



Redwood Barn Nursery

1607 Fifth Street Davis, California

Bumps in the night, bumps on the leaves.

I was checking my seedlings with a flashlight at midnight, again, and it occurred to me that some folks might not consider that normal. Hence this quiz to determine the extent/severity of your interest/obsession with gardening.

You check your seedlings at midnight with a flashlight:

- a. every night, but only in the spring.
- b. only once a night.
- c. when the humidity is high. Snails, you know.
- d. you do what?

Things that go bump in the night.

When people bring me samples of leaves with holes in them, the first thing we consider is the size of the holes because that gives an indication of the size of the mouthparts. If they're small holes the likeliest culprits in May are earwigs, or young katydids and grasshoppers. Larger holes are from snails and slugs. If the damage is to flower buds, look for geranium budworm.

Katydid and grasshoppers hatch in early May and quickly spread out into the garden from where they were born. Katydids and grasshoppers feed in the daytime. The young ones are perfect little miniature versions of their bigger selves, as they do not go through metamorphosis. In fact, they're kind of cute. The damage they do is random and ephemeral: a few holes here on a leaf or petal, and then they move on. They're strong hoppers and thus spread their limited damage over many plants without significantly harming any. I usually just flick them off of the plant I find them on.

I don't think there is any stage of an earwig's life in which it would be considered cute. The males have nasty looking pincers that they curve upward, scorpion-like, when threatened. While it is true that they are omnivorous (not exactly comforting in some ways) and do feed on garden pests, they are also attracted to seedlings, flowers, and continue to damage some types of plants past the seedling stage. They are strong climbers; I have seen earwigs feeding on hollyhock leaves several feet up on the flower stalk.

Earwigs feed at night. They hide in moist, shady places during the day. The young don't wander far from where they were born for the first several weeks, so they can do repeated damage to the same seedlings. And their early life stage happens to coincide with our active planting season in the spring vegetable and flower garden. Flashlight inspections can reveal why the damage is so extensive, as you may find several earwigs on a single seedling. Gardeners have long noted their strong preference for some types of plants; marigolds can get decimated in a single night.

Earwigs can be monitored, and somewhat controlled, with oil traps. Pour your most aromatic cooking oil into a bowl (paper bowls are convenient for disposal) and set the bowl at the base of plants showing damage. Earwigs will be lured to the odor and then drown in the oil in a very



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satisfying manner. Organic baits such as Sluggo Plus contain an added insecticide for earwig and sow bug control. But nightly monitoring and squishing will actually provide good control. After a few weeks, the young move out and off to set up household on their own, so the season of earwig damage is mostly the month of May. In the later stage people often find them coming into the house or garage. Contrary to myth, they do not crawl into ears, at least not intentionally. The name earwig refers to the shape of the insect.

Larger holes, usually starting in from the edge of the leaves, indicate slugs or snails. Our quiz continues:

Slugs are

- a. gross.
- b. really cute.
- c. annoying.
- d. mortal enemies.

Snails are

- a. kind of cute.
- b. good with butter and garlic.
- c. interesting for their hermaphroditism.
- d. much easier to throw than slugs.

I was paid a penny for every two snails I could gather when I was a kid. My mother would have me put them in milk cartons, and then she would dispatch them with salt or by putting them into the freezer. I tried bribing my son this way once, but he got distracted and left the container sitting in the living room. We eventually found them all. If you happen to raise ducks, they relish snails as food. But watching them eat them is pretty revolting.

Snails and slugs are year-round pests in coastal California. When I moved here, I was delighted to find that they are much more seasonal due to cold temperatures in winter and dry summer conditions. Slugs and snails need some moisture to get around, and we barely make the dew point most mornings here from about May through September. So, mollusks are mostly pests of the fall and early spring garden.

Nevertheless, they can do a lot of damage in May, simply because of their larger mouth parts and the amount of food they need. Both are night feeders, so, again, midnight monitoring is very useful. Beer traps are somewhat effective. Organic baits that are relatively pet-safe exist that are made from iron phosphate. Look for breeding sites such as clumps of agapanthus and sprinkle some of the bait there as well as a small amount at the base of each seedling.

Quiet marauders

A recent sample of citrus consisted of one perfectly peeled Meyer lemon. The customer had found it hanging on the tree that way. In fact, most of her lemons had been peeled. On the tree.



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Tree rats are strangely obsessive little animals. I coexist with them on my rural property because the extent of their damage is usually limited. If I had less fruit to share, I'd be miffed. They are fond of citrus, but don't like the flesh of the tart types. I have found neat piles of perfectly peeled kumquats at the base of my tree; the skin of the kumquat is sweet, while the flesh is sour. Nearby I will find a navel orange that has been perfectly hollowed out, with just the peel remaining.

If you are getting a lot of fruit damaged or knocked off the tree, you probably have tree squirrels, which is a whole different conversation. They are just vandals with no redeeming qualities.

You may see tree rats at night as they travel rapidly through your garden. They can jump down from your roof, run along the fence, hop up into a tree and spend considerable time feeding, and then move along without ever touching the ground. They are agile and don't want to be open to the sky whence owls might see them. In addition to some loss of fruit, they can harm the tree by gnawing on the stems of branches, girdling them and causing sudden dieback.

Managing furry pests involves some principles that are simple in concept but difficult in practice:

- Remove food sources.
- Remove habitat (overgrown vegetation).
- Eliminate nesting sites (good luck).
- Try repellents (most don't work).
- Install physical barriers.
- Or there's, um, lethal removal.

Live trapping? Sure, but that presents the issue of what you are going to do with them.

Do not trap and release any animal. It's illegal to catch an animal and take it elsewhere to let it go, not to mention being harmful to the ecosystem and kind of rude to the property owner. All you can do with an animal you've caught in a live trap is release it elsewhere on your own property, or kill it.

Clearing away the protective foliage cover is probably the most practical approach. Cut back vines and shrubs that give the rats places to hide. Trim your fruit trees away from the fence line. Barriers such as netting can help to make it harder to get at the fruit as it ripens; just remember to lift it up every few days to keep the tree from growing through it. The goal, basically, is to make your neighbor's yard more attractive than yours, and to remove the places where the rats can rest and feel safe from the open sky.

Bumps on the leaves

In the month of April, very tiny mites are emerging on certain trees and vines in the garden and orchard. Erineum mites, sometimes called gall or blister mites, can only be seen with a 40x hand lens. We notice the symptoms on the leaves.



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Some of them are highly destructive pests of ornamentals: the fuchsia gall mite (*Aculops fuchsiae*) decimated fuchsia plantings all along coastal California a couple of decades ago. Other than the pear blister mite, the ones we get are more benign in impact but elicit curiosity.

As I was strolling among my elms the other morning I noticed some leaves completely covered with strange red growths, caused by the feeding of the elm spindle gall mite. Nearby there were odd pouch-like bubbles on the surface of some walnut leaves, caused by the walnut purse gall mite. In neither case do they reach numbers that cause any damage.

On grapes you may see galls on the upper leaf surface, with white hairy patches beneath. They don't affect the fruit or the vigor of the vine. Sulfur dust used to control mildew on grapes will also suppress the mites.

Like the gall wasps that cause odd growths on oaks and other trees, the damage from these erineum mites is just interesting and these types are basically harmless. Just more wildlife that we share our gardens with.



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http://redwoodbarn.com/images/DE_earwigs/erineum%20mites%20on%20elm%20and%20walnut.jpg

Blisters and galls from erineum mite on walnut leaf (above) and elm leaf (below). The tiny mites feed early in the spring, deforming the leaves. By the time you see the damage it's too late to do anything about it. But it is basically harmless.



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Blisters and galls from erineum mite on elm leaf. The tiny mites feed early in the spring, deforming the leaves. By the time you see the damage it's too late to do anything about it. But it is basically harmless.



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http://redwoodbarn.com/images/DE_earwigs/earwig%20at%20night.jpg

Caught by flashlight, the male earwig assumes a defensive position. European earwigs, the common species here, live in dark, cool areas during the day, and come out at night to feed on small insects, detritus, and, unfortunately, on the leaves of young seedlings. This one met his demise a moment later. Wear gloves.



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http://redwoodbarn.com/images/DE_earwigs/katydid1.jpg

Katydid are related to grasshoppers, and feed on leaves and flower petals. They do some damage but tend to disperse quickly. And birds eat a lot of them.