



Slugs and snails - yet again...

Although this subject usually brings me out in a rash, this is the perfect moment to revisit it as we are all being encouraged to stay in our homes and gardens.

Last year was the first time I had witnessed slug damage in my hostas.

I blame myself entirely because I inadvertently put them in harm's way by locating a shade pergola too close to a slug friendly environment. They were able to access the covered area without having to leave the relative cool shady orchard. If I had placed the pergola a few feet onto the gravelled parking area, the slugs would have needed to cross this in bright sunlight. The combination of hot gravel and bright sunshine would have been enough to have deterred the slugs at least during the day.

Why do the snails go for one plant and leave others?

I am often asked why a particular hosta is attacked whilst others are left alone. The only reason I can find for this is the fact that snails are lazy feeders and will return time and again to the same spot to continue what they began the night before. I have long suspected they probably use slime trails for this purpose as it not only makes the food source easier to find again, it also makes it easier for the snails to make the journey.

I have researched the question and found some very interesting facts that encourage me to believe this is the case. A lot of what I have read looks at the use of the slime



What a difference a few weeks can make

Only a matter of weeks ago we were looking forward to the 2020 season with a calendar full of shows, plant fairs and talks. Now it is a completely different picture and the world is hunkering down amidst the Coronavirus pandemic.

We are taking all the precautions we can to protect ourselves and everyone around us, however, the world keeping turning and the plants keep growing. When I find myself working at the nursery it is

trails as ways to find a mate, however, finding food is also an instinctive requirement. Snails use a lot of energy in the production of a slime trail, which is why trail disruption and barrier deterrents tend to work reasonably well.

If you find this interesting, you can read more here: **Snails and their trails: the multiple functions of trail-following in gastropods** <https://www.ncbi.nlm.nih.gov/pubmed/23374161>

Snails are very interesting creatures and will eat almost anything you can think of. They bite off a piece of material with their jaw and then move the particles to the radula, which sits behind the jaw. The radula grinds, or more accurately 'rasps' the particles between microscopic teeth. Find out more, including some fascinating images here: <https://nhm.org/stories/microscopic-look-snail-jaws>

Snails can force themselves to go into a period of 'estivation', or dormancy, for periods of time when the weather is exceptionally dry or hot or when the supply of food is very low. In temperate climates such as in the UK, there are seldom such periods to halt the procreation of slugs and snails.

Our love of gardening and green spaces has created the perfect environment for these molluscs and with such ideal conditions slugs and snails can reproduce in numbers that create an imbalance. We need to develop ways in which to manage their numbers and deter them from eating the plants we want to protect, whilst encouraging them to eat the rotting plant materials and waste we would prefer them to devour.

It also explains why there always seems to be a sudden influx of snails after rain when it has been hot and dry for a while.

Vine Weevil

We mustn't forget another pest, which is endemic to our country, vine weevil.

This is a particularly irritating pest as it lays its eggs in the root system of the host plant. The grubs develop and then turn into the adult form, which emerges chomping its way up the stems of the plant creating what we refer to as cartoon like 'bites', notching the stems and leaves. The effect is as damaging to the look of the leaves as slug and snail damage but essentially doesn't really affect the hosta. Only cultivars with fine root systems may succumb to grub damage to the roots, but it isn't something we have had widespread issue with.

as if nothing has changed.

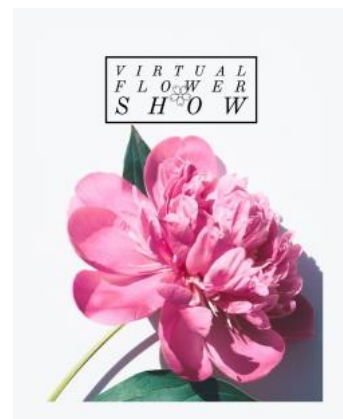
This is the power of gardening, and the engagement with nature, which can help remove the stresses of the everyday.

The past three years has been very frustrating with the hyperbole of Brexit and the 'uncertainty' the media was encouraging us to feel. How about a pandemic to really test the feelings of true uncertainty? It is why we feel really blessed to be able to lose ourselves at the nursery but the reality of earning a living is ever present. Who know what the future holds but we are still continuing as best we can.

We are still offering our mail order service

If you were thinking of ordering some plants but were perhaps considering holding off until later in the season, there is no harm in pre-ordering for late summer. As ever, we won't take payment until we dispatch.

AND... Our calendar isn't entirely empty...



Our main issue is the damage to leaves that renders the plant unsuitable for display or sale for that season.

Strangely, we have noticed vine weevil are particularly keen on red stemmed varieties so wonder if they like the taste of the chemical compounds responsible for the red colouring? They will 'cruise' the plants seeking out preferred targets, leaving those they dislike within minimal damage.

Vine weevil, like slugs and snails, are not keen on water. They all need air to breathe, so water barriers work well.

Knowledge is power

The more effort you make in getting to know your own environment, the better informed you will be in how to work with it to best effect. It is my belief that a balanced combination of deterrents and control will work best to help deter damage whilst controlling the numbers to some extent. We operate our nursery on organic principles and believe that good stewardship of our land contributes to the general well-being of all creatures that use it. This is where balance is all important and no one form of wildlife can be allowed to dominate to the detriment of others.

Over the past 40 years of growing hostas we have found that the best barrier is water, the best way of planting in beds is to only plant hosta together and don't be tempted to grow other plants, which flower from May through to September, among them.

This is because the flowers give off the attracting enzymes as the decay. Your best bet is to co-locate earlier and later flowering shrubs among your hostas, especially those that have interest either side of the hosta season.

Now spring is here, let's revisit some ideas that work:

Nematodes

Because snails live above ground, they remain unaffected by nematodes, as do many slugs. However, garden slugs, which hibernate below the soil, can be effectively targeted with nematodes. These slugs can usually only damage your hosta shoots within the first few hours of emergence. Beyond that point, the shoots harden off, especially ground grown ones, and become less susceptible, that is unless you have offered a path to your plants as I did last year!

Virtual Flower Show 25-26 April 2020

A Facebook event hosted by [Dibleys Nurseries](#) in Wales. The event will feature many of the regular show attending nurseries across the UK, including us.

The format is being compiled and the nurseries are getting on board with short videos of their favourite plants - [check it out here](#) and invite all your family and friends. The more people get on board, the more fun it will be.

Physical flower shows are off limits to so many people, who knows, it might be the start of something that could encourage much wider access to gardening.



Slug pellets

Metaldehyde versus other forms of pellet

The most effective form of slug pellet contains metaldehyde ([Compound Interest](#) has published a chemistry of slug pellets - click on the link).

One of the benefits of metaldehyde pellets is the fact that they can be effective when a slug or snail comes into contact with it, not just by ingestion. When I have watched a snail interact

Caffeine

Every year is different but there will come a point when the soil will start warming up and that is when you need to get out and pre-empt an early slug attack. In the past I have suggested a liquid slug treatment would be a good idea but perhaps a liquid coffee treatment might be a better bet, especially as it would be less detrimental to other flora and fauna in the garden. It might also be quite a cost-effective treatment for larger garden spaces.

Caffeine is naturally produced by coffee and cocoa plants to protect them against pests and this chemical incidentally affects molluscs, acting like a neurotoxin to slugs. The New Scientist issued an article on the subject: <https://www.newscientist.com/article/dn2470-caffeine-repels-and-kills-slugs/>

Garlic

Garlic washes have long been touted as the magic ingredient to the gardener's arsenal. Although I am happy this works, when freshly applied, what happens when you forget to re-apply after a rain shower, or heavy dew? As an organic element, garlic will release enzymes as it decays, thus changing from a deterrent to an attractant. I have toyed with the idea of planting wild garlic as I do enjoy the scent and it is an attractive plant. I have tried *Astrantia* and found it works well as a deterrent for the period of time it is in flower, but it can be quite an overpowering scent when it's in full flower. I also want to try planting alliums for their onion scent and because one of the best clumps of *H. sieboldiana* 'Elegans' I have seen was at Chatsworth House back in 2005, about two thirds of the way up the great cascade, in the shade of a lovely hedge. Not a hole in sight!



Petroleum products

Petroleum based products are also good deterrents due to their pungent smell but they are less environmentally friendly. Plus,

with the pellets I am more convinced they don't actually eat them as they exhibit obvious revulsion, recoiling at the touch. It is hard to imagine them actually eating the pellet.

Over the years we have tried a number of slug and snail control pellets and for quite a while we used various ferrous-based products. Although iron phosphate is not harmful to the environment, it is often chelated with EDTA to make the iron soluble and more toxic to slugs and snails. Non-chelated iron phosphate has no effect on slugs and snails so is a waste of money. The biggest drawback to chelated iron phosphate is the harm it does other invertebrates, such as earthworms. For me that is an unacceptable risk and is why we no longer used these forms of pellet, preferring to target our sparing use of metaldehyde-based pellets in the way I have stated in the main body of this newsletter.

As we all know, gardening is a form of control over the environment. Neglect it for a few weeks and nature will have made inroads into reverting it to a more wild form. In the same way as we combat invasive plant species and try to mitigate the effects of the weather, we need to manage the fauna.

you do have to remember you have smeared your favourite pot in Vaseline when you decide to move it! Petroleum products not only smell strongly for a long time, they also create a physical barrier, which deters pests.

Slug pellets

Slug pellets are most effective when dry and fresh. To this end, keep hold of all those little spice jars and any glass container which has a narrow aperture neck, large enough for a snail to enter. Then all you need is 4-5 per jar, lay the jars on their sides to avoid the pellets getting wet from either the ground the jar sits on, or from the air as rainfall. Doing this keeps the pellets dry and active for quite a while.

The most important aspect of this treatment is where you place the jars. You need to think carefully about your garden and where you would choose to hide if you were a snail. You should not be able to see the jars, once deployed, because you cannot usually find the snails that easily during the day.

Keeping the pellets fresh means they will continue to attract the snails to the jars for several weeks. If you have a bad snail problem then return to the jars after a few weeks, clean them out and add some fresh pellets. This process means you are much more effectively targeting the actual problem snail population and helping keep the numbers down. You are also using very limited pellets and not risking the active ingredient entering the soil. You are also removing the risk of other wildlife being affected by isolating the pellets in small numbers within narrow necked jars. Glass jars work better for this because they are heavy enough not to be moved by anything else prowling the garden and, if another animal was successful in up-ending the jars, the pellets will have probably become stuck to the inside because you cannot totally remove moisture from the air inside. Also, the pellets are such a powerful attractant any visitors will have deposited sticky slime to glue the pellets to the inside.

Sometimes you will find a dead snail inside a jar but more often than not, the snails will have left the jar and you will find empty shells nearby.

Copper

A well-established barrier method is to use copper bands round pots or flower beds. This method can be a little hit and miss and only the side of the pot is semi-protected. Snails can still access your plants from other pots, fences, walls or overhanging foliage, if placed too close. It is an expensive way to protect all

Since using the pellets in the jars we have witnessed a flourishing of the thrush population with a record three broods recorded at the nursery a few years ago. As birds predate by movement, if a slug or snail has been in contact with a pellet, it won't be moving as it would ordinarily do. I enjoy throwing vine weevil grubs to the chickens and robins that haunt my footsteps round the nursery. The birds seem not to 'see' the grubs until they move but as bird sight is much more acute than our own, I suspect the movement is a confirmation of health and the grub is instantly pounced on.

The frog and hedgehog population, at the nursery, has remained fairly constant over the years. When our old cat used to live at the nursery, the hedgehogs were more often spotted eating the cat food we left out. Hedgehogs are notoriously difficult to protect given their lack of road sense and secretive habits. However, we can almost guarantee when we have dug any holes round the nursery, if we don't cover them up overnight, there will be a hedgehog at the bottom scrabbling to get out by morning.

I don't believe my trust in metaldehyde not entering the food chain is misplaced, although it may be a controversial statement.

your plants when a water barrier is just as effective, and good for your plants.

Water

If you grow your hostas in containers, simply stand them in shallow trays (about 1 inch deep) and keep the trays topped up with water. Providing you keep a good distance from the edge of the tray and plant pot, snails won't be able to stretch across the gap. Doing this is brilliant for your hostas as they grow so much better and stronger when watered from below.

You can do something similar by standing containers in the shallow water at the edge of ponds or grow your hostas on islands surrounded by water. Don't forget to allow your pots to drain over winter by moving them to a sheltered spot and up-ending the trays.

Yucca!

Interestingly there is a yucca based spray you can use to deter slugs and snails, in the same way as you would use a garlic spray. Whether this is more effective than garlic I have yet to establish. The reason this is interesting is that recent research into taxonomy has established that yucca and hosta are related. As a layman to the science of taxonomy, I wonder if eventually hostas could be bred to deter the very pests that predate on their wonderfully fleshy leaves – I live in hope.

Gardening is the perfect way to exercise both the body and mind so please stay safe and let's look forward to when we can return to business as usual.

Until then we wish you all the best,

Team Mickfield Hostas

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Because I use so little of it, my small stock will last for many years. The proposed ban on metaldehyde has been recently overturned but I'm not sure that was a good move. I rather feel that regulating the supply and use of the chemical would have been a better way to deal with the situation rather than risking the environment through prolific, indiscriminate use.

The video clip below was created in 2016 and illustrates what I do in my garden to mitigate pest damage - click to view:

