

# Class Insecta, Order Neuroptera: Lacewings



Green lacewing larva (*Chrysoperla* spp.).  
Photo: David Cappaert, [insectimages.org](http://insectimages.org)



Green lacewing adult (*Chrysoperla* spp.).  
Photo: Whitney Cranshaw, [insectimages.org](http://insectimages.org)

## Life History

### Order Neuroptera, lacewings, snakeflies, mantidflies

The name Neuroptera is derived from the Greek word “neuron” meaning sinew and “ptera” meaning wings. Neuroptera means “nerve wings” and refers to the numerous veins in their wings. The order Neuroptera is comprised of several small families. Larvae and adults are usually predaceous. Some families are uncommon while others are present more in the south and west. All neuropterans have chewing mouthparts.

The larvae of antlions and lacewings have specialized mouthparts with large, sickle-shaped mandibles and maxillae that interlock to form pincers. Once impaled on these pincers, a prey’s body contents are sucked out through hollow food channels running between the adjacent surfaces of the mandibles and maxillae.

As adults, all neuropterans have two pairs of membranous wings with an extensive pattern of veins and cross veins. At rest, the wings are folded flat over the abdomen or held tent-like over the body. Most species are rather weak fliers.

## Morphology

### Adults

1. mouthparts: chewing mouthparts
2. antennae: filiform, multi-segmented
3. legs: walking; some species, (snakeflies and mantidflies) have raptorial front legs
4. body segments: three body segments, head, thorax, abdomen
5. wings: extensive branching of venation in all wings; cross veins abundant especially along margin. Front and hind wing membranous, similar in size

### Immatures (larvae)

1. Sickle-shaped sucking mouthparts
2. Three pairs of thoracic legs; tarsi 1-segmented; claws paired
3. Aquatic forms have thread-like gills on most abdominal segments

**Development:** Complete metamorphosis (egg, larva, pupa, adult)

**Life history:**

**Habitats:** Adapted to a broad range of habitats terrestrial, aquatic and semi aquatic.

**Feeding:** Terrestrial and aquatic species are predators.

**Importance in landscapes:** Green and brown lacewings are generalist predators on small insects.

**Families:**

Dobsonflies (Family Corydalidae) -- aquatic predatory larvae; adults generally longer than 5 cm

Alderflies (Family Sialidae) -- adults are smaller than dobsonflies

Snakeflies (Family Raphidiidae) -- terrestrial predatory larvae; long-necked predators of small arthropods

Green lacewings (Family Chrysopidae) -- aphid predators

Brown lacewings (Family Hemerobiidae) -- aphid and mite predators Antlions (Family Myrmeleontidae) -- doodlebugs, ant predators Mantidflies (Family Mantispidae) -- mantidfly, several species

**In the textbook, IPM of Midwest Landscapes Pests of trees and shrubs**




**Order Neuroptera, Lacewings, mantidflies**

**Family Chrysopidae**, Green or common lacewings (multiple species)

**Family Hemerobiidae**, Brown lacewings several species

**Family Mantispidae**, Mantidflies, several species

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