COPROLITE

No. 47 June 2005

DROPPINGS FROM THE GEOLOGICAL CURATORS GROUP

Coprolite is compiled and produced by Tom Sharpe, Department of Geology, National Museum of Wales, Cardiff CF10 3NP (tel 029 20 573265, fax 029 20 667332, e-mail Tom.Sharpe@nmgw.ac.uk). It is published three times a year in March, June and November. Any material for inclusion should be sent to Tom Sharpe by the first of the previous month, i.e. by 1 February, 1 May or 1 October.

Coprolite is sponsored by Burhouse Ltd of Huddersfield, wholesale distributors of minerals, gemstones, gemstone products and jewellery components.

New members

GCG is pleased to welcome the following new members: **Christian Baars**, National Museum of Wales; **Peta Hayes**, Natural History Museum.

Musical curators

Sara Chambers, Curator of Natural History at the Royal Cornwall Museum in Truro, has been appointed Senior Curator at that museum; **Mike Benton**, Professor of Geology at Bristol University, has been awarded the 2005 Lyell Medal of the Geological Society; **Paul Ensom**, Palaeontology Collections Leader at the Natural History Museum has left to pursue a career as a book-dealer; **Peta Hayes**, formerly a curator in the Botany Department of the Natural History Museum has been appointed Curator of Fossil Plants in the Palaeontology Department there; **Phil Currie**, head of palaeontology at the Royal Tyrrell Museum in Drumheller in Alberta, Canada, is leaving the museum to take up a professorship on 1 October in the Biology Department of the University of Alberta in Edmonton where he will teach vertebrate palaeontology.

Newish publications

John Phillips and the business of Victorian science by Jack Morrell, 2005. Aldershot: Ashgate Publishing, xix + 437pp. ISBN 1 84014 239 1

A geologic time scale 2004 by Felix Gradstein, Jim Ogg and Alan Smith, 2005. Cambridge: Cambridge University Press, 384pp. ISBN 0 521 78142 6, £75.00 (hardback); ISBN 0 521 78673 8, £28.00 (paperback).

The Old Red Sandstone of Great Britain by W. J. Barclay et al, 2005. Geological Conservation Review series no 31, Peterborough: Joint Nature Conservation Committee,

History of palaeobotany edited by A J Bowden, C V Burek and R Wilding, 2005. Geological Society Special Publication 241, 312pp. ISBN 1 86239 174 2, £80.00.

Vertebrate paleontology techniques: methods of preparing and obtaining information by Patrick Leiggi and Peter May, 2005. Cambridge: Cambridge University Press. ISBN 0 521 45900 1, £29.00.

The evolution and extinction of the Dinosaurs by David E Fastovsky and David B Weishampel, 2005. Second edition. Cambridge: Cambridge University Press, 500pp. ISBN 0 521 81172 4

Exhibitions 2005

Dawn of the dinosaurs. Sidmouth 240 million years BC. Sidmouth Museum, Hope Cottage, Church Street, Sidmouth, Devon until 26 October 2005.

Diamonds Natural History Museum, Cromwell Road, London 8 July 2005- 26 February 2006

NHM books special offer

The Natural History Museum's publications are well-known to all geological curators in the UK. The three fossil handbooks, *British Palaeozoic Fossils*, *British Mesozoic Fossils* and *British Caenozoic Fossils*, are the first port of call when answering fossil enquiries, and we have all made use of the excellent series of books on various geological topics which were started by the Geological Museum back in 1974 and continue to be produced by the NHM. Like the exhibitions which these books accompanied, they set new standards in the presentation of geology to a public audience. The NHM publishes two main series of geological publications, the Earth Series and the Living Past series.

The Earth Series currently includes eight titles in the popular format pioneered by the Geological Museum with *Story of the Earth*. These 200 x 210 mm paperbacks of 60-70 pages are superbly illustrated, well-written, authoritative, and informative and are ideal for anyone with an interest in geology. The current titles are:

Earth's restless surface by Deirdre Janson-Smith with Gordon Cressey, 1996. 60 pp, ISBN 0 11 310056 6, £6.95

Amber. The Natural Time Capsule by Andrew Ross, 1998. 72 pp, ISBN 0 565 09131 X, £7.95

Gold by Richard Herrington, Chris Stanley and Robert Symes, 1999. 72 pp, ISBN 0565 09141 7, £7.95

Crystals by Gordon Cressey and Ian Mercer, 1999. Second edition. 60pp, ISBN 0 565 09145 X, £7.95

Volcanoes by Susanna van Rose and Ian Mercer, 1999. 64 pp, ISBN 0 565 09138 7, £7.95
From the Beginning by Katie Edwards and Brian Rosen, 2000 (reprinted with revisions 2004). 72 pp, ISBN 0 565 09142 5, £7.95
Gemstones by Cally Oldershaw, Christine Woodward and Roger Harding, 2001. 76pp, ISBN 0 565 09155 7, £7.95
Meteorites by Sara Russell and Monica Grady, 2002. Second edition. 72 pp, ISBN 0 565 09168 9, £7.95

The Living Past Series provides an authoritative introduction to fossils, written by staff in the NHM's Department of Palaeontology. They are aimed at fossil collectors, amateurs and interested professionals. Three 234 x 154 mm paperback titles, each containing colour plates and line drawings, have been published in this series:
Ammonites by Neale Monks and Philip Palmer, 2002, 160pp, ISBN 0 565 09169 7, £15.95
Fossils: the key to the past by Richard Fortey, 2002. Third edition,, 232 pp, ISBN 0 565 09163 8, £16.95
Fossil plants by Paul Kenrick and Paul Davis, 2004, 192 pp, ISBN 0 565 09176 X, £16.95
These are books which we should all have in our museum libraries and in our museum shops. Now there's no excuse for not having these on your own bookshelves as the NHM is offering a **20% discount plus free postage and packing on ALL Natural History Museum publications to individual readers of *Coprolite*.** To claim the discount, please order by credit card and quote code NHM/Coprolite. Phone number for orders is 01752 202 301. All books bought on this offer are for personal use only. **This offer expires at the end of August 2005** and applies to UK orders only. Full details of the NHM's publications catalogue are available online at: www.nhm.ac.uk/publishing

Libraries and shops can order via their regular wholesale suppliers or they can order direct from NBN International on 01752 202 301. For more information and a free catalogue call the Natural History Museum on 0207 942 5336.

The Crystal Palace dinosaurs: replica models available

Dinomania began in Victorian England almost 150 years ago. Just fourteen years after Richard Owen invented the word, dinosaurs attracted huge crowds to Crystal Palace Park, Sydenham in 1854 to marvel at the first life-size restorations the world had ever seen. Owen had coined the word dinosaur - meaning 'terrible lizard '- in 1841 for three huge prehistoric reptiles from the Mesozoic Era that had been discovered in southern England between 1817 and 1833. Although they were known only from fragmentary remains, Owen worked with sculptor Benjamin Waterhouse Hawkins to realise his vision of dinosaurs as massive, upright, four-legged reptiles with the build of large mammal such as an elephant or rhinoceros. As we now know, the models were very inaccurate, yet Owen had correctly identified dinosaurs as a unique group of animals and defined some of their key characters by which they are recognized to this day.

Owen's designs were sculpted as 1:20 scale models by Waterhouse Hawkins as working prototypes for the full size restorations which were constructed in

concrete. Even during their construction, the models cause a sensation when a dinner was held, in Richard Owen's honour, inside the half completed *Iguanodon.*

Owen and Waterhouse Hawkins' models included *Iguanodon*, a plant-eater, which was equipped with beak-like jaws and rhinoceros-like nose horn. Dr Gideon Mantell, a Sussex country doctor, had concluded in 1822 that giant herbivorous reptiles had lived in the remote past, based on huge Iguana-like teeth from the Early Cretaceous in Sussex. He finally named *Iguanodon* in 1825 and went on to associate skeleton fragments with the teeth. Mantell's work was the basis for the *Iguanodon* model. However, the nose horn was shown later to be a spiky thumb when complete *Iguanodon* skeletons were discovered in the 1870's. Other models include *Megalosaurus*, from the Middle Jurassic of Oxfordshire, the first named dinosaur. *Megalosaurus* was described by Dr William Buckland in 1824 on the basis of a lower jaw equipped with sharp cutting teeth. It was depicted with a crocodile-like head in keeping with its carnivorous diet.

The Crystal Palace models are of immense historical importance to the beginnings of dinosaur science and mark the start of the enduring public interest and fascination with dinosaurs. After popular demand the Natural History Museum has produced cold cast bronze replicas from four of its original prototype scale models. They include *Iguanodon, Megalosaurus, Labyrinthodon* and a grouping of marine reptiles. For further information, contact: Lorraine Cornish, The Natural History Museum., tel +44 (0) 20 7942 5137, email L.Cornish@nhm.ac.uk.

Sold at auction: letters from the pioneers of geology

Knowing of my keen interest in the history of geology, a good friend of mine and fellow-member of the West Sussex Geological Society, John Henley, who is, by trade, an antiquarian bookseller specialising in natural history and allied subjects, passed on to me the well-produced catalogue of an auction sale, by Bonhams of New Bond Street, London, of the Enys Collection of Autograph Manuscripts on Tuesday 28 September 2004. He particularly pointed out the prospective sale of letters by William Smith and Gideon Mantell, two giants of the putative 'Heroic Age of Geology'. Manuscript letters by these two pioneer geologists are extremely rare, and seldom, if ever, come to the marketplace, particularly those of William Smith, who was far more the practical surveyor than a frequent or creative correspondent.

To complete the picture, I enquired about two key aspects of the sale: what price did they sell for, and who bought them? The estimated price and the auction-room price are shown in the accompanying Table, from which it can be seen that both lots made well over their estimate, because of their rarity value. The Mantell letter of November 1824 also included a coloured 'Sketch of the Succession of Strata in the neighbourhood of Lewes'; and the two letters by William Smith, of March 1815 and July 1816, were unique because 'we can find no record of a letter by William Smith having been offered for sale'.

Lot	Correspondent and date	Estimate	Actual price
271	Gideon Mantell 12 November 1824	£600-800	£4,541
283	William Smith 6 March 1815, 12 July 1816	£4,000-6,000	£15,535

I also wished to know who had bought these priceless artefacts, whether they were purchased by a public institution of some sort, which would probably allow access to bona fide researchers; or a wealthy private collector, who probably would not. Matthew Haley, of Bonhams' Book Department, replied that 'unfortunately we are not able to tell you who the purchasers were, and indeed, often do not know ourselves, because members of the book trade often execute bids on behalf of clients'. Disappointing, but he continued; 'if the items were purchased by a research institution, it will, of course, be in their interest to make this fact public, and to allow access to the papers' which leaves us no further forward, unless the new public owners declare themselves, in some way. Historians of geology, of all people, should at least know where such significant historic documents are currently located, even if access is difficult.

In addition, a small collection of letters to Gideon Mantell was also offered for sale (Lot 270); letters from G B Greenough, Horatio Smith, Georg Scharf, John Pye Smith and James Sowerby, covering the period 1813-42, with an estimate of £100-150, which sold at auction for £2390! Where are they now?

Correspondence like this provides a very personal perspective on the lives, labours and times of historic figures, and provides essential documentary sources for biographies and, controversies. The more, the better, but not at those prices!
Anthony Brook, Worthing
This note, along with extracts from Bonhams catalogue was first published in HOGG Newsletter No 23, January 2005, pp.20-25 and is reproduced with permission.

Addendum
The two William Smith letters have indeed gone into a private collection, but transcripts were made of the contents of the letters prior to their sale. I examined all of the geological papers which were included in that sale with a view to purchasing some items for our collections in Cardiff. In discussion with the London dealer who accompanied me to view the material, it became clear that the saleroom estimates for the Smith items at least were far too low. As it turned out anyway, we were not in a position to bid. Almost all of the geological lots went for considerably more than the estimates. The catalogue of the sale, along with detailed descriptions and photographs of many of the items (including a photograph of one of the Smith letters), the estimates, and the prices realised can be seen on Bonhams' website www.bonhams.com
Tom Sharpe, National Museum of Wales

Dudley bugs stolen and recovered

On Tuesday 8 March 2005, two specimens of the Dudley trilobite, *Calymene*, were stolen from display in the illustrated timeline in the new geology gallery at Dudley Museum. Following extensive local press and media coverage, with the local newspaper, the *Express and Star*, offering a reward for the return of the fossils,

two local youths were identified by the public and questioned by police about the theft. The specimens were returned to the museum on Friday 11 March.

Fossil, mineral and gem shows 2005

11-12 June Newcastle Racecourse, High Gosforth Park
18-19 June Kempton Park Racecourse, Staines Road East (A308), Sunbury
6-7 August Margam Park, Port Talbot
3-4 September Newton Abbot Racecourse, Newton Abbot, Devon
10-11 September Newark Showground, Winthorpe, Newark, Notts (off A46)
17-18 September Bath & West Showground, Shepton Mallet, Somerset
1-2 October Hatfield House, Hatfield, Herts
29-30 October Kempton Park Racecourse, Staines Road East (A308), Sunbury
For further information contact HD Fairs Ltd, PO Box 72, Maidenhead SL6 7GB tel 01628 621697 email info@rockngem.co.uk www.Rockngem.co.uk

Forthcoming GCG seminars and workshops

16 June 2005 Natural History Museum, Cromwell Road, London
GCG session at the Society for the Preservation of Natural History Collections Annual Conference: Standards for geological collections
Chairman: Amanda Edwards
0900 J. F. DeMouthe, Standards of care for gemstone collections
0920 H. Fothergill, The state and status of geological collections in UK museums
0940 O. Green, "I am beginning my research; what shall I do with my geological specimens?" – a note of advice: re-assessing and re-emphasising Tunnicliff (1983)
1000 M. Stanley, Standards in the museum care of geological collections - a new web resource
1020 P. Wyse Jackson, Guidelines for the curation of geological materials: setting or simply revisiting the standards?
1040 L. Welzenbach, Curation of the U.S. Antarctic Meteorite Program Collection: 20th century standards for the 21st century and beyond
11.00 Coffee

Abstracts

Standards of care for gemstone collections: Jean F DeMouthe, California Academy of Sciences, 875 Howard Street, San Francisco, CA 94103, USA jdemouthe@calacademy.org
Different types of museums may hold collections that include gemstones, carvings, spheres, beads, and other types of worked decorative stone and organic material. While these materials may not require special attention in terms of environmental controls, they do present some unique challenges for the collections manager. Carvings, beads, and other odd-shaped objects can be stored singly in customized containers, or in groups of similar objects. The latter method often saves space, even though it may mean that like materials are separated. Detailed information about each object is crucial to the identification of gems and other specimens where it is not possible or advisable to mark them with catalog numbers. This includes weight, dimensions, shape, colour, type of object (faceted stone, bead, etc.), and possibly other data such as refractive index or specific gravity. A strong and detailed collections policy is an important asset for anyone who cares for and is responsible for gemstone collections. The greatest risks to these collections are theft and mishandling

by exhibits staff or other people not familiar with the materials involved.

The state and status of geological collections in UK museums: Helen V Fothergill, Plymouth City Museum & Art Gallery, Drake Circus, Plymouth, Devon, PL4 8AJ, UK helen.fothergill@plymouth.gov.uk
The Geological Curators' Group, established in 1974, undertook a survey in 1981 investigating the state and status of geology in United Kingdom museums. This survey, the first of its kind, set out to provide a snap-shot impression of how the nation's geological collections were cared for, regarded, used and housed. It allowed the Geological Curators' Group to focus its members' efforts, influencing, where possible, policy decisions regarding the future of many 'at risk' collections and assisting museums in need to specialist curatorial advice. In 2001 it was felt that more than enough time had elapsed since the original survey, and that there was a need to repeat the process, explore other areas of museum management, care and use of collections and compare, where able, the results from the two surveys 20 years apart.

As the political climate has changed emphasis in many museums has been shifting from scientific research and curation to 'lifelong learning', extended intellectual and physical public access, digital and computerised documentation and virtual contact with collections. With access to new funding opportunities, museums have expanded and in some cases changed beyond all recognition. More funding appears to be available to all, but with 45% of respondees listing lack of staff time or expertise as their biggest 'threat', will the 'new' curators or collection managers be able to dedicate the resources to chasing these elusive funding streams and proving that they are meeting targets and performance indicators whilst maintaining often historically and scientifically important collections?

The United Kingdom has a unique history in the field of geological curation and collections, with many museums holding collections and specimens of un-recognised scientific and historical value. Should the heritage and culture community feel confidence in their continued care? What problems do we, the curators, perceive with the current state and status of the collections we hold in trust? The full *State and Status of Geological Collections in United Kingdom Museums: 2001* report will provide another 'snap-shot' of the UK's collections and explore how the position of these collections has changed in 20 years.

"I am beginning my research; what shall I do with my geological specimens?" – a note of advice: re-assessing and re-emphasising the Tunnicliff (1983) paper: Owen R. Green, Department of Earth Sciences, University of Oxford, Parks Road, Oxford, OX1 3PR, UK oweng@earth.ox.ac.uk
Over twenty years ago Steve Tunnicliff (then of the Institute of Geological Sciences, later British Geological Survey) authored a paper for the Natural Environment Research Council (NERC) detailing advice and guidance to graduate students embarking upon new geological research on how to ensure their specimen collection was not misused or lost to science. The paper offered practical advice to 'supervisors, students and research workers' on how to initiate a project and organise their research collections 'in such a way as to make them useful, easily understood by others, and acceptable to the museums or institutions where they are to be housed'. Unfortunately, many graduate students, and post-graduate students remain unaware of the importance of generating and donating a well-curated collection upon completion of their research. The recognition of well-curated geological collections as national assets and an irreplaceable scientific resource necessitates re-emphasising the guidance advocated by Tunnicliff to a new generation of students, many of whom receive funding from research bodies other than NERC.

In addition to reinforcing the training of curatorial and specimen conservation techniques to new graduate and Masters students (MRes, 4th year undergraduate's and taught MSc course)

commencing research projects that generate a *collection of specimens* (*sensu lato*: includes all materials from which research data has been generated; rock thin sections, powders, digital images, software programmes) it is essential to include guidance on field collecting. This should include advice on safety in the field and the obtaining of collecting permits, permission from the relevant authorities to collect, and if required, to export specimens for scientific research. Well documented collections form a scientific data-base that is suitable for long term preservation. It is proposed that aspects of the training, such as specimen conservation methodologies and preferred documentation (numbering and naming) procedures, should be made available to students via their Research Institution, Museum Collection Centre or Funding Bodies web-site. Professional organisations with a vested interest, such as the Geological Curators' Group, Society for the Preservation of Natural History Collections, Palaeontological Association and Geological Society of London, may also be in a position to host or have links for this information on their web sites, or disseminate 'hard-copy' to students.

Standards in the museum care of geological collections - a new web resource
Michael F Stanley, 8 King Street, Ripon, North Yorkshire, UK mick.stanley1@bitinternet.com
There is a growing understanding that besides purely scientific and aesthetic value rock, mineral and fossil collections are unique resources, which help people to understand their world. The value of collections may be usefully divided into five broad categories: research value in pure and applied science; cultural value, especially the influence of collecting and collections on the development of society and on science; financial value where the activity of private collectors and the public in general has raised the perceived and actual value of minerals and fossils because of their rarity, beauty or association; educational value in lifelong learning where collections are used as a learning resource either to instruct, inform or inspire; and entertainment value where the aesthetic beauty of rocks, minerals and fossils is appreciated by the viewer. Almost twenty years ago the Geological Curators' Group published, through the Geological Society, *Guidelines for the Curation of Geological material* - a seminal work at the time setting standards for all aspiring curators of what ever subject. In 1993 the Museums and Galleries Commission published *Standards in the museum care of geological collections* as one of a series of *Standards in the museum care of.* In the succeeding years the advent of the internet has revolutionised access and communication. Great advances have been made in many aspects of museums through the voluntary registration scheme for museums. But 'standards' are perhaps more necessary now than ever as the number of curators has declined with a concomitant increase in the less-specialised collection managers. Standards in plain English must be accessible across the globe if we are to create and sustain both new and historic collections.

The revision of *Standards* gave an opportunity to look afresh at the processes and activities of managing and caring for collections. The term curation has not been fashionable for almost a decade, especially with the advent of the more fashionable term 'manager' following administrative practice across the world. But care is just one of the tasks of curation, which can be broken down into four task areas for collections of whatever type; these areas are Procedural; Collection Care and Maintenance; Building and Management; and Access and Education. Consequently the Standards were revised focusing on these areas.

Guidelines for the curation of geological materials: setting or simply revisiting the standards? Patrick N Wyse Jackson, Department of Geology, Trinity College, Dublin 2, Ireland wysjcknp@tcd.ie
In 1985 the seminal volume *Guidelines for the Curation of Geological Materials* was published by the Geological Society. For over a decade this important publication remained the standard to which curators aspired, but by the late 1990s it had become obvious that a

revision was needed. For the past three years the Geological Curators' Group has been working towards an expanded revision which will contain updated sections but also new sections on diverse topics including museum security and media uses for collections. *Guidelines*, however, was not the first such manual for curatorship. In 1696 John Woodward produced his anonymous *Brief Instructions for making observations in all parts of the world and also for collecting, preserving and sending over natural things*, while Ami Boué included details of curatorial methods in *Guide du géologue-voyageur* (Paris, 1835-36). The British Geological Survey published their own manual of collecting/curation in 1914 for the use of their field geologists. The GCG project to set standards and produce guidelines is not the first time that this has been attempted. This paper will discuss the development of these earlier schemes and examine the breath and scope of the new GCG project in the context of the pioneering manuals.

Curation of the U.S. Antarctic Meteorite Program Collection: 20th century standards for the 21st century and beyond Linda C Welzenbach and Timothy J McCoy, National Museum of Natural History, Smithsonian Institution, 10th Street and Constitution Avenue NW, Washington, DC 20560, USA, and Kevin Righter and Cecilia E Satterwhite, National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, 2101 NASA Parkway, Mail Code ST, Houston, TX 77058, USA welzenbl@si.edu
Meteorites from Antarctica represent an inexpensive sample of the Moon, Mars, and previously unknown asteroids. These rocks provide essential "ground-truth" for understanding solar system history and differ from non-Antarctic meteorites in recording a much longer period of collection (~2 Ma) in the cleanest environment on Earth. In 1977, the U.S. National Science Foundation (NSF), NASA and the Smithsonian Institution formed a partnership for the collection, short-term curation, and classification and long-term curation, respectively, of these meteorites. This cooperative three-agency agreement forms the U.S. Antarctic Meteorite program and insures the continued support of the best scientific, technical, and laboratory resources in the United States. Curatorial standards were modified from those used in the Lunar Processing Facility at NASA's Johnson Space Center in Houston, Texas. These have been modified during the intervening 28 years as the collection expanded, first at JSC and eventually to a long-term storage facility at the Smithsonian modeled after the JSC facility.

In the last 5 years, non-governmental collecting of meteorites has begun in Antarctica, spurring the Antarctic Treaty Organization to require member governments to protect these valuable resources. The U.S., represented by NSF, responded by codifying the curatorial standards in the Federally Registered Document 45 CFR 674 used by the three-agencies and expected of any collecting party. In this talk, we will outline the major principles of this curatorial plan as a guide for others both responsible for curation of such materials and who may have input to their governmental organizations empowered with implementing the recommendations of the Antarctic Treaty Organization.

For further information see www.nhm.ac.uk/spnhc2005/ or contact: SPNHC Conference 2005, Natural History Museum, Cromwell Road, London SW7 5BD email spnhc2005@nhm.ac.uk

14 October 2005 Hancock Museum, Newcastle upon Tyne
GCG Workshop: Gemstone identification for natural science curators
A one-day *practical* workshop on the basics of gem identification from the perspective of natural science curators. Participants will get the opportunity to use most of the simpler and more affordable instruments employed by gemmologists and will see close-up some of the more commonly encountered gemstones and

synthetic gemstones.
Tutor: Dale Johnston. (Fellow of the Gemmological Association)
10.15 for prompt 10.30 start

- Introduction and overview of gemmology & gem testing.
- Opaque gemstones.
- Getting clues using your hand lens.
- Use of the polariscope. How to spot glass 'gemstones'.
- Distinguishing amber from copal and plastics
- Using 'heavy liquids' to test specific gravity (relative density) of gemstones

Lunch : *Buffet lunch at the museum and an opportunity to see the museum displays.*

- Gemstone curation
- Use of the hand-held spectroscope
- Use of the dichroscope and Chelsea Filter (if time allows)
- Demonstration of using a refractometer to discover the optical nature of a stone and measure its Refractive Index.

Course ends: 16.30

By the end of the course participants can expect to:

- Be able to use, at a basic level, the following gem-testing instruments: handlens/microscope; polariscope; hand-held Spectroscope and 'heavy liquids'. Also dichroscope and Chelsea filter if time allows.
- Have a basic understanding of what can be discovered using a refractometer. (Use of the refractometer will be demonstrated)
- To know where gem-testing instruments can *also* be used to aid in the identification of *non* gem-minerals, especially where the specimen should be identified without causing damage.
- Be familiar with some of the features and properties found in a selection of the more commonly encountered gemstones. (NB The short nature of the course will mean that participants should not expect to be able to identify with certainty more than a few specific gem species. Diamond and its simulants will also *not* be covered in this course.)
- Be able to spot some of the most commonly encountered 'fakes', in particular glass and garnet-topped doublets.
- Know about good practice in the curation of gemstone collections.
- Know about what literature and courses are available for pursuing an interest in gemstones.

Target Group: The course will be geared towards geological / natural science curators who encounter gem materials within their collections, or as enquiries. No previous experience of gem testing is required. However participants should have a science background and be familiar with the main properties of minerals, eg lustre, hardness, cleavage and fracture, and the terms used to describe them. Awareness of single and double refraction (isotropic / anisotropic minerals) would be beneficial but will not be assumed. The course will be very practical with the

approach of 'What can the feature I am seeing tell me about the stone's identity?' rather than 'How do I *explain* the cause of the feature I am seeing?'

N.B. Places are limited to 10 participants so it is advisable to book early

Course fee: £20 (which will include cost of buffet lunch at the museum and a small pack of gems to be used in the workshop by each participant). Participants will need to bring with them a hand lens (x 10 or similar), a pen torch and if possible a pair of tweezers.

To book a place on this course please contact: Steve McLean, The Hancock Museum, Barras Bridge, Newcastle upon Tyne, NE2 4PT, tel 0191 222 6765, email s.g.mclean@ncl.ac.uk, **by 4 September 2005**.

11-12 November 2005 Natural History Museum of Denmark, Copenhagen
GCG Study Visit

The Geological Museum is an administrative unit within the new Natural History Museum of Denmark (together with the Zoological Museum, Botanical Museum and Gardens) but is also a part of Geocenter Copenhagen (together with the Geological and Geographical institutions and the Geological Survey of Denmark and Greenland). There will be an opportunity to look at collections and displays in the Geological Museum (particularly the large type collection of fossil material from Denmark and Greenland including the Devonian tetrapods from East Greenland and Paleogene birds and insects from Jutland) and relevant collections in the other Geocenter institutions.

A fieldtrip is also planned to visit the classic Cretaceous-Paleogene boundary section at Stevns Klint and material can be collected from the classic Danian sections in Faxe Quarry afterwards.

The Geological Museum opened in 1772 as the "Universitetets Nye Naturaltheater" (The New Natural Theatre of the University) and contains specimens which have been in museum collections for more than 300 years. When it was first formed it was the only geological institution in Denmark and it has been the parent body for the Geological Surveys of Denmark (1888) a and Greenland (1946) and the four geological teaching institutes (1967), which were later joined to form the Geological Institute, University of Copenhagen (1991). Today the Geological Museum acts as a centre for Danish geology with special national responsibilities for keeping public records. The Museum consists of six major collections representing the branches of geology, a library (which also serves the Geological Institute and the Danish Lithosphere Centre) and an archive. The collections contain approximately 8 million specimens, which have been accumulated through the years from over 30 large collections, including royal, public and private collections together with material collected by the staff or obtained by donation, purchase or exchange. To find out more about the Museum visit their web site at: http://www.nathimus.ku.dk/geomus/index_eng.htm

Ros Gourgey will be organising accommodation and coordinating transport arrangements, so please contact her to register your interest and to receive further details.
Contact: Ros Gourgey tel 01371 810832, email ami_air-exel@msn.com

5-6 December 2005 University College Worcester
GCG Seminar, Field trip and 32nd Annual General Meeting: Geoparks
Contact: Steve McLean, The Hancock Museum, Barras Bridge, Newcastle upon Tyne, NE2 4PT tel 0191 222 6765, fax 0191 222 6753, email: s.g.mclean@ncl.ac.uk

Other meetings

6-10 September 2005 Natural History Museum, Cromwell Road, London
14th Symposium of Palaeontological Preparation and Conservation and 53rd Symposium of Vertebrate Palaeontology and Comparative Anatomy.
Contact: Dr Angela Milner, Department of Palaeontology, The Natural History Museum, Cromwell Road, London SW7 5BD email london2005@svpca.org