Joint Nature Conservation Committee

Bat Conservation Trust
National Bat Monitoring Programme
Making your roost count

Roost Count - How to separate species using a bat detector

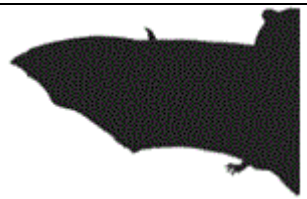
These instructions are for identifying species using a tuneable heterodyne bat detector. We have a limited number of these to loan out if you would like to borrow one. We also have a limited number of frequency division bat detectors and recording devices to loan for species verification. Please contact us if you'd like to borrow any of this equipment.

- Bats tend not to use their most distinctive calls as they emerge from a roost and this can make species identification challenging.
- Therefore, when listening on a bat detector, stand back from the roost while still close to the bats' flight path and with their calls still clearly audible on the detector.
- If possible aim to listen to the bats where they are flying in a more open environment, i.e. in clear open space or in edge habitats, e.g. close to vegetation next to open environment.

* away from the roost / in a more open environment

Species common name	Wing shape	Call characteristics*	Possible confusion species
common pipistrelle		• Wet, slappy sound • Irregular rhythm • Moderately fast pulse repetition rate, about 10 pulses/sec • Peak frequency between 42-48 kHz	When emerging or close to clutter, peak frequency can overlap with that of soprano pipistrelle in a very open environment (around 50 kHz). In such situations, can also sound similar to *Myotis* species, such as Natterer's bat.
soprano pipistrelle		• Wet, slappy sound • Irregular rhythm • Moderately fast pulse repetition rate, about 10 pulses/sec • Peak frequency >52 kHz	When flying in very open environment, peak frequency can overlap with that of common pipistrelle in clutter (around 50 kHz). When emerging or close to clutter, can also sound similar to *Myotis* species such as Natterer's bat.
brown long-eared bat		• Very soft purring sound, only detectable within about 5m of bat • Fast pulse repetition rate, about 13 pulses/sec • Peak frequency at about 33 kHz	Can sound similar to *Myotis* species, but much quieter. Not possible to separate from grey long-eared bat based on calls.

* away from the roost / in a more open environment

Species common name	Wing shape	Call characteristics*	Possible confusion species
Natterer's bat		• Series of rapid, dry clicks producing a crackly sound • Irregular rhythm • Fast pulse repetition rate, about 13 pulses/sec • Calls can be heard through a very wide range of tunings (as high as 145 kHz or as low as 15 kHz) with a peak frequency of about 47 kHz.	Other *Myotis* species, e.g. Daubenton's bat, whiskered bat. *Myotis* species can sound similar to pipistrelles emerging or in clutter, but can be distinguished by tuning down below 35kHz where dry clicks can be heard.
serotine		• Tock sound • Irregular, funky rhythm • Relatively slow repetition rate, about 5 pulses/second • Peak frequency between 25-29 kHz	Noctule and Leisler's bat. These have narrower wings and will produce a more regular chip-chop call as they move into the open.
lesser horseshoe bat		• Continuous warbling sound • Peak frequency around 111 kHz	No confusion species. Sounds very similar to greater horseshoe bat, but can be distinguished on peak frequency.
greater horseshoe bat		• Continuous warbling sound • Peak frequency around 81 kHz	No confusion species. Sounds very similar to lesser horseshoe bat, but can be distinguished on peak frequency.

You can listen to calls of these and other species at:

www.bats.org.uk/about-bats/what-are-bats/uk-bats
www.bats.org.uk/resources/sound-library

If you have any queries please contact us at nbmp@bats.org.uk or on 020 7820 7166.