

## WILDLIFE

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# Common Insects

There is no such thing as the typical insect. They come in all shapes and sizes, albeit mostly quite small. Many are so small that they cannot be seen without the aid of a microscope. Insects can be found everywhere – from the highest mountain to saltmarshes, from the snow-capped poles to the driest deserts. There are more different insects than all other plant and animal species put together.

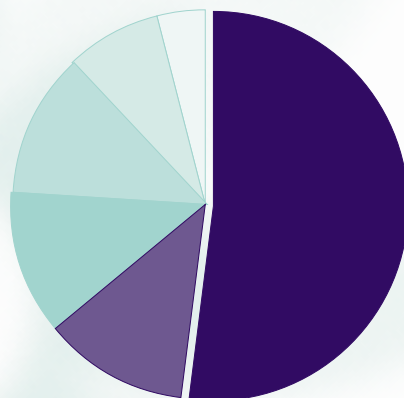
Insects provide us with honey, beeswax, dyes and silk. They are crucial in the making of healthy farm soil and in the pollination of most fruits, flowers and vegetables. Yet despite all their beneficial uses to man and other living organisms, we are

carelessly destroying thousands of non-pest species through the use of pesticides and insecticides and through the destruction of their natural habitat, forests.

Insects are incredible creatures and the variety of them is endless. For example, a grasshopper's ear is on the base of its abdomen, whereas the cricket's ears are just below the knees, and these are two quite closely related insect species. Some insects are quite like us in that they live in very complex social communities, such as bees, wasps and ants. Would you believe, bees actually perform a dance for the other bees in their community to let them know where a good source of nectar is

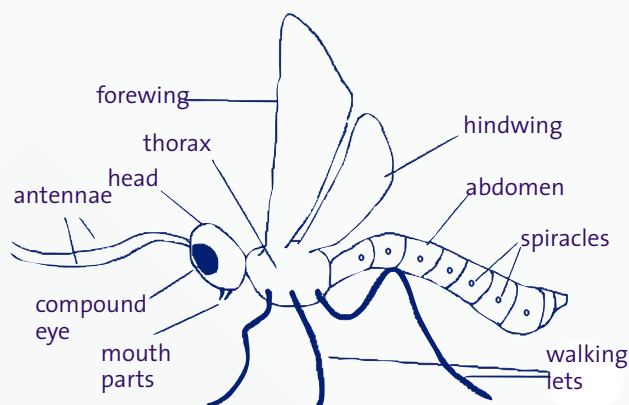
to be found. The carefully performed 'dance' is like a map and lets the others know how far away and in what precise direction (relative to the sun) they should look.

But, before going any further, what exactly is an insect? Well, creepy-crawlies such as beetles, flies, butterflies, bees, crickets and ants are all insects. Spiders, centipedes, slugs, snails and worms however are not. All insects have several common characteristics. To start with, their bodies are divided into three sections; the head, thorax and abdomen. The head, like ours, has (at least) two eyes and a mouth, but also a pair of antennae, or 'feelers'. The thorax is the powerhouse of the insect. It has three pairs of walking legs and often two pairs of wings. Did you know that insects have taste buds on the soles of their feet? They can figure out what is good to eat before they put it in their mouth! The last body section is the abdomen, similar to ours. It contains the digestive and reproductive systems of the insect. The insect has no lungs as such. Instead it has tiny tubes called trachea, which run throughout its body. The openings, to the trachea are small holes called spiracles along either side of the abdomen and the air just circulates freely in and out.



- Insects
- Other invertebrate
- Flowering plants
- Other arthropods
- Non-flowering plants
- Vertebrates

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### A hypothetical typical insect

It is estimated at the moment that there are as many as 950,000 different types (species) of insects in the world. But as new species are being discovered all the time (several hundred identified and named each year) it would be impossible to know the exact number. The insects we currently know of are divided into 28 groups (orders). The largest group is the one containing all the beetles (*Coleoptera*). However, the most diverse and advanced group is the one made up of the bees, wasps and ants (*Hymenoptera*). Other large groups are the butterflies and moths (*Lepidoptera*) and the two winged flies (*Diptera*).

### A hypothetical typical insect

Insects are well known for helping flowering plants to disperse their pollen, allowing them to reproduce. This arrangement is mutually beneficial; the insect gathers nectar from the flower and in doing so unknowingly allows some pollen to rub off on its body. When the insect then feeds off another flower, it transfers the pollen across, pollinating the flower.

It is because of insects that flowering plants have been able to diversify, giving us the amazing range of flowers we could choose to grow in our gardens. In fact, insects are so important to so many flowering plants that they would be unable to exist without them, at least not to the vast extent that they do.

Flowers tend to be quite picky about which insects they'll allow feed on their nectar. This is why there is such a variety of flower shapes. Each flower is designed to be visited by a particular type of insect. Flowers with tubular necks where the pollen is deep inside are designed for insects with long tongues that can reach into the nectar, such as butterflies and moths. The reason the flowers have different scents is not for our enjoyment but so as to attract certain insects to feed on them. Not all flowers are sweetly scented though, just as not all insects like sweet smells. There are some flies that feed on rotting meat and are not remotely interested in plants. However, some ingenious plants have evolved to exploit these flies and produce the smell of rotting meat. Sure enough, the flies fall for it and help pollinate the trickster plant.

Some orchids have evolved to look like a female bee. The male is fooled, and in his attempt to mate with the mimic flower, and subsequent similar flowers, pollinates them.

### What do insects eat?

Most insects will feed on a variety of foodstuffs during their lifecycle, but many will feed directly on plant material at some stage. In turn, insects are preyed upon by other insects and at some point in their development, both predator and prey become bird food.

The majority of insects need one or more food plants as larvae, and nectar from plants as adults. The wider the range of plants available, the wider the range will be of insects that inhabit your garden. A wider range of insects in your garden will attract a greater range of visiting birds to feed on them. Flowers are present at most times of year in gardens, providing food over longer periods than natural habitats, making them a haven for insects. Gardens, with a higher proportion of native plants, such as wild flowers, are likely to attract more insects, as they are more easily recognisable and accessible than exotic species unfamiliar to our native insects.

Some insects eat dead or decaying plant matter, detritus. For this reason it is advisable not to clear away all dead garden material and seed heads as many insects depend on it for food or a place to hibernate during the winter months. A good idea is to leave piles of dead leaves in a heap under a bush instead of throwing them out. This will provide perfect shelter and food for wide variety of different insects. Likewise a couple of logs

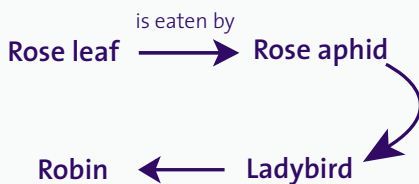


piled up together will attract wood boring insects into your garden. A wildflower garden is the ideal way to encourage insects, and with them birds, hedgehogs and perhaps frogs or toads into your garden.

### What eats insects?

The main predators of insects are other larger insects, spiders and birds. As foodstuff, insects are a very nutritious and valuable source of protein, especially to young birds. Both web spinning and hunting spiders feed on insects, commonly earwigs, beetles, woodlice and flies, but anything they can catch will do for dinner. In turn, spiders are also eaten by birds.

Many of the larger insects will eat smaller insects. Mantids, earwigs, some grasshoppers and crickets, bugs, beetles, and many other insects are carnivores, some more predacious than others. Ladybirds are well known predators of greenflies and other aphids. Earwigs also eat aphids as well as scale insects and small flies.



### Some insects are pests

A few insects are somewhat of a nuisance in the garden due to their large numbers and endless appetite for our beloved plants. The insects really aren't to blame though. As far as they are concerned, we have very generously provided them with an all-you-can-eat gourmet buffet. It's no wonder they

munch away happily and raise large families. Why shouldn't they? On warm summer days we attract wasps into our gardens with the false promise of sweet smelling foods and drinks. It's their fault for being there. Slug numbers (not actually insects, but common garden visitors all the same) are regulated in the wild naturally by food availability. There is only enough food to support a moderate size slug population. However, in our gardens, with so much slug food available, slug numbers increase well past their natural levels in the woodland. Unbeknown to them these unfortunate creatures are deemed as pests and every effort is often made to destroy them.

As it happens, many of these pests do deserve their name, as they seem to do nothing but harm plants. However, not all of our invited guests (it is us who lure them in with appetising meals) are truly pests. Earwigs, for example, have no interest whatsoever in our ears. They prefer to annoy us by munching on our Dahlia and Chrysanthemum petals. But, when not attacking their preferred flowers they also enjoy eating scale insects, small flies and aphids. So if scale insects or aphids (the genuine pests) are your problem, is it that much to sacrifice a few petals to enlist the help of the earwig?

Those insects that do occur in pest proportions in our gardens can seriously damage or weaken a plant. It is usually necessary to control their numbers in some way to limit the damage that they can do. Many chemicals are available to do the job. Unfortunately, these widely used chemicals (insecticides and pesticides) do much more harm than good. A better solution is the natural one.

### Insecticides

There is a wide range of insecticides and pesticides available commercially. They all vary somewhat in what they claim to do and what chemicals they contain, but also have some key similarities. The chemicals in these preparations are very strong poisons and very damaging to wildlife. That's how they work. Few if any are targeted at one pest specifically. In fact, most boast of being capable of killing a wide range of garden pests. What the packets fail to mention is that they harm a lot more than just the intended pest.

When the targeted pest ingests the poison and dies, the poison still remains in its victim. A dead slug or woodlouse is easy prey and will soon become part of the food chain, and with it the poison that killed it. This dose of poison alone won't be lethal to an unsuspecting robin – but robins don't just eat one meal a day. As a result of your killing spree many more easy (poisoned) meals will await unsuspecting birds. So don't complain about the scarcity of thrushes or blue tits in your garden if every other meal they find there is poisoned.

### Natural / Biological Controls

Before trying to eliminate a pest from your garden, start first by thinking why it might be there. Just like humans, plants suffering from stress are more susceptible to illness. There are many factors that can cause a plant to suffer from stress. If the soil is not well enough drained, too dry, or not containing enough organic matter the plants will suffer. Equally, if the plant is getting too much or too little sunlight it can become stressed and more vulnerable to attack by pests.

In nature most plants and animals have predators. Just as the greenfly is a predator to the silverbirch tree, the ladybird, adult and larvae are predators of the greenfly. When greenflies become pests it is because there are not enough ladybirds around, possibly because there are not enough sheltered sites for the adults to over-winter in. It is possible though to buy ladybirds to introduce into your garden. Many organic garden centres can order them in for you. Companion planting also works. This means planting certain plants to either attract the pest's predator or deter the pest directly. Here are some other natural pest control solutions:

**Ants:** plant mint beside the kitchen door to deter them

**Blackfly:** attract their predator, the hoverfly, by planting aromatic herbs near the problem area. Also ladybirds.

**Cabbage White butterfly:** aromatic herbs attract ichneumon flies, a predator.

**Carrot fly:** sprinkle garlic powder while and after sowing.

**Greenfly/aphids:** ladybirds and companion planting of chives, parsley and garlic.

**Scale insects:** ladybirds and *Anthocorus nemorum* are predators. Rub off with soapy water and a cloth.

**Thrips:** strong blast of water on trees. Fork over a pea bed to allow birds to eat off larvae.

### Sources /Further reading:

**The Green gardener's handbook** by Margaret Elphinstone and Julia Langley

**Talking Wild** by Éanna Ní Lamhna

**The Pocket Guide to Insects of the Northern Hemisphere** by George Mc Gavin

**Garden Wildlife** by Bob Gibbons

**The Worlds of Ants, Bees and Wasps** by Brian Vesey-FitzGerald

**ENFO info sheets:** Making a Wildlife Garden, Making a Garden Pond, hedgegrows, Honeybees - Interesting facts.



*Issued by:*  
ENFO – The Environmental  
Information Service,  
17 St Andrew Street,  
Dublin 2, Ireland.

Tel: (01) 8883910  
Locall: 1890 200191  
Fax: (01) 888 3946  
e-mail: [info@enfo.ie](mailto:info@enfo.ie)  
[www.enfo.ie](http://www.enfo.ie)

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