



The Black Country Geological Society

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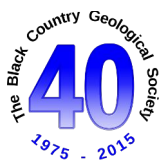
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Newsletter No. 232

August 2015



Contents:

Future Programme	2
Other Societies and Events	3
Editorial - BCGS 40th Anniversary Event	7
Geobabble - William Smith 1815 Map	8
Founder Chairman's Address	9
Reminiscences from Members	10
Field Meeting Reports	
The Geology of Droitwich	11
Rock Around the Wrekin	14
'Geo-beer' in the Spotlight	15
Members' Forum	16
BCGS web site photo	
Matthew Forster Heddle	



**Copy date for the
next Newsletter is
Thursday 1 October**

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For enquiries about field and geoconservation meetings please contact the Field Secretary.
To submit items for the Newsletter please contact the Newsletter Editor.
For all other business and enquiries please contact the Honorary Secretary.
For further information see our website: www.bcgs.info

Future Programme

**Until further notice indoor meetings will be held in the
Abbey Room at the Dudley Archives, Tipton Road, Dudley, DY1 4SQ
7.30 for 8.00 o'clock start unless stated otherwise**

**Please let Andy Harrison know in advance if you intend to go to any of the field or
geoconservation meetings. If transport is a problem for you or if you intend to drive
and are willing to offer lifts, please contact Andy with at least 48 hours notice.**

**Saturday 15 August (40th Anniversary Field Visit): An Introduction to Black
Country Geology Part 2 - Revisited, led by Andy Harrison.** Meet at the Dudley
Archives for 10.00. We will retrace the footsteps undertaken during the Society's second field
excursion in 1975 to the Old Marl Pit at Tividale, Allsops Hill Quarry, Rowley, Halesowen
Grammar School and Queslett Road. This visit will explore former sites that exposed the
Upper Coal Measures and Triassic rocks of the region and see how these have changed in 40 years. Please
bring stout footwear, a packed lunch and contact the BCGS Field Secretary, Andy Harrison tel: 07973
330706 or fieldsecretary@bcgs.info, to express an interest in attending this trip.



Sunday 6 September (Geoconservation day): Warren Lane Quarry, Lickey Hills. Quarry
clearance session in conjunction with the Lickey Hills Geo-Champions, directed by Steve Hinton, Senior
Ranger, Lickey Hills CP. This Lickey Quartzite quarry complements the features shown in the Barnt Green
Road Quarry, but has been unavailable for conservation work since it became an EHT designated
'Champions' site, in 2011. With changed usage, voluntary clearance work can now be permitted, and this
will be the first session here. Meet at 10.30 at the Lickey Hills Visitor Centre, B45 8ER. Bring hard hats if you
have them, gloves and a packed lunch. (Some hard hats available at the VC for those who haven't got their
own.) Wear old clothes and strong footwear. Tools will be provided. Finish at 2.00.

**Monday 21 September (Indoor meeting): 'The great 1815 eruption of Tambora and future
risks from large-scale volcanism'. Speaker: Ralf Gertisser** (Senior Lecturer in Mineralogy and
Petrology, Keele University).

Saturday 3 October: (Geoconservation Day): Saltwells Nature Reserve. Meet at the Nature
Reserve car park (Grid ref: SJ 934 868) on Saltwells Lane for 10.00. Wear old work clothes, waterproofs and
stout footwear or wellies. Please bring gloves and garden tools; loppers, secateurs, forks and spades if you
have them. Either bring packed lunch or hot food can be acquired from the Saltwells Inn adjacent to the car
park. Finish at 14.30.

**Monday 19 October (Indoor meeting): 'In search of ancient subduction sites in the UK'.
Speaker: Chris Darmon,** Geo Supplies and 'Down to Earth' magazine.

Saturday 7 November: (Geoconservation Day): Barr Beacon, Pinfold Quarry. Meet at 10.30 at the entrance on B4154 Beacon Road, opposite Bridle Lane (the southern entrance to Barr Beacon) Grid ref: SP 060967. Wear old work clothes, waterproofs and stout footwear. Please bring gloves and garden tools; loppers, secateurs, forks and spades if you have them. Also bring lunch. Finish at 14.30.

Monday 16 November (Indoor meeting): 'Insights into the glacial history of the British Isles: the newest methods and theories'. Speaker: John Groves.

Saturday 5 December (Geoconservation Day): Portway Hill, Rowley. Meet at St Brades Close at 10.30. Directions: from Birmingham New Road (A4123) turn left on to Tower Road if coming from Birmingham, right if coming from Wolverhampton. Just after Bury Hill park, turn left onto St Brades Close. Wear old work clothes, waterproofs and stout footwear. Please bring gloves and garden tools; loppers, secateurs, forks and spades if you have them. Also bring lunch. Finish at 14.30

Monday 7 December (Indoor meeting, 7.00 for 7.30 start): BCGS Members' Evening and Christmas Social.

Saturday 30 January 2016 (Geoconservation Day): Sedgley Beacon. (Details tbc.)

Saturday 20 February (Geoconservation Day): tbc.

Saturday 12 March (Geoconservation Day): tbc.

Saturday 23 April (Field Meeting): Cannock, led by Ian Stimpson, NSGGA. (Details tbc.)

Saturday 14 May (Field Meeting): Oxford University Museum of Natural History, led by Paul Smith, Curator. (Details tbc.)

Procedures for Field Meetings

Insurance

The Society provides public liability insurance for field meetings but personal accident cover is the responsibility of the participant. Details can be obtained from the Secretary, and further helpful information can be found in the [Code for Geological Field Work](#) published by the GA and available on our website. Schools and other bodies should arrange their own insurance as a matter of course.

Health and Safety

If you are unsure about the risks involved or your ability to participate safely, you should contact the Field Secretary. Please take note of any risk assessments or safety briefing, and make sure that you have any safety equipment specified. The Society does not provide hard hats for use of members or visitors. It is your responsibility to provide your own safety equipment (eg. hard hats, hi-viz jackets, safety boots and goggles/glasses) and to use these when you feel it is necessary or when a site owner makes it a condition of entry. Hammering is not permitted unless specific permission has been sought and granted.

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

Other Societies and Events

BCGS members are normally welcome to attend meetings of other societies, but should always check first with the relevant representative. Summarised information for approximately **two months** is given in our Newsletter. Further information can be found on individual Society web sites.

The Oxford Mineral Show

Sundays: 13 September & 29 November 10.30 - 4.00. Exeter Hall, Kidlington, North Oxford, OX5 1AB. Free Admission. Free parking on site. For further information see: www.oxfordshow.co.uk

Manchester Geological Association

Saturday 22 August: Bosley Cloud. Leader Paul Aplin. Joint trip with OUGS.

For further information about meetings go to: <http://www.mangeolassoc.org.uk/> or email Penny Heyworth at: outdoors@mangeolassoc.org.uk Visitors are always welcome.

Mid Wales Geology Club

Wednesday 19 August: 'The Mines of Central Wales: our industrial heritage'. Guest Speaker: Graham Levins, Welsh Mines Society.

Wednesday 16 September: 'An Evening on Rocks'. A fun, practical evening (with experiments) on the formation of igneous rocks.

Sunday 20 September: 'Darwin's Geological Footsteps: retracing an early journey in North Wales'. Leader: Roy McGurn.

Further information: Tony Thorp (Ed. newsletter & Hon. Sec): Tel. 01686 624820 and 622517 jathorp@uku.co.uk Web site: <http://midwalesgeology.org.uk> Unless otherwise stated, meetings start at 7.15 (tea/coffee & biscuits) with talks at 7.30 at Plas Dolerw, Milford Road, Newtown.

Shropshire Geological Society

Saturday 15 August (day meeting): Brown Clee and Nordy Bank. Leader: Andrew Jenkinson. Booking to reserve a place and obtain joining instructions from Andrew Jenkinson; email: andrew@scenesetters.co.uk; telephone: 01938 820 764.

Saturday 5 September (day meeting): Llangollen and Dee Valley. Leader: David Pannett. Booking to reserve a place and obtain joining instructions from David Pannett; email: jessicapannett@hotmail.co.uk; telephone: 01743 850 773.

A nominal charge is levied for attendance by non-members. Further info at: www.shropshiregeology.org.uk/

Woolhope Naturalists' Field Club - Geology Section

Tuesday 18 August: 'Evening Building Stones Walk in Ledbury' led by Dr Paul Olver. Meet at 6.00 at the Masters House, Ledbury.

Sunday 20 September: 'Recently cleared sites in the Malvern Hills' led by Dr John Payne. Meet at 10.00 at the Tank Quarry car park (free; entrance is just north of the clock tower at North Malvern: SO 769 471). Shared car travel. Pub/picnic lunch.

Guests are welcome, but must take day membership of the Club: £2.00. Further information: Sue Hay on 01432 357138, email svh.gabbros@btinternet.com or visit their web site: www.woolhopeclub.org.uk/Geology_Section/default.htm

Warwickshire Geological Conservation Group

Saturday 15 August: Day trip to Leckhampton Hill, Crickley Hill Cutting and Birdlip overlook. Leader: Dr Joe Angseesing. Meet at Leckhampton, 10.30.

For more details visit: <http://www.wgcg.co.uk/> or contact Ian Fenwick swift@ianfenwick.f2s.com or 01926 512531. There is a charge of £2.00 for non-members.

Herefordshire and Worcestershire Earth Heritage Trust

Unless otherwise stated there is no need to book for any of these events. For more information, please contact the Earth Heritage Trust office by telephone: **01905 855184** or email: eht@worc.ac.uk.

Saturday 15 August, 2.00: 'From Trilobites to Mammoth'. Talk by Mark O'Dell (member of the Whitman's Hill Champions Group) about local fossils typically found in the Malverns and Cotswolds. Venue: Malvern Hills GeoCentre, Walwyn Road, Malvern, WR13 6PL. Tel: 01684 252414. A chance to look at examples from Mark's collection and to bring your own for identification or discussion.

Friday 11 September, 10.30 - 1.30: 'Building Stones of Bromsgrove'. A guided walk starting from Jubilee Bandstand, Sanders Park, Bromsgrove. A member of the 'Thousand Years of Building with Stones' team will lead this walk to explore the stone buildings of Bromsgrove. Free but booking essential as numbers are limited. Please contact eht@worc.ac.uk or 01905 855132.

Thursday 17 September, 10.30 - 1.30: 'Secrets of the Stones'. As part of Kington Walking Festival, Elliot Carter of EHT will lead a walk around Kington town centre. Discover the stories that the building stones tell. The 3 mile walk will be on pavements and footpaths around the town. Suitable for all. Please book through kingtonwalks.org – adults are charged £5. The meeting place is Place de Marines, Kington.

Friday 25 September, 2.00 - 4.30: 'The Building Stones of Ross'. Meet at the Market House, Ross-on-Wye for a gentle 2 mile walk around Ross town centre to look at the different stones used in the construction of the buildings, learning a little about how the stones were formed and stories about extracting and using the stone. Led by a member of the EHT Building Stones team. Adults are charged £4. Book your place at rosswalkingfestival.co.uk/

Sunday 11 October, 10.30 - 2.00: Lickey Hills Geo-Champions: Open Geoconservation day at Kendal End Quarry. Grid ref: SP 002747 (a short walk south from the Lickey Hills Country Park Visitor Centre, Warren Lane, Birmingham B45 8ER). This is an opportunity to drop in and see the group in action with clearance work in this quarry. All are welcome.

Sunday 18 October, 10.30 - 3.30: Lickey Rocks! Activity Day. Venue: Lickey Hills Country Park Visitor Centre, Warren Lane, Birmingham, B45 8ER. Displays and geologically-themed family activities, organised by the Lickey Hills Geo-Champions in conjunction with the Lickey Hills Rangers.

For further information contact Herefordshire & Worcestershire Earth Heritage Trust, Geological Records Centre, University of Worcester, Henwick Grove, Worcester, WR2 6AJ. www.EarthHeritageTrust.org
Telephone: 01905 855184. Email: eht@worc.ac.uk or for Lickey Hills Geo-Champions: visit web site: ehtchampions.org.uk or email: lickeychampions@gmail.com

The Geology of the Marches - Murchison to the Modern Era

Symposium: Friday 2 - Sunday 4 October

Open to all in the Assembly Rooms, Ludlow. Self-guided Ludlow geology trails; Museum Resource Centre workshops; Three keynote lectures; Discussion groups; Displays; Museum tour; Symposium dinner; Choice of guided field trips.

Emeritus Professor Martin Rudwick (Cambridge): 'The King of Siluria - how the Marches became known to geologists everywhere'.

Dr Alex Liu (Bristol): 'Pits, Mounds & Animal Evolution, what we have learned from the Ediacaran Rocks of Shropshire'.

Emeritus Professor David Siveter (Leicester): 'Sensational soft-bodied fossils from 425Ma volcanic ash: The Herefordshire Lagerstätte'.

Further information, links to trail guides, booking forms, full programme and charges:
www.geo-symposium.eu email Paul pauloliver@hotmail.com or David 01886 888398

Open University Geological Society - West Midlands Branch

Saturday 12 September: Walk around North Hill, Malvern Hills. Includes: Tank Quarry; an exposure of the plane of the East Malvern Fault; Ivy Scar Rock; Dingle Quarry; an exposure of Miss Phillips's Conglomerate (a remnant of the beach of the Silurian sea), Rocky Valley, and more. Walk length about 8.6km. Contact: Dave Green davepgreen@btinternet.com

Geologists' Association Annual Conference

Friday 9 - Saturday 10 October: 'Building our Future' at the British Geological Survey, Keyworth, Nottingham NG12 5JY, focussing on Building Stones. To register: conference@geologistsassociation.org.uk. Further information: <http://www.geologistsassociation.org.uk/>

GeoFest 2015

'GeoFest' is the Abberley and Malvern Hills Geopark's annual celebration of its geology, landscape and associated heritage. Events are hosted and run by the members of the Geopark Forum. Below is a selected summary of remaining GeoFest events.

GeoFest Guided Geology Walks and Events:

Saturday 15 August: Bewdley Museum - Tour the grounds and the 'Fossils of the Geopark Exhibition' with a geologist and learn about the local geology and building stones. Organised by: Bewdley Museum. Start: 10.30 at Bewdley Museum entrance. Finish: 11.30.

Sunday 16 August: 'Devil's Spittleful'. A five mile walk exploring the local geology, WW2 history, and wildlife. Organised by: Bewdley Museum. Start: 11.00 at the entrance to Bewdley Museum. Est. finish: 4.00. Cost: £4.00 Booking: 08456 035699.

Sunday 23 August: 'Huntley Quarry Open Day'. Participate in a guided walk, try a Geocache activity to find the hidden 'treasure', help paint a large 'Jurassic Park in Gloucestershire' mural, or many other interactive children's activities. Start: 11am at Huntley Quarry, Huntley, Gloucestershire, GL19 3EY (Grid Ref: SO 7095 1955). Finish: 3.00. Booking: 01452 864438 (only required for guided walk).

Wednesday 26 August: Family Event - 'Dinosaur Day'. Dinosaur themed activities at Severn Valley Country Park Visitor Centre, Alveley, WV15 6NG. Cost: £3.50 child, free adults. (Under 8s must be accompanied by an adult.) Bookings: 01746 781192.

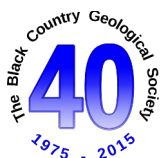
Monday 31 August, 10.30 - 3.30: 'The Geopark at the Wyre Forest'. A drop-in session for the whole family to learn about rocks, minerals and fossils. Displays and a geology trail.

Saturday 4 July - 6 September: Exhibition - Fossils of the Abberley and Malvern Hills Geopark. Bewdley Museum, 10.00 - 4.30 daily.

For full details view the GeoFest calendar or download a GeoFest 2015 programme at: www.geopark.org.uk
General enquiries: amhg@outlook.com or phone: 07547 481440.

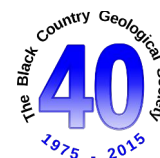
Understanding the Malvern Hills

Sunday 1 November, 9.30 - 4.45: Conference organised by 'Voice of the Malvern Hills', at the Cube, Albert Road North, Malvern, WR14 2YF. Tel. 01684 575363. Talks to include: 'Ice cold in Malvern'; 'Springs of the Malvern Hills'; '1000 years of building in the Malvern Area'; and much more. Members £15, Non-members £17, Students and under 18's £10. Price includes buffet lunch. More information in our next Newsletter or from: redwards@waitrose.com or visit: voiceofthemalvern hills.org.uk



Editorial

BCGS 40th Anniversary Celebrations



On Saturday 4 July BCGS members and guests gathered at Dudley Museum and Art Gallery to celebrate 40 years since the inaugural meeting took place at Dudley Museum on 3 July 1975. Gallery 9 was adorned with BCGS publicity and information posters, a display of archive photos, newspaper articles and reminiscences from some Society members. There was also a collection of rocks representing the rich wealth of geological gems in the Black Country which inspired the first incarnation of the Society in 1842, and its revival in 1975. All the assembled company were presented with a couple of specially made anniversary beer mats and a celebration mug. For those unable to attend, you can collect your free mug (and beer mats) at any indoor meeting this year, after which any remaining mugs will be offered for sale.



Amongst the guests were members past and present, and it was especially gratifying to have in our midst three founder members (L to R in photo): Alan Cutler (founder Chairman), Peter Parkes, and Peter Oliver



(founder Vice-Chairman). After refreshments Alan gave a talk about the Society's history with a fascinating mix of facts and anecdotes. For this 40th Anniversary issue, and for the benefit of those who were unable to attend, the text of Alan's talk is reproduced below. Also included are the reminiscences sent to us by absent member (and long-term webmaster), Graham Hickman, and current members Bob and Sue Fairclough. We hope you will enjoy reading these, and that some of you may yet be inspired to send us your own reminiscences and archive photos. Although the main anniversary celebration is over, the photo archive on the web site will be there for posterity and we want it to keep growing!

Following Alan's talk, our Chairman, Graham Worton, spoke of the Society's success with its varied programme of field visits, indoor talks and geoconservation work. Looking to the future, our geoconservation work at certain specific sites is already making a contribution to the on-going bid for the Black Country to become a Global Geopark, and Graham hopes that this will continue if the bid is successful.

The assembled company filled their glasses with 'bubbly' kindly supplied by Graham, and raised them in a fitting toast to the Society (see front page photo). We then tucked into a delicious buffet provided by the Society, with time to chat and look round the exhibits before reconvening in the afternoon for the launch of an exhibition: 'William Smith: Colours beneath our feet'. Bill Groves has written a report of this event in his regular 'Geobabble' feature below.

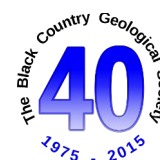


The Society's 40th Anniversary celebrations are continuing with two field trips following in the footsteps (and wheel tracks) of the first two field trips undertaken by the Society in 1975. The first, on 18 July, was a whistle stop tour of the Clent Hills, Rubery Cutting, the NCC cutting at Wren's Nest, and finally Saltwells Nature Reserve and Brewin's Bridge. It was an exhilarating, and exhausting day ably led by our Field Secretary, Andy Harrison, with photos to show 'then and now' at each site. We agreed that the Hollybush Inn was probably the least changed - at least on the outside if not the meal prices! If you can, don't miss the second one of these special field trips on 15 August. There will be reports of both trips in a later Newsletter. ■

Julie Schroder

Geobabble

William Smith 1815 map on display at Dudley Museum and Art Gallery



Saturday 4 July was a memorable day, not only 40 years of our Society, but a chance to see William Smith's original map of 1815. In the Brooke Robinson room there was a mysterious table covered by a sheet, which hid one of William Smith's maps. We crowded around the table when the sheet was removed, and Jonathan Larwood introduced us to this map. We were the first group to see it, and it is about to be shown in various places around the country to celebrate the 200th anniversary of its production in 1815.

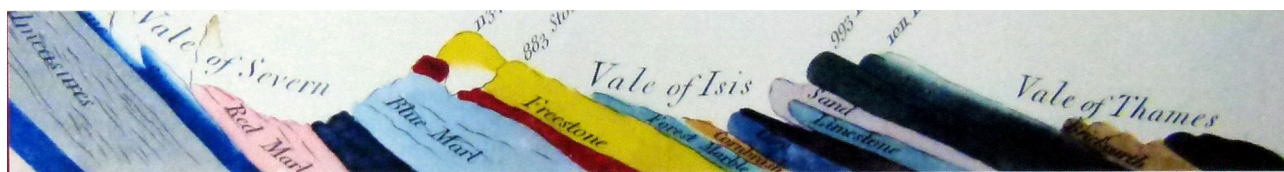


I had seen one of Smith's maps before, but it was upright, hanging on a wall and faded. This one is pristine, the colours bright and clear, and being horizontal at table height, you could look at it close up. The first reaction is that it was a thing of beauty, a work of art, and like all great works of art, each time you look at it you can see something new. It is priceless.

When you look more closely you can appreciate the colouring technique used. The base of each bed is highlighted by a darker tint which then takes a lighter tone as you move upwards. Smith chose the colours that we are now so familiar with, the bright yellow of the Inferior Oolite stood out, as it does on modern maps.

I also wanted to home in on the detail and started to look at areas I knew from fieldwork experience. The map is precise in where it drew the boundaries; you can recognise the big features, and you start to

think that where Smith must have stood to feature-map the outcrop is where I have stood! He covered 10,000 miles to make this map, mostly on foot, 'strata hunting'. He was the first to recognise that the strata always came in the same order, with the same fossils. A bonus, when looking at this map, is to look at roads, canals, towns and villages of the early nineteenth century base map. You can see what England and Wales looked like before the industrial revolution.



The map displayed here was designed to travel comprising three parts that can be folded and slid into a travelling case and is accompanied by a descriptive Memoir. It is numbered Series b, 22 (and signed by Smith under the small cross section) and we know from records that it was hand coloured between 23 January and 23 February 1816.

This map was purchased from a second-hand bookshop in Norwich in the early 1950s by Gilbert Larwood.

Before moving into the Brooke Robinson Museum after lunch, Jonathan told us some detail of Smith's life and he presented this as a series of pictures of his contemporaries, starting with Joseph Banks whom he met in 1801 through Smith's profession as a land engineer and improver. Banks was one of his great supporters as was his nephew John Phillips who accompanied Smith on many of his journeys. George Greenough, however, was the aristocrat who rejected Smith as a member of the Geological Society of London, and then produced his own map in 1819. This, together with the hard financial climate, forced Smith into debt and even into debtor's prison for 10 weeks. ►

Later, geologists began to recognise Smith; Adam Sedgwick met him in 1831 and Roderick Murchison visited him in Scarborough. Smith was instrumental in the design of the Rotunda Museum there, and out of that meeting came the proposal for a Museum in Dudley. Jonathan stressed the importance of Dudley in the geological world at that time, and in 1839 when Smith died in Northampton, he was on his way to a British Association meeting in Birmingham, and was scheduled to visit Dudley. By now he was finally recognised as the 'father of English geology' and given many geological honours.

There were so many other things to see during this day. The Museum had put on a display of Smith-related posters and his County maps had been put together as 'The map that might have been'. Jonathan also introduced us to another project called 'The Stratification of Beer' and we were all invited to try a bottle to round off what was one of the most enjoyable of days. ■

Bill Groves

'William Smith: Colours beneath your feet' exhibition is running at Dudley Museum until 19 September. Ed.

40th Anniversary Address by the Founder Chairman



Alan Cutler, 1975

We're here today to celebrate 40 years of the Black Country Geological Society. They have been forty years of success and achievement and today there's time for reflection, a little self-congratulation and a big thank you to all the members, old and new. Forty years ago I don't think we even thought about how long we might survive. We were young, optimistic and had energy, and there were issues of the moment to be addressed.



The Society was conceived in 1974 by a small group, 'the famous five': Eileen Bakewell, the Society's first treasurer; Doug Bedson, later to become the bursar of Birmingham University Geology Department; Dave Wraight, a school teacher who became the first secretary; Peter Oliver, the first vice-chairman, and there was me. I became the founder chairman, a post which I held until 2000.

Newer members may not fully appreciate the Society's reputation and national standing which is due in large part to its geological conservation record, but it would be wrong to suppose that the Society's other activities have not played an important role. The programme of lectures, field meetings, excursions and social events, whilst catering for the continuing interest of all members, provides a stable foundation, an essential framework and a public face without which the conservation effort would not have been sustainable.

During the 1980's the Society organised guided walks for the public on summer Sundays, and many members acted as guides for visiting field parties. The 1980's also saw the production of Society Christmas cards and the publication of the first and so far only edition of a journal, 'The Black Country Geologist'. (Reproduced in full on the BCGS web site here: bcgs.info/pub/?page_id=26 Ed.)

The Society played an important role in the organisation of the early Dudley Rock and Fossil Fairs. Recently I happened upon some old annual reports and I noted that in 1992, forty-five members were directly involved in either manning the BCGS stand or in the administration or stewarding of the fair. 1992 was also the year of a particular favourite event of mine, the 'Rowley Rag Revisited'. This whole day event based at the Hailstone and Edwin Richards quarries, celebrated the 150th anniversary of the first field meeting of the former 'Dudley and Midland Geological Society' in 1842. We assembled at the offices of Tarmac to listen and receive a number of papers relating to the Rowley Rag, followed by lunch and a tour of the workings led by BGS geologists who were working here at the time. What made the day so memorable was that half a dozen members dressed in period costume to add some colour, if not authenticity, to the occasion. This subsequently led to numerous repeat performances for some of us.

The 1985 annual report reminded me of the special 10th anniversary 'Conversazione' here in Dudley Museum at which ten organisations mounted displays, including the BGS, University departments, and consultancies. This proved to be, and I quote: 'the most exciting meeting in the Society's short history'.

If not the most exciting, certainly the most significant event later that year was the AGM meeting of the Geological Curators Group (GCG), one of the specialist groups within the Geological Society of London. ►

From about 1977 the BCGS had advocated the need for a permanent geological curator to be employed at Dudley Museum. In 1983, I invited GCG to come to Dudley to help celebrate our 10th anniversary and to focus attention on the geological collection. At first the invitation was rebuffed, but perseverance paid off. The event was opened by the Mayor and all facilities, including lunch, were funded by the council. Particularly noteworthy was the attendance of three councillors. We achieved more in that one day than in the previous eight years. Within two months the Leisure Services Committee voted in favour of the appointment of a permanent geological curator, but it was another year before Policy and Resources found the finance, and Colin Reid, Graham Worton's predecessor, was appointed.

If the appointment of Colin Reid ranks as our first significant achievement, the second must be gaining acceptance and recognition for geological sites to be included in the SINC system (Sites of Importance for Nature Conservation), initially by Dudley and Birmingham councils in 1988. The process had begun in 1975 with Peter Oliver compiling a simple list of local geology sites and outcrops, based on returns from members. By 1978 there was a substantial list of over ninety sites which was circulated to the Birmingham and Black Country councils and the NCC (Nature Conservation Council), to flag up their conservation value. Ultimately the information was expanded and transferred to the then standard record forms by Nigel Bradley, who also substantially augmented the number of sites. West Midlands County Council had recognised biological sites and wildlife sites since the early 1980's, but it wasn't until 1987 that formal recognition of geological sites was achieved. The best sites were selected and added to the SINC schedule at the next revision in 1988. I firmly believe that the Black Country experience was, in part at least, responsible for the national RIGS movement which emerged in the 1990's.

I haven't mentioned the GA History of Geology Group conference in 2000, the GeoConservationUK conference in 2004, the Wren's Nest NNR 50th Anniversary and the History of Geo-Conservation conference in 2006, or the 2011 International Silurian Sub-commission visit, in all of which members have played a part.

The BCGS has had 40 productive years of enjoyment, successes and achievements but it's not all done. Development pressures are ever present, sites need enhancement, and I'm really pleased that Andy Harrison (Field Meetings Secretary) is heading up an enthusiastic task force of site conservators who are already making a significant contribution to the success of the emerging Black Country Geopark which I am sure will present even greater opportunities if the will is there to seize them. Well done BCGS! ■

Alan Cutler, 4 July 2015

40th Anniversary Reminiscences from Members

Email from Trinidad and Tobago



Dear BCGS members,

I would like to congratulate the BCGS on its 40th anniversary. I did seriously consider flying back for the weekend but it really just isn't practical. I wish all those present the very best and support your efforts in promoting the interest of geology and conservation in the West Midlands. 40 years is a long time!

I'm currently completing an assignment in Trinidad and Tobago with BP. My assignment finishes on 31 July 2015 and then I will be transferring back to the London offices. I would have loved to have been present with everyone celebrating the 40th anniversary of the BCGS.

As some of you know I joined the BCGS in its infancy, 1975 to be precise. I was starting to do my O levels aged 15. My late father, Peter Hickman, had sparked my interest in geology by taking me fossil hunting at the Wren's Nest and Wenlock Edge. My mother Margot Hickman had read about the BCGS in the newspaper and so we turned up, I think for the second event. My involvement with the BCGS during the first four or five years was very important to me in getting me started on a career in geology. I learnt from the members and saw great outcrops on my doorstep. Helping with the early restoration of the Dudley Museum geological collection was a great honour, and working experience over two summers in the basement of the Museum was fantastic. Over the years I have been able to keep in touch and follow the activities of the Society by helping with the website and with occasional Newsletter articles. I wish you all the best and congratulations. ■

Graham Hickman

Plugging the gaps

In October 1989 we joined the Black Country Geological Society at a Rock and Fossil Fair held at Dudley Museum. We had moved to Woodsetton from South London in 1988 and found the Wren's Nest a short walk from our front door. Until we visited this site of world importance, fossils had been a mystery and a bit boring (we're geographers!) but this soon changed when we found tiny shells and coral pieces scattered all over the ground without any expert help.



Collected from The Wrekin, 1989

Dr Alan Wright (Birmingham University) led the first field trip we attended. We visited the Wrekin and climbed to the top in cool, drizzly weather. Along the way we picked up a rock and was amazed to see tiny, perfectly formed crystals inside it. We began talking to Steve (still a close friend after all these years) asking lots of questions and began to realise that we knew very little about geology and that we had a lot of gaps to plug.

Another memorable field trip took us to Ibstock Quarry, Stallings Lane, Dudley. Whilst squelching through the mud we noticed a rock and picked it up. We realised we'd found something special when other

members asked if they could photograph it and then we found out what it was! Some moments later Judith's wellington became stuck in the mud and she stood on one leg with her foot inside the boot, the other waving around and struggling to balance until a kind geologist recovered the muddy boot and reunited her with it. Field trips make many different kinds of memories!

We hoped that membership of the Society, attending lectures and fieldtrips, would assist in undergraduate studies, however the course covered little geology! We hadn't thought about the interesting people we might meet and long term friendships we would make and would like to thank everyone, past and present members, for their companionship and willingness to share time and knowledge with us. Over the years we have found the lecture programme to be stimulating and thought provoking and we are still trying to 'plug those gaps' in our geological knowledge. ■



Lepidodendron, Ibstock Quarry

Sue and Bob Fairclough

Field Meeting Report

Saturday 23 May: The Geology of Droitwich. Led by Andy Harrison.

Introduction

It was a warm and sunny morning when we met around 10.30 in Victoria Square, central Droitwich for a brief introduction to the day. Once assembled, we headed to Vine Park in the northern area of the town for an introduction to the local geography, geology and history, before exploring its history in relation to the geology of its building stones. The trip included a visit to the Museum of Salt and after lunch we explored the town's salt industry and the lasting legacy it has had.

Droitwich sits within a gently undulating landscape of low lying hills and shallow river valleys between 25m AOD to 80m AOD. A network of former Roman roads, railways and the Droitwich Canal provide excellent communications throughout Worcestershire and further afield to Birmingham. The River Severn lies 6km west and the City of Worcester and villages like Ombersley and Hadley are situated 10km southwest and 5km and 3.5km to the west, respectively. Thin ribbons of superficial alluvial deposits cover the river valley floors whilst isolated patches of superficial river terrace deposits ('Holt Heath Sand and Gravel', and 'Kidderminster Station' Members), former terraces of the River Severn, form some of the higher ground to the north-west and south of Droitwich. ►

Red-brown and green-grey mudstones and siltstones of the Triassic Mercia Mudstone Group underlie Droitwich and the surrounding area. This stratum stretches from Yorkshire and Lancashire in the north, southwards through the Midlands and on towards the Bristol Channel and Devon. Associated with this stratum are thick units of halite and gypsum such as the Droitwich Halite Member, which reportedly reaches a thickness of up to 12m. The Mercia Mudstone Group is believed to have formed around 250 Ma, when England lay at more equatorial latitudes and was crossed by numerous graben structures, associated with the opening of the North Atlantic. Droitwich sat within a graben known as the Worcestershire Basin that would have been an arid terrestrial landscape of playa lakes, into which fine sediments and evaporitic salt deposits accumulated. Subsequent burial and tectonic forces allowed groundwater to dissolve the evaporated salts, concentrate and then redeposit them as the Droitwich Halite Member. Salt-rich groundwater, or brine, eight times richer in salt than seawater within this stratum was forced to the surface under artesian pressure as springs.

The end of the last Ice Age saw Worcestershire as a windswept frozen tundra with glaciers on higher ground to the west and rivers carving the landscape into its present topography. Warmer interglacial interludes saw animals like mammoth, reindeer, lemming and bison making home in the region. The east-west trending River Salwarpe and north-south trending Elmbridge and Salty Brooks that flow southwards through the northern fringes of Droitwich towards the River Severn, are a result of the warmer period following the last Ice Age. Mesolithic farmers are believed to have been the first humans to visit the area making use of the fertile soils within the Salwarpe River Valley. Iron Age settlers, the Romans and the Anglo-Saxons followed and constructed settlements on the high ground area of Dodderhill, north of Droitwich.

Droitwich town buildings and the salt industry

The town has long had an association with salt production dating back to the Iron Age. The Romans and Anglo-Saxons continued to extract and distribute salt in ever increasing quantities to ever growing markets. The Saxons named the R. Salwarpe, which means 'silt' or 'salt' thrower, after it flooded in 700-800AD, seriously disrupting their salt production. Three brine wells, Netherwich, Middlewich and Upwich, situated close to the R. Salwarpe were the centre of early salt production. All three wells were abandoned in late Medieval times and today only the remains of the Upwich well can be viewed in Vine Park. Early salt use was as a preservative, since it would help food to keep longer, allowing it to be transported further. The Medieval period saw Droitwich begin to take shape on the back of ever increasing salt production.

After Vine Park our next stop was Friar Street, one of the main domestic areas of Medieval Droitwich which also included the productive wells of Vine Park. Friar Street is lined with ornately decorated wooden houses, such as the reconstructed Priory House at the western end of the street. The salt production houses of Vine Park were simple wooden structures with three walls. The 12th-13th centuries saw the appearance of the earliest surviving stone buildings - churches, including St Nicholas', St Andrew's, St Augustine's and St Peter's. The earliest stone building, a Roman villa constructed near Dodderhill, was unfortunately destroyed by fire and man's activities long before the Medieval Period.

Hadley Sandstone (part of the Triassic Bromsgrove Sandstone), quarried near the village of Hadley was originally used to construct the churches of Droitwich. Civil War, weathering and ground instability have all taken their toll on these structures either badly damaging them or destroying them completely. A window and gargoyle heads from the original St Nicholas' Church today adorn the front of the Old Cock Inn on Friar Street. At the eastern end of the street we stopped to look at St Andrew's Church, which shows the scars of reconstruction and patching up over time with a hotchpotch of sandstones from different sources. Later restoration also appears to include a window surround of Bath Stone - a Jurassic Oolitic limestone, which was used in Worcester during Saxon and Medieval times. However in this case its use is probably the work of the Victorians. ►



St Andrew's Church

The late 17th-20th centuries saw the greatest changes to Droitwich and the growth of a major salt producing industry. Changes in building design are most noticeable in Friar Street and at our next location, Victoria Square. On Friar Street the early wooden houses of the Medieval Period were either totally replaced or had their frontages replaced with brick. On Victoria Square many new wooden frame buildings were constructed with brick infill. The ever growing salt industry required better transport routes, and these came with the construction of the Droitwich Canal and railways during the 18th and 19th centuries. This also allowed the import of more building stones from further afield.

Around Victoria Square, oolitic limestone, probably Bath stone, has been used to construct the buildings that presently house the Lloyds and Natwest Banks. It is also in the door and window surrounds of several buildings constructed in the late 1800s. Such buildings include former St Andrew's Brine Baths, now St Richard's House, which houses a private medical surgery, the tourist information centre and the Museum of Salt. This building is one of several, including the Raven and Worcester Hotels and the Salters Halls which were opened by John Corbett between 1881 and 1891. Born in Brierley Hill, John Corbett became a local salt entrepreneur in Droitwich after taking on the defunct salt works at Stoke Prior north of the town. Buying out the competition he became the leading salt producer in the area, introducing better welfare for staff and changing the face of Droitwich from a dirty industrial producer to an attractive spa town. The Victorians knew of the health benefits from bathing in brine since the cholera outbreak of the 1830s. It was also said to help arthritis, sciatica, lumbago, gout and rheumatism and hence during the 19th century Droitwich became a popular tourist destination.



Droitwich High Street

After a look around Victoria Square and the Museum of Salt we made our way to the Gardeners Arms pub for lunch. On the way we stopped to look at a wall of blast furnace slag on Vine Street, which would not look out of place here in the Black Country. The wall follows the railway and can also be seen on the platforms of Droitwich station. This material is unlikely to have been carried far and indicates that there must have been an iron foundry located nearby in the past.

We started the afternoon at the Upwich brine well in Vines Park, before going to the High Street to look at the salt industry in Droitwich, how it evolved and its final demise and legacy. The 19th century saw the role of salt change from use as a preservative to soap and detergent production.

Between the 17th and 19th centuries, annual brine production rose dramatically, from 3,000 to 120,000 tonnes. This resulted from changes in local law in the late 17th century and the introduction of the steam engine in the 18th century, which allowed deeper wells to be sunk to 200 feet. Off the High Street we saw two examples of brine pumping stations at Gurney's Lane and Tower Hill. This is the only operational brine well in Droitwich today, supplying a brine bathing pool at a local hospital.

John Corbett sold the Stoke Prior works in 1888 to the Salt Union, which in 1937 became part of the ICI salt division. The early 20th century saw the decline of the Droitwich salt industry largely due to legal issues and the final closure of the Stoke Prior works in 1973. Looking down the Droitwich High Street the reasons for the decline in salt production and the legal issues are all too apparent. The consequence of increased brine production left a legacy of subsidence in the town. Today the High Street noticeably sags towards its middle and each building lining it is leaning so much that it appears to be holding up its neighbour. Demolition of St Andrew's Church tower, and flooding of the High Street in July 2007 are also consequences of the subsidence beneath Droitwich.

Other building stones seen around Droitwich include granite kerb stones in the car park of Droitwich Station, dolerite kerb stones and cobbles on St Andrews Road, fossiliferous limestone used to face the columns of St Andrews Square Shopping Centre, and a granite war memorial in Victoria Square.

Our day ended around 16.00 with a cup of tea at Chateau Impney, unfortunately not on the terrace as there was a wedding reception. Home to John Corbett, the house was finished in 1875 and like much of the local Victorian architecture is finished in red brick with Bath Stone forming the window and door surrounds. ►

Saturday 13 June: Rock Around the Wrekin. Led by Andrew Jenkinson (Shropshire Geological Society).

This was a very wet day for a field visit, the rain having started early in the morning and not abating until late into the afternoon. Arriving at the Forest Glen car park for 10.15, the plan was to walk up the Wrekin and then to visit the Ercall Quarries beyond the car park.

We were not the only group meeting at the car park; the Shropshire Wildlife Trust were also there. They had set up a gazebo with spotter scopes to watch a nest of peregrine falcons high up on a ledge on the rock exposures at the back of the car park. The adult falcons were nowhere in sight, but occupying the nest were three very soggy and sorry looking peregrine chicks which were not far off fledging.

Since the latter part of 2014 Andrew has been involved with formulating projects for the Shropshire Geological Society that convey to the wider public the significance of rocks in shaping the natural and man-made landscape. In the 'Rock Around the Wrekin' project Andrew hopes to achieve recognition for Ordnance Survey National grid square SJ60 as having the most varied geology in a 100 km² grid square anywhere in the world. The grid square covers the Wrekin and Ercall Quarries, much of Telford, the Ironbridge Gorge and Wenlock Edge.



Bell Pits of Little Worth

The area records approximately 600 million years of geological history from the Precambrian to the Permian and including the Ice Age. All three categories of rock type, i.e. igneous, metamorphic and sedimentary, are represented as well as clearly visible structures, including faults, folds, dipping strata and unconformities. The rocks of the area also define local landscape, provide a range of building materials and natural resources and influence the distribution of plant life.

The rocks of the Forest Glen car park and the Wrekin represent some of the oldest strata to be found in Shropshire (Precambrian/Cambrian), and are generally derived from volcanic sources. The weather not improving, we eventually decided to abandon the planned excursion and instead to go for a short drive to view some of the local geology. Our first stop was at Little Worth, Little Wenlock looking southwards towards the Ironbridge Gorge. The fields before us were pock-marked with the depressions of former bell pits representing early workings of the underlying Coal Measures strata. Next we headed into Ironbridge and stopped at the Museum of the Gorge where a display of the local geology and its significance is on view. Easily accessible natural resources of coal, limestone, ironstone and clay combined with a good transport route, i.e. the River Severn, made the gorge an ideal place for iron and pottery manufacture.

The Gorge generally comprises Silurian Wenlock Limestone strata at its western end, and Carboniferous Coal Measures strata along the rest. Since its creation following the last Ice Age, the gorge has steadily been suffering from land slipping. The effects of this are noticeable at Jackfield, where we headed next, to view the major on-going earthworks that are an attempt to manage and check the progress of the moving slopes.

With a lull in the rain we returned to the Forest Glen car park where in a tree on the far side, the adult female peregrine falcon had been spotted perching and looking very sorry for herself. It was decided to re-run this visit, hopefully on a drier day next year, in an attempt to get the opinions of others on Andrew's claim for SJ60. In the meantime I would like to thank Andrew for a very interesting, if soggy, day and look forward to our next outing with the SGS. ■



Model of the Ironbridge Gorge around 1790

Andy Harrison

'Geo-beer' in the Spotlight

My plea in the last issue for a photo of the 2006 'Trilobitter' label led to a few coincidences which I felt deserved a small feature in this celebratory issue of the Newsletter.

Trilobitter

A big thank you to Jonathan Larwood and Colin Prosser for responding to the request with this lovely photo of two 'Trilobitter' bottles with the Wren's Nest 50th anniversary commemorative 'Dudley Bug'. This beer was brewed by Holden's and was unveiled at the 2006 Dudley rock and Fossil Festival.



Martley Rock

Then, in June, John Nicklin from the Teme Valley Geological Society reported that: 'A local brewery (at The Talbot, Knightwick, Worcestershire) made a unique brew and named it after one of Teme Valley Geological Society's key sites - 'Martley Rock'. This sublime ale, added on to a 4 mile walk with a geology theme attracted 32 participants - an 'exerciseful' and educational Father's Day outing!' (John's photos above.)

'The Stratification of Beer'

At the William Smith exhibition launch (see 'Geobabble' above), Jonathan Larwood told us about a possible spin off project, 'The Stratification of Beer'. The idea would be to commission beers as the map tours, linking places by their stratigraphy. As a taster for this venture, guests were invited to toast the map with a sample of beer from 'Corinium Ales' a small brewery newly established in Cirencester.

BCGS Beer Mats

To round off this beery item, let's not forget that every mug of beer needs a good beer mat - what better than to rest your pint on a BCGS 40th Anniversary beer mat! If you were unable to attend the anniversary event, beer mats will be available at indoor meetings. ■

Julie Schroder



Members' Forum

Archive photo identification - can you help with this one?

I was interested to see the fieldwork photo on the web site history page: http://bcgs.info/pub/?page_id=26

None of the participants is named, but I think I can recognise both Charles Lapworth and William Watts. Lapworth is wearing a top hat 6th from the left, holding a map roll. Watts is 7th from the right and is looking towards the left, and wearing paler clothes.



A field trip of the Dudley Geological Society with Professor Lapworth c.1885.

I wonder if anyone can name any of the others, and place a firm date and location? I suspect the date for this photo is more like 1900 than 1885, or at least after 1897 when Watts returned to Mason College as Lapworth's assistant. ■

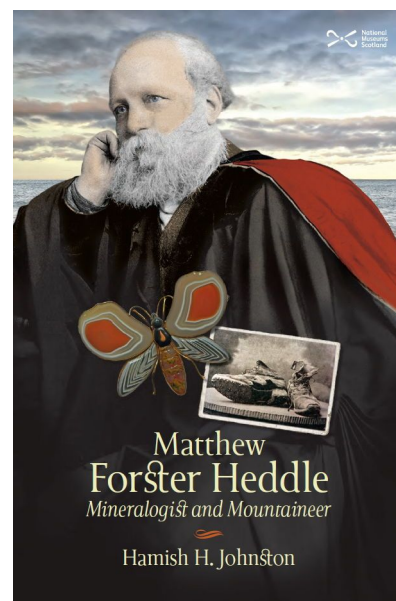
Mike Rosenbaum

Matthew Forster Heddle: Mineralogist and Mountaineer

Many, if not all Black Country Geological Society members will be well aware of Matthew Forster Heddle and his major contribution to Scottish mineralogy. A new biography of Heddle has just been published by National Museums Scotland.

Written by Hamish H. Johnston (Heddle's great-great-grandson) this is not an account of Heddle's scientific work but is about Heddle the man; it provides a much fuller picture of him than anything that has appeared before. The book has a substantial feel to it, weighing in at about 500g, with a striking coloured image of Heddle in academic dress on the cover, with inset photos of a fine agate brooch in the form of a butterfly, made for Celia Heddle, and Heddle's worn walking boots.

The book will appeal to anyone with an interest in the history of Scottish mineralogy, and Heddle in particular, and is an excellent read. One is left with the feeling that this wonderful man lived life to the fullest extent possible, and in spite of various setbacks along the way, that he made the most of every day, and touched many people's lives along the way. His influence continues to be felt to this day.



Published in May 2015 by NMS Enterprises Ltd. Publishing, National Museums Scotland, Chambers Street, Edinburgh. EH1 1JF. 272 pages with 50 colour and black and white illustrations (2 × 8 page art sections). 234 × 155 mm (softcover). £14.99 (plus postage and packing). ISBN 978 1 905267 98 9. The book can be obtained directly from shop.nms.ac.uk/products/Matthew-Forster-Heddle.html, or through bookshops. ■

Roy Starkey

Photographic Competition 2015 - 'Geologica Britannica'

This is a reminder about the 2015 photo competition organised jointly by the West Midlands, North West, and Southern Wales Regional Groups of the Geological Society, and the Black Country Geological Society. Please refer to the previous issue of the Newsletter (No. 231, June 2015, p.8) for full details.