



How to separate pipistrelles, noctules and Daubenton's bats

When going out at night with a tuneable or heterodyne bat detector on a warm summer evening, it is rather easy and fun to hear bat sounds, but it can be a bit more challenging to identify a bat species or understand the noises your bat detector produces.

Here is a rough guide to recognising and separating the four main species you are most likely to encounter.

Pipistrelles

Pipistrelles are our commonest bat species in the UK. They are also the smallest. They emerge around sunset and have a rather erratic flight with irregular twists and turns. They make their most distinctive sounds when flying in the open and their calls are easily recognisable when heard on a tuneable heterodyne 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 but try to tune around and detect



where the sound produced by the detector is the deepest and the richest. This is the peak frequency or the frequency where the bat puts most energy into the call. 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.

Daubenton's bat

Daubenton's bat is our 'water bat'. This medium size bat feeds mostly over ponds, rivers, lakes and other water bodies. It usually emerges later than pipistrelles (up to one hour after sunset) and flies like a hovercraft over the water, scooping insects off the surface with its large hairy feet. 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.

Brown long-eared bat

Brown long-eared bat is our third commonest bat species in the UK after common and soprano pipistrelle. Easily recognisable by its long ears, this medium size bat is also known as the ‘whispering bat’. It emerges 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 which 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.



Noctule

The ‘formula one’ of bats. The noctule, with its long narrow pointed wings, is one of our largest bats in Britain. It emerges around sunset, flies high and fast in the open and can be seen swooping down to catch prey. 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. Noctules are best heard at 20-25 kHz.

Bat ID challenges in the field

Was it a noctule?

The slow and deep sound of the noctule can sometimes be confused with another type of bat. This type of call is likely to come from a big bat but here are a few pointers on how to separate a noctule from a serotine or a Leisler’s bat.

Serotine: Medium loud call with irregular rap-like rhythm. Their calls are slightly faster than noctules. Loudest sound heard around 27 kHz (described as ‘tock’) but calls can be detected up to 50 kHz. Does not make ‘chip-chop’ sound. Serotines are more manoeuvrable and fly at slower speeds close to vegetation.

Leisler’s bat: This species is a close relative of the noctule, although not encountered as frequently. It has a loud echolocation call that sounds similar to the noctule (‘chip-chop’) but with many more ‘chips’ than ‘chops’. The ‘chop’ part of the Leisler’s call is normally heard best above 20 kHz (at around 25 kHz) as opposed to the noctule’s ‘chop’ call that is generally heard best below 20 kHz.

Was it a Daubenton’s bat?

Daubenton’s bats are part of a group of bats called *Myotis*, which means ‘mouse-eared’. All *Myotis* species sound roughly the same: fast, fairly regular, dry clicks. So if the bat is not seen skimming low over water then it might be one of the other *Myotis* species, for example Natterer’s bat or whiskered bat.

See also

- **E.2.b** - How to use a bat detector - Video
- More resources in the ‘Bat sounds and music’ (**B.8**) and ‘Bat talk’ (**B.2**) folders of the Resources Pack DVD