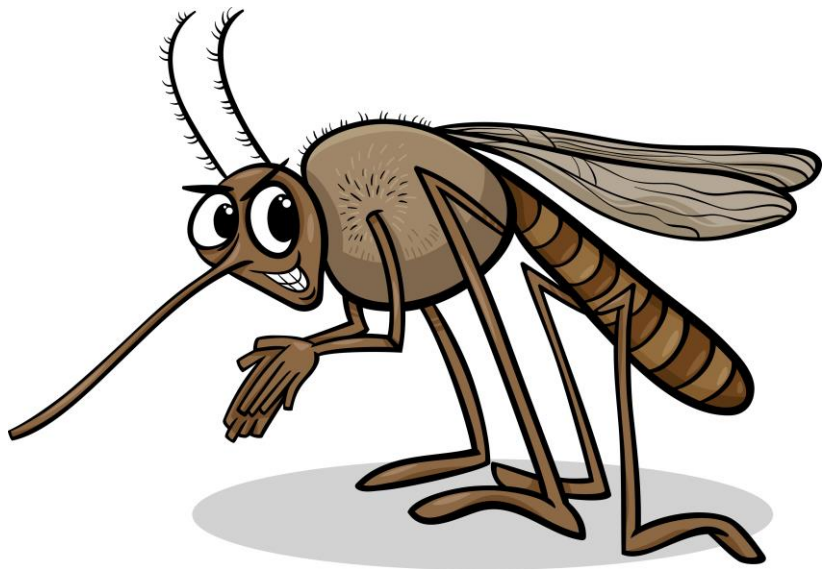


Eyes on Ecology



Critters We Love To Hate



There are many animal species that live in conflict with humans today for a wide variety of reasons. Some are just an inconvenience to have around, while others can have a very serious impact on our livelihoods and even our health. The latter are often called ‘pests’ and we actively look for ways to eradicate them. Despite how we may view these species, they all have a role to play in the context of Irish ecology. Some of these roles may have changed because of modern human influences, but many of them have stayed the same for millennia. In some cases, we can even benefit from having these so-called ‘pests’ around.

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Helpful Hints

Here are some tips and tricks you can use to deal with pests in a way that will also protect the natural environment and wildlife in your area.

Got A Fox Problem?

If you're having trouble with foxes or other wildlife breaking into your bins, there are plenty of ways to help discourage animals from digging through your rubbish. The best and easiest method for keeping your bins safe is to use a bungee cord or a strap to tie down the lid. Once an animal realises it can't open your bins it will quickly move on to other food sources. Double-bagging any food waste, ideally in compostable or recyclable plastic bags, will cut down on any smells that might attract wildlife to your rubbish bins. Using metal bins will keep out even the most determined animal as they cannot chew through them as they may do with plastic bins.

Set up electric netting around chicken pens to keep them safe from predators. Make sure to fully surround the pen with netting, as this will keep climbing predators such as pine martens away. An electric shock will not harm these animals, but the fright will discourage them from returning to the chickens.

Red Fox (*Vulpes vulpes*)

Our native red fox has developed a bad name here in Ireland. In rural areas foxes are hated for their tendencies to raid chicken coops and in the cities, they are hated for raiding bins. But, like many of the animals that have learned to live alongside humans, these behaviours are just a natural adaptation to their now human-dominated environment.

In fact, with the demise of the ancient Irish wolves and bears, foxes now play an essential role in Irish ecology as one of the few remaining large predator species. In particular, foxes help to control the population of wild, invasive rabbits in Ireland. Rabbit populations, if left unchecked, can expand at an exponential rate. As a result, they may start to feed on our crops and disease may spread rapidly through the rabbit population.

Foxes also control the populations of other small mammal species, such as mice and rats. Like rabbits, these species breed very quickly, and uncontrolled populations can rapidly take over our farms and homes. This can lead to the spread of disease among humans and may also lead to food wastage if the rodents invade storage sheds.

“Despite how we may view these species, they all have a role to play in the context of Irish ecology..”

Ticks

These little parasitic arachnids are considered a hazard to our health for good reason. Ticks can carry Lyme disease and bites can result in severe and long-term illness in humans. As such, it is important to take appropriate measures to protect yourself from tick bites and to remove ticks from your skin as soon as possible.

However, ticks are very important in the context of Irish ecology, for the exact same reason that they are hazardous to us. As mentioned previously, we have a severe lack of large predators in Ireland. As a result, adult deer in Ireland have no natural predators. On top of this, the introduction of non-native Fallow and Sika Deer has bolstered the Irish deer population.

Ticks are one of the few natural control measures that keep this population of deer in check. When a herd of deer grows to very large numbers, disease will spread rapidly throughout that population. Ticks act as a vector for these diseases and when the density of deer in a given area is high, ticks can more easily move from deer to deer.



A Tick – Its actual size can be less than 2mm

Spiders

Many people suffer from arachnophobia, or a fear of spiders. Some say these fears are completely and utterly irrational. Meanwhile, others believe there is some value in being afraid of an unknown spider species, just in case it bites. Thankfully, our Irish spiders are mostly harmless, and we don't see any of the more deadly spiders such as the Black Widow or the Brown Recluse.

Despite this widespread fear, it is also well-recognised that having a few house spiders around can be very beneficial. Spiders feed on a variety of insects, controlling their populations and can help keep your home clear of pests such as flies and beetles. Web-making spiders mostly catch flying insects. Common housefly species can carry a variety of diseases which may be transferred to you if they land on exposed food. These spiders will also reduce the number of biting insects around the house such as horseflies and mosquitos.

Wolf spiders are often seen around late summer / early autumn. These critters can grow very large with records as big as 3-inches including the leg span having been seen in Ireland. The average wolf spider is certainly big enough to make your skin crawl if you see one scuttling across the living room floor. Yet, despite their alarming size, even these arachnids are useful to have around. Wolf spiders do not spin webs. Instead, they feed by ambushing floor-dwelling insects, such as ants and woodlice.

Wasps

It is unsurprising that many people would list wasps as their least favourite animals. These flying insects have a potent sting and can become very aggressive if you disturb their nests. An individual wasp can sting multiple times, unlike the more 'friendly' bee which can typically only sting once before dying. But even these seemingly nasty insects have an ecological role to play.

Bees and butterflies are generally considered the most important pollinators. However, there are many other flying insects, including wasps, which are responsible for pollinating wildflowers throughout Ireland. Wasps fly from flower to flower, feeding on the sugary nectar while also spreading pollen around just like other pollinators. In fact, fig trees have evolved to only be pollinated by wasps by emitting a particular aroma that will exclusively attract a certain species of wasp.

As well as feeding on nectar, wasps are also voracious predators. Adult wasps will actively hunt other insects which they use to feed their larvae. Wasps will kill a wide

"Wasps will kill a wide variety of insects, including common pest species such as aphids and caterpillars, which can ruin gardens if their populations are left unchecked."

variety of insects, including common pest species such as aphids and caterpillars, which can ruin gardens if their populations are left unchecked. They will even hunt other stinging/biting insects such as horseflies which, arguably, are far worse to have around than the wasps.



A Wasps Nest – These Can Become Very Large as Summer Progresses



False Widow Spider

When Rodents Invade

Use humane mouse traps whenever possible. These traps will catch any problematic rodents in your home without killing them.

The key to using humane mouse traps is to release any caught mice in a natural environment far from your home, preventing them from re-entering your house. A woodland or meadow is ideal (where practicable), as there will be plenty of food there for the rodent to live comfortably.

Slug Problems?

Use non-toxic methods for keeping slugs away from your homegrown fruits and vegetables. Avoid slug pellets containing metaldehyde as these will harm any predators that subsequently eat the dead slug. By using non-toxic methods, you may also find that more 'slug hunters' such as hedgehogs and birds will move into your garden. Encouraging these animals to move in will help to naturally control slug numbers.

The Mighty Ladybird

In the same way, attracting ladybirds will protect your garden from aphids or greenflies. Ladybirds are voracious hunters and will actively feed on problematic insects. To encourage ladybirds into your garden, plant pollen-rich wildflowers such as Angelica and Yarrow. You could also setup 'bug hotels' for your ladybirds by drilling holes

into logs, old bricks or stone blocks and leaving them in a safe, sheltered area. These will provide shelter for ladybirds and other useful pollinators.



A Ladybird Feasting on its Prey

Planting Solutions

If your garden or home is particularly troubled by biting insect pests, there are certain plants you can use that act as a natural insect-repellent. As an added bonus, the plants that insects hate are often loved by us for their fragrance such as lavender and mint. You may even be able to use these insect-repelling plants as a tasty herb for cooking if you opt for thyme, lemongrass, or basil. These plants are used in organic crop management as an alternative to chemical pesticides and could potentially be utilised for large-scale crop production.

Did You Know?

It is estimated that spiders kill about 400 to 800 million tons of prey globally per year. In comparison, humans eat a combined total of 400 million tons of meat and fish every year! That's a lot of insects that might otherwise find their way into our homes if there were no spiders around.

In many cases, it is only female biting insects (for example, horseflies and mosquitos) that bite. Females of these species need to feed on blood in order to reproduce successfully. On the other hand, males can't bite at all as they haven't evolved biting mouthparts and feed exclusively on flower nectar.

Flies

Flies are viewed as pests around the world for various reasons. The problems posed by flies range from being a mild annoyance to spreading serious human diseases such as Salmonella, Tuberculosis, and Typhoid Fever. Some flies, including horse flies, are aggressive biters which are mostly a harmless annoyance in Ireland but do have the potential to become infected.

Small flying insects may appear insignificant, but with over 110,000 known species of fly worldwide, these animals play a variety of important roles in ecology. Like slugs, flies take part in the process of decomposition by feeding on dead organic matter, returning nutrients to the ecosystem. In addition to this, they are also important contributors to pollination and act as a food source for birds and bats.

Flies may also represent the future of sustainable agriculture as research is being conducted into the usefulness of insects as a food source. The thought of adding houseflies to your meal may seem gross to most of us but, nonetheless, the number of insect farms are on the rise. Insect protein is considered to be much more environmentally friendly than traditional livestock production. It requires less land space and has reduced greenhouse gas emissions.

"...with over 110,000 known species of fly worldwide, these animals play a variety of important roles in ecology."



A Mosquito Busy Gorging on its Victim

Mosquitoes and Midges

A particularly nasty group of flying insects are mosquitoes and midges. Nothing is more irritating than accidentally walking through a swarm and ending up with a plethora of itchy bites that seem to last forever. Thankfully, the biting insects in Ireland are mostly harmless and are not known to carry any serious diseases, despite being such an annoyance. Further afield, however, these insects pose a severe health risk and are known to spread diseases such as Malaria and West Nile virus.

Many people would consider mosquitoes and midges to be 'useless' animals and that we would be much better off if they were to go extinct. But these insects, like many others, are a significant food source for a variety of species. Mosquito and midge larvae are typically found in rivers and lakes where they are hunted by fish and other aquatic organisms. Meanwhile, adult mosquitoes and midges are a food source for birds and bats.

Although they are better known for their blood-sucking and biting tendencies, mosquitoes and midges will also feed on nectar. Therefore, they contribute to wildflower pollination like many other flying insects. Cacao trees, which are required for producing chocolate, are exclusively pollinated in nature by a group of midges known as Chocolate Midges. However, due to intensive agriculture practice, there are less suitable habitats for these insects next to orchards, significantly reducing cacao yields and forcing farmers to turn to hand pollinating their cacao trees.

Slugs

Slugs are often despised by gardeners for their tendency to decimate their carefully grown plants. However, it is their voracious diet that makes slugs so important from an ecological point of view. Simply put, slugs will eat everything from freshly ripe garden strawberries to animal droppings, and even other slugs! As such, they play an essential role in breaking down dead organic material, releasing the nutrients back into the soil. This can be beneficial for gardens in the long-term, as long as the slugs can be kept away from the more valuable fruits and vegetables.

They are also an important food source for much of our native wildlife. Hedgehogs, shrews, and several bird species all rely on slugs as a large part of their diet. Because they will eat anything and everything, slugs provide a wide variety of nutrients to their predators. Snails, a close relative of the slug, are a high protein, low fat alternative to traditional meats and a source of vitamin A, as well as a variety of minerals. It stands to reason slugs would have a similar nutritional value, but perhaps eating them is best left to the wildlife!



A Pair of Black Slugs

“Avoid slug pellets containing metaldehyde as these will harm any predators that subsequently eat the dead slug. By using non-toxic methods, you may also find that more ‘slug hunters’ such as hedgehogs and birds will move into your garden.”

These are just some of the so-called ‘pests’ that have important roles to play in Irish ecology. In many cases there is some benefit to us humans, provided ‘free-of-charge’ by nature. Nowadays, many of us are striving for a greener and more environmentally friendly approach to life’s problems. There are many species that have been viewed as an annoyance by humans for a very long time. But, if we can look past the inconveniences of having certain animals around and try to find ways to co-exist with them, then often we can benefit from their help in ways we might not expect.

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Thankfully for us, biting and stinging insects are only a nuisance during the adult stage of their life cycle. These adult insects are usually short-lived and, in more temperate climates like Ireland, often disappear entirely for the colder parts of the year. For example, wasp nests are only active for three to four months and adult horseflies will typically only survive for 30-60 days.

Note on the Author

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Victoria completed her B.Sc. in Zoology in 2020 at NUI, Galway, prior to joining Veon Ecology. During this degree she was involved with the 2019 All-Ireland Squirrel and Pine Marten Survey, and she also worked as an intern with a focus on aquaculture research. Since joining Veon Ecology, Victoria has gained much experience in terrestrial and freshwater fieldwork as well as extensive knowledge of environmental law, with a particular focus on forestry.



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