

## Earwigs and Snails and Slugs, Oh My!

By Meredith Kaplan, Alameda County Master Gardener

Just as Dorothy faced the fear of lions, tigers, and bears on her trip to Oz, we often face our gardens with fear that we might encounter earwigs, snails, and slugs. While the earwig is an insect, with prominent, fierce-looking tail-end pincers, snails and slugs are mollusks that travel along on a slimy "foot." Although they are different creatures, not at all similar in appearance, the damage these three pests do and the methods of control for them are similar.



All three pests chew holes in leaves, flowers, and fruits and can severely damage seedling vegetables. Slug and snail damage often can be distinguished by the shiny, slimy trails they leave behind. Earwig damage is less easily identified.

All three feed most actively at night and seek out dark, cool, moist places to hide during the day. Snails and slugs may also be active on cloudy or foggy days. Commonly these pests hide under loose clods of soil, boards, leaf piles, or dense growth of vines or weeds. Earwigs may hide within flowers and vegetables. Snails often attach themselves to tree trunks, fences, or walls during hot, dry periods or when it is cold.

All three lay their eggs in the soil. When digging in the soil, gardeners can keep an eye out for these eggs and get rid of them before they hatch. Female earwigs dig holes in the ground where they lay masses of 30 or more eggs. Eggs hatch into small, white nymphs and remain in the hole protected and fed by their mother until their first molt. As hermaphrodites, all garden slugs and snails have the potential to lay eggs. Adult brown garden snails lay an average of 80 spherical, pearly white eggs at a time into a hole in the soil. They can lay eggs up to 6 times a year, and it takes about 2 years for snails to mature. Slugs reach maturity after about 3 to 6 months and lay clear, oval to round eggs in batches of 3 to 40 beneath leaves, in soil cracks, and in other protected areas.

All three respond to similar management: reducing hiding places and moisture and trapping. First, remove daytime hiding places such as ivy, weedy areas, leaf debris, or boards. Snails can be regularly removed from permanent shelters such

as fences, undersides of decks, or hedges; or they can be caught in the act after dark and hand picked as you tour your garden with a flashlight.

Second, reduce moist surfaces by using drip irrigation or by watering early in the morning so that the soil surface will dry by evening.



Third, use traps. For snails and slugs, use a board that is raised off the ground by about an inch. Scrape off accumulated snails and slugs daily and dispose of them. It's good to try to get rid of all of these pesky mollusks if possible.

Earwigs, on the other hand, actually provide a beneficial role in the garden by feeding on aphids and insect eggs. With daily trapping, earwig populations can be reduced to a tolerable level in the vegetable garden that still allows them to fulfill a beneficial role in other areas of the garden. They can be trapped with rolled newspaper, bamboo tubes, or short pieces of hose placed on the soil near plants just before dark. Each day accumulated earwigs can be shaken out of the trap into a pail of soapy water.

Although unnecessary for earwigs, baits can be effective with snails and slugs, but only if shelter, food, and moisture are not present. Do not use metaldehyde baits. They are poisonous to dogs and birds and lose effectiveness rapidly in sunlight and after rain or irrigation. Iron phosphate baits such as Sluggo are safe for use around dogs, children, and wildlife. Irrigate before applying the bait. Apply it in the evening on warm days when snails and slugs are active. Scatter the bait in moist and protected areas where these pests travel.

Keeping these pests under control will allow you to enter the Oz of your newly growing garden this spring without fear that hungry earwigs, snails, and slugs have decimated all of your new little seedlings.

Master Gardeners operate through the University of California Cooperative Extension. For much more information on snails, slugs, earwigs, and other garden pests visit the integrated pest management site at <http://www.ipm.ucdavis.edu/index.html>