



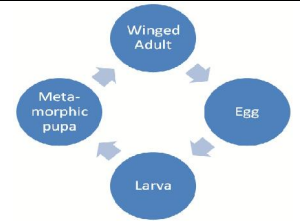
MISSOURI BOTANICAL GARDEN

William T. Kemper Center for Home Gardening

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Insect Order ID: Neuroptera (Lacewings, Doodlebugs, Antlions)

Life Cycle—Complete metamorphosis. Adults lay eggs. Larvae eat, grow and molt. This stage is repeated a varying number of times, depending on species, until hormonal changes cause the larvae to pupate. Inside the pupal case, they change in form and color and develop wings. The adults look completely different from the larvae.



Adults—Lacewings have clear membranous wings with numerous cells, hence the name Neuroptera "nerve wing." The forewing and hindwing are about the same size. The eyes are large in relationship to the head, like glittering beads. *(Click images to enlarge or orange text for more information.)*



Numerous cells in wings



Bright beadlike eyes



Colors vary from brown to green

Eggs—The eggs of many species are laid at the end of a hairlike stalk. *(Click images to enlarge or orange text for more information.)*



Lacewing eggs laid on a stalk



Lacewing egg

Larvae—All are campodeiform, spiny and soft-bodied with large hollow mandibles used to skewer victims and suck them dry. Some species place the dried remains of their victims on the spines on their backs, giving them the appearance of walking trash heaps. *(Click images to enlarge or orange text for more information.)*



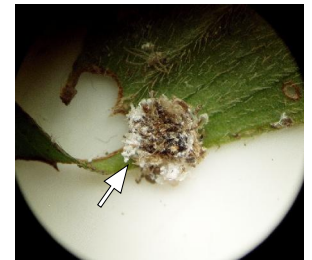
Campodeiform
spiny, soft-bodied



Campodeiform



Large, hollow mandibles



Hidden beneath the
remains of its victim

Pupae—All have a pupal stage, usually a silken cocoon, during which the adult, winged form develops.

Beneficial / Benign Aspects—All larvae and many adults are beneficial predators. The other adults are either beneficial pollinators or do not feed. *(Click images to enlarge or orange text for more information.)*



Eating scale



Eggs laid among prey



Lacewing eggs
lurking above aphids

Damage—None. All are beneficial.

Comments—Adult mantisflies, rare insects in the order Neuroptera, can be confused with praying mantises in the order Mantodea, but mantisflies, like all adult Neuroptera, have clear wings while mantises have leathery wings. Also, mantises have triangular heads that can swivel, while mantisflies have small round, stationary heads with jewel-bright eyes.

Larval Neuroptera can be confused with campodeiform beetle larvae in the order Coleoptera; however Neuroptera larvae do not chew their prey, whereas beetle larvae do.