.

A Dragonfly has large wings and is a good flyer. It hunts for its prey while flying and depends on its large eyes to spot passing insects. When it sees one it wants to catch, it holds its spike-studded legs forward to form a kind of basket. It swoops the insect into the front opening of the basket. If lightweight, like a mosquito, it will eat it as it flies. If it's heavy like a bumblebee, it will land to eat it.

Most insects have **compound eyes**, made up of many tiny lenses. Each lens sees a separate image. Each image is a little different from the other, and all together, they make up one whole picture. Dragonflies need excellent vision to catch their prey in flight, so they have huge, bulging eyes, each with 28,000 lenses.

## Dragonflies: suborder: Anisoptera

Dragonflies hold their wings horizontal, when at rest.

Superfamily: Aeshnoidea –

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|-------------------------|--------------------------|
| ✚ Petaltails, Graybacks | Family: PETALURIDAE      |
| ✚ Clubtails             | Family: GOMPHIDAE        |
| ✚ Darners               | Family: AESHNIDAE        |
| ✚ Biddies               | Family: CORDULEGASTRIDAE |

Superfamily: Libelluloidea –

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|-----------------------------|----------------------|
| ✚ Belted and River Skimmers | Family: MACROMIIDAE  |
| ✚ Green-eyed Skimmers       | Family: CORDULIIDAE  |
| ✚ Common Skimmers           | Family: LIBELLULIDAE |

## Damselflies: suborder: Zygoptera

Damselflies hold their wings together, folded above the body or diverging, when at rest.

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|-----------------------------|------------------------|
| ✚ Broad-winged Damselflies  | Family: CALOPTERYGIDAE |
| ✚ Spread-winged Damselflies | Family: LESTIDAE       |
| ✚ Narrow-winged Damselflies | Family: COENAGRIONIDAE |

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2

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