

Milkweed Bugs

WHAT ARE MILKWEED BUGS LIKE?

Milkweed bugs are easily recognized as insects. They have the same structures as just about all other insects: six legs, three body parts (head, thorax, and abdomen), and two antennae.

Milkweed bugs are true bugs because they do not have mouths for biting and chewing food—they have a tubelike beak for sucking fluids. The scientific name for such a mouth is a **proboscis**.

In nature, the milkweed bug uses its beak to pierce and suck nutrients from the seeds of the milkweed plant. The ones in your classroom, however, have been bred to feed exclusively on raw, shelled sunflower seeds. These milkweed bugs insert their long beaks into sunflower seeds to suck out the oils and other nutrients.

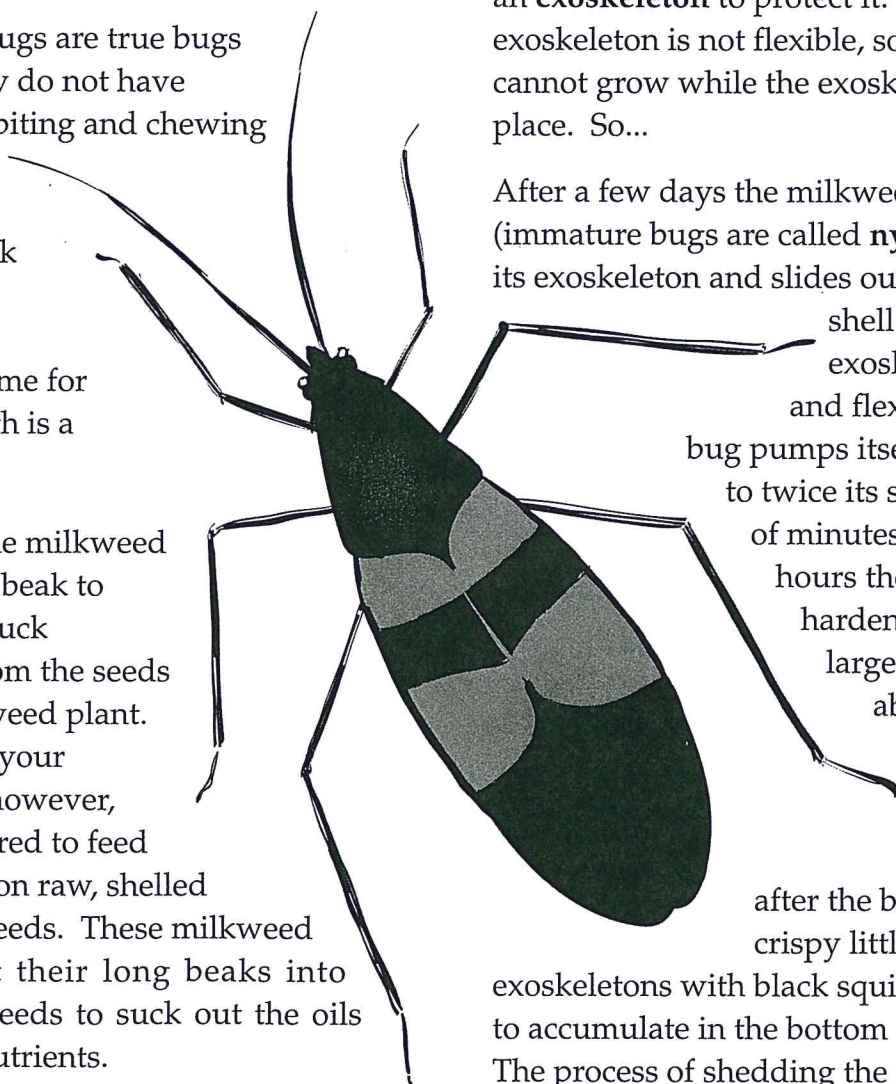
HOW DO MILKWEED BUGS GROW?

Milkweed bugs start life as tiny eggs. When the eggs hatch, about a week after being laid, they are tiny—not much bigger

than the period at the end of this sentence. If you look at a newly hatched milkweed bug under a microscope, you will see that it is indeed a tiny bug, with six legs, three body parts, and two antennae. You will also see that it has a tough outer covering called an **exoskeleton** to protect it. The exoskeleton is not flexible, so the tiny bug cannot grow while the exoskeleton is in place. So...

After a few days the milkweed-bug nymph (immature bugs are called **nymphs**) bursts its exoskeleton and slides out of the old shell. The new exoskeleton is moist and flexible, and the bug pumps itself up, growing to twice its size in a matter of minutes. In a few hours the exoskeleton hardens, and the larger nymph goes about its business (eating and growing).

About a week after the bugs hatch, crispy little transparent exoskeletons with black squiggly legs start to accumulate in the bottom of the habitat. The process of shedding the exoskeleton in order to grow is called **molting**. Just after molting, the bug is creamy yellow with bright red legs and antennae. Within a few hours the body turns darker orange, and the legs and antennae become black again.

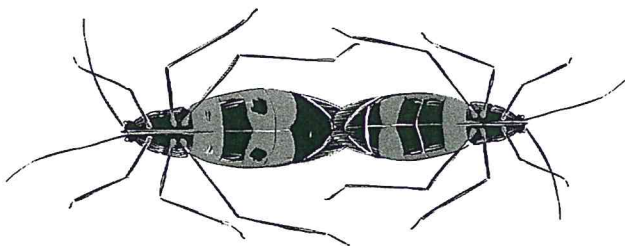


The milkweed bug molts five times before it becomes a fully mature adult. With each molt the body shape changes, the bug develops more dark body markings, and wings start to form. Each nymphal stage is referred to as an **instar**. The first instar is the newly hatched baby, and the fifth instar is the one just before adulthood.

This gradual maturing of an insect is called **incomplete metamorphosis**. The bug steadily gets bigger and more complete until the last molt reveals the adult. The process from egg to adult takes 4–8 weeks, depending to a large extent on the temperature. A week or more after reaching adulthood, the bugs will mate, and the female will lay eggs. In a room that is a comfortable temperature for humans, the eggs will hatch in about another week, changing from lemon yellow to tangerine orange as they mature. The bugs that hatch out will be about half males and half females. The life cycle from egg to egg is about 2 months.

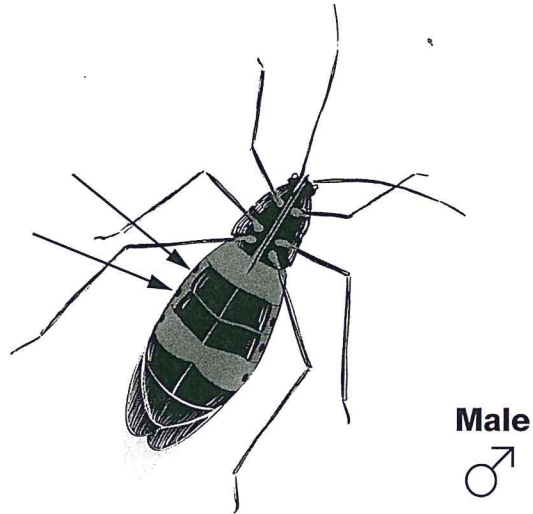
HOW DO MILKWEED BUGS MATE?

You can easily observe mating, as the two mating bugs remain attached end-to-end for a long time.

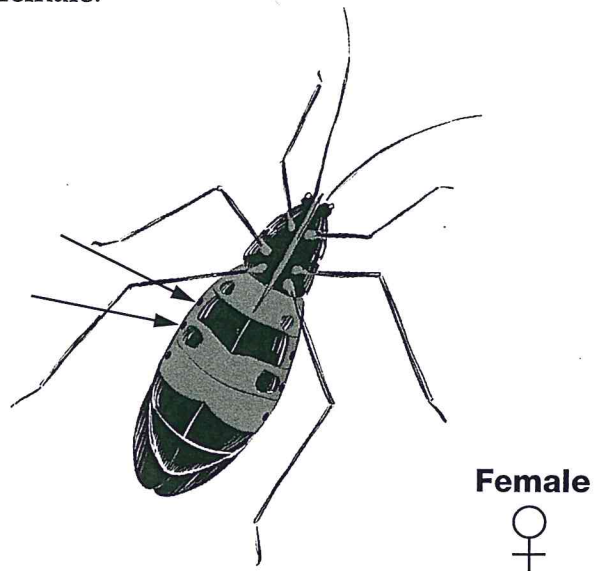


It is possible to distinguish the female adults from the males by the body markings on the ventral (belly) side of the bugs. The tip of

the abdomen is black on both sexes. Next comes a solid orange segment (with tiny black dots at the edges). If the next two segments after the orange segment are solid black bands, it is a male.



If the next segment after the orange segment is orange with two large black spots, followed by a solid black band, it is a female.



Males tend to be smaller than females. When you see a mating pair, observe closely to see if the female is noticeably larger than the male.

A few days after mating, the female starts laying clusters of 20 or more yellow eggs. The clusters are called **clutches**. A female might lay five or more clutches. In nature the female lays her eggs in a ball of milkweed seed fluff or under a bit of bark for protection. In your classroom habitat she will usually lay them in the polyester wool.

After mating and laying eggs, adult milkweed bugs might live another 2 months in a kind of buggy retirement. The life span of the milkweed bug in a sheltered habitat bag in a classroom is about 4 months. In the wild they probably don't live that long.

In captivity a milkweed-bug population will continue to reproduce one generation after another. If the 2-month life cycle continues, six generations could be produced in a year! That's potentially a lot of milkweed bugs.

In the wild, however, milkweed bugs stop reproducing in the fall when the weather gets cold and the milkweed plants die. The

adult bugs that have not reproduced find protected places where they can hibernate. Even though they have natural antifreeze in their bodies, winter surely takes its toll on the population. But life is durable, and at least a few bugs always live until spring. And when a male and a female survivor meet on a fine spring day, they naturally continue the process of building up the population during the warm days of summer.



Oncopeltus fasciatus

For purposes of classification, scientists have divided the animal **kingdom** into major groups called phyla. Each **phylum** is divided into classes. Each **class** is divided into orders. Each **order** is divided into families. Each **family** is divided into genera, and each **genus** into **species**. A species is a basic category or a kind of animal. A species consists of individuals that are similar in structure and that can breed to produce offspring. Individuals in a species will not generally breed with individuals from another species.

The milkweed bug studied in this course is a member of the phylum **Arthropoda**, the class **Insecta**, the order **Hemiptera** (true bugs), the family **Lygaeidae** (seed bugs), the genus *Oncopeltus*, and the species *fasciatus*. The common name is large milkweed bug and the scientific name is *Oncopeltus fasciatus*. A close relative of the large milkweed bug is *Oncopeltus sexmaculatus*, the six-spotted milkweed bug (same genus, different species). Another more distant relative of these two bugs is *Lygaeus kalmii*, the small milkweed bug (same family but different genus and species). Each is considered a different species.