

Editorial

Dear Membership,

It was a pleasure to see so many of you at the conference this year, and for those I didn't get a chance to talk to, there's always next year.

I'm very pleased to be able to say that our website is now live – www.natsca.org. Please do visit it and use it. The 'forum' section will be coming soon where you can post questions when you are in need of advice or information. To everyone who has written an article for the Newsletter; we would like to use the articles that have been submitted to NSCG, BCG and NatSCA over the years on the website as part of a document store. Please let us know if you would be unhappy with this.

In an effort to streamline the way that we bring you news, we are hoping to start an email information service. This will keep you up-to-date on training, conferences, events and news from the website, without having to wait for the next issue of the Newsletter. If you do not wish to be included in this service, please let Maggie Reilly know, and we will remove your name from the list. If you have not already given your email address to Maggie Reilly then please do so as soon as possible. If you do not have an email address or cannot access the Web please let us know and we will post out any additional info that is not included in the Newsletter. All this information will be available on the website, so you will not be missing out if you do not have regular use of an email address, and you can keep yourself updated at www.natsca.org, however, we hope that this service will make things a little easier for the membership at large.

One of the issues that NatSCA feels very strongly about is the worrying loss of specialist curator posts. We highlighted this trend in issue 4 of this Newsletter, with reference to the situation at St. Albans and Hull Museums (the loss of a Keeper of Natural History post and a natural science curatorial post changed to an educational officer post, respectively). We have had a response from St. Albans, which we thought only fair to publish here; they feel very strongly that they are not "unable" to look after the collection, despite this loss of specialist curation. NatSCA would like to apologise for the implication that St. Albans was unable to care for its collections, when the implication was intended in a much broader sense – our response to this sort of news is that a generalist collections manager is not a solution for access and care of natural science collections, given that generalists cannot give the level of access, in all senses of the word, that specialist curators can. As the main British body representing natural science collections, we want to voice our concerns and put up a more substantial argument as to why this sort of thing is a retrograde step and why we will continue to fight against it. We have offered St. Albans the right to respond, and indeed would like to hear both sides of the story from any other organisations as well – have you had a post deleted? How do you feel this affects your custodianship and curation of the collections?

Jill Kerr's paper, **The Life and Times of *Tineola bisselliella* in the Collection Store, Ulster Museum, Belfast** has been reprinted here due to difficulty in reproducing some of her graphics in an earlier edition of the Newsletter (Issue 4, December 2004). Please do bear in mind that complex graphics should be submitted as tiffs, and do advise us if you require colour printing, as due to the high cost for this type of printing, we do not offer this as standard.

- Victoria Noble

Contributions for Issue 7, December 2004

All articles, letters, news, adverts and other items for inclusion for the next issue of the NatSCA Newsletter should be sent to the address below by November 1st:
Victoria Noble [Editor, NatSCA]
Department of Botany, Natural History Museum, LONDON, SW7 5BD
email: V.Noble@nhm.ac.uk

The Life and Times of *Tineola bisselliella* in the Collection Store **- Jill Kerr: Natural Science Conservator, Ulster Museum, Belfast**

Summary

In the summer of 1999 a 'sticky' trap with a pheromone lure for *Tineola bisselliella* (Hummell, 1823) (webbing clothes moth), located in the taxidermy collection, was found to contain seven moths. This was the first indication of an infestation, which had become established throughout the store. A non-chemical solution for the treatment of the space and specimens based on cleaning and freezing, proved successful, except for one area where a small number of moths were still being trapped. Here, it was discovered that cardboard boxes containing bags of 'unclean' bones showed signs of an extensive, active infestation. The most alarming revelation was that some of the larvae had managed to eat their way out of the polythene bags in which the bones were stored.

Introduction

Pest species, which attack museum specimens, include some species of insects, rodents and birds. They can cause irreparable damage to, and staining of, specimens. An Integrated Pest Management programme is essential for the long-term preservation of museum collections. This offers a holistic approach to the problem of pests by establishing procedures for prevention, monitoring and treatment. Documented here, is the infestation of *Tineola bisselliella* in the Collection Store at the Ulster Museum and the role of IPM in the discovery and management of the problem.

An IPM programme began at the Ulster Museum in 1997 and the main collection store (Figure 1) was included in the pilot survey. It is the largest store in the museum (780 m²) and contains a wide range of specimens from various disciplines including zoology, botany, ethnography, archaeology, geology and local history. These specimens, many of which are organic and vulnerable to pest attack, are housed in a variety of cabinets, drawers and racks or on open shelving.

During the five years since monitoring began, the IPM programme has steadily evolved. The monitoring programme now includes the whole museum and a quarantine facility has been set up adjacent to the main collection store. A monthly cleaning regime has been successfully established for this store. The dissemination of information on our IPM programme has stimulated interest and raised awareness amongst curatorial and gallery staff.

To monitor for pests, 'sticky' traps were used in many areas and traps with pheromone lures for *Tineola bisselliella* and *Anobium punctatum* (Degeer, 1774) positioned near collections particularly vulnerable to attack by these species (Figure 1). Since 2002 the lures for *Anobium punctatum* have no longer been available. The traps were inspected monthly and annual reports produced with any findings and recommendations.

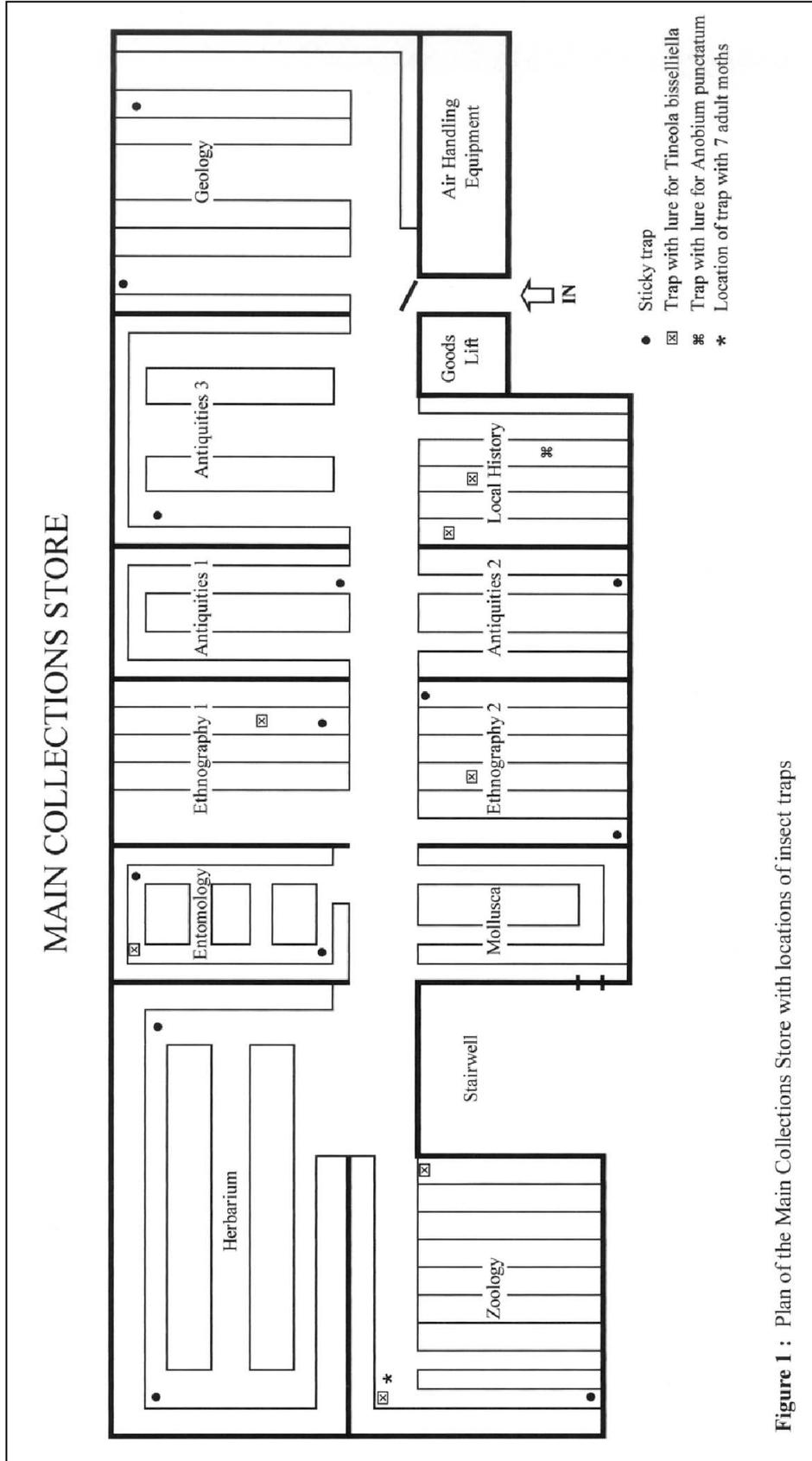


Figure 1 : Plan of the Main Collections Store with locations of insect traps

It was during the third year of monitoring that significant numbers of *Tineola bisselliella* started to appear in the traps in the zoology bay (Figures 1 & 2) and the ensuing infestation put the newly established IPM to the test.

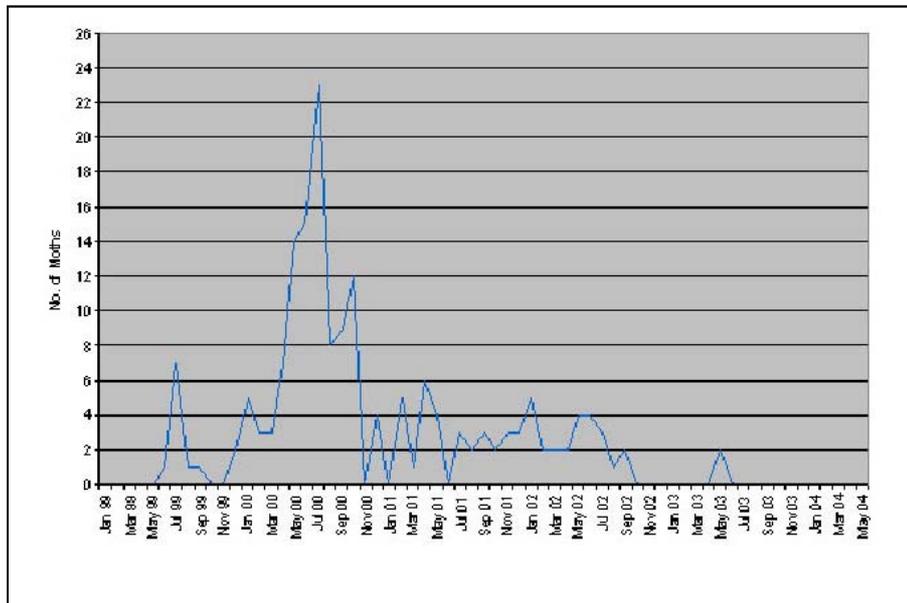


Figure 2: Moth catches in Collection Store

Tineola bisselliella

Tineola bisselliella is a small (5-7mm long), fawn-coloured moth from the family Tineidae. It is known to eat a range of materials, most commonly natural fibres such as wool (preferably soiled), fur, feathers, bird and mammal skins (Pinniger & Winsor, 1998). They can also damage synthetic materials and have the capacity to digest keratin in bone (Florian, 1997). They are not attracted to light and tend to scuttle around in dark areas, only flying when it is warm enough. The larva spins a silk tube, which contains frass and material from the damaged object. One generation usually takes about a year but there can be more if conditions are favourable (Carter & Walker, 1999; Pinniger, 2001). The collection store, which is air-conditioned, typically to a range of 18-23°C and 50-55% RH provides an ideal environment as they breed in temperatures between 20-33°C and an optimum RH of 70%.

***Tineola bisselliella* in the Collection Store**

In the first two years of monitoring, the numbers trapped indicated a low level of activity, four adults between May 1997 - April 1998 and two in the subsequent year. These had been found in the zoology, ethnography and local history costume bays (Figure 1). In July 1999 a trap with a pheromone lure was inspected and seven adult moths identified. The trap was situated in the zoology bay amongst the taxidermy collection (Figure 1).

In the following months, the number of moths trapped and the sightings of adults increased dramatically. Vulnerable parts of the collection (taxidermy, ethnography and costume) were inspected. Relatively few objects appeared infested but those that were, showed quite severe damage (Figure 3). A number of options to treat the specimens and the space were considered. It was decided that the most practical and effective way to treat the specimens was by freezing (Strang, 1992). If carried out correctly this would be guaranteed to kill all the life stages of the moths and would have minimal effects on those objects in the collection identified for treatment (Strang, 1996). The specimens found to have an active infestation were treated immediately and those vulnerable to attack were bagged in preparation for freezing. Although progress was slow due to the freezer capacity, bagging of specimens protected them from infestation and contained those already infested.

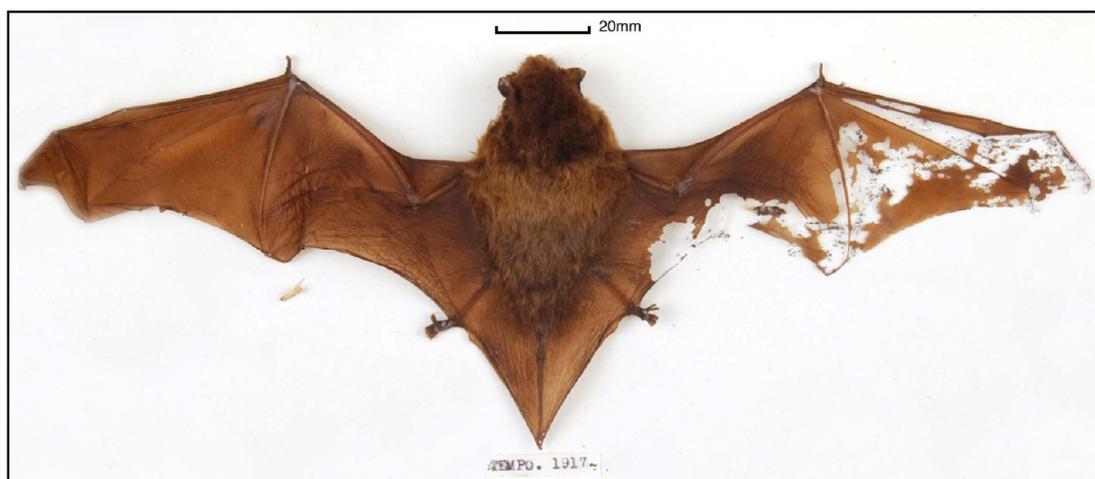


Figure 3: Bat with damage from *Tineola bisselliella*

A few taxidermy specimens, which showed signs of insect activity but were too large to fit in the freezer, were treated with Dichlorvos (Vapona™). It came as an impregnated strip, which slowly released a vapour, lethal to insects at the correct concentration. Its main use was where a contact insecticide was not appropriate and had the added advantage of remaining effective for up to six months. However, this product was not suitable for all types of specimens as it can fade some dyes and corrode metal (Dawson & Strang, 1992). This insecticide has now been withdrawn for all use in the UK because of health and safety concerns.

Pest control companies were consulted about an approach to the treatment of the storage space and furniture. Various factors had to be considered such as the residual effects of the treatment, health and safety and disruption to staff and visitors. A series of pyrethrin-based spray treatments was suggested for the treatment of the building fabric and methyl bromide fumigation for the furniture. A survey of the store revealed that there was a lot of unnecessary non-collection material cluttering up the floor space, creating potential food/harbourage sites of pests and restricting access for cleaning. It was decided to make significant improvements to the housekeeping regime and to consider the chemical solution only if these steps did not prove effective in reducing moth numbers.

During the bagging process, extra pheromone and blunder traps were placed in areas containing specimens vulnerable to attack to help locate the source of any activity as soon as possible. Steps were taken to improve cleaning in the store and a programme started to remove non-collection material in order to facilitate cleaning. Storage furniture was cleaned thoroughly whenever specimens were removed for freezing.

***Tineola bisselliella* in the Osteological Collection**

In May 2002 the bagging of taxidermy, ethnography (organic specimens) and local history costumes was completed and the number of moths trapped reduced to an average of 2-3 per month (Figure 2). These were mostly confined to one particular area in the taxidermy collection. This was perplexing because all the taxidermy specimens had been bagged thereby eliminating possible food sources. It was decided to continue with the removal of the non-collection material in an attempt to clear this area and find any sources of infestation. It was then that a box of bones was discovered which showed signs of an established infestation of *Tineola bisselliella*. An inspection of this and the surrounding boxes revealed a number of seal skulls and dolphin bones which had not been completely de-fleshed during preparation and which showed signs of activity. Inside the boxes, the bones were stored in unsealed polythene bags. A new programme of inspection and bagging began in an attempt to eradicate what was hoped to be the last source of moth activity.

After the bones had been frozen, they were cleaned of any moth debris, which included frass, larval tubes, larvae and adults. Examination of the bones during cleaning revealed a number of interesting features:

- The extensive nature of the colonisation by the moths in this environment (Figure 4).



Figure 4: Frass from *Tineola bisselliella*

- Appearance and analysis of some of the frass indicates that the larvae had digested bone as well as flesh. Most of the frass is a dark ‘flesh’ colour but in a few cases it appears to be a pale ‘bone’ colour (Figure 5).

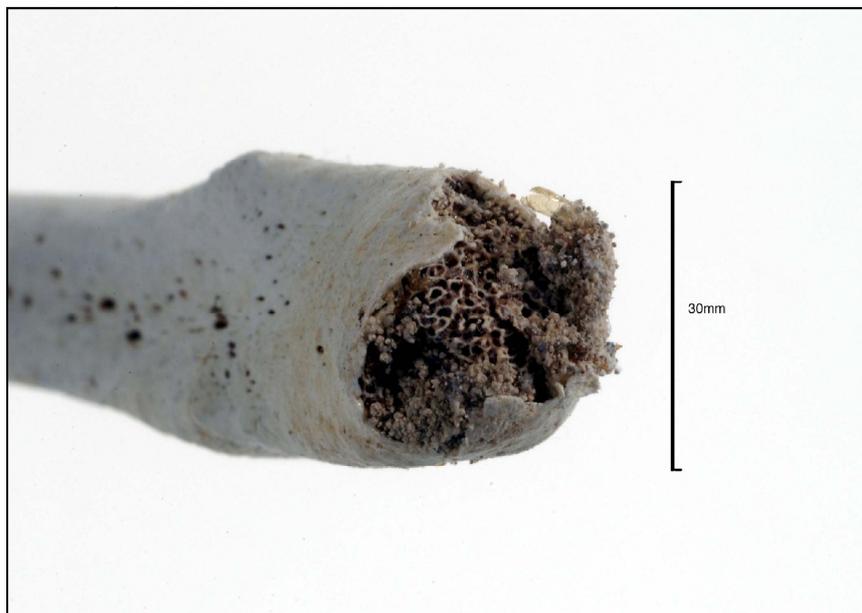


Figure 5: Pale ‘bone’ coloured frass

To discover if the moths had digested bone, two samples of frass were compared using X-ray microanalysis. Figure 6 was produced from a sample of dark frass and Figure 7 from a sample taken from the bone shown in Figure 5. Several areas of each sample were analysed. The pale frass shows distinct peaks for calcium, potassium and magnesium, all elements common in bone. By comparison, the dark frass shows no peaks for these elements.

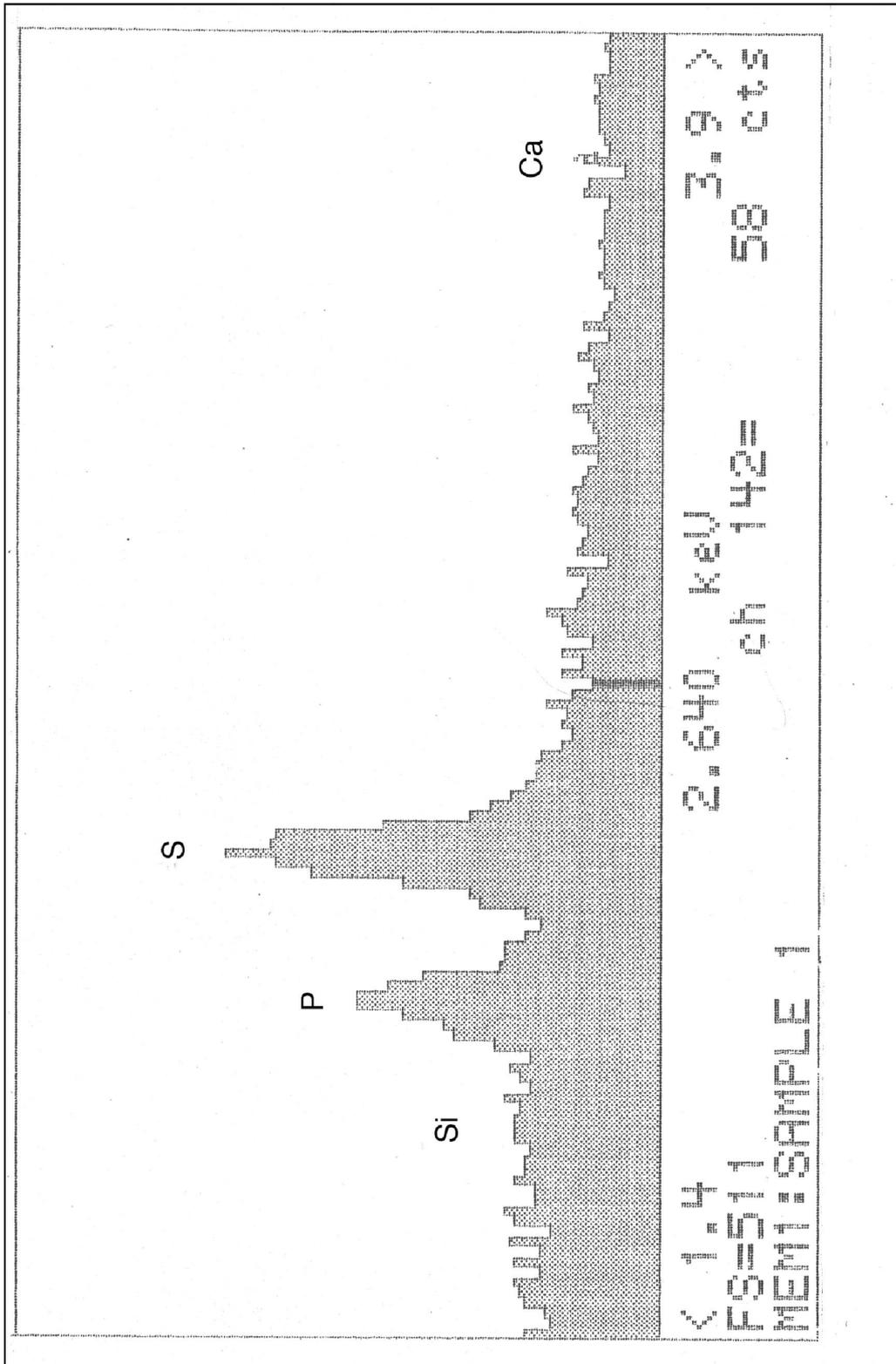


Figure 6: X-ray microanalysis of dark frass

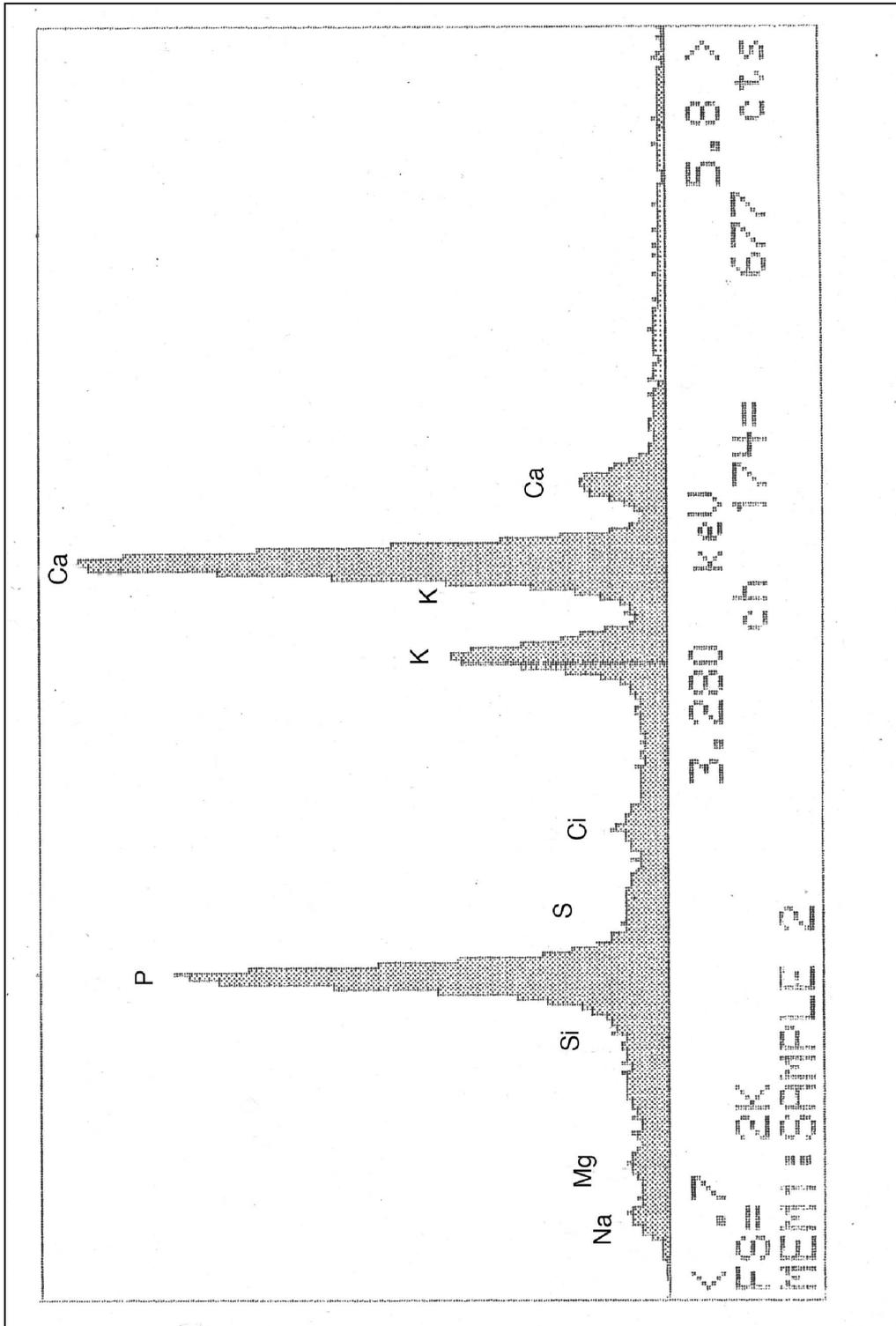


Figure 7: X-ray microanalysis of pale frass

- Some of the larval tubes appear to be made from dead adult moth wings and frass (Figure 8).



Figure 8: Larval tube made from *Tineola bisselliella* wings and frass

- Several of the polythene bags showed signs that they had been eaten through from the inside by larvae (Figure 9 and 10).

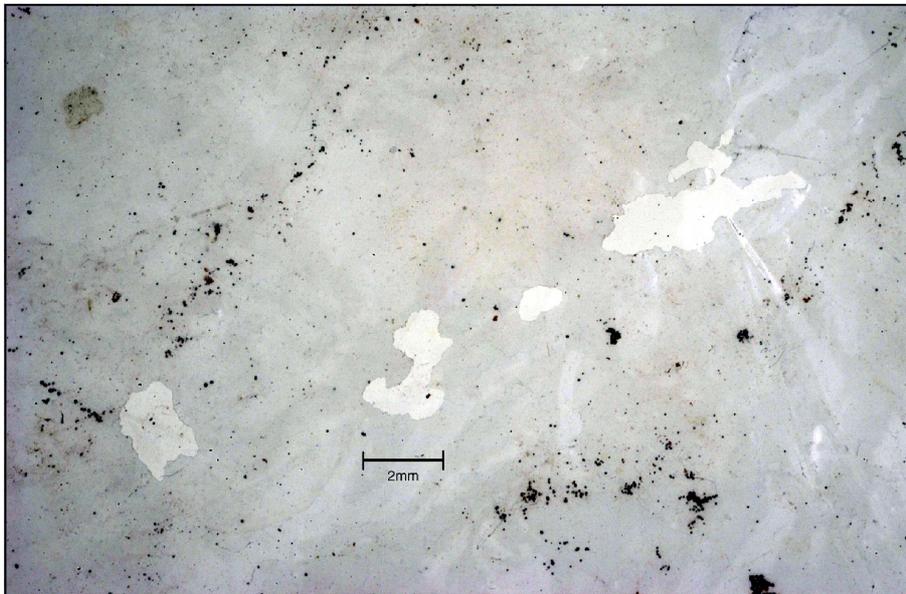


Figure 9: Hole in polythene bag eaten by *Tineola bisselliella*



Figure 10: Larval tube attached to hole in polythene bag

Conclusion

Since this incident, the number of moths caught have been significantly reduced (Figure 2). The freezing programme is making slow but steady progress and vulnerable specimens remain bagged. Keeping the specimens in bags has created problems with access and the co-operation of curatorial staff has played an essential part in controlling the spread of this pest. The objects can only be removed from their bags after freezing and when no moths have been trapped over a period of several months. It was decided that the improvement in housekeeping had proved effective in reducing moth numbers and a chemical treatment was not required for the space or furniture.

Hopefully, this experience has taught us several valuable lessons, which will lessen the risk of future infestations:

- A quarantine procedure is essential to prevent the entry of pests.
- A good housekeeping regime can reduce the likelihood of an infestation developing.
- A trapping programme is essential to identify pest outbreaks and sources.
- Pests can be very resourceful in their quest for survival.
- In order to manage a pest population it is essential to understand their habits.
- Pest management is the responsibility of all staff.

References

Pinniger, David and Winsor, Peter. *Integrated Pest Management. Practical, safe and cost-effective advice on the prevention and control of pests in museums.* Museum & Galleries Commission, 1998.

Florian, Mary-Lou. *Heritage Eaters. Insects & Fungi in Heritage Collections.* James & James, 1997.

Carter, David & Walker, Annette K. *Care and Conservation of Natural History Collections.* Butterworth Heinemann, 1999.

Pinniger, David. *Pest Management in Museums, Archives and Historic Houses.* Archetype Publications, 2001.

Strang, Thomas J.K. *A review of published temperatures for the control of insect pests in museums.* Collection Forum 8 (2), 1992.

Strang, Thomas J.K. *The effect of thermal methods of pest control on museum collections.* Biodeterioration of Cultural Property 3, 1996.

Dawson, John E. Revised by Strang, Thomas J.K. *Solving Museum Insect Problems: Chemical Control.* Canadian Conservation Institute, Technical Bulletin 15, 1992.

ICOM NatHist Meeting Jacobstad, Finland 14th – 17th June 2005
- Adrian Norris

Twenty-three members and associates, from 11 countries, including China, the Republic of Korea and the Russian Federation, as well as many members of the European Union, attended the meeting, which was held at the Arctic Museum, Nanoq. A wide range of papers and presentations were presented which covered the themes **Man & Nature in the Arctic; Tangible and Intangible Natural Heritage; Conservation: indoor and outdoor and Exhibitions & News from museums**. Abstracts of the papers presented and, in some cases the full text, can be found on the ICOM NatHist website at:
<http://www.icom-nathist.de/icom/>

A number of interesting facts and pieces of general information were passed on to members which, I felt, deserved a wider audience. One such piece of information came from Olivier Retout of Belgium who introduced the CASTEX programme, which is a co-operative venture between Brussels, Leiden and Paris to produce joint touring exhibitions. Research into the demand for exhibitions across 87 natural history museums throughout Europe came up with the staggering statement that 285 touring exhibitions are produced per year in the EU. **The question has to be asked, why do we in Britain see so few of these touring exhibitions?**

Discussing problems of controlling pests in museum galleries, Tilman Haug of Germany came up with the idea of installing insect light traps inside the Emergency Exit lights within the gallery spaces. These lights, kept on all the time, proved to be a very successful and inexpensive way of controlling flying insects within gallery spaces, in particular the cabinet beetle *Trogoderma angustum*. This is a simple, and inexpensive, way of solving a problem, which could be of benefit to many museum galleries within Britain.

The group also visited the museum exhibitions at Nanoq, Jacobstad City Museum and the Geological Uplift displays on the island of Kopmanholm, as well as visiting the City of Nykarleby with its wooden church dedicated to St Birgitta and the water tower café with its panoramic views of the surrounding forest.

The excursions included a full day visiting various islands within the archipelago in the Gulf of Bothnia and visits to the boreal coniferous forest and peat bogs, finishing with an elk-meat stew sponsored by the Hunting Society of Nykarleby. This walk through the forest highlighted the richness of the lichen flora in a clean environment.

The ICOM NatHist AGM established a new Working Group with myself as the co-ordinator with the title of **“The Working Group on the Art of Taxidermy and its Cultural Heritage Importance”** This working group is to report back to ICOM NatHist at the ICOM Triennial Conference to be held in Vienna in 2007. I would be very pleased to receive any input into this from members of the museums community within Britain.

The next annual meeting of ICOM NatHist will take place in India in 2006.

Contact:
17, West Park Drive, Leeds, LS16 5BL
E-mail AdrianXNorris@aol.com



Members of ICOM NatHist with the symbol of the Arctic Museum Nanoq, Jacobstad, Finland



Members of ICOM NatHist around an Elk "salt-pole" in the boreal forest near Nykarleby, Finland

Proposed study visit to St. Petersburg, 2007

A few years ago the idea of a visit to St. Petersburg was first mooted. Having just returned from a conference there, and having visited several museums and spoken to staff, I found strong support for a visit by UK natural history (including geology) curators and conservators. This note is to ask anyone interested in the visit to email John Edmondson at World Museum Liverpool, without obligation; your name will be added to a distribution list and further information will be sent following more detailed planning.

There are more than 150 museums listed in the St. Petersburg Yellow Pages, including Museums of Bread and of Chocolate, making a selection quite challenging. Museums currently on the shortlist include: the Zoological and Geological Museums; the Kunstammer (a 200-year-old royal collection of curiosities, recently refurbished); the Museum of the Arctic and Antarctic; the Botanical Museum of the Russian Academy of Sciences and Komarov Institute (located in the early C19 Botanic Garden); and of course the Hermitage.

Other possible excursions might include the spectacular country estates at Peterhof, Oranienbaum or Gatchina. Once in the city, travel and accommodation costs are modest and drinks are ridiculously cheap at the time of writing (always an important factor in promoting lucid discussions?). St. Petersburg, set on the river Neva, is the former capital of Russia and has a dramatic cityscape with canals, Orthodox churches and fortresses. Suggestions about the composition of the programme would be welcome. Please put "St. Petersburg 2007" in the subject heading.

Contact:

John Edmondson
World Museum Liverpool
Email: john.edmondson@liverpoolmuseums.org.uk

Stockholm study trip notice

I note that our next study trip is not to take place until 2007, meaning that we will have gone two years without a study trip, which seems rather sad. Therefore, when, at last week's SPNHC conference, I had the opportunity of chatting to some of our colleagues from Sweden, I raised the possibility of running a half organised trip to Stockholm. I don't wish to give the wrong impression here. By half organised, I mean that I do not intend to organise everything so that people just have to turn up and do it, as we usually do. Our Swedish friends indicated that they would be happy to help us out at that end, and the budget flight operators fly to Stockholm, so this is the deal.

You get yourselves there

I will work on the Swedish end to come up with an itinerary.

I will aim to produce a list of places to stay, but you will probably have to book the accommodation yourselves.

I propose to run this trip in April or May of next year. A quick browse indicates that flights by Ryanair from Stansted come as cheap as £41, inc. taxes, but you can expect accommodation to be expensive, as is food and drink. I have also had an offer of help from Uppsala, which is not at all far from Stockholm, and it may also be possible to take in Gothenburg, so at the moment, I think we can look at a minimum of two days/ three nights.

I have had a few expressions of interest, and would like to end up with at least ten people. If this is of any interest, get back to me, preferably by email (no commitment at this stage).

Contact:

Steve Thompson
North Lincs Museum, Oswald Road, Scunthorpe, North Lincs, DN15 7BD
01724 843533
steve.thompson@northlincs.gov.uk.

Minutes of the AGM
Natural History Museum, London
Thursday 16th June

1. Introduction

Nick Gordon sent his apologies for being unable to attend the AGM. A chair was required for the meeting and Paul Brown, having volunteered was duly voted in after proposal by Steve Thompson and seconding by Nigel Monaghan.

Meeting was confirmed as quorate.

2. Apologies for absence

Claire Stringer

3. Acceptance of 2004 AGM minutes.

Membership had been directed to look at the minutes of the 2004 AGM in issue 3 of NatSCA News. Donna Young proposed acceptance, seconded by Kate Andrew and accepted by meeting.

4. Matters arising.

There were no matters arising not covered elsewhere in agenda.

5. Chair's report.

Submitted by Nick Gordon and read by Paul Brown:

Firstly please accept my apologies for not being at the AGM. The first floor of New Walk Museum has been closed for refurbishment and re-display and opens in a little under 3 weeks and a few issues still need to be resolved.

The year has been one of quiet but solid achievement with hefty issues of NatSCA news with thanks to Vicki Noble, a redrafting of the BCG Collections at Risk packs by Claire Stringer and Sue, Paul and Jo's excellent work in developing the NatSCA sessions for this conference. There has been much discussion over future training and seminars, particularly looking at some more specialised conservation and collections care training as well as the more general seminars. Suggestions subjects for training and seminars are of course always welcome.

As chair the main body of business has been the successful bid to the MLA for a grant to investigate the setting up of a Subject Specialist Network for the natural sciences. This has gained widespread support across the sector and a discussion paper will be circulated to NatSCA members shortly after the conference. This will be followed by a series of regional meetings in September, a national meeting in October and a final report to MLA in November.

A worrying trend over the last few years has been the number of unfilled Natural Science curatorial posts. A number of posts have been advertised and in some cases re-advertised and no suitable candidate found. This happened most recently here at New Walk Museums where no suitable candidates applied for a Senior Curator position. This is a cause of great concern and one I hope NatSCA will be able to address over the next year. To end on a hopeful note, discussions have already taken place with a number of other institutions and Leicester and possibly two other museums will be developing graduate trainee posts for natural sciences curators over the next year.

Once again apologies for my non-attendance and I hope the rest of the conference goes well.

6. Secretary's report

Attendance NatSCA committee 2004-2005

	21.6.04	6.ix.04	11.xi.04	31.i.05	4.iv.05	16.v.05
Nick Gordon	X	X	X		X	X
Kate Andrew	X	X		X	X	X
Paul Brown	X	X	X	X	X	X
Jo Hatton	X		X	X	X	X
Simon Moore	X	X	X	X	X	X
Vicki Noble	X		X	X	X	
Maggie Reilly	X	X		X	X	X
Douglas Russell	X		X	X	X	
Sue Ryder	X	X	X	X	X	X
Clare Stringer	X	X	X		X	
Steve Thompson	X	X	X	X	X	X
Graham Walley	X	X	X			X
Donna Young			X		X	X

7. Treasurer's report

Accounts for the year 30.01.04 to 24.01.05

Detail	Amount	Sub Totals	Totals
Total combined bank balances at 30 Jan 2004		£ 3336.58	

Income

Membership income

172 UK personal memberships @ £15.00	£ 2580.00
65 institutional membership @ £30.00	£ 1950.00
1 Euro memberships total 25 euros	£ 16.90
1 dollar memberships, total \$48	£ 26.42

Membership sub total

£ 4573.32

Transfers from precursor bodies

Final NSCG funds to d/a	£18365.17
NSCG deposit account to c/a	£ 160.42
Final BCG funds	£ 5558.25

Transfer sub total

£24083.84

Interest

Bank interest c/a	£ 9.09
Bank interest d/a	£ 335.59

Interest sub total

£ 344.68

Meetings & conference income

Insect collections meeting,	£ 200.00
Dublin AGM and meeting	£ 4633.70
Prague study trip	£ 3605.00

Meetings sub total

£ 8438.70

Adverts, sales & sponsorship

Adverts x 2	£ 180.00
Dixon Glass sponsorship	£ 300.00
Sale of back issues	£ 3.00

Misc income sub total

£ 483.00

Total income

£37923.54

Expenditure

Newsletter printing	£ 4921.50
Newsletter postage	£ 829.36
Bank charges	£ 29.00
NCCR & data protection fees	£ 135.00
Conference costs	
Insect meeting	£ 529.49
Dublin AGM	£ 3610.10
Prague study trip	£ 3799.91
Committee expenses	£ 539.29
Insurance	£ 745.50
Postage	£ 102.42
Photocopies, envelopes, misc expenses	£ 430.43

Total expenditure **£ 15672.00**

Total income less expenditure at 31.01.04 **£22251.54**

Total Balance **£25588.12**

Bank balances at 24.01.05

c/a 91645722	£ 5344.85	
Business Money Manager d/a 41653636	£20,206.72	
Total combined cash balance at bank		<u>£25551.57</u>
Less 2 cheques for £15.75 and £47.70 uncleared		<u>£25488.12</u>

Notes on accounting year

This set of accounts incorporates the final transfers of NSCG and BCG funds to Natsca, all former accounts are now closed and Natsca now operates only two accounts. For the Dublin meeting, in order to avoid bank draft costs and exchange rate difficulties some meeting fees, dinners and local expenses were handled locally in Euros by Nigel Monaghan with the final balance being repaid in sterling.

Taking away the transferred funds, the total income from activities this year has been £13,789.70 with a total expenditure of £15,672. This is the first full year of operation and so it is the first time we have a clear indication on the costs and income associated with running the new body, although an accident of timing has meant that four newsletters rather than three have been billed to this financial year.

The Insect meeting income and expenditure was spread over two financial years but it made a small (£40) profit, the Dublin meeting made around £1,000 profit, but the Prague study trip made a £200 loss, this was viewed as an acceptable use of charitable funds to support the educational objects.

In the forthcoming year, the expenses of web site design, a new poster and leaflet will be met together with a substantial sponsorship of members to attend the SPNHC meeting, we are not handling the finances for the SPNHC meeting and will do not expect to receive the level of income we would normally handle at our AGM. With substantial reserves transferred from BCG and NSCG, it is the committee's view that we can continue to draw on these reserves to fulfill our charitable objects but to retain a sum equal to a full year's expenditure in reserve.

There is an £100 discrepancy between the banked amounts and accounted for amounts that suggests a typo error but I have not been able to locate it. The accounts are in the process of being independently verified by Velson Horie and I hope he can locate the mistake. 3rd June 2005 K.J. Andrew,
Treasurer

Acceptance of accounts proposed by Jo Hatton and seconded by Steve Thompson. Unanimously accepted.

8. Membership secretary report

Report for membership year 1st February 2004 – 31st January 2005

At the end of January 2004, the total NatSCA membership numbered 239. All except the nine complementary mailings were circulated with renewal notices in January 2005.

At the end of January 2005 the membership statistics were these:

252 paid up members, of which there were

12 free mailings (see below)
 162 UK personal members
 14 overseas personal
 50 UK institutional
 14 overseas institutional

20 new members, all UK personal had joined in the course of the year.

Complementary mailing list

The complementary mailing list has been tidied up and some new mailings added.

The list is:

Organisation	Recipient	<i>Other info</i>
GCG Newsletter	c/o Patrick Wyse Jackson	
Copyright Library	Copyright Receipt Office, British Library	
British Library	Legal Deposit Office	
SPNHC	Andy Bentley	Ichthyology Collection Manager, Univ. of Kansas
Museums Association	Katie Dawson	Information Officer
S.S.C.R.	Jane Hutchison	
UKIC	David Leigh	
MLAC	Viola Lewis	Information Officer
NCCR	Carole Milner	Chair
USA mem' ship help	Chris Norris	Division of Palaeontology, AMNH
USA mem' ship help	Jane Pickering	Peabody Museum of Natural History
Gifts and Exchanges	Smithsonian Institution Libraries	

USA members

In order to make it easier for existing USA members to join up/stay members we have struck a deal with our ex-pat ex-colleagues Chris Norris and Jane Pickering. In return for personal memberships, Chris and Jane have agreed to accept dollar payments on our behalf and then pay us back via their UK bank account. We trailed this for a year to see how it worked. Only two US members took advantage of this arrangement.

Payment of subs - arrangements

We recognise that requiring payment in sterling is a disincentive to foreign members to join as the cost of a sterling draft is very high. We were able to accept cheques in euros as we are able to cash these for little cost and a 25 euro fee will net us approximately £15.00. The cashing of dollar cheques is more complicated and costly. We have been looking at using Paypal to accept on-line payment of fees – this looks to be a promising solution to our problem.

Howard Mendel asked if we had signed up any new American members at the AGM? One such member has signed up by the AGM.

9. Editor’s report

Vicki Noble announced the launch of the website and explained about the Forum and the proposal to restrict it to members. Some discussion followed on the merits of an open Forum (cf GCG and SPNHC) – good for publicity and recruitment.

VN reported that 3 issues of the Newsletter had come out and reminded bursary recipients that they were required to write an article for the newsletter. VN asked the membership if they have already published in the newsletter, would they be willing to have papers on-line

Nigel Monaghan asked if we might have the ability to collect email addresses from interested potential members via the website –we might email out bulletins to these people to let them know what is happening and encourage them to join.

10. Natural Sciences Conservation report

Simon Moore reported that UKIC was now officially defunct but tidying up loose ends before they go. IOC (Institute of Conservation) has an address and website but not yet officially open. Our relationship with IOC is as satellite organisation based on our mixed membership. We are not an accrediting organisation.

SM announced plans for a botanical collections seminar to be held at Kew Gardens on in November. There will be practical sessions plus Herbarium tours. Price to be confirmed subject to costings/sponsor. SM renewed his request for expressions of interest.

11. Election

The Committee, as voted into office at the AGM in Dublin last year, has served for one year.

Service tenures are three years for Chair, Secretary and Treasurer and two years for Editor, Membership Secretary and up to 10 other committee members.

A number of Ordinary committee members will require to be selected next year after their two years’ service, so in order to stagger committee members tenure and to introduce new blood, Committee have asked for two further committee member posts to serve from 2005 to 2007.

Two nominations for committee have reached the Secretary by 14th May 2005 ie 28 days before the AGM.

1. Name of Nominee: Dr Jane Mee from Scarborough Museum, Yorkshire

Proposed by: Kate Andrew of Herefordshire Heritage services
 Seconded by: Professor Peter Davis of Newcastle University

2. Name of Nominee: Dominique Rogers Freelance Conservator based at Ipswich Museum Suffolk

Proposed by: David Lampard of Ipswich Museum
 Seconded by: Simon Moore of Hampshire Museum Services

As there are two vacant committee posts and two names proposed, I now ask the AGM accept and elect these two people onto committee.

Proposed:- Rosina Down

Seconded:-Sue Ryder

Accepted nem.con.

12. AOB

1. There is a proposed study trip for 2007 to St Petersburg, led by John Edmondson of Liverpool Museums. Donna Young presented the following note from John:

In addition a Powerpoint presentation with additional info on the proposal was available for perusal over lunch

2. Steve Thompson proposed a study trip to Stockholm in spring 2006, having spoken with Swedish delegates attending the meeting and received encouragement for the idea. An item on this will appear in the post conference Newsletter.

3. Paul Brown reported that Vicki Noble had intimated her desire to stand down from the editorship at some point over the coming year so a new editor is sought -volunteers welcome.

13. Date and venue of next meeting

AGM 2006 – Liverpool is proposed as the venue, and the time will be late April.

A possible theme might be on formulating new galleries and how we communicate with the public. Following on from this Helen Fothergill initiated a discussion on the need for clarity in the concept and use of the term natural history. Perhaps a topic for discussion at conference next year.

14. Closing remarks – Chair

I wish to thank the SPNHC planning committee for organising our joint conference, the committee consisting of Liz Woznicki; Clare Valentine; Charlotte Stockley; Chris Stanley; Suzanne Ryder; Gemma Robinson; Giles Miller; Kate Edmondson; Adrian Doyle; Paul Davis, Chris Collins and Lorraine Cornish.

Also I specifically wish to thank Sue Ryder for her hard work in producing the NatSCA Leaflet and poster and in organising an excellent Banquet last night

Also I thank Vicki Noble for orchestrating the setting up of our NatSCA website at www.natsca.org. and for her continued dedication to editing NatSCA News.

And last but not least Nick Gordon our absent chair who worked so hard to win the SSN subject specialist Network status for NatSCA.

NatSCA Papers Given at the
2005 NatSCA / SPNHC / GCG / ICOM Conference

the Natural History Museum, London
June 13th - 18th 2005

“Realising Standards”
Wednesday 15th June, 1.30pm onwards

Subject Specialist Networks – developing a subject specialist network for the natural sciences in the UK

- Nick Gordon, Chairman NatSCA

One of the key drivers behind the formation of NatSCA was the recognition that natural sciences in Britain needed a stronger voice and would be better served by a larger organisation rather than a number of disparate groups. While NatSCA has a national scope, producing publications, organising meetings, seminars and training, it was recognised that there was a clear need for a national network of natural science curators and institutions to take projects forward on a local, regional and national level.

A framework partnership was developed to support a grant bid, including The Natural History Museum, National Museums and Galleries, Merseyside, and museums from the Regional Hubs. The aim of the bid was to develop a framework for a national network based on the major regions of the UK. At the time of writing the abstract the first meetings were being organised. This paper will consider the progress to date, issues that have been raised and the priority areas identified for the Network to address.

‘Standardising’ within a multi-disciplinary museum: How do the natural sciences collections fit in?

- Donna Young, Collections Manager (Botany), World Museum Liverpool, National Museums Liverpool

- Anne Fahy, Senior Registrar, National Museums Liverpool

National Museums Liverpool (NML), the only national museum in the UK based solely within the regions, became a national museum in 1986, though its existence goes back to the founding of the original Liverpool museum in 1851. Today, NML consists of eight museums and galleries. As with many museums that were founded in the 19th century, the collections are encyclopaedic, encompassing the natural and physical sciences, maritime and urban history, fine and decorative arts, ethnology, antiquities and field archaeology. Owing to the diverse nature of the organisation, differing standards and practices had developed in each of the separate venues, and in some cases within individual departments. Over time, it became apparent that in order to operate effectively it was necessary for corporate standards to be developed. Although an institution-wide Acquisitions and Disposal Policy had existed for some time, a Collections Management Policy covering other collections-related activities had not been developed.

A Working Group comprising conservators, curators, registrars and auditors was established with the brief to develop a Collections Management Policy for the organisation. In creating the policy a number of issues had to be taken into account. Primarily these were the institution’s legal and ethical responsibilities, the institution’s aims and objectives and NML’s existing corporate standards.

The Collections Management Policy was rolled out to staff in 2004 and articulated how NML manages its collections and the standards to which staff are expected to work. To support the policy, collections man-

agement procedures are being developed in-house, which take into account external standards and our own internal requirements. In the region of twenty procedures have been identified, largely similar to those in *Spectrum*, the UK documentation standard, developed by the MDA.

For specific discipline standards, such as those relating to the natural sciences, we have looked at subject specific resources, such as the 'Standards in the Care of Collection' Guidelines, published by the Museums and Galleries Commission (now MLA).

The overall production and dissemination of NML's procedures is the responsibility of the Registrar department, which was created in 2003 with the specific brief of introducing collections management standards and procedures across NML. The task facing the department was to develop and implement policies and procedures that were appropriate for the entire organisation, while taking into account the particular requirements of collections. The process is co-ordinated by the Senior Registrar, who works in close consultation with curatorial, conservation and audit colleagues to ensure that the procedures comply with the Trustee-approved policies, the requirements of audit and Government Accounting, as well as the individual types of collection. To support the procedures, 'guidelines' are being prepared on subjects such as copyright, couriering, marking and labelling and the UK Government Indemnity Scheme.

The aim of this paper, presented at the *Realising Standards 2005* conference, was to question whether the requirements of natural science collections are so very different from other collection disciplines. For any institution, the introduction of new standards will always be met with a degree of resistance. In the case of NML, some divisions and curatorial departments had developed their own methods of working and did not see the need for change. For some, the imposition of what they saw as corporate standards was not welcome, arguing, "we've always done it this way". Some felt that 'shoe-horning' would compromise their working practices. The Working Group found that this understandable attitude was not restricted to natural science collections. However key curatorial activities were identified that highlighted differences in methodology and approach between the natural sciences and other disciplines. To illustrate this, the subject of outward loans management was discussed.

- As an organisation, NML lends items to around eighty venues a year; approximately half of the loans are from natural science collections. Loans are made for a variety of purposes, but for natural science, the majority of loans are made to research institutions, mostly museum-based but some that are not, for example, to universities, colleges, or gardens without a public 'exhibit' arena to their preserved collections. For these non-museum borrowers, museum conventions may appear to be over-complicated and bureaucratic. For example, museums may have requirements regarding security arrangements that may be unfamiliar and appear demanding or restrictive.
- Research organisations often see the collections in a different manner to museums. An example of this could be a more cautious approach to destructive sampling taken by museums. This may seem to be obstructive, but is in line with the museum role of preserving collections for the future. NML considers each request for destructive sampling on a case-by-case basis.
- In some disciplines, such as botany, there is an unspoken reciprocal agreement between institutions, covering the postage cost of specimens. This is a departure from normal museum practice, where the expectation is that the borrower will meet all costs associated with the loan.
- The period of loan is another area where there is a distinction between 'research-based' and 'display' loans. Although we do set all of our loans within a timeframe, we understand that research loans may need to be more fluid in their timing. Within NML, we have developed a management tool to cope with this and track renewals.
- NML's policy does not generally permit loans to private individuals, with the exception of research loans to bona fide researchers, within the safeguards that we have established to determine a researcher's credentials and comply with insurance issues.

- Within the arts and humanities, some of the standards required would seem excessive for the loan of natural science collections. A good example of this would be the application of ‘facilities reports’ for all science loans. The Standard Facilities Report, developed by the UK Registrars Group, allows potential borrowers to provide lenders with information regarding the facilities at the borrowing venue. Information requested deals with areas such as access issues and environmental controls. A requirement for this type of information in relation to a research loan, may appear to be extreme, but would be vital for certain loans from our collections. As a general rule, we would not require a facilities report to be completed for a loan from our natural science collections. However, we do expect borrowers to comply with our handling instructions and where possible, ideal environmental conditions for the storage of our collections. A facilities report would be still relevant in the case of natural science collections being loaned for display.

Having examined curatorial activities, it was recognised that there are differences in approach and that ‘one size’ does not necessarily ‘fit all’. In relation to loans, we have identified a core procedure that ensures a clear audit trail showing that a specimen has left NML and been returned within a set time frame, that appropriate documentation has been created prior to the specimen leaving the institution and that the necessary and appropriate checks have taken place prior to loan. There are two variations; the first is a full application, including the use of facilities reports, managed by the Registrar. This is always used for certain collections, such as the fine and decorative arts.

The second is mainly used within the natural science departments. We have called this the ‘Advanced-Approved’ procedure. Within this, the curatorial departments have identified parts of their collections for which the application of the full procedure would not be appropriate. That is not to say the shortened process is always applied to these selected collections. Depending upon the nature of the loan and the material requested, it may be considered that it would be more appropriate to apply the full procedure. This allows us flexibility in responding to loan requests and is approved and monitored by our internal auditors.

In addition, a mechanism has been developed to track and monitor the progress of loans. A divisional bulletin is provided by the registrar, which lists all loans and their current status. Additional to this, regular meetings are held within departments, where loans are reviewed and decisions taken regarding any further action.

An integral part of developing all of the procedures is extensive consultation with all stakeholders. These include curatorial and conservation departments, registrars, auditors and senior management. Consultation is essential for feedback, review and amendment. All curatorial and conservation department heads are asked to comment on any new procedure. It is their responsibility to circulate it among their staff and provide a co-ordinated response per department. The Senior Registrar reviews the departmental responses and a follow-up meeting with departments may be held to discuss any concerns or to explain any aspects of the procedure, which are seen as a marked change from existing practice. The consultation process highlights conflicts in approach between departments, and attempts to reconcile them, without compromising NML’s overall objectives. An advantage of being a multi-site organisation is that procedures can be trialled at one venue before introducing them across the organisation.

A Collections Management Policies and Procedures Manual is being developed, which will be available to all staff and contain all collections-related policies, procedures, examples of forms and supporting information. This will be available as paper-based folders, but also on our Intranet.

The collections management procedures will provide staff and external bodies with clear guidelines about how NML uses its collections and should promote consistency in decision-making in relation to the collections, as well as consistency of practice within individual departments.

Each individual department may wish to develop their own detailed procedures to meet the specific needs of their disciplines. For example, Botany has strict quarantine guidelines that have to be followed for any item entering the department. Currently displayed as instructions within the packing room, these will be incorporated as appendices to the Collections Management Policies and Procedures Manual. In developing these appendices, subject specific issues can be addressed using particular terms of reference, e.g. the *Herbarium Handbook* published by Kew. Forum groups such as the *NHColl* (SPNHC) are a useful informal mechanism for providing insight into practices in other institutions. As with the newly assigned ‘Subject Specialist Networks’ (MLA), they can facilitate the sharing of expertise.

A key part of implementing standards within NML is the Collections Management Training Programme that has been developed in-house and delivered almost entirely by NML staff. Launched in November 2004 the programme consists of three modules covering a range of topics, such as acquisition, location control, loans management and documentation. The overall objective of the training is to provide staff with knowledge of NML's policies and procedures, in addition to providing them with training in fundamental aspects of museum work, such as environmental control, emergency planning and pest management. Many of NML's procedures are still in draft, and discussions during the training programme have been fed back into their development. The response from the delegates to the programme has been very positive, resulting in an improved sense of corporate identity and recognition of the need for unified systems. Delegates have also gained a greater understanding of the differences and similarities between disciplines. This can only improve communication and improve cross-departmental co-operation.

The development and implementation of the collections management procedures is very much work in progress at National Museums Liverpool. However, by recognising that there are differences between disciplines, and by trying to be inclusive, we are creating standard procedures that work for everyone.

Applying the theory of minimising the risks from the ten agents of deterioration at the Herefordshire Museum Resource and Learning Centre

- Kate Andrew

**Herefordshire Heritage Service, Hereford Museum & Art Gallery, Broad Street,
Hereford HR4 9AU**

Abstract

The West Midlands region of Britain is home to two new collection centres, housing around 200,000 items including substantial natural history collections. The Herefordshire Museum Resource and Learning Centre was officially opened on 28th February 2005 and the Ludlow Library and Museum Resource and Learning Centre was officially opened by HM the Queen in May 2003. Both centres were created from briefs written by the author that set out the need to minimize the risks from the ten agents of deterioration, a model first developed by the Canadian Conservation Institute and expanded by Robert Waller of the Canadian Museum of Nature. Both centres received substantial support from the Heritage Lottery Fund and capital investment from the relevant local authority.

The Hereford centre is a refurbishment of an existing building, the Ludlow project a new build. The differing approaches to achieving minimal risks from each agent and the effectiveness of these measures were compared and contrasted in the presentation given to the SPNHC meeting.

The gestation and progress with the Ludlow project has been described in the past to UK audiences, for example at the 1999 GCG meeting in Dublin and the 2002 NSCG meeting in Norwich, so this paper will cover only the planning of the Hereford project. The full article is due to appear in Collections Forum.

The Herefordshire Museum Resource & Learning Centre – a complex 3 phase project supported by the Heritage Lottery Fund and Herefordshire Council

Hereford in context

Hereford is the county city of Herefordshire and is located within the West Midlands region, sharing borders with Wales, Shropshire, Worcestershire and Gloucestershire.

The Hereford Museum was originally set up as a county service but local government re-organisation in 1974 saw the county merged with Worcestershire. From 1974 to 1998, the museum served only a city function with the county function covered by the County Museum in Worcestershire. Since 1998, Herefordshire Heritage Services has served a countywide function for the re-established county of Herefordshire.

Since 1998 many issues around duplication and delivering services across the new county emerged. The effective operation of the museum service was one of these issues. Collections and staff were spread across five main sites and several other locations within or close to the city of Hereford with at least fifteen different stores many of which were inadequate conversions of domestic or industrial facilities. The social history collection was particularly badly dispersed, making access for research or display very difficult.

After an abortive attempt to develop Churchill House Museum, an existing site in Hereford, a number of options were explored for the future of the service. A decision was reached to formulate a four phase programme of developments in 2000 with a search initiated for a suitable site to amalgamate stored collections to.

Phase 1 – purchase of site and basic refurbishment of one store

Phase 2 – refurbishment of entire site to create 3 further stores, staff offices, conservation lab and public research room and ancillary facilities

Phase 3 – new build extension to house all service collections and most staff on one site and create a public display area and a learning centre

Phase 4 – conversion and refurbishment of museum and library site to sole museum display use with removal of the library to a new build.

A brief history of the collections

Hereford Museum and Library was opened in 1874 but the history of collecting dates back to the formation of the Herefordshire Natural History, Literary and Philosophical in 18xx with the successor (and still extant) Woolhope Field Naturalist Club founded in 1851. The natural science collections are relatively modest, at around 10,000 items in total and collecting has been fairly static with the exception of a major entomology bequest in the late 1990s. However, the main thrust of collecting was by F.C. Morgan curator from 19xx to 194xx who concentrated his efforts on social history, agriculture art and costume. The whole collections total some 100,000 items.

Phase 1

After an extensive search and evaluation of several unsuitable buildings, Herefordshire Council used challenge funding to purchase the empty BT repeater station in Friar Street in central Hereford in the late summer 2000. The site and the building was a lucky find, other options explored were far from suitable. Planning consent was required for change of use and for the entire proposed scheme, so it was necessary to plan the whole refurbishment and new build quickly and prepare a submission to the Heritage Lottery Fund. This was during a period when the museum service had no dedicated manager and was led with a series of interim managers rather than a museum professional. The four phase development was planned as set out above.

During Phase 1 of the project, one large room, previously the frame room housing the telephone switching gear was re-furbished and fitted with mobile racking. This store was used to house mainly boxed material that had to be re-located quickly from the main off-site store that was on the site of a supermarket development. The second large room, previously the generator room, had wide span racking re-erected from this store and larger social history material was housed in a temporary manner. The refurbishment did not extend to office facilities and so staff based at the building had to “camp” and use a single networked computer for two years and then temporarily re-locate during the refurbishment.

An HLF offer of an £545,000 was made for the phase 2 works in September 2002 with the contract issued in December 2002. Purchase of the site and the phase 1 refurbishment was allowed as sunk funds. Shortly afterwards, the author was appointed as head of service and immediately noted some serious shortcomings in the proposals for both phase 2 and phase 3.

A new brief

The ten agents of deterioration model was applied together with lessons learned from the project at Ludlow and a brief written for the phase 2 and phase 3 developments. The original design had been based on a staff brainstorming session rather than a formal brief and based on a staff structure that had been superseded in the summer of 2002. The facilities in the phase 3 build were particularly lacking with no account taken for example of the use of compactor storage and consequently insufficient space for all the service collections.

The inspiration for the brief was the CCI wallchart and its additional development by Rob Waller of the Canadian Museum of Nature in a risk assessment framework. This framework had been used successfully to compose the brief for the Ludlow project which has been the subject to presentations to NSCG and GCG meetings in the past, it was also the inspiration for a series of “Agents of deterioration” special issues in NSCG newsletter between 1997 and 2000. Observations of how others had planned collection facilities made on numerous field trips, for example the SPNHC meetings in Chicago and Toronto and BCG trips to

Paris, Brussels and Amsterdam also informed the brief. The detail of the manner in which the ten agents were addressed will be covered in the parallel paper in Collections Forum.

The approach had to be adapted to take into account the planning consent for the building footprint, the already agreed fixed level of funding for phase 2 and an anticipated moderate amount of funding for phase 3. Some much-needed changes were made to the phase 2 plans, which in turn required approval from HLF – this was received in December 2003 with phase 2 of the project getting underway in March 2004. Taking the decision to revise the plans was seen as a fairly radical one, but now that phase 2 is operational, it is clear that the original planned method of operation of the centre would have been unworkable, objects would have been moved and handled un-necessarily and use of space is far more efficient.

Phase 2 conversion

The work on phase 2 started on site in March 2004 and the building was handed back in October 2004. The decision was taken to retain the collections in the completed store during the construction work, despite the need to fit a new heating system, new lights and gain access for re-wiring. This decision was a combination of the need to retain access to collections for exhibitions and enquiries, the need to retain the ability of collection staff to undertake useful work during the 40 week project, the unnecessary risk to collections from yet another move and the need to keep costs down.

Collections in the temporary store were inventoried onto the computer database and moved to commercial storage to join collections from Churchill House Museum, which had closed in the summer of 2002.

Collections remaining on-site were protected with acid free tissue dustsheets and the compactor racking unit was kept closed as much as possible. At completion of the phase 2 conversion, a deep clean was carried out on the site with the most serious obvious dust accumulation noted on the top of the compactor units and very little ingress within bays.

Access for contractors to the store was only possible via a member of museum staff. We retained keys to this area and a separate alarm zone and would only allow access if a member of staff was also present in the room. Although the main contractor was agreeable to this condition, certain sub contractors struggled to understand the need for this condition. Lessons learned from other construction and refurbishment projects suggested that we were wise to insist.

We used the staff time on-site to undertake a 1 in 10 inventory of collections located in this store, adding data to the database initially from hand completed sheets and later direct onto a laptop. This exercise was invaluable in planning for a complete 1 in 10 collection assessment (now complete) and future inventory work, in satisfying our auditors and in assessing the condition and scope of collections.

Preparing for phase 3

Since phase 3 of the project was anticipated to cost in excess of £1 million, in line with HLF guidance, a project-planning bid was also prepared (for phase 3 of the work) during 2003 and awarded in early 2004. Project planning funding allowed the team to commission consultants reports on the storage needs for the collection and the development of programmes and audiences for the learning centre elements. In addition, the design team was able to work up the architectural designs to a point where accurate estimates of cost could be made for the main phase 3 bid.

The audience development plan considered the requirements for the public and learning centre elements of the centre and set out the level of service that the centre could deliver in the first year of operation. The storage consultant was also appointed to look in detail at collection storage needs that would also allow public access to stores. Staff went on a series of site visits to Cardiff, Liverpool and Manchester to gain inspiration and ideas, from facilities that combine collection care and public access.

The phase 3 bid

The phase 3 bid to Heritage Lottery was submitted in August 2004 for a total scheme cost of £1.83 million and a stage 1 pass was awarded in March 2005, shortly after the completed phase 2 was officially opened. Match funding from Herefordshire Council has now been secured and the stage 2 submission is currently being prepared, we hope for a decision from HLF in December 2005, allowing building work to commence in April 2006 for 12 months. Public programmes should be possible from September 2007.

Moving in

We undertook an exercise of checking quotations for the moves associated with phase 2 and selected GB Liners, a large commercial storage and removal company based in Hereford. In Ludlow, we were not able to get any companies to quote for the work in the way that we needed to operate to balance the amount of material with the timetable of a bulk de-infestation and so had to undertake the move in-house.

In Hereford, we were not able to undertake a bulk de-infestation at this stage but we plan to undertake it once phase 3 is complete.

GB Liners packed up the contents of the temporary store, speaking inventory numbers into a Dictaphone and providing a hard copy list of container contents.

We used this information together with container content lists from Churchill House to plan the order in which material would be returned to store over a three month period. Using our wheeled vehicle store as the unloading point for containers and taking delivery of xx containers twice a day, two days a week. GB Liners staff placed the larger objects in position on shelving for us and we used intervening days to unpack the smaller cartons, make adjustments and to keep up with other work.

As we neared the end of the official moves, a number of items that we had not been aware of re-surfaced, including a hearse and a collection of weights and measures. But by March 2005, we had reduced collection storage sites to only two.

Re-establishing a service

Throughout the project we kept our councilors well informed of progress through site visits and briefings. We have also been featured frequently in the free council newspaper, including the front page, together with radio broadcasts and local newspaper coverage.

We choose to re-open the centre to volunteers, pre-booked guided tours and individual researchers at the start of December 2004, three months ahead of the official grand opening. We have been delighted with the response to the new facility and can report in the first six months of operation 200 researchers, xx tours with yy participants, 487 hours of volunteer input and zz meetings.

We are also testing out our approach to public open days with the first event (part of Museums & Galleries Month) attracting 132 participants; two further events are planned for this year. The long-term aim is to offer ten open days a year.

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Conservation at the Horniman - new for Old. Applying standards to new and historic galleries**- Louise Bacon**

Horniman Museum, 100 London Road, Forest Hill, London SE23 3PQ, UK

In 1898 Frederick Horniman commissioned Charles Harrison Townsend to design a museum to house his collection of Natural History specimens and Anthropology collections. The two original galleries are now a Grade II* listed building as is a later additional gallery designed by Harrison Townsend in 1911. In recent years the Horniman Museum had a programme re-developing the two Ethnography galleries as well as creating a new gallery for musical instruments in a purpose built Heritage Lottery Funded Building. The Natural History gallery has undergone no large-scale renovation since 1957. It still contains the original 1911 mahogany showcases, which will be retained. Applying conservation and collections care standards to historic galleries and old showcases has its problems and its challenges.

Hatching a Plan: Developing modern standards in egg collections**- Douglas Russell**

Bird Group, Department of Zoology, The Natural History Museum, Akeman Street, Tring

Recent research based on egg collections has highlighted the need for obtaining a continuing time series of avian eggs. Modern specimens are frequently under-represented in museum collections following tightened legislation over the last fifty years. It has become apparent there is a need for proactive discussion at international level with regard to obtaining modern comparative specimens of avian eggs within a controlled ethical and legal framework. The only current techniques for continuing a time series, which are presently open to institutions, include collecting under licence, police seizure and through avian breeders. This presentation will examine the merits of the various acquisition options available and discuss possibilities for national cooperation. Furthermore, fulfilling access demands has led directly to increased pressure to supply collections data online. The need for international cooperation, consensus and consultation in the release of sensitive data online is discussed, with particular reference to the challenges of balancing increased public access against the sensitivity of data used in researching species conservation.

Regional Collections at Risk: Why funding stuffed otters and dried nettles is seen as an easy cut to make.**- Clare Stringer****Leeds Museum Resource Centre***Introduction*

Most of the UK's 20 million natural science specimens held outside of the nationally funded institutions are in local government hands. It is crucial that these regional councils understand the value of the resources they control and take pride in owning and using them.

An average local authority councillor will have to listen to appeals for money from many sectors. Roads, housing, healthcare, social services and, of course, museums to name a few. Even within museums there are obviously divisions: art, history, ethnography, archaeology, natural science and more. So how does such an average councillor decide where to allocate the money? In which direction is he or she more likely to be pulled? Just how appealing are stuffed animals, pickled fish and dried weeds anyway?

Informing the 'informed' decision makers

There can be no doubting the decline in the number of regionally held natural science collections over the past few decades. Although material has not necessarily been lost (amalgamations are common), local authorities have managed to stop funding collections by disposing of them. Often the collection has not had a curator for many years and so, with no advocate, councils may find it difficult to come across arguments for keeping the collections and easy to come up with arguments for their disposal. As has been discussed many times, when properly presented for consideration the advantages of keeping and funding natural science collections make them worthy recipients of local taxpayers money. It is raising these arguments in the town halls across the country that is the harder part, mainly because natural science collections are still often thought of as morbid rows of clumsy taxidermy and their curators as dusty relics of a now obsolete time.

A lot of these points could also be applied to some university held collections. Again collections find themselves in competition for money with many other departments. Although perhaps the role of the collections is more obvious to the management of an academic institution, occasions do arise in some institutions where the necessity for a natural science collection is questioned. This again may be put down to lack of awareness and proper understanding of the important role a collection can play when used to its full potential.

The value of natural science collections has been discussed often and in detail. Conferences have been held on it and countless papers written on it. The conclusion is nearly always that, when used effectively, natural science collections are an asset to their owners and deserving of staffing, investment and resources. But who comes to these conclusions? How many local authority managers or councillors ever come into contact with this literature let alone attend a conference on it? How much of this type of information ever reaches further than the natural scientists themselves? Collection managers with the responsibility for natural science are rarely natural scientists, there being so many disciplines a manager might move up from. Although there seems to be an innate recognition that natural science collections are worthy of time, money and staff, managers rely, in most cases, on the knowledge and enthusiasm of their natural science curator or conservator to justify these. However, without direct contact with a natural scientist, how many managerial staff would be able to put together robust arguments on the value of natural science collections? Those with a background in natural science certainly should be able to but I would also suggest that those who have been engaged in a conversation with an enthusiastic natural scientist in their employment would also be able to produce a relatively articulate defence.

A busy local authority museum manager, juggling budget cuts, strategic planning, obsessive employees and demanding councillors, might certainly decide to rely on their natural science staff for justifications of their collection holdings. It is when the scientists are absent that problems may arise. Without the ear of a natural scientist managers make decisions on a collection's future based on the loudest voices around them, be it social historians, education officers or outreach workers, and see less and less value in natural history. While managers I have spoken to agree that natural science is a 'crucial part of the local history story' they have decided on their cuts and have chosen natural science, one of the reasons being a perceived lack of interest from the public. This is partly because the themes of temporary exhibitions and public enquiries naturally drift towards staffed disciplines giving more fuel to the argument that the natural science collections are of little interest to the local community (more on this later).

It is therefore important that natural scientists take the opportunity to discuss their collections and spend time proving to management and senior management the great benefits to be had from continuing to fund their natural science collection.

Job cuts and lack of applicants

For some reason, and I am only writing from my own experience, local authorities seem at best extremely reluctant or at worst completely unable to make staff redundant (although this may sound like an advantage it can result in unsuitable people residing in a job for life!). They therefore often look to that dreaded term 'natural wastage' for cuts. St. Albans, North Hertfordshire and Portsmouth (and there may be others) have all relatively recently lost their natural science posts with the departure of their natural scientist. It is at this point local authorities, under constant pressure to tighten their belts, now start wondering why the post needs funding at all. It is here, just as their loudest supporter leaves, that the collections are in greatest need of advocacy and when NatSCA and the natural science community should be of most help.

Unfortunately, local council cuts are not entirely to blame when it comes to filling posts. There has been an alarming lack of qualified applicants to natural science curator jobs in recent times. This is probably a subject for another talk but it is difficult to berate a council, who have tried and failed to find a suitable applicant, about their lack of someone in post. Although a manager at Portsmouth did admit that the salary level was certainly an issue he also commented that 'there didn't seem to be many natural scientists out there.' It costs a lot to advertise a position, especially more than once, and constant failure makes an already fragile agreement to fund the post less and less likely.

Although losing a natural science post does not necessarily put the existence of the collection at risk, it does put it at a severe disadvantage. Its profile will inevitably diminish and its condition, use and value may be threatened. Most importantly, decisions on its future might be made without access to relevant arguments

and justifications i.e. a council may lose its capability to make 'informed' decisions.

What needs to be done?

'Perhaps the greatest overall challenge for natural science collections is ... to dispel, once and for all, the image of collections sitting somewhere in the basement of a building, the specimens and their curators gathering dust together.'

Pers. comm. Prof. Keith Thompson, Director, Oxford University Museum (retired)

Changing the public perception of natural science collections is a topic that has been repeatedly aired. However, I do not apologise for raising this again as the battle is a long way from being won.

Some local authority curators are steps ahead in this with initiatives and working practices that have swelled their ranks rather than see them dwindle. For example, Hampshire County Council's natural science department is visited by every newly elected county councillor during his or her induction. The reasons for keeping the collections are explained as well as the wide variety of uses the collections are put to – a classic case of communication winning-over ignorance. Hampshire run extremely effective councillor and volunteer open days where the opportunity is taken to educate, enthuse and enthrall otherwise indifferent or even hostile decision makers and stakeholders. Another string to their bow is a comprehensive and accessible website, listing, among many other things, the reasons why Hampshire holds and funds a biology collection. In a quick surf through other local authority websites the standards and content varies considerably - from no reference at all to collection holdings (just information on events and opening times) to relatively detailed information on the reasons for collecting and the collection.

Another area exploited by some local authority museums is a strong connection to their local environmental record centre. Sometimes, of course, the museum *is* the local record centre. This and other types of cross-departmental council working, with plenty of internal and external partnerships, sets collections up as lynchpins in a web of biological recording activity. They become indispensable and may even attract funding, all of which could well be crucial to the endurance of a collection - 'a museum now seems to need to be part of a local records centre partnership merely to survive.'

I also think that the public perception of natural science collections is almost completely divorced from its perception of environmental conservation, a subject that enjoys wide support. The natural science community needs to work harder to get the public to link these two elements together, something museum scientists do without a second thought. In fact collections and the environment often seem to be thought of as opposing factions rather than supportive team mates – 'mounted heads of wildebeest are certainly not the obvious choice to convey modern attitudes to ecology, precious global diversity and the wonder of life.'

In conclusion

Although a lot of the responsibility for advocacy and promotion lies with university and local authority natural science staff, they could be helped by the actions of national institutions. Anything we do as a profession to promote awareness and raise the profile of natural science collections goes a long way to help non-natural scientists appreciate their value. NatSCA has a role to play in this and natural scientists working in museums across the country could think about how they might further promote their collections and not 'seem slightly embarrassed by them'.

Local authority natural scientists need to raise their voices and work even harder on communicating with their public, managers and councillors. This is no mean feat given that funding and staffing cuts leave the average local museum professional with more work to do than a moth in a taxidermy store.

For some good examples see:

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Millard, T. and Taylor M. 2005. Are stuffed animals, or mounted specimens, the secret weapon in your museum's collection?

Museums Journal, 2005(5), 15

Croft, C. 2002. Animal magic: Do our furred and feathered friends have a future as exhibits? *Museums Journal*, 2002(9), 32-35

Adult education as a tool for volunteer training and recruitment

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We all know that volunteer labour is integral to the normal functioning of almost every museum, in both the public and research sides of Museum life. There is naturally a constant concern about standards to ensure that the volunteer-museum relationship is constructive for all parties. Particularly treacherous is striking an effective balance between initial training investment from (paid) staff and the capricious promise of unpaid effort, compared to the eventual benefits volunteers bring. The National Museum of Ireland Natural History Division is scandalously understaffed—with two full time curators for a significant European capital’s collections—thus recruiting a core of reliable volunteers is clearly a priority under our new scheme to improve collections access. However, for historical socioeconomic reasons in the Republic of Ireland there is not the established culture of “volunteerism” that other countries can depend on. Adult education is a creative and effective solution to answer both recruitment *and* training issues for museum volunteers.

In Autumn 2004, we elected to pursue an Adult Education module as an addition to our joint teaching programme with University College Dublin. The resulting course “*Dead Zoo: behind the scenes in the Natural History Museum*” aimed to introduce interested members of the public to the living scientific research face of the National Museum of Ireland (NMINH). The other, unadvertised aim of this course was to train a group of prospective volunteers with an effective six-week orientation programme.

The class was administered through the University College Dublin Adult Education Centre and advertised through the annual UCD “interest courses” brochure. The Adult Education Centre was particularly eager to help as they have experienced a chronic shortage in tutors for science-based interest courses, despite demand from the public. The established administration of the Centre also handled all queries, registration, and student fees. A small honorarium was paid to two tutors who presented the six weekly sessions. Classes were scheduled during working hours, two hours per week, and held in the NMINH exhibits building. Place and time were carefully selected—all students who were free to attend the class would potentially be free in future to volunteer. Topics were selected from a range of subjects, including lectures and discussions on the breadth of uses of museum objects, background in biodiversity and evolution, and an introduction to object conservation. Learners were typically retired individuals, with a keen interest but no academic background in the sciences.

Many of the learners who took this course said that they enjoyed it immensely—the small class size and novel setting made for an exciting contrast to the typical dowdy evening lecture series. The course was particularly praised for being held in the daytime—the only Adult Education course not offered in the after-work hours—as retired individuals many of the learners are often hesitant to travel alone in the city after dark. Covering a breadth of topics, loosely themed on “collections-based biology” also allowed learners who missed one or more classes to feel they could return without having fallen behind in lessons.

These learners come away with a common basic knowledge about collections and museum procedures taught in a structured course, and we impressed upon them the important contributions that could be made by volunteering. Indeed, since the course required a fee, volunteering (for free) can feel even more rewarding. This learning experience was highly successful for the 16 students enrolled, and “*Dead Zoo*” was an integral part in our Teaching Programme 2004, which was awarded the top prize for outreach in the all-Ireland Museum of the Year Awards. Six individuals (i.e. one-third of the class) have stayed on as volunteers in various capacities, suited to their interests and abilities. More importantly, the whole class has come away with a new understanding that there is a life “behind the scenes” of the Dead Zoo.

Risk zones for IPM: from concept to implementation

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A ban on the use of dichlorvos [DDVP] in the UK resulted in a need to implement an Integrated Pest Management (IPM) programme to protect vulnerable collections in storage areas and on display at the Natural History Museum, London.

With such a large diverse collection in a complex series of interconnecting buildings it was necessary to break the programme down into sections.

A key to this was the decision to define and adopt the concept of “Risk Zones” from high risk A, to low risk D, for all areas of the museum.

The paper describes the development of ideas and subsequent implementation of the “Risk Zone” concept.

We will also make observations on the need to identify priorities and the importance of training staff at all levels in pest awareness.

The application of GIS to IPM risk zone mapping

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A geographic information system (GIS) is a computer-based tool for mapping and analysing features that exist, and events that happen, on earth. It offers a platform to overlay the visual representation of tabular data and build queries to interrogate the variables to analyse trends or hotspots and assist in planning strategies.

The holistic approach of the Integrated Pest Management (IPM) regime was established through a strategy of managing risk to the collections. Each area of the museum has been designated in one of four zones grading from high to low risk. This then determines the priorities for action, the working practice in that area and the level of monitoring for pests. Analysing and correlating variable levels of documentation from so many concurrent initiatives could not be possible without a system that could translate the data into a common and comprehensible format. A pilot project demonstrated that the application of geographical information software to the improved integration of the various pest management activities was a viable solution.

The results of the pilot project demonstrated quite conclusively that the digital representation of risk zones would enable effective development of targeted strategies. Together with the attachment of captured data to a scaled plot of the spatial array of insect monitoring traps, this exercise showed that geospatial analytical software could be a hugely powerful tool to monitor pest population density across the museum and analyse trends with time. With the digital zones firmly embedded, there are enormous museum-wide implications in terms of environmental conditions of collection areas, space planning, disaster planning, exhibition design and security. The Natural History Museum, London will now look to implement a centralised database of pest monitoring data and integrate building environmental data to further improve the resolution of ‘cause-and-effect’ assessments.

Levels of IPM control, matching conditions to performance and effort

- Tom Strang, Canadian Conservation Institute

- Rika Kigawa, National Research Institute for Cultural Properties, Tokyo

Abstract

In this paper we model pest control activities across a wide spectrum of cultural objects that we try to protect, organized as a perceptual scale of biodeterioration situations. Within the scale, we set seven levels, in large part determined by accessibility to pests in commonly found protective structures against other deleterious agents. For each level there are described appropriate remedial IPM solutions to the more significant vulnerabilities. Long term planning would attempt to move collections up the levels to increase their protection.

The potential uses seen for this model are: 1) A starting point for IPM planning or instruction. 2) For classifying risks to collections from pest activities during collections surveying. 3) A contribution to setting guidelines for institutions offering tax benefits, or hosting exhibitions indemnified by government programs.

Climate control in an uncontrollable building

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Introduction

In this study we present our collections storage building as a case study demonstrating the effectiveness of attempts at climate control using the limited available means in an antiquated building. A central aim of this is to estimate the value of the staff time investment required for manual intervention (control of climate by radiator adjustments). This is a key factor for the NMINH since staffing levels are low, with just three full-time curatorial staff and one technician (divided between two buildings) for a collection of approximately two million specimens. Furthermore, we intend to determine the reliability of earlier decisions made about building usage, particularly in light of specimen storage and researcher access. The majority of visitors to the collections building are researchers working through the Museum's partnership with University College Dublin (Collections-based Biology in Dublin; CoBiD), and the establishment of effective (and comfortable) research space is of increasing priority.

Methods

Temperature and relative humidity data have been digitally monitored (using the MEACO Museum Monitor, www.meaco.com) continuously in the NMINH collections building since May 2002, prior to this Casella T9420 analogue monitors were in use in limited areas. Shortage of technical staff (four in 1990, only one today) limited environmental monitoring until the MEACO system was introduced. Our study period reported here ends in March 2005, although the system remains in place. Half-hourly measurements that are logged (via a radio telemetry system) by a central computer, and all readings are stored electronically in a dedicated stand-alone computer.

From January 2004, the NMINH's technician initiated a programme to moderate internal climate within the collections building, by responding to pre-defined non-optimal conditions identified by the MEACO system. An optimal range (from 40% to 55% RH and from 15°C to 18°C) represents the recommended climate values for the safe and stable storage of material throughout building. On two to three days per week the technician would review the reading from each monitor, and take action to adjust the internal climate in particular rooms when the immediate climate was found to outside the these optima. This intervention programme was maintained for a period of 15 months until March 2005.

We compared the total internal (building) climate records with external (weather) climate conditions, supplied by the Irish National Meteorological Service, Met Éireann. The data were divided into two phases: non-intervention and intervention. During the period of monitoring the collections building was heated between late October and mid-May. Although direct-action means to control room conditions were unavailable when the heating was turned off, the technician intervention programme also included a regime of electric lights being switched off when not in use (to prevent unnecessary warming in collections spaces) and all doors between rooms were kept closed at all times. These collections space management strategies were implemented throughout the year.

For analysis, we determined the average climate within the building as a whole, using the mean hourly temperature and RH across fourteen monitors (one was excluded due to unreliable data). The average daily range was calculated as the mean difference between maximum and minimum temperature and RH recorded by each sensor over a 24-hour period. We visually examined time-series plots of daily maxima and minima of temperature and RH (external and internal) to assess how much time the collections experience outside generalised optimal conditions, as imposed by the climate intervention programme. We also compared the magnitude (i.e. difference between daily maximum and minimum values) of temperature and RH

ranges in the “winter” (i.e. heated) periods during intervention and non-intervention phases using pair-wise single factor analysis of variance (ANOVA) tests for external and internal climate data. Finally, we further compared the magnitude of internal daily fluctuations as a percentage of the external diurnal fluctuations.

Results and discussion

Most interestingly, and more distressingly, the building climate only very rarely stayed within optimal conditions throughout the whole monitoring history. Correlations between temperature and RH values during extreme conditions inside the building are to be expected, but interestingly the temperature variation has not seemed to have dramatic influence on the humidity regime. The daily building temperature was outside the optimum maximum and minimum readings for 73% of the time since 2002, and the RH for 70% of the time. The majority of this is in the upper part of the range; that is, the minimum humidity exceeds 55% RH for 32% of the time. However, the temperature varies dramatically over the three-year period, spending in total about equal time with the minimum daily temperature exceeding 18°C (13% of time) or the maximum daily temperature staying below 15°C (17% of time).

Comparing the periods with and without intervention, the programme has had a limited effect on narrowing the internal temperature range, with measurements falling outside the MEACO optima for 35% of time during the non-intervention period, compared to 26% of time with intervention. However, the climate intervention programme has had dramatic negative results on the building humidity regime, with measurements falling outside the optimum values for 74% of time, compared to 58% of time before intervention. What is also visible from plots of the RH measurements is that the oscillations within the building become more extreme during the period of intervention. Examining the fluctuations in temperature and RH as a percentage of the external daily range, we note that during the period of intervention the magnitude of fluctuations in internal humidity exceed external fluctuations more often, and are generally greater during the intervention period.

The time when the building heating was turned on is critical for analysis, as this is the period when direct actions on climate control were possible. During the winter, the building environment is well buffered from fluctuations in outside temperature; it is less well insulated from fluctuations in external humidity (Figure 1). The average daily range (fluctuation) of temperatures has decreased slightly, but statistically significantly, during the intervention phase from a difference of 1°C to a difference of 0.9°C (ANOVA comparing 249 data points, $F=11.99$, $p=0.0006$). However, the range of humidity fluctuation has increased significantly during the intervention period, from a range of 4.6% to 5.6% ($F=11.09$, $p=0.0009$). These changes in the internal climate occur irrespective of external climate, since there is no difference in external range between the years compared.

These data paint a rather negative picture of the impact of manual intervention in climate control on the collections environment in Dublin. Stable humidity is the most important factor for object conservation (Rose and Hawks 1995), and although the intervention programme aimed to control humidity via temperature regulation, the efforts made have exacerbated humidity fluctuations. This kind of rapid oscillation in humidity has been reported previously in similar environments with attempted control of humidity by warming, with the conclusion that such buildings must be controlled by direct dehumidification (Padfield and Jensen, 1990, Padfield 1996). The natural buffering provided by the building material and the thick walls creates a chaotic and uncontrollable internal climate as the building responds to the external environment. The building materials in this case are probably the best regulator of humidity, as the natural porosity of limestone acts as a buffer to decrease internal humidity (Eshoj and Padfield 1993). However, we have noted that during a period of heating failure, in wet Irish winters, cold and wet conditions led to “rising damp” as groundwater seeped up into the stone floors of the building. It seems unlikely that in the absence of heating this could be practically controlled by dehumidification in the large space of this building. Therefore, controlling humidity by heating is essential, but we cannot rely on fine-tuning it to affect the collection environment.

Footfall has increased over the whole study period, as the CoBiD partnership has increased accessibility of the collections to university researchers and students, as well as outside visitors. However, this access has been limited to very specific areas of the collection, and few of the rooms used have monitor devices. Since this analysis reflects an average of readings across all monitors, all of which were subject to the climate intervention programme, the human traffic cannot account for the variability we find. In addition, human activity would be expected to increase internal relative humidity (Padfield, 1999), yet we do not see such an

increase in RH. Finally, user activity cannot account for the reduction in temperature fluctuations seen (one success of this intervention programme), so it is clear that increased footfall has not been a determining factor in the outcome of this study.

Evapotranspiration rather than rainfall, seems to be most important in determining external humidity (especially given that rainfall is more or less constant in Ireland throughout the year). The urban setting of our building may be directly beneficial, as there is a relatively low density of vegetation surrounding it, which may result in lower local humidity. The environment, although far from ideal, is not dire. Low levels of seasonal fluctuations in the Irish climate mean that temperature and humidity regimes operate in a relatively narrow (although sub-optimal) band. The importance of storage furniture in reducing the climatic fluctuations experienced by specimens was illustrated when one monitor was placed in a sealed drawer at a point during this study. The data from this monitor were not used here, since the monitor was not subject to the same conditions as the other devices, but it is interesting to note that the buffering offered by the closed unit reduced climate fluctuations dramatically. A quantitative study investigating this effect is currently underway. By ensuring that specimens are maintained in sealed cabinetry that provides an additional envelope of protection, we can maintain adequate environmental standards for our collections.

Here we conclude that in a poorly sealed building with inadequate levels of staffing, manual control of temperature in an effort to reduce fluctuations in humidity is an inefficient use of human resources. Intervention has not improved the storage environment in the NMINH storage building; rather, it has made the situation measurably worse. The manual control of radiators as a means of controlling climate in this building was found to have less influence than fluctuations due to changes in weather. Furthermore, any influence may occur more slowly than diurnal fluctuations, thereby amplifying the fluctuations occurring over the course of the day. The natural architectural climate buffers offer the best protection to the collections housed in this building. The way forward in caring for collections in this environment is to integrate solutions at a large scale (such as through building modifications) and at a small scale (such as control of specimen microenvironment). There is too much work to be done in this case, and in any museum, to continue attempts to control an uncontrollable situation; our time can be better spent.

Acknowledgements

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Personal Views of the Conference

SPNHC conference - A Quick View

- Steve Thompson

Well, I write this on my way back from 3 days of intensive conferencing in London, at a very well organised SPNHC international conference. Was it worth it, and what did I get out of it?

The short answer was, yes, it was well worth it. Thirty seven (I didn't get to the very last session) well presented talks, not all guaranteed to keep you on the edge of your seat, but all relevant and interesting, and a few particular highlights, of which more later.

Quite apart from anything else, it was a great opportunity to meet new people, especially our colleagues from abroad. The subject of our profile in Europe was raised on one or two occasions, and it occurs to me that NatSCA should be able to organise, if not a world conference, then at least international to the point where we might regularly expect delegates from Europe. Perhaps that should be one of the challenges we take away (though I quite understand those who are not looking for more challenges just at the moment). Nevertheless, we may well see the benefits of this particular aspect in the form of a study trip this autumn or next spring (see elsewhere in this issue).

The AGM showed that, yes, we can get things done, even if it doesn't always seem like it, and I think that, on reflection, for a committee of hard pressed people for a new organisation, the record on such things as the newsletter, website, meetings and study trips is not looking too bad, though we can and will improve further.

Alas, I didn't get to the tours or workshops, though I gather the former went very well, and I did find the trip to the Wandsworth outstation very interesting. I certainly hope that those who travelled from abroad were impressed with the organisation and will take away a good impression of the British groups.

And what were the highlights for me? I was very taken by Julia Sigwart's talk on getting volunteers into the Natural History Museum in Dublin. In a way, it might have seemed simple and straightforward, but the best ideas are, in hindsight, however, it takes someone with that extra bit of imagination to come up with them. The key thing about their scheme is that anyone would be able to do it, it doesn't need the resources of a major museum to make it work.

That contrasts with another talk I found particularly interesting, from Louise Welzenbach, on the Antarctic Meteorites program. This most definitely does require the resources of a major institution, as she acknowledged. Nevertheless, as someone with a long time fascination with all things astronomical, I thoroughly enjoyed the talk, even though I doubt I will ever have a practical use for it.

James Macklin's talk on the use of zoomable images in online databases should have been of interest to anyone who is trying to make their collections information more accessible, which is most of us. I must admit, the fact that the resources used were cheap or free does have considerable attraction, and I will be looking at some of the items he mentioned irrespective of our efforts in the database filed.

The presentation on IPM (Integrated Pest Management) was also of great interest, partly because of its applicability in a wide variety of situations, but also because the principals could be extended beyond that of pest control. It has also made me think a good deal about the whole issue of the integration of risk management schemes across the board, as I wonder now whether we could adopt a more streamlined approach to risk strategies in museums. Watch this space!

And finally, although it was what we kicked off with, Bob May's keynote speech should have had us all thinking quite hard. Whether you agree with him or not, he strikes me as the kind of person who is unable to speak a word without being both interesting and challenging. Here he set us two challenges. First, why is it so difficult for us to coordinate our documentation systems for collections / taxonomic information, when other disciplines seem to have solved it a long time ago? We have, as was pointed out several times during the conference, been talking about this for decades, and yet it has produced little or no progress. The second challenge was over our very purpose. Do we do what we do now, in terms of collections development, management and use, as a form of ritual, or do we actually have a clear idea of just *why* we collect, research and document the natural world? I believe, or at least suspect, that we do know why we do it, but we have failed to articulate it clearly to the outside world. Given the threats facing not just the museums world, but also the whole of human society, this seems to be worth getting to grips with.

A Jamaican participant's perspective

- Dionne E. Newell, Natural History Division, Institute of Jamaica

My journey to the conference was long by any stretch of the imagination, and in more ways than one, but ultimately this long and sometimes difficult journey resulted in a worthwhile experience.

My journey started from the moment the conference announcement was brought to my attention in the SPNHC newsletter to which my Museum, The Institute of Jamaica (IOJ), subscribes. Established in 1879, the Institute of Jamaica comprises several Divisions that reflect Jamaica's cultural heritage. The Natural History Division, of the Institute of Jamaica, forms the bedrock of a museum conglomerate for the encouragement of Literature, Science and Art and maintains some of the largest collections of zoological and botanical specimens in the Caribbean. These collections are representative of the island's rich biological diversity. The organization holds a rich history of collaborations with regional and international museums and is member to groups and societies such as the International Council of Museums (ICOM), Museums Association of the Caribbean (MAC), SPNHC and NatSCA.

I have been entrusted with the care and conservation of Jamaica's national faunal collections since 1999 and have always expressed the need for exposure and additional training in order to gain knowledge and experience so that our collections are maintained at an internationally acceptable standard. So a conference on STANDARDS! Just perfect! But how do I get there? I was enticed by the bursary offer and saw it as my ticket to a much-needed forum of museum professionals like myself. So I cautiously submitted an application and was thrilled to see, some weeks later, that I had been awarded a bursary that covered the conference fees.

So, there I was, a recipient of the bursary that funded the conference fees, thousands of miles away from England and I still needed to get there! I bravely approached the management board of the IOJ for the additional funds needed with the task of convincing them that it would be a worthwhile investment, if I were given the opportunity to garner new and exciting 'first world' methods for the benefit of the museum. The importance of this opportunity was not lost on the IOJ board and the rest is history. I landed on British soil eager and excited to meet and greet persons that I had only previously known via emails and publications.

As I scanned the room packed with participants who were obviously familiar with each other, I looked around for someone, anyone, who, like me, was new to the affair. The group was largely European and North American and I was somewhat disappointed at the absence of a fellow delegate from the Caribbean. Notwithstanding, I was eager to learn more about museum practices from the perspective of a European or North American museum, which may be different in terms of environmental issues, but similar in operational practices.

I chose the field trip to Kew Gardens, as although I am an entomologist by training, I also had a responsibility to my botanical colleagues to capture images and learn preservation methods employed in the herbarium. I was impressed with the exhibits, and the large compost heap in operation. That provided me with great ideas to recommend to the curators of our botanical gardens on my return home.

As the days rolled by, the conference papers presented on standards in various museums and their practices

highlighted the fact that the overall experiences were quite similar to ours in terms of administrative duties. It was refreshing to note that other curators also had the never-ending task of trying to convince greater powers, co-workers and others of the importance of natural history collections. It is quite clear that small, medium and large museums need to effectively put in place relevant and dynamic collections management policies that will guide the effective operations of a museum.

The common challenges of the collections management of Natural History Museums include pest management, limited funding and storage capacity. The Caribbean faces additional challenges in terms of environmental disasters from natural occurrences such as hurricanes and earthquakes and fires. Our museum currently has a disaster management policy that addresses these issues.

I was intrigued by the keynote speaker, Lord May's encouragement to museum professionals to embrace technological advancement by ensuring that the collections do not become irrelevant and antiquated. As such, many museums including ours have answered the call for more efficient databases that will provide quick access to information for the public. Our museum hosts the National Clearing House Mechanism for Jamaica in accordance with Article 18 of the Convention on Biological Diversity (CBD) to promote and facilitate the exchange of biodiversity related information. In addition, our museum is in the process of digitizing the biological collections in order to enhance our ability to share data worldwide.

How could I travel this far and not view the British Natural History Museum collections? They are considered to be integrally related to our Jamaican collections, as one of the earliest collectors, Sir Hans Sloane, collected in Jamaica extensively during the 17th century. These collections later formed the basis for the Natural History Museum. As such the tours of various collections of the Natural History museum were of extreme personal interest to me and added spice to the whole experience. My particular interest was in the entomology and zoology collections and I got a chance to interact with the curators and collections managers, view practices and observe some preservation techniques. I received some very good ideas and useful tips on techniques and storage equipment and also recognized how similar our practices are. The tour also gave me a chance to develop links with persons that I am sure to contact in the near future.

My final day was spent at the workshop on standards. The presentations were useful and the activities allowed participants to display creativity and expertise. I was in a reflective mode throughout the workshop as I quietly evaluated our museum's current status with respect to policies. Whilst commending the achievements of our museum over the last couple of years, we have redeveloped our collections management policy; I also recognize that some fundamental areas need to be addressed.

Personally, the experience has developed within me a greater appreciation for my role as a Jamaican museum professional with a responsibility to the future generation to maintain high standards. Though our collections are smaller, our tasks are collectively bigger. We operate concurrently as curators, researchers, educators and collections managers on a day-to-day basis. It is heartening to learn that we are not alone in a world that still does not fully understand the importance of natural history collections. The overall exposure encourages a shift from the complacency that can be created within a comfort zone to that of agility and excitement. I am encouraged to share with my colleagues, all that I have seen and learnt so that our institution, though more than 120 years old, remains current and relevant within a continuously evolving society.

June 12th to 18th at the Natural History Museum, London **- Kelly Dilks, Plymouth City Museum and Art Gallery**

This was an interesting and illuminating conference to attend especially if like me you are relatively new to museums and are still trying to find your way through procedures and standards. The overall conference theme was Realising Standards and the conference programme did exactly that. Standards – established, experimental and inspired were explained in detail – well, as much as twenty minutes would allow. These standards explored how we as a community might take a revised look at established procedures and served as a useful refresher. Ideas, information and inspiration for changing and challenging our day-to-day working practice and innovative ways of caring for and creating access to our collections were presented.

I hope the following presentations I have chosen to outline will be of interest to those NatSCA members who could not attend the conference and for those that did I hope you would be interested to read the opin-

ions of a new kid on the block.

It seemed very interesting to me as a relative newcomer to hear so many of the speakers discussing the need to be mindful of how collections would be utilised in the future. The collectors and amassers of natural science collections did not envision some of the ways these specimens are used today. This raises the question of what will collections we hold and those amassed today be used for in the future?

I thought this was highlighted particularly well from the perspective of the importance of museum collections in monitoring bird-breeding biology and anthropomorphic changes to the environment. This was addressed by Douglas Russell in his talk "Hatching a Plan: developing modern standards in egg collections." Bird's eggs are and will continue to be an important source of taxonomic, biological, ecological, phonological and faunistic information. To Russell, bird egg collections are "archives of environmental change" He put forward that although this was not the original purpose of these collections the subsequent analysis of egg shell thickness has had provided important information on the effects of chemical agents in the environment and changes in climate on bird breeding biology over the last 150 years. If we do not actively collect in this area this valuable time series will not continue and this data will be lost. Russell offered solutions and standards for this that aid the collecting of this valuable material in what is unarguably one of the most contentious of all natural science collections.

This idea of standards for future uses of collections seems to have sparked many a discussion over coffee too. Through eaves dropping I heard mention of DNA, even atomic (!) preservation. The key to interpreting future uses would be I suppose to examine what problems our collections are helping to solve today and if these could have been foreseen i.e. climate change what implications this would have on our collecting. A very interesting area for standards to be realised I feel.

The Wednesday morning tours were an opportunity to do what any natural sciences curator loves best – to have a nosy look around other people's stores. Even here the conference theme of standards was in action. For all the interesting information and ideas from the speakers - for me the chance to look at how other people look after their collections is as useful in terms of standards as any presentation. I have come back to my own museum brimming with ideas for making the most of the space and small budget we have available.

For all the ideas, hands to help do the work are a perennial problem for all of us. Julia Sigwart and Nigel Monaghan have certainly made me think about how to attract and retain more volunteers into our department from their presentation on "Adult education as a tool for volunteer training and recruitment." Being across the road from the University of Plymouth does lead to a steady trickle of undergraduates and graduates (myself included) asking for experience. Although this affords us some reassurance that they are familiar with some of the specimens understanding of collections is not something that is addressed in most degree programmes. Most only stay a few months due to other commitments. To counter this the National Museum of Ireland works in partnership with the University College Dublin to run CoBiD – Collections-based Biology in Dublin. CoBiD facilitates collections access and teaching to undergraduates through a final year taught module Biodiversity Collections Research and through working with the University an opportunity to re-connect with the research community.

Like Dublin, our other catchment group of volunteers are retired persons. The programme set out by Sigwart and Monaghan sets standards for training and retaining these volunteers through an adult education programme. "Dead Zoo" has capacity for eighteen learners and runs for two hours for six weeks on Mondays when the museum is closed, for six weeks. The curriculum is discussion of selected readings and a lecture. This is supported by an independent project. Taking on volunteers through this programme has solved many of the problems that volunteers pose to a department such as natural history. They actually receive training in the ideas behind museums and collections. The intake is all at the same time and requires minimal orientation. Most importantly the programme gives the appearance of more rewards than a cup of tea and a biscuit. Holding the programme on a day when the museum is closed to the public and allowing them access to collections not normally on exhibit gives an air of exclusivity.

It is difficult in this short article to fully do justice to the benefits the conference has provided me with. I am sincerely grateful to NatSCA for the bursary that enabled me to participate in the conference. It was good to meet so many NatSCA members and I look forward to meeting many more of you at the spring meeting.

A Personal View

- Rosina Down – Quietways, Debden, Saffron Walden, Essex. CB11 3LS

SPNHC 2005 Realising Standards Conference for me started on Monday afternoon as I have visited all the field trip venues several times and had some completely unrelated research to do that day.

Having registered by the skin of my teeth I had a nostalgic trip to the Polish restaurant Daquise near the NHM, which I first knew when I worked in Chelsea in the early 1960's (yes I am that old). I happened to sit next to one of the over 100 delegates from N. America. His wife recognised the very smart SPNHC bag. The contents of the bag included a pen and paper, so no excuser to avoid taking notes; a beautifully presented book "Nature's Connections – An explanation of Natural History" by Nicola McGirr and a camera. I was delighted to discover in the book a photo of R.E. Grant, for whom my former Museum is named, acknowledged in his rightful place as an important early influence on Darwin and a brief account of Richard Owens attempts to undermine him. I was not so thrilled to see that the camera was a disposable one though.

The icebreaker party had excellent food and lots of networking, meeting old friends and discovering new ones. It was good to see Chris Norris over from AMNH who reminded me I was around when he started in the profession! Walking back into the Darwin centre from the Face to Face photographic exhibition (a must for all those who love great Apes) I saw evidence of the NHM's pest infection problem as a mouse ran across the floor and disappeared under a showcase, highlighting one of the disadvantages of food and specimens in the same areas.

Lord May's Keynote speech was both informative and challenging. Reminding us that Taxonomy and Systematics were fundamental and underpinning to everything in life, he challenged us to stop using the outdated methods which still motivate too many of us. He stressed the need to be preserving what we have and making it more accessible, co-ordinating collections, developing new techniques and following the Astronomers' example who would have done it all by now. I felt that the numerous and very varied contributions to the conference went a long way to doing just this, covering as they did such a wide range of collections and solutions. However, not all the advice given always works, the Smithsonian's Carol Butler suggested communications to non-collections people should be factual not emotional.

This reminded me of an eminent UCL Professor who only agreed to the re-siting of RE Grant's microscope and other precious specimens from a showcase where the sun streamed in through the window in the college history exhibition when I jumped up and down and refused to follow his instructions, all conservation arguments having failed.

The evening poster session provided some very useful practical methods and once again networking was much in evidence. My visit to the Wandsworth store resulted in one of the highlights of the conference for me when we were shown the freeze-dried Whale heart prepared by Reg Harris at the NHM. Reg had been a predecessor of mine at the Grant museum and taught me most of what I know about Zoology Museum techniques. It was really good to know that his work is still cherished. It was also good to hear that the temperature in the building was set to the good of the specimens and not those who worked with them.

As always one comes away from a conference filled with enthusiasm for all the imparted ideas and then reality sets in, time, money and staffing restraints. However, there is room for optimism with more Natural Science Curators and Conservators in positions where they can really influence decisions locally and nationally. In spite of Lord Mays' criticism things have moved on a page in the 20 years since SPNHC's formation, although it was disturbing to discover so many Natural Science posts had disappeared or failed to attract candidates, and that the last Area Museum Natural Science lab closed this year in Scotland. At least with modern technology the task of updating the 1981 state and status of Geology collections took far less effort than it took Phil Doughty.

My thanks to Rob Huxley and his colleagues for an excellent Conference and to NatSCA for my Bursary.

An Overview of Tuesday, June 14th

- Dominique Rogers

I was delighted to be able to attend the whole three days of the really 'talky' part of the SPNHC/ NatSCa conference, thanks to a grant from NatSCa. I had given up the idea of attending at all as I could not decide which day I wanted to be there as everyday had stuff that sounded quite interesting. So this is me singing for my supper, and the breakfast croissants were very good, so was the bag full of goodies such as a camera and what looks like a really nice book published by the National History Museum (NHM) that disappeared to the den of my daughter as soon as I got home. But I seem to have ended up with a day where the subjects treated were a bit far from my immediate concerns and I found a lot of it rather difficult for me to grasp and therefore to report. But I'll try.

The opening speech By **Dr. Richard Lane** who introduced awards and people I had never heard off before and that I probably will not remember, panicked me as to my ability to report the day. As I said before, I am not an 'ist' zoo, bio or otherwise and my main purpose in life seems to pack skeletons of horses and chameleons, comb giraffes, preen or depreen kakapos and revarnish sturgeons. All jobs I enjoy thoroughly. Now when it comes down to taxonomies and molecular analyses, I am not all there.

Lord May (President of the Royal Society) set the day with a clear (even to me) description of the problems besetting the natural sciences chances of ever cataloguing the world and of the need, if the natural scientist community wants to seriously tackle the task, to get together and adopt standards common across the world. It seems that the astronomers have done it (a/ catalogue and publish and b/ do it together) and that their results are getting them the sort of funding that would help greatly to get Natural Sciences on their way to the stars. There are too many people working on vertebrates (but then they are cuddly) and not enough on everything else. There is apparently no way to know what disappears, as we do not know what we have. To interest the young into macro (or was it micro?) biology is an imperative.

Digitise, digitise, digitise, embrace barcodes and new technologies, collections and collecting remain cornerstones; catalogue, catalogue, catalogue all this in a common frame more accessible to more people was the main message of a very accessible speech (I really liked the story of the blue butterflies and the red ants).

Then **Dr. Richard Lane** gave his keynote address and on the day the Museums Association (MA) was releasing its paper 'Collections for the Future' it presumably was seriously up to date. I have not read the report yet but it is probable that de-accessioning comes in heavy if museums are to keep on collecting, rather than become the graveyards of the past 3 or 4 centuries of active collecting, quite often without a lot of forethought. This rather applies to other museums disciplines, I am sure that Natural History collections do not have countless irrelevant duplicates like 28 bean dibbers in a museum that does not actively collect agricultural implements. Of course everybody knows that there are not two moths that are the same. Or are they? According to R. Lane, the chromosome or the pheromones may be the only important things to collect from a scientific point of view and all the pretty little bugs on their corroding pins could be destroyed without a loss to science. It may be difficult to raise governmental grants for the collecting of chromosome (the public might not desperately want to access that kind of collection). Then there was talk of synoptic collections at which point I felt like a short order cook at a cordon bleu convention.

R. Lane's message was about the importance of research and the fact that NMH collections are not so much of historical value, than of helping with the knowledge of the state of the planet. Money would be better employed paying for research rather than 5 minutes of web space. One cannot deny that it sounds right, but then what of the many daily visitors to the museum? Is it not a way to raise awareness of the necessity for research? One could ask if the display of seriously discoloured fur and feather specimens is a good idea if one wants to attract young people to the profession? After all, the magic of attractive objects in museums must have counted for something in the choice of a profession. What enthuses you in your childhood may give you a direction for life. For a post in fine art there are 100s of applicants and no one for Natural History!

Then came the 'Standards'. We are very fortunate in the U.K to already have fairly comprehensive sets of Standards (already quite a few between Benchmarks for Collection Care, SPECTRUM, SHIC and others).

Still it seems that everybody is eager to create his or her own. I thought that the Dublin Core had solved all the problems of metadata and cross-referencing on the web but now there is the Darwin Core (I have been out of touch with the intricacies of the web as the knowledge has to be updated every week to stay current and this is something that as far as I am concerned is solidly in the remit of specialists. I came to think that if one wrote one web site according to W3C (world wide web consortium <www.w3.org>) it would all be all right. It appears that is not the truth or why would everybody try to write and impose their own systems?

There is 'Synthesis', a European project that sounds very much like the Benchmarks from the MLAC, but I guess it has to be translated and adapted to the 26 (?) members of the E.U. or more if you take the long view and try to integrate really everybody in Europe and why stop there? Would not a global project be more compelling and useful? This is what **R. Rabeler** and **J. A. Macklin** were talking about and it sounded great until it started to look like a mild attack of new world imperialism. Perhaps it is this parochial feeling that stops all these wonderful unification projects from getting anywhere. It seems that when confronted with ambitious schemes embracing the world and standardising it all we are not managing to achieve very much (are the cucumbers and bananas straight? Have they conformed to the European standard for bananability?) But at least we could start. In the UK many museums are still struggling with getting their own records in order, let them do that, then talk again? It is true that if our parishes had the same records databases it would be a good start but then as long as they can read each other that should be good enough. If we are all so smart eventually we should arrive at the same standards ... I am not being facetious but the big picture is starting to obscure the bugs in the trees. Discouragement can easily set in if the goals are set too high.

It is easy for the 'Nationals' to set up ambitious projects and sometimes they succeed (by the way, what happened to Multi Mimsy?) but think about the poor local authorities people and their stuffed squirrels; are these large long term goals going to put these collections out of business for lack of moral and financial support? Does it matter in the great research schemes that are Natural sciences? We are back to inspiring the public and especially children to choose to become a scientist rather than an expert in fine art.

Elizabeth Dietrich from the Smithsonian Washington DC, 'Realising New Standards for the Wet Collections Facilities' rather lost me. It sounded like they ran into problems with design, legality, etc. made a plan, had problems, ran out of money and could not complete the plan; the conclusion is: Plan better. The NHM in London seems to be doing fine with its wet collections.

There were some American papers about making friends and influencing people; and one by **V. Gambill** who has just discovered 'Loan Forms'. A long time ago I received a loan form from an American museum from which I wanted to borrow a small 20th century medicine bottle; the form was 57 pages long and even asked the load permitted in our lift (what lift?). So this is not new in the U.S. but quite a few delegates (all American by the sound) were quite interested. It is scary, that the whole of the American Museums community has not achieved what seem to be very basic standards. Perhaps their communication system is not as good as ours?

Tristram Besterman delivered a wonderful paper on sustainable collections, the need to provide evidence of relevance and to connect collections to science and society. He made a very interesting point to pass on to conservators who still advocate keeping collections as far away from use as possible (they are becoming rarer but there are still some) by demonstrating that using collections protects them from decay, getting a chance to look at the collections one is more likely to spot pest infestations or pyrite decay. Sadly the very tight time schedule robbed us of the end of his paper that had to be delivered at a very accelerated pace.

R Huxley and **M. Fitton** talked about the successes of the Darwin Centre among others, in conforming with Health & Safety regulations which, in the case of such a potential big bang in the middle of London are quite justified, gives hope to everybody to be able to cope with what sometimes seems to be an attempt by the nanny state to stop us all from working. If the NHM could solve their giant H&S problem surely we must be able to solve our little ones.

James Macklin (The Academy of Natural Sciences, Philadelphia, U.S.A.) presented an imaging program called 'ImageMagick' that apparently solves all the imaging problems of putting large images collections on the web. As I said earlier this is really a problem for IT specialists, but it is nice to know that programs better and cheaper are still coming in.

Tiffany Adrain (university of Iowa) offered a very clear presentation on the project to improve the curation standards in palaeontology collections, the survey format that she showed was very useful and I hope to get a copy of the form to put in my collection of functional survey formats.

Unfortunately I was committed to attend a small Japanese lacquer seminar at 6.30 the other side of London so I did not get much of a chance to look at the posters.

In conclusion:

This has rather run away from reviewing the conference, but then this is a personal view and what I got out of it.

Perhaps there were too many papers delivered; one had the impression of running a marathon. To ask questions in front of such a distinguished assembly especially since time was so short you had to be very brave. Thankfully all the delegates are listed in the booklet with the schedule and abstracts provided in the goodies pack. I think somehow I prefer more intimate meetings like the one in Norwich two years ago, (I could not afford the one in Dublin). But really it was a wonderful conference, a moment to reflect on my own 'Standards' and to feel quite satisfied with myself: at least I am trying. Tuesday was good but Wednesday was better and Thursday was wonderful, I finally got a free lunch.

SPNHC visit to the Horniman Museum

- Jo Hatton, Deputy Keeper of Natural History, Horniman Museum

A select few collections managers and conservators from as far a field as Ipswich, Amsterdam and New York were accompanied by Lorraine Cornish from the Natural History Museum south of the river to visit the Horniman Museum in Forest Hill, South London.

The Horniman Museum, named after its founder, the Victorian tea trader Frederick Horniman, opened its doors in 1901, and was dedicated with the surrounding land as a free gift to the people of London by Horniman forever for their recreation, instruction and enjoyment. The original collections comprised natural history specimens, cultural artefacts and musical instruments. Due to the specific natural science orientated interests of the SPNHC audience it was decided to focus on the natural history and conservation aspects of the museum. Various tours of different areas of the museum were organised and took place during the course of the day.

The day started with a tour of the Horniman Gardens by Gordon Lucas, the Garden Manager. Endlessly enthusiastic, he informed the visitors that the garden on its own attracts more than 200,000 visitors a year and is cared for and maintained by a dedicated team of gardeners and volunteers who look after the continually changing displays such as those in the sunken garden throughout the year. Staff are keen to improve links with the museum itself and form one of the partners to the Plant Cultures Project coordinated by the Royal Botanic Gardens at Kew and other Museums. A display of economically important plants from Southern India have been planted along one of the borders with interpretation to help promote cultural links between the public and the museum collections with further information available on the website.

Next a visit to the Environment Room, a space dedicated to promoting links between people and the environment. Lucy-Anne Bishop, the Environment Project Manager informed the visitors of the purpose of the space, which contains a very popular observational beehive, information and reading area and panels of information that focus attention on both local and global conservation issues. It also highlights issues such as sustainable development. It was then a short walk to one of the most innovative museum buildings to be built in recent years – the Centre for Understanding the Environment or CUE building, which opened in 1996. It houses the Education Department and was undergoing work to install the museum library at the time of the visit. CUE is an energy efficient ecologically friendly building built from sustainable resources, complete with grass roof; the building provides a link between the Museum's collections and the living world of the Horniman Gardens.

The afternoon began with a tour of the Conservation Laboratory lead by Louise Bacon and Sherry Doyal, Head and Deputy Head of Collections Conservation and Care. The group were given an overview of the kinds of work undertaken by the section, more specifically in relation to natural history. The conservators carry out most hands-on conservation of natural history material both in the public galleries and in store.

They also carry out preventive conservation in the form of environmental monitoring and control; pest control, testing and give advice on the correct display and storage materials to be used museum wide. A tour of the natural history gallery also drew attention to some of the problems inherent in historic galleries – namely environmental control, dust accumulation, materials and the variety of skills involved in looking after the range of material on display – taxidermy, fluid preserved specimens and fossils are all housed in the gallery and need regular monitoring and maintenance.

The final visit of the day was to the Natural History Laboratory where Jo Hatton, Deputy Keeper gave a brief introduction to the size and scope of the collections. These comprise approx. 250,000 zoological, geological and botanical specimens and are still being added to through active research. Treasures in the collection include Horniman's original entomological specimens such as the type of the Horniman Butterfly (*Papilio hornimani*) and the more recent addition, the Edward Hart collection of case mounted birds. Set amongst painstakingly detailed natural scenes they provide accurate breeding records and snapshots of what the environment must have looked like 150 years ago. Followed by a tour of the gallery and a discussion involving the challenges of re-interpreting historical galleries we made our way back to the conservation building for a cup of tea. After a quick look in the shop, and a trip back over the river on a blazing hot day, we were in plenty of time to meet up with old with friends at the SPNHC icebreaker back at the Natural History Museum. I hope everyone in the group enjoyed their day.

Many thanks go to Louise Bacon and Lorraine Cornish for organising and coordinating the visit and to all the staff at the Horniman Museum for showing people around.

For further information about the Horniman Museum, Gardens or Collections visit www.horniman.ac.uk

Risk Assessment workshop at the Natural History Museum

- Katherine Andrew

The risk assessment workshop was one of three workshops on offer over the final two days of the conference. Seventeen multinational participants joined Dr Rob Waller of the Canadian Museum of Nature (CMN) on the final Saturday of the meeting for an intensive but most enjoyable day. The group were divided into three teams who for the purposes of the day designated themselves The Pink Ladies (all ladies), The Unreadies and The Specimens.

The first exercise of the day was to identify a range of risks to collections and group the causes into the agents of deterioration, with the tenth agent now re-named the slightly less controversial "Dissassociation" rather than "Custodial Neglect". So no excuse now on coming forward for articles for *Natsca News* on this potentially embarrassing topic.

Groups graded each others identified risks as type 1,2 and 3, ending up with help from the course leader with 24 risk scenarios depending on frequency and degree of damage (some levels of risk are unlikely or impossible, for example, a constant and gradual fire with low level of damage is unlikely). The next step was to assign values to four factors that resulted in a numerical quantification of risk and the potential to rank. The teams then tried the ideas out on groups of real objects in the museum galleries and reported back on their findings, in the process trying to shake off museum visitors who had mistaken us for tour guides.

CMN has carried out this exercise on its own extensive collections with those collections generally most at risk across a range of agents and types identified as the fluid preserved collections. It is interesting to note that Darwin Centre phase 1 started by addressing the fluid collection care issues at the Natural History Museum, although possibly for other reasons rather than as a result of applying this methodology.

The workshop is also run as a two day session. A combination of a slightly faster pace, shorter breaks and the course workbook meant that participants were given the same information but had slightly less time to discuss and digest it. Two participants had attended the course before and were at something of an advantage over others with this head start especially at the stage of the day when we started to quantify risks. For a first timer or a team building exercise, two days would be a better time frame.

This is only the second time that the risk assessment workshop has been run in the UK. It was NSCG (one of the pre-cursor bodies to NatSCA) who commissioned the workshop first in 1995, running it as one of the

sessions at that year's Museums Association Conference. Since 1995, the team at CMN have certainly worked hard to refine and improve the workshop, working on presentation style, timings and incentives. I also came away with some ideas for keeping participants attention during what was an intensive day.

For institutions setting out to plan long term collection care and development, this workshop is an invaluable tool at all stages of project development and implementation, from making the case to ensuring that money is spent where it is needed. It would also be a great vehicle for team building and establishing a cross-disciplinary baseline of understanding. Although developed initially on Natural Science collections, it is applicable and has been used successfully across all museum disciplines. In Britain it can also be used to rank and prioritise the multiplicity of recommendations that an assessment using Benchmarks in Collections Care results in.

This workshop provides the means to turn an instinct into a quantified and ranked argument, it deserves to be presented more often in the UK.

Integrated Pest Management Workshop

- Wendy Atkinson, Assistant Curator, Botany Section, World Museum Liverpool

It was when the Botany collections moved to an off-site store during the building works at Liverpool Museum (now World Museum Liverpool - WML), that I first became involved in our IPM group as the Botany section representative. I wanted to attend the SPNHC IPM workshop as I have not been to anything like this before, what I know about IPM I have picked up along the way from other colleagues. So, this was an opportunity not to be missed for me. I wasn't really sure what to expect from the day, but hoped to hear about other institutions' experiences, their IPM strategies and hopefully get to do some pest identification work.

Of course, the day turned out to be all of that and more. We had quite a programme laid on for us – seven talks were presented in all, covering risk zones, trapping, and different treatment methods, amongst others. There was also a fairly large practical aspect to the workshop too. This took the form of an insect pest identification session and also a gallery assessment. Here are a few of my highlights from the day.

The day began with a talk from Monika Akerlund, entitled “*Freezing – Standards for Treatment*” where she described investigating the effectiveness of freezing several different species of insect pest at -20°C when placed inside well-insulated objects. As we had just bought a new freezer at Liverpool, this talk seemed very timely. Three experiments were carried out with insects being placed:

- 1) Inside a wooden block
- 2) In a package of woollen blankets at depths of 2, 4, 8 and 16cms from the surface
- 3) Inside a wooden block, wrapped in woollen blankets

It was interesting to note that in experiment 2, the temperature stabilized after 30hrs at -16°C, even after five weeks of freezing, and the temperature under the package reached only -8°C. Placing the package onto a 6cm high wooden frame, which allowed the air to circulate, alleviated this.

In her conclusion, it was stated “*larvae and adults of selected museum pests are killed after exposure to -20°C for 72 hours, provided that adequate air circulation is ensured during freezing*”. It was pointed out that the RH didn't go over 35% and that maybe an increase in RH would have had an effect on the freezing times. Also, the insects used had been laboratory bred and this may have had an effect on the freezing times. *Stegobium paniceum* –the Biscuit or Herbarium beetle, (one I'm obviously interested in) had not been used in these experiments, so later I asked about freezing times for them. Dave Pinniger advised me to carry on freezing at -20°C for a week to kill them all off.

The next talk, entitled “*Thermo Lignum controlled heat treatment*” proved very interesting. This high temperature regime for pest eradication was new to me. Like many, I presume, I'm definitely more used to low-temperature methods than high ones.

The Thermo Lignum® process works on the basis of maintaining RH within a pre-set narrow limit of $\pm 5\%$ as the temperature rises. A surrogate object such as a block of wood, which has a density closely matching that of the objects under treatment, is placed in the treatment chamber. This avoids the need for invasive

monitoring of the objects themselves. The system constantly monitors both RH and temperature of the atmosphere in the chamber and the core temperature of the surrogate object. The core temperature is raised to ca. 52°C, held there for three hours and then control cooled back down to the starting temperature. By combining both parameters during the heating phase there is no change in the object under treatment, studies have shown that even an objects DNA is not damaged, if the RH is kept within a 10% boundary.

I was amazed and quite envious, to hear that the total turnaround including loading, treatment, unloading etc) takes only 23hours and found myself comparing it to the mammoth freezing task we embarked on at WML. Obviously there are different issues to consider such as the cost of using Thermo Lignum® process, and I didn't find out how much that would be. However, considering the staff time and cost of materials – polythene, tape etc. used for our collections, it could be worth considering in the future.

In his talk on “**Risk zones – value and implementation**” Adrian Doyle highlighted the strategies which the Natural History Museum are putting in place to minimise risk to the collections through insect pest damage. The whole of the Museum including collection storage, galleries, office areas, staff rooms, laboratories etc has been surveyed and assigned a risk category from A (high risk, red) to D (little or no risk, green). High risk areas include collection areas and low risk areas are the non-collection areas. It became clear that not all areas of the museum are at equal risk from pest damage. Each area has been ‘zoned’ according to its use and the associated risk. The coloured zones are mapped onto plans of the building and these help identify routes through the museum using the colour coding. Each coloured area has a set of associated protocols – a list of do's and don'ts whilst in that particular area. The signage is soon to appear on cupboards and internal doors. And a summary sheet indicating individual personal responsibilities has been produced so that all staff are aware of the new system. It's worth noting that the zoning for rodent pests is different to that of insect pests as they are attracted to different things. So, one area may be a zone A for insect pests but a zone C or D for rodents. Training is given to all staff on how important it is to be more aware of insect pests and the damage they can cause.

I know our senior registrar, who was at the conference and caught Adrian's talk on the Wednesday, is very keen to implement some of the ideas at WML. I'm pleased to say that we do have an IPM strategy in place at World Museum Liverpool and that the Botany section does already follow most of the guidelines set out, such as monitoring with sticky traps, RH and temp control and good quarantine procedures but there's always room for improvement. Last year we had an infestation of *Stegobium paniceum* in botany. Fortunately it was traced relatively easily to a packet of dried fungi and did not spread too far through the collection – a big concern with our open shelving style roller racking! In fact, it was the routine checking of the traps that first alerted us to the problem. After this talk I now feel completely justified in us banning biscuits from meetings in the Botany meeting room as it does hold our rare books and plant model collections. Also it's a mere hop skip and a jump (or fly) down the corridor to the herbarium – and we don't want to open up any new entry routes that way.

Linking in with ‘Risk zones’ was David Pinniger's talk “**New Pests for Old – The Spread of New Pest Species**” He told us of the spread of pests (possibly by the loaning of specimens between institutions) how new species are becoming pests and to look outside collection areas for sources of infestation. The Guernsey carpet beetle *Anthrenus sarnicus* was found in South Kensington in 1963. It has now spread to the Natural History Museum, Liverpool, Cambridge, Oxford and Edinburgh, and is confirmed as the major pest species at the NHM replacing the varied carpet beetle *A. verbasci*. The Brown carpet beetle or Vodka beetle – *Attagenus smirnovi* was first found in a flat in South Kensington in 1978. In 1989 it was reported in the Science Museum where the infestation was traced to cattle food pellets used in an agricultural display. The most recent pest introduction to the UK is the Cabinet beetle – *Trogoderma angustum*. First recorded in 1998 in National Museums Scotland, Edinburgh and established at the Royal Botanic Garden Edinburgh too. Other species such as *Lasioderma serricorne* the Cigarette beetle has recently been found in the herbaria at Kew and NHM. It is the most serious pest of herbaria in hot countries and is not normally found in the UK. Quite a warning then. Many new species may become serious pests in museums especially in light of climate change and so we must use quarantine, get insects correctly identified, record the results and exchange information between us.

When it came to the insect identification practical, I struggled a bit at first. I'm no entomologist but I did enjoy this exercise, and I really do know that the elytra scales on *Anthrenus sarnicus* are triangular as opposed to being shield shaped on *A. verbasci* because I got to look at them under a microscope. It was all very interesting and very handy to be able to compare such a range of insect pests at one time. Just to make

doubly sure we'd seen every one, David also put each specimen under the video microscope for us to get a better look.

The final part of the workshop was a gallery assessment, which we had to carry out on Bird gallery 40. We were split into two groups and were asked to consider key issues such as:

- Collection type and risk
- Collection display cases and furniture
- Gallery environment
- Gallery uses
- Security

Putting into practice everything we'd learnt that day, we then had to assess the area and assign a risk zone.

Walking around the gallery we noted many points. There were mounted birds, eggs and skeletal material on display. The display cases were old, probably Victorian and were mostly unsealed. Many had false bases to them and others were very tall – too high to clean. There were drainpipes inside the gallery and under floor ducting covered with grills, all could harbour pests. The gallery was very warm and humid there seemed to be no environmental control there. Based on these factors we decided that it was a high risk (red) zone A. However, just when we thought we'd cracked it, we were told that because it was not a storage area, the risk is slightly reduced and the gallery should have been assigned zone B (orange). Interesting that both groups assigned zone A to the gallery. We know better now!

We left the workshop armed with IPM articles, copies of published papers, two posters and a copy of David Pinniger's book 'Pest Management in Museums, Archives and Historic Houses'. I thought it was a great day, well organised, friendly, relaxed and very interesting.

Some posters and snippets of information from the SPNHC, NatSCA Conference 2005 **- Simon Moore**

This year's bringing together of SPNHC and NatSCA for a first, and I hope not last, joint conference produced an amazing coalescence of research and knowledge. My only regret was having so short a time to view the posters before they were rather prematurely taken down.

In these days of shrinking budgets and quickly snapped-up grant-aid, the problem of having to assimilate such a wealth of knowledge over a few days has now become the norm which gives rise to having all these wonderful ideas but not enough time to put them into practice due to pressure of work after the few days away.

The poster session enabled many to put their latest ideas in conservation and curation technology up to scrutiny and many of these are pushing forward our knowledge of conservation technology.

Amandine Péquignot from the Smithsonian has been using her knowledge of biochemistry to investigate both the effects of tanning and fluid fixation on skins as well as presenting a poster about spot testing for Arsenic salts on taxidermy specimens. With her varying partners in these projects, ably tutored I suspect, by David von Endt she has updated some of the old tests and shown how they take care of the hazard.

In palaeontology conservation Lisa Kronthal, Christina Bisulca and Amy Davidson, also from the USA, have been testing consolidants with good penetration for fragmentary dinosaur bone. They used a product known as Conservare® OH 100 (ProSoCo Inc.) well-known as a flaky stone consolidant (since 2000), which due to low viscosity is an excellent penetrant. It contains tetra-ethoxy silane monomer, which polymerises *in situ* and has been found combine strength with long-term stability even outdoors. Although this application is still in its testing stage it looks good so far, as a future consolidant.

Many will know that Haselmere Museum has recently re-opened its natural history galleries to great acclaim. Julia Tanner, the curator, presented a poster showing the new galleries and some of the specimens including the previously mothballed Moa skeleton.

Other posters included:

- a method for detecting mercury salts in herbarium collections (ref. Hollenberg *et al.*) and the dangers of off-gassing but containing these by using special conservation grade folders.
- analysis of DNA condition in fluid preserved specimens, particularly comparing the results from formaldehyde and alcohol (ref. Amra Kazic *et al.*).
- a more accurate method for killing museum insect pests using domestic freezers (ref. Akerlund *et al.*), who concluded that larvae and adults of *Anthrenus* beetles are killed after exposure to minus 20°C for 72 hours, if adequate air circulation is ensured during freezing.
- conservation of a mounted leatherback turtle from Harlech beach that had seriously cracked during a low RH incident, showed how EDTA can be useful to chelate the carapace to make it more soft and manageable and the cracks filled using dental quality plaster mixed with PVA (ref. J. Carter).
- now that chemical agents have been banned from use in pest prevention, a programme of monitoring and trapping of insect pests in the Natural History Museum's botany department is vital (ref. Paul & Pinniger).
- the use of heavy metal salts in herbaria, their hazards and detection and gradual deteriorative mechanisms, combined the use of unacceptable naphthalene levels. By using a UV light at 366nm the salt deposits fluoresce, probably aided by the naphthalene presence, and are more easily detectable (ref. Purewal & Colston).
- From Denver Museum of Nature and Science, Paula Cushing & Joey Slowik have been testing alternative techniques that monitor degradation of specimens stored in contaminated or evaporation-diluted alcohols using leg torsion, embrittlement, unusual swelling and natural pattern degradation.
- Last but not least (I hope) was my own work on using Japanese tissues for making repairs and as a mounting medium in many avenues of Natural Sciences Conservation. A fuller version of this will be published in this issue so I will dwell no further.

A subject of great interest to me is Julian Carter's other project: the investigation of chemical changes in fluid-preserved specimens using Fourier transformed infrared spectroscopy. The process will detect hydrolysis of protein polypeptides, which can lead to molecular structural breakdown of tissues. The preliminary results have so far shown that tissues stored in formaldehyde and Defakald (DMDM hydantoin) show cross-linking of groups within proteins leading to gradual denaturation. Although this does not occur in proteins stored in alcohol its dehydration effect does affect stored water in tissues and alters the steric arrangement of proteins in tissues but without altering their functional chemistry.

Useful snippets of conservation information gleaned from posters and presentations

I must apologise for the brevity of these statements. I hope that they may be useful but I would advise further investigation prior to using them.

- Use of Gore-Tex as a humidifying medium.
- Acid-burns on deteriorated taxidermy fish-skin neutralised using ethanol swabs and BEVA 371 used as an infill agent.
- Plexiglass rod used to give a vertebral column added strength and some flexibility.
- Use of Kaiserling III (comprising dilute [aqueous] glycerol with dissolved potassium acetate) with addition of 5% formalin can be used as a balanced fixing agent for fluid preservation.
- 70% IMS is the best concentration to store specimens destined for DNA recovery.
- 75% isopropanol is the best strength for using as a fixing agent.
- Formalin cross-links with protein giving rise to a gel layer making rehydration harder than from alcohol-fixed protein.
- Freezing at -18°C for two weeks proved to be the most effective for eliminating active insect pest infestations.
- Greatest risk time from insect pests is June to September.
- *Anthrenus sarnicus* can complete a generation in only one year whereas *A. verbasci* takes two years.

- Change from Halon in non-wetting fire extinguishing systems to use of inert gas (*Inergen*).
- ArtSorb can be recycled by microwaving on full power for 1.5 minutes
- Pyrite decay acids on geological specimens are neutralised by ammonia vapour using polyethylene glycol 400 as a suspension base, and bulky poly-hydrate salts are dehydrated by the process.
- A split-V pen can be used as a spot-focusing device for ultrasonic cleaning.
- MODOSTUC putty can be used as a neutral gap-fill for palaeontology specimens.
- Jesmonite resin can be effectively used for making rubber moulding jackets for casting.
- Stereo-lithography is useful to enlarge or reduce castings.
- *Smooth-On Smooth Cast 300Q* is useful as an easy-pour and fine-grained casting resin.
- The Darwin 1 building maintains a cool atmosphere just below the flash-point of IMS to eliminate spark-ignition risk.
- Darwin 2 will be cooled to 17°C (lower at night) and maintained at 45% RH to lower the risk of pest infestation.

The NatSCA Sessions - Wednesday 15th: A Personal View

- Maggie Reilly

Having left Glasgow on the Easyjet red-eye at 6.00 am on Tuesday morning, I was a little bleary shuffling thro' Stansted at the other end. However by the time I got to Cromwell Rd, the sight of the utterly magnificent edifice of the NHM lifted my spirits. I found the cheery efficient welcoming team on the registration desk and launched myself into the whirlwind of this special anniversary conference. I am reporting on the NatSCA sessions of the conference and these took place on the Wednesday afternoon. I must say that, as ever, I enjoyed the departmental tours in the morning – after all who doesn't like a good snoop in other people's cupboards..... Despite numerous business visits to NHM in recent times I had never managed a tour of the Darwin Centre so was pleased to do that and mightily impressed with the new tank room for large specimens. A recently acquired giant squid in the process of being preserved was lurking in a polythene tent and apparently is destined for storage in a specially made massive glass tank. Damien Hirst, eat your heart out!

On to the Special Collections Department of the Library where some of its treasures were laid out for our delight - beautifully illustrated books, drawings and prints. The drawings made by the Scottish artist Sydney Parkinson on Captain Cook's first voyage of discovery to the South Seas had special resonance as we have specimens associated with the Cook voyages in the Hunterian in Glasgow and we are much steeped in the history of the voyages.

The lecture sessions were got off to an optimistic start with Nick Gordon reporting on the recent successful Subject Specialist Network bid to support and further develop existing natural sciences specialist networks. Nick emphasised that SSN's had to deliver a product that was of benefit to audiences but those audiences could be not only the public but might be academic researchers or other curators. Collections and people who use them are the key to this. Nick recommended to those that haven't already done so, read the MLA's 'Inspiring Learning for All' to understand more of the framework in which successful networks will operate.

The introduction of institution wide collections management standards and policies in a multidisciplinary museum potentially could restrict the use of natural science collections where there are time-honoured and useful practices peculiar to the nature of these collections e.g. we lend to non-museum borrowers or permit (even encourage) long term research loans. Anne Fahy and Donna Young of National Museums of Liverpool spoke about formulating their collections management policy and meeting the needs of natural science collections. Close collaboration between curators, conservators and registrars is necessary. In a smaller multidisciplinary museum such as my own where we have no registrar or specialist conservators, we found wide consultation with all our curatorial and technical staff to be essential.

Members may be familiar with the 'ten agents of deterioration' risk analysis technique and Kate Andrew described the application of this technique to the development of two new collection stores in Ludlow and Hereford. It was extremely useful to hear about these case studies where practical examples of the risks posed to collections by light, pests, flood, fire and the other agents were worked through and pragmatic and cost-effective means of mitigating the risks sought.

Louise Bacon from the Horniman discussed the challenges they face in refurbishing galleries whilst having to retain old style listed showcases. The showcases were well made but have problems with dust ingress, lighting and humidity control. A variety of relatively straightforward measures (replacing seals, re-puttying glass, moving lighting outside cases, use of Artsorb to help control humidity) help solve some of the problems to acceptable modern standards and allow the refurbishment to progress.

Doug Russell from the NHM looked at the development of standards to the acquisition and management of bird egg collections today. The collecting of birds eggs is rightly restricted by a number of national and international laws. However for scientific research some collection of modern eggs is necessary. He debated the pros and cons of the three methods available for legal acquisition of modern egg specimens - seizure of illegal collections, specimens taken under licence and captive bred specimens. This realises some useful material but has limitations – a truly representative time series is unlikely to result. The ethical framework in which more scientifically significant egg collecting might take place is still to be formulated. Doug also raised the issue of how much egg collection data should be made widely available especially in these days of on-line catalogues. There is a tension between improving access to collections and revealing sensitive data (distribution/ nest sites/breeding data) which may be misused. Again there is a need for discussion and establishment of national guidelines. A guiding principle has to be ‘do nothing that causes harm’.

Julia Sigwart and Paolo Viscardi both spoke about different aspects of the National Museum of Natural History in Dublin or the ‘Dead Zoo’ as it is affectionately known locally. Paolo spoke in a heartfelt way about the challenges in managing an offsite store for natural history collections where the building isn’t suitable for purpose and there are precious few resources available to be invested in it. Many heads around the room nodded in recognition and sympathy. Julia described an innovative education project, Co BiD, run by the Museum in collaboration with University College Dublin where undergraduate students used the collections in research projects as part of their science courses. Students databased the collections and the Museum can boast an impressive total on many thousands of records going on-line in the space of a couple of years. Those of us who work in University Museums welcome student volunteer labour but it is an ever-changing resource. So many of us benefit from the skills and dedication of long-term volunteers with a passion for collections and the time and inclination to make a regular commitment. Julia developed a course, ‘Behind the Scenes at the NHM’ run in conjunction with Adult Education Department at UCD to pique the interest in this type of volunteer. This has been a winner all-round with a high level of interest in the course, increased profile for the Museum and the consequent recruitment of a significant amount of valuable volunteer labour.

Two speakers from the NHM Adrian Doyle and Dave Smith spoke about the Pest Management. Adrian described the concept and implementation of Risk Zones strategy adopted as part of IPM by the NHM. The entire museum was assessed and colour coded into zones to indicate severity of risk to collections from different types of pests. Walking into a red zone immediately lets you know the collections in that area are vulnerable. A number of protocols (with an emphasis on achievability) were developed and staff trained e.g. eating and drinking not permitted in red areas. A pilot study carried out in mammalogy reported significantly reduced problems. Dave Smith spoke about the application of GIS to IPM. It allows you to integrate pest trapping, rodent monitoring and building works information with a map of the building showing its risk zones and thereby graphically show up e.g. insect pest hotspots. Environmental data from loggers could be added in as well. It appears to be a powerful tool in managing a complex structure for pest control.

Having fed our minds all afternoon, we looked forward to feeding our taste buds and party animal tendencies in the evening. Yes – the conference banquet – which promised to be an extravaganza of fine food and wine, good music and dance. I have long harboured a desire (this may fall into the ‘get a life’ category of ambition but I don’t care) to dine alongside the dinosaur in the grand entrance of the NHM. Sadly I don’t often get invited to such events so this was an opportunity of a lifetime. We weren’t disappointed. Arriving, suitable got up in our finery – you’d hardly recognise us as usually scruffy curator types- we got in the swing of things with a glass of fizz whilst chatting to colleagues loafing in Waterhouse Way. Then into a star spangled central hall and dinner. Now maybe I am easily impressed and I’m told the starry backdrop the standard way of screening off the functions area in the central hall but was well taken with the cosmic effect! Great food, copious wine, friends old and new and of course the dancing added up to a memorable evening. The next day’s hangover was a little special too but we won’t go there.

Tours of Botany and Zoology

- Lindsay Loughtman

Botany

The huge slice of Sequoia loomed over us as we trooped up the stairs to the top floor of the Museum for the Herbarium tour. Steve Cafferty first showed us the upside down scanner used to capture images of herbarium sheets by placing the specimen beneath the scanner then raising the specimen platform upwards. The image quality was superb. One of the group enquired about the cost of such scanners and we were told £4,000 each! The Sloane Herbarium was a very impressive sight with seven bound volumes of plant specimens from his voyage to Jamaica (1687-1689). We were also shown some of Sloane's 'Vegetable and Vegetable Substances', an assortment of over 12,000 fruits, seeds, pots of aromatic gums and other items of plant origin.

Mark Spencer, working on the Linnaean Typification Project and researching type specimens, then gave us an informative presentation. Since 1981 the Linnaean Plant Name Typification Project, based at The Natural History Museum, has been collating and cataloguing information on published type designations for Linnaean plant names and, where none exists, has designated appropriate types. Mark explained the use of British herbarium specimens, especially rare ones, for working out historic distributions, using *Schoenoplectus triquetus* as an example. As we were escorted to the next part of the tour we passed mounds of Lamiaceae specimens from the Flora Mesoamericana project which describes, for the first time, all the vascular plants growing in the southernmost states of Mexico (including the Yucatán Peninsula) and all the Central American republics.

Lastly we were treated to an impressive display of algae specimens from the 327,000-strong collection, commercial products containing algae and associated literature by Jenny Bryant. She talked about the algae collection at the Museum and gave a few anecdotes about the collectors. I was especially interested to hear about Dr Kathleen Drew, who in 1950 discovered the unusual algal life history of *Porphyra* or 'Nori'. Until that time, no one knew where the spores came from that seeded the elaborate nets used by nori fishermen in Japan. She was a lecturer at the University of Manchester and the Manchester Museum herbarium holds some of her algae specimens.

Zoology

I was hoping to go on the Explore tour of the Darwin Centre and was disappointed to find it was closed to the public for the week of the conference. However, the zoology tour seemed to be just what I had hoped for. Initially we were given an introduction to the vast (8 million) mollusc collection by Kathie Way, including some very old books in the mollusc library.

In a climate-controlled room with massive spirit jars of fish round the edge, we were shown vast tanks with huge specimens in, and a selection of Charles Darwin specimens from the 22 million strong collection. A giant squid, weighing over 200 kg, had been caught during a regular trawl by a fishing vessel off the shores of the Falkland Islands and had been shipped, frozen, to London. The 'giant' squid, which is of the *Architeuthis dux* species, has a mantle length of 2.7 meters and an overall length of 10 metres. Staff at the Museum were discussing how best to preserve and store the huge creature.

Besides the world-class storage areas we visited the laboratories and the dermestarium, in which beetles (*Dermestes maculatus*) clean skeletons at 25C but with carefully controlled high humidity to stop them eating their own eggs. The Museum has more than a million whole and part skeletons in its Osteology collections. Curator Patrick Campbell explained that many of the specimens waiting in the Museum's freezers are still whole and the beetles' job is to strip away any flesh to reveal the bones underneath. From an initial colony of just 100 beetles and larvae, the population supplied by Central Science Laboratory was expected to grow to almost 1,000. As the beetles will eat any organic material, they are kept in an airtight room well away from the Museum's other collections. Skeletons removed from the dermestarium are frozen and cleaned before moving to other parts of the Museum to ensure the beetles are not accidentally transferred to the collections.

Haslemere Educational Museum: An Introduction To The Natural History Collections **- Julia Tanner**

Introduction

Two members of staff and one volunteer geologist from Haslemere Museum were able to attend the SPNHC/Realising Standards 2005 Conference at the Natural History Museum thanks to bursaries awarded by NatSCA. For those of us from small museums with limited budgets this was a wonderful opportunity to be updated on the current intellectual climate, learn more about particular programmes and projects, as well as network with international colleagues. As a result, the conference was beneficial in many ways and as much as “Realising Standards”, the conference was also an opportunity to realise our connections and strengths as a professional community and be re-inspired about the work that we do.

Historical Background to the Museum

Haslemere Educational Museum is an independent establishment and a charitable trust limited by guarantee. Throughout its history it has been privately financed through donations, earned income and bequests, with only limited recourse to public funds.

The Museum was established in 1888 by Sir Jonathan Hutchinson (1828-1913). Sir Jonathan was born into a Quaker family in Yorkshire and became an eminent surgeon based in London. In the 1860s Hutchinson built a country house in Haslemere where he had the space to indulge his delight in collecting. His original museum opened in sheds in his garden until its success led it to be established at larger premises in the town. Hutchinson’s collecting was based upon his deep conviction that an education could be acquired through the study of objects. The museum pioneered innovative ideas of museum education and interactivity, which anticipated many ideas current today. After Hutchinson’s death in 1913 a board of Trustees was established that ensured the Museum’s continuation to the present time.

The Museum holds approximately 400,000 items in its collections, over two thirds of which are natural history specimens. Many of the early exhibits were acquired from auction rooms around the country, especially Mr Stevens at Covent Garden. The present-day collections cover a wide range of natural history subjects collected from local, national and international sources.

The Natural History Collections

The most significant collections in terms of quantity are shells and botany. The shells amount to between 80-100,000 specimens and include the R.H. Moses collection of worldwide significance. The botanical specimens mostly comprise of Victorian and Edwardian pressed herbarium sheets. The Miss Lightfoot collection combines poetry with pressed plants of the 1870’s. There are also specimens of plant galls, conifers, mosses, liverworts and wood block samples.

A substantial Edwardian collection of cased birds is of particular quality and interest. Specimens include a passenger pigeon, owls, terns, woodpeckers, sandpipers, gulls, finches and ducks, with some smaller birds forming large group dioramas. The taxidermists include T.E. and F.E. Gunn of Norwich, Rowland Ward of London and James Gardener of London. The collection also includes the Slaines Boorman collection of British birds’ eggs and nests.

The insect collection is made up of butterflies, moths, beetles and flies and amounts to about 70,000 objects. They include the J.J. Joicey collection of foreign butterflies and the Rupert Long collection of British butterflies and moths. Most of these collections are dated to the early 20th century.

The vertebrate collection includes East African game heads and miscellaneous worldwide taxidermy specimens and skeletons. One particularly interesting example on display is the composite moa skeleton comprised of one species type. Pieces of moa eggshell and a single feather are also preserved in the reserve collection. Invertebrates include a collection of about a thousand corals and sponges.

The geology collection covers a wide range of fossils, minerals and rocks. Named collectors include G.F. Walton, J.C. Hawkshaw and John Edward Lee. Many of these collections are stored in their original wooden cabinets. Fossil material includes a specimen from the Burgess Shale and two almost complete Ichthyosaurs skeletons.

The Museum is also home to the Geikie Archive, a unique collection that records the life and career of the distinguished geologist Sir Archibald Geikie (1835-1924), who retired to Haslemere in 1913. At the pinnacle of his career, Geikie was Director General of the Geological Survey of the United Kingdom (1882-1901). He was honoured by numerous appointments and awards, including Knight Commander of the Bath, the Order of Merit and he was the only geologist to have ever become President of the Royal Society. The collection at Haslemere includes his personal and administrative correspondence, field notebooks, illustrative artwork and geological specimens.

The Future of the Natural History Collections at Haslemere Museum

In November 1995, the first natural history specimens were recorded in electronic format. A backlog remains of about 60-70,000 items and this cataloguing project constitutes the main collections priority, expected to take at least another five years.

Despite being a small rural museum, the quality of our collections attracts many research visitors every year and we are committed to encouraging access to our reserve collections. We do not actively collect but the collections are developed through donations. In accordance with our acquisition policy we prioritise the acceptance of locally related collections or those that enhance established subject strengths.

As the custodian of collections we are concerned about the quality of associated data and two particular issues are marked for further attention, namely data cleaning and collections research.

Collections research is particularly pressing, especially in relation to collectors, donors and localities. The focus will be on the most data rich collections in the first instance in order to realise their full research value.

Care of collections will be directed towards improving storage conditions and packaging materials in tandem with improving accessibility.

Attention will also be given to digitisation and online access, although both these issues are long-term targets.

The collections and displays are utilised by our full time Education Officer with the intention of promoting an understanding of the natural world, for the discussion of ecological and environmental issues, and as a basis to encourage further learning.

We remain alert to developments in scientific analysis and interpretation in order to maximise the potential of our collections.

Many ideas gleaned from the SPNHC/Realising Standards Conference have been brought back to Haslemere and will be incorporated into our forward planning.



Burgess Shale fossil (*Marella splendens*)



Composite Moa skeleton (from Enfield site, New Zealand)

Book Review

Edward Gerrard & Sons: A Taxidermy Memoir, by P.A. Morris

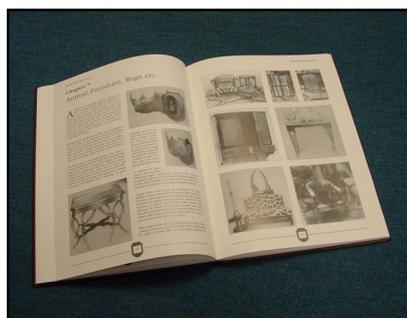
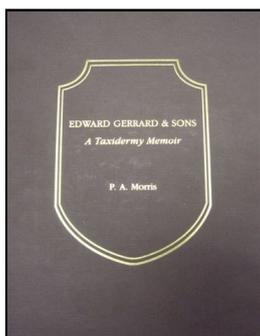
- Douglas Russell, Curator: Bird Group, The Natural History Museum, Tring

Following on from his 2003 publication ‘*Rowland Ward: Taxidermist to the world*’ Pat Morris has made another excellent contribution to the narrative on historical British Taxidermy. An acknowledged expert in the field, his most recent publication reviews the important London taxidermist’s Edward Gerrard & Sons over their entire 117-year history. Although lacking in primary source literature, the author has succeeded in giving a clear and succinct history of the major aspects of the company. Beginning with a somewhat brief chronological history of the family members and a history of the company and its premises, subsequent chapters shift focus to examine the company’s taxidermic output. The chapter on *Animal furniture* is particularly fascinating and beautifully illustrates the predilection in the 1920’s and 1930’s for somewhat bizarre souvenirs and novel functional household items. Throughout the book the author’s extensive knowledge of taxidermy techniques shines through, conveying both technical and biographical information in an eminently readable fashion. Although historically Edward Gerrard & Sons have always been overshadowed by Rowland Ward, the author emphasises the important contribution and advances Gerrard’s made in the production of articulated skeletons and models. However, The books primary strength is in the profusion of photographs the book contains; including hundreds of images of the company’s taxidermy, as well as portraits, and extracts from catalogues and labels.

Given Edward Gerrard senior’s (1810-1910) long career in The Natural History Museum and Edward Gerrard junior’s (1832-1927) strong links with the same institution, surprisingly little is mentioned of the company’s major importance as dealers of prepared study skins and eggs, concentrating more on their output of display specimens and unusual items. A more in-depth synopsis of the company’s contribution as dealers and specifically Edward Gerrard junior’s work as a natural history agent is an unfortunate omission. The BMNH purchased considerable numbers of important avian specimens through Edward Gerrard junior, including type specimens, rare osteological material, eggs and thousands of study skins from all over the world, acquired by many of the most important collectors of the Victorian and Edwardian age. Those looking for a comprehensive account of the lives and contribution to science of the early Gerrard men may be a little disappointed. However, putting these limitations aside the book is an enthralling read and beautifully illustrated and given the dearth of literature on this intriguing and important subject, this is a very worthy addition to any natural history library.

References: Sharpe, R Bowdler (1906) in *The History of the Collections in the Natural History Departments of the British Museum*. London. Vol. II. p 357-363.

Edward Gerrard & Sons - A Taxidermy Memoir will always be a scarce book as no more than 300 copies will be printed. Copies can be obtained priced £36.00 plus £4 post and packaging from:
MPM publishing, West Mains, London Road, Ascot SL5 7DG



Notices, Adverts & Meetings

Notices:

Call for Nominations - SPNHC

The Elections Committee of the Society for the Preservation of Natural History Collections announces that nominations for the 2006 election will be received by the Committee Chair from now until 31 October 2005.

Members participating in this election will be selecting a President-Elect, Secretary, and two Members-at-Large to take office in May 2006. The office of President is intended as a six-year leadership commitment - two as President-Elect, two as President, and two as Past-President; the By-laws of the Society include procedures if circumstances arise that prevent serving through the three offices. The Secretary is elected to a two-year term and can be nominated for re-election. The Members-at-Large serve three-year terms and serve to bring the voice of the membership to Council and support Committee functions and leadership as required by current needs. The two Members-at-Large whose terms expire this year can also be nominated to serve for another term.

I encourage all Active and Honorary members to think about their colleagues who are active in SPNHC and propose them for nomination. Our society depends on both the dedication of our Council members and the involvement of our membership in choosing people who will serve the Society.

To submit a nomination or for more information on the election process please contact the committee chair, Richard K. Rabeler, via:

email: rabeler@umich.edu
 Telephone: (734) 615-6200
 Facsimile: (734) 647-5719
 Mailing address:
 University of Michigan Herbarium
 3600 Varsity Drive
 Ann Arbor, MI 48108-2287, USA

Training:**Fluid-preservation course**
26 – 29th September 2005

Is all or part of your fluid-preserved collection the shame of your museum so that it's shunted into some back room or exterior storage area? Do your gallery fluid-preserved specimens require attention? Do you need to know how to mount fragile specimens in fluids, seal those awkward glass jars, understand the basics about fixatives and preservatives?

Simon Moore is presenting a course to redress all of these problems at Oxford University Natural History Museum from 26th to 29th September this year.

If you have any specific problems either bring them along or ask if this problem could be incorporated into the course (notify Simon first). Feel free to bring along any portable problem specimens (we will need something to work on) but preferably not too valuable!

A limited number of student accommodation rooms are available nearby at a mere £13.00 per night from Sunday to Wednesday nights (inclusive).

Cost: £200 for the 4 days

Contact:
Simon Moore
couteaufin@aol.com / 01962 826737

NatSCA Botany Collections Seminar
17th November 2005

A seminar to improve your knowledge or help you to understand the technology required to conserve and maintain collections of **botanical material** will take place at the Adult Education Centre at Kew Royal Botanic Gardens on the **17th of November, 2005**.

Sessions will comprise talks relating to the topics below and herbarium tours and practical/hands-on demonstrations. Please indicate whether you would be interested in the Herbarium Tours. Costs are being finalised but are expected to be in the region of £40 for NatSCA members and £50 for non-members. Further details will be sent out to those who have signed up later.

Proposed topics

Repair of herbarium specimens to include dealing with fragmentation.
Remounting of detached specimens and those in envelope containers.
Deteriorative agents that apply, preventive conservation (only touch on pests).
Specific problems - algal acidification (any others?).
Preparation of specimens to include fungi.
Detaching adhered specimens from old mounts.
Cleaning sheets, labels, specimens (removal of frass and surface dirt).
Specimen attachment - methods and materials.
Fluid preservation, are we using the correct/most suitable preservatives?
Practical demos (pm) will include some of the above topics.

Contact:
Simon Moore
simon.moore@hants.gov.uk

Miscellaneous:

Call For Information

The Canadian Conservation Institute is planning a publication on preservation of museum collections. A section of this publication describes the agents of deterioration that cause damage \ and losses to cultural property. We are writing to you now to ask for your help in identifying as fully as possible, the diversity of specific problems that fall within an agent that has variously been termed "custodial neglect", "loss", or "dissociation". This agent gathers together all ways that data are dissociated from objects and collections and that objects are dissociated from collections and institutions that are not the result of criminal activity (dealt with elsewhere).

The following are examples of issues that would fit into this category:

- Misfiling of objects with consequent inability to relocate
 - Objects confiscated due to lack of permits for import/export/transfer
 - Objects lost due to failure to assure legal title transfer
 - Value of sacred objects diminished by contact with non-sanctioned persons
 - Linkage of object to provenance data lost
 - Mixing of samples from separate sample lots
 - Dissociation of unique data on labels from objects
- Failure to migrate digital information to current hardware and software systems

We would very much like to add your ideas to this list to help us ensure we are being comprehensive in defining the issues. Do you have anything to add to this list? Can you help in better defining the terms we have used? Is there a more general or clearer structure for this kind of activity? Do you have concrete examples of any of these issues you can share? Do you have particular insights into mitigating the risk of dissociation you would share with us?

Please respond to rwaller@mus-nature.ca and pcato@sdnhm.org.

Thank you,
Robert Waller and Paisley Cato