

Bats and the Box Moor Trust

Bat walks are always among the most popular events that the Trust organises. People always find it fascinating to hear the tell-tale clicks of the bat detectors as they transform the high frequency sounds of the bats' echolocation into something we can hear.

There are 18 different species of bat in the UK. They are the only mammals that can fly. They live in nooks and crannies, often behind tiles or roof spaces in houses, barns or sheds. Other favoured roosts may include trees, caves (such as the old chalk workings at Roughdown) or under bridges. They are most active during twilight, when they hunt insects such as midges, mosquitoes, moths and beetles. Bats need to eat a third of their body weight each night! They are skilled hunters, using their echolocation to calculate precisely how far they are from their prey from the time it takes for their sounds to bounce back to them.

Here is a rough guide to recognising and separating the four main species you are most likely to encounter (*information courtesy of the Bat Conservation Trust and the Natural History Museum*):

Pipistrelles

The most common and widespread bats in the UK. They are also the smallest, weighing only 4g. They feed mainly on flies in a wide range of habitats, including urban and suburban environments. Summer roosts are often in cracks and crevices around the outside of buildings. They emerge from their roosts around 20 minutes after sunset and have a rather erratic flight with irregular twists and turns. They are fast and agile, flying between 1-10 m above the ground. They make their most distinctive sounds when flying in the open and their calls are easily recognisable when heard on a bat detector. These are quite fast (around ten pulses per second) and sound like irregular bouncing 'wet slaps'. The three pipistrelle species that occur in the UK all sound very similar and until recently were considered the same species. Try to tune around and detect where the sound produced by the detector is the deepest and the richest. This is the peak frequency. The Common pipistrelle is best heard when tuned to around 45 kHz while for Soprano pipistrelle you should tune to around 55 kHz. The rarer Nathusius' pipistrelle has a peak frequency around 40 kHz or slightly lower. Wingspan: 190-235mm.



Noctule

With its long, narrow pointed wings, the Noctule is one of our largest bats in Britain. It flies high and fast and dives steeply at great speeds to catch prey, including large beetles. It is usually one of the first bats to emerge, sometimes before sunset. Noctules roost almost always within holes in trees, and rarely in buildings. It has a loud voice that travels far in the open. Its calls are slow and regular, alternating between two sounds often described as a 'chip-chop' noise between 20-45 kHz, clearest at 35 kHz. Wingspan: 320-400mm.



Daubenton's bat

This medium size bat is closely associated with waterways, where they feed on flies (eg midges and caddisflies) close to the water, occasionally taking prey from the water surface using their feet or tail membrane as a scoop. The railway bridge over the canal between Old Fishery and

Winkwell is often a good place to observe them. It usually emerges later than pipistrelles (up to one hour after sunset). Because this bat flies so close to the water it constantly needs to know its position relative to the water surface to avoid collision. Therefore it emits very rapid calls that sound like dry 'clicks' which can be heard when tuning through a wide range of frequencies (around 30-80 kHz). Try tuning the detector to 35 kHz as you will hear Daubenton's bat clearly without hearing pipistrelles at the same time. Some might say they sound like a Geiger counter or a machine gun. Wingspan: 240-275mm.

Brown long-eared bat

Our third commonest bat species in the UK after Common and Soprano pipistrelle. Easily recognisable by its long ears, this medium sized, broad-winged bat is also known as the 'whispering bat'. It forms small colonies, roosting in the rafters of older buildings, churches and trees. It emerges an hour after sunset when it is fully dark and hovers slowly and gracefully close to the vegetation, picking up prey off the leaves. It has very sensitive hearing that even allows it to detect insects walking on a leaf, which means that it does not always need to echolocate in order to catch prey. Its calls sound like rain falling on a window though they are so quiet that they are rarely picked up on a bat detector. They are best heard between 35-50 kHz. Wingspan: 230-285mm.

Some years ago, a hibernaculum for bats was established in the recesses of the old chalk mines on Roughdown. The mines were sealed to human access in 1994 and the Hertfordshire and Middlesex Bat Group began carrying out annual surveys, which produced some evidence that brown long-eared bats were making use of the site for winter hibernation.

Earlier this year, environmental consultants RSK Environment Ltd conducted some sound recording inside the mine in an attempt to establish the presence of bats, however this has proved inconclusive. They will be returning during the summer to carry out some mist netting on the site.