

From: Peter Smith

Sent: Monday, October 1, 2018 3:07:04 PM

To: Pannett, Amelia (ESNR-Tourism, Heritage & Sport-Cadw); Sue Mabbett; Jane Garner; Kortensniemi, Annina; 'Bridgit Symons'

Cc: bis; Chris Seal; Chris Densham; Dave Tyson; Stuart France

Subject: Twll Du; Ogof Draenen; bats

Amelia, Sue, Jane, Annina and Bridgit,

Twll Du entrance to Ogof Draenen NGR SO 25506 11312

Bat activity survey on evening of 11 September 2018

THE SURVEY

Hearing that the Twll Du entrance to Ogof Draenen has been open all summer, I wanted to find out whether the entrance was in use by bats last month.

Therefore, on the evening of 11 September 2018 I carried out a bat activity survey outside the open entrance. Sunset was at 19:40 BST and I observed the entrance from 19:25 to 21:40. I used infra-red night vision equipment and a thermal camera to aid observations as darkness fell. I used an EM3 ultrasound recorder/ detector to listen for bat activity at my location about 2.5 m from the opening. I set up an SM4 ultrasound recorder unit at the entrance with its microphone lowered on its cable to a location 3 metres down into the cave opening to help confirm and distinguish between bat activity that may occur within the cave from that which may occur on the surface.

I was accompanied by Stuart France and he had prepared an adapted Magenta ultrasound detector with a recording unit and with the microphone on a cable which he lowered to a location 2 metres down into the cave opening. The Magenta records detection of ultrasound against a time stamp, but records no further information, whereas the SM4 records the ultrasound call with a timestamp for subsequent analysis of the sonogram.

The survey was designed to avoid any disturbance to bats and their roosts and so did not require the exercise of any bat licence.

Access to carry out the survey was all within land designated both as Urban Common Land and as 'open access land' under the CROW Act and so did not require any specific access permission.

I analysed the records from all three ultrasound recorders after the survey, together with my own notes of observations.

THE RESULTS

Arriving on site, we observed that one of the Heras fencing panels that had been erected between the tramway and the cave entrance had been removed and was some way down the slope below the tramway. It was also apparent that the mesh that had partly covered the open hole earlier in the summer was now completely missing.

The evening was dry with a slight breeze. The temperature was 13.5 C at sunset and 12.3 C at the end of the survey.

The first bat activity was a noctule pass overhead at 19:42.

Then there was no further activity until 20:27 when a Myotis bat (probably Natterer's bat from the sonogram) emerged from the cave. It was not recorded on the SM4 but did register on the Magenta. This indicates that the bat must have been roosting only a short distance inside the entrance as the Magenta microphone was 2 m in and the SM4 microphone 3 m in and turned behind a rock

projection, so more removed from echolocation calls nearer the entrance. The bat left the area directly. Probably the bat would have been roosting tucked away within a rock crevice.

The next bat activity was the arrival of a lesser horseshoe bat at 20:36, which headed straight for the cave entrance and entered without hesitation. It was recorded on both the Magenta and on the SM4 inside the cave.

Following this there were several bouts of lesser horseshoe bat activity outside the cave from 20:47 through to the end of the survey and Myotis passes (probably Natterer's bat) during 6 minutes from 21:21 and one similar pass at 21:39. There was a common pipistrelle pass at 21:32.

During this time one lesser horseshoe bat entered the cave at 21:23 and was recorded on both the Magenta and on the SM4 inside the cave.

Lesser horseshoe bat activity was recorded inside the cave on both the SM4 and the Magenta at 20:36 (when a lesser entered), 20:56, 21:09 (SM4 only), 21:10, 21:15, 21:16, 21:17, 21:23 (when the second lesser entered), 21:32 and 21:37 (SM4 only).

So to sum up:

one Myotis bat, probably *Myotis nattereri*, emerged at 20:27,

one lesser horseshoe bat entered at 20:36,

and one lesser horseshoe bat entered at 21:23.

Lesser horseshoe bat activity was also recorded several times from bats inside the cave flying close to the entrance, but these bats did not then emerge at the surface during the observation period.

This confirms that the Twll Du entrance to Ogor Draenen is used for access by both lesser horseshoe bat and Myotis bat (probably *Natterer's* bat) and that the latter species day roosts within the entrance area of the cave, probably concealed within rock crevices.

Best regards,

Peter

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