



Insects as pollinators

What is pollination?

Pollination is the process of transferring pollen grains, the male part of the plant's reproductive system, over to the carpel, the female part, of another flower so that a seed can be produced. Pollen can be transferred by wind, as in the grasses, but for broad-leaf crops an agent is needed to accomplish the transfer and this is where the insects come into their own. Honey bees are probably the best known pollinator; but any insect that moves from flower to flower can do the job because the pollen grains are very sticky attaching easily to any passing insect.

Why is pollination important

A plant that has not been pollinated cannot produce seed or fruit. Some plants can pollinate themselves but the yield is higher if pollination is carried out by insects. Plants attract insects by producing sweet nectar; bright coloured petals or scents, with some smelling like rotting meat to attract carrion feeding insects! Many insects need plants because the nectar and pollen provide sugar for energy and nutrients for growth.

Bees are the best pollinators because they concentrate their feeding upon plants of the same species. However, many other insects also act as pollinators including butterflies, moths, beetles and flies.



(Above) Bumble bee
(Below) Solitary bee (© Andy Horton)



Bees (Hymenoptera)
The honey bee, bumble bee and many species of solitary bee are all prolific pollinators. Sadly disease is threatening the honey bee population so it is very important to encourage bumble and solitary bees. Providing undisturbed rough grassland for nesting is one way to help. Bee mouthparts differ between species, therefore, to encourage a wide range of species, different types of flowers are needed. Flowers must also be available from spring to autumn.

We are working to optimise a flower and grass seed mix that is cost effective but supports a wide diversity of pollinating insects and beneficial predators.



(Above) Honey bee, (Below) Sainfoin



Butterflies and moths feed on nectar, but the pollen sticks to their bodies and legs as they feed, therefore, transferring it to another flower where it will be dislodged, and more pollen will be picked up.

(Left) Meadow brown butterfly
(Right) Mother shipton moth



Many beetles visit flowers to prey on other insects, feed on the nectar and pollen, or on other parts of the plant. Consequently pollen often sticks to them and is inadvertently transferred between flowers.

(Left) Soldier beetle
(Right) Longhorn beetle



Flies, hoverflies and parasitic wasps are effective pollinators and feed upon nectar (or in some species pollen) because this provides nutrients essential for egg maturation and extends their life-span.

(Left) Parasitic wasp
(Right) Hover fly



Contact

The Game & Wildlife Conservation Trust is a research charity and for over 75 years our scientists have been researching why species like the grey partridge, water vole, corn bunting and black grouse have declined. We are continually developing practical measures to reverse these declines. Our aim is simple - a thriving countryside rich in game and other wildlife.

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