



Wildlife Trusts
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Green Connections Powys

Pollinator Toolkit





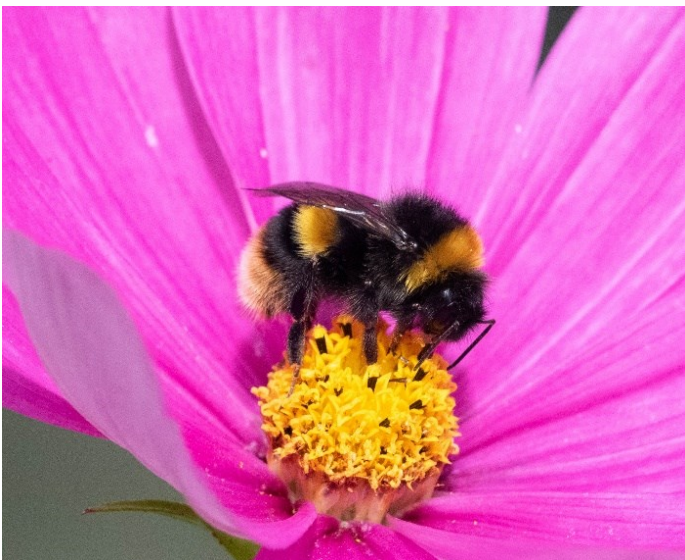
What is a Pollinator?

Insects have been on earth for millions of years. There are many different shapes, colours and size of insects and they have intriguing life-cycles.

Insects can be both predator and prey, and we rely upon these fascinating creatures for the value that they add to our natural world.

A pollinating insect includes bumblebees, solitary bees and honeybees, as well as moths, flies, butterflies, beetles and wasps. As they feed on nectar in the flowers, the insect also carries pollen from flower to flower and this enables pollination.

Here are some examples of insects that are pollinators:



Buff-tailed Bumblebee



Common Blue butterfly



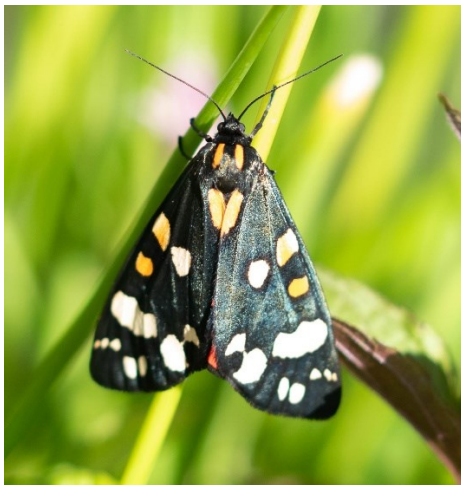
Pollinating Insects



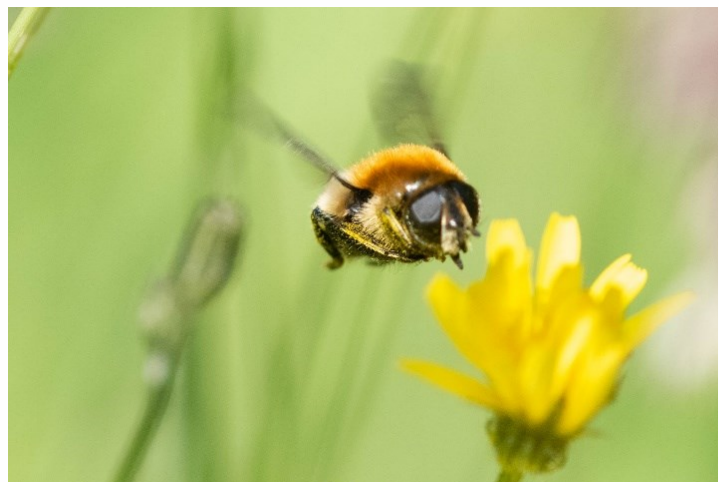
Two-Spot ladybird



Tawny mining bee



Scarlet Tiger moth



Hoverfly species

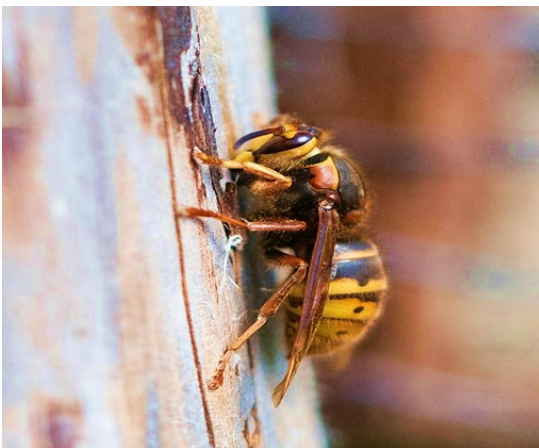




Most flying insects that visit flowers will transfer pollen from one plant to another as they move around. Some are more effective than others, such as bees as they are often hairy and pollen sticks to them easily.

Why do we need pollinating insects?

Insect pollinators are important essential for seed production for flowers, as well as fruit and vegetables. They are an invaluable contributor to our natural world and for our environment and for biodiversity.



Queen Median Wasp



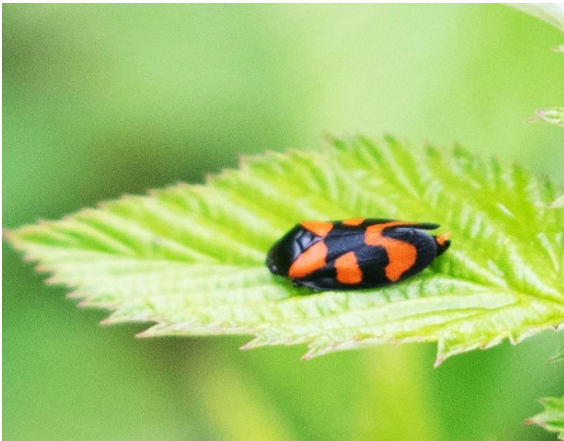
Red Headed Cardinal Beetle





Insects as Pollinators

Insects add to our experiences when we are outside and amongst nature. They are therefore an integral part of our health and well-being. Vitally, they help to support our ecosystems, especially by helping plants to produce fruits and seeds which birds and other animals rely on.



Red and Black Froghopper



A Dung fly

What do pollinators need?

Different habitats and areas of countryside, gardens or an urban and brownfield area can all be useful for insects.

A lot of flying insects feed on nectar as adults, and this provides energy in the form of sugars. Some insects will feed on pollen, and this provides protein. Hoverflies have a life cycle in which many species larvae feed on plant pests such as aphids, making these insects useful in the garden and to the agricultural grower. Bee species will feed their larvae on nectar and pollen.

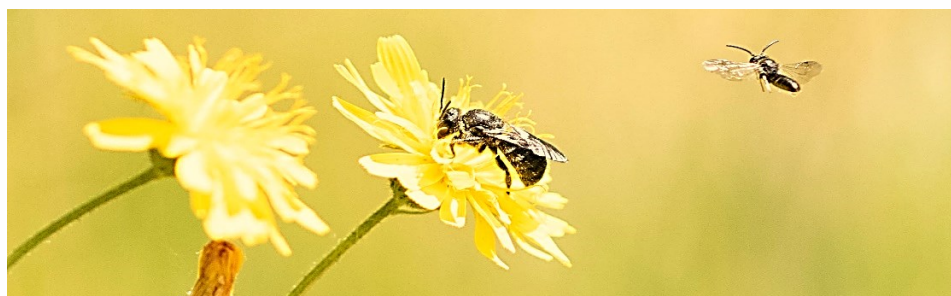




The caterpillars of butterflies will feed on plant leaves and the different species of butterfly will need different larval host plants. Different insects need the right sort of habitat to complete their life cycle, for example bees need suitable places to make their nests, and these may be below ground in the case of mining bees and many bumble bees, in dense vegetation on the surface of the ground, for instance, Carder bumblebees will nest in this situation.



Social wasp species



Solitary bees

There are many man-made threats to insects, such as loss of habitat and the use of chemicals. This may be in the form of pesticide sprays used in domestic situations or in the wider countryside, such as crop spraying. Some horticultural growers will also use chemicals when producing and propagating plants.



Many of these are harmful to insects, and it is a good idea to read the labels before buying plants to check if any are listed. Also, make sure that the compost is not derived from peat sources. Some seeds are also treated with chemicals, so do check the supplier source for information about this. Noenicitinoids are very harmful, and some seeds may be pre-treated with these, so it's worth checking.

There are many ways that you can have a healthy garden without chemicals.



Hoverfly species

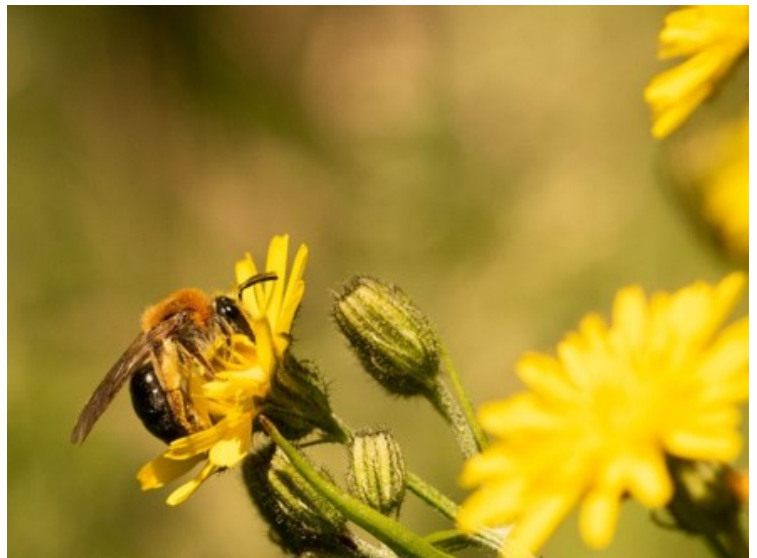
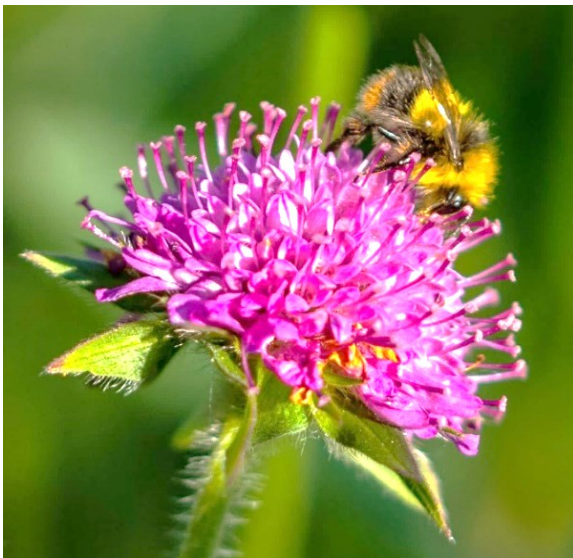
By attracting insects to your garden, you will encourage a healthier ecosystem. Species such as hoverflies, beetles and wasps will predate insects and it will allow the garden to be more 'balanced' if there is a variety of insects using it.





Dark-Bordered Bee Fly

A variety of flowers will encourage a variety of insects



Planting through the year

It is helpful to have a variety of sizes of simple flowers, so that insects can access the nectar and pollen easily. Having a nectar and pollen source all year round is important, as some insects are emerging earlier in the year due to climate change. Some bumblebees may nest throughout the year.





The flowering Year – planting suggestions

Due to climate change, some species of bee are now nesting throughout the year and therefore winter flowering plants are important too.

Professor Dave Goulson suggests certain plants that are good for insects, and these include:

Winter flowering shrubs such as Mahonia, Jasmine, Viburnum

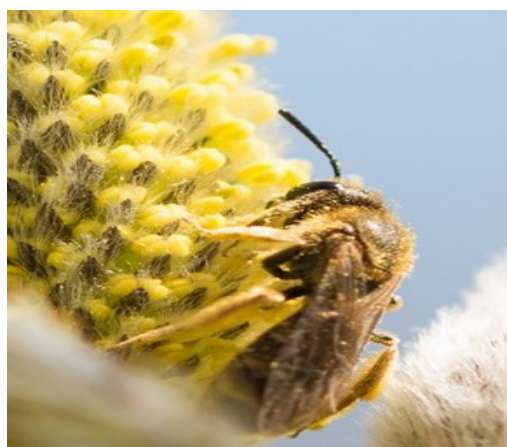


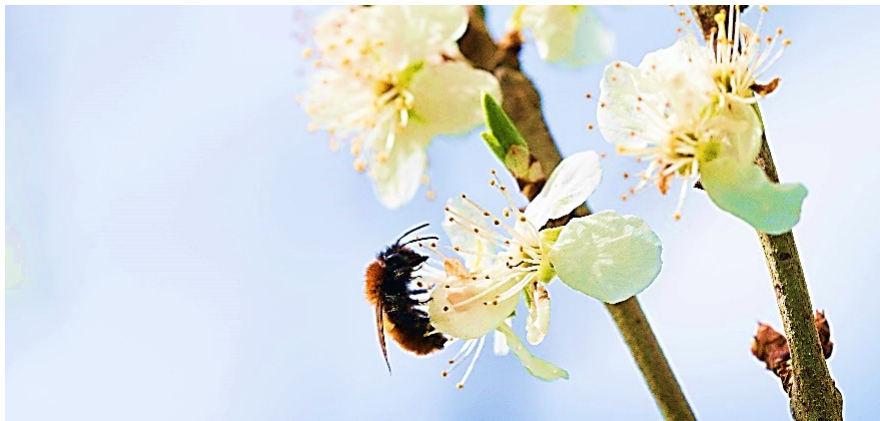
Snakes-head Fritillary

Spring and Summer

Willow species are great for early emerging pollinators in the spring if you have space to grow it. Perhaps, a willow arch would be a good way of growing this versatile plant.

Agastache, Borage, Comfrey, Viper's bugloss, Honeywort, Lavender, Marjoram, Catmint, Sanfoin, Thyme and Teasel are great to attract insect species.

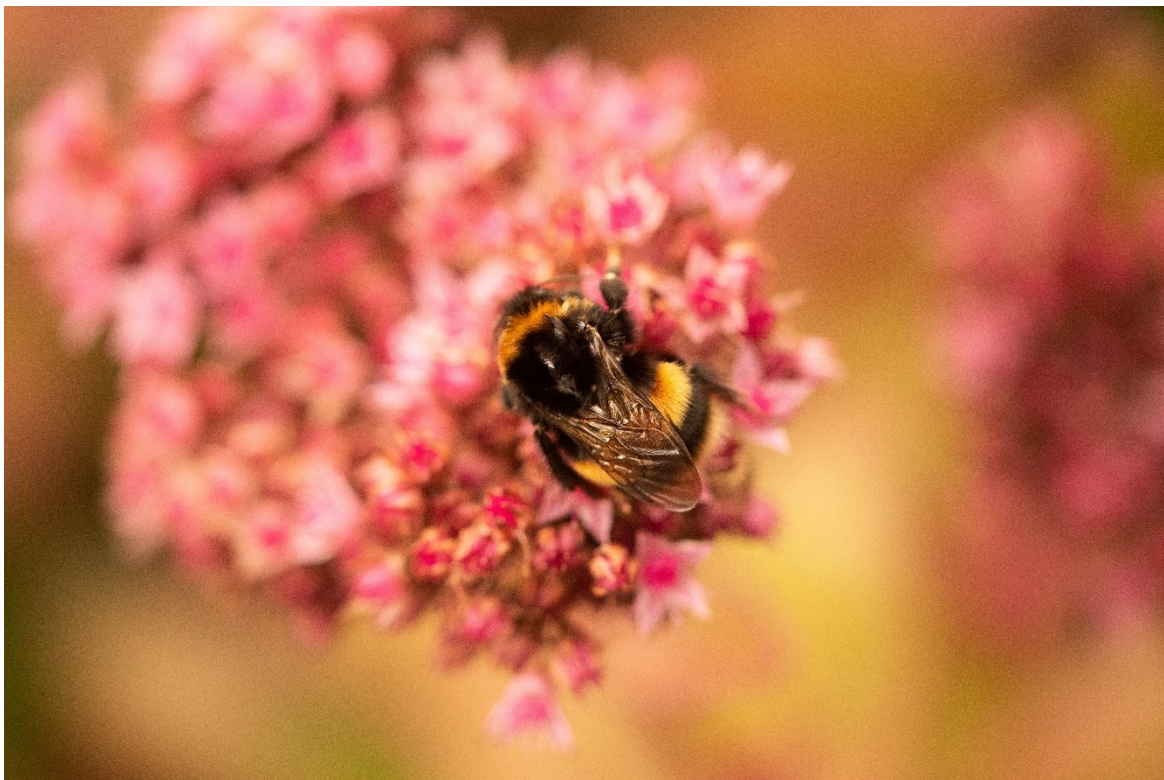




Fruit trees and hawthorn are good sources of nectar and pollen in late spring and early summer.

Autumn

Ice Plant, Golden Rod, Helenium, Hyssop, Sweet Scabious and Thyme are a good source of nectar.





Let it go!

It's good to have some untidy areas for wildlife in the garden and the insects will appreciate this too. Log piles encourage some beetle species to complete their life-cycle and some bees will nest in wood.



Leave long grass for butterflies and flower heads on over the winter to allow insects to complete their life cycles.

How else can we help?

Create habitat

There has been a loss of 95% of meadow land in the UK since the 1950's. However, there are about 15 million gardens in the British Isles, so with this in mind, there is plenty of opportunity to garden for the benefit of wildlife. Each space no matter how small, can have something to entice insects in.





Be creative and use an old sink, a plant pot or a growing bag to put in flowering plants, that will feed a hungry pollinator. Small can be beautiful, and pots and any kind of container can hold plants that are good for insects. They are ideal for small spaces and can be used on the ground or you could mount them on

It is amazing what will turn up if you can leave an area to grow wild.

Piles of logs or dead wood will encourage wood-boring beetles such as Longhorn beetles as shown below.



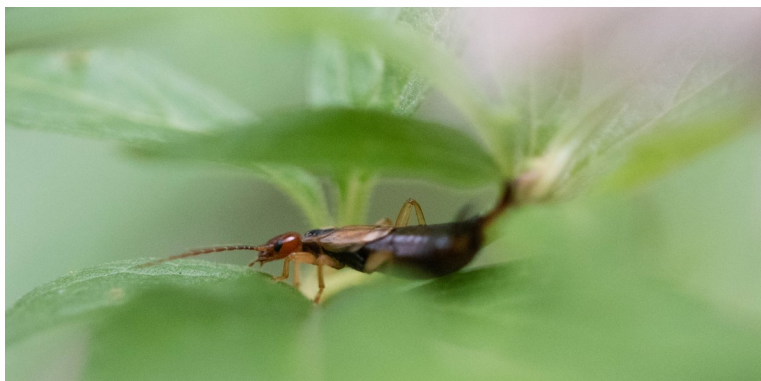


Gardening with nature in mind

Recent research indicates that private gardens in Britain cover an area bigger than all the country's nature reserves combined, estimated at over 10 million acres. There are lots of ways that you can make your garden count for wildlife and that includes insects.

Make a bee or bug hotel. There are lots of ideas in the Wildlife Trust publications or on our websites. A variety of insects such as some solitary bees and wasps especially like them but do remember that they need to be in full sun if possible.

You can encourage beneficial predatory insects like ladybirds, earwigs and lacewing by not using chemicals. These insects can devour 'pest species' such as greenfly, so it's good to have them along.



Edible can be Incredible

Fruit trees can flower early in the year and provide good forage for insects. The flowers that develop into vegetables and fruit can provide important food for pollinators throughout the year too. Plants such as blackberries and beans are nearly always bee-pollinated, and can be grown in bags, pots, or directly in the ground. Companion planting can attract beneficial insects, encourage pollination and pest control.





Garden pest Control



Damselflies and dragonfly adults will feed upon insects. Make space for a pond, however small, and you may be rewarded with these beauties.

Whatever 'tools' you use in your outside space, growing plants for pollinators and adding in some of these suggestions, will help to make a great contribution to lots of insects and other wild-life.

Have fun!





	
<p>Cronfa Amaethyddol Ewrop ar gyfer Datblygu Gwledig Ewrop yn Buddsoddi mewn Ardaloedd Gwledig European Agricultural Fund for Rural Development Europe Investing in Rural Areas</p>	<p>Llywodraeth Cymru Welsh Government</p>

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