

Natter's Notes

Slugs & Snails

Jean R. Natter

Snails and slugs. Ugh. Slime and holey leaves. Yuck. Oregon's rainforests offer prime habitat where these slimy pests thrive.

Pests & natives

"Of the 29 species of slug [in Oregon], 15 are exotic." (Resource #2.) Of those, the gray field slug is the scourge of home gardeners and commercial growers. Slug lifetimes vary, from one to two years, according to the kind at hand. (Fig 1) But it's a different story with snails. Brown Garden Snails (BGS) live to 4 years, Giant African Snails – they're not here yet – 7 to 12 years.

Invasive Brown Garden Snails, *Cornu aspersa* were deliberately imported from Europe to California during the mid-1850s to be an upscale edible served in garlic-butter to moneyed goldminers. (Fig 2) Unfortunately for gardeners, snails escaped. Worse yet, when the market went bust, unsold stock was released.

(More info at Pacific Northwest Nursery IPM:

http://oregonstate.edu/dept/nurspest/brown_garden_snail.htm.)

The native Pacific Banded Snail, *Monadenia fidelis*, resembles BGS, but has different habits. (Figs 3 & 4) It primarily inhabits wooded areas, and is seldom a garden pest. When you compare the brownish shells of BGS and *Monadenia* side-by-side, it's easy to see that the pattern on BGS is somewhat tweedy whereas *Monadenia* is strongly banded.

The Gray Field Slug, *Deroceras reticulatum*, also called the milky slug, has cloudy mucus. Although it's a rather small slug, just 15 to 50 mm long – about ½- to 2-inches – it's a serious pest in both commercial agriculture (especially grass seed producers) and home gardens.

The European Red Slug, *Arion rufus*, is an accidental import from Europe, a showy one. When disturbed, it contracts into a bell-shaped blob. (Figs 5 & 6)

Leopard Slugs, *Limax maximus*, are impressive because of their 4- to 8-inch length when extended. (Fig 8) If you've ever found a mess of slime on a wall, window, or screen, likely this slug and an intimate buddy were the source. During their unique mating practices, the pair of slugs entwine around each other while suspended from a sturdy strand of mucus. (Explicit images at <http://oregonstate.edu/dept/nurspest/Limaxmaximuscourtship.htm.>)

Management of slugs and snails

- Natural slug predators exist, but are unlikely to limit populations as much as desired, especially if you plant from seed – seedlings are choice nibbles -- or if your favorite plantings are leafy greens or hostas.

- Several different night-working, predaceous ground beetles labor on your behalf. *Scaphinotus* species, for one. (Fig 7)

<https://www.flickr.com/photos/oragriculture/23611267674/in/photostream/>

- Regularly scheduled search-and-destroy missions, either early day or late evening. Besides that, revenge feels good!



Fig 1 – Newly hatched slugs, 1 day old. (J.R. Natter; (2010-10)



Fig 2 – Brown Garden Snails in the PNW often have very fragile shells. (J.R. Natter; 2012-05)



Fig 3 – Differentiate between the native *Monadenia fidelis* (L) and the pest *Brown Garden Snail*, *Cornu aspersa* (R). (J.R. Natter; 2014-04)



Fig 4 – To differentiate between the native *Monadenia fidelis* (L) and the *Brown Garden Snail* (R), look for the "umbilicus" on the underside of the *Monadenia* shell. (J.R. Natter; 2014-04)

- Forget about sharp things. You know; stuff like DE, coffee grounds, and/or crushed filbert shells. Slime has a purpose, one of which is protection. Plus, such barriers must remain dry. ("[Snail barriers](#)")

- If you use baits, the best time to apply them is before the snails and/or slugs mate and lay eggs. Some species do so in August, others during fall. Then, too, some repeat in March.

The future of management

As you may know, gardeners in Europe supplement the natural populations of soil-dwelling, slug-killing nematodes ([Phasmarhabditis hermaphrodita](#)) with commercially reared preparations of the same tiny beasts. But, due to strict regulations, those nematodes can't be exported elsewhere.

But wait. Help may be on the way. Rory McDonnell was hired by OSU about 2 years ago as the Invertebrate Crop Pest Specialist to help farmers manage pesky slugs and snails. (Yea! Gardeners will benefit, too.) He has since located a domestic strain of *Phasmarhabditis hermaphrodita* on the OSU campus. Just as with all potential biological control agents, requirements include extended testing and evaluation prior to formulation and release of a commercially available product. (Keep your fingers crossed.)

McDonnell is also working with essential oils and novel attractants. Among the latter, an extract from cucumber slices looks particularly promising.

Illegal in Oregon

Oh, yes. Forget about pitting decollate snails, *Rumina decollata*, against pest snails and slugs. These predators are legal only in the 7 southern most counties of California. Simply put: Decollates are illegal in Oregon.

Resources

1. "[Snails and Slugs](#)"- Practical advice for day-to-day management:
2. "[Slugs and Snails in Oregon](#)" (J. Vlach, Oregon Dept. of Agriculture): Helps identify Oregon's commonly encountered slugs and snails; prints well if set up with 2 pages per sheet.
3. "[Slug Portal](#)" - All-in-one resource about slugs in Oregon. Lots for slime devotees to learn there, including identification, the life of a slug; monitoring; management; research; and more.
4. "[Terrestrial Mollusc Tool](#)" - In-depth identification tool for enthusiasts.



Fig 5 – *Arion rufus*, the red slug, in a relaxed mode. (J.R. Natter; 2012-07)



Fig 6 – *Arion rufus*, in a contracted (defensive) mode. (J.R. Natter; 2012-07)



Fig 7 - *Scaphinotus* species (ODA) attack snails and slugs.



Fig 8 - *Limax maximus*, the leopard slug, is impressive at 4- to 8-inches long. These two were photographed while "racing" across my patio. (J.R. Natter; 2013-09)