



The
Black
Country
Geological
Society

NEWSLETTER No. 147 June 2001

The Society does not provide personal accident cover for members or visitors on field trips. You are strongly 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

SATURDAY 23rd JUNE 2001 A walk through time: an overview of the Malvens.

CANCELLED DUE TO FOOT & MOUTH RESTRICTIONS BUT REPLACED BY

An introduction to Hay Head, Cuckoo's Nook and Barr Beacon. Come and experience the newly opened geological trail at Hay Head (leader Alf Cole BCGS member.) Meet at 10 am for 10.15 start in layby on the B4151 Walsall to Sutton Coldfield road, between the Three Crowns Public House and Three Crowns Garden Centre - about 3km from Walsall town centre (NGR SP 052 982) Silurian, Carboniferous, Permian and Triassic strata to be seen on this trip, with the morning spent at Hay Head and Cuckoo's Nook, refreshment break at the Manor Pub on Park Road (limited food available or bring sandwiches) then afternoon taking in Daw End Cutting (from a distance so bring your binoculars!), Linley Woods and Barr Beacon to finish. The itinerary is flexible so come along for part of the day if you wish. Note that hammers are allowed on this trip although Alf recommends an old blunt knife for extracting fossils at Hay Head! Hard hats are recommended at Barr Beacon for those wishing to get a close look at the face of the cliff. (contact Alf on 01922 634899 for further details)

SUNDAY 8th JULY 2001 Creswell Crans, Nottingham. Sunday 8th July 2001
Creswell Crags, Nottingham. There is geological, archaeological, flora and fauna interest at this site. The Trust who runs the site is holding an Open Day which I'm told is not affected by foot and mouth restrictions. The leader will be the East Midlands Geological Society's magnesium limestone expert. This year the EMGS has offered to lead trips to interpret the geology in the gorge and will do a specific one for the BCGS. The leader will be Dr. Peter Gutteridge. We will also have a display interpreting the geology of the area with thin sections and seismic profiles. The event is part of the Creswell Crags Heritage Centre's Roadshow day when, if it is like last year, there will be Archaeological and Geological experts on hand to identify items the public bring along.

The site is of great importance pertaining to early man and ice age fauna and East Midland Geological Society has encouraged the trust to arrange trips into some of the caves to explain this and some of the finds that are in the site museum. If the Trust is able to arrange what the Society suggests, torches and hard hats will be

necessary and a small charge will be levied for the optional cave tour. Hammering is NOT allowed! The event starts at 11.00 and is open until 4.00pm. Geological tours are programmed for 11 am (advanced), 12.15 (beginners), 2 pm (beginners) but may be rearranged to suit BCGS members if necessary. BCGS members should visit the EMGS stand first on arrival.

To reach the site from M1 Jct 30, follow sign for Barlborough and A616 sign posted Clowne from which road the site is clearly signposted .i.e.Creswell HeritageTrust's Visitor Centre, Crags Road, Welbeck, Worksop, Notts. Telephone is 01909 720378

A packed lunch is suggested. There is parking on site.

SUNDAY 9th SEPTEMBER 2001 Ice. Water. Frost: the influence of the Ice Age on the landscape of East Shropshire. CANCELLED DUE TO FOOT & MOUTH RESTRICTIONS

SATURDAY & SUNDAY 22nd & 23rd SEPTEMBER 2001 Dudley Rock and Fossil Fair 2001 has had to be CANCELLED See item below for further details.

MONDAY 24th SEPTEMBER 2001 Lecture to be arranged

SATURDAY 13 OCTOBER 2001, Walsall Local History Fair 10am till 4pm

Walsall Town Hall, Leicester Street. Walsall

Admission free. A highly successful, enjoyable and interesting event last year - recommend it for anyone interested in Walsall or Black Country history/heritage.

MONDAY 29th OCTOBER 2001 Lecture: The disposal of carbon dioxide in spent oil wells - an ongoing experiment jointly funded by the USA. Canada and Europe. Dr Christopher Rochelle, British Geological Survey.

NOVEMBER 2nd-4th 2001. Geologists Association Festival of Geology - Earth Science Fair University of Liverpool. Our Secretary has some details from the Geologists' Association, which she will make available at meetings. Details on the event from Sarah Stafford of the GA on 0207 434 9298 (email geol.assoc@btinternet)

Briefly: Sat 3 Nov at the Foresight Centre: group displays, commercial exhibits, rock & fossil fayre, discovery room

Sat 3 Nov at Dept of Earth Sciences, Liverpool University - geology open day where several lectures will be presented by the dept (details later)

Sun 4 November field excursion programme

MONDAY NOVEMBER 26th 2001 Lecture: 'Snippets from a Suture' Gordon Hillier of Shropshire Geological Society.

EDITORIAL

This is my last editorial. What can I say? Firstly a big thank you to all who have helped over the last 10 years and sixty editions. I thank you to those who have so willingly written up lecture and field meetings and especially to those who volunteered to do so. To Sue Fairclough, always so patient with last minute changes, and those who sent, on time, items of programme. It has been a joy to be involved. There has always been such goodwill and enthusiasm from the members. Long may it continue. I'm sorry that my last newsletter has notice of more events cancelled due to events quite outside our control. Attempts will be made to fill in the gaps. I hope that my successor will get even more support from the membership and that BCGS will go from strength to strength. There is already one vacancy on the committee and I have no news of a new editor. Your society really needs YOU!

ANNUAL GENERAL MEETING 2001

The twenty fifth annual general meeting of the Society was held on 26th March 2001 at the Ward Arms Hotel Dudley. Twenty-six members were present with apologies for absence received from Peter Smith and Steve Powell.

Minutes of the 2000 AGM had been distributed, taken as read and approved, proposed by Alan Cutler and seconded by Gordon Hensinan. A statement of the accounts and treasurer's report was presented by Sue Fairclough, following which the chairman, Graham Worton, presented his Annual Report.

The chairman reported that membership levels had remained healthy with a slight increase in all membership categories from 1999 levels. This had again been evidenced throughout the year by enthusiastic attendance of meetings. The past year had been a particularly important one for the society, with a number of special events organised to mark the society's 25th anniversary. Society members had, once again, various conservation activities. The Chairman's report and statement of accounts was proposed by Steve Hughes and seconded by Bob Fairclough.

The following changes were made to the offices and the committee of the society. Catherine Eales resigned as Field Meetings Secretary and was replaced by Andrew Rochelle, proposed by Sarah Worton and seconded by Sue Fairclough. As a result of the above, the committee is currently short of one 'ordinary' member. The 2001 members are currently:

Chairman:	Graham Worton	Vice-chairman:	Alan Cutler
Treasurer:	Sue Fairclough	Secretary:	Sarah Worton
Meetings:	Gordon Hensman	Field Meetings:	Andrew Rochelle
Members:	1 vacant position	Peter Smith	Alf Cole
Auditor:	Martin Normanton		

At the end of the meeting the chairman informed the membership of the committee's intention to award small bursaries to two student (group) members of the society who are raising money to take part in geological expeditions. Funding for these awards would be sourced from monies paid to the society for conservation work. Paul Shilston thanked the members involved in this conservation work for donating the money to society funds and by doing so making such awards possible.

Sarah Worton

REPORTS

Bringing Dinosaurs to Life

Monday 26 March Lecture: "Bringing Dinosaurs to Life" by John Martin. Managing Curator, Leicester City Museum.

Is the Lion-dragon statue in Beijing an early attempt to reconstruct an animal from fossil bones? Is a seventeenth century dragon from Rhodes another attempt at palaeontological reproduction? An enormous shark tooth found high in the Swiss Alps was interpreted as a shark of enormous size. demonstrating the scientific technique of interpreting fossils by analogy with living things.

At the Great Exhibition of 1851 Crystal Palace Park was home to three-dimensional reconstructions of the dinosaurs with which we are familiar. Richard Owen, founder of the Natural History Museum, invented the Class dinosauria and recreated the Jurassic and Cretaceous world, and being a great publicist, even held a dinner within a mould of a dinosaur.

John Martin emphasised how belief and philosophy influenced the nature of the reconstructions. Thomas Hawkins collected marine fossils from the Lias and his lithographs were designed to illustrate the variety of God's creation. Richard Owen, although a brilliant anatomist, was also not an evolutionist so his reconstructions were highly developed, mammalian like, warm blooded, perfect: not steps on the ladder of evolution. Conversely, the evolutionists drew them as primitive and lizard like.

In the 1940s, the big brachiosaurs were regarded as being too heavy to support themselves out of water. In fact it has now been established that Brachiosaurus could not have breathed under such depth of water as was depicted. The 1970s had better fossil specimens. Bob Backer, in the USA developed the all singing all dancing dinosaurs standing on two legs.

(Early hominids were treated in a similar manner, and were subjected to PC (handsome) and non PC (ugly) reconstructions.)

The type specimens of Brachiosaurs were discovered in the 1910's. The osteoderms were loose. Where should they be placed? O.C.Marsh placed them upstanding in a line along the creatures back. Others had them Wag flat all over the body. Or were there two rows of vertical plates? By the 1990s they were back in a single row again. Too often ideas were simply copied without any reference to scientific evidence.

The Mantel Iguanodon was reconstructed to a length of 30 metres from a single tooth, by scaling up size from an iguana.

A scientific method should fit the fossil bones together, put the muscles as dictated by their scars and pits, and then add the skin.

John Martin developed these ideas with close reference to the Stegosaurs with which he has a research interest stemming from an interest in a femur of a Sauropod in Leicester museum. Mostly the bones are smooth and you can't see the muscle scars. One large groove on the femur marked where a huge muscle attached the root of the tail to the leg. Leicester museum had a whole column of neck vertebra and hung them for an exhibition and in order to get them to articulate altered the length of string hanging each bone until the Sauropod neck had been accurately engineered. With the help of a German palaeontologist they used biomechanical principles to establish the limits of mobility of the Sauropod. It was established that the neural spines which lie above each vertebra have pits front and back into which overlapping ligaments working by tension would brace the neck vertebra. Strange ribs underneath the vertebra were muscle attachments which working by compression stopped the overlapping ribs from collapsing. The maximum lateral and vertical movements of neck and head were an arc 3.5 metres in circumference which seriously limited the creature's ability to "sing and dance" as reconstructed by Bob Backer.

The crocodile has a similarly braced skeleton.

The Sauropod had interspinal air sacks, one at the top and one either side of the vertebra. The evidence is there in the bones. The air sacks may have had a mechanical function and been partially segmented and interlinked by valves.

Where are the nostrils? Great big holes are found high on their forehead. Tapirs have them in a similar position. Did the Sauropod have a proboscis? A forensic scientist from Manchester University reconstructed the face from the musculature and a proboscis seemed likely. The sauropod thus fed through a vacuum cleaner with a hose.

Could they control their temperature? By the end of Cretaceous they were to be found living within the Arctic circle so, in the dark, warm blood would be essential.

All the problems have not been solved but modern reconstructions based on close scientific anatomical studies eliminate some of the wilder speculations of earlier times.

Kate Ashcroft

OTHER NEWS ITEMS

Cancellation of the Rock & Fossil Fair. Graham Worton writes, "It is with great personal sadness that I have to report:

Postponement of the 2001 National Rock & Fossil Fair. This is due to the discovery of dry rot beneath the floors of two of our downstairs galleries at Dudley Museum. It is believed that this was caused due to the corrosion of cast-iron water pipes that have caused localised damp patches beneath the floor where they have slowly leaked for perhaps many years. The disruption that is inevitable now to deal with this has forced the team at the museum to reconsider and adjust the entire exhibitions and events programme for the short and medium term. I should point out that this does not affect the fossil store so the heritage collections are safe!

The problem is one however which demands immediate and substantial action. This will include the removal of the Time Trail in its entirety and additional major structural works to parts of the currently unexposed cellars of the museum. There are uncertainties about the timing and precise extent of the works required. As such we cannot guarantee that we can return the museum to a fit state for the fair within the time available. This issue (and immediately related matters) also demand a considerable staff time commitment which will also heavily impact on the preparations needed to ensure that the fair is of the high standard expected. Under these trying circumstances, we have considered alternative dates but given

the levels of uncertainty and the need for a long period of notice to get the word out there, I have decided to push this back to the same time next year until the weekend of 21/22 September 2002.

The problems that confront us now do have a silver lining. I will be able to change many elements of the Time Trail in order to bring it up to date, provide elements that change regularly and make it much more interactive.

There is also a real possibility that the Tourist Information services for Dudley will come to the museum in due course and may allow us to carry out other structural changes to improve the building for visitors. Given present circumstances now might be a suitable time to look into this.

Future BCGS Indoor meetings at the museum.

I am assured that the problem does not extend or affect any of the upper galleries and so should not affect the societies future use of the museum for our indoor meetings programme. although the gallery that we use may change as the works is completed.

At the moment we have an exhibition (upstairs in gallery 4) called 'Space 2001' - Reaching for the Stars, which tells the story of spaceflight and features large models (including a 6m high Saturn V rocket, a spacesuit, a suite of meteorites and a robot Mars lander) Details attached.

The Dudley museum website is also now up and running. This features all sorts of things from information about the collections to kids competitions relating to the various exhibitions that we have recently staged. Why not visit it

On the main Dudley site we have been hosted under the 'tourism' banner so if you go into the main site and click on tourism you can get to us this way as well! Have a look and let us know what you think" Graham W

'Space 2001- Reaching for the Stars' exhibition opened on May 26th 2001 and runs until October 135 2001. This tells the story of humanity's struggle to reach beyond the thin veil of the atmosphere of Earth to explore (and possibly exploit) the universe beyond. This story began in the Second World War and looks to the future with plans for landing people on Mars and taking space holidays. The exhibition features artefacts of the space programme including space food, models of spacecraft, including a six metre high Saturn V launch vehicle, and a working robot Mars lander. There are TV and audio clips, CD-Rom interactives, a kids activity area and gallery worksheets. There is also a selection of meteorites on display. To accompany the exhibition there will be a number of guest lectures, activity days for families and school supporting literature and talks.

Any 'Hercynophiles' who have done the South-west and even Brittany to the very mantle and are now contemplating an unofficial Spanish field-trip to Galicia could geologically enhance their itinerary by prior consultation of a website we were guided to by Copernic search engine, namely 'Rocas de Galicia'. We reckon it served us pretty well. Yes, the text is not available in English but "Los complejos ofiolíticos se sitúan en la parte superior." For example, can be reasonably well interpreted, we think! In any case, the schematised geological maps included have a comprehensible key and the 'photographs' of sites and minerals are exceptionally clear. My geological problems tended to start at the rock face: could that be andalusite or is it kyanite? Some tourmaline or hornblende? But then it's fairly new to me!

That was why we were so glad that the Rocas de Galicia website mentioned 'O Museo de Mineráis de O Porrino'

- good samples relevant to the area, well lit and with more detailed geo-maps available for reference. It was very aptly sited, for as the cover of the town info' booklet says: "Porrino - the world capital of granite."

We looked in at the pink granite quarries and were allowed some samples. The website map has them down as granodiorite but is that catchy enough to sell?

The museum? In the town, open till 7-00 pm. When you find the Townhall just ask at the newspaper kiosk for the Museum - and buy a local paper, he's a nice guy! CM & KMA

Editor:
K. M. Ashcroft

Hon.Secretary:
Dr Sarah Worton