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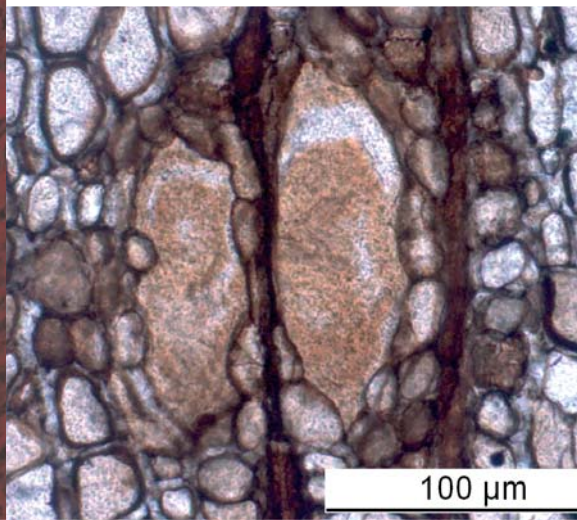


YORKSHIRE GEOLOGICAL SOCIETY

President: John Powell Ph.D.

VEGETATION & THE EARTH SYSTEM: EVOLUTION, ECOLOGY & ENVIRONMENTAL CHANGE

*Resin canals in
Cretaceous piceoxylon wood
x 20 magnification
© M. Harland*



SPEAKERS: CHARLES WELLMAN, UNIVERSITY OF SHEFFIELD
CHRIS CLEAL, NATIONAL MUSEUM OF WALES, CARDIFF
MELISE HARLAND, UNIVERSITY OF LEEDS
GUY HARRINGTON, UNIVERSITY OF BIRMINGHAM

14.00 TO 16.50 SATURDAY 18th FEBRUARY 2006

DAINTON BUILDING, BROOK HILL, SHEFFIELD UNIVERSITY

VEGETATION & THE EARTH SYSTEM: EVOLUTION, ECOLOGY & ENVIRONMENTAL CHANGE

14.00-16.50 SATURDAY 18th FEBRUARY

Environmental and climate change are among the key issues facing mankind at the beginning of the 21st century. As a major component of the Earth's biosphere, the terrestrial vegetation is affected by such changes, but also exerts an influence on the environment through biogeochemical cycles and its influence on climate. The four talks presented at this meeting will consider aspects of the relationship between terrestrial vegetation and the environment during periods of change through geological time, including the contribution that palaeobotanical studies can make to climate modelling, from the emergence of a terrestrial vegetation during the Middle Ordovician, some 470 million years ago, to the effects of climate change on community structure and composition at the Paleocene-Eocene boundary, 55.5 million years ago.

14.00 - 14.05 Introduction and Society Announcements

John Powell Ph.D

14.05 - 14.40 The origin and early evolution of land plants: palynological and palaeobotanical evidence

Charles Wellman, University of Sheffield

14.40 - 15.15 What caused the collapse of the Late Carboniferous coal forest biome?

Chris Cleal, National Museum of Wales, Cardiff

15.15 - 15.40 Tea and Coffee

15.40 - 16.15 Cretaceous polar forests: composition, life span and climate

Melise Harland, University of Leeds

16.15 - 16.50 Vegetation community responses to rapid warming at the Paleocene-Eocene boundary

Guy Harrington, University of Birmingham

GETTING TO SHEFFIELD UNIVERSITY

Park and Ride

The most convenient way to get to the University if arriving by car. The University is well served by trams connected to park and ride facilities at Middlewood and Nunnery Square (off the A630/A57/A61 Parkway).

By Car - From M1, M18

Leave the motorway at Junction 33, following the City Centre signs along the dual carriageway A630/A57/A61 Parkway, which ends in a large roundabout - Park Square. Take the third exit, the A61(S) (Sheaf Street) following the Ring Road signs, passing the railway station on the left. Stay in the centre lane approaching the Sheaf Square roundabout, take the first exit into Suffolk Road, again following signs for the Ring Road. Turn right onto the Ring Road and follow signs for the University. Continue straight on as far as the third roundabout - Brook Hill roundabout.

From the West (A57)

Follow the "City Centre" signs. The route continues to Western Bank, a main road that runs through our campus, and the University is signposted for the last mile.

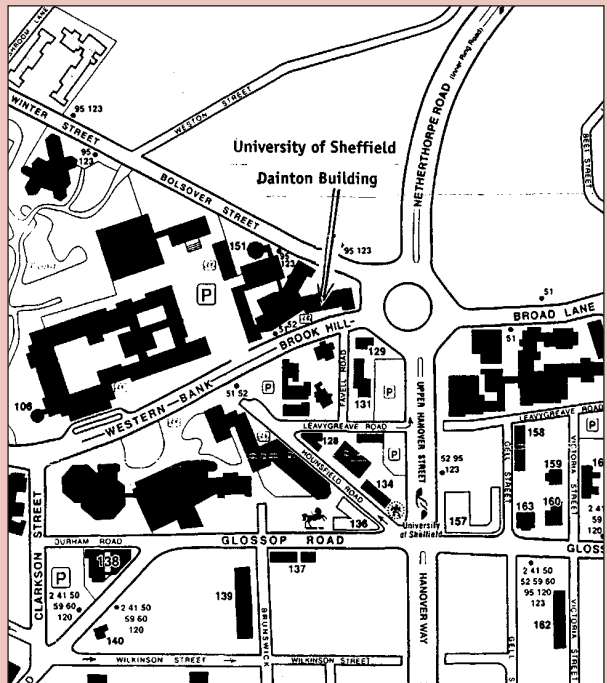
By Train or Coach

By Train.

Regular services operate between Sheffield and London St. Pancras (2.5 hours), Birmingham (1.25 hours), Leeds (1 hour) Manchester (1 hour) and Nottingham (1 hour). There is a direct link from the railway station to the Sheffield Station Supertram stop via the main overbridge; the 60 bus runs from outside the railway station.

By Coach.

National Express operates a comprehensive coach service from most parts of the country to Sheffield Transport Interchange, Pond Street. The 60 bus runs from the Transport Interchange, and there are Supertram links via the railway station (platform 6b) and Commercial Street. Other buses from the city centre include the 51 and 52.



THE ORIGIN AND EARLY EVOLUTION OF LAND PLANTS: PALYNOLOGICAL AND PALAEOBOTANICAL EVIDENCE

Charles H. Wellman

Dept. of Animal & Plant Sciences, University of Sheffield,
Alfred Denny Building, Western Bank, Sheffield S10 2TN, UK

The origin of land plants was one of the most important events in the history of life on Earth. It is of immense evolutionary significance as it represents the origin of one of the three kingdoms of multicellular life. It is also significant in terms of the environment of planet earth, as the origin and subsequent evolution of terrestrial vegetation had profound influence on biogeochemical cycles, effecting atmospheric composition and climate, patterns of weathering, erosion and sedimentation, soil formation etc. In view of its overwhelming significance, research into the origin and early evolution of land plants has been a long standing scientific concern. It embraces many fields including the study of extant plants, fossil plants and past environments. This talk will consider the fossil record of the earliest land plants. Early land plants have two fossil records: relatively complete plants (the megafossil record) and dispersed spores and fragments (the palynological record). The early land plant megafossil record is poor and biased, particularly against the preservation of non-vascular plants that lack recalcitrant tissues. On the other hand, the palynological record is relatively good, because the spores and fragments are produced in vast numbers, easily dispersed and have high fossilization potential. From their first appearance in the Mid Ordovician there is a continuous dispersed spore/pollen record through to the present day. This presents the opportunity to analyse the timing of the origin of land plants and subsequent patterns of evolution, biodiversity and phytogeography. Consequently palynological research has been critical in developing our understanding the origin and adaptive radiation of land plants. This talk will describe the fossil record of early land plants and summarise our current understanding of the invasion of the land by plants.

WHAT CAUSED THE COLLAPSE OF THE LATE CARBONIFEROUS COAL FOREST BIOME?

Christopher J. Cleal

Department of Biodiversity & Systematic Biology,
National Museum of Wales, Cathays Park, Cardiff CF10 3NP
E-mail chris.cleal@museumwales.ac.uk

The Pennsylvanian (Late Carboniferous) palaeotropical coal forests have been studied more intensively than any other fossil plant biome, partly due to the economic importance of the fossil fuels with which they are associated. However, our understanding of the palaeoecology of the forests remains incomplete. In particular, we do not really understand how and why the forests underwent such a dramatic contraction in their geographical extent towards the end of Moscovian (late Westphalian - early Stephanian) times. IGCP 469 (*Late Variscan terrestrial biotas and palaeoenvironments*) is an international project that is attempting to obtain better insights into what happened at this critical time in Earth history. By integrating data from the macrofloras, palynology and faunas, and then comparing the results with evidence from sedimentology, it is hoped that we can identify more clearly the pattern and timing of the environmental changes taking place. This in turn may perhaps allow us to identify what was driving the change in conditions that hindered the growth of the forests.

CRETACEOUS POLAR FORESTS: COMPOSITION, LIFE SPAN AND CLIMATE

Melise Harland
University of Leeds

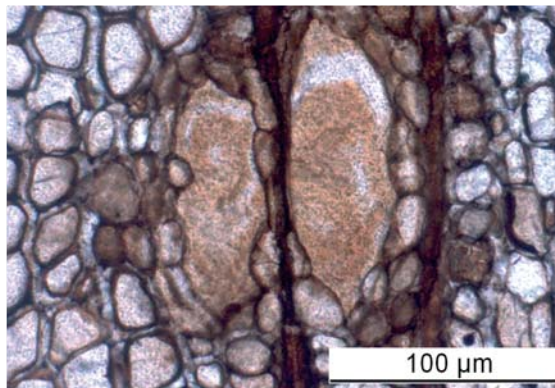
Fossil wood is abundant at high latitudes during the Cretaceous providing evidence for forests growing in these regions at times of greenhouse warming. However, computer climate models commonly generate ice-covered polar regions. This contradiction may be due to the lack of realistic vegetation in the models. Fossil conifer wood was identified from mid-Cretaceous sediments of the Canadian Arctic, Svalbard, Australia and Antarctica. A new technique was developed to determine the leaf habit (evergreen or deciduousness) and leaf life-spans (LLSs) of modern conifers using wood anatomy. This method quantitatively characterises cell patterns within growth rings as the Ring Markedness Index (RMI, a measure of the markedness of the ring boundaries). RMI has been shown to have a strong logarithmic relationship to LLS and can therefore be used to determine the LLS of fossil woods. Results of RMI analysis on fossil conifer woods provide an indication of the LLSs of mid-Cretaceous conifers for the first time. This reveals that the forests were dominated by evergreen conifers, with only a small component of deciduous types. Comparison with leaf habit and LLS predictions from University of Sheffield Conifer Model indicate a reasonable match. The Conifer Model will now be coupled with global climate models to examine the effect of conifer forests in the polar regions during the mid-Cretaceous greenhouse climate.



Fossil wood in the Canadian Arctic
© J. Francis



Growth rings in Cretaceous piceoxylon wood
x 1 magnification
© M. Harland



Resin canals in Cretaceous piceoxylon wood
x 20 magnification
© M. Harland

VEGETATION COMMUNITY RESPONSES TO RAPID WARMING AT THE PALEOCENE-EOCENE BOUNDARY

Guy J. Harrington

School of Geography Earth and Environmental Sciences,
The University of Birmingham, Birmingham, B15 2TT
E-mail: g.j.harrington@bham.ac.uk

The Paleocene-Eocene boundary (c. 55.5 Ma) marks an important interval of global warming that lasted for <100 kyr. This event is termed the Paleocene-Eocene Thermal Maximum (PETM) and is characterised by a massive perturbation in the global carbon cycle and with rapid climate warming of 5-10°C in less than 10 kyr. This event led to profound changes in marine biota and major immigration and community change in mammalian faunas. The response of vegetation to this event is poorly understood because many regions around the world do not preserve sediments conducive for leaf or pollen preservation. New data from the Bighorn Basin (N43.96 W107.65) in Wyoming, USA demonstrate rapid and major turnover of plant communities in response to climate change. The vegetation type changes from warm-temperate/subtropical to paratropical. Plant taxa have range changes from more southerly areas such as the Denver Basin (e.g. the mimosoid "*Artiocarpus lessigiana*"), from the Mississippi embayment (*Lanagipollis* sp., cf. *Tricolpites hian*, and *Platycarya swasticooidus*), and from other US western interior basins (e.g. *Triporopollenites granulatus* and *Cycadopites scabratus*). Plants that identify the Early Eocene on the Gulf Coast are also found such as *Brosipollis*. Also present are pollen morphotypes not previously recorded from North America such as a bizarre tricolporate grain with superficial similarity to *Bombax* spp. The collection of plants also includes taxa that are present in the Bighorn Basin throughout the Late Paleocene and Early Eocene. The admixture of immigrant and native plants demonstrates a highly individualistic response of plant taxa to warming and shows that communities fragment and alter through differential range changes of individual plant species. This is also evident from the occurrence of plants that immigrated to North America during the warmest parts of the PETM across very high latitude landbridges; some taxa immigrated from Europe (e.g. *Platycarya platycaryoides*) and maybe also from China (e.g. *Celtispollenites*). In the long-term, the PETM affects different vegetation types in different ways. When the climate cools in the latter part of the PETM in the Bighorn Basin, the vegetation type returns to a "Late Paleocene" composition with just three new species in the community. There is no extinction in the Bighorn Basin. Climate change at the Paleocene-Eocene boundary shows that rapid climate warming even in greenhouse climates can cause major community restructuring and compositional change of vegetation types.

A WORD FROM THE PRESIDENT

The YGS 2006 programme (168th Session) began with an excellent and well-attended meeting at the University of Leeds featuring *Current Postgraduate Research* by young researchers at the School of Earth Sciences. Matt Box, Ian Kane (former Moore Medal winner), Sally Morgan, Eleanor John and Jamie Vinnels presented their exciting new research that included the application of strontium isotopes to provenance studies and climate change in Nile sediments; spectacular Cretaceous submarine levees from outcrops in Baja California; fluid inclusion studies in oceanic crust and the information they provide on deep hydrothermal systems; application of sulphur isotopes to understanding the cause of the end-Guadalupian mass extinction event, well exposed in China - a poorly known precursor to the better known end-Permian event; and the dynamics of 'piggy-back' turbidite mini-basins in the Alps.

Earlier that day, Council was delighted to welcome new members Dr Helen Reeves and Sheila Rogers. The Annual Programme flyer, included with this Circular, outlines our varied and interesting indoor meeting and field programme for 2006, so please add these dates to your diaries.

Over the weekend we heard of the sad news that Professor John Neale died on the 20th January 2006. John will be warmly remembered as a leading light in the development of ostracod micropalaeontology and stratigraphy of the Cretaceous in Yorkshire (and beyond) during his long career at the University of Hull. John was a great supporter of the YGS, joining in 1949. He went on to serve as President from 1981-82, and was awarded the John Phillips Medal in 1986. John was also closely involved with the Hull Geological Society and was made an Honorary Life Member in 1977. Our thoughts go out to John's wife and family at this difficult time. A full obituary will appear in the Proceedings.

YGS Council is still looking for a volunteer for the position as Outreach Officer to coordinate publicity on forthcoming meetings and events. The Outreach Officer will be strongly supported by the local coordinator for each meeting and by the Programme Secretary, so the work will be shared. If you are interested in taking on this role please contact me on jhp@bgs.ac.uk, or Trevor Morse (details on back cover).

Our next meeting, at Sheffield, on recent developments in palynology, fossil plants and climate change promises to be very interesting. I look forward to seeing you there.

John Powell

YGS NEEDS YOUR HELP: OUTREACH OFFICER

YGS Council is conscious of the need to publicise our meetings as widely as possible, particularly to raise the profile of the Society and to encourage new members to join us. Attendance at indoor meetings has been very good of late, but we noted that attendance at the Scarborough Meeting on 'William Smith and Early Geologists on the Yorkshire Coast' benefited from publicity generated through an article in the local Scarborough press. Council is, therefore, seeking an Outreach Officer from the current membership to act as a publicity link to the local press at our major meeting centres - Leeds, Durham, Sheffield, Nottingham (Keyworth), Hull and York, and other venues. The Outreach Officer, in collaboration, with the Programme Secretary and local convener, would be responsible for generating publicity through short articles advertising the meetings, to be targeted at the local press. Ideally you will have some experience of dealing with the press, but we would like to hear from anyone willing to be involved. Please contact Trevor Morse (see contacts on the back page of the circular) or John Powell by e-mail: jhp@bgs.ac.uk.

YGS COUNCIL MEMBERS

Helen Reeves

After being brought up in the geological wonderland of the Canadian Shield and having an interest from a young age in the outdoors (rock climbing, camping and hill walking), the transformation of geology as an interest into a career was inevitable for me; despite parental reservations.

After graduating with honours in Geological Sciences from the University of Leeds in 1997, I immediately started an M.Sc. in Engineering Geology at the University of Durham. During this course I developed a keen interest in rock mechanics and rock discontinuities. I applied this interest to advantage during my M.Sc. dissertation project that was centred on investigations into the discontinuities around the Dounreay Waste Disposal Shaft in Caithness, which was co-funded by the United Kingdom Atomic Energy Authority. In 1998 I joined the Reactivation Research Group in the Department of Earth Sciences at the University of Durham. Here I continued my research into rock mechanics and discontinuities by studying geophysical borehole image logs and hydrological data, from UK NIREX's Sellafield Scientific investigations. I studied how discontinuities within the rock mass at Sellafield related to the hydrological and stress regimes. The Natural Environment Research Council & the British Geological Survey (BGS) co-funded this research and I gained my Doctor of Philosophy in 2002.



I joined the British Geological Survey's Keyworth Office in 2002 as an Engineering Geologist where I have applied my geological expertise in a number of areas. Including engineering geological assessments, geotechnical data interpretation and presentation, geomechanical assessments and research, landslide mapping and assessment, and even geological mapping. I am now developing my professional activities by involvement with the Engineering Group of the Geological Society and the International Association for Engineering Geology and the Environment (IAEG). I am the publications officer for the IAEG 2006 conference that is to be held this September in Nottingham (<http://www.iaeg2006.com/>). This conference has already received considerable international interest with over 400 papers already submitted. Along with this I am also working towards achieving chartered status in the near future.

Shelia Rogers

I was born and brought up in Lancashire before attending Sheffield University in the fifties (yes, a long time ago) thus coming under the influence of the late Professor Moore. After marriage and 2 children, it was off to Uganda and Makerere University to teach in the emerging Geology Dept plus a bit of game watching!.

Since returning to UK I have taught in high schools, the Open University, Adult Education departments (both in UK and leading overseas field visits), found time to act as the first woman President of Hull Geological Society, lead endless teacher field visits and be "involved" with a large garden. For a number of years, I did the job of Membership Secretary of the Earth Science Teachers' Association before taking on that job for the Yorkshire Geological Society at about the time I finished my first term on council.

Currently, I spend about half the year at our house in Languedoc, southern France (in the hills N.W. of Montpellier) where most of my time is spent either looking after olive trees or walking in the wonderful but extremely complex geological environment.

A RARE BELEMNITE FROM THE SPEETON CLAY FORMATION (LOWER CRETACEOUS)

Pete Rawson and Felix Whitham

In his first Presidential Address to the Society in December 2003, on ‘The Speeton Clay in its regional setting’, Pete Rawson stressed that the Speeton section can still yield surprises to the fossil collector - taxa that have rarely or never been found there before. This note records one such discovery, made by Felix Whitham several years ago. The significance of the record only became apparent when FW attended PR’s second Presidential Address, during which a picture was shown of an unusual belemnite found in a core from Shell well 22/26a-2 in the Central North Sea, from a level equivalent to the upper part of the Speeton B beds. The specimen had been figured and described by Rawson and Jeremiah (2001) as *Duvalia* sp. It was a remarkable discovery in this northern basin as *Duvalia* is a belemnite characteristic of the Tethyan Realm, much further to the south.

The photograph reminded FW of an odd-looking small belemnite that he had found in the lower C beds at Speeton (exact horizon not known) and which is illustrated here. It proved to be a juvenile *Duvalia* sp. with, unusually, an almost circular cross section. Most *Duvalia* are compressed laterally and all have a dorsal groove on at least part of the guard. The guard is usually slightly irregular in profile, even ‘bumpy’, and the apex is often excentric too. This combination of features readily distinguishes *Duvalia* from the other belemnite genera that occur at Speeton. But belemnites are very abundant there so it is difficult to spot the stranger in their midst. In fact, only one *Duvalia* has ever been recorded from Speeton previously, and that was found in bed C7 by G.W. Lamplugh. It was figured by Mutterlose (1979) as *Duvalia lata* (Blainville). Mutterlose also recorded a single specimen of a closely related genus, *Berriasibelus*, which another early Speeton worker, C.G. Danford, had found in the lower C beds.

By drawing attention to this find we hope to stimulate further such discoveries - and to show once again the importance of attending YGS meetings!

References

Mutterlose, J. 1979. Vertreter der Unterfamilie Duvaliinae Pavlow (Belemnitida) aus dem Hauterive (Unter-Kreide) von NW-Europa. *Aspekte der Kreide Europas*. IUGS Series A, no. 6, 121-127.

Rawson, P.F. & Jeremiah, J. 2001. A Tethyan belemnite, *Duvalia*, and associated nannofossils from the Upper Barremian (Lower Cretaceous) of the Central North Sea. *Proceedings of the Geologists’ Association* 112, 55-58.



Duvalia sp from the Lower C beds of Speeton.

Note: Pete’s other passion of

Grimby Town also included in photograph.

SUMMER STUDY AT DURHAM UNIVERSITY

If you are interested in spending your summer holidays in a more unusual way than lazing on a sunny beach, Durham University may have the holiday for you. Please note this is not a YGS event, but please feel free to let other YGS members have your thoughts on the courses via the circular.

SUMMER STUDY AT DURHAM UNIVERSITY - July & August 2006

Are you are interested in a holiday that offers expert tuition, in good company and in pleasant surroundings? Durham University offers a varied programme of Study Breaks on art, architecture, local history, great houses and gardens, geology and more. Of particular interest may be: "Rocking Around North Yorkshire" running 13-16th July and led by Dr Stuart Jones, exploring the geology, history, culture and coastline of North Yorkshire. Based at Trevelyan College, we offer comfortable en suite rooms, good food and a warm welcome!

For more information contact: Summer Study Office, Trevelyan College, Durham University, Elvet Hill Road, DURHAM, DH1 3LN. Tel: 0191 334 7001/7011.

e-mail: trev.coll@dur.ac.uk web: www.summerstudycourses.co.uk

GEOLOGISTS ASSOCIATION FIELDTRIP TO THE SOUTH WALES COALFIELD

Stephen Howe will be organising a fieldtrip which is an introduction to the varied geology in and around the South Wales Coalfield. This trip will take place over the weekend of 11th and 12th March 2006. Travel will be by car between sites and there will perhaps be a small charge for car parking. Strong footwear will be required, as will hard hats and high visibility jackets. There will be an administration fee for this fieldtrip. Full details can be obtained from Sarah Stafford geol.assoc@btinternet.com.

The GA is also running a trip to Barbados from 3rd to 10th May 2006 led by the excellent Prof. Stephen Donovan. There are only a few places left. Details can be obtained from geol.assoc@btinternet.com.

NATIONAL ICE AGE NETWORK

The National Ice Age Network has asked that YGS members are made aware of their existence. Supported by English Heritage and English Nature they aim to promote interest in the last Ice Age period. The network collaborates with the aggregates industry to record and preserve Ice Age finds. If you are interested in this topic and wish to know more, you can become a member for free on www.iceage.org.uk or by contacting info@iceage.org.uk. If you don't have internet access or would prefer to contact the organisers by post, the local office address is National Ice Age Network, Birmingham Archaeology, Birmingham University, Edgbaston, Birmingham B15 2TT.

CALENDARS 2007

Yes! Yes! We know it only February, but we have already had one or two enquires as to the theme for next year's calendar. Council has discussed this at length and decided to continue with a local theme for 2007, with a view to producing a worldwide geology themed 2008 calendar. So don't say you haven't been warned. Happy snapping!

FORTHCOMING YGS EVENTS

As there are some slight changes to the usual programme, we would like to remind members of these changes. As usual these details will be confirmed as the programme moves forward.

March Meeting (18.03.2006)	BGS, Keyworth
September (was October) (30.09.2006)	Scarborough
October (was November) (28.10.2006)	Hull
November (was December) (25.11.2006)	York (AGM & Annual Dinner)

NEW MEMBERS

Mr M Faulkner,	Netherlands	Ms B Richards	Durham
Ms K Hawkins	Leicester	Dr T L Faulkner	Wilmslow
Dr F Naylor, Bantry	Ireland	Mrs T Smith	Berwick upon Tweed
Dr B S Cooper	Keighley	Mrs J B Dawson	Leeds

DEATHS - Professor John Neale. (See President's Word).

GIFT AID

Thank you to everyone who returned their Gift Aid form. There was an excellent response to the plea at the end of 2005, it was a big success. Returning the form costs you nothing, except the price of a stamp, but means at least £2.80 income to the Society for every form returned. If you didn't return your form, but would like to give the Society "free money", please contact your Membership Secretary on chrisjpoole@hotmail.co.uk and she will help you out.

YGS SALES - SHEFFIELD

The Council have agreed to offer the YGS Conference publication: 'Carboniferous hydrocarbon geology: the southern North Sea and surrounding onshore areas ' at a special discount price of £25 at the Sheffield meeting, only - that's a saving of £20 on the list price of £45, so long as you pay (cheque or cash) and collect on the day.

There are also a few 2006 YGS calendars to dispose of at £2.50 each (that's 1/2 price) on a first come, first serve basis. Don't worry - these calendars include January, so you won't miss a thing.

Please note offers apply to the Sheffield meeting only, if you don't attend, you don't get!

CORRESPONDING SOCIETIES

Contact society representatives for the latest information.

CRAVEN & PENDLE GEOLOGICAL SOCIETY

Yvonne James. Tel: 01282 813 772 or www.cpgs.org.uk

Disarming Dromaeosaurs

Speaker: Phil Manning, Ph.D., The Museum, Manchester University

Friday, 10th February 2006

The man who mapped the shaking Earth

Speaker: Paul Kabrna, C.Geol.

Friday, 17th March 2006

CUMBERLAND GEOLOGICAL SOCIETY

Nigel Courtman. Tel: 01229 861 478 or www.cumberland-geol-soc.org.uk

Evaluating an Ice Stream Model for the Irish Sea Basin

Speaker: Dr. Dave Roberts, University of Durham

Tullie House Museum, Carlisle

Wednesday,
22nd February 2006

AGM & Presidential Address (Title to be announced)

Friends Meeting House, Cockermouth

Wednesday,
15th March 2006

EAST MIDLANDS GEOLOGICAL SOCIETY

Janet Slatter e-mail: sec@emgs.org.uk or www.emgs.org.uk.

President's Evening

Speaker: Ian Thomas, (National Stone Centre) Derbyshire's Mineral Wealth

Saturday,
11th February 2006

The Jurassic Coast World Heritage Site: earth science, conservation and outstanding universal value

(Preceded by AGM at 6.00pm)

Speaker: Professor Vincent May, Bournemouth University

Saturday,
11th March 2006

HUDDERSFIELD GEOLOGY GROUP

Julie Earnshaw (Secretary). Telephone: 01484 311 662 or e-mail: earniehome@ntlworld.com

How to make a (small) fortune - Prospecting for gold in Scotland

Speaker: Dr. Rob Chapman

Monday, 6th March 2006

Black Ocean crust and white sedimentary rocks in Cyprus:

A brief account of the geology of Cyprus, studied during a Leeds University Earth Sciences Department field trip

Speaker: Alison Quarterman

Monday, 3rd April 2006

HULL GEOLOGICAL SOCIETY

Mike Horne. Tel: 01482 346 784 (after 7.30 pm)

or e-mail: m.j.horne@hull.ac.uk or www.go.to/hullgeolsoc

Holocene environments and archaeology in East England

Speaker: Dr. Ben Geary, University of Birmingham

Evening Lecture

Thursday,
16th February 2006

New Horizons for Geology at the Yorkshire Museum

Speaker: Camilla Nichol, YGS and Yorkshire Museum

Evening Lecture and AGM

Thursday, 16th March 2006

LEEDS GEOLOGICAL ASSOCIATION

Anthea Brigstocke (General Secretary). Tel: 01904 626 013.

E-mail: abrigstocke@hotmail.com or www.leedsgeolassoc.freeserve.co.uk

Presentations by Students in the School of Earth and Environment 23rd February 2006

3rd/4th Year Students, Earth and Environment, University of Leeds

National Science Week geo-conservation in West Yorkshire 16th March 2006

Speaker: Alison Quarterman, Greenhead College, Huddersfield

LEICESTER LITERARY & PHILOSOPHICAL SOCIETY

Chairman: Mark Evans. Tel: 0116 225 4904 or e-mail: mark.evans@leicester.gov.uk

Geodiversity: an important new concept for the earth sciences? Wednesday,
22nd February 2006

Speaker: Dr. Murray Gray, Queen Mary College, University of London

Evolution of the four-legged fish - new views of an early tetrapod icon Wednesday,
8th March 2006

Speaker: Dr. Jenny Clack, University of Cambridge

MANCHESTER GEOLOGICAL ASSOCIATION

Jane Michael. Tel: 0161 366 0595, e-mail: jammyjane@aol.com or www.mangeolassoc.org.uk

A Layman's View of Archaeopteryx Wednesday
Annual General Meeting followed by Presidential Address 15th February 2006

Speaker: Mr. John Price, Manchester Geological Association

Iceland Wednesday,
15th March 2006

Joint Meeting with Geographical Association in Mansfield Cooper Building

Note start time of 6.30pm and different location

NORTH EASTERN GEOLOGICAL SOCIETY

Frank Trowbridge. Tel: 01642 582 786, e-mail: frank.trowbridge@care4free.net
or www.northeast-geolsoc.50megs.com

Title: Equatorial Carbonate development during Cenozoic Global Change Friday, 17th February 2006

Speaker: Dr. Moyra Wilson, University of Durham

AGM followed by Swimming with Graptolites Friday, 15th March 2006

Speaker: Dr. Sue Rigby, University of Edinburgh

WESTMORLAND GEOLOGICAL SOCIETY

Mrs P. M. Wilson. Tel: 01539 533 198 or www.wgso.fsnet.co.uk

AGM followed by Presidential Address Wednesday,
22nd February 2006

Speakers: Prof. Euan Clarkson, University of Edinburgh

Dr. Phil Manning, Manchester Museum

Start: 7.45 pm.

History of the Scarfell Caldera Volcano: a dramatisation Wednesday,
15th March 2006

Speaker: Dr. Peter Kokelaar, University of Liverpool

OTHER SOCIETIES OF INTEREST**EAST MIDLANDS REGIONAL GROUP OF THE GEOLOGICAL SOCIETY**

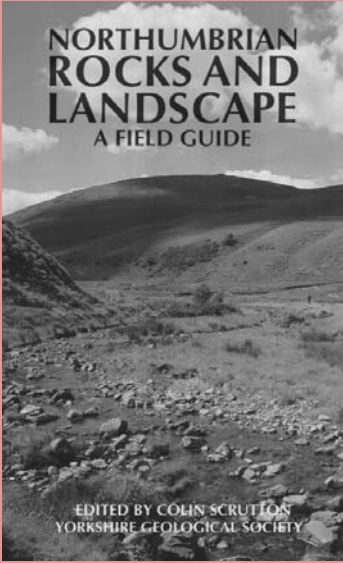
Ed Hough e-mail: eh@bgs.ac.uk

SORBY NATURAL HISTORY SOCIETY

Ken J Dorning. www.shu.ac.uk/city/community/sorby/secgeo.shtml

YORKSHIRE REGIONAL GROUP OF THE GEOLOGICAL SOCIETY

Isla Smail. Tel: 0113 242 8498, e-mail: isla.smail@arup.com



Northumbrian Rocks and Landscape: A Field Guide

Price £9.99 + £2.00 P&P. No postage and packaging if collected at the next YGS indoor meeting.

POSTAL ORDER FORM

Please supply.....copy(ies) of the YGS Field Guide
Northumbrian Rocks and Landscape

I enclose a cheque for £.....inc P&P

Name:

Address:

.....

Tel No:

Order forms and cheques to Dr J H Powell, BGS, Keyworth, Nottingham NG12 5GG. **Please make cheques payable to Yorkshire Geological Society.**



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Copy deadline for Circular 530 is the 1st February 2006.

Copy deadline for Circular 531 is the 17th March 2006.

NEXT YGS MEETING

The next meeting will be held in the BGS, Keyworth at 2pm on 18th March 2006.

Title: Quaternary of Eastern England.

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