

# Garden Bad Guys – Snails and Slugs

By Nanette Londeree



Where have all the flowers gone???? Along with the basil and bean seedlings planted just yesterday? All were cloaked in succulent foliage, and today ..... nothing, except a few tattered stems and some faint shiny trails away from the planting bed. Most likely, the scourge of the moist garden - snails (or slugs), visited overnight and gobbled down all those lush, tasty plants. At least in my garden, escargot they're not!

Brown garden snails, *Cornu aspersum*, and several species of slugs - the gray garden slug (*Deroceras reticulatum*), the banded slug

(*Lehmannia poirieri*), the three-band garden slug (*L. valentiana*), the tawny slug (*Limacus flavus*), and the greenhouse slug (*Milax gagates*), have immense appetites and, left unmanaged, can decimate vulnerable plants in short order. They consume living plants, decaying plant matter, fruit and young plant bark, and are particularly fond of the succulent foliage and flowers of seedlings and herbaceous plants - basil, beans, cabbage, dahlia, lettuce, marigolds and many other vegetable plants. They also go for ripening fruits that are close to the ground like strawberries and tomatoes, and on some trees, especially citrus.

Snails and slugs have a similar biology, though the slug has no external shell. They are gastropods, members of the mollusk phylum. They move by gliding along on their muscular foot and constantly secrete mucus to facilitate movement; when the mucus dries it leaves the trademark glistening slime trail behind. These pests are hermaphrodites (each has both male and female reproductive organs) so that under desirable environmental conditions, their numbers can explode. Each adult lays an average eighty spherical, pearly white eggs at one time in the soil, up to six times a year. It takes about two years for snails to mature, and three to six months for slugs depending on species. When full grown, the shell of a mature brown garden snail is nearly spherical, an inch or more in diameter, and marked with softly defined bands of medium brown speckles.

Brown garden snails were introduced from France during the 1850s for use as food (which didn't work out quite as planned), and their damage is estimated to cost the state of California seven to ten million dollars every year. They're most active at night, or on foggy, cloudy days. During cold weather, they hibernate in topsoil. Snails protect themselves in hot, dry weather by sealing themselves off with a parchment-like membrane and attaching themselves to tree trunks, fences, or walls.

Effective management utilizes a combination of methods, including plant selection, elimination of desired hiding places, barriers and traps, and baiting. While snails and slugs have many natural enemies including ground beetles, toads and snakes, birds and opossums, the predators alone are not usually sufficient to control the snail and slug population.

To minimize pest damage, consider using "resistant" plants - most ornamental woody plants and grasses, and plants with stiff leaves and highly scented foliage such as lavender, rosemary, and sage, aren't seriously damaged by slugs and snails. Protect seedlings and succulent herbaceous foliage with copper barriers; supposedly, copper reacts with the slime that snails and slugs secrete producing something similar to an electric shock.

You can trap snails and slugs by positioning boards or inverted flower pots in moist areas, with a portion about an inch off the ground for the pest to access. Scrape off the accumulated snails and slugs from the boards or pots daily and destroy them. You can try the beer in a saucer technique (they're attracted to the yeasty smell, and end up drowning in the liquid), but you need to replenish regularly, and it only attracts snails and slugs that are within a few feet.

Baits are a common method of control; many products contain the active ingredient metaldehyde that is especially attractive to dogs (the pelleted form) and can be hazardous to children, pets and wildlife. If using this type of product, use caution, and don't use around any food crops. Baits formulated with iron phosphate as the active ingredient, are safe to use around children, domestic animals, birds, fish, and other wildlife. To maximize the effectiveness of baiting, irrigate the area and bait in the late afternoon or evening, dispersing the bait around sprinklers, walls, fences or other moist, protected locations.

If you want to keep your flowers, beans and basil intact and growing, keep a watchful eye out for those grazing gastropods, and take action before they do any damage.

*Photo of brown garden snail by Gary Scales*