

Manor Woods Valley Local Nature Reserve

Glow-worm Report

2022-24



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Manor Woods Valley Group



1. Introduction and Methodology

Manor Woods Valley Group member, Peter Loy-Hancocks, undertook Glow-worm (*Lampyris noctiluca*) surveys of Manor Woods Valley Local Nature Reserve on the evenings of 15 July 2022, 22 June 2023 and 11 July 2024. These constituted the first known formal surveys of Glow-worms in this location, although casual sightings from earlier years are known and are referenced in this report.

The surveys were conducted on warm, still, evenings, between dusk, usually for about an hour starting at c23:00. A torch was used very occasionally for navigation purposes only, but the surveys were conducted in darkness for the large majority of the time. Most scrub/grassland edges were slowly walked during the surveys, with a concentration on the known areas of occurrence during 2023 and 2024.

Sightings of glowing Glow-worms were noted onto field maps.

Every effort was made not to disturb Glow-worms or their habitat during the survey.

All relevant records were submitted to Bristol Regional Environmental Records Centre (BRERC).

2. Results

Pre-existing information

In response to the current survey being reported, social media responses included 'I remember seeing the meadow (field) of Manor Woods looking like the night sky, as these glowed... About 60 years ago'.

Glow-worms were reported as being present 'on the slope above the dam' in 1996.

Searches of online sources revealed that Glow-worms have been recently recorded at several locations in and around Bristol, and particularly in Stockwood and Stoke Park nature reserves in the southeast and the northeast of the city respectively, and also Long Ashton and Barrow Gurney to the southwest of the city.

Current Surveys

Two glowing Glow-worm females were observed during the 2022 survey of Manor Woods Valley, none in 2023 and one in 2024. They were all very low-down in the vegetation or at ground level (see figures 1 & 2).



Figures 1 & 2: Glowing Glow-worm female

Glow-worms were twice encountered along the edge of the Riverside Path, just to the northeast (downstream end) of the large Butterbur patch. The second (in 2022) was on the edge of the mown grassland and Bramble scrub in the Upper Green, to the northeast of the two small standard trees (see Figure 3.)

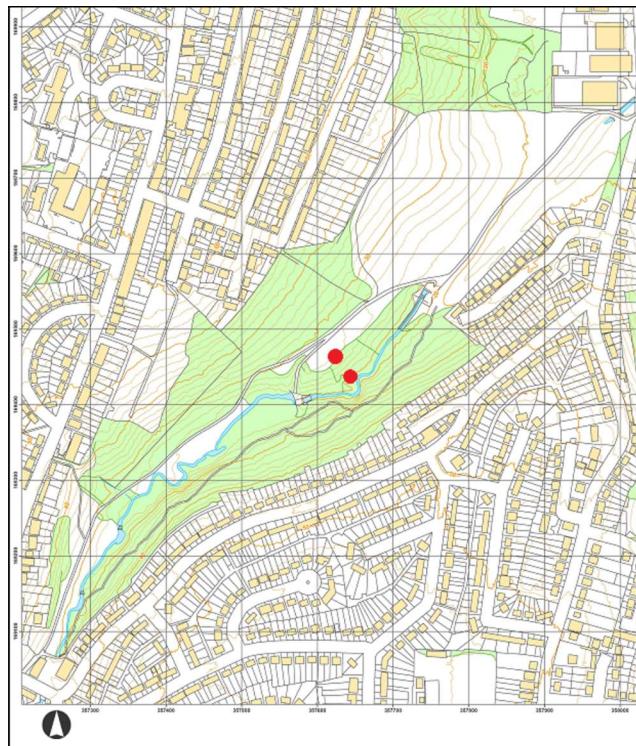


Figure 3: Locations of survey observations in Manor Woods Valley

3. Discussion

The Glow-worm is a beetle, up to 25 mm long. The males look like typical, light brown, beetles, but the females have no wings and look similar in appearance to the larvae. Only the female glows strongly, to attract the flying males. The males have large, photosensitive eyes, with which to detect the green

bioluminescent glow which is created through a chemical reaction in the female's abdomen.

Once they emerge as adults Glow-worms are active for a few weeks during June and July. The adults don't feed. Each female has a glowing life of no more than a few weeks until she mates. She dies soon after laying her eggs.

After a few weeks the eggs hatch into larvae. The larva is greyish-brown with yellowy-orange triangular markings at the side of each segment. They remain as larvae for up to three years, living under rocks and hidden deep in grassy tussocks where they mainly feed on slugs and snails. They kill their prey by delivering a series of toxic bites, injecting digestive proteins that paralyse and eventually dissolve the soft body of the prey item. While the Glow-worm larva is waiting for this process to happen, it might ride on the snail's back, keeping away from the sticky mucus it produces.

The Glow-worm is a beetle of meadows, grassland and hedgerows. They are often found as larvae, living under rocks or debris on chalk or limestone grassland, hedgerows, railway embankments, woodland rides, heathlands and cliffs.

Glow-worms are found in most of England (particularly the south), lowland Scotland, and Wales. Locally (to Manor Woods Valley) they have been recorded at Stockwood Open Space to the east of Manor Woods Valley and Long Ashton and to the west. The current records from Manor Woods Valley sit between these two locations (see figure 4.). It should be noted that, as a general rule, sightings that have been submitted to one or more recording centres or schemes are 'records of recorders', rather than a true reflection of the occurrence of the species concerned.

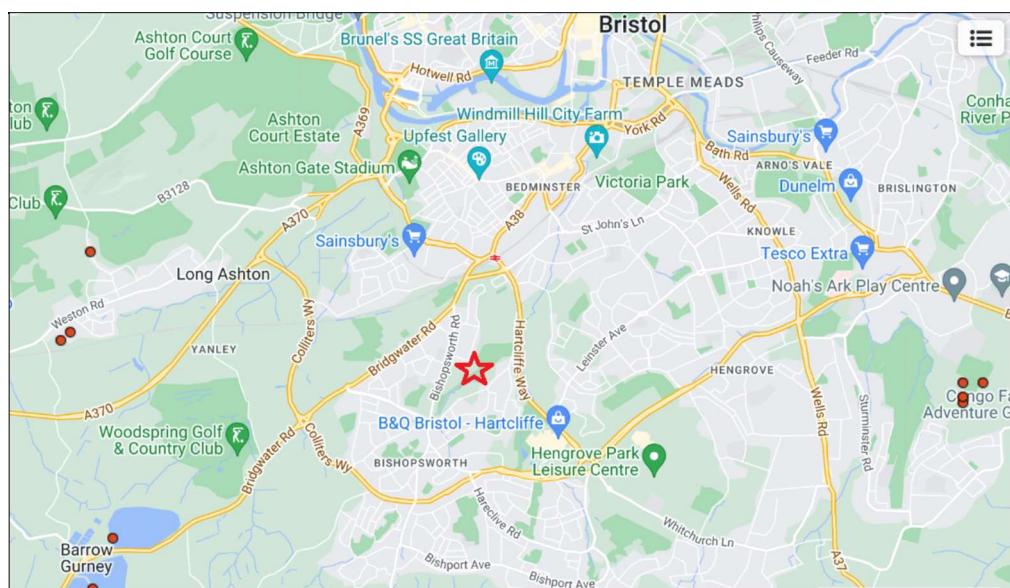


Figure 4. Records of Glow-worm sightings recorded by the National Biodiversity Network – round dots, and new records from Manor Woods Valley – red star

Whilst glow-worms remain fairly common, there is some concern about possible declines, and they have vanished from some sites. Possible threats include changes in land-use and habitat, use of pesticides, light pollution, and possibly parasites.

Glow-worms have been present in Manor Woods Valley for at least the past sixty years and, due to their low dispersal rates, probably well back into the deep past before then. The current surveys have confirmed that Glow-worms are still present in the central, darkest, part of the site, near to where they have been reported before.

That none were recently recorded around the top edge of the large Wildflower Meadow, where the habitat appears suitable and they were previously described as being numerous is perhaps significant. One reason for this could be light pollution emanating from businesses on Vale Lane where high-powered security floodlight illuminates some of the units and from street lighting associated with Headley Park. Artificial lighting such as this is known to adversely impact Glow-worms, and other nocturnal creatures such as bats.