NEWSLETTER No. 172
August 2005

The Black Country Geological Society

The Society provides limited personal accident cover for members attending meetings or field trips. Details can be obtained from the Secretary. Non-members attending society field trips are advised to take out your own personal accident insurance to the level you feel appropriate. Schools and other bodies should arrange their own insurance as a matter of course.

Leaders provide their services on a purely voluntary basis and may not be professionally qualified in this capacity.

The Society does not provide hard hats for use of members or visitors at field meetings. It is your responsibility to provide your own hard hat and other safety equipment *(such as safety boots and goggles/glasses) and to use it when you feel it is necessary or when a site owner makes it a condition of entry.

Hammering is seldom necessary. It is the responsibility of the hammerer to ensure that other people are at a safe distance before doing so.

FUTURE PROGRAMME

Lecture meetings are held at Dudley Museum, St James's Road, Dudley. Phone (01384 815575)
7.30 for 8 o' clock start unless stated otherwise.

SATURDAY 17TH SEPTEMBER 2005 *(Field visit)*
Leader: *Andrew Rochelle*

North Wales day out by coach to Snowdonia. We will be visiting Llanberis to look at the Slate Museum, the steam trains and the Power Station. In the Snowdon area and Cwm Idwal the geology and glacial features will be studied together with the alpine environment.

The coach departure times and pick-up points are:

8:00 am	*Dudley Museum*
8:15 am	*Bantock Park, Wolverhampton*
8:20 am	*Sabrina Road, Wolverhampton*
8:30 am	*Parkdale,Wolverhampton*
9:00 am	*Telford Railway Station*

Should members have any requests or questions regarding pick-up, please get in touch with Mike Williams on 01902 822505.

After a very full day it is planned to stop on the way home for a pub meal and arrive back at about 10:30 pm.

This is a similar event to the very popular coach trip last year that was enjoyed by all those who took part. If you are interested in attending, please telephone Andrew Rochelle. (01952 299136) asap.

MONDAY 26TH SEPTEMBER 2005 *(Indoor Meeting)*

Kate Ashcroft. "Italian Volcanoes."

This replaces the provisional announcement in the last Newsletter for this date. Professor Saunders is taking some study leave abroad and so will deliver his re-arranged talk at some other time. We look forward to Kate's talk on Italian Volcanoes and thank her for stepping in at such short notice.

SATURDAY 1st OCTOBER 2005 *(Field visit)*

The story of the Stour. A longitudinal traverse.
Leader: *Gordon Hensman*

Gordon will continue this trip, the first part of which was completed a few weeks ago. (See 'Meetings Reports' later in this Newsletter). Meeting at **10:30 am** at **Cradley Forge (GR. 935 857),** the lower course of the Stour will be followed. Car parking is available at the pub. This is not wholly a geological trip but will also include industrial heritage and local history.

The proposed field visit to Barrow Hill Nature Reserve, 'The Dudley Volcano', announced in the last Newsletter has been postponed until next year.

MONDAY 31ST 0CTOBER *(Indoor Meeting)*

Liam Herringshaw. "Weirdos of the Wenlock Limestone."

About 425 m years ago, the land that was to become the West Midlands lay approximately 15 degrees south of the equator, part of the microcontinent of Avalonia. Warm, shallow waters of the closing Iapetus Ocean covered much of England and a hugely diverse reef and inter-reef ecosystem developed. Fast forward almost half a billion years and this tropical paradise is now the Much Wenlock Limestone Formation, outcropping as a series of hills and escarpments in the West Midlands and the Welsh Borders.

Of all the Wenlock Limestone localities, perhaps the most famous are the three inliers of Castle Hill Dudley, Hurst Hill and the Wren's Nest. The importance of lime as a flux in the iron and steel making industries saw extensive quarrying of these hills during the 18th & 19th centuries. Consequently, a huge number of Silurian fossils were collected and more than 650 species described, many unique to the Black Country. However, despite a long history of palaeontological study, a number of fossil groups of uncertain zoological affinity remain. This talk will introduce a selection of these rare and problematical taxa, with new information on their biology, ecology and systematic position.

Liam was born in Leicestershire. His first geology fieldtrip, whilst studying for his A-levels, was to the Wrens Nest. He read Geology and Physical Geography at Liverpool for his B.Sc., and subsequently spent 6 months researching Carboniferous Turbidites. He obtained his PhD at Birmingham in 2003, researching "Rare and Problematical Fossils from the Much Wenlock Limestone formation."

Liam spent some time in the American South-West studying dry river systems. He appeared in "University Challenge Professionals", as part of the Palaeontological Association Team, before returning to Birmingham this year as an honorary research fellow.

MONDAY 28TH NOVEMBER *(Indoor Meeting)*

Members' Evening.

Members are invited to think about any contribution they feel they may be able to make – no matter how slight – for the 3rd Members' Evening. These have proved to be so enjoyable in the past. Refreshments are provided.

We already have some promised talks, including one from Andrew Rochelle on "St. Kilda".

MONDAY 6TH FEBRUARY 2006 *(Indoor Meeting)*

Christopher Rochelle: " Co_2 Sequestration and Disposal."

Christopher spoke to us two years ago on the same topic, however, Global Warming, due to anthropomorphic greenhouse gas emissions, has increased public awareness.

Our speaker is a senior scientist at the Geological Survey, and has worked in this field in the UK, Canada and Norway for some time. He will be able to bring us up to date with the latest progress being made to counter what the government's chief scientist has called 'the most serious problem facing us'.

MONDAY 27TH FEBRUARY 2006 (*Indoor Meeting)*

Professor John Hudson. "The Geology of Eigg and Muck".

EDITORIAL

BARROW HILL – The Dudley Volcano

The Black Country can boast a new geological trail, together with an informative glossy leaflet. The Barrow Hill Trail was formally opened on 20th July with a reception at Russells Hall Hospital, followed by a walk around the trail. There were over 60 guests at the opening, led by the Mayor of Dudley, Cllr. Kettle, and the reception was in the 'Action Heart Centre' of the hospital. The caterers even came up with 'volcano cakes'.

A walk guide already existed for Barrow Hill as part of the 'COUNTRYSIDE WALKS IN DUDLEY' series, and this covered history, plants and animals together with brief observations on the geology. The new leaflet concentrates on the geology, with labelled photographs of the main exposures and a very clear route map superimposed on a geological map.

Barrow Hill is next to the hospital, 150m above sea level, and is there because of dolerite intrusions into the Etruria Marl. But these intrusions are thought to be of a very high level, close to the surface, and into wet sediments. There are also exposures of volcanic ash and agglomerate. In this ash small fossil conifer stems have been found, and these are the oldest three-dimensional conifers in the world, and are of international importance.

This is a very interesting place. As the guide says; "Imagine the volcanic vents on the side of ancient Barrow Hill spewing out clouds of ash with flows of lava debris running down the sides of the cinder cones. This would not have been a safe place to stand 300 million years ago!" To produce a glossy leaflet such as this costs money, and English Nature is a major sponsor in the production of these guides. However, alongside their logo is that of Dudley Metropolitan Borough Council and our own Society, which is very satisfying.

The two leaflets about Barrow Hill are available in Dudley Museum and Art Gallery as well as other museums and some libraries in the borough. In Newsletter 171, Graham Worton gives a more detailed geological description of the Barrow Hill area.

Bill Groves

MEETINGS REPORTS

Parys Mount; Anglesey

Continuing the report that appeared in the last Newsletter on this excellent field meeting, here are a few short notes from ***Andrew Rochelle*** *on this trip and the one to the Peak District.*

This was a more adventurous field trip extending over a number of days, with members arriving and departing as they found their time and transport available. Thanks to Bob Duncan and the West Bromwich Mountaineering Club for their hospitality at their 'hut'.

On May 20th the party visited lead mines and sites of industrial archaeology. The RSPB hide was also visited and the nesting Ospreys seen. A local member of the West Bromwich club gave us an excellent lunch at his home in the hills. More members arrived in the evening and some walked up the Watkin Path to view some mines and study the landscape. The sleeping arrangements at the hut were unisex. Anybody sleeping anywhere, with anybody.

On the next day members visited Parys Mountain opencast mine and visitor centre. A conducted tour of the opencast area enabled us to study the industrial heritage and the exceptional geology. "I've stood on top of a black smoker".

Earlier in May there was a visit to **The National Stone Centre and Matlock**. The weather was lovely again. The party met at 10:30 am and toured the site following the constructed nature trail. The exhibition of drystone walling was of interest and in the quarry area, reef fossils, tropical lagoons and fossil sea lilies could be identified.

We then had lunch in Matlock. A visit to the Temple Mine had been arranged and the party, with MEB helmets, went underground. Taller members suffered from the 'stoop'. The mine had produced high quality fluorspar for the metal smelting industry. A gold deposit was shown, and crystals of calcite and lead minerals were seen.

After the mine visit members toured the Matlock mining museum, where a fine display of mining history was presented. Some members were intrigued by the apparent mislabelling of some of the many mineral specimens on display.

Home at about four thirty. A good day out!

Andrew Rochelle

The Story of the Stour

Gordon Hensman led the first part of this trip on 18th June. Members were given a superb field guide full of text, maps and diagrams. We reproduce below the description of the rocks of the early Stour's course from that guide:

"The Clent Breccia is the youngest rock in the area, apart from the glacial drift which caps the high ground around Quinton and Blackheath to the east. It is a very resistant rock made up of angular fragments, largely of Uriconium volcanics, sometimes called trappoid breccias. The deposit is about 122m, 400ft, thick, and caps the hills in the area – Clent Walton, Romsley, Frankley and Warley.

The Uriconium pebbles may have come from between the Wyre Forest to the west and South Staffs. The angular fragments are often glazed with haematite, and set in a marly matrix. They are commonly 2-6 inches, 5-15cms, in size, but blocks up to 0.6m, 2ft. may be found. The lack of rounding and their large size suggest that they were deposited by torrential streams, in flash floods at a time when the British Isles were just north of the equator, and was starting to experience an arid climate. They may have originated as screes formed against uplifted fault blocks. However they were formed, they did not travel far.

The South Staffs Horst.

The area of the Stour basin is largely on the South Staffordshire Coalfield, where the surface rocks have been exposed by erosion after being elevated in Variscan (Armorican, Hercynian), earth movements. The coalfield was lifted to form a, "block mountain", or, "horst", with eastern and western boundary faults. We cross the latter on the eastern edge of Stourbridge. Older rocks were therefore, exposed by erosion so that the younger Triassic rocks were removed, only remaining along the edges of the horst. The change to the red rocks of the Triassic are very noticeable to the west, in the Stourbridge area.

The productive Coal Measures yielded enormous quantities of coal in the past together with fireclay, ironstone, limestone and various sandstones. On the surface of the horst, sticky clays are typical and these have been used in places for earthenware – the Etruria Marl, which is also found in North Staffs in Stoke on Trent. Coal mines were everywhere, the southernmost near Hales Owen Abbey where the coal was so deep that it was not profitable. Further north was the famous 10-yard coal that outcropped around the Dudley, and Netherton areas."

Gordon Hensman

OTHER NEWS

'Geology Today' is a very popular magazine for all geologists, whether amateur or professional. With six editions a year it has a mixture of interesting, short, news items together with longer articles on a variety of topics. On the back of each magazine there is a full-page photograph of geological interest together with an explanation. On the latest edition (Vol. 21. No 4 July/August 2005) the picture is of the Wren's Nest daylight cavern with a description by the eminent geologist Tony Waltham. In the previous edition (Vol. 21 No 3) there was a short article by Graham Worton on the 'Dudley Bug' and its brief recent disappearance. If you are not familiar with this magazine it can be obtained through Blackwell Publishing Ltd or it is obtainable online at www.blackwell-synergy.com Members of societies affiliated to the Geologists' Association such as ours can receive the publication at a discounted price.

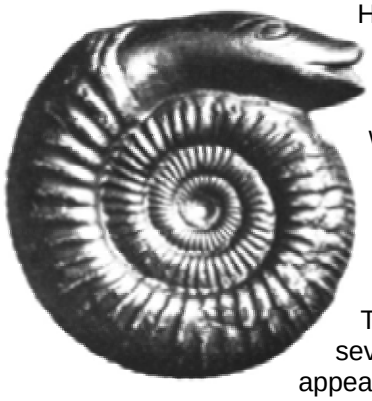
WREN'S NEST PHOTOGRAPHIC COMPETITION

2006 is the 50th anniversary of the Wren's Nest being a geological National Nature Reserve. As part of the celebrations a commemorative calendar is being produced and there is a competition to identify suitable photographs. The subject is "Wren's Nest through the Seasons" If you are a photographer, however amateur, why not take part. Professional photographers cannot enter. You can submit up to four photographs, colour or black and white, as a print, slide or on CD. The closing date is 31st August 2005 and entries should be sent to *Kevin Clements, Countryside Manager, Dudley MBC, Culture and Community Services, Blowers Green Road, Dudley. DY2 8UZ.* Full details can be found on www.discoverdudley.org.uk/attractions_park.asp

This is reprinted from Newsletter 171. There is still time to enter the competition.

GEOBABBLE

We are all familiar with the common names often given to fossils, usually by quarrymen, and the Dudley Bug or Dudley Locust is the one we are most acquainted with. Indeed, *GEOBABBLE* dealt with this topic some editions ago, and the discovery of a small book has prompted me to return to this subject. Written by the eminent geologist *Michael G. Bassett,* and published by The National Museum of Wales in Cardiff, this 30-page book is called *'Formed Stones', Folklore and Fossils.* Lots of vernacular fossil names are given, and over two pages are devoted to *Calymene blumenbachi* and trilobites generally.



However, one of the most interesting features was the use of fossils in heraldry. The Dudley Bug has been a symbol of the town for a long, long time. It was included in the Common Seal of the Corporation in 1866. But this nothing when compared with the use of '*Snakestones'* found on the Yorkshire coast around Whitby. They are ammonites found in the Jurassic, usually *Hildoceras bifrons* or *Dactylioceras commune,* and in accordance with ancient legend, a snake's head was often carved on the fossil, and it was interpreted as a snake that had crawled into the rock to die.

The Snakestone became an emblem of Whitby as early as the seventeenth century when they appeared on local coins, and appeared on town's Coat of Arms in 1935.

Scunthorpe, the iron town on the Lower Jurassic ironstone, had the Liassic fossil *Gryphaea arcuata,* commonly known as the *Devil's toenail,* incorporated into its Coat of Arms in 1936. In the south of England, vertebrates are the most common image used. The Urban District Council of Street in Somerset used an *Ichthyosaurus* skeleton on its seal until 1974, whereas Maidstone in Kent uses *Iguanodon* on its Coat of Arms in an unusual way. It appears as a Supporter, at the side of the shield. This is a fine tribute to Gideon Mantell, who often does not get the recognition he deserves for finding this Cretaceous reptile in Tilgate Forest, Sussex, close to Maidstone, in 1822. Of all these uses in heraldry, it appears that Dudley is the oldest usage.

Image of Snakestone © Michael G. Bassett, printed with permission of National Museum of Wales, Cardiff.

Bill Groves

HOLIDAY GEOLOGY

I took an early holiday this year and so I am just able to get my little description into this Newsletter. I tend to avoid dragging my family to geological site after geological site, but will occasionally sneak away to look at something interesting. I was in Portleven, Cornwall, with its fine sandy beach backed by the much contorted Devonian Mylor Beds, wonderful sedimentary structures and quartz veins with the occasional dolerite sill.

However, we were only 20 minutes drive away from the Lizard peninsular and I wanted to find some gneiss. We usually associate gneiss with the Lewisian of the Western Highlands of Scotland, and we tend to expect all gneisses to have that same distinctive black and white stripe look to it. At a little sandy bay on the east side of the Lizard called *Kennack Sands* is the Kennack gneiss, a banded rock that sometimes penetrates into the adjacent serpentinite. It does not look like the Lewisian but produces an equally attractive rock. It is a complicated area with lots of faults and minor intrusions, and some wonderful, colourful pebbles and small boulders to collect from the shore.

If you have found any geologically interesting places on your summer holiday, please give us a few paragraphs to include in the October Newsletter. Bill Groves

CONTACT US

As ever we would love to hear your news and views so please put pen to paper or fingers to keyboard and give us your thoughts. Notices that appear in this Newsletter will remain in future editions until the date of the related meeting or event has passed. In order to include material in the October Newsletter, please send or give it to one of the Editorial Team by ***Monday 3rd October 2005.***

If you are able to submit something it would be most welcome. If you have access to a computer, the easiest way to send it is as an attachment to an e-mail to Bill Groves, or to send or hand a floppy disk to him. If you do not have computer access, please send a paper copy, preferably typed, or drop it in at Dudley Museum for Bill's attention, or hand it to one of the other members of the Editorial team. Rarely is a piece longer than a side of A4, 1½ sides at the most, so please edit your own article before submitting it, or divide it up so we can make it a 2 or 3 edition serial.

EDITORIAL TEAM

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