

Drumming of Great Spotted and Lesser Spotted Woodpeckers

How to tell them apart

Parameters of LSW and GSW drums

You can use this information to compare drum rolls of GSW and LSW. It has been extracted from a very good paper** comparing the drum rolls of all the European woodpecker species. You can check out all these parameters using the cursors in Audacity.

Parameter	GSW	confidence	LSW	confidence
Average time interval between drum rolls (seconds)	11.7	Range?	5.7	Range?
Average duration of each drum roll (seconds)	0.65	Range?	1.16	Range?
Average number of bill strikes in each drum	13.0	sd range 11-14 outliers 5-42	21.1	sd range 14-25 outliers 5-40
Average initial time interval between bill strikes in a drum (milliseconds)	60.1	sd range 58-61 outliers 40-95	53.6	sd range 45-60 outliers 40-75
Average change in the strike interval from the start to the end of the drum roll (milliseconds)	-2.4	sd range -3.0 to -1.8 outliers -6.0 to +0.5	+0.1	sd range zero outliers -3.5 to +2.0
Average change in sound amplitude during the drum roll	-0.68	range?	0.07	range?

Note: sd is the standard deviation, most of the data are within this range

In summary,

Compared with GSW drums:

- LSWs have longer drum rolls (almost twice as long)
- the interval between LSW strikes is constant during the drum (GSW speeds up)
- the sound amplitude stays constant through the drum.

All this contributes to the 'flat' sound of LSW drums.

For GSW, even though the sound amplitude is falling, the acceleration of the strike rate through the GSW drum gives the impression of a flourish at the end.

But note, there is considerable variation in all these parameters with outliers liable to cause some drums to be classified as uncertain.

Notes prepared by Ken Smith, Woodpecker Network: www.woodpecker-network.org.uk

Reference: Juliette Florentin, Thierry Dutoit, Olivier Verlinden (2016) Identification of European woodpecker species in audio recordings from their drumming rolls. *Ecological Informatics* **35: 61–70.