

Cave Ecology

Beneath the Ridge

Introduction

The Beneath the Ridge Project has been about exploring and recording caves and mines on the Sandstone Ridge.

As well as the fascinating geology and history of these features there has also been an interest in finding and recording any signs of life.

The Sandstone Ridge caves are not rich in life compared to limestone caves, due to the lack of light and running water.

The main categories of wildlife found during exploration by volunteers were Plants, Mammals and Insects.

We have used a number of sources of information to identify species including books , the internet and local experts. There has also been some involvement from University students .

The following is a summary of the results. References are made to the project records , data base and photo galleries which are kept on a Dropbox site run by the project team.

There is also a more detailed spreadsheet recording details of finds and their locations.

Plants

Due to the absence of light , except at cave entrances , plants are rare.

There are mosses, lichens, algae and liverworts on the cave walls sustained by water seeping through the porous rock.

The most spectacular is the so called Goblin's Gold, *Schistostega pennata*, or luminescent moss. It is a haplolepideous moss (Dicranidae) known for its glowing appearance in dark places. It does not glow of itself, but reflects light like cat's eyes or dayglo clothing.

It was found in Upton's cave , Bear cave and Conker cave and responded well to illumination by oblique torchlight.



Conker cave 20.00.11



Upton cave 22.00.04

Mammals

There was no evidence of animals using the caves as a lair (except occasionally the human kind).

There was however evidence of bats . The Cheshire bat group have been helpful in identifying and recording the presence of bats in Conker cave and Helsby . These are believed to be roosting Pipistrelle bats which are common in the area. It is a small insectivorous bat that uses echolocation to find and capture its winged prey.



Pipistrelle



Horseshoe

There was also historic evidence of lesser horseshoe bats recorded at Mad Allen's Hole and bat activity at Beresford's.

Evidence of other mammals such as badgers and foxes have been found in scrapes around cave locations such as Beeston.

Insects and spiders

There were six main categories of insects and spiders found in the caves :

- Flies
- Spiders
- Wasps
- Bees
- Butterflies
- Moths.

Flies .

There were many small black flies found in several locations. A student survey in 2018 identified these as *Diptera* .



Bloody Bones cave Diptera flies

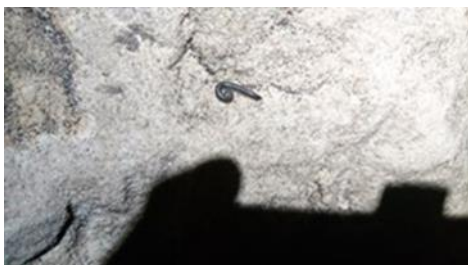
Crane flies and caddis flies were also identified in Queens parlour. Woodlice, millipedes and a ground beetle were also found.



Crane fly Bloody Bones cave



Caddis fly Bloody Bones cave



Millipede Bloody Bones cave



Woodlouse Bloody Bones cave

Spiders .

Not specifically identified but the most common cave spiders are *Meta Menardi* , see below. They are long jawed, orb weaving spiders that can easily climb walls to catch their prey.



Photo: Cave Spider (by Edwin Barber) www.uksafani.com

Cave spider



Beresfords cave 14.01.19



Bloody Bones cave

Evidence of spider nests was seen at Barnhill wood , Queens parlour and Beresford caves.

A hanging egg case was also found.



Hanging egg case Queens parlour

Wasps.

An unexpected find was that of parasitic wasps found in caves at Beeston during a student survey in 2018. *Ichneumon suspiciosus* and *Ichneumon stramentarius* are the most common British species and parasitise other insect lava such as butterflies and moths. Others were found at Queens Parlour and the photos below have been provisionally identified as *Diphyus quadripunctorius* and *Amblyteles armatorius* .



Parasitic wasp



Queen's Parlour



Queen's Parlour

Bees.

The cliff face at Carden shelter showed evidence of masonry bee activity (*Osmia*). They drill holes in the soft rockface to make a nest and are solitary in nature. They use the holes as a nest and make a cocoon for their offspring.



Masonry bee

Butterflies.

Another surprising species to find in such a dark habitat. Some butterflies do not die at the end of summer but seek shelter in dark places to hibernate. (including garden sheds and outbuildings)

Evidence of Peacock butterflies was found at Upton cave.

Although brightly coloured, the folded underwings were completely black and were well camouflaged against grimy cave walls.



Upton's cave 22.01.08



Peacock butterfly

Small tortoiseshell moths were also found in clusters in Upton's cave and again their underwings gave extremely good camouflage against the grimy walls of the cave.



Upton's cave 22.01.07



Small Tortoiseshell butterfly

Moths

Moths are mostly nocturnal and would be more expected to like dark caves.

The Herald moth was found at Upton and is named because of its emergence in Spring after winter hibernation. Clusters were also found at Queens Parlour well camouflaged against the red and white sandstone walls.



Herald Moth Upton's cave 22.01.06



Queen's Parlour

A Tissue moth was seen in the Queen's parlour and was another example of good camouflage during overwintering. This was a rare moth and the siting was reported to the Cheshire Record office.



Tissue moth Queen's Parlour



Twenty plume moth Queen's Parlour

The Twenty Plume moth was found in the same location , well camouflaged against grey speckled wall.

(Note . Photos with numbered code refer to Beneath the Ridge photo gallery .)

P.J.Snape.
July 2020.