

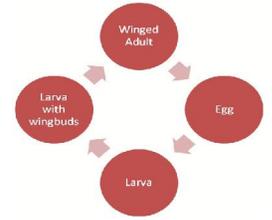
# MISSOURI BOTANICAL GARDEN

## William T. Kemper Center for Home Gardening

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### *Insect Order ID: Mantodea (Praying Mantises, Mantids)*

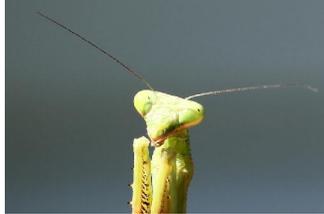
**Life Cycle**—Gradual metamorphosis (sometimes called incomplete or simple). Larvae (nymphs) look more and more like adults. Wings begin as tiny wingbuds on larvae and gradually grow larger and larger until fully developed on adults.



**Adults**—Long slender bodies, sometimes with a bloated abdomen. Two pairs of wings. Forewings narrow and leathery; membranous hindwings completely concealed by forewings. Triangular head can turn from side to side (the only insect that can do this). Eyes are large and prominent. Mandibles are well-developed. Front legs are enlarged and have spines for catching and holding prey. Adults usually green or brown, and range from under two inches to over four inches in length. Females are usually larger than males. *(Click images to enlarge or orange text for more information.)*



"Praying" mantis



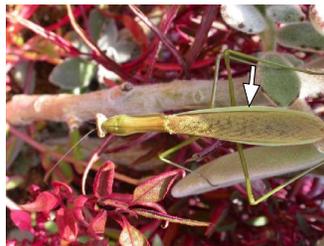
Triangular, mobile head



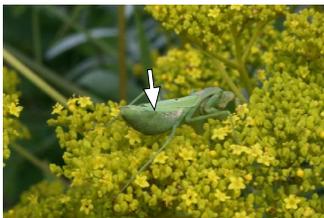
Spined & enlarged forelegs



Leathery forewings cover hindwings



Forewings cross covering hindwings



Bloated abdomen



Some are camouflaged

**Eggs**–Laid in frothy secretions, called ootheca, that resemble buff- to brown-colored Styrofoam. *(Click images to enlarge or orange text for more information.)*



Carolina mantis



Chinese mantis

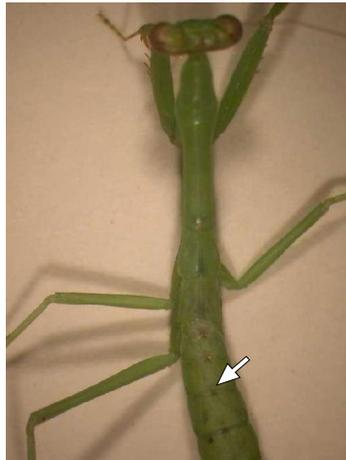


Double Chinese egg mass

**Larvae (nymphs)**–Look similar to adults. After each molt, the larvae look more adultlike and the wings (wingbuds) are larger and more developed than the previous instar (the stages between molts). *(Click images to enlarge or orange text for more information.)*



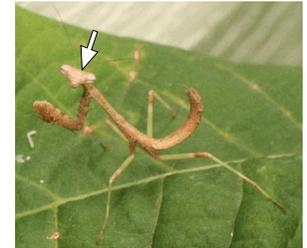
Larvae (nymphs) resemble adults



Wingbuds not yet formed



Two pairs of wingbuds



Triangular head

**Pupae**–None. Mantids go through gradual metamorphosis becoming more and more adultlike with every molt. *(Click images to enlarge or orange text for more information.)*



Molted skin

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**Beneficial/Benign Aspects**—Both the adults and larvae (nymphs) are considered beneficial insects. Both are carnivores, feeding mainly on arthropods, such as, mites, spiders, and other insects including beneficial insects and other mantids. They sometimes eat small frogs, lizards, and birds. (*Click images to enlarge or [orange text](#) for more information.*)



Adult mantis looking for the prey that got away above it: a grasshopper missing a leg



Hunting bagworms

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**Damage**—Neither the adults nor larvae (nymphs) do any damage to plants.

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**Comments**—Praying mantises are classified in the Superorder Dictyoptera with cockroaches (Blattodea) and termites (Isoptera). The exact relationship among the three (which orders should stand alone, or be combined or changed) is currently being debated and will probably change.

Praying mantises might be confused with adult mantisflies, rare insects in the order Neuroptera. Unlike praying mantises, mantisflies have clear wings, round heads, and jewellike eyes and go through complete metamorphosis with campodeiform larvae.