

Bees, mainly Bumble (Brian Eversham)

“Bees of all kinds are vital in pollinating crops and wild flowers, and are sensitive indicators of the health of the countryside. Bumble-bees are among the most familiar, popular and easily recognised of our bees, and many species have declined drastically. This talk introduced many of the local species, their behaviour, ecology and conservation.

Brian started off the talk by explaining how pollen has diversified bees, beetles and other insects. Therefore plants have forced biodiversity in these insects. An example of the biodiversity created by plants is that there are short-tongued and long-tongued bees. Certain plants, such as clover attract bees with the correct size of tongues for easy pollination. However, sometimes bees can adapt to this. For example, if you see holes in the side of comfrey flowers, it probably means that the pollen has been collected by short-tongued bees which, unable to collect the pollen by normal means, have cut a hole through the side of the flower so they steal the pollen.

How do you determine if an insect is a bee? When is a bee not a bee? From looking at bees and similar looking insects in close up, it is possible to distinguish them. Bee-flies look similar but are distinguished by their behaviour: they bomb the ground to collect dust to camouflage their eggs. Looking close up at the bee, their rear legs are concave in shape and hairless in order for them to collect pollen and attach it to their legs whereas all cuckoo-bees have fur on their rear legs as they do not collect pollen. Male and female bees can be distinguished from each other by their antennae. Males have thirteen segments making up the antenna whilst females have twelve segments.

Brian then talked about the different species of bee found in the UK. There are newly established species: the Tree Bumble Bee appeared in the UK in 2001 and our largest the Violet Carpenter Bee first appeared in 2009 is even bigger than a queen bumble bee. Nowadays there are fourteen or fifteen species of bee in the UK, there would have originally been eighteen. Seven species have now become extinct in central England. In general, the rarer bee species have retreated to the coastline of Britain where there is enough food (pollen) to sustain them. In central England the pollen being more spread out requires more energy (flying) to collect it and so it isn't possible for some species to sustain a viable population. An example of this change is the Great Yellow Bumble Bee which was fairly widespread at the beginning of the 20th century but is now only found on the north coast of Scotland.

There are various threats to bees, as well as parasites, there is the Beewolf which is a predator of bees (now spread to the heathlands of Bedfordshire), Wax moth caterpillars can destroy up to 90% of bumble bees in a nest. Mites such as the varroa mite attach themselves to the bee's body and weaken it. Other threats to bees are the changes in agriculture: intensification of farming and spraying. Chemical seed dressings used in agriculture can also effect bees and much study has been carried out on neo-nicotinoids. It is thought that these chemicals do not kill bees themselves but can make it difficult to produce healthy queens and reduces the amount of food they can collect.

There are many flowers which are good food sources for bees. Ivy is a particularly good nectar source when bees need it most. One of the solitary bee species new to the UK feeds exclusively on ivy. Most members of the mint family are a good source of nectar, as well as Viper's Bugloss and good old fashioned cottage flowers. Modern cultivars very often have less pollen and double flowers are more difficult for bees to enter to collect pollen. Other good food plants include knapweeds, thistles, daisies and Echinacea. In terms of nesting habits, Tree Bumble Bees nest in bird boxes and the Tawny Mining Bee nests in lawns. Bumble bees nest in the ground and sometimes badgers dig out their nests to get their larvae and food stores. It is possible to make a bee's nest to hang up in the garden by drilling lots of holes in wood or using bamboo canes. They are used by solitary bees and typically around half of these are occupied in a season.