Biodiversity Duty:
Coleoptera (Beetle) Survey of
Big Pit, Blaenafon.

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Introduction

From 1 October 2006, all public authorities in England and Wales have a duty to have regard to the conservation of biodiversity in exercising their functions (Section 40 of the Natural Environment and Rural Communities Act 2006). As part of the Museum's response to this legislation, biodiversity audits are being carried out at all of its sites. In this report, an assessment of the potential Coleoptera biodiversity is presented from a survey of the grounds of the Big Pit: National Coal Museum site during June and July 2009. The Coleoptera biodiversity of this site is probably quite large, and the limited number of samples taken, and the time of the year they were taken does not reflect the potential biodiversity of the site.

Methods

The Big Pit site survey was carried out over two visits. The first was on 18/06/2009, with a follow up visit on the 9/07/2009. Areas for sample collecting were identified using the Phase 1 habitat survey (Rich 2009). Samples were collected using vacuum sampling (Stewart and Wright, 1995). Each sample was visually sorted and the Coleoptera removed and preserved for later identification. In addition two groups of pitfall traps were placed on the first visit and left in place for 3 weeks. Figure 1 shows the areas of main collecting activity and the approximate positions of the pitfall traps.

Results

There were 21 species of Coleoptera represented in the vacuum samples taken on 18.vi 2009. This is a low diversity and and undoubtedly does not reflect the diversity at the site. The pitfall trap samples contained 35 species of Coleoptera. This is also a low biodiversity and again probably does not reflect the diversity at the site.
Of the species identified only two were of note.

Hadrognathus longipalpis (Mulsant & Rey) (Staphylinidae). This naturalised species is recorded from quite a number of sites in S. Wales but otherwise only known from the Lake District in Britain. This species lives in moss in damp habitats.

Pella limbata (Paykull) (Staphylinidae). This local species is known from about six sites in Wales. This is the first record from S.E. Wales. This species is usually associated with ants but has also been found in rabbit burrows, wasp nests, and mole nests.

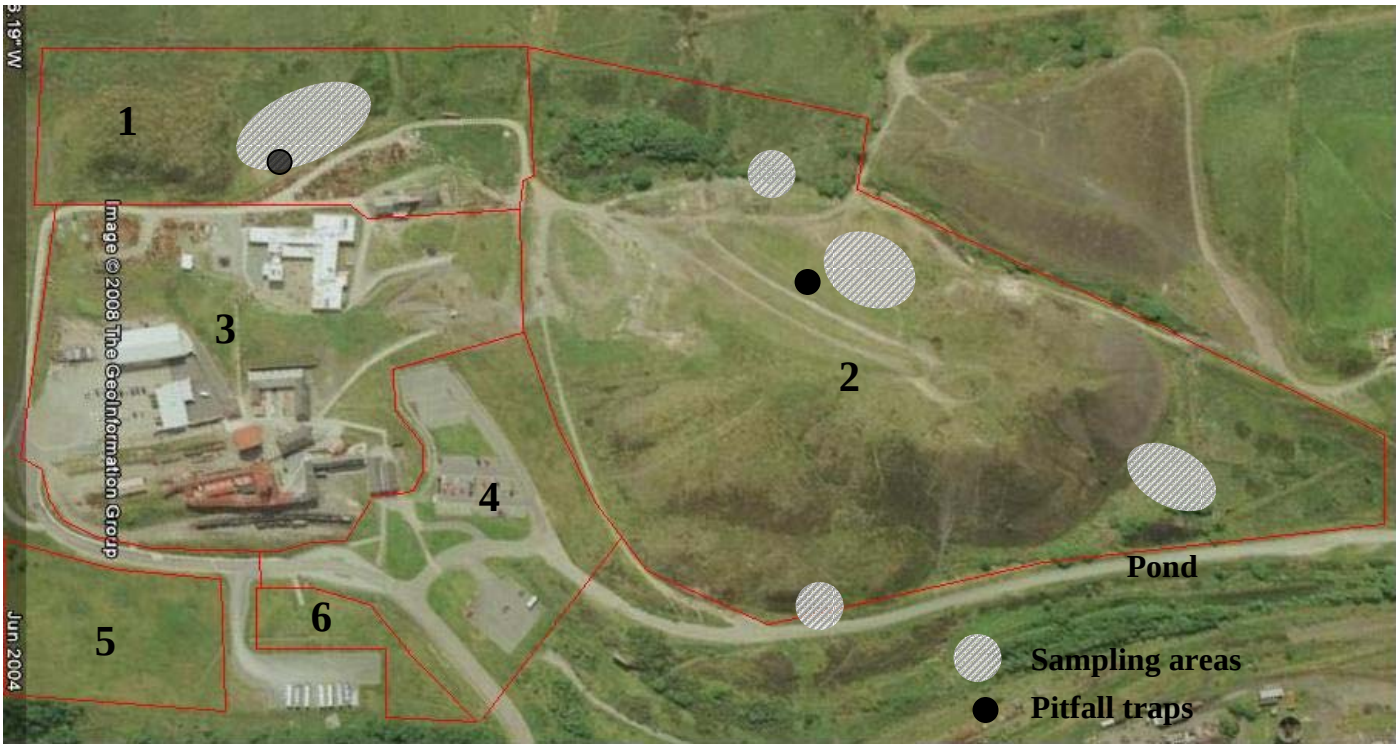

Figure 1. The Big Pit site showing the main sampling points and the main habitat areas divided into management areas by Rich and Walker (2008). 1: Coity old tips consisting of heath and semi natural grassland. 2: Coity tips and pond. An area of grassland and heath with patches of scrubby woodland and a permanent pond. 3: Main site with some amenity grassland. 4: Car park with verges of mown grass. 5: Pony paddock consisting of improved grassland. 6: Coach park with grassland on landscaped tip.

Discussion

Collecting focused on the main habitat areas on the site consisting of the heath and semi-natural grassland of the Coity old tip on the west of the site, and the larger, more recent, Coity tip on the north of the site. The latter area also has a permanent pond with an associated small wetland area. The area is also an exposed upland site and sits on the 400 m contour.

Further surveying at different times of the year would undoubtedly add many more species to those known from the site. However it is unlikely that the site supports many species of note, given the limited range of habitats present and the history of the site.

References

Rich, T. 2009. Biodiversity Duty: Phase 1 Habitat Survey of National Museum Cardiff.

Stewart, A.J.A., & Wright, A.F. 1995. A new inexpensive suction apparatus for sampling arthropods in grassland. *Ecol. Entomol*. 20:98-102.