



NEWSLETTER NO. 131

OCTOBER 1998

The Black Country Geological Society

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

Lecture meetings are held in the Banquet Room (Dudley Suite) at the Ward Arms Hotel, Birmingham Road, Dudley. Phone: (01384) 458070. 7.30 p.m. for 8 o'clock start.

MONDAY 5th OCTOBER Lecture: "The Importance of Black Country Geology" by Graham Worton. *(Colin Reid will also describe geology in Dudley's World Heritage bid)*
Graham Worton writes "The Black Country has long been hailed as an area of outstanding geology. The rocks are the very heart of the World Heritage Bid for Dudley. I will describe how very special this precious heritage is, and describe new and novel dynamic ways to promote and conserve this legacy."

14 - 15th OCTOBER Symposium at Cardiff organised by English Nature entitled 'A Future For Fossils.' Contact Dr. Jonathan Larwood for details. Tel. 01733 455155. A copy of the programme is available from BCGS Secretary or Newsletter Editor.

SATURDAY 17th OCTOBER Open day at Halesowen College. New exhibits within the Department such as flume tank and a sedimentation tank, along with a variety of fossil and mineral specimens, maps and laboratory equipment. Come along and support the new and expanding department, learn of new courses and see exciting experiments in geology. Halesowen College Geology department are Society Members and need our encouragement and support.

SATURDAY 17th OCTOBER at the Lapworth Museum, University of Birmingham. Geologists' Association and the Dinosaur Society of the U.K. British dinosaurs - their life and times. Contact The Dinosaur Society UK., P.O. Box 329, Canterbury, Kent CT4 5GB.

MONDAY 26th OCTOBER. Lecture: "Glimpses of Namibian Geology" by Dr. A.C. Waltham.

Tony Waltham writes "Precambrian metamorphics in coalesced cratons dominate Namibia's geology. For those not into such basement complexity, the Karoo cover and a series of spectacular geomorphological features provide a magnificent treat for the geological visitor to this lovely country. Wild deserts, wild coast and wildlife offer endless variety, and an interlude across the border takes in the diamond pipes of Kimberley."

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Dip.COT., SROT.

DR. TONY WALTHAM is a senior lecturer in engineering geology in the Civil Engineering Department of Nottingham Trent University. Research interests in karst and ground subsidence are frequently allowed to give way to the sheer joy of seeing new places around the world, and chasing new sites for Geologists' Association tours is a major pastime.

MONDAY 9th NOVEMBER. Lecture: "The Miravalles Geothermal System, Costa Rica". By Dr. C.A. Rochelle (British Geological Survey, Nottingham).

Dr. Rochelle is Senior Scientist within the Fluid Processes and Waste Management Group of the Geological Survey. He began studying the Miravalles Geothermal system as part of his PH.D., jointly based at Leeds University and the Geological Survey. The Miravalles Volcano lies in N.W. Costa Rica in the centre of an interoceanic volcanic island arc (the Isthmus of Panama) between the Pacific Ocean and the Caribbean Sea. The geothermal system lies within lava and tuff deposits infilling a collapsed crater. Today it produces about 10 % of Costa Rica's electricity and Dr. Rochelle will tell us how researchers establish the thermal evolution of the system and assess the prospects for electricity production in the future.

MONDAY 30th NOVEMBER. Lecture on mineralogy by Spencer Mather (Society Member).

Garnets are one of the principal gemstones and are composed of isomorphous silicates, all with the same crystal structure, all built up as isotrahedra, with varying amounts of iron, aluminium, chrome, calcium, magnesium, manganese and some rare earths. They are found in a variety of different geological environments and this is an important aid to their identification. They are used in the manufacture of high quality sandpaper as well as in jewellery.

Spencer Mather is a Society member and has previously talked to the society about minerals in Norway. He is writing a book on garnets. He will bring about forty garnet specimens with him. Some will be for sale: proceeds to BCGS.

MONDAY 25 JANUARY 1999 Lecture: Dr. Paul Smith. This is the lecture unavoidably cancelled on 19th January this year. "Hunting the Snark - the geology of the northernmost Caledonides."

Dr. Paul Smith writes: "Caledonides are the remains of huge mountains thrown up during the Caledonian orogeny, around 400m years ago at the end of the Silurian. At that time, due to plate movements, Scotland, Greenland and Norway were close together so that the Caledonide belt after leaving the Scottish mainland passes across Shetland and continues up the Atlantic coasts of Norway and Greenland. Until recently the Greenland Caledonides were poorly understood - a direct consequence of their remoteness, difficulty of access and the mountainous, ice-covered terrain.

The northernmost part of the Greenland Caledonides lies at 81 deg North before disappearing into the Arctic Ocean, and the talk will compare the geology of this remote area with the more familiar geology of north-west Scotland. The area is part of the world's largest national park and the nature of the fauna and (limited) flora will be examined, together with the logistics of working in one of the world's remote areas."

Dr. Paul Smith is Curator of the Lapworth Geology Museum at Birmingham University and is also on the Academic Staff of the School of Earth Sciences. His special interests are the Geology of Northern Greenland and the Development of Fish in Palaeozoic times; he lectured to the Society on this last subject in 1995, so now he will speak to us about his researches in Greenland. He is a good friend of this Society and is one of our own members.

MONDAY 8th MARCH 1999 7.45 p.m. ANNUAL GENERAL MEETING.

Followed at 8pm (approx.) by a lecture: "The Failed Sellafield Deep Nuclear Waste Repository Project." by Colin V. Knipe, B.Sc., C. Eng, C. Geol, M I Min.E. MIMM, F.G.S., Senior Partner, Johnson, Poole and Bloomer, Land Consultants.

Colin Knipe was appointed by the Department of the Environment to be the Technical Assessor to assist the Inspector and Assistant Inspector at a planning inquiry into the refusal by Cumbria County Council to permit U.K. Nirex, the national nuclear waste disposal executive, to construct a deep underground exploratory mine in the Borrowdale Volcanics at Sellafield. This "Rock Characterisation Facility" was intended to be a large scale test bed for the construction and hydro-geological modelling of a deep nuclear waste repository. The 66-day enquiry heard evidence on an amazing array of geological and other scientific research relating to the site and its suitability over a time scale of millions of years to host a waste repository. On the strength of the Inspector's and Colin's reports the Secretary of State, John Gummer, rejected the scheme in March 1997 throwing the whole future of U.K. nuclear waste disposal into turmoil.

MUNDAY 29th MARCH 1999 Lecture 'Permian Seas, Triassic Desert, Devensian Ice, and Houses in Holes in North Yorkshire' by Dr. Anthony Cooper, British Geological Survey. Permian and Triassic sequences crop out along the western margin of the Vale of York. They illustrate the evolution from a desert land surface to the enclosed evaporitic Zechstein Sea (with several cycles of evaporite deposition) through to the desert environment of the Triassic sandstones.

Partially concealing the solid rock, the Quaternary deposits along the margin of the Vale of York record the evolution of the Devensian glaciation. Buried and diversionary valleys cut through the Permo-Triassic sequence exposing the rocks in places like the Knaresborough gorge. Moraines and eskers parallel the margins of the ice sheet and give a distinctive morphology to the area.

The geological legacy of the Devensian buried valleys and the presence of two thick gypsum sequences in the Permian succession results in spectacular natural catastrophic ground subsidence. This is caused by gypsum dissolution underground and the collapse of caves, especially around Ripon, North Yorkshire. Here holes up to 35 metres across and 20 metres deep have appeared often without warning! In the past 150 years, 30 major collapses have occurred, houses have fallen into holes and locally about a million pounds worth of damage has occurred in the last decade.

Dr. Cooper has 22 years experience in the investigation, interpretation, engineering geology and hazard assessment of subsidence caused by gypsum dissolution. He is advisor to industry and government on investigating and planning for gypsum geo-hazards.

EDITORIAL

Enjoying the twin benefits of retirement and motor caravan, I have travelled widely in the British Isles this year and, paying particular attention to the Precambrian, taken a delight in the rocks on view at archaeological sites. The outstanding memory is from last February, that of the Callanish stone circle in Lewis in the Outer Hebrides. The shapes and texture and the interrelationships between the stones and the way the light played on them was quite magical. I've just returned from Anglesey where we measured the hours by our visits to burial chambers and hut circles made of huge blocks of Carboniferous Limestone and Precambrian schist and lava. Wood, organic matter and textiles decay but the huge stones laid down 5000 years ago stay in position unmoved and can fire our geological imagination as they seem to have done those of our distant ancestors. The Celtic saints established lonely, simple early churches on North Uist, remote Dingle in west Kerry and eastern Anglesey and, because they were built of stone, they still witness to the faith of those courageous and learned holy men.

There is irony then, in that we, in the densely populated West Midlands, have to use so much energy, knowledge and concern to ensure the preservation of the sites of geological importance most exposed by the works of man (mining, quarrying and road building) in the first place.

OBITUARIES

It is with great sadness that we have to announce the death of Dennis Wood of Knowle, a loyal member for ten years. Dennis had a wide range of interests in the natural world, particularly in horticulture and also astronomy. However he came 'down to earth' often enough to attend BCGS lectures and field meetings on a regular basis and to provide well researched reports for the newsletter. Our friend Dennis will be missed and we offer our heartfelt sympathy to his widow Lillian.

Ann Nicholds.

Sheila Pitts, a founder member of the society, died on the 25th of September. Sheila was an ophthalmologist who took an external London degree in Geography and Geology and demanded that the University set a special paper for her on the option of Arctic exploration. Sheila was a great traveller with a driving passion for the Arctic and Antarctic wastelands and she returned earlier this year from a journey along the southern end of the Mid Atlantic ridge. She lectured to the Society on a number of occasions, attended meetings very regularly and was editor of this newsletter for many years. She had many close friends among the Society's members, kept up a meticulous correspondence with past members and will be sorely missed.

Kate Ashcroft.

CONSERVATION COLUMN

You may have noticed that when the north wind heralds the onset of the winter months we roll up our sleeves and do some conservation fieldwork. In the halcyon days of summer (Where has Graham been this summer? Ed.) we seem to spend our time talking about conservation and planning. This may seem like some bizarre inverse seasonality, but for geology, this is pretty much as it should be.

In the winter months, the leaves have fallen and the full glory of the rocks shine forth. We can see more clearly what work needs to be done and Mother Nature lends a hand. Summer is the domain of biology where the urgency of today's living world predominates. Winter is the domain of geology where the landscape is unveiled and the rocks and their landforms dominate the view.

Sometimes the timescales of humans disrupt this natural order. Alan and I have recently been called to tackle the summer bramble and nettle jungles of Dudley's wild places for the cause. We have visited 26 sites as part of a review of conservation sites for the Unitary Development Plan (UDP) review. That is to say, we have taken part in an exercise with our biological colleagues to determine which sites justify planning protection as Sites of Importance for Nature Conservation (SINCs). This is a very important collaboration which benefits biological and geological interests alike.

In the process two sites (Hayes Cutting and Tansley Green Claypit) have such special geology that we have recommended that they are put forward as candidates for SSSI status. Upon validation by English Nature these sites will gain full protection under Environmental Law.

The Society continues to foster strong links with many other local and national bodies involved in conservation across the U.K. This was particularly demonstrated at the first national RIGS, (Regionally Important Geological/Geomorphological Sites) conference in Worcester. Society members chaired sessions, presented papers and participated as delegates in workshops. BCGS also had its display stands throughout the conference. This was a highly emotive meeting of minds with a considerable exchange of knowledge and opinion. I have no doubt that the debate it has stimulated will rage for some time and know that the BCGS in the form of Alan Cutler will be fully involved in the determination of the future direction of the RIGS movement. Our congratulations and sincere thanks go to Peter Oliver and others for all the effort, enthusiasm and expertise that they poured into this event to make it such a provocative and stimulating success.

On the international front, BCGS also hosted the Zambian official responsible for the protection of Zambia's sites of natural heritage. Kagosi spent a full day in the Black Country and saw much of what we do to protect and promote our sites. I believe he took many ideas with him to Africa and his good wishes go to all society members.

The collections have also been flourishing in the summer months thanks to Colin Reid and his colleagues at Dudley Museum. The museum has received formal registration. This acknowledges that the museum meets the professional standards of collections' care and management that will secure its future support. Well done to all concerned!

Fieldwork dates for those chilly but necessary winter months will be announced at the meeting on 5th October so now is the time to dust off your thermals, get out your thermos and prepare for an exciting winter.

Graham Worton.



TO EVERYTHING A TIME AND SEASON !

ITEMS IN BRIEF

- 1 Welcome to new member: Liz Sollars of Alverly, Shropshire.
2. Geologists' Association "Earth Alert Conference." We are to receive a bimonthly update on the Geologists' Association millennium plans especially those for the "Earth Alert Conference" to be held at the Brighton Centre, May 26th - 30th, 2000. Plans are well ahead and an impressive array of speakers have agreed to talk. A preliminary conference programme is available from BCGS Secretary or Newsletter Editor.

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