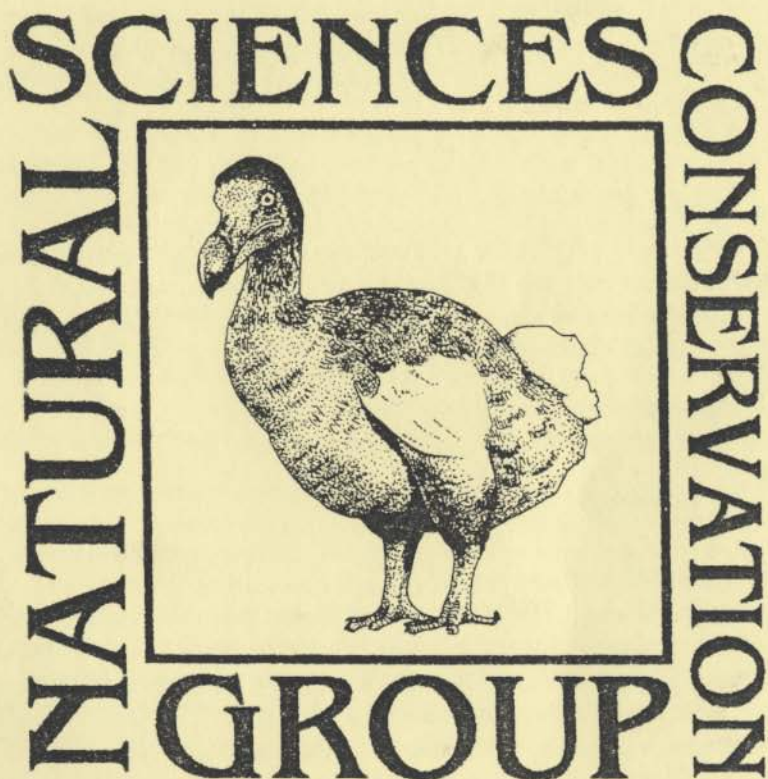


Natural Sciences
Conservation Group
Newsletter

Issue 14

May 2000

ISSN 1462-978X



Annual General Meeting, Scarborough April 2000

The Society

The Natural Sciences Conservation Group promotes: research and exchange of ideas; advances in technical and ethical standards; the public profile of the conservation and preservation of natural science collections and objects; training; and publications.

Membership

The Group is keen to open its membership to all those involved in the care and conservation of natural science objects and encourages their active participation.

Annual Subscription

Students (UK only)	£8.00
UK personal	£10.00
Overseas personal	£12.00
Institution	£25.00

Newsletter

The Newsletter is a forum for articles, views and opinions on the care, conservation and curation of natural history and associated material. The Newsletter is produced three times per annum (January, May and September) and is free to all members.

Advertisements

1/4 page	£15.00
1/2 page	£25.00
Full page	£50.00

Instructions for Authors

Material should be type-written and double-spaced in A4 format and if possible accompanied by a text file or Word document on disk (Dos-formatted). The pages should be numbered and the position of any tables and/or figures should be indicated on the hard copy. The names of animal and plant species should be underlined and the authority name given in full for the first time used, thereafter they may be omitted. All references should be given in full. Articles and other items for inclusion should be submitted to the Editor at least three weeks before the publication date.

Opinions expressed in the Newsletter are not necessarily those shared by the NSCG Committee, the Editor or the membership at large.

Editorial

"No one can do inspired work without genuine interest in his subject and understanding of its characteristics." Andreas Feininger, 1972

Welcome to Issue 14 of our Newsletter.

I hope that everyone has recovered from Museums Month, and those who went to Scarborough have finally dried out! The joint conference with BCG and GCG, held in Scarborough, which forms a major part of this issue, was inspiring, there were so many people being positive about curation and conservation of their collections against mounting odds of bureaucracy, lack of funds and time. The weather was damp, the hotel basic (to say the least), but the company made all the difference. I would like to express my thanks to the organisers (especially Nick Gordon) and speakers for both an informative and memorable event.

Some of you may have noticed the change to the NSCG logo. I hope it meets with your approval. We thought it about time we stepped in line with the current thinking on Dodo morphology and have the "new, improved and slim-line" version. I would like to thank Dorothy Newman for taking the time to do the drawing.

In addition to the logo change, we have added in a questions and answer page, this was prompted by Joy Irving, here in Oxford, who was kind enough to pass on the reply she received from her article in the last issue of the NSCG Newsletter. As Joy herself said, it is a shame when articles pose a problem which may be answered but these answers are never published. I hope that others will follow suit.

The latest issue of *Museumatters* (MGC quarterly newsletter) gives an update on MLAC, which is the new body that has taken over the responsibilities of the Museum and Galleries Commission. The update would seem to imply business as usual for museums wanting registration, *Sharing Museum Skills* grants and MGC publications. However, under a subheading: *Grants* the information given is a little foreboding, and I quote: "Decisions have yet to be made concerning the allocation of project grant programmes in the new structure." We shall keep an eye on the future of MLAC and its responsibilities over museums and keep you informed of any changes.

The next issue of the Newsletter is due out at the end of September, so anyone with articles, comments and book or course reviews etc., please send them to the me at the address listed in the back.

Cheers,

D.

View from the Chair

Dear Members,

As usual, our conference was a great success in spite of the rather inclement weather. I found watching the waves break over the promenade to be very exciting, especially as it was not my car they were breaking over. However, we conservators are a hardy breed, and neither rain, snow nor tidal waves stopped a few of us from climbing up to Scarborough Castle or going to the odd pub or five. The conference dinner was well organised, thanks Nick, and I was especially pleased to meet so many members and old friends. All three groups had an impressive list of speakers and I would like to thank the NSCG speakers especially for their time and the quality of their papers.

Joe Sage, from Dundee Museums, warned us all of the importance of being involved in the Best Value process. Many local authority museums will have to contend with "Best Value". My own museum service has just been through the best value process and it has resulted in the loss of staff and budget cuts. Best value is not "sexy" but it is important.

Our AGM went without a hitch and was finished in 30 minutes. No nominations were received for the three committee posts or the post of secretary, (its not a particularly arduous job on the committee and you do get to visit exotic locations like Birmingham).

Paul Brown and I, had approached people during the conference and eventually found three members who were willing to stand. Susan Cooke, Sue Lewis and Amanda Sutherland, were all duly elected. Paul unfortunately found himself elected for another term as secretary. I would like to welcome our three new committee members, and thank the retiring members for their help and support.

The organised trips on the last day of the conference were especially enjoyable. I went with the one group to look for dinosaur fossils on the beach near Scarborough and then on to Whitby Museum. I discovered no fossils but I did discover a gem in Whitby Museum. In these days of computer interactive displays, it was a joy to find this museum literally packed with strange, curious and interesting objects. There were no flashing lights or buttons to press but the museum is still as popular now as it was a hundred years ago. We saw the marvellous collection of marine reptiles conserved by Kate Andrew, and Adrian Doyle was good enough to talk us through the conservation process. I would like to thank Nick Gordon for liaising between the three groups and for doing most of the conference organisation.

Bob Entwistle.

Minutes of the Annual General Meeting

Venue: Scarborough Spa Complex, South Bay, Scarborough.
Tuesday April 4th, 2000 12.30-1.00 pm

1. Introduction and consideration of agenda

The agenda was then approved by all present. Topics listed for AOB consisted of Insurance for Freelancers.

2. Apologies for absence

Apologies of absence were received from Kate Andrew & Maggie Reilly

3. Minutes of AGM on Tuesday 22nd June, 1999

The minutes of last years annual general meeting were presented. Nick Gordon proposed and Steve Garland seconded that they be accepted and signed. The minutes were duly signed by Bob Entwistle as being correct.

4. Matters arising from minutes

There were no matters arising.

5. Chairs report.

Bob Entwistle welcomed membership to the 7th AGM of the NSCG. He reported that committee had met fully only three times during the last year. We usually meet 4-6 times and the fewer meetings reflect the increased workloads we all have at present and the shorter period between AGMs due to the BCG/GCG share.

Those conservators who applied for Fast Track Accreditation with UKIC will know whether they have been accredited. There are probably 10 Natural Science conservators who will be accredited and these names will appear on the list to be published in May.

We continue to represent our views on the NCC-R (National Council of Conservators and Restorers, ex ABC, ex Conservation Forum) with virtually all the other conservation groups in the UK represented on the committee. The NCC-R is now responsible for administering the Conservation Register as well as promoting and running the Joint Accreditation process. NCC-R will become more important as the support given by MGC may not be as constant as MLAC (Museums, Libraries, Archives Commission). With the imminent demise of the MGC it is important that the voice of conservation is heard in the Museums and heritage world.

Many of you will have seen our new membership leaflet which has been distrib-

uted with BCG, GCG and UKIC mailings. Our membership hovers about the 100 mark but we believe that we can expand further with the aid of this leaflet. I would like to commend Kate Andrew for gaining the Group charitable status. Other organisations are having great difficulty in becoming charities and some have given up trying. The law governing charitable status has changed, being tightened up considerably and Kate has done us a great service in ensuring or successful application.

We were sorry to lose Nick Gordon from Committee this year and thank him for his work previously and for his organisation of this excellent conference. Darren J. Mann our new editor has worked hard to give The Newsletter a facelift whilst continuing with the 'house style'. Darren has also been liaising in the setting up of a Website for the NSCG, which will be on the net in the near future.

The Newsletter is only as good as the papers written for it. I appeal again to the membership to support Darren by submitting articles, book, equipment and conference notices, reviews and reports. Our series on the Ten Agents of Decay has been very well received by many in the museum world. The series had to be suspended in the last issue of The Newsletter due to lack of copy. Please don't let this worthwhile series grind to a halt.

Please remember why this group was first formed! There was no existing group specifically concerned with the promotion of and the dissemination of information about natural science conservation. This is still the case as there are very few natural science conservation courses or advocates in the universities. Without the NSCG, there would be no active promotion of natural science conservation.

6. Secretary's Report.

There have been four committee meetings through the year with attendance of members as illustrated below in the attendance log:-

	25.viii.1999	24.xi.1999	24.ii.2000	2.iv.2000
Kate Andrew	✓	✓	✓	-
Paul Brown	✓	✓	✓	✓
Bob Entwistle	✓	✓	✓	✓
Simon Moore	-	✓	✓	-
Vicky Purewal	✓	✓	✓	-
Maggie Reilly	-	✓	-	-
Darren Mann	✓	✓	✓	✓
Adrian Doyle	✓	✓	-	✓
Glenys Wass	✓	-	✓	✓

7. Membership Secretary Report.

In Maggie Reilly's absence, this was read by the secretary.

For the year February 1st 1999 to January 31st 2000 the Group had 103 members (plus the Newsletter is mailed out to the Legal Deposit Office of the British Library). The total figure breaks down into the following categories of membership: 76 UK personal members, 1 student member, 7 overseas personal members and 19 institutional members. 103 members is only a very modest increase of 4 members on the previous year total of 99 members. With this in mind, the committee decided to launch a membership drive in the form of distributing our newly produced leaflet via mailings in the UKIC, BCG and GCG Newsletters. This was done at the end of 1999, and how effective this measure is remains to be seen.

8. Treasurer's report.

In Kate Andrew's absence, the accounts as audited by William Lindsay & Velson Horie were distributed for inspection.

Accounts for the year 1st February 1999 - 31st January 2000.

Current account - Midland Bank 1442341

	£4480.90
Balance brought forward from 1st February 1998	£4480.90
Income	
71 UK personal memberships @ £10.00 (+ one, one year in advance)	£ 720.00
2 UK student memberships @ £8.00	£ 16.00
5 Overseas personal memberships @ £12.00 (+ one, one year in advance)	£ 72.00
24 Institutional memberships @ £25.00	£ 600.00
Bank Interest	£ 28.70
Sale of back issues Newsletter	£ 18.00
Conference	
7 x member - single day @ £10.00	£ 70.00
26 x member - two days @ £20.00	£ 520.00
2 x non member -single day @ £15.00	£ 30.00
Trade fair stands	
2 x 2 days @ £70.00	£ 140.00
1 x 1 day @ £30.00	£ 30.00
sub total	£2244.70
Total income	£6725.60

Expenditure

Newsletter production	£ 97.15
Design & printing of leaflet	£ 989.85
Conservation Forum subscription	£ 200.00
Committee expenses	£ 41.39
Conference expenses	£ 528.04

Total expenditure £1856.43

Balance at 31.01.2000 £4869.17

Debtor	
One conference trade fair fee	£ 70.00

Petty cash funds

Income

Balance 31.2.1999 £ 16.01

Expenditure
nil £000.00

Balance at 31.01.2000 £ 16.01

Notes

1. The guidelines from the Charities Commission on the preparation of annual accounts state (p. 4) that for charities with 'neither income or expenditure over £10,000 that accounts must be prepared but may be on a receipts and payments basis'. We comply with this.

2. The accounts were sent to Velson Horie and William Lindsay who kindly acted as auditors and deemed the accounts to be in order. There is no requirement for us to do this but it seems good practice and so is worth continuing.

These accounts and the minutes of the AGM will be sent to the Charities Commission a.s.a.p.

9. Proposal to accept the accounts

Darren Mann proposed that the accounts be accepted which was seconded by Jenny Bryant. The meeting accepted the proposal nem. con.

10. Editor's Report

Two issues (12-13) of the Newsletter have been produced in the last year, consisting of sixty-eight pages. Part 8 of *The Ten Agents of Deterioration* has also been produced, the subject being pollution. However, due to lack of articles for the last Newsletter, publication was held back until the end of March, this issue should be waiting at home or in your pigeon holes, there are reference copies here for those who cannot wait that long. I apologise for this delay, but in my defence, I would like to say that without articles from the members, it is impossible to produce the Newsletter. I would like to reiterate what has been said before and will no doubt be said again, please, send us material for inclusion.

The next issue of the Newsletter is due out in May, which will include the papers presented at this meeting. Part nine of *The Ten Agents of Deterioration* is to be **Physical Forces**.

The NSCG Website is still being worked upon, we hope to be able to have all back issues of the Newsletter, as well as the usual array of pretty pictures and links to other sites of interest. If there are any other items that members feel should be present, please contact me.

I would like to thank all those members who have contributed to the newsletter, and look forward to their continuing support. I would like to express my special thanks to Juliet Hay, who has helped in the production of the newsletter.

11. Election to the Committee

Five posts have become vacant and four names put forward prior to the AGM.

There were no nominations for the post of Secretary, so as stated in the Constitution under item 6 Terms of Office, 6.3 "Competent trustees can in exceptional circumstances be re-appointed after their term of office has ceased but may only be re-appointed if the membership deems them capable of fulfilling their duties". Paul Brown was nominated by Robert Entwistle and seconded by Adrian Doyle.

Four ordinary member posts were available vacated by Simon Moore, Glenys Wass (co-opt) and two posts not filled from last year.

Simon Moore, nominated by Glenys Wass and seconded by Darren J. Mann.
Sue Lewis, nominated by Vicky Purewal and seconded by Mike Fitton.
Susan Cooke, nominated by Bob Entwistle and seconded by Joy Irving.
Amanda Sutherland, nominated by Caroline Buttler and seconded by Julian Carter.

As no election was required, the Secretary proposed and Jo Hatton seconded that, the names put forward are accepted en block for election to the committee. The candidates were duly elected nem. con.

12. Election of Auditors

Bob Entwistle nominated Velson Horie and William Lindsey to continue as auditors. Passed nem. con.

13. Insurance for Natural Science Conservators


Simon Moore made another approach to the membership for freelancers to make use of the competitive insurance cover available from Crowley Colosso for both Public Liability and Professional Indemnity. He reported that a price of £250 for both was quoted by this company, and is a very competitive price being at least half that of other quotes. This would be an important saving for our freelance membership and such a chance should not be allowed to pass. Anyone who is interested should contact Simon. He has been approached by other non-natural science conservators to be included but this is not possible. He cannot benefit from this deal unless we have 10 or more people who are interested.

14. AOB

Simon Moore reported that UKIC would like us to re-join the UKIC. A member asked whether we would be allowed to keep our low membership fee under the UKIC umbrella. This would be negotiable. Bob Entwistle thought that we might lose the voice we already have on the NCC-R (National Council of Conservators & Restorers). Simon invited the membership to discuss this matter in print in the Newsletter [Likewise similar discussion on the possible alternative step of merging with BCG & GCG].

Possibilities for the next AGM are Cambridge or Oxford, date to be arranged.

Close of Meeting 1pm.



The Ten Agents of Deterioration: Physical Forces.

Part nine of the Ten Agents will be published as soon as we have enough articles to make it worth while.

Please send any items for inclusion to the Editor.



ACCESS TO COLLECTIONS NSCG / BCG / GCG CONFERENCE

Conference in Scarborough, Yorkshire Monday April 3rd - Tuesday April 4th

After battling through the elements of a northerly gale, torrential rain, snow, delayed trains, car breakdowns and police problems, the healthy number of 80+ delegates gathered for registration at the Spar conference Centre overlooking the stormy south bay. The conference was opened by Harry Dickton, Mayor of Scarborough who reflected a healthy regard for the museum community, which bodes well for the future of Scarborough Museums. The morning session was then chaired by Rob Huxley of the Natural History Museum, London, and Biology Curators Group.

Simon Knell of Museum Studies Department of Leicester University gave the first presentation on *Access - Physical & Intellectual*. How do we communicate the museum message, and what media do we use to reach our audiences? We need to continue to build from our museum resources and popularise our natural sciences by developing popular exhibitions, discovery centres, web sites, exportable collection databases and public interaction in the field (e.g. fungus forays etc.) He introduced the concepts of inclusion and exclusion to museums and how social, political and racial changes need to be addressed. In the 19th century museums were the preserves of the middle classes, the product of exclusive societies (much like today's middle class golf clubs). Natural History collections became immensely popular as the population became emancipated and came to 'own' their museums. One needs to increase audience diversity. Many who do not visit museums are disenfranchised, such as ethnic minorities and the disabled who can be the victims of tokenism (e.g. wheelchair ramps and stuffed rabbits to stroke), special provision highlighting that they are different. How do we allow our Community access to the museum experience? Different communities see things differently with their own valid paradigms with their own views on postmodernism, constructivism, post-colonialism, multiculturalism, fashion, finance and politics. Are our views on access to our collections too scientific and what do different communities consider important? Do we try to too hard to illustrate processes

with objects and not the objects themselves? We must be honest in what we do and tell others. There is money available for research into education. The Group for Gallery Education has 800 members and there is £340000 available in grants.

Joe Sage of Dundee City Council Arts & Heritage talked about Best Value (BV) for Collection care. As a service Manager and Natural History preparator, he has been involved in Dundee's BV evaluation recently. The collections should

1. Reflect the needs of local communities,
2. be accountable to those communities, and
3. be of Best Value i.e. efficient, effective and economic.

It is a legal requirement that Councils review BV every 5 years (20% of the council's business each year). Methods for BV include, Market testing by tendering, benchmarking and comparison with performance indicators, and pilot studies looking at how others have done it. One needs to assess the political climate, and determine the views of those in charge in the Council and be certain of the remit and how the BV should be organised and what performance indicators should be used. An audit trail is required which describes how the BV was done. One needs to define the service under review by assessing job descriptions, identifying tasks, recognising the difference between theory & practice and rank tasks by the relative times spent doing them. Such a BV study can look similar to a food web. One must consult stakeholders both internal and external on what information is required and to inform them of survey methods. The results must be interpreted and the service redefined after identifying gaps between actual and expected service provision. One needs to determine the critical success factors by cost, response time, and attainment of deadlines, quality & professional standards and diversity of skills. What is the cost of service delivery? Establish the fixed cost, the variable cost and regular income. Market test by drawing up specs and inviting tenders both in and out of house. An options appraisal considering critical success factors, the consequences of different options and verification of cost implications is needed and the development of a continuous improvements strategy. A BV report with the above strengthens status and not to do such effectively could mean that the service will suffer.

Julian Carter, conservator from the National Museum and Galleries of Wales, Cardiff spoke on the *Hidden Treasure* in our collections. Where are the valuable specimens? How do we prioritise specimens? Often specimens with little scientific value (i.e. no data or unknown provenance) can have an educational value. The act of databasing and placing into new storage, improves ones own access to a collection. Specimens should be selected for hands-on activities. Specimens in spirit are not very accessible to the public having health & safety prohibitions. A

spider in a block of resin makes it accessible for handling yet is not accessible for microscopic study, dissection or DNA study.

John Martin of Leicester City Museums - *The Culture question: Fossils as Property*. When in the ground fossils are not accessible, even less so than when in private collections. Mary Anning became a professional fossil collector to supply the developing market for fossil specimens at the end of the 18th century. The rock quarrying trade provided many early specimens such as at Barrow on Soar, Leicestershire. Such present day trade is fraught with danger, as in Brazil where there is no legal way of getting fossils. Peasant quarry workers have to give their finds to armed middle men, who then pass on the specimens to the illegal export market and further middle men. Dinosaur eggs from Hainan, China have been smuggled out, and are now being exchanged for research purposes by museums and can be further made accessible by joint publication with Chinese workers. One egg possessed fossil dermestid frass in a dead embryo! Vertebrate fossils are worth money so if you wish to acquire them for science and as cultural property, one has to be involved in the trade. The 'Unidroit' code of ethics says that we cannot touch smuggled specimens so they cannot be published thus losing further access to these specimens.

Geoff Hancock from the Hunterian Museum, Glasgow described his museum as being difficult for casual visiting, due to the location and poor signs. The University student audience is primary with local interest groups second. With the help of a Heritage Lottery Fund grant, New metal 'Halucirnia or Value-unia' units with drawers below are being installed and computer terminals for database (zip spreadsheets) access. Such developments are firmly part of the University's core aims of education and research.

Gillian Mason, Education Officer at The Hancock Museum, Newcastle - *Hands on Hands off*. Of the 125,000 visitors to the Hancock 70% are families, 20% schools and 5% experts. The museum was run by Newcastle University, and most of the collections were not accessible until it was subcontracted to the City Council. There have been three recent projects to enhance access. 'Objects of Desire' involved 1000 people from different communities and schools who selected their favourite objects for display (by the people for the people) in four different museums. At the Hancock, four groups were approached; disabled, primary school, Natural History Society and a local water company. People from these groups were selected and then taken through the museum's stores by a curator and an education officer to select their choices. These specimens are displayed with quotes by the selectors as to why they selected the specimens. The exhibition will involve the selectors and will travel to other sites such as schools. This project attracted a £130,000 grant, has two staff, and is designed to break down barriers

between the different communities and groups in the North East. The Earthworks permanent gallery was opened in 1998 after careful planning with geology curators. Glass-topped drawers below display cases have 'open me' written on them. A large amount of visual display with little text, but with books attached to the wall for extra information. Some samples are stuck down and can be touched. The museum can accommodate special needs schools and has an advocacy group for adults with learning difficulties. An intellectual audit was completed by approaching different user groups to ask them what was good and bad about their museum visits. Multifunctional activity trolleys are now being used for activity sessions with selected fossil specimens.

Judith Scott, Education Officer at NMGW Cardiff - *Educational Access to Natural History Collections*. Galleries were evaluated by observing visitor behaviour to identify distractions and unfocused school visits. By hooking specific audiences one can increase visitor numbers. This year is 'maths year' and the National Curriculum has a requirement to apply maths. Trails have been designed through the galleries to test maths, some being adult teacher led and others are designed for group work. Biodiversity has been linked with maths, using maps and keys to identify organisms. There is a giant floor pie chart to reflect biodiversity, for example leaf shape and petal number, tree rings, ant activity, moth symmetry, and measure a humpback whale etc. So using the maths 'hook', more natural history can be explored. Maths teachers that have been involved have been impressed, sessions have been fully booked and the displays can be improved from evaluation feedback sheets.

Andy Newman of the Museums Studies Department at The University of Newcastle talked about what functions do museums have and what messages do objects portray? We need a conceptual model. How much do museums reflect community identity and are museums about people, collections or identity? Museum objects can form the focus of a community, a sense of place, giving an identity of ethnic, social and cultural traditions and may help enforce this or even change it. Museums are one element of identity and can be targeted for destruction as in Yugoslavia as part of the ethnic cleansing process. Interpretation of those objects can be changed to suit the cultural needs as well. Natural Science collections can give a relationship between community and the natural environment, instil local and national pride and appreciation and, especially if a spirit of ownership and collective memory can be instilled can change the way one perceives who one is and where one is from. This gives a sense of inclusion into citizenship that is sometimes, not shared by minorities. Developments in geological science changed views of creation away from biblical theology and who we are as a biological species. Eco-museums and their links with heritage sites help in this and human links made with specimens can make them more interesting and valuable.

Alistair Bowden talked about his leadership of the integrated interpretation project 'Dinosaur Coast', which is to conserve heritage by raising awareness of the history and development of fossils in the area. A weekend is planned of activities in the Spar conference centre and on Scarborough beach during the summer holiday period, with a guidebook, signed trails and advertising throughout Yorkshire. Regionally important geological sites will be visited. The area covered will be the Jurassic sediments on the coast between Staiths to Seeton including Whitby Museum and sites in the North Yorkshire Moors National Park.

In the evening, delegates gathered at the St Nicholas Hotel for the conference meal and afterwards at the Hole in the Wall, the preferred watering hole of the Scarborough Museum staff.

Tuesday morning the wind was still high but the sun shone for the third session chaired by Bob Entwistle from Ipswich Museum and chair of NSCG. Bob Child, head of Conservation at NMGW, Cardiff, discussed the storage facility and reserve collections at Nant Garw. Diverse objects from the many smaller stores now closed, have been moved to this new site. Only 5% of the NMGW holdings are displayed, the reserve collections consisting of duplicate and historic material which is a research resource, and which might double in size in the next twenty years. New exhibitions have had fewer specimens, relying on more interpretative information. The Nant Garw site is four miles out of Cardiff and the curators have had to decide what should go there. It is aimed to be a viable public utility and not a dump for discarded objects. In order to fulfil MGC registration criteria it needs/has better standards of collection care and better access for staff and public. The conservation laboratories and stores will be open to public visits.

Vicky Purewal also of NMGW, Cardiff talked on *Access to Potentially Hazardous Collections*. Treatments applied to collections were often not documented in the past, and often the only indications of chemicals present are smells, such as in naphthalene and discolouration caused by methyl bromide. Analysis of residues on botany sheets held at NMGW, Cardiff has revealed arsenic, barium and mercuric chloride, but no evidence for paradichlorobenzene. Many old collections may be similarly hazardous such as those at Oxford and Cambridge. The presence of notifiable poisons could mean the closure of access to collections and the disposal of contaminated collections would be expensive. Blood and urine tests occur yearly for staff in contact with such collections that costs £40/year. In enclosed stores with no air circulation, high concentrations of poison vapour may build up so stores should have ventilation. In addition, fume hoods should be made available for safely inspecting suspect materials. The paper sheets hold more contaminants than the plant material, thus remounting the material can reduce the hazard by as much as 40 times.

Hazel Newey from The Science Museum, London described Blythe House store, which is shared with the Victoria & Albert Museum. This store holds 83% of the collections and much of the Welcome collection. It is an old building with 99 small rooms, which have blocked windows and no working areas within the store-rooms. There are few large items and most material is on open shelving. Small items are stored in plastic trays in glass-fronted cabinets. Radioactive and lead objects are labelled up with H. & S. labels. Last year there were 680 visitors, made up of 90 groups of professionals, specialists and a corporate sponsor evening visit. The store for large objects is at the old RAF airfield at Wroughton, Swindon. Items stand on pallets on floor or on open Dexion racking with Plastazote padding. Many objects came from the old store at Hayes where maintenance costs were high and environmental conditions not controlled. At Wroughton the A1 building is purpose built with environmental control and some mobile racking and high-level fork lift access. The seven airfield hangers hold the aircraft and motor vehicles, two of which are densely packed with vehicles. Last year there were 30,000 visitors during a series of open weekends. Only one staff member is required for every 15 visitors, to supervise as in the past; visitors have taken parts off vehicles. The 'Navy Yard' site will become the National Collection Centre with educational facilities.

Douglas Russell of Woodend Museum, Scarborough, is spending a Heritage Lottery Fund grant for the documentation of 104,000 specimens held in the Scarborough Museum supervised by Jane Mee. Specimens were housed in the Rotunda of 1829, where access the was poor. They were moved in 1950 to Wood End, the collection consists of the Bean Shell collection, eggs, birds and a herbarium in a poor state, many of which were piled into the attic and lately were in bin bags. The 34,000 Mollusca were re-curated in 1969. In 1996 the collections were assessed, and the resulting document became a benchmark for improvement. A HLF grant for £98,000 was awarded over 3 years for new storage and study area furniture, computer with MODES and a full time worker.

Carolyne Buttler NMGW, Cardiff. Casting a fossil skeleton can widen its audience and can be sold to raise funds (£100,000 for a T. Rex). Casts can become important specimens in their own right, such as the Diplodocus at The Natural History Museum, London. The originals can be too fragile for handling and be environmentally sensitive, such as with pyritised specimens. On the South Welsh coast, at a late Triassic SSSI, a set of dinosaur footprints were being eroded by wave action. During the 6-hour low tide window of opportunity, the footprints were cast, using a thin and then a thick layer of silicone rubber, this was reinforced with gauze bandage before removal, cleaning, painting. The footprint casts are now being displayed in the museum, thus making them accessible.

In the afternoon a convoy of cars made their way to Crook Ness with Alistair Bowden to find fossil dinosaur footprints, that had recently fallen from the cliffs. Luckily, the weather had ameliorated. Then we visited Whitby Museum and were guided by Peter Thornton and Graham Pickles as well as Adrian Doyle, who had helped Kate Andrew on the conservation of the wall mounted fossil marine reptiles. The museum was set up by the local Literary and Philosophical Society to display material collected from the local quarry trade. Some of the quarry managers became interested in the fossils, and soon the best alum beds were indicated by certain species of fossil ammonite. The wall-mounted reptiles were previously suffering from incursion of damp from a leaking roof and pyrite decay had started. The lamp black & varnish recipe coating the specimens was removed with nitromores and ammonia hydroxide was applied to stop the pyrite decay. Polyethylene Glycol was then applied to conserve the specimens. The museum is a mixture of natural history with fossils and faded bird and fish specimens as well as local community ephemera linked to the fishing industry. We inspected the 'What's in Store' exhibition of a wide variety of objects from store housed in Dexion and perspex sheeting, however, with odd gaps that have allowed too much access by small hands to some exhibits.

The other tour of the afternoon was led by Douglas Russell to view the Woodend Museum building up the hill from the Rotunda. In this building, we saw the roof stores with steep stairs and bad access. Attic rooms were still piled on the floors with mammals and birds in plastic sheeting and occasional bin bags. Some should be disposed of, as many labels were removed by a previous staff member. An old library exists with few new titles. Valuable specimens include the type specimen of the Pigmy antelope collected by Colonel Harrison in 1926 and a Yorkshire example of the Bald Eagle. The collections are primarily used as a resource for display specimens. Displays in the main museum describe the tunny fishery and local habitats illustrated by dioramas of such localities as Bempton cliffs, the famous seabird colony.



Hidden Treasures: Conservation making natural science collections accessible

Julian Carter, Conservation Officer, Department of Biodiversity and Systematic Biology' National Museums and Galleries of Wales, Cathays Park, Cardiff, CF1 3NP

Museums are notorious for gathering material, which then remains 'lost' in stores and basements. The sight of cluttered boxes or overcrowded specimens crammed into a cupboard is far too common. As carers for collections, we are all faced with a balancing act of trying to prioritise which parts of our collections are looked after and worked upon in an attempt to make maximum use of the available resources. Words such as 'impact' and 'profile' are now commonly used to describe the value of a natural science collection. However, to decide on these factors you first need to know what is in a collection, and what condition it is in.

The first great challenge facing a conservator working in natural science is the great diversity of material that goes to make up our collections. From the large skeletal remains of cetaceans, to microscopic plankton, the conservator caring for this range of material must understand how it is prepared and preserved, its biological composition, and how best to store and access this material.

Many factors will drive the decision of how to direct collection care effort. This will range from the monetary value of a specimen or collection, to straightforward practical problems such as the space available to work on, and how to store collection material. Ultimately it is the perceived value of a specimen or collection that will drive collection care effort. Such a value will be derived from the scientific, historical and educational value of the material. However, such decisions cannot be made until the collection has been conserved, documented and curated, since until you know what specimens you have, how can you judge their value? Such decisions require the need to understand the type and origin of the material that is in your care, enabling sensible decision making on directing collection care.

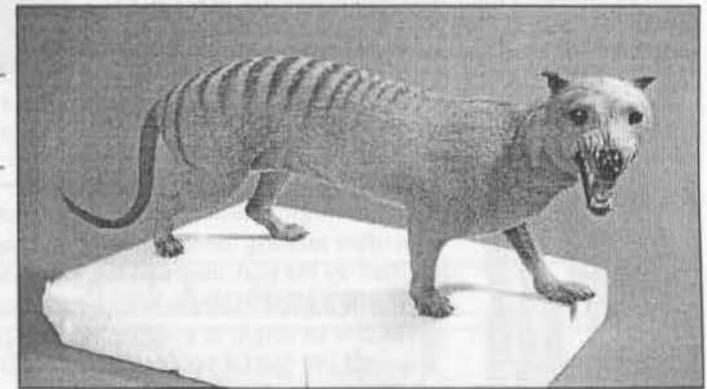
The role of museum conservation in natural science collections can be put to great use in making 'lost' or 'degraded' collection material accessible to all facets of museum work. Conservation effort itself can range from a simple re-packing exercise, to detailed conservation treatments, all of which is aimed at stabilising the collection within its storage or display environment. The very act of conserving a

collection is often the first occasion the material has been fully assessed since its arrival in the museum, and can be combined with other projects such as compiling inventory information, thus improving accession documentation and recording conservation work.

Examples of how conservation work has improved collection access are numerous at the National Museums and Galleries of Wales (NMGW), which is fortunate to have a team of conservators working in all collection areas. The examples that follow are from my own work and experiences on the zoological collections.

The NMGW's specimen of Tasmanian Wolf is an example of an extinct animal,

and as a result was easy to justify spending conservation effort on even though the specimen possesses no real data. However, what value has a pile of crabs in boxes with no data? NMGW possesses a great deal of this type of collection material



The Tasmanian Wolf

in poor storage conditions. However, this material has been put to good use over the past couple of years at NMGW. Specimens have been regularly used in both display and 'hands on' exhibits. Thus, the material may have little scientific value, but it has a great deal of *access value*, and proved to be worthy of conservation effort. With such collections, the work requires little more than re-packing and baseline documenting. Good packing is well worth the effort as it is the first line of defence, protecting the specimens from environmental problems in poor storage areas and pest attack.

The very process of working through a collection can establish the true value of material. Whilst rummaging for material for use in display in an old sub-basement area in NMGW, a specimen of swordfish was found. Originally thought to be a model, stripping down the old filler and paint revealed the real fish to be present. X-rays also revealed the extent of the skeletal material present. The specimen has now been painted up and returned to display almost 90 years after being initially prepared.

NMGW possesses a great deal of old skeletal teaching material. Much of this material requires a good clean and some repair, but again this is proving to have great value in education and hands on use. Recent years have seen the skeletal collection repacked and an inventory put together. The result is that the material is available on a database and is now easily located. Recent exhibitions and gallery developments have been regularly using this material.



Use of bone material in a 'hands on' gallery



Pinned Coleoptera (Beetles)

into the collections proves useful. The specimens offer a source of material for 'access' based display projects. However, exercise care with old entomological collections as important material, which is often missing identification information, can be identified by the pins used and the methods of mounting. This is a good example where knowledge of the material and its origin in your institutions collections are required.

Some collection areas are relatively easy to store and care for, and the material lends itself well to 'hands on' use. Molluscan shell collections are a good example of this as the material is generally robust and easy to handle. However other collections areas require much more care and thought in their use and handling. Fluid storage is an important means of preservation, but can be difficult to use in terms of display and 'hands on' access. The use of fluid collections is further complicated by health and safety issues. However fluid preserved specimens can be useful in the presentation of 'difficult' animal groups, especially soft bodied organisms. An example of a 'difficult' group of organisms is spiders, which normally are fluid preserved. NMGW has a collection representing about 70% of the British fauna, but the collection has no curatorial care. The collection has required extensive conservation work. A good result of this work has been the establishment of duplicate voucher specimens that have been utilised in a new 'hands on' gallery by mounting in clear resin blocks. The blocks are easy to handle and can be viewed through a video microscope.

Conservation work is also important in making collection material identifiable, and effectively accessible for scientific work. A good example is with work on neglected survey collections, which have had the main groups of interest removed, and then the rest of the collection has suffered from custodial neglect in a lost corner of a storeroom. Current issues such as local biodiversity issues and species distribution can lead to a reworking of such collection material. Conservation work can make this material accessible for further study and identification work.

Thus, collection conservation is much more than sticking bits of plastozote in boxes. Conservation, along with curation and documentation, plays an important role in collection care. It can be used to great effect in helping to utilise material by making it accessible for education, scientific study and display. Every Natural Science institution needs a conservator!

Book Announcement

Guidance on Working with Independent Conservators



The Museums & Galleries Commission (MGC) has published *Working with Independent Conservators, Guidelines for good practice*. These Guidelines will help museums and other organisations to appoint, brief and work with independent conservators. *Working with Independent Conservators* describes the stages in commissioning conservation work from an independent conservator. It deals with the remedial conservation of objects, collection condition surveys and various other types of projects, such as furniture restoration. It also contains information on the options for tendering and outlines the principles of good conservation practice.

Working with Independent Conservators is available from MGC Publications priced £8.00 plus £1.25 p&p (UK), £2.50 (EC) or £4.00 (outside EC). Cheques should be made payable to the Museums & Galleries Commission and orders should be sent to MGC Publications, 16 Queen Anne's Gate, London, SW1H 9AA.

An Introduction to Molluscs: Curation, Conservation and Uses

A Meeting Report of the BCG training day held at Oxford University Museum of Natural History on 31st January, 2000

Jo Hatton, Assistant Curator, Grant Museum of Zoology & Comparative Anatomy, University College London

The papers from this meeting are to be published in a forthcoming issue of *The Biology Curator*. This was a well-attended meeting covering a range of topics over the course of the day, including the curation, conservation and use of molluscs in general terms. It was aimed largely at the non-specialist molluscan curator or non natural science curator and offered basic guidelines and practical advice for those caring for these important and often neglected collections.

The meeting began with a talk from Paul Clark of the Natural History Museum, who gave a brief synopsis of the types of storage jars used for the wet preservation of molluscs and other invertebrates. This went from the first attempts using flint glass jars sealed with pigs bladder stored in 'spirit of wine' in the 17th century, to the modern alternatives such as Perspex pots in the mid 20th century. Problems with the use of these methods were outlined. Borosilicate glass jars with individual ground glass lids are deemed the most effective storage container for the preservation of wet collections at the present time.

The second speaker was another Natural History Museum specialist, David Reid. This time covering the Scientific uses of mollusc collections. Using examples and case studies, he showed how molluscs are used for study in a number of fields: morphology of anatomy, geographical studies concerning distribution and geographical variation through time, baseline studies providing basic information for environmental use; monitoring of pollution levels for example, and in DNA studies for molecular phylogenetic analysis.

Steve Cross from National Museums and Galleries on Merseyside, Natural History Centre, pointed out 101 uses (well, not quite) for dry mollusc collections in education. Due to the robust nature of some of the larger species, many molluscs make ideal 'hands-on' exhibits. He highlighted many of the ways in which molluscs can be used to aid study of many areas of the national curriculum and this does not just include science!

After coffee, Mary Seddon from the National Museum and Galleries of Wales, Cardiff (NMGW) gave an outline and demonstration of their documentation and public access to collections information project. NMGW use Filemaker Pro (Apple Mac) for data input. The rationale behind the fields used and their inter-relationships were explained in terms of ease of input and access to specific information at the other end. Mary went on to discuss how she had been involved in transferring parts of the working database to one which can be transferred to a world wide web based interface. This can then be browsed by the user on numerous search fields such as locality or collector, from an Internet connected computer anywhere in the world.

Julian Carter, also from NMGW, then considered the Conservation of Mollusc Collections. He covered the major problem areas in the conservation of dry stored mollusc collections, (wet preservation requiring a day of seminars all to themselves). The main causes of problems in dry (and wet) mollusca collections are: the original preparations, subsequent remedial work, neglect and poor custodial care, poor environmental conditions and incorrect storage, particularly off-gassing from wood or MDF, decay of storage plastics, and emission of plasticisers from plastic bags. The main problems associated more exclusively with dry mollusca collections are the threats from Bynes Disease, shell cracking and exfoliation, all of which were discussed in more detail, with causes, effects and treatments outlined.

Finally, before lunch, Adrian Norris from Leeds Museum talked us through his Molluscs for the Millennium project; a case study of a collection's documentation, re-storage and access project. The project aims to transfer the natural history collections from Leeds City Centre Museum into a newly renovated storage facility outside of the city centre. The Museum boasts historically and scientifically important molluscs amongst its collections. Substantial funds were secured in order to more adequately store, curate and computer document the collections for users in the new millennium.

After lunch, delegates were able to discuss specific problems and obtain additional advice from some of the morning's speakers. Demonstrations of curatorial techniques and equipment were set up by the Natural History Museum Invertebrates Curation Team, a demonstration of Educational uses of Molluscs by Steve Cross and Conservation problems by Julian Carter. Tours of the Mollusca and other collections at Oxford University Museum were offered to those interested.



Pests from non-collection sources

Darren J. Mann, Hope Entomological Collections, Oxford University Museum of Natural History, Parks Road, Oxford, OX1 3PW.

Most of us have encountered pests in our collections, more often than not the ubiquitous *Anthrenus*, the origin of which is usually an infestation in the collection or the building itself. However, recently a few new pest species have been discovered here in Oxford, for which the source was not the collection, but material brought in for non-collection use.

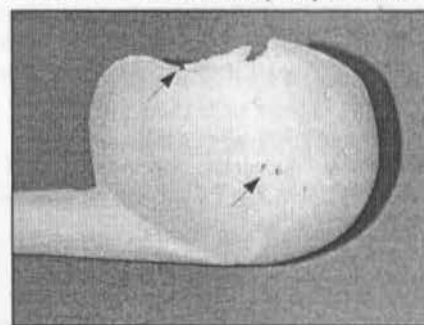
The Oxford University Museum of Natural History (OUMNH) has four displays of live invertebrates, namely cockroaches (non-pest species), stick insects, moth larvae and tarantulas. The cockroaches were obtained from the university's Zoology Department, and arrived in four large dustbins, from which half were put out on display and the remainder were kept in the foyer of the Hope Entomological Collections (HEC) for restocking and teaching purposes. On cleaning these dustbins and putting the livestock into new cages, an infestation of the red-rust flour beetle [*Tribolium castaneum* (Herbst)] and the grain weevil [*Sitophilus granarius* (Linnaeus)] were discovered. The flour beetles were within a matter of hours of arriving, beginning to take to the wing, with a large number being trapped in the fluorescent light fittings. The weevils were a little more subdued and remained on the harbourages and in the food bowls. Although neither of these species is known to attack insect collections, it is always possible; it would be more likely for an infestation to have become established in dead spaces within the museum building.

A third and more worrying pest, was the discovery of the American cockroach [*Periplaneta americana* (Linnaeus)], of which a couple of adult females were found hiding in the egg-box harbourages used in the dustbins. This is not regarded as pest of collections, but it could easily have become established in the building, causing public health problems, and, once established added to the biomass of organic material for *Anthrenus* to feed on. Luckily, the few cockroaches present were soon dispatched. After which a thorough check on the material from the Zoology Department to be disposed of was made, and it then frozen to ensure no escapees.

The tarantulas in the displays are fed on live cockroaches (surplus from the display) and crickets, namely the African two-spotted field cricket [*Gryllus bimaculatus* DeGeer] as this species is unlikely to escape and become established. On arrival, the crickets were unpacked into a new cage, the transportation containers

contained egg-box harbourages and bran as a food supply. In this bran were the larvae and adult of the hide beetle [*Dermestes peruvianus* Laporte de Castelnau] and the lesser mealworm [*Alphitobius diaperinus* (Panzer)]. In total, about a dozen larvae and five adult hide beetles, and half a dozen larvae and two adult lesser mealworms were discovered. The hide beetle, although not a serious threat to the entomological collections, could have caused problems in the zoology collections. The lesser mealworms are not known to attack natural science collections, but again could have become established in the building. Again, a thorough check was made of all material, all pests were despatched and all of the material was disposed of.

The Pit Rivers Museum (PRM) shop was the source of an unusual species of pest beetle. The museum shop buys in material for re-selling, recently a number of



wooden spoons and pens were imported from a dealer in Germany. On examination, the staff in the PRM noticed small emergence holes and a number of live beetles; these were sent to Hope Entomological Collections for identification. The beetles turned out to be powder post beetles (*Lyctus* sp.), a species name has yet to be determined. The powder post beetles are a notorious timber pest, of sapwood or semi-seasoned deciduous

hardwoods. With this information, it could be assumed that the majority of the collection (ethnographic material including wooden artefacts) would be safe as the condition of the wood was not suitable for infestation. The vigilance of the staff and the resulting freezing of all the infested stock soon solved the problem.

In conclusion, materials brought into a collections area should be thoroughly inspected for pest infestations, and then treated (freezing, anoxic environments etc.) regardless of pest presence or absence, as pests or their activities are not always clearly visible. Secondly, correct identification of pests is essential in both indicating their possible effect on a collection, and in their control. In the HEC, we have a policy of freezing all incoming materials, however this cannot be done when one is dealing with livestock for displays. The alternative would be to have a separate handling area for such things, but with the problem of shortage of space, this is rarely achievable. The PRM also has a freezing policy on all incoming materials. Unfortunately, in the instance illustrated above it failed to deal with the pest, this may have been due to the nature of the material, the hardness of the beetles or even the efficiency of the freezer (or lack thereof), so once again museums have to rely on the expertise and vigilance of their staff.

The Sladen Collection Conservation Project

Amanda Sutherland, Sladen Conservation Project, The Royal Albert Memorial Museum, Queen Street, Exeter, EX4 3RX

Work is now well under way to conserve Walter Percy Sladen's internationally important historic collection of echinoderms, associated ephemera and personal library which contains rare 17th century literature. The collection was bequeathed to the Royal Albert Memorial Museum in Exeter, by his wife, following his death in 1900.

By 1910, the entire collection had come to be displayed and housed in a room designed specifically for this purpose. R.F. Rowly, who was the curator at the time, took a keen interest in the collection and undertook much of the installation himself. He reported his work in an article in the *Museums Journal* of that year, of which he was also the editor. The room has changed little since then, although both the collections and interpretative displays have suffered considerable damage, not least from light.

Rowly was particularly keen on schematic diagrams and is reputed to have done many of the drawings himself. The gallery demonstrates, amongst other things, the basic life-cycle of echinoderms, illustrated with a small collection of 3D wax models. Other items include corals, a large collection of microscope slides and an extensive fossil collection. However, the vast majority of specimens consist of dry echinoderms, stored largely in 48 shallow glass-topped drawers, which form part of the case furniture. Most of these items are still packed in tins and boxes and one specimen was found still pinned in a letter dating to 1888. A further part of the collection is preserved as a 'spirit' collection, some of which is on display.

Working through the documentation of the collection is proving especially interesting. Dr. Frank Rowe updated the taxonomy of the collection in the early 1970's, a project funded by a grant from the Sladen Trust, administered by the Linnaean Society. He published his work as a catalogue in 1974 and this has been used as the foundation for a database for the entire collection. It is being amended where necessary as work progresses, and it is hoped that the final version will be as comprehensive as possible.

Conservation so far has focused on the spirit collection and the dry echinoderms. Problems encountered have included selecting suitable paints and applied surfaces for the restoration of the battery jars which will be re-installed on display. Actively deteriorating spirit specimens have also been shown to have a high pH, in

the region of pH 9-11 and it is not clear why this is the case. The presence of what appear to be thymol crystals which have been found only in contents of jars in this condition may be a contributing factor. Another conservation problem is the propensity for the dry sea urchins to lose their spines, the connective tissue having suffered shrinkage and loss of elasticity.

Work is also on-going in the gallery. Blinds and replacement UV filters are to be fitted to the windows; the electrics are being made safe; the case furniture is to be conserved and the displays themselves are being condition-assessed at present. Minor repairs are being undertaken on the ephemera where necessary and work on the library will start later in the year. It is intended that the appearance of the gallery will be more in keeping with the spirit of the Edwardian design and that improved ambient light levels and conservation measures will enable the gallery to be properly enjoyed by visitors. The project coincides this year with the Centenary of Walter Percy Sladens' death and events are being organised to commemorate his life and work.

The author would be pleased to hear from anyone who has experience in the following areas:

- The development of treatments for dry echinoderms
- The examination of black surface finishes used in the preparation of battery jars and materials used in their restoration
- The treatment of deteriorating echinoderms stored in ethanol in which the pH has become alkaline
- Early collections of wax models demonstrating aspects of natural history



Questions and Answers

Answer

Introduced Pollutants - The Risks of Treating Mineral Specimens with Ammonia. Joy Irving.

NSCG Newsletter 13: January (March) 2000. Insert Ten Agents of Deterioration: 8: Pollution. pp. 2-3.

This reply was received from David Green at Manchester

".....I came upon a conservation note by Joy Irving quite by chance on the green to brown colour transition in pharmacosiderite. This is something I have often seen occur naturally, over a period, on specimens collected from Burdell Gill in the Caldbeck Fells....."

"First, as Joy says, base exchange does occur extensively in pharmacosiderite minerals, but the simple way it is described in most mineralogy texts is almost certainly wrong. They (the texts that is) maintain charge balance at various sites by halving or doubling the number of cations in formulae, as in barium pharmacosiderite as compared to the potassium species. This almost certainly does not happen, as inspection of analyses of barium pharmacosiderite will reveal. Instead I guess that protonation maintains the charge balance, as occurs in a number of other minerals, e.g., tsumcorite, mawbyite, carminite and their allies."

"As for the colour change, it's almost certainly produced by Fe(II) to Fe(III), with charge balance maintained as above. Incidentally, you can get pharmacosiderite to go from green to brown using NaOH, so I never wash pharmacosiderite specimens in soapy solutions. The colour change is partly reversible in weak nitric acid (not a lot of good if you have pyrite in the matrix). I suspect that in principle it might also be reversible in sodium dithionite - that would be worth checking out....."

Question

If anyone has had problems with chemical change to other minerals present, other than the pyrite or marcasite, when treating mineralogical specimens with gaseous ammonia to neutralize pyrite decay, please reply to: J. Irving, Oxford University Museum of Natural History, Parks Road, Oxford, OX1 3PW, E-Mail: joy.irving@oum.ox.ac.uk.

The WWW

The British Museum

If you can find your way round the site there are some interesting conservation orientated pages, including lists of publications.

<http://www.thebritishmuseum.ac.uk/>

The British Museum materials thesaurus

This site is a must for anyone working in museums. Lists materials in alphabetical order with alternative and preferred names for materials etc.

<http://www.mdocassn.demon.co.uk/bmmat/matintro.htm>

The Biological Curators Group

Currently has only a list of committee members and future meetings, however, this is one to bookmark as I'm sure it's destined for great things.

<http://www.bcg.man.ac.uk>

Biological Collections via the Internet

A useful gateway to other biological collection sites.

<http://vm.cfsan.fda.gov/~frf/biologic.html>

The Society for the Preservation of Natural History Collections

The role model for us all. The site lists just about everything going on within the society including publications, announcements, conferences and downloads of old newsletters. The download of their "Guidelines for the Care of Natural History Collections" is a must.

<http://www.spnhc.org/>

Entomological Collections on-line

The Iowa State Universities' Index of Entomological Collections is another good gateway to various on-line catalogues.

http://www.ent.iastate.edu/List/insect_collections.html

Courses and Meetings

BEST VALUE

A one day seminar

28th September 2000

A one day seminar is being organised by the NSCG devoted to Best Value and how it affects museums, with a particular emphasis on conservation and collections management.

- Has your Museum been through or is it going through the Best Value process at present?
- How did your museum tackle Best Value?
- Was it a success?
- Could you have done it better?
- If so, have you any advice for other museum professionals?

We are issuing a call for speakers at a one day seminar to be held at:-

"The Potteries Museum and Art Gallery" Stoke on Trent

Contact: Bob Entwistle, Senior Conservation Officer, NSCG Chairman, Ipswich Museum, High Street, Ipswich, IP13QH

Biological Curators Group

Documentation

January 2001

A meeting to cover all aspects of museum documentation, from data standards to MGC registration

Contact: Nick Gordon, New Walk Museum, New Walk, Leicester, LE1 7EA

N.S.C.G. Committee Members

Chair

Bob Entwistle
Ipswich Museum
High Street
IPSWICH
Suffolk
IP1 3QH
Tel 01473 433549 Fax 01473 433558

Secretary

Paul Brown
Department of Entomology
Natural History Museum
Cromwell Road
LONDON
SW7 5BD
Tel 0207 942 5196 Fax 0207 942 5229
E-mail pab@nhm.ac.uk

Treasurer

Kate Andrew
Ludlow Museum
Old Street
LUDLOW
Shropshire
SY8 1NW
Tel: 01584 873857 Fax: 01584 872019

Membership Secretary

Maggie Reilly
Assistant Curator of Zoology
Hunterian Museum
Glasgow University
GLASGOW
G12 8QQ
Tel 0141 330 4772 Fax 0141 330 5971
E-mail mreilly@museum.gla.ac.uk

Editor

Darren J. Mann
Oxford University Museum of Natural
History
Parks Road
OXFORD
OX1 3PW
Tel: 01865 272 957 Fax: 01865 272 970
E-mail: darren.mann@oum.ox.ac.uk

Committee Members

Adrian Doyle
Conservation Laboratory
The Natural History Museum
Cromwell Road
LONDON
SW7 5BD
Tel: 0207 942 5538 Fax: 0207 942 5546
E-mail: amd@nhm.ac.uk

Simon Moore
Hampshire County Museums
Chilcomb House
Chilcomb Lane
WINCHESTER
SO23 8RD
Tel: 01962 846337 Fax: 01962 869836
E-mail: musmsm@hants.gov.uk

Victoria J. Purewal
National Museum & Galleries of Wales
Cathays Park
CARDIFF
CF1 3NP
Tel 01222 573345 Fax 01222 239829
E-mail: vicky.purewal@nmgw.ac.uk

Susan Cooke
Charnwood Museum
Granby Street
LOUGHBOROUGH
Leicestershire
LE11 3DU
Tel 01509 233737 Fax 01509 268140

Sue Lewis
Department of Entomology
Natural History Museum
Cromwell Road
LONDON
SW7 5BD
Tel 0207 942 5779 Fax 0207 942 5229
E-mail sel@nhm.ac.uk

Amanda Sutherland
Royal Albert Memorial Museum
Queen Street
EXETER
EX4 3RX
Tel 01392 665951 Fax: 01392 421252

Contents

Editorial	1
Views from the Chair	2
Minutes of the AGM, 2000	3
NSCG/BCG/GCG conference report	9
Hidden Treasures: Conservation making natural science collections accessible	16
Book Announcement	19
Meeting Report: An Introduction to Molluscs: Curation, Conservation and Uses	20
Pests from non-collection sources	22
The Sladen Collection Conservation Project	24
Questions and Answers	26
The WWW	27
Courses and Meetings	28

