



An unexpected gardener's friend

The majority of British and Irish slug species feed on decaying materials.

Imogen Cavadino Lindsay offers an insight into the much maligned slugs, the benefits they bring to our gardens' ecology and her work with the Royal Horticultural Society.

Slugs and snails are a controversial subject. Very few people are a fan of these slimy creatures, particularly those who'd like to have hostas or lettuce growing in their gardens. This group of animals has a bad name for munching their way through a wide variety of garden plants. But is this reputation truly deserved? Of the 40+ species of slugs found in Britain and Ireland, only nine are currently considered serious plant pests. The diet of the UK's 99+ species of snail is even less understood, and it's unclear how many are culpable for damaging beloved plants in gardens. Furthermore, the majority of British snail species are so tiny that it's unlikely they would cause noticeable damage to plants unless appearing in large numbers.

Many slug and snail species are known to prefer feeding on decaying plant material, fungi, lichens and algae, and may actually be beneficial to gardeners in their role as detritivores and nutrient recyclers. Even those that do consume live plant material play important roles in the wider ecosystem; roles so complex that scientists are only just learning to understand them. In wild plant communities, slugs and snails can act as ecosystem engineers, with grazing choices shaping the plant communities around them. Some plants have even adapted so that their seeds germinate more successfully after passing through a slug or snail's gut. Consumed seeds that survive digestion are also dispersed further away by travelling in the slug's gut before being pooped out at a different location.

DIVERSE HABITS

Some slugs and snails are also known to be carnivorous, preying on other slugs and snails. The Leopard Slug (*Limax maximus*) is famed for this behaviour. However, this is mainly due to its aggressive and territorial nature which leads it to attack and sometimes kill other slugs invading its resting sites. Leopard

Slugs are mainly scavengers, feeding on decaying plant material and all kinds of dead animals, including other dead slugs, but are also strongly attracted to pet food. Other slug species, like the shelled slugs (*Testacella* species), have much more specialised diets, feeding on earthworms throughout their mysterious subterranean lives. Several slug species are mainly subterranean, including the fascinating Ghost Slug (*Selenochynus ysbryda*), an eyeless species which was brand new to science when discovered in Wales for the first time in 2004. Even more mysterious is the Lemon Slug (*Malacolimax tenellus*), a specialist in ancient woodland where only the adults are ever spotted when they come above the surface of the soil in autumn and winter to feed on the fruiting bodies of fungi.

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The Yellow Cellar Slug has a distinctive, unbroken yellow stripe running down its back.



There are over 40 species of slug in Britain and Ireland, each with a distinctive ecology.

Slugs and snails are also a food source for a wide variety of animals, with Hedgehogs, Common Toads, Slow-worms, various bird species and Badgers among the many different animals known to feed on them. Numerous invertebrates also rely on a diet of slugs and snails, with many species of ground beetles (Carabidae) known to prey upon them. The much-admired Common Glow-worm (*Lampyrus noctiluca*) exists on a diet of snails when in its larval form, with the adult beetles not feeding at all. Therefore, without some slugs and snails naturally present in a garden much of our other beloved wildlife may suffer.

The cellar slugs (*Limacus* sp.) are two slug species thought to be beneficial for human needs, spending their lives chomping their way through decaying material, mould and fungi. They are such efficient grazers of mould that a man in Australia even resorted to keeping them in his bathroom to clean the mouldy grout between his tiles. He reasoned that the slime was far easier to wash off than the mould.

At the end of March 2019 the Royal Horticultural Society (RHS) launched an online survey calling on anyone with access

to a garden to join the search for the Yellow Cellar Slug (*Limacus flavus*). The Yellow Cellar Slug has been present in Britain since at least 1600. However, over the past thirty or so years the species is being usurped by the Green Cellar Slug (*Limacus maculatus*). Since its arrival in Britain and Ireland in the 1970s, the Green Cellar Slug has spread rapidly, appearing to replace the increasingly rare Yellow Cellar Slug.

A STUDY IN SLIME

The study also seeks to learn more about the two species' interactions with plants, and any commonality in the gardens they inhabit, with a view to understanding what it might mean for their future in our gardens and how they can be encouraged and protected. As both these slugs feed on decaying rather than live plant material, they are suitable flagship species for encouraging gardeners to think of slugs in a more nuanced

The Leopard Slug, with its dark spotty and stripey pattern, stands out amongst garden slugs.



way.

While both slugs have large, green-yellow, patterned bodies, the Yellow Cellar Slug has a long, unbroken yellow stripe running along the centre of its tail. As these species of slug are nocturnal, people are being asked to grab torches and step out into their gardens after dark in the hope of recording them. You may also encounter these slugs during the day, huddled in groups under heavy objects or inside compost bins, an unusually sociable behaviour common in these two species of slug.

FIND OUT MORE

This survey is part of a PhD project, supervised by the RHS, Newcastle University and the Centre for Ecology and Hydrology, seeking to better understand the diversity of slug species in gardens. Support has also been given by staff at National Museum Cardiff, iRecord, and volunteers from the Conchological Society of Britain and Ireland. For more information about how to take part in the study please visit: www.rhs.org.uk/slugsurvey.

You can also find updates about the survey on Twitter: [@UKslugsurvey](https://twitter.com/UKslugsurvey).