

Garden Bumblebees

How to recognise & record them



Bumblebees are among the most endearing and familiar of our garden insects. The sight and sound of bees, droning methodically from flower to flower, is a quintessential part of a summer's day.

The BTO is delighted to be working with the Bumblebee Conservation Trust to help increase our understanding of these creatures. This guide should enable you to identify and record the bumblebees that you see using your garden. Depending on where you live, and what flowers you grow, you may see up to about a dozen bumblebee species in your garden, half of the UK's 24 surviving species. So, read on and discover how you can make a difference.

Identifying Bumblebees

Most people are unaware that there are lots of different types of bee in Britain, including bumblebees (genus *Bombus*), honeybees (*Apis mellifera*) and numerous small solitary species. Bumblebees are the large, furry and often colourful insects that frequently feature in children's story books and on greetings cards. Honeybees, widely kept in domestic hives for their honey, are smaller, slender, drab and relatively hairless.

Even a casual inspection of flowers in a garden or park will reveal several very differently coloured bumblebee species. In fact six or seven species can be found in almost any reasonable-sized garden, and if a few of the right sorts of plant are grown, this total can be doubled.

This guide provides information on 14 bumblebee species, including all those that you are likely to encounter in your garden. Most can be readily identified from the colour pattern. You can get very close to bumblebees as they visit flowers without any danger of getting stung – they are never aggressive. Note that bumblebees have three main body parts – the head, thorax (middle section to which wings and legs are attached) and abdomen. They also have two pairs of wings, and three pairs of legs.

The illustrations are mostly of queen bees. Workers generally have the same colour pattern but are smaller (the notable exception being the Buff-tailed Bumblebee where queens and workers differ in tail colour). For species in which the male differs in colour to the queen, separate illustrations are shown. With practice, males of all species can be

distinguished by their longer antennae, and by the absence of pollen baskets on their hind legs.

There are two common bumblebee species that are very hard to tell apart: workers of Buff-tailed and White-tailed Bumblebees can only be distinguished by the subtle difference in the colour of the yellow bands, and by the thin brown margin to the white tail in buff-tails. Even experts struggle to separate them in the field, so feel free to record these as "yellow & black bee with white tail". There are a further 10 species of bumblebee not illustrated here but which you might see if you visit some of the UK's wilder places. If you would like to learn how to identify these, further information can be obtained by contacting the [Bumblebee Conservation Trust](#) (see back page of this guide).

The 'big six': These six species are common in gardens throughout the UK, apart from the far north of Scotland. In most gardens they will make up more than 90% of all bumblebees, so learning to identify these six is a major step towards becoming a bumblebee expert! The Garden BirdWatch code, used for recording the species on the Scarcer Species Forms, is shown in brackets after the species name.

Buff-tailed Bumblebee (01471)

Bombus terrestris



Queens very large and common in early spring. Workers have largely white tail but usually with a hint of buff at the front margin. Yellow bands slightly darker than in the White-tailed Bumblebee.

White-tailed Bumblebee (01470)

Bombus lucorum



A common bee, often nesting under garden sheds. Distinguished from Buff-tailed Bumblebee by pure-white tail.

Garden Bumblebee (01479)

Bombus hortorum



A very long-tongued species preferring deepflowers (e.g. foxgloves, *Delphinium*, honeysuckle). Distinguished from the generally smaller Heath Bumblebee by much longer face when viewed from the front.

Red-tailed Bumblebee (01481)

Bombus lapidarius



Very common on chalk downland and frequent in gardens. Distinguished from the much rarer Red-shanked Carder Bee by the black hairs on the pollen basket of the hind leg.

Early Bumblebee (01476)

Bombus pratorum



A small bumblebee, often nesting in tit-boxes. The yellow band on the abdomen is sometimes missing in females. Colonies are very short-lived, producing males as early as April. Rarely seen from July onwards.

Common Carder Bee (01483)

Bombus pascuorum

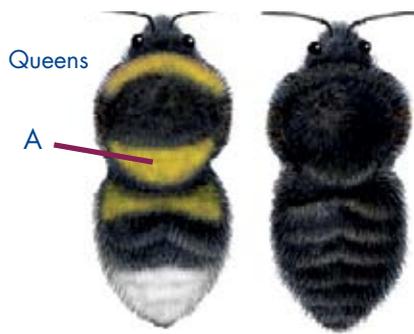


Abundant everywhere, the only common all-brown bumblebee. Can generally be distinguished from the much rarer Brown-banded Carder Bee by the presence of some black hairs on both sides of the abdomen.

Rarer species that may occur in gardens: Three of these species have declined greatly in abundance (Ruderal, Brown-banded Carder and Red-shanked Bumblebee). In contrast the Tree Bumblebee is expanding its range northwards, having arrived on the south coast from France about six years ago.

Ruderal Bumblebee (01480)

Bombus ruderatus



A rare species, found sporadically in south and east England. Very variable in colour. Pale specimens similar to Garden Bumblebee but yellow band on back of thorax (A) is noticeably thicker in the middle. An entirely black form occurs as well.

Tree Bumblebee (01478)

Bombus hypnorum



Colonised the UK in 2001. Has a very distinctive colouration and is becoming more common in gardens across the south of England. Prefers to nest in holes within trees.

Heath Bumblebee (01475)

Bombus jonellus



A small bee, found on mountains, moorland, lowland heaths and, sometimes, in gardens. Distinguished from the larger Garden Bumblebee by short heart-shaped face, when viewed from the front.

Red-shanked Carder Bee (01482)

Bombus ruderarius



A rare, southerly species, that has declined in recent years. It can be distinguished from the much more common Red-tailed Bumblebee by the red hairs of the pollen basket on the hind leg.

Brown-banded Carder Bee (01484)

Bombus humilis



A rare species, found mainly in the south of England. Mainly known from gardens in East London. This species can be distinguished from the Common Carder Bee by the absence of black hairs on the sides of the abdomen and by the brown band across the abdomen.

DO YOU NEED HELP?

If you are not confident of your identification, take a photograph of the bee with a digital camera. Send the photograph, plus the date seen, postcode and grid reference, to enquiries@bumblebeeconservationtrust.co.uk – we offer a free identification service. Photographs do not need to be from gardens – we are interested in records from anywhere. All records produced by Garden BirdWatch recorders will be shared between BTO and the Bumblebee Conservation Trust. Once you have had some photographs identified by us, you may grow in confidence and feel able to identify them for yourself.

Cuckoo bumblebees: Three of the six cuckoo bumblebees regularly occur in gardens. Male Southern Cuckoo Bumblebees can be among the most common bumblebees in July across southern Britain.

Southern Cuckoo Bumblebee (01489)

Bombus vestalis



Very common in the south of England, becoming rarer as you move north. Attacks the nests of Buff-tailed Bumblebees.

Field Cuckoo Bumblebee (01493)

Bombus campestris



Widespread and more abundant in the south of Britain. Males sometimes entirely black but can be distinguished from male Ruderal Bumblebee (dark form) by the much shorter face. Attacks nests of Common Carderbees.

Forest Cuckoo Bumblebee (01494)

Bombus sylvestris



Widespread throughout the UK. Males have a distinctive reddish tip to the abdomen. Attacks the nest of Early Bumblebees.

The Bumblebee lifecycle

Bumblebees, like honeybees, wasps and ants, are social insects: they live in a colony with a queen and her daughters, the workers. Bumblebees have an annual lifecycle, with new nests being started each spring by queens. The queen bumblebees are very large, and from February onwards can be seen feeding on flowers such as willow catkins, bluebells and lungwort, or flying low over the ground searching for a nest site. Some species prefer to nest underground in abandoned burrows of rodents, while others prefer to nest just above the ground in dense grass or leaf-litter. The queen stocks her nest with pollen and nectar, and lays her first batch of eggs. She incubates them much as a bird would, sitting on the eggs while shivering her flight muscles to produce warmth. When the eggs hatch the legless grubs consume pollen and nectar, grow rapidly, and pupate after a few weeks. A few days later the first workers hatch from their pupae and begin helping their mother, expanding the nest and gathering food. By mid-summer, nests can contain several hundred workers. At this point the queen starts laying both male and female eggs: the females are fattened up to become future queens. When they are adult, both males and new queens leave the nest, mate, and the new queens burrow into the ground to wait until the following spring. The males, workers, and the old queen die off in the autumn, leaving the nest to decay.

Cuckoo bumblebees were once like other bumblebees, but have switched to a parasitic existence. The females are especially powerful and force their way into the nests of their bumblebee hosts. They kill or evict the queen and take over her workers as their own, using them to rear their own offspring. Cuckoo bumblebees do not produce workers of their own. Each cuckoo species prefers to attack a particular species of bumblebee. Aside from their colouration, cuckoo bee females in general tend to look shinier than other bumblebees as they are less hairy. They also have darker wings, and do not have pollen baskets on their hind legs. One of the most reliable ways to tell male and female bumblebees apart and to distinguish 'true' and cuckoo bumblebees is to get a good look at the back legs. Female true bumblebees have a shiny, hairless, concave side to the hind tibia, surrounded by stiff hairs, which acts as a basket for pollen. In female cuckoo bees the surface is convex and covered in short hairs. Males of both true and cuckoo bumblebees have much longer hairs on their legs.



White-tailed Bumblebee
GBW Code 01470

Gardening for bumblebees

On average, gardens provide far more flowers than agricultural land, but at present a lot of gardens are not especially friendly to wildlife. Many are populated with intensively bred bedding plants, most of which have little or no nectar, and so are of no interest to bumblebees. Pansies, petunias, busy-lizzies and begonias add a splash of colour, but years of selection for increasingly showy blooms have resulted in the flowers losing their original function (to attract pollinating insects). To encourage bumblebees it is far better to grow old-fashioned cottage garden perennials such as lavender, lupins, *Aquilegia* and sage, together with foxgloves, native bluebells and other wild flowers like viper's bugloss, comfrey, sainfoin, tufted vetch, bird's foot trefoil, teasel and knapweed for bumblebees.

Recording bumblebees

Although they are familiar insects, there are surprisingly few bumblebee recorders, so that distribution maps even for the most common species have large holes in them from areas where there are no recorders. The distributions of some species appear to be rapidly contracting, while others are expanding, but we have only a hazy idea as to what is going on. We urgently need to recruit bumblebee recorders. By recording the bumblebees in your garden, through GBW, you can help. Simply log your sightings on the Scarcer Species Form (or the online system) by using the codes shown on this guide.

As well as the species shown in this guide there are Garden BirdWatch codes for our other bumblebee species. If you encounter one of these please contact us for the code. We know that you may not always be able to identify a bumblebee to its species, so we have added the following special codes to cover the four most common forms. These are:

Unidentified brown bumblebee - 01495

Unidentified black bee with red tail - 01496

Unidentified yellow & black bee with white tail - 01497

Unidentified yellow & black bee with red tail - 01498

Obviously, if you can identify the species then the record will be that much more valuable but even records of these forms will be useful for our research and monitoring work.

Produced by the Bumblebee Conservation Trust in partnership with the British Trust for Ornithology, through Garden BirdWatch.

If you want to find out more about bumblebees and what you can do to help their plight, contact the Bumblebee Conservation Trust, www.bumblebeeconservationtrust.co.uk, School of Biological & Environmental Sciences, University of Stirling, Stirling, Scotland, FK9 4LA.



Queen Ruderal Bumblebee
GBW Code 01480