

Colorado Crustacean of Interest

Pillbug ("Roly-poly")

Scientific Name: *Armadillium vulgare*
(Latreille)

Class: Malacostraca

Order: Isopoda

Family: Armadillidiidae



Figure 1. Pillbug

Identification and Descriptive Features:

The pillbug body is covered with a series of prominent plates, giving it an appearance of an armored vehicle. General color is blue-gray and some yellow spotting is often prominent. They have seven pairs of legs, each of approximately equal size and form. The segments of the



Figure 2. Pillbug underside

relatively small abdomen are more or less fused and a pair of terminal appendages, the uropods, project from the tip. Two pair of antennae appear on the head but one is much longer than the other, and the shorter pair projects below the body. Their vision is minimal as they possess only a few simple ocelli that detect light.

Distribution in Colorado: An introduced arthropod originally native to Europe, the pillbug can now be found statewide.

Life History and Habits: Pillbugs are scavengers, primarily feeding on moist, decaying plant matter that they chew with their small mouthparts. Sometimes they will feed on tender garden seedlings, but rarely cause any significant injury and are considered to be minor pests, at the worst, of gardens. In their natural habitat, they are very useful in recycling nutrients by shredding dead plant material so that it may be broken down and fully decomposed. Feeding usually occurs

at night; they normally spend the day under cover. They can often be seen during the day when weather is overcast or following a recent rain.

Being crustaceans, pillbugs acquire oxygen with gills. These are thin membranous areas on the underside of the body. In order to function in these terrestrial species, the gills require continuous wetting and this requirement restricts pillbugs to areas where they can periodically



Figure 5. Sowbug



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find moist cover. They also possess tail-like structures known as uropods that help them acquire moisture. The uropods function to wick up water, allowing them to drink from both ends of their body.

Pillbugs spend the winter in the adult stage, protected under boards or other sheltering debris. In spring they become active, and mating may occur with the male often guarding the female from the attention of other males. In some species, females can reproduce parthenogenetically producing all-female clones in the absence of mating.

Females will produce a number of

eggs that are then carried in a special pouch on the abdomen, known as a marsupium. About two dozen

eggs are deposited at a time. After the eggs hatch, the young remain within the marsupium for an extended period before ultimately leaving to forage on their own. Females carry the eggs and young for about six to seven weeks. Often two broods of eggs are produced annually.

The young pillbug molts for the first time within 24 hours after leaving the marsupium. Their molting process is unusual in that it occurs in two stages. The front half is shed first followed 2-3 days later by the rear half. Caught in between this process they may have a two-toned appearance. This unique molting behavior apparently helps protect them from drying.

As they develop, molting occurs fairly regularly at approximate two week intervals for the first 4-5 months. After this time, molting becomes an irregular event with adults continuing to molt (unlike insects). The young stages appear very similar to the adults, the primary difference being smaller size and lighter color in the juveniles. Pillbugs are relatively long-lived and can survive two or three years.

The pillbug is not native to North America and was incidentally introduced from Europe. However, it has spread widely and is a common species within Colorado. Often what attracts most attention is the ability of the pillbug to roll into a ball for defense, a favorite trick that never fails to delight children. Often these are known as “roly-polies” or, less commonly, “potato bugs”. In Britain the pillbug and related sowbugs are often referred to as “wood lice”.



Figure 4. Pillbug rolled into defensive

Related Species: A few other European species of land-adapted crustaceans have also become established in North America. Known as sowbugs (*Porcellio scaber* and *Oniscus asellus* are most commonly encountered) they have a very similar appearance to the pillbug but are somewhat more flattened in body form and are incapable of tightly curling into a ball. In addition there are about 130 species of aquatic isopods in North America that live in water. Most all of

these are native species.