

NATURE DETECTIVES

Fall 2012

Eye to Eye with a Praying Mantis

Most insects seem to pay no attention to humans unless they are scurrying away from us, or biting us or stinging us.

If they do notice us, they don't seem interested and they don't interrupt their bug work to give us a second glance.

Approach a **praying mantis** for a closer peek and amazingly, this insect's odd triangle-shaped head swivels toward you. As you look at the praying mantis, the mantis takes a good look at you in turn.

If you make a sudden movement, the alarmed mantis might flare its wings to look bigger.

A Mantis is a Kind of Mantid

A praying mantis is just one kind among a family of insects called **mantids**, but it is the one that gets noticed because Colorado has a quite a few of them and because it is a big bug. It can grow as long as your hand, 3 inches or more. A praying mantis can be bright green or brown. It has a colorful spot in each "armpit." (The area under each front leg.) Straight wings that look a little like thin leaves rest along its back.

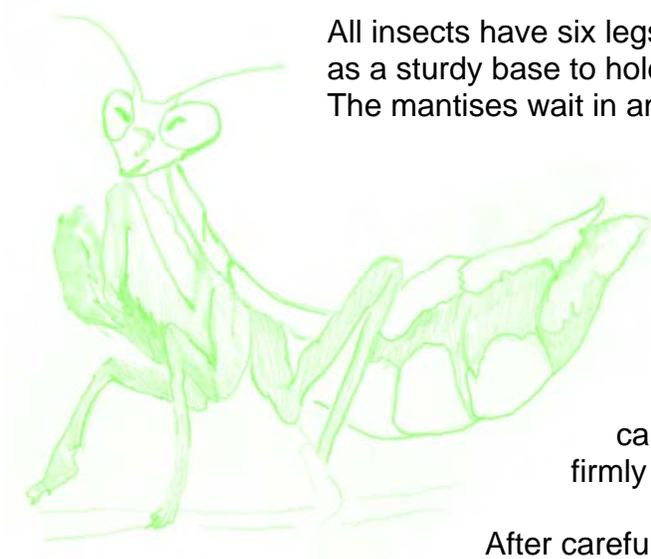
One of the best times to find praying mantises is in August and September. If you go on a search for them, they are hard to see because of their great camouflage coloring. But sometimes, when you are not expecting it, you will notice one sitting on a window screen or on a twig right near you. Mantids like to climb things. So keep an eye out for them and you might be lucky enough to spot one turning its head to eyeball you too.

The world teems with interesting bugs, but praying mantises stand out because of their "intelligent alien" science fiction appearance as they stare back at you.



Fast Food

Praying mantises get their name because of the prayerful way their front legs are held together and raised in front of their bodies. More accurately, they could be called “preying mantises.” Like all mantids, they hunt and eat live insects, and their front legs are their weapons.



All insects have six legs. The mantids use their back four twig-like legs as a sturdy base to hold themselves securely in place.

The mantises wait in ambush with their front two legs held ready for action. Those folded front legs have a sudden spring-like release. Their legs flash forward quicker than our eyes can follow to snatch an insect meal in an instant. One second the mantis is eyeing some other critter such as a caterpillar and the next second we see the caterpillar snagged on the spines of the mantis’ front legs. The mantis can now delicately nibble dinner, which is grasped firmly and pinned on the spines of its legs.

After carefully cleaning its face and feet (sort of like a cat), it will creep along, on the hunt for its next insect feast.

Bug Eyed

Whether it is looking at us or at a potential meal, the mantid’s two big, bulging eyeballs give it vision in several directions at once. We have one lens in each of our eyes, but insects have compound eyes with hundreds or even thousands of lenses for seeing hundreds or thousands of images at once. With eyes like this on a head that rotates all directions on a flexible short neck, a mantid is awesome at spotting its prey. Above each eye is an antenna that is useful for touch and smell too.

Cold Storage

Mantids lay their eggs by the hundreds in masses of brownish white foam. The foam hardens on a plant stem or against a rock and provides shelter through the winter to the developing new mantids.

In late spring, baby mantids (called nymphs) hatch and start their life as ferocious mini-predators. They look like tiny, wingless versions of the adults, and they start out eating tiny gnats and sometimes each other. Each time they molt (which is shedding their hard exoskeleton) they have room inside their new exoskeleton to grow a little larger. Each time they get a little larger, they can catch larger bug prey. They molt several times until they are all grown up by the end of the summer.



Mantids from Near and Far

Some people call all mantids mantises, but you might know that “mantids” is the best term to use for any mantid other than the European praying mantis.

People brought praying mantises here from Europe where they naturally live. The adults can't survive Colorado winters when temperatures drop too low for them. But come spring, baby mantises will hatch from egg cases that survive chilly temperatures.

Some exotic Chinese mantids are also sold in Colorado. Chinese mantids are slightly bigger than European mantises but are more likely to die out over our cold winters. They are brown with yellow or green stripes along their wings.



Our native mantids are not as eye-catching but they are just as cool.

Our native mantids are half the size of praying mantises. They are called **ground mantids** because that is where they live, on the ground in our shortgrass prairie habitat. They are a dull, gray-brown color. The color is perfect camouflage for the places where they live. With patience you can find them running and jumping along the ground in eastern Boulder County.

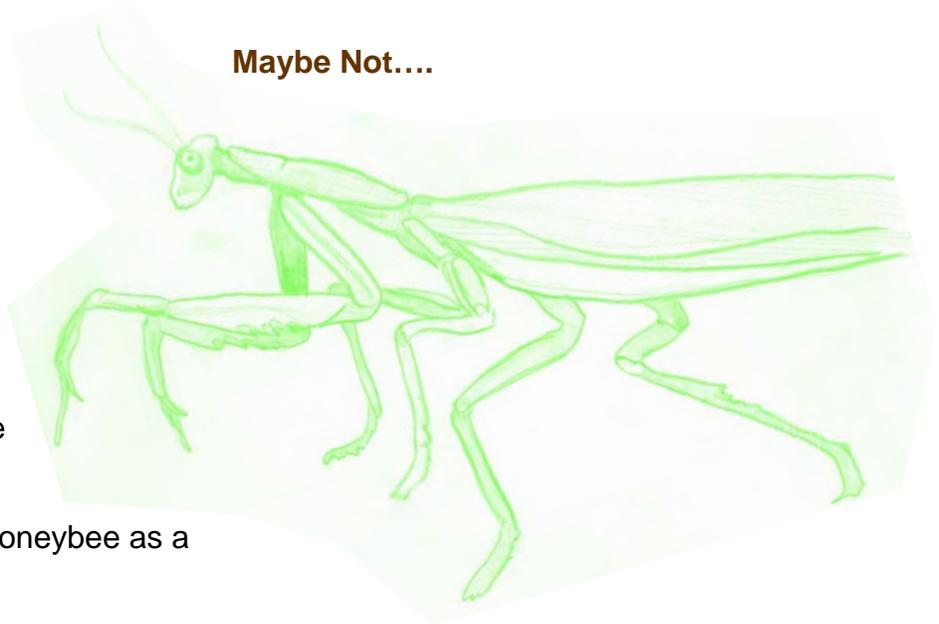
Garden Helpers? Maybe....

Praying mantises are often found in gardens and yards. Some gardeners like to see mantids because they know mantids will eat bugs that can chew on their growing flowers and veggies.

But really, mantids don't care if their prey belongs to the “good” bug or “bad” bug category.

Mantids are as likely to eat a honeybee as a cabbage moth caterpillar.

Maybe Not....



Deadly Mate?

It is a common belief that female praying mantises bite the heads off their mates. Mantises kept in cages for study often do, but male mantises in the wild usually leave their mates with their heads safely intact.

Mantis in a Jar

Adult male praying mantises are thin and can fly, but by fall females are round and too full of eggs to get airborne.

If you put your hand slowly in front of a female praying mantis, she may carefully climb up your hand. Wear gloves if the prickle of her legs will make you squeamish.

If you want to catch a female mantis to observe for a few minutes, hold a big jar in front of her and she might climb in. Cover the top with a lid that has air holes.



A stick in the jar gives her something to climb. After watching her for a short time, let her go so she can hunt for the food and water she needs to survive.

Remember, you cannot take anything from Boulder County Parks and Open Space so release your mantis where you found her. Putting a wild critter back where you found it is always a good idea even in your own yard.

Some people keep a mantid as a pet, but it is a big responsibility to keep the insect healthy. Even when food and water is kept supplied in a big terrarium, the mantid often dies before winter.

If there is a stick for a praying mantis to climb, sometimes she will lay an egg sack on the stick. The eggs have to get cold over the winter to hatch just as they would in nature.



Go Wild for Insects

Mantids are not the only insects to observe in the fall. Crickets are jumping and colorful grasshoppers are hopping and flying. Male crickets and grasshoppers make loud chirping sounds with their wings. How many different sounds can you hear? How many different colors and sizes of grasshoppers can you find?