The Black Country Geological Society

Newsletter No. 221

October 2013

Contents:

Copy date for the next Newsletter is

Sunday 1st December 2013

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 & Art Gallery,
St James's Road, Dudley, DY1 1HU. Tel. 01384 815575.
7.30 for 8 o'clock start unless stated otherwise.**

Those wishing to attend field meetings please contact our Field Secretary, Andy Harrison, telephone: 01384 370 188, mobile: 07973 330 706 or email: fieldsecretary@bcgs.info

Sunday 20th October *(Field Meeting):* Charnwood Forest - Part 2, led by Mike Allen. Meet at M1 junction 22 service area at 10.00 am. Following from last year's highly successful visit to this renowned area, Mike will take us to see further outcrops representative of the Charnian Sequence, including the quarry where the original 'Roger Mason' discovery was made. Includes a look at the 'Markfieldite' intrusives. Bring a picnic lunch and walking shoes.

Monday 28th October *(Indoor Meeting):* 'Of Fossils and Fracking - a Palaeontologist's guide to shale gas'. Speaker: Dr Liam Herringshaw, University of York.

Saturday 2nd November *(Conservation day)*: Clearance at Himley railway cutting. Directed by Steve Gallis, Baggeridge Country Park. Meet at the Himley Station car park off Himley Lane (SO 873 910), for 10:30 am. All equipment and tools provided, including a kettle. Bring a packed lunch and sturdy footwear. Please contact the field trip secretary (contact details above) to express interest in attending.

Monday 18th November *(Indoor Meeting):* 'The Herefordshire Lagerstatte: Silurian Soft-Bodied Sensations'. Speaker: Professor David Siveter, University of Leicester.

Monday 9th December *(Indoor meeting, 7.00 for 7.30 start):* BCGS Members' Evening and Christmas Social.

Contributors are still needed for this event! Please contact Linda - details below

This is our annual chance for members to share their geological experiences in a sociable atmosphere with a Christmas buffet provided by the Society. We need a few of you to volunteer to do a short presentation - on any topic with geological connections; or perhaps bring along some of your specimens for admiration, discussion and identification. Please don't be shy about volunteering - this is an informal and relaxed occasion: the more contributions we have, the merrier the evening. Please contact our Secretary, Linda Tonkin if you can make a contribution to this event: secretary@bcgs.info

Monday 27th January *(Indoor Meeting):* 'Testing the Bytham River hypothesis'. Speaker: Professor Philip Gibbard, Cambridge Quaternary Department of Geography.

Monday 24th February *(Indoor Meeting):* Dr Alex Liu, (Henslow Junior Research Fellow Department of Earth Sciences, University of Cambridge) will give a talk about his research on the Precambrian of Shropshire (tbc).

Monday 24th March *(Indoor Meeting):* 'From the Depths: how Speleothems reveal Quaternary Climatic History'. Speaker: Professor Ian Fairchild, Head of School of Geography, Earth and Environmental Sciences, University of Birmingham

Monday 28th April *(Indoor Meeting):* 'Wine, Whisky and Beer: the role of Geology'. Speaker: Professor Alex Maltman, University of Aberystwyth.

Have a look at our website at: **www.bcgs.info**

Other Local Events

Saturday 12th October, 10.00 - 3.30: Wolverhampton Local History Fair at Wolverhampton City Archives, Molineux Hotel Building, Whitmore Hill, Wolverhampton, WV1 1SF. The event will feature stalls representing historical groups and societies from in and around the local area and family-friendly activities. BCGS will be there along with groups displaying a wide range of interests, including First World War history, needlework, and wild life. Refreshments will be provided by the Friends of Wolverhampton Archives & Local Studies. For further information see:
http://www.wolverhamptonart.org.uk/events/local-history-fair/

Other Societies

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

Geologists' Association Festival of Geology

Saturday 2nd November 10.30 - 4.30: Entrance Free! University College London, Gower Street, London WC1E 6BT. **Exhibitors** from the world of geology; **Talks** by Prof. Iain Stewart, Prof. Jane Francis, Dr. Suzanne Schwezner, Dr. Maria McNamara; **Discovery Room** with activities; **Building Stones Walk** around the university campus; **Amateur Photographic Competition.**

Sunday 3rd November: Field trips (£5.00 per trip for non-members): **London Building Stones Walk** led by Diana Smith; **Riddlesdown Chalk Pit near Croydon,** led by Prof. Rory Mortimore; **In Search of the lost river Tyburn** led by Diana Clements.

For further details see: http://www.geologistsassociation.org.uk/festival.html
phone: 020 7434 9298 email: festival@geologistsassociation.org.uk

Lapworth Lectures

Monday 7th October: 'The Extinction of the Dinosaurs'. Speaker: Dr Richard J. Butler, University of Birmingham.

Monday 21st October: 'The origin, ascent and eruption of kimberlite magmas'. Speaker: Tom Gernon, University of Southampton.

Monday 4th November: 'Forensic Geology'. Speaker: Dr Alastair Ruffel, Queen's University, Belfast.

Monday 18th November: Speaker: Dr Richard Walker, Oxford University.

Lectures at 5.00 in the Dome Lecture Theatre, Aston Webb Block A - Building R4, University of Birmingham. All are welcome to attend and there is no admission charge. For further information phone: 0121 414 7294 or visit: http://www.lapworth.bham.ac.uk/events/lectures.shtml

Manchester Geological Association

Saturday 19th October: Mineralization and Fluid Flow in the Peak District. Joint meeting with Yorkshire Geological Society. Venue: The Dome, Devonshire Campus of the University of Derby, Buxton. There will be a related outdoor meeting on Sunday 20th October in the Derbyshire Orefield.

Further information about outdoor meetings go to: http://www.mangeolassoc.org.uk/ or please contact Jane Michael by email: outdoors@mangeolassoc.org.uk Visitors are always welcome.

Shropshire Geological Society

Wednesday 13th November: 'Through the lens of the Geologists' Association'. Speaker: Dr Jonathan Larwood.

Lectures are generally held at Shire Hall, Shrewsbury, commencing at 7.15 for 7.30. A nominal charge is levied for attendance by non-members. Further info at: www.shropshiregeology.org.uk/

Teme Valley Geological Society

Monday 21st October: Talk by Alan Bowring, Development Officer for Fforest Fawr Geopark in the Brecons.

Meetings are generally held in Martley Memorial Hall, Martley. £3 non-members or join on day. For more details visit: http://www.geo-village.eu/ or contact Janett Maxwell-Stewart, 01886 821061

Warwickshire Geological Conservation Group

Wednesday 20th November: 'Greats of Midlands Geology': Prof. Peter Worsley will speak about Fred Shotton and **Dr Jon Clatworthy** about Leonard (Jack) Wills.

Venue: St Francis Church Hall, Warwick Road, Kenilworth CV8 1HL. 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.

Woolhope Naturalists' Field Club - Geology Section

Friday 18th October: 'Falkland Islands & South Georgia'. Speaker: James Cresswell.

Friday 22nd November: 'East African Rift'. Speaker: Dr Bill Fitches.

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

Mid Wales Geology Club

Wednesday 16th October: Geology of Eastern Greenland & Svalbard (Spitsbergen). **Speaker: James Cresswell.**

Further information: Tony Thorp (Ed. newsletter & Hon. Sec): Tel. 01686 624820 and 622517 jathorp@uku.co.uk Web site: http://midwalesgeology.org.uk

North Staffordshire Group of the Geologists' Association

Thursday 14th November: 'Where the woolly rhinos roam: Vertebrate faunal and environmental change during the last ice age'. Speaker: Prof. Danielle Schreve, Royal Holloway. (The Thirteenth Wolverson Cope Lecture.)

All talks are held in William Smith Building, Keele University, at 7.30. Further information at: www.esci.keele.ac.uk/nsgga/

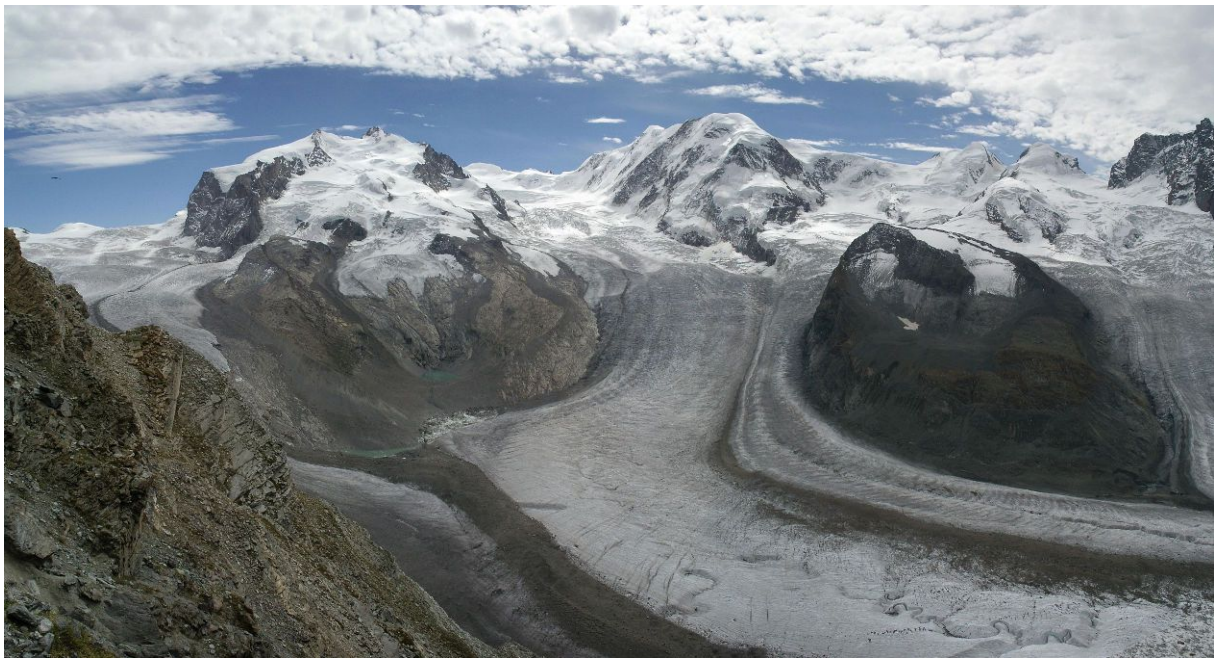
Geological Society, West Midlands Regional Group

Tuesday 15th October: 'The use of Quarried Stone as Leachate Drainage Media on a Landfill Site in the Middle East'. Speaker: Keiron Finney, Director, Exea Associates Ltd. Venue: Lapworth Museum of Geology. Refreshments will be available in the Museum from 6.00, following which the talk will commence in the adjacent Earth Imaging Lab at 6.30.

Tuesday 12th November: 'Helpston Groundwater Remediation Project'. Speaker: Leon Warrington, Hydrogeologist, Hydrock Consultants. Venue: University of Wolverhampton, Telford Campus 6.00 for 6.30.

For further details and enquiries, please contact the Group Secretary, Daniel Welch at: geolsoc_wmrg@live.co.uk

BCGS Success in Photo Competition



Geology in Motion 1st Place - Peter Twigg, Glacier at Monte Rosa Massif, Zermatt, Switzerland

3rd Place - Robyn Gillard, Ripples at Low Tide. Loughor Estuary, Wales

The 2013 Geological Society West Midlands Group Photographic Competition invited entries from the Geological Society London (GSL), the BCGS, and from students of the relevant departments of Birmingham and Wolverhampton universities. Awards were made in two categories: 'Geology in Motion' and 'Creative/Abstract Geology', with 1st, 2nd and 3rd prizes in each category and one 'highly commended'. ►

2nd Place - John Schroder, Volcanic Activity, White Island, New Zealand

Abstract/creative geology 1st Place Peter Twigg, Unconformity between ORS & Triassic Dolomitic Conglomerate, Portishead, Avon

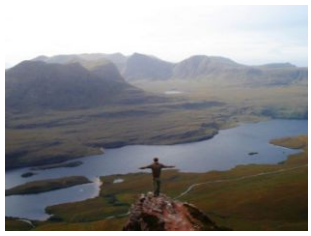
Peter Twigg receiving his prize from Dan Welch

The six winning images were displayed as part of an exhibition at Dudley Museum & Art Gallery during the Dudley Rock and Fossil Festival over the weekend of the 28th and 29th September, and the award ceremony took place on Saturday 28th in the Museum. BCGS members, Peter Twigg and John Schroder won 1st and 2nd prizes respectively, in both categories. The 3rd prize winner in 'Geology in Motion' was Robyn Gillard, with Jonathan Amos highly commended for his 'Glaciated Landscape', and Jonathan was also the 3rd prize winner in 'Creative/Abstract Geology'.

After delivering a vote of thanks to all present, Geological Society West Midlands Group Secretary Dan Welch presented the Awards to the winning photographers.

The Group wish to extend their thanks to Graham Worton (Keeper of Geology, Dudley Museum & Art Gallery), and all those behind the scenes at the Festival, for their help in hosting the exhibition. Why not enter yourself next year? ■

Dan Welch, Julie Schroder



Highly Commended Jonathan Amos Glaciated Landscape. Inchnadamph, Assynt

2nd Place - John Schroder Huge Concretion on the Beach. Moeraki, New Zealand

3rd Place - Jonathan Amos Towering Spires (Feet) of Red Sandstone. Gallego Gorge, Northern Spain

Dudley Rock & Fossil Festival

The BCGS stand at the Rock & Fossil Festival

BCGS made its mark on the Dudley Rock & Fossil Festival during the weekend of 28th and 29th September, with an eye-catching display including rock and fossil specimens, and plenty of items for sale. For the children, there was a quiz competition with goody bags and a free fossil for all those who took part. There was also an ingenious test devised by Roland Kedge which provided a lot of fun for families - and for those of us who were helping on the stand! Described in his words:

"Take three fist size pieces of Lickey Quartzite. Cut them down the middle. Smooth the six cut surfaces with different grades of Carborundum ►

Roland Kedge's touch sensitivity test

grit by working them on plate glass. And what do you get? A keen contest between parent and child as to who has the more sensitive finger tips. The task is to place the stones in smoothness order using only the sense of touch; finger tips, back of the hand or even the lips! A good little exercise on the BCGS stand and a good way in to talk about local rocks".

There was the usual variety of displays from other geological societies, breathtaking arrays of rocks, fossils and minerals, and geology-related art and jewellery for sale. A new venture this year was a series of lectures which were a very welcome addition to the Festival programme.

During the weekend we enrolled 15 new members to the BCGS, and we extend a warm welcome to them. We congratulate our members who were so successful in the photo competition (see above), and the Committee would like to thank those who worked so hard behind the scenes to prepare for the event, and those who gave their time to help on our stand. It was a most enjoyable and successful weekend for all those involved. ■

Julie Schroder, Roland Kedge

The Dinosaurs

This month's Newsletter follows in the wake of another successful Dudley Rock & Fossil Festival. Those who attended could not have failed to see the volume of fossil bones for sale or the impressive skulls of Tyrannosaurus, Allosaurus and Deinonychus on display from the Lapworth Museum. These specimens reminded me of my recent visit to the US and Washington DC where I had the opportunity to visit the Museum of Natural History, which forms part of the Smithsonian Institution.

Founded in 1846 The Smithsonian, as it is known, represents the world's largest museum and research complex, with 19 museums and galleries, the National Zoological Park, and nine research facilities. The National Museum of Natural History (NMNH), part of the Smithsonian Institution, opened in 1910, to house national collections and research facilities. The Museum's Hall of Palaeobiology takes the visitor through the evolution of life from almost 3.5 billion years ago to the present day. Displays include dinosaurs, ancient sea life, fossil plants and mammals. Impressive skeletons, notices, drawings and dioramas examine the dinosaurs, mainly those of N. America, how they came to be, how they lived and about their eventual demise.

For generations the dinosaurs have fascinated people, especially children, who can reel off long lists of exotic names such as Tyrannosaurus Rex, Pterodactyl, Woolly Mammoth and Ichthyosaurus. However, only one of these animals is a true dinosaur, the T-Rex.

Dinosaurs came in all shapes and sizes, had a varied carnivorous to herbivorous, and possibly insectivorous diet and lived alongside many other animal forms including reptiles (crocodiles, snakes tortoises and turtles), birds, fish and of course mammals.

They appeared in the Middle to Late Triassic, having split from their Archosaur ancestors, and soon came to dominate the continent of Pangaea. Through the Jurassic and Cretaceous periods their numbers and forms evolved in response to changes brought about by the breakup of Pangaea and the evolution of plants from gymnosperm (conifer type) plants to angiosperm (flowering) plants. When the end came the dinosaurs had lasted some 135 million years. ►

Dinosaur bones have been known since ancient times, however their significance was never recognised. Indeed the Chinese believed them to be the remains of dragons. Dr Robert Plot, Professor of chemistry at the University of Oxford, recognised the first dinosaur bone, in 1676, at Cornwell Quarry near Chipping Norton. Plot successfully identified his bone as the lower extremity of the femur of a large animal, which today is recognised as Megalosaurus. However, Plot could not relate it to any modern animal and so concluded that it belonged to a species of large human recognised in the Bible. Between 1815 and 1824, the Rev. William Buckland, a professor of geology at Oxford University, collected more fossilized bones of Megalosaurus and became the first person to describe a dinosaur in a scientific journal.

Whilst undertaking a study of Mid-Jurassic Oxfordshire faunas at University I came across an interesting puzzle surrounding Megalosaurus. It is known as a ‘bucket dinosaur’, since only individual bones have ever been discovered and never a complete skeleton. This poses an interesting question. Do the bones so far discovered belong to one animal or several different ones?

A catalogue of new dinosaur discoveries followed that of Plot and Buckland throughout the first half of the 19th century. These included Iguanodon by Mary Ann and Gideon Mantell (1822), Hylaeosaurus by Gideon Mantell (1833), Thecodontosaurus named by Henry Riley and William Stutchbury (1836), Plateosaurus by Hermann von Meyer (1837), and Cetiosaurus named by Sir Richard Owen (1841).

It was Gideon Mantell, with the help of George Cuviers, who first recognized the similarities between his fossil bones and those of modern iguanas. However, this did not prevent a long and bitter rivalry developing between Mantell and Sir Richard Owen, which lasted until well after Mantell’s death in 1852. Richard Owen coined the official name ‘Dinosauria’ (meaning 'fearfully great reptiles' or ‘Terrible Lizard’), in 1842.


Tyranosaurus Rex in the Smithsonian

The Great Exhibition of 1851 in Central London saw a huge display of technical, scientific, and trade goods. The highpoint was a geological garden with life size models of ancient fish, amphibians, marine reptiles, flying reptiles, and dinosaurs, which Richard Owen interpreted. Only a small mention was made of Gideon Mantell, which would not be rectified until the final downfall of Sir Richard Owen towards the end of the 19th century.

In 1861, quarrymen in a limestone quarry near Solnhofen, Bavaria discovered the complete skeleton of Archaeopteryx, which was important for providing the missing link between dinosaurs and birds.

Meanwhile in North America the first dinosaur remains were discovered by Ferdinand Vandeveer Hayden in 1854, during an exploration of the upper Missouri River. Hayden's party recovered some isolated teeth, which Philadelphia palaeontologist Joseph Leidy later described in the *Proceedings of the Academy of Natural Sciences of Philadelphia,* in 1856. Leidy went on to describe the first reasonably complete dinosaur skeleton the world would know, *Hadrosaurus foulkii*, in 1858, which was discovered in a sand pit in Haddonfield, New Jersey.

In the late 1870s an abundance of dinosaur skeletons discovered in the Garden Park area of Colorado and at Como Bluff, Wyoming, led to North America’s First Great Dinosaur Rush. This episode produced yet another bitter rivalry, between its two main palaeontologists, Edward Drinker Cope (Philadelphia) and Othniel Marsh (Yale University), as great as that between Mantell and Owen. However, the tremendous collecting efforts of these two palaeontologists opened up the fascinating world of the Late Jurassic and its largest dinosaurs, the sauropods.

The badlands of Red Deer River in southern Alberta became home to the Second Great Dinosaur Rush in 1910. This sparked another great, but this time friendly rivalry, between Barnum Brown of the American Museum of Natural History in New York and C.H. Sternberg of the Geological Survey of Canada. Unlike earlier efforts, this collecting provided insights into the world of the Late ►

Cretaceous. The Royal Tyrrell Museum, in the dinosaur mad town of Drumheller, Southern Alberta is well worth a visit to see the fearfully great reptiles that North America and Canada have to offer.

Several distinctive characteristics define the animals themselves. These include:

- Standing on erect, pillar-like legs directly beneath the body like mammals, as opposed to their Archosaur relatives whose legs were splayed to the side;
- This design helped dinosaurs to walk on land, which meant they were solely terrestrial creatures that did not live in the sea or air;
- According to the arrangement of the hip joint dinosaurs are split into two groups the Saurischia (reptile hipped) and Ornithischia (bird hipped);
- Like mammals the sacral vertebrae are fused to help support the weight of the tail.

According to Michael Benton (University of Bristol) classic dinosaur characteristics are, ‘a sacrum composed of more than two vertebrae, upright stance with a femur with a distinct ball head, a deep acetabulum, and hinge-like knee and ankle joints’.

Numerous research articles about the dinosaurs have appeared in scientific journals over the past twelve months. The latest findings include:

- How plant eating dinosaurs grew new teeth every couple of months to 35 days to prevent their dentures getting too worn down on too much vegetation;
- Why planned programmes to bring back extinct species are a waste of time;
- How the direct ancestors of dinosaurs flourished after the Permo-Triassic extinction;
- The discovery of the earliest collection of fossilized dinosaur embryos in China;
- New research into how dinosaurs, especially sauropods, had sex;
- How massive outpourings of lava may have been behind the Permo-Triassic extinction;

Stegasaurus in the Smithsonian

- How a mole-like mammal nicknamed the 'grave robber' *Necrolestes patagonensis* survived the extinction event that killed the dinosaurs;
- How a huge bollide impact may have helped the rise and fall of the dinosaurs;
- How sauropods flourished throughout the Cretaceous period and right up to the extinction event that ended the age of dinosaurs;
- The discovery of a new dinosaur species in Utah, *Nasutuceratops titusi*, unflatteringly known as, 'Big Nosed Horned Face' which lived approximately 76 Ma, measured approximately 15 feet in length and weighed approximately 2¾ tons;
- How traditional scaly depictions of the bird mimic dinosaurs, ornithomimids, are incorrect and how they should in fact be shown with feathers and having wings.

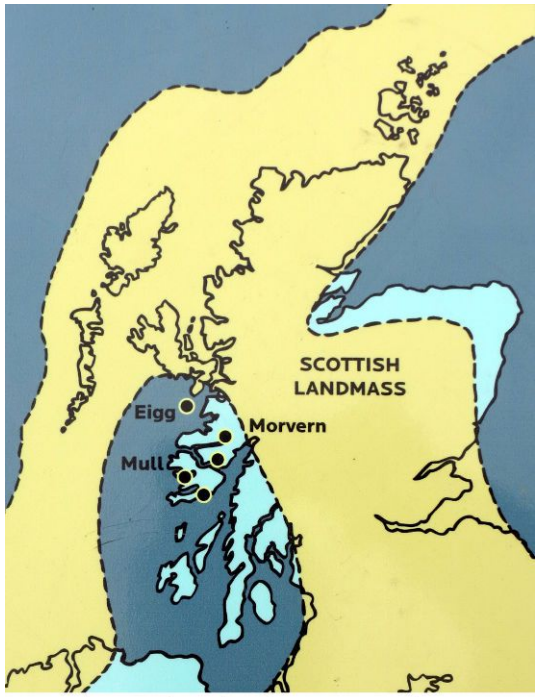
At the end of the Cretaceous, approximately 65Ma, the successful reign of the dinosaurs came to an end. It is believed that changing climatic conditions, likely associated with the breakup of Pangaea, were causing dinosaur numbers to fall towards the end of the Cretaceous. The impact of a bollide would thus have been the last resort for a species already under stress. ►

Today it is also generally accepted that whilst those dinosaurs too specialised to adapt died out, those that could adapt, namely the coelosaurs, evolved and survived. These survivors can be seen feeding in our gardens today, filling the air with song and show as much variety and wonder as their ancestors did millions of years ago. For of course 'birds' are the modern day equivalent of dinosaurs. ■

Andy Harrison

Mining for Sand?

It sounds absurd, doesn't it? With so much sand lying around at the surface all across Britain, why would anyone start digging underground for the stuff? But that's exactly what does go on, and on a considerable scale at that, on the shores of Loch Aline. Where's that? I hear you ask. Even regular visitors to the Western Highlands might be forgiven for not having come across this little gem of a place on the southern shores of Morvern, opposite the much more celebrated Isle of Mull (in fact there's even a short ferry crossing between the two, and what's more, it isn't operated by Caledonian MacBrayne - giving lie to the little ditty... "the world belongs unto the Lord, and all that it contains; except the Western Highlands, for they are all MacBrayne's"!).



When the Lochaline Sandstone was formed, Morvern was submerged close to the shores of a shallow tropical sea, an arm of the early Atlantic Ocean which was opening to the South. Land at the time is shown in yellow. The dots show localities where rocks of similar age occur.

But I digress! Back to geology and, in particular, to sand, or more correctly to a loosely cemented, very fine grained and well sorted sandstone. If the idea of a sandstone mine isn't surprising enough, then you might be still further surprised to learn that the sand in question is of Cenomanian age, which is about the same age as the far better known Chalk along our iconic 'White Cliffs of Dover' etc. It is only in this Hebridean realm where we get a glimpse of the margins of the great 'Chalk Sea' that once spread so far across Western Europe as part of the Tethys Ocean. Although far from proven, it seems likely that a low-relief landmass of some sort supplying a little sediment actually separated this area of sandy deposition within a fairly restricted gulf or arm of water from the main carbonate rich shelf-sea in which the Chalk accumulated, so the simplistic idea of the Hebrides forming a straightforward shoreline to the Tethys is probably a little wide of the mark. That rather eccentric doyen of Highland geology, Sir Edward Battersby Bailey, suggested way back in 1924 that the sand represented a fine windblown deposit derived from a nearby desert landmass but this idea seems to have fallen out of currency, perhaps because such an environment might be expected to produce a redder deposit much like the British 'red beds' of Permo-Triassic or Devonian age.

Sand mining at Loch Aline

Whatever the ancient geography may have looked like, there is no questioning the presence at Loch Aline of a considerable resource of incredibly pure silica-sand (typically exceeding 99.7% silica). It has been suggested that this degree of purity and the uniform nature of the deposit was achieved by post depositional reworking of the sand by shallow water currents and repeated rises and falls of sea level over a considerable period of time. The full extent of the deposit is unclear, but it certainly extends northwards for several miles. Rocks of similar age are also found on Mull but the bed of high quality sandstone is not so well developed there. At Loch Aline it attains a ►

thickness of around 12 metres in all, which includes discoloured brownish sands at top and base. It also includes some more strongly cemented 'ribs' of hard sandstone less suited to excavation, which do however form good horizons to work between. A reliably solid roof and floor facilitates a 'room and pillar' style of extraction that employs heavy machinery to excavate and transport the sand out of the mine.

Workings first began in 1940 when a 'home-grown' source of high grade silica was required to produce high quality glass used in periscopes and gunsights. When I first visited the mine in 1993 the manager told me their main customer at that time was Guinness breweries! Today the main end users once again include higher end markets such as laboratory glassware, solar panels and in the manufacture of silicon carbide abrasives. Operations ceased in 2008 (bad news for Morvern where employment opportunities are fairly limited), which explains why the place looked deserted when I passed by in 2010. Earlier this summer the scene had changed completely. The place was a veritable hive of activity with a fine array of explanatory information boards set up around the nearby revived mini-marina.

This chequered history includes periods of ownership by Tilcon and Tarmac. The new venture is a joint initiative of Pilkington's, the well known Merseyside glass manufacturing company and an Italian mining outfit who specialise in glass-sands. Production levels of over 100,000 t.p.a. are forecast, almost double anything that has gone before - a real boost to the local economy. ■

Mike Allen

Geobabble

By definition, members of the Society are keen on geology, but when it comes to taking holidays, how keen? Does geology dominate your holiday location and activities? The grade 1 geological holiday is taken with the sole purpose of looking at rocks, minerals, fossils, volcanoes etc. There are companies and organisations that run such breaks, and the Geologists' Association has been leading field trips for its members for several years. You will have expert leaders and the whole excursion is full of geology. This sort of trip is the ultimate experience for the Earth Science enthusiast.

The grade 2 holiday is normally a family holiday where the locality is not chosen purely for its geology. I have been on several of these when my family was young and wished to go to ‘the seaside’. You can then influence the locality so that good exposure is available; lovely beaches at Weymouth, Lyme Regis and the entire Dorset coast, so let’s go there. For this sort of break you would carry out lots or research before you go and take maps, guides and books to identify fossils and minerals. You might also smuggle into the boot of the car your hand lens and even a hammer. If this is a family holiday with children, you will also be introducing them to our wonderful science.

Danube gorge exposure near Melk

The grade 3 type is organised and arranged with no thought of the geology, but once you are there and start to see interesting exposures you will look at them and probably buy a guide locally about the geology. If you can get Wi-Fi and have the means of using a search engine you will find out more; you may even arrange a couple of geological detours. You will return with photographs and a few specimens. The bottom grade, 4, you try to forget geology and enjoy a relaxing holiday, if you can! ►

Gneiss used as building stone, Melk

Of course most people with an interest in geology are unlikely to take the same type of holiday every year, and my break this year was definitely grade 4. Having spent my life taking students on field trips to classic localities I try to get away from looking at rocks and relax on the beach, or visit interesting places. That is the general idea, but it does not always work, particularly when your companion knows you are a geologist. My wife and I went to Central Europe this year, and when you are in big cities you cannot but help to look at the building stone, and take pictures. We visited a monastery at a place called Melk, on the Danube. The river was in a steep sided gorge, and the rock was a light colour; in answer to the inevitable question 'What rock is that?' I hazarded a guess, from about 800 metres, that it was limestone, but when in the monastery much of the stone used in the building was a light gneiss. Make a mental note to look up the geology around Melk when I get home.

Paving cobbles in Sound of Music graveyard, Salzburg

Later we were in Salzburg in the graveyard where a tense part of the 'Sound of Music' was filmed. There was big tourist congestion and I created a mini bottleneck because I insisted in stopping and photographing the cobble pavement; “why is that crazy Englishman taking pictures of the floor?” It was raining and some interesting igneous rock types were on display. All this goes to show, is that an interest in geology never goes. However determined you are just to sit on the beach and sunbathe or read a good book, you cannot help having a crafty look at the cliff behind you. ■

Bill Groves

Editorial

The last few weeks have seen your Committee working hard behind the scenes in preparation for the Rock and Fossil Festival, which has been well documented in these pages, and which we feel was a great success for the Society. We now look forward to the Autumn programme, and within the next month there is a wide variety of activities with something for everyone we hope - firstly the field visit to Charnwood (20th October), then a welcome chance to gain some insight into the controversial process of fracking (indoor meeting, 28th October).

On 2nd November we resume our geoconservation work at a Himley railway cutting, a site which we have not previously visited. I hope that our regular 'team' of workers from last year will find their gloves and boots and be there ready for action, and I would like to take this opportunity to welcome warmly our new members, and to encourage you to take part in our geoconservation days. This work requires no previous experience, and is an opportunity to get to know other members of the Society whilst doing something to enhance and preserve our local geology, and learn about it as you work. Above all - it's fun! Come along and have a go!

Finally, it's time to consider whether you might have something to offer for the Members' Evening on 9th December. Bring your treasured rock and fossil specimens for all to see, or give a short talk about anything with a geological flavour. If you feel you have something to offer, please get in touch with our Secretary, Linda Tonkin as soon as possible. ■

Julie Schroder

Newsletter by email

If you are a member who receives a printed newsletter then you may prefer to see it in colour rather than black and white. If you send us your email address you can receive it as a colour pdf and this will save the BCGS the cost of printing and postage.

Please send material for the next Newsletter to:

newsletter@bcgs.info

42 Billesley Lane, Moseley, Birmingham, B13 9QS.

Members' Forum

Glengowla Mines, Oughterard, County Galway

On holiday in July on Ireland's beautiful west coast, we stumbled across the Glengowla Mines which are advertised as 'Ireland's First Show Mine'. The mines lie within the narrow belt of the Lakes Marble Formation to the east of Connemara, a highly folded unit within the precambrian Dalradian super group. During the Caledonian orogeny it was folded and extensively intruded by magmas of doleritic and amphibolite composition, and the scene was set for the extensive formation of mineral veins.

There was intensive mining for lead and silver from 1851 until the mine was closed abruptly in 1865: the miners turned up for work as usual, and were turned away without even being allowed to retrieve their tools and other personal possessions. Such heartlessness must have caused untold hardship for the rejected miners, but has left a uniquely undisturbed glimpse at their working methods and conditions.

A tour round the mine shows some spectacular exposures of the marble, plus dolerite intrusions and samples of the mineral ore. There is a fascinating museum display, and we were given a tour round the grounds by the enthusiastic owner, seen photographed by a magnificent specimen of the marble in the mine complex.

It's worth going out of your way to visit this fascinating place! For more information see: http://www.glengowlamines.ie/ ■

John with the owner and his grandson beside a large piece of Lakes Marble from the mine

John and Julie Schroder

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