Editorial

Dear Membership,

Welcome to the pre-conference issue – please note that we still have some money available for bursaries for the conference fee, so look at the information in this issue on page 12 and be aware that the deadline for applications is now the middle of April. One of the conditions of the bursary is that you provide a small piece for the conference issue of the newsletter – don't be alarmed by this, and feel free to give me a ring if you would like to talk it over. I think that personal views and reviews on the conference are always interesting, not just for those who weren't there, but also for those who were. It might not be possible to attend all sessions, so it's a helpful way of catching up on something that was unfortunately missed.

A note to authors – if you feel that there are some images in your papers that really must be printed in colour, then please let me know when you submit the article. It is very expensive to print in colour, and although we try and keep the costs down, we would not want to undermine the article in any way. If it is not essential to the sense, but you would still prefer it, there is always the option of paying for the colour yourself. Contact me to discuss this if you have any requests.

Apologies to the following for errata in the last issue of the Newsletter:
Geoff Hancock – omission of appendices. These are included at the end of his addition, printed in this issue of the Newsletter.
Jill Kerr – difficulty with image resolution in her paper on Tineola bisselliella in Ulster museum. We will be reprinting this article when we can get higher resolution images, and it has highlighted a problem with the way we get proofs from our printer, which has now been changed.
Simon Moore – Author's name appeared only after the first article when in fact all 3 articles which were printed in one section were authored by Simon Moore.

- Victoria Noble

Contributions for Issue 6, July 2005

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 June 1st:

Victoria Noble [Editor, NatSCA]
Department of Botany, Natural History Museum, LONDON, SW7 5BD
email: V.Noble@nhm.ac.uk

View From The Chair

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 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.

NatSCA is exclusively run by the members on their own time or with goodwill of their employers. A great deal has been achieved by groups such as NatSCA, BCG and NSCG through running of conferences, training and newsletters, but this is often limited by resources, both time members can commit to projects and finances. As well as NatSCA a number of regional groups already exist such as groups based on the old Collections Research Units and the recently developed West Midlands Natural History Group. The level of activity and organisation of these groups is variable and no one clear coherent model or standards exist nor any effective networking between these disparate groups.

As mentioned in the last 'View from the Chair' NatSCA submitted a bid to MLA to develop a Subject Specialists network for the natural sciences. The aim of the bid was to take this opportunity to support and develop existing networks, rather than re-invent the wheel, and to develop groups where there was an identified gap. Our response to the recent Museum Associations 'Collections for the Future' report included a large section on developing networks. In this we pointed out that Subject Specialist Groups such as NatSCA already existed, and informal networks have already been developed through personal contacts and networking, particularly those built up through specialist group meetings run by groups such as NatSCA.

The NatSCA bid was essentially to develop a national network based on the hub regions using existing networks such as the West Midlands Natural History Group as potential a models, and incorporate NatSCA and other relevant bodies into this network. The timescale for submitting the bid was very tight and the level of discussion and consultation was admittedly limited. A framework partnership was developed to support the bid including The Natural History Museum, National Museums and Galleries, Merseyside and three of the regional Hubs, amongst others.

I am very happy to report that the bid was successful. Some further good news is that while MLA have a focus on the English regions they are keen to see development of Subject Specialist Networks in a national capacity. Some initial concerns that the network would be restricted to England can therefore be dispelled.

By the time you read this the first steering group meetings will have taken place and hopefully you will have received, or be about to receive, a discussion paper on a proposed Subject Specialist Network for the Natural Sciences. This will be followed by regional meetings and we will be using the grant money to fund travel costs for anyone who wishes to attend these meetings.

These first steps towards the development of a national network will involve a lot of hard work both on NatSCA's part and our partners and we would ask all NatSCA members top become as fully involved as possible. The nascent network that will hopefully emerge will help us take up the opportunities and take on the problems and facing natural sciences collections, curators and conservators.

- Nick Gordon

Letters

Natural Science Posts and Applicants?

Dear Editor,

Both Nick Gordon and Steve Thompson, writing in the last edition of NatSCA News, highlight a problem we all need to be addressing – where have all the applicants gone? When jobs go unfilled through lack of suitable applicants, for example Portsmouth Museums and Records Service has recently given up entirely on the natural science post after two separate Museums Journal adverts yielded no one suitable, we are beginning to find ourselves in a worrying situation.

I would urge NatSCA members to give some thought to how we might entice newcomers to the profession. Attending university or school careers fairs, or at least getting in touch with your local university's careers office, might influence someone's career path. I speak from experience here - I'd never thought of a museum career until I ran into Sam Hallett at a Bristol careers fair. No one had mentioned the profession to me, OK, I'd been around the Natural History Museum a few times as a kid but never managed to translate that into 'I want to be a curator'. Just planting the idea could be enough. I'm afraid this reflects the profile of the profession as a whole.

Everyone has a story about how they chose to start working with biology collections, is there anything from NatSCA members' own experience that they could use to nudge someone into biology curation or conservation? Low pay has always been an obstacle in our path but other similarly paid biology professions don't seem to struggle with waning numbers of applicants.

If no effort is made now then the future looks decidedly wobbly for collections, without voices and advocates our causes and resources become more easily overlooked, underfunded and, ultimately, disposable.

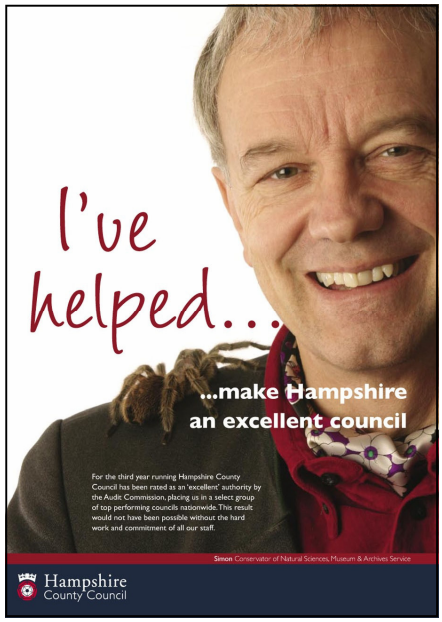
- Clare Stringer
Curator of Natural Science
Leeds Museums & Galleries

Spiderman!

Last year I was asked, as a member of staff for Hampshire County Council, whether I could bring some examples of my tarantula livestock to the New Forest Show near Lyndhurst as a part of the HCC corporate stand. The idea was largely popular, only a few marched past with averted eyes and I had queues of people from tarantula keepers and others (including the VIPs) who were really keen to see a tarantula close-to, even handle her, to frightened grannies and giggly teenagers who wanted to try to overcome their arachnophobic fears. Our stand even won the coveted Best of Show Award due to our friendliness, communication skills and (ahem!) dedication to duty.

Hampshire CC was also awarded an excellent rating and those who had contributed, in some way, to helping achieve this result were asked to be part of a series of posters to Blow the HCC Trumpet in public buildings throughout the County. I was also asked to pose for a photo, complete with Julieta who had figured largely in the New Forest Show.

So here we are adorning walls in Hampshire and hopefully not frightening Library and other staff and customers half to death!



- Simon Moore
Hampshire County Council

Transfer

Dear Editor,

Hertfordshire County Herbarium
The part of the collection held by St Albans Museum Service has been transferred to North Hertfordshire District Council Museum Service.

Contact: Claire Thornton
Collections Manager
St Albans Museum Service
Tel: 01727 751822
email:c.thornton@stalbans.gov.uk

Walter Potter (1835-1918) and his Museum of Curiosities

- Pat Morris, West Mains, London Rd, Ascot SL5 7DG

Walter Potter was a country taxidermist of no great expertise, but he and the little museum he created became very widely known, being featured in countless newspaper articles and later on television. His fame was re-ignited in 2003 when his collection was put up for sale for the last time. This article is an attempt to collate what little is known about the man and briefly to document the history of his museum before its dispersal by auction.

Potter was born on July 2nd 1853 and spent the whole of his long life in the Sussex village of Bramber, where he still rests in the village churchyard. He was well known locally, being a churchwarden and one of the Parish overseers. He left school at the age of 14 to help his father by working in the local inn and in his spare time taught himself how to preserve birds and animals. His first bird, his own pet canary, was mounted when he was just 19 and its wiring was done in a manner typical of contemporary taxidermists, using the 'bind up' method, with wires pushed through a body core made of fibrous material as shown in 19th century taxidermy books. However, he seems to have changed this quite soon and practically all his later birds have the central wire pushed through the body, bent round and pushed through again, before being bent a second time and thrust back into the body core. X- rays therefore show a double loop of wire through the centre of the body, a distinctive feature that was not in contemporary books. Potter's fame soon spread and he was able to earn his living through taxidermy, although his work was mostly rather crude by modern standards. He had a tendency to create very boggle-eyed birds (especially birds of prey) and many of his mammals also have the eyes wide open and bulging too much, probably as a consequence of putting too much padding into the orbits before fixing the glass eyes in place. Despite the use of arsenical soap in preserving his specimens, which he made up for himself, he lived to the ripe old age of 83.

Potter was a skilled model maker, creating furniture for his animals out of cigar boxes, and he also painted the scenic backgrounds to his cases, often using diluted oil paints. This too was unusual as most taxidermists used watercolours or tints based on powder paints. Similar oil painted scenes also characterised the work of two other relatively local taxidermists, Kidd and Stafford of Godalming, although there is no known connection between them and Walter Potter.

Walter was the son of the local Innkeeper and his specimens soon attracted many new customers, so he was encouraged to build up his collection. This he did, concentrating on creating his famous 'anthropomorphic tableaux', depicting groups of animals behaving as though they were tiny humans. This speciality may well have been inspired by a visit as a 16 year old to the Great Exhibition of 1851. Children were encouraged to visit the Crystal Palace and marvel at the exhibits, among which were some groups of animals brought to London by the German taxidermist Hermann Ploucquet. He displayed foxes, re-creating some famous 18th century illustrations of the story of Reynard the fox. He also exhibited frogs having a shave and kittens serving tea; tableaux that amused Queen Victoria and pictures of which subsequently appeared in the 'Illustrated London News'.

Walter Potter quickly became the leading British exponent of this kind of humanised ("anthropomorphic") taxidermy, which formed the most significant element of his collection. His work expanded sufficiently to require a special Museum building across the road from the Inn in Bramber, first occupied in 1880. This flint and brick building, set in a pretty little garden, still exists a few metres off the main road through the village. By now, Walter was married to Ann Stringer Muzzell, who came from West End Farm in neighbouring Henfield. In time she produced three children, Walter (jnr), Annie and Minnie. They lived in a house adjacent to the Museum, specially built by the brewers who now owned the Inn, astutely recognising the value of Potter's work in attracting customers to Bramber.

Potter's Museum featured an aggregation of curiosities, ranging from spears to a man trap, Siamese pigs in formalin and a menu from the siege of Ladysmith, but the prime exhibit was his recreation of *The Death of Cock Robin*, featuring 98 British birds, some with glass tears in their eyes, and including four species now rare or extinct in Sussex (red backed shrike, cirl bunting, wryneck and hawfinch). The sparrow was there with his bow and arrow, the rook with his book and the fish with his dish, just as in his sister's book of nursery rhymes that had inspired Potter to build this churchyard scene.

Centrepiece of The Death of Cock Robin, the model bull tolling the bell as Robin's coffin approaches the rook with his book.

It took him nearly seven years to create in his spare time, finishing in 1861.

He went on create other tableaux, the second being *The Upper Ten* squirrel's club and later the *Lower Five*, a rats' den (the titles of these scenes were taken from a popular song of the day). These tableaux were keenly observed social commentaries with clear class distinction between the two. The 18 toffs in the squirrels club had a servant bringing champagne and drinks on a tray and a junior offering a packet of nuts to his lordly superiors. One group were in earnest discussion as to which cards to play while others disputed some matter of the day over a decanter of port with much animation and tapping of the table with fingertips. By contrast, the rather scruffy rats' den was depicted being raided by the local policeman, who sees gambling over a game of dominoes, with money on the table and one player obviously protesting at the way the game has gone. An injured rat hobbles across the room, perhaps only recently escaped from a trap or a fight, and some of his fellow members appear to have drunk too much.

The Upper Ten - two squirrels discussing the finer points of a hand of cards in their snooty club. In Potter's day, red squirrels were still abundant in Sussex and many were shot to reduce the damage done to trees.

By contrast, the 48 little rabbits in *The Village School* personified youthful innocence (Potter wanted 50, but couldn't get the last two!). He visited the local school for inspiration, then made all the slates, pencils and furniture himself, but asked his wife to create the tiny clothes. Four classes were shown in progress, sometime in 1888. One of the pupils in the writing class had blotted his copy book and was standing on the bench in tears, having been caned. One of his friends watches him sympathetically. The girls in the sewing class included one who had darned the heel of a sock and proudly showed it to her neighbour.

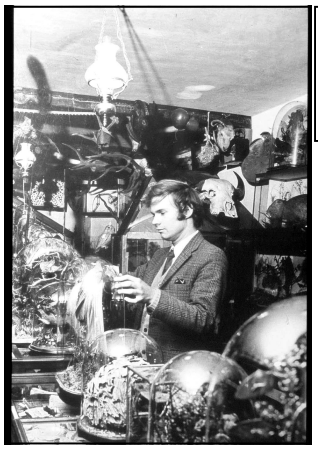
The kittens' wedding

Elsewhere the rabbits stood in a group reading a book about the opening of Westminster Bridge in 1862. There was cheating going on in the arithmetic class, where others were busy writing in chalk on their tiny wooden-framed slates. The whole scene reflects typical school life for children in late Victorian times. *The Kittens Tea Party* not only displayed feline deportment and etiquette at its most elegant, but also included obvious gossip among the 37 kittens at this important social occasion, as well as tiny tealeaves in the cups. *The Guinea Pigs' Cricket Match and Band*, Potter's third tableau, had 35 animals. The match, started in 1873, was frozen in time with the score standing at 189 for 7. One of the bandsmen was shown being ticked off by the conductor for paying too much attention to the game. Potter carved moulds out of chalk to cast in tine the instruments used by the band. Each took him up to two days to make, owing to the difficulty of getting the molten tin to reach all parts of the mould, telling a visitor "when I was in bed and asleep I worked them out in my dreams". *The Kitten's Wedding* (completed in 1898), had 20 kittens wearing little morning suits or brocade dresses, and even frilly knickers (although these are not visible), plus a feline vicar in a white surplice. The clothes were made by a neighbour and by Potter's daughter Minnie. It was the only tableau in which the animals were dressed, although my own collection includes a case of Potter's squirrels, wearing Edwardian clothes and playing cards, evidently created for a customer.

Miniature cows and a cockerel, needed for other tableaux, were made by purchasing small toys and gluing on real feathers or hair. Other details were confided to a visitor who reported them in "The Idler" magazine for 1894-5 (pp559- 573), including the fact that some of the animals (notably rats and toads) were killed specially by Potter himself, contrary to many later magazine articles that censored this bit of information. Many other kittens were probably the unwanted product of local freely reproducing farm cats. It was customary to drown such litters at birth, but why throw them away if Mr Potter could put them to good use? Gamekeepers provided an endless supply of (red) squirrels (many from nearby Wiston Park) and the local farmers encouraged dogs to catch rats in abundance. A dog called 'Spot' belonging to one of Potter's friends (Mr Charman). caught the rats for *The Lower Five* and ended up also being stuffed herself after a particularly eventful life that included being buried alive for 21 days under heaps of straw at threshing time and later being shot in mistake for a rabbit. Finally, Spot was injured jumping out of a hayloft window to chase a rat and had to be put down. Potter's own pets were also added to his expanding museum, including his white cat, neatly attired in a red bow tie and large numbers of assorted species of birds and mammals. Many weird and interesting gifts were also added to the collection, including odd souvenirs from travellers all over the world, ranging from a piece of the Great Wall of China to flowers from Charles Darwin's grave (now lost). He was also given freaks of nature by local farmers, including a three-legged piglet, a four-legged chicken (killed by a hailstome) and several examples of kittens born with supernumerary legs and even double heads. These proved particularly popular with visitors and at least four of the freaks exhibited were featured on postcards sold at the Museum.

At least a dozen tableau were created, but the last (a courtroom scene, featuring squirrels) was never finished. In 1914, Walter Potter suffered a minor stroke and he died on May 1st 1918. After this, his daughter Minnie (by then Mrs E W Collins) and then grandson, Mr Eddie Collins, maintained the Museum as a famous tourist attraction in Bramber. During the summer months, it was one of the standard daily outings offered by local coach companies from Brighton, with tourists attracted from far and wide by articles in the Press (even in *The Motor* magazine). Then in 1972 the widowed Mrs Collins sold the original buildings and the collection, which was moved in ten lorry loads to Brighton. It opened there next to the Palace Pier for its 112th season. Later, the new owner (James Cartland, a relative of the famous authoress) moved it all again to a more suitable location, the Old Post Office in Arundel, Sussex, where still more curiosities were added, to create an even greater jumble of taxidermy and amazing oddities.

Mr Eddie Collins in the entrance hall to the Bramber Museum



James Cartland, in the Museum after its transfer to Brighton

The collection was sold again in 1986 and joined the Daphne DuMaurier memorabilia at the Jamaica Inn on Bodmin Moor in Cornwall (at a total cost of about £250,000). There the museum attracted some 30,000 visitors each summer, with some of them moved to complain about the animals for no logical reason. The new owners, John and Wendy Watts doubled the size of the collection by adding a lot more taxidermy, including animals from Gerrard Hire Ltd that had been familiar favourites of many films and TV programmes. These included the upright bear that was part of the clutter in Steptoe & Sons living room, Compo's ferret from 'Last of the Summer Wine' and a horse's head that featured in one of Hercules Poirot's TV investigations (Morris, 2004). The Watts also added many other interesting items including domestic appliances, military badges, Queen Victoria's bath and an old wooden butcher's wagon, with a waxwork of Willi Brandt (the former German Chancellor) as its proprietor. They took good care of the collection, ensuring proper humidity control (for the first time in its history) and the whole museum was always immaculately presented under the keen eye of its custodian, Rose Mullins. A local taxidermists, Mike

Grace, was taken on to the staff at Jamaica Inn, with special responsibility for maintaining the collection, to which some of his own taxidermy was added.

A series of events around 2000-2001 required a review of the collection's future. Mrs Mullins and the Watts wished to retire and Mike Grace died. Moreover, the long-term development plan for Jamaica Inn envisaged using the museum building for additional accommodation. Despite attracting some 30,000 visitors per year, the museum was not the best use of space and the Inn needed more room. The announcement that the collection would be sold gained widespread national publicity. Bids were invited, but attracted only offers for piecemeal items. After more than a year in which nobody came forward to preserve the collection intact, Bonham's was instructed to auction it in September 2003. The sale at the Inn attracted unprecedented national and international publicity, probably the most high-profile event Bonham's had ever organised. At the last moment a famous artist was widely reported to be offering a million pounds to save it for the nation. Unfortunately this offer came too late and seems to have been made to the media, not to the owners, so the collection was sold by auction.

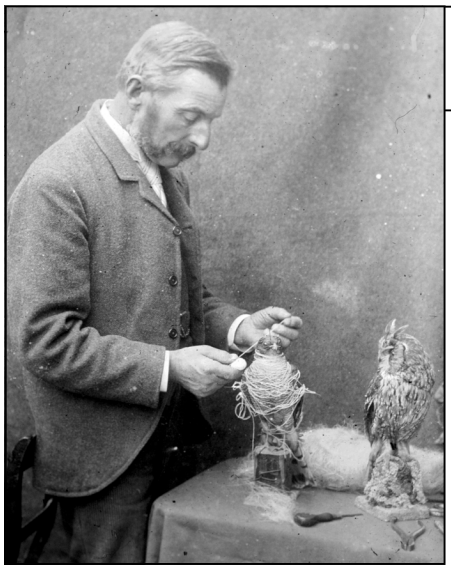
The sale attracted over 400 people, including dealers, media folk and collectors. The most famous of the tableaux (*The Death of Cock Robin*) was sold to the Victorian Taxidermy Company for over £20,000, the most expensive item in the sale. It has remained in Britain, in the hands of a private collector, but *The Kittens Wedding* went to America (for £18,000 plus buyer's premium) as did at least two more of the tableaux. The others fetched considerably less, and sold for well under £10,000 each. Subsequently, *The Guinea Pig's Cricket Match* was bought at Olympia for more than £15,000 and is rumoured to have gone abroad.

Potter's collection was no more. After 140 years of delighting and mystifying more than a million visitors, this unique assemblage was scattered across the country and over the Atlantic. Some have criticised the Watts for allowing this to happen, but the whole sorry business of dispersal could easily have happened at any of the earlier times that the collection had been sold. At least the Watts had cared for the collection better than any of its previous owners. If blame is to be laid at anyone's door, then why not the major institutions? The Victoria and Albert Museum, for example, actually borrowed *The Kittens Wedding* recently for a major display of their own about major aspects of the Victorian era (for which visitors were charged entry). Yet they did not express interest in saving the core of the Potter collection (and declined to accept my own taxidermy archive collection, even as a gift). Many other museums in private or public ownership might also have stepped in, but did not, apparently preferring to collect the folk artefacts of foreign countries rather than preserve a unique example of English whimsy that has delighted so many for so long. Perhaps their reticence was due to political correctness, but the whole point of museums (and art galleries) is to preserve examples that typify their times, not to attempt a retrospective censorship of things that become unfashionable. Perhaps in the future some regrets will be forthcoming, but it will then be too late. Already some of the Potter material has been sold on (The crocodile mummy, £1,900 at the auction, was sold by Sotheby's in 2004 for about double that. The two- headed lamb seen in so many postcards of Potter's museum, was offered on the internet in 2004 for £3,500). Several significant items have gone abroad, divorced from their cultural context, and cannot now be retrieved.

Although the sale as a whole raised over half a million pounds, the core Potter collection, including all the tableaux, was sold for barely £100,000. This amount would not buy even a modest oil painting, yet galleries frequently spend similar sums on works of art that are deemed to be of significance. However, no painting purchased for so little would attract so much publicity as did Potter's animals, nor would it have anything like the effect on an institution's visitor numbers. Doubtless Mr Potter would find the prices paid for his creations even more amazing than his own collection, but he would surely have been disappointed at the lack of vision shown by the official custodians of British heritage. It seems that taxidermy and its part in English social history is appreciated by some, but those with the strongest interest and commitment seem not to live here. What a pity.

References:

Morris, P.A. (2004) Edward Gerrard & sons – A Taxidermy Memoir (MPM, Ascot)



Walter Potter setting up a sparrow hawk in 1880, binding the freshly prepared bird so that the feathers will be held properly in place.

The rabbits' school

The guinea pig band

Potter at Bramber Museum, circa 1912

An 8 legged kitten, one of the most popular of the selection of animal freaks, illustrated on a museum postcard.

William Hunter's Insect Collection and emerging descriptive taxonomy in the Eighteenth Century (NatSCA News, 4, 2004) - addition and Appendices

- E. G. Hancock, Hunterian Museum (Zoology), University of Glasgow

Since this article was written (Hancock, 2005) I have been able to visit London and examine some parts of Joseph Bank's collection in The Natural History Museum. It is now clear that Banks' collection contains many more specimens than the number given by Fitton & Shute (1994). The reason for this is that figure of just over 4,000 specimens is based on those which were laid out in the 1860s and at the time were listed in the accession records. These specimens were so treated at the time because they were perceived to be the possible types, mainly of Fabrician names. However, there are a number of other specimens that were left unsorted and generally remain so to the present time.

Using the Coleoptera as an example, Banks' collection contains c.1880 specimens laid out systematically with their original and other cabinet labels but there are about another 1800 specimens that have not been dealt with in this manner. Although it would be inadvisable to extrapolate from these figures across all the orders clearly Banks' collection is larger than I had believed. This is a more satisfactory situation as it did appear anomalous that his collection was smaller than William Hunter's unless significant losses had occurred with time.

I was able also to make an estimate of relative numbers of Banks' Tenebrionidae to compare with William Hunter's. No judgement has been applied to the accuracy for species identification or of the claimed type status. This is a simplistic attempt using a convenient example to gauge an impression of these two eighteenth century collections.

Number of Tenebrionidae species present: Banks, 50; Hunter, 74
Number of specimens: Banks, 67 (plus 70 unidentified) 137; Hunter, 105*
Possible types: Banks, 30; Hunter, 5

*It should be noted that all of Hunter's tenebrionids have recently been identified to species level by Dr Julio Ferrer (in July 2004) but before then 36 specimens had been un-named. If Banks' unidentified material were treated similarly his species total would obviously change.

Reference

Fitton, M. & Shute, S. 1994. Sir Joseph Banks's collection of insects. (in *Sir Joseph Banks: a global perspective* (eds R.E.R. Banks *et al*.) Royal Botanic Gardens, Kew, 209-211.)
Hancock, E.G. 2005. William Hunter's Insect Collection and emerging descriptive taxonomy in the Eighteenth Century. *Natural Sciences Collections Association News* **4**; 8-13.

Appendix 1

List of contents of Hunter's Insect Collection by group

Insecta	
Ephemeroptera	8
Odonata	50
Plecoptera	8
Orthoptera	171
Phasmida	21
Dermaptera	10
Blattodea	46
Mantodea	34
Isoptera	1
Heteroptera	234
Homoptera	158
Neuroptera	40
Mecoptera	12
Lepidoptera	2855
Trichoptera	23

Diptera		270
Hymenoptera	991	
Coleoptera	2639	
Scorpionida	7	
Amblypygi	3	
Araneida	6	
Myriapoda	8	
Total		7599

Appendix 2
Collectors or contributors to Hunter's insect collection:

Joseph Banks, during Cook's first voyage (1768-1771); possibly material also present from his earlier voyage to Newfoundland in 1766.
Pierre-Marie-Auguste Broussonet (1761-1807), a Montpellier-based naturalist.
Dru Drury, specimens given or sold to Hunter by Drury at various times during their joint life time.
Johann Reinhold Forster; and/or son *Georg*, naturalists on Cook's second voyage.
John Fothergill (1712-1780), left his natural history collections to Hunter, for which documentation exists regarding the transfer of the important collection of Ellis & Solander corals at least. Insects are present, possibly being those with a small paper label on the pin simply with a capital 'F' but more research is needed to resolve matters concerning Fothergill specimens.
Edward Whitaker Gray (1748-1806), it is possible Hunter's collection contains material from a number of other contemporary acquaintances such as Gray
J. G. Koenig (1728-1785), mainly Madras, India.
Francis Masson, botanist commissioned by Banks to collect in South Africa.
Lady Monson, some specimens present (Gaonkar, pers.comm.)
David Nelson (died, 1789), botanist on Cook's third voyage, later to die after the mutiny on HMS Bounty, during which voyage he had been engaged to look after the breadfruit trees.
von Rohr, a West Indian collector.
Henry Smeathman (1742-1786), Sierra Leone, commissioned mainly by Drury, and also in the Caribbean.
Nils Samuel Swederus (1751-1833), some specimens possibly bearing labels in his handwriting
W. Wood, surgeon based in Philadelphia and a former pupil of Hunter's sent insects from Grenada and Rhode Island in 1778.
Thomas Pattison Yeats (died 1782), his collection was offered in its entirety to Hunter. This included other kinds of natural history specimens and man-made artefacts in addition to insects. Fabricius selected material from it on Hunter's behalf (Gaonkar, pers. comm.) who as a result paid Yeats' trustees a lesser sum. It is most probable that Fabricius would have picked out at least the specimens of those that he himself had described as new species. This proposition could be tested using Hunter's collection database, when completed, to check the names against the specimens. For many names this does indeed appear to be the case.

Names of collectors or at least suppliers of specimens for whom nothing is currently known. Should anyone recognise these names in the context of the period the Hunterian Museum would be keen to be contacted.

Bl. or *Blom.*, relates to a person called Blomfield, London-based but the specimens are from Canada
Coudarc / *Couderc*, based in or sent material from Surinam
Eaton, unknown
Hills, a person (?) based in Jamaica
Mrs R., Mrs Robinson, Antigua
Rae, based in Constantinople
Ryder / *Ride,* appears to have been based in Madeira
Sautier or *Santier*, specimens from Carolina (USA).
C. Yeats, sent material from 'Hispania'; possibly a relative of T. P. Yeats

Bursaries for the NatSCA Conference, June 2005
In Association with SPNHC, GCG & ICOM

deadline extended to 15.04.05

Dear Membership,

NatSCA would like to offer a number of bursaries towards the cost of the 2005 conference. There is a limited amount of money and the committee has decided that the following division best represents a fair dispersal of funds enabling the most members to come to the conference.

Please note: the bursary is given on the understanding that the recipient will provide an article on the conference for the conference issue of the newsletter, due out in August 2005. (content to be agreed with the Editor). This article could take the form of a personal view of the conference, an overview of the talks or perhaps a discussion of one of the sessions, or the full text of a poster or talk presented at the meeting. Contact Victoria Noble if you would like to discuss this further. (V.Noble@nhm.ac.uk / 020 7942 5734).

The bursary will cover the cost of the conference only, at either the full rate or the daily rate and is not intended to cover such costs as accommodation or travel. All applicants' names will be put into a hat and names will continue to be drawn until all the allocated money has been used.

The day rate is £85 before 15.04.05 and £100 after that date.
Full week is £160 before 15.04.05 and the cost of the full week after that is £195

Bursaries take the following form:
- For those living and / or working outside of London – 75% of the conference fee, either for the full rate or the daily rate
- For those living and / or working in London – 50% of the conference fee.

All applications must be sent to the treasurer. The deadline has been extended to 15.04.05, as there are 10 bursaries still available to NatSCA members. All successful applicants so far will be notified by the end of March to enable them to qualify for the early-bird discount rate. Application should be by sending name, address and brief statement of interest (no more than 200 words).

Treasurer: Kate Andrew

Hereford Museum and Art Gallery

Broad Street

Hereford

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Notice of the NatSCA AGM, 2005

The Annual General Meeting of the Natural Sciences Collections Association will be held at 12.30 on Thursday June 16th, 2005 at The Natural History Museum, Cromwell Road, London.

AGENDA

1. Introduction
2. Apologies for absence
3. Minutes of AGM, 27th April 2004, Dublin (as published in *NatSCA News* **3**: 32-37).
4. Matters arising from the above AGM minutes
5. Chairman's Report
6. Secretary's Report
7. Treasurer's Report
8. Membership Secretary's Report
9. Editor's Report
10. Natural Science Conservation Report
11. Election of two committee member posts
12. Any Other Business
13. Date and Venue of Next Meeting.
14. Close

Nominations for Committee of the Natural Sciences Collections Association

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.

Ordinary members will require to be selected next year so in order to stagger committee member tenures and to introduce new blood, Committee would like to encourage membership to apply for two further committee member posts to serve from 2005 to 2007.

Nominations for the committee, proposed and seconded by NatSCA members, should be made to Paul Brown, Secretary of NatSCA, at the address below by 14th May 2005 ie 28 days before the AGM. Elections to be held at the NatSCA AGM at 12.30 Thursday 16th June, 2005 at The Natural History Museum, London.

Name of Nominee:

……

Proposed by:

Name…….Signature……..…

Seconded by:

Name ..…… Signature…….

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

Provisional Conference Timetable

Tuesday 14th June
SPNHC

10.50 – 11.10	Owens. Simon, Cornish, Lorraine and Collins, Chris. Title to be provided – launch of European Standards.
11.10 – 11.30	Davis. P. The NHM's Collection Management Standards Project: Defining, Setting & Implementing International Standards In Collection Management
11.30 – 11.50	Dietrich, E. Crimm, Walt. Realizing New Standards for Wet Collections Facilities
11.50 – 12.10	Butler, C. Communicating about Collections Standards to "Non-Collections People"
	LUNCH 12.10 – 13.10
13.10-13.30	Raiser, Marion. The MOA project.
13.30 – 13.50	Waddington, J. Pratt, William, Scorsone, Jovanna. Calling on GOD: The Gallery Object Database at the Royal Ontario Museum.
13.50 – 14.10	Birker, Ingrid. Natural History exhibit renovation and evaluation—setting benchmarks at the Redpath Museum/ McGill.
14.10 – 14.30	Huxley, R. The Darwin Centre Concept. Uniting a state of the art collections store with a "shop window on science"
14.30 – 14.50	Fitton, M. Darwin Centre Phase Two. Optimise or compromise: from dream to finished design
	COFFEE 14.50 – 15.20
15.20 – 15.40	Rabeler, R. Macklin, James A. Herbarium Networks: Towards creating a 'toolkit' to advance specimen data capture.
15.40 – 16.00	Gambill, V. Outgoing Exhibition Loans: When You Need More Than a Specimen Invoice Receipt
16.00 – 16.20	Bryant, James. GIS, Herbarium Collections and Development of an Electronic "Field Guide" to Plant Collections
16.20 – 16.40	Macdonald, K. Garner, Heath, Carrera, Juan Pablo, Baker, Robert J. Standardization within a Genetic Resource Collection: Perspectives from the Natural Science Research Laboratory, Museum of Texas Tech University.
16.40 – 17.00	Besterman. To be provided.
17.15 –18.30	Poster Session

Wednesday 15th June

NatSCA

13.30 – 13.50	Gordon, Nick. Subject Specialist Networks – developing a subject specialist network for the natural sciences
13.50 – 14.10	Young, Donna and Fahy, Anne. Standardising within a multi-discipline museum. How do the natural sciences fit in?
14.10 – 14.30	Andrew, Kate. Minimising the risks from the ten agents of deterioration in two new West Midlands museum resource centres
14.30 – 14.50	Bacon, Louise. Conservation at The Horniman – New for old. Applying standards to new and historic galleries.
14.50 – 15.10	Russell, Douglas G. D. Hatching a plan: developing modern standards in egg collections
15.10 – 15.30	Stringer, Clare. Regional Collections at Risk. Why funding stuffed otters and dried nettles is seen as an easy cut to make.

COFFEE 15.30 –15.50

15.50 – 16.10	Cowhey, Sarah and Sigwart, Julia. Technology in museums: friend or foe?
16.10 – 16.30	Doyle, Adrian and Pinniger, David. Risk zones for IPM: from concept to implementation
16.30 – 16.50	Smith, David and Jones, Angharad. The application of GIS to IPM risk zone mapping.
16.50 – 17.10	Strang, Tom and Kigawa, Rika. Levels of IPM control, Matching conditions to performance and effort.
17.10 – 17.30	Viscardi Paulo, Sigwart, Julia and Monaghan, Nigel. Climate control in an uncontrollable building.

Thursday 16th June
GCG

9.00 – 9.20	DeMouthe, Jean F. Standards of care for gemstone collections
9.20 – 9.40	Fothergill, Helen. The State and Status of Geological Collections in UK Museums
9.40 – 10.00	Green, Owen. "I am beginning my research; what shall I do with my geological specimens?" – a note of advice: re-assessing and re-emphasising the Tunnicliff (1983) paper.

10.00 – 10.20	Stanley, Michael. Standards in the museum care of geological collections - a new web resource
10.20 – 10.40	Wyse Jackson, Patrick. Guidelines for the curation of geological materials: setting or simply revisiting the standards?
10.40 – 11.00	Welzenbach, L. Curation of the U.S. Antarctic Meteorite Program Collection: 20th century standards for the 21st Century and Beyond

11.00 – 11.20 COFFEE

ICOM

14.00 – 14.20	Péquignot, Amandine. C.S. Tumosa and D.W. von Endt. Effects of tanning and fixation processes on skin properties in taxidermy specimens.
14.20 – 14.40	Buttler, Caroline and Child, Robert. Standards in natural history conservation training.
14.40 – 15.00	Horak, Jana, Howlett, Carter and Buttler. Integrated Collection Care at the National Museum of Wales.
15.00 – 15.20	Johnson, Ryntha. Re-housing and condition surveying at DMNS – the long road toward standards for the anthropology collections.
15.20 – 15.50	Rissoné, Adrian. Data standards: their importance and trends

15.50 – 16.10 COFFEE

16.10 – 16.30	Aarts, Babke, Brandenburg, Oskar, van Dam, Andries J. An anatomical collection dissected: practical implementation of a national de-accessioning project
16.30 – 16.50	Sutton, David. Referencing collectors of biological specimens: issues and standards
16.50 – 17.10	Harpham, Shirley. Data format standards for existing documentation and databases
17.10 – 17.30	Cellinese, Nico et al. HERBIS is the Erudite Recorder Botanical Information Synthesizer: highlights and a progress report.
17.30 – 17.50	Kandri, Angeliki; Katsarou, Demetra; Malea, Katerina. Analyses and conservation of a taxidermy fish from the collection of the Zoological Museum of Athens University

Abstracts for NatSCA Speakers

13.30 – 13.50 Gordon, Nick. Subject Specialist Networks – developing a subject specialist net work for the natural sciences

Chairman NatSCA, New Walk Museum & Art Gallery, New Walk, Leicester, LE1 7EA, UK

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 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.

13.50 – 14.10 Young, Donna and Fahy, Anne. Standardising within a multi-discipline museum. How do the natural sciences fit in?

*Collections Manager, Botany Section, The World Museum, National Museums Liverpool, Liverpool L3 8EN, UK
** Senior Registrar, Registrar Department, National Museums Liverpool, Liverpool L3 8EN, UK

National Museums Liverpool (NML) consists of eight museums and galleries. In addition to the natural science collections of botany, zoology and geology, it has collections ranging from the fine and decorative arts, ethnology, archaeology and antiquities, maritime and social history. The natural science collections are based in the World Museum Liverpool (formerly known as Liverpool Museum).

In 2003 a Registration department was created 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. This has involved a process of consultation between curators, registrars and conservators. The challenge is to ensure that conforming to corporate standards does not constrain the use and access of the collections. This is particularly true for the natural sciences where there are well-established, and often unwritten, codes of practice.

14.10 – 14.30 Andrew, Kate. Minimising the risks from the ten agents of deterioration in two new West Midlands museum resource centres

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

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 will be compared and contrasted.

14.30 – 14.50 Bacon, Louise. Conservation at The Horniman – New for old. Applying standards to new and historic galleries.

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

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. 1n recent years the Horniman Museum has had a programme of 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 collections conservation and care standards to historic galleries and old showcases has its problems and its challenges.

14.50 – 15.10 Russell, Douglas G. D. Hatching a plan: developing modern standards in egg collections

Bird Group, Department of Zoology, The Natural History Museum, Akeman Street, Tring, Hertfordshire, HP23 6AP, UK

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.

15.10 – 15.30 Stringer, Clare. Regional Collections at Risk. Why funding stuffed otters and dried nettles is seen as an easy cut to make.

Curator of Natural Science, Leeds Museums and Galleries

Most of the UK's 20 million natural science specimens held outside nationally funded institutions are in local government hands. They are in constant competition with roads, schools, housing and so on for local taxpayers money. In some areas the value of collections is recognised and appreciated, in others cuts have already been made. Why do collections find themselves in trouble and what can we do to address this? Which collections do well and why?
A lot of time has been spent appreciating the value of natural science collections, there is no question of their merit as a resource. How do we go about translating this into funding, staffing and use?

15.50 – 16.10 Cowhey, Sarah and Sigwart, Julia. Technology in museums: friend or foe?

National Museum of Ireland, Natural History Division, University College Dublin, Belfield, Dublin 4, Ireland

The vast majority of museum collections (e.g. in the Natural History Museum, Dublin) are uncatalogued and are not easily accessible to either, the museum workers or visiting researchers who need them for studies. The shear volume of these data demands new methods to create electronic databases so that records can be easily found. With this project we examine whether lay people can be safely employed to work in museum collections, and what methods and technologies may be most efficient to catalogue collection backlogs. “High tech” ways to database collections may be potentially faster than the “traditional” method (transcription)—e.g. intelligent character recognition (ICR), or speech-recognition software (SRS).

Furthermore, new methods may mean that workers could perform curatorial tasks with only a minimum of training, thereby freeing time for curators and technicians. By “lay people” we consider those uninitiated in the workings of museums and those that may have only a small understanding of the area they will work in (biology, history, arts, etc), including the student volunteers used in these trials. It is often assumed that to catalogue a museum collection, a high level of museum training is needed; however, im-

proved technology might reduce necessary training of all workers and prevent common errors.

The performances of two groups—trained and untrained—were examined, with 45 people in each group. Each group was divided between three methods (ICR, SRS, transcription), using passerine bird specimens from the NMINH* as a model collection. Preliminary results show that the volunteers using the transcription/typing method catalogued a selection of specimens significantly faster than the volunteers using SRS. However, ICR may be significantly more efficient than SRS, and individual differences in software packages impact utility. Systematic testing of comparable methods is fundamental to making decisions about allocating resources, both in staff time and equipment.

16.10 – 16.30 Doyle, Adrian and Pinniger, David. Risk zones for IPM: from concept to implementation

*Palaeontology Conservation Unit, Natural History Museum, London, SW7 5BD, UK
**IPM consultant, 83 Westwood Green, Cookham, Maidenhead, Berkshire Sl6 9DE, UK

The loss of dichlorvos [DDVP] 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 in 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.

16.30 – 16.50 Smith, David and Jones, Angharad. The application of GIS to IPM risk zone mapping.

Mineralogy Department, The Natural History Museum, Cromwell Road, London. SW7 5BD, UK

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 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.

16.50 – 17.10 Strang, Tom and Kigawa, Rika. Levels of IPM control, Matching conditions to performance and effort.

*Canadian Conservation Institute, 1030 Innes Road, Ottawa, Ontario, Canada, K1A 0M5
**Department of Conservation Science, National Research Institute for Cultural Properties, Tokyo
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In this paper we model pest activities across the wide spectrum of cultural objects that we try to protect, organized as a perceptual scale of bio-deterioration situations. Within the scale, we set seven levels, in large part determined by accessibility to pests and progression of protective structures against other deleterious agents.
For each level there are described appropriate remedial IPM solutions to vulnerabilities. Long term planning would attempt to move collections up the levels to increase their protection.

The potential uses behind this model are: 1) A starting point for IPM
planning. 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.

17.10 – 17.30 Viscardi, Paolo*; Sigwart, Julia*#; Monaghan, Nigel*

*National Museum of Ireland, Natural History Division, Merrion Street, Dublin 2, Ireland
#University College Dublin, Department of Zoology, Belfield, Dublin 4, Ireland

The collections of the National Museum of Ireland (Natural History Division; NMINH), are held seperately from the exhibition in a dedication collection building. This building is a converted army barracks, lacking insulation and heated by an antiquated closed loop system of radiators. Monitoring of the collections environment during phases of intervention and non-intervention by technical staff provides a case study demonstrating the effectiveness of attempts at climate control in an old building. The majority of visitors to the building are researchers working through the Museum's partnership with University College Dublin (Collections-based Biology in Dublin; CoB*i*D). Together, we are working to develop standards that maximise effective use of the Museum's extremely limited staff.

Fifteen digital monitors in a range of locations have been in use for the past three years recording local temparture and RH throughout a building over 800 m^2. Environmental monitoring has recently been accompanied by detailed documentation of attempts at climate control (temperature) by adjustment of radiators. We compared the total internal climate records with external climate conditions, to determine whether our efforts really have a significant impact on stabilising the collection environment.

Temperature changes within various rooms followed the same overall patterns on weekly, monthly and annual scales; however, diurnal fluctuations substantially varied in magnitude between rooms. This reflects the sensitivity of different room volumes, locations and uses to external atmospheric influence, and not the success of staff intervention. Humidity fluctuated even more dramatically, showing a complex relationship with temperature (changes in humidity were often associated with rapid changes in temperature, although RH measurements did not correlate directly with temperature). This relationship is partly ascribed to the movement of frontal weather systems introducing warmer or cooler air with very different moisture contents, resulting in rapid change that stabilise over time. A strong seasonal effect was also identified, where humidity lows were associated with temperature lows in the winter, but during the summer the relationship between precipitation, evapotranspiration and insolation resulted in a less clear-cut association between humidity and temperature.

Manual control of radiators—the only means of climate control in this building—in order to influence humidity was found to have drastically less influence than fluctuations due to changes in weather. Futhermore, these effects may be slower than external weather changes, negating any useful effects. On average, the fluctuations in humidity were no greater during periods of non-intervention, suggesting that in a poorly sealed building, with woefully inadequate levels of staffing, manual control of temperature in an effort to reduce fluctuations in humidity is an inefficient use of human resources.

Conservation of a foetal elephant's hind limb, Cole Museum of Zoology, Reading University

Simon Moore - 20 Newbury Street, Whitchurch, Hampshire, RG28 7DN

Abstract
The following is an example of how a published and figured but sensitive object that has become seriously decayed can be saved rather than binned. This particular hind leg from a foetal elephant had been found in a state of terminal decay. Initiated by a training course, the process of conserving the specimen is given in detail.

Background
The Cole Museum of Zoology is situated at Reading University. It can be visited by students and the general public and attracts many visitors each year who are impressed by its diversity of specimens and their presentation.

Most of the fluid preserved collection is kept in an outbuilding, quite usual for this type of collection since the contained specimens are preserved in either flammable alcohols or toxic formaldehyde preservatives. This outbuilding may leave much to be desired architecturally but its contents are housed in the correct environment and only about 10% of the collection actually requires any remedial work; even after the period of time whilst funding was found to train the conservator in charge, with the specialised technology.

Technique
The foetal elephant's limbs are presented as anatomical dissections and have been figured in a dissertation by Eales in 1929 (Fig. 1). These figured specimens are largely in good condition and require no treatment but the hind limb specimen was found with a very low fluid level in the jar and that the previous alcohol (70% concentration in deionised water) had evaporated leaving just the water behind in the jar. This evaporation and dilution factor was noted by Carter (1995). Unsurprisingly, fungal spores of a black pin mould had entered the jar and spread in a thick mycelium across the surface of the fluid and across the bones left out of the fluid (Fig.2). The fungus had invaded [spread] and rotted the surface of the bone, staining it black, but had not totally compromised the surface structure.

The problem was how to clean off the fungus, and consolidate the bone but keeping it moist since the specimen has to be kept under fluid so that the cartilaginous areas could still be seen but not become distorted or discoloured through drying out at all. In addition, the specimen was extremely fragile, resulting in detachment of the patella and its attaching ligaments (Fig. 3).

The ligatures attaching the specimen to its glass mounting plate held firm fortunately.

1 The specimen was removed from the fluid; the fluid was checked for detached specimen parts and then discarded, its pH was 6.3.
2 The gelatinous fungal mycelium was carefully removed from the bone, using forceps.
3 The patella was found coated in black fungus just below the tibial upper epiphysis and was removed for cleaning. The upper patellar ligament had not survived.
4 The fungal coating was removed by brushing 30% IMS over it. This also neutralised any active or live areas of fungus.
5 The specimen was left in 30% IMS to commence its re-preservation (overnight).
6 Once clean, the fragile lower epiphysial section of the femur had part detached and was rejoined using celloidin in ether/IMS (50: 50) mixture as an adhesive.
7 The patella and ligament were similarly re-attached (Fig. 4).
8 The specimen was immersed in 50% IMS for the celloidin to gel; also the next stage in the preservation/dehydration ladder.
9 The fragile foot area was rinsed in ether IMS solvent and any tiny cracks and crevices were gap-filled with 8% celloidin. Fragile areas of bone were also consolidated using 3% celloidin.
10 The specimen was then immersed in 70% IMS (preservation strength) overnight.
11 Next day the specimen was checked and then replaced in its jar filled with 70% IMS (Fig. 5).

12 The lid was sealed using a gelatine/acetic acid/glycerol sealant.
13 After several days, the fluid level was topped up through a hole in the lid, using a syringe, and the lid hole sealed off using poly-propylene rod, gelatine sealant and a cover slip.

Conclusion

This shows how close one can get to disposal of a valuable and figured specimen and yet still save it and bring it back to a clean and stable condition. Although pyroxylin/celloidin solution (commercially 'Necoloidine') has been used for some years as an adhesive for IMS-preserved specimens, its additional use as a consolidant is proved here.

References:

Carter J. A short study into the changes in alcohol concentration due to evaporation. *Conservation News,* **56,** 24-25 (1995).

Eales Dr N.B. The anatomy of a foetal African Elephant *(Elephas africanus/ Loxodonta africana)* part III. *The contents of the thorax and abdomen and the skeleton* (1929).

Acknowledgement:

With thanks to Dr Steve Hopkin, curator of the Cole Museum of Zoology,
University of Reading, for allowing me to use the foot specimen in this paper.

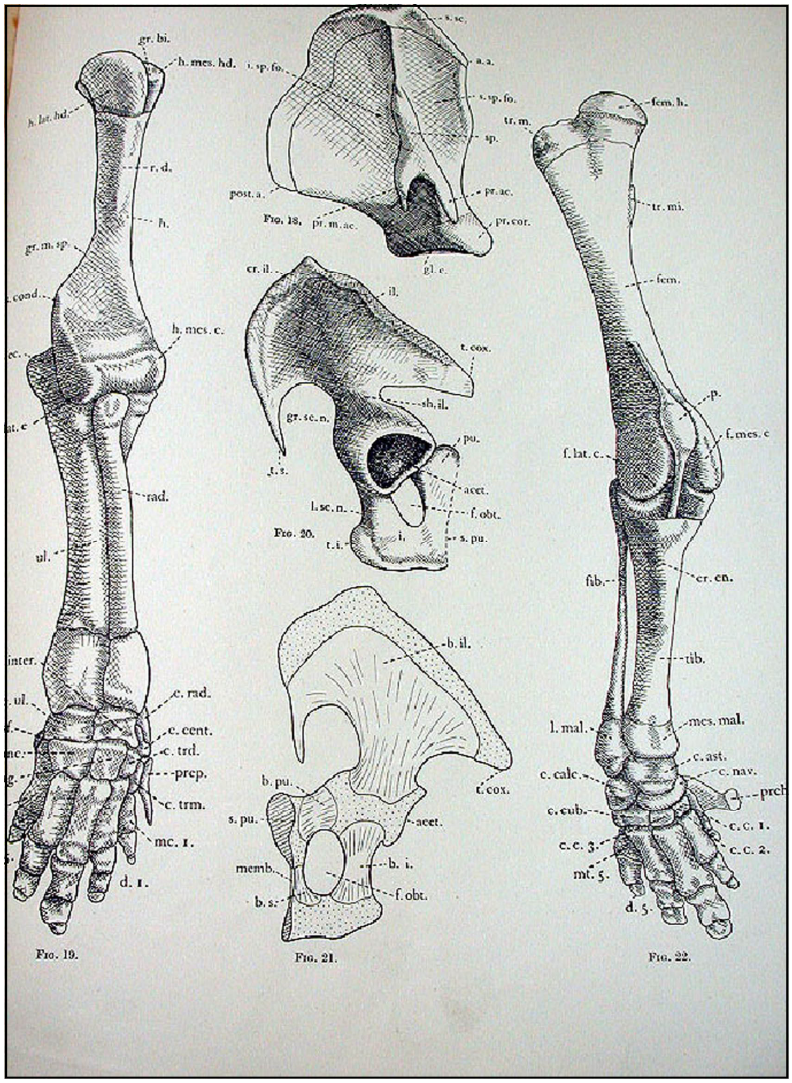
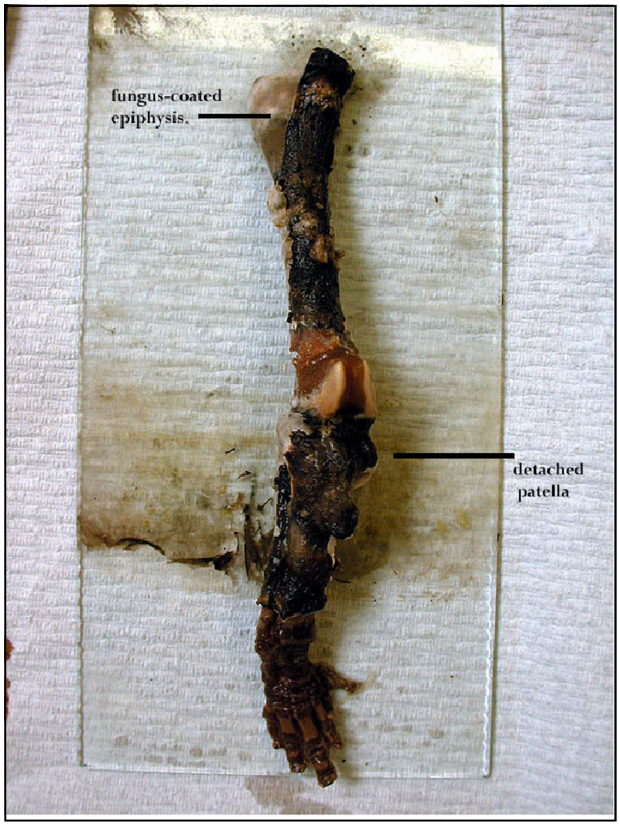
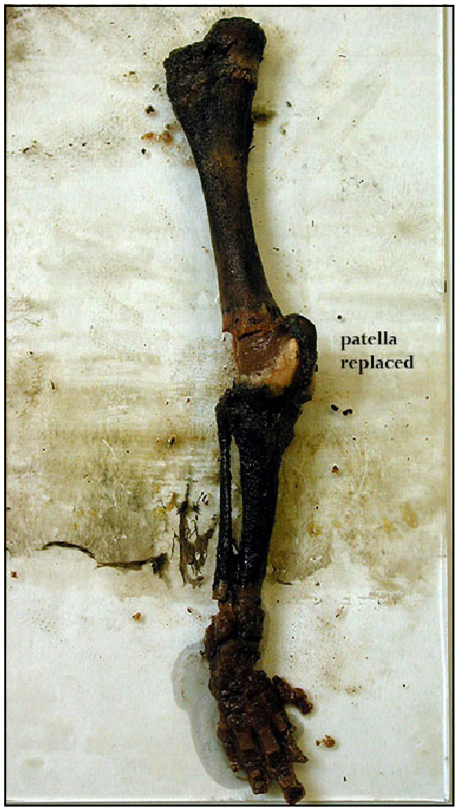


Diagram of foetal elephant's foot (right) from Eales, 1929.

The same limb as found. The lumps in the brown aqueous fluid are fungus. The femoral epiphysis can just be seen near the top of the jar.



Fungus largely cleaned away, except for top left of femoral epiphysis to show contrast between fungal layer and bone surface blackened by fungal decay.



Blackened bone before fine cleaning and with patella replaced

Following fine cleaning, the detached joints and patella have been glue-gelled back together with pyroxylin (celloidin) and re-mounted in jar.

Procedures for preparation and conservation of whole insect permanent microscope slide mounts within the Department of Entomology, The Natural History Museum, London

- Paul A Brown & Emma De Boise

The Natural Sciences Collections Association (NatSCA) held a workshop entitled 'Insect Collections for Natural History Curators and Conservators' at The Natural History Museum, London on 19th January 2004. This paper reflects information presented at this meeting and is published here to increase the circulation of our slide mounting preparation and conservation techniques beyond the usual expert-entomologist readership, to the wider natural history conservator and curator community.

Many slide-making methods have been published in limited-circulation taxonomic papers and in curatorial manuals (such as Wagstaffe and Fidler, 1970) but other, more general works (such as Carter and Walker, 1999), do not cover slide-making techniques at all. Anyone wishing to study a group of organisms, should refer to the relevant literature and experts working on the group concerned, to learn the latest and best preparation and dissection techniques. Such experts may or may not know about the long-term performance of their slide preparations, the chemistry involved or the effects on the specimens.

Preparation for microscopical examination for Homoptera bug whole mounts.

Many small insect specimens can only be identified accurately by studying the exo-sceletal features with transmitted light. Thus their body contents must be removed before they are mounted on microscope slides. Specimens preserved in formalin cannot have their body contents removed and so are almost useless for taxonomic study. Standard 75 x 25 mm slides, preferably of 0.8-1.2 mm thickness, are normally used. Cover-slips should be the thinnest possible, no.0 grade. Many workers have their own preferences for cover-slip dimensions. We use circular cover-slips of 13 mm, 16mm, 19mm and 22mm diameter, depending on the size of the specimens.

For rapid identification of a specimen, almost any mounting medium with a contrasting refractive index can be used. Using transmitted light, bright field microscopy, the refractive index of the mountant should contrast with insect cuticle so that the specimen can be seen clearly. The refractive index of Canada balsam contrasts with Insect cuticle when still wet at 1.48 but changes to 1.52 after the xylene has evaporated to become similar to insect cuticle at 1.52 and the specimen becomes difficult to see. Phase contrast microscopy alleviates this problem.

For permanent museum preparations, it is important that an archival quality mountant is used. There are many slide mounting media available, as listed in Brown (1997). After much experience of mountant deterioration (as mentioned below) we suggest that the best choices for permanent preparations are Canada balsam and Euparal, because of their proven long-term performance. Canada balsam is used for Hemiptera, Thysanoptera (Mound & Pitkin, 1972), Phthiraptera (Palma, 1978), Psocoptera, Trichoptera, (Mosely, 1943), and small Hymenoptera whole mounts (Noyes, 1982) and is manufactured from the resin of the conifer *Abies balsamea,* which is usually thinned with xylene. Canada balsam is known to be stable for over 150 years. Euparal, as devised by G. Gilson of Louvain, Belgium, is manufactured by ASCO Laboratories, Manchester and is used for Diptera whole mounts and Lepidoptera genitalia mounts, none of which have exhibited deterioration in over 50 years. Euparal is reportedly a recipe of Eucalyptus oil, methyl salicylate, camsal, sandarac and paraldehyde but the recipe is a trade secret. Euparal has a contrasting refractive index of 1.48 when dry and so is more suitable for bright field microscopy. Methods for Lepidoptera genitalia preparation using Euparal are described by Robinson (1976) and Pitkin (1986).

The technique used at the NHM for whole mounting small Hemipteran bugs (aphids, whiteflies and coccids) is documented below and closely follows the method published by Martin (1999). For many small insects, all stages of this method can be carried out in a solid, square-based watch glass or similar small receptacle with a wide top and a lid. Decanting fluids between stages of the procedure needs to be done whilst observing the pipette tip through the dissecting microscope (to avoid the loss of specimens); the use of test tubes is not recommended. The United Kingdom COSHH regulations for some of the reagents and chemicals used in this technique, demand the use of suitably ventilated working areas, preferably with fume ducting or fume hoods (Fig.1).

PREPARATION METHODOLOGY

1. The removal or maceration of body contents is carried out by warming to around 80°C in a 10 % potassium hydroxide solution (an alkali) for 5-10 minutes, or longer, until the insect cuticle is clearly visible. A small puncture may be made in the ventral surface of each specimen in order to speed up this and subsequent processes, and to help prevent osmotic collapse.
2. Decant excess potassium hydroxide macerant.
3. If the insect is naturally waxy, de-waxing of cuticle is carried out by gently warming specimens in a medium such as carbol-xylol (xylene with 10% dissolved phenol), carbol/Histo-Clear (Histo-Clear with dissolved phenol) or chloral-phenol (equal weights of phenol and chloral hydrate warmed to liquefy and remaining liquid when cooled).
4. Decant de-waxing fluid, making sure that as much chloral phenol, if used, is removed as possible as this might cause blackening problems in the future!
5. a) for specimens with opaque black cuticle, rinse in strong alcohol and then partially bleach cuticle by immersing in a freshly prepared mixture of cold 25% ammonia solution and 30-volume hydrogen peroxide solution. Bleaching should be monitored as it can be very rapid, and may be stopped quickly by adding a few drops of a water-soluble acid. Domestic bleach is unsatisfactory for controlled cuticular bleaching.

   OR

   b) for very pale un-sclerotised specimens, staining may be carried out by adding an excess of glacial acetic acid* or acid alcohol and a few drops of acid fuchsin stain solution. Staining is carried out cold and usually only takes a few minutes. Failure of staining may result if de-waxing has been inadequate (see stage 3).
6. Decant bleach or stain and twice rinse specimens in glacial acetic acid* or 95% Ethanol.
7. Final dehydration of specimens may be carried out by soaking in glacial acetic acid* or absolute ethanol for a few minutes. Decant dehydration fluid.
8. Add a few drops of clove oil for Canada balsam or Euparal Essence for Euparal.
9. Place specimen(s) on a pre-cleaned and polished slide, in a drop of Canada balsam or Euparal and arrange specimens as required. It is a good idea to place some specimens dorsum-upwards and some venter-upwards as this aids, particularly, in the resolution of ventral characters of species with very ornate dorsa. When mountant has partially dried, gently a lower cover-slip with a small amount of fresh mountant: the drier mountant will hold the specimens in place, while the fresh mountant will spread to cover the entire lower surface of the cover-slip. A little practice will be needed to perfect the amount of mountant needed to provide a preparation which does not cause distortion through over-flattening, but is also not so thick that its optical quality is impaired.
10. Slides must be adequately dried, especially if vertical storage is to be employed. With Canada balsam, slides may require up to two months at 35-45°C prior to permanent vertical storage. If slides are provided with a pair of thick card labels, they can then be stacked immediately, and the cover-slip will also be protected throughout the life of the slide: for this reason, paper labels are not recommended for permanent collections.

***** The choice between using glacial acetic acid, or a series of alcohols for dehydration, is influenced by economic and safety factors. Glacial acetic acid has the advantage of being a cheap means of neutralising alkalis and vigorously dehydrating material, and provides the acid medium necessary for staining; it has the disadvantages of its unpleasant, breath-catching smell and ability to cause skin burns. Whilst 95% industrial ethanol (IMS) is cheap when it can be readily obtained, absolute (100%) ethanol is extremely expensive, and both are more pleasant to work with than acetic acid. Ethanol is extremely hygroscopic, however, and many workers prefer 100% iso-propanol, which is not. Iso-propyl alcohol is therefore, a better choice for dehydration in humid environments, as well being cheaper than absolute ethanol.

Labels, glues and inks should all be selected with archival quality in mind. Suitable materials and methods are suggested by Carter & Walker (1999) for slide-mounted material.

Conservation of Deteriorating microscope slide preparations

Upton (1993) and Brown (1997) have drawn attention to the problems of gum chloral and plastic mounted slides deteriorating over time. We here discuss the procedure we have developed to rescue such material from the slide collections held in the Department of Entomology of The Natural History Museum, London.

Remounting of slide material should only be done by a well-trained slide-preparator or conservator. When in doubt please employ an expert to assess the problem first and to train staff if necessary or subcontract the work to a conservator! Carter and Walker (1999) briefly mention restoration of insect specimens on slides but the procedure mentions "easing the cover-slip off the slide" which we would not recommend as damage to the specimen(s) may occur.

There are many Berlese recipe gum chloral mounts within the NHM Aphidoidea collection which are actively deteriorating. Due to lack of time and man-power, only deteriorating 'type' slides and slides of species not well represented in the collection (i.e. if there are less than 50 slides of a given species) are chosen for remounting. Slides selected for remounting are those gum chloral mounts showing signs of phenol blackening with pink, bluish or black areas emanating from the specimens (Fig. 2). Other gum chloral mounts showing signs of crystallisation are also selected where chloral hydrate crystallises from the edge of the cover-slip as water evaporates from the Berlese due to a failed sealant ring. Sometimes crystallising slides can be reversed by removing the sealant ring and placing in a warm and damp environment, so that the mountant re-hydrolyses and dissolves the chloral hydrate crystals. Such slides can then be re-ringed.

Blackening in the Diptera collection slides has been blamed by some as a reaction of the ringing medium Euparal with gum chloral. In the aphid slides, blackening and bleaching might be caused by insufficient washing of the clearing mixture of chloral phenol from the specimens before placing in the Berlese mountant, as the blackening emanates from the specimens and not from the edge of the cover-slip. Phenol is used in photography as a blackening agent! Both aphids and Diptera were mounted in the same Berlese recipe that as quoted in Eastop & Van Emden (1972):-

gum arabic	48g.
chloral hydrate	80g.
50% w/w glucose syrup	20ml.
glacial acetic acid	20 ml.
distilled water	120 ml.

Berlese and other new mounting media were chosen because of the contrast in refractive index with insect cuticle, Berlese having a Refractive Index of 1.48.

Phenol balsam slides in the Diptera collection are satisfactory at the moment but a small number of aphid slides in this medium have turned black with cuticular degradation and have been rescued by soaking out in xylene. This may indicate a future problem for this mountant. After dehydration, the specimens are soaked in a phenol/100% ethanol mix before placing in Canada balsam, which is dissolved in phenol/ethanol instead of xylene.

Plastic (polyvinyl lactophenol) and gelatine mounts, showing signs of shrinking where air is entering under the cover-slips in long fingers, are also rescued. Canada balsam mounts are also occasionally rescued when the slide is broken or when the body contents need to be cleared for further taxonomic study using warm 10% potassium hydroxide. The Canada balsam slides in the Entomology Department are mostly not showing signs of deterioration apart from yellowing and many are of a great age.

CONSERVATION METHODOLOGY

1. Forty slides make up one batch and these are prepared by scraping off the ringing medium (Euparal and Murrayite) with a sharp scalpel, being careful not to damage the cover-slip in the process (Fig.2).
2. These slides are then marked into three using a diamond stylus and the thirds are carefully snapped along the score lines, which usually do not splinter.
3. The central third with the specimens under the cover-slip are placed into a watch glass with 30% ethyl alcohol which discourages fungal growth during the soak.
4. The two ends are put into water in a tub on top of the watch glass so as to keep the labels associated with the specimens (Fig 3).
5. The labels float off the glass and are affixed to a new slide, which is again placed with the associated specimens and watch-glass. If the labels are paper, these are glued to an already carded slide using neutral pH Lineco PVA adhesive. If the labels are card, these are fixed with the same glue to an un-carded slide and if the card de-laminates in the water, the top label surface can be glued to a new card square. Future removal of such labels is done by carefully removing a layer of the card below the label, which strengthens it for further affixing. Occasionally non-permanent ink runs in this treatment so the soaking is watched carefully so those labels deteriorating can be removed quickly and then removed with careful use of a sharp scalpel. The newly labelled but as yet blank slides are then left to dry on top of the watch glass with the associated specimens. Especially when dealing with 40 slides, one must be careful not to disassociate the specimens from the labels! A dedicated slide mounting-conservation area is prerequisite to avoid other people disturbing this system.
6. The specimens are left for a few days to soak in watch glasses with in 30% ethyl alcohol (the alcohol stopping fungal growth). These are placed in trays with suitable warning signs to avoid disturbance and covered to reduce evaporation and exposure to light. Some water-soluble mounts soak out quickly and the slide-square and cover-slip can easily be removed and disposed of in the sharps bin.
7. Other mounts often need a further soak in cold 10% potassium hydroxide that digests the remaining mountant without damaging the specimens. This soak can be for 5 to 30 minutes. If the mountant is still intransigent, a further soak in warm 10% potassium hydroxide, or warm acetone will usually work. Acetone has a low boiling point so care must be taken to avoid over-evaporation or fire. The much thicker Lewis Diptera slides mounts in the NHM have successfully been soaked out of the possibly, slightly different gum chloral mountant by using warm acetone. The insect cuticle in this mountant has not deteriorated or bleached to the same extant as in the aphid 'Berlese' mountant.
8. Occasionally damaged Canada balsam slides can be soaked in Histo-Clear 'orange' oil † and or in xylene but the latter should be done in a fume hood. Cover-slips and specimens should not be helped out of the mountant as this often can damage the specimen with appendages breaking off.
9. Often old Canada balsam slides have un-cleared specimens with body contents still opaquely present. For taxonomic study, features of the cuticle need to be viewed so the body contents should be cleared. A careful heating in 10% potassium hydroxide can clear these specimens before they are washed and dehydrated. We re-iterate that specimens that have previously been stored in formalin before mounting will not clear as the body contents are preserved!
10. The freed specimens can then be soaked in 30% alcohol in the watch glasses for a further period to wash away any remaining potassium hydroxide.
11. The 30% alcohol is then decanted and glacial acetic acid added for a short period of 2-5 minutes or changes of 50%, 80%, 95% and 100% alcohol, to dehydrate the specimens.
12. If the cuticle of the specimens has been badly bleached by the deterioration process, acid fuchsin can be added in the glacial acetic stage to stain them.
13. The acid or alcohol is then decanted off and drops of clove oil are added to the specimens in the watch glass. From the clove oil the specimens can be removed to a drop of clove oil on the new slide and the appendages arranged suitably if the specimen is not already too rigid to allow this. Do not force the specimen if rigid as damage may occur. Different needle forceps, flattened pins and small spatulas can be used to remove the specimens from the watch glass to the slide, which is the most delicate part of the operation. Any appendages that become detached, should be placed on the slide and close to the specimen from which they came.
14. The clove oil is then carefully soaked from the arranged specimens using the rolled corner of a tissue, taking care not to remove the specimens or their appendages in the process. Sometimes speci-

mens will disintegrate through no fault of the conservator. If this occurs, place the fragments on the slide as even these can still be of taxonomic use.

15. Add a drop of Canada balsam to the specimens and ensure that they are still arranged correctly and then place a cover-slip over the balsam and specimens ensuring that there are no or few air bubbles. Small air bubbles will often vanish when the slide is placed in the oven. Attempting to remove bubbles by pressing on the cover-slip may cause damage to the specimens. This process is routinely carried out in a fume hood, especially if glacial acetic acid or xylene is used (Fig.1).
16. Place the slides in an oven at 30°C for three-four weeks to harden. If the balsam slides are not incubated then the balsam may well never harden sufficiently so that, if the slides are to be stored vertically, the mountant will run to the bottom of the slide under the influence of gravity. Very large numbers of 'thin-mount' slides are stored vertically in the NHM Entomology collections and no properly hardened slides have slumped. Thick mounts should always be stored horizontally as the centre of a mount rarely hardens sufficiently even after baking.

† It has been reported (Laurence Mound pers. comm.) that Histo-Clear mixed with Canada balsam instead of xylene has prevented total hardening of the balsam even after oven baking. If Histo-Clear is used to liquefy Canada balsam, ensure all remnants of Histo-Clear is wicked off the specimen before re-mounting via clove oil to new balsam. A mount that never hardens will always be prone to slippage or accidental moving of the cover-slip and distortion or destruction of the specimens.

Liquid mount conservation is not discussed here, as we do not have such mounts in our direct care. Moore (1979) discusses the conservation of liquid slide mounts in his paper reporting on a project undertaken to save drying slides held within the Royal College of Surgeons in London.

References & Bibliography. INCLUDING REFERENCES FOR SPECIFIC TECHNIQUES CITED BY NHM STAFF MEMBERS.

Brown, Paul A., 1997. A review of techniques used in the preparation, curation and conservation of microscope slides at the Natural History Museum, London. *The Biology Curator* **10**: Special Supplement. Pp 33.

Carter, David & Walker, Annette K., 1999. *Care & Conservation of Natural History Collections*. Butterworth Heinemann, Oxford. Pp 226.

Eastop, V.F. & Van Emden, H.F. 1972. *Aphid Technology*. Academic Press, London & New York. 344 pp.

Hodkinson, I.D. & White, I.M., 1979. Homoptera Psylloidea. *Handbooks for Identification of British Insects,* Royal Entomological Society London **2** (5a) 50pp.

Martin, Jon H., 1999. *The Whitefly Fauna of Australia (Sternorrhyncha: Aleyrodidae). A Taxonomic account and identification guide*. Natural History Museum/CSIRO Entomology, Canberra Technical Paper No. 38.

Moore, S.J., 1979. Restoration of the Quekett Microscope slide collection. *Microscopy* **33** (8): 489-494.

Mosely, M.E., 1943. The preparation of Insects for the microscope; with special reference to Trichoptera. *The Entomologist* **76**: 227-234 & 241-251.

Mound, L.A. & Pitkin, B.R., 1972. Microscopic whole mounts of Thrips (Thysanoptera). *Entomologist's Gazette* **23**: 121-125.

Noyes, J. S., 1982. Collecting and preserving chalcid wasps (Hymenoptera Chalcidoidea).*Journal of Natural History* **16**: 315-334.

Palma, R.L., 1978. Slide-mounting of Lice a detailed description of the Canada Balsam technique. *New Zealand Entomologist* **6** (4): 432-436.

Pitkin, Linda M., 1986. A technique for the preparation of complex male genitalia in Microlepidoptera. *Entomologist's Gazette* **37**: 173-179.

Rattanarithikul, R., 1982. A guide to the genera of Mosquitoes (Diptera Culicidae) of Thailand with illustrated keys, biological notes and preservation and mounting techniques. *Mosquito Systematics* **14** (3): 139-208.

Robinson, G.S., 1976. The preparation of slides of Lepidoptera genitalia with special reference to the Microlepidoptera. *Entomologist's Gazette* **27**: 127-134.

Upton, M.S., 1993. Aqueous Gum-Chloral slide mounting media, an historic review. *Bulletin of Entomological Research* **83**: 267-274.

Wagstaffe, R. & Fidler, J.H., 1970. *The preservation of natural history specimens I Invertebrates*. Witherby, London. 205 pp.

Walker, A.K., & Crosby, T.K., 1988. *The preparation and curation of insects*. Department of Scientific and Industrial Research series 163. Auckland, New Zealand. pp 92.

Fig.1 Hazardous chemicals such as glacial acetic acid, phenol and xylene require the use of a portable fume hood.

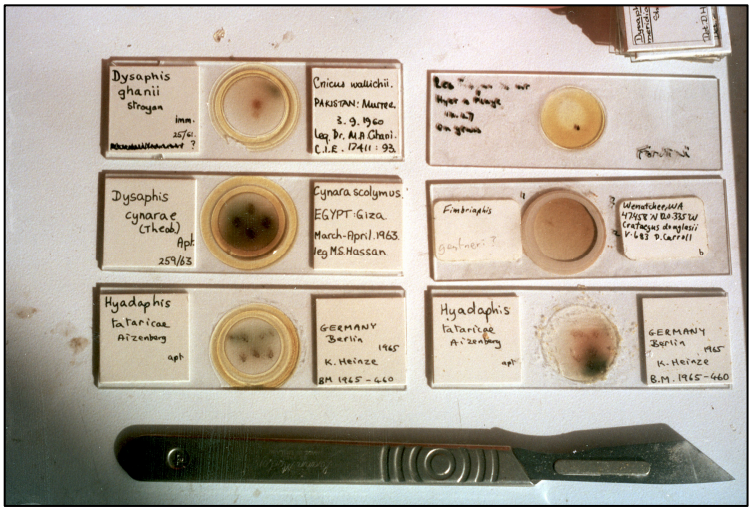


Fig. 2 Deteriorating aphid slides showing blackening and crystallisation of Berlese gum chloral mountant and the removal of the sealant ring with scalpel.

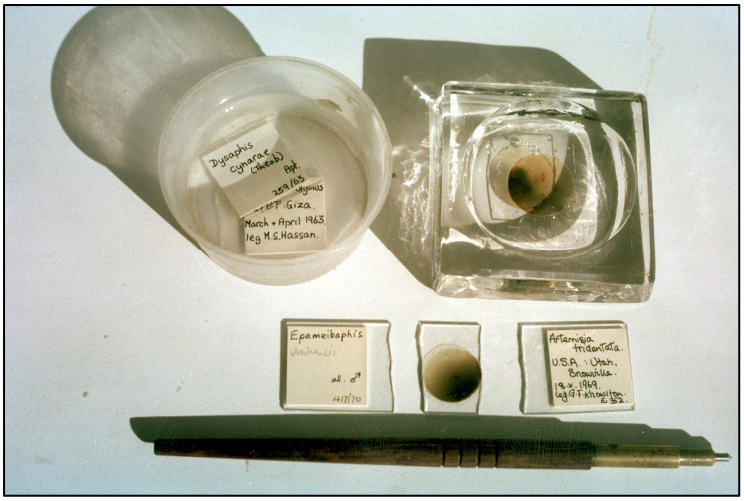


Fig.3 Rescue of a microscope slide mount. Cutting of slide with diamond stylus and soaking off of labels and specimens from mounting medium (beware water-soluble inks).

The Origins of NatSCA - a personal history
- Simon Moore, Conservator of Natural Sciences

'He likes playing about with dead bodies' was how my House Master at Bradfield rather scurrilously described my academic interests to my Mother back in er… 1965! Two and a half years later I started my career as a Scientific Assistant in Spiders but before the end of the year had been transferred to the more suitable Histology & Preservation section of the BM (NH) as it was then known. After 12 years the section was disbanded for rather political reasons and I found myself again the curatorial fold. A further 11 years on, I had had enough of the occasionally specialised and rarefied academia and chose a new start in my principal interest of being a conservator of natural sciences out in the sticks of Hampshire.

The first 'jolly' was a conference in Ipswich where I met Bob Entwistle and a number of other core NH conservators. The *Life After Death* conference, as it was titled, was the first stage in kick-starting thoughts about founding a Conservation Group. During my last years at the NHM I gave a talk to a group of colleagues, including Maggie Reilly, at Manchester Museum under the auspices of Velson Horie (and where John Peake gave his notorious 'why do we need NH collections?' talk). With all this knowledge and talent around we needed a more specialist group. Many knew about BCG (but not all) and some were unsure of submitting conservation-oriented papers to the BCG journal as they felt it was more about curatorship. This divisiveness was, I felt, unhelpful, but might be solved at a later date.

By the time of the Madrid Conference in mid May 1992, the need for a specialist Group was keenly felt and a number of us including Chris Collins, Maggie Reilly, Kate Andrew, William Lindsay, Bob and myself (any others?), met to hammer out a plan whereby we could form under the umbrella of a larger and established organisation such as SPNHC, UKIC or ICOM. I was detailed to investigate UKIC and at a steering committee meeting in Peterborough, hosted by Simon Trodd, we opted for UKIC. In these more uncomplicated days, it was only a formality for UKIC to welcome us as the Natural Sciences Conservation Section and I opted for being editor of our page/s in *Conservation News*. The first founding meeting of our new Group/Section took place in February 1993 and was held at York Museum and hosted by William who became our first Chair. We welcomed as many curators onto our otherwise rather small membership, as wanted to be involved with our Group. During this year, a select group of five of us (including myself) was funded by the Pilgrim Trust to attend the SPNHC Conference in Victoria on Vancouver Island, along with visits to Museums in Chicago, Ottawa, Toronto, Denver and Austin (Texas). This proved to be highly interesting and most enjoyable for the lucky 5 who reported on their exploits in much detail after their 3 weeks away.

The next year UKIC underwent the all-too-familiar re-shuffle and opted for charitable status spelling complications for our mixed-role membership. Rather than say goodbye to our faithful curatorial membership we opted out of UKIC in 1995 and became the Natural Sciences Conservation Group. Bob chose the Dodo for our logo despite some voices saying that our group shouldn't be seen to be as dead as…!

The new Group was quick to stand on its own two feet and developed considerably welcoming in more members from abroad, especially from countries without such a core to help guide their footsteps in this comparatively newly-recognised discipline. For 5 years we continued and thrived as such and gradually became more and more entangled with BCG and it seemed sensible to converge and become a larger group with one conference, one journal, one membership and a (much-needed) bigger voice. There were a few dissenters who argued that it was unwise to become a minority group within a larger one and that our discipline would slowly be subsumed into curation. Assurances were made that our Group would have a 50% committee representation, despite our smaller membership, and that the conservation side would still be kept distinct from curation. The latter point was also necessary for our group to fit in with NCCR.

In 2002, following much hard work especially with the Charity Commissioners, NatSCA was formalised as a new group, converged from NSCG and BCG at our formative AGM in 2003, hosted at Manchester Museum. Since then I have seen the group grow both in size and prowess and I personally find that although I have to beat the occasional drum for Conservation, it is so much better to have one voice, one membership &c. Next year will see us at the NHM as part of the SPNHC Conference (June 12-19th) and I hope we will be ably represented by our membership.

ICOM SEOUL 2004
- Adrian Norris

Entrance to the Gyeryongsan Natural History Museum

I was lucky enough to have been able to attend the 20th Conference and 21st General Assembly of ICOM in Seoul, South Korea, 2-8 October 2004. The general theme of the conference was "Museums and Intangible Heritage".

The COEX Conference Centre, the main site for the conference, can only be described as "huge", and can easily cope with several very large conferences and exhibitions at the same time. The centre also has a very large shopping Mall with many different food courts.

The City of Seoul has a population in excess of 11 million and covers an area of over 600 square kilometres. Although the city does have a number of historic sites, most of the city is very modern and looks more like Manhattan than the eastern city landscape we expected. The roads running through the city, not including the freeways, can be in excess of 14 lanes wide, making it difficult to get about on foot, thus taxies are common and cheap, but the traffic can be very heavy and congested and the air quality can be poor at times.

The food in Korea is cheap, interesting and varied but is mainly based around a vegetarian diet with very strong and spiced preserved products and dips. Bread, milk and potatoes are available in some shops but are not normally served whilst meat is generally more expensive and used mainly for flavouring in dishes. Specific meat restaurants are common but the meat is of rather poor quality, and very fatty by our standards. Coffee, as we know it, is very hard to find and even the poor quality liquid they sell as coffee, can be more expensive than most main dishes.

The social side of the conference with its many and varied events was almost overwhelming, with most sites we visited feeding us as well as giving substantial gifts and reminders of our visit. These included large fully illustrated exhibition or main collection catalogues in full colour, pottery tea services and craft products amongst many others. The cultural programme revolved around the Intangible Heritage and included such varied subject areas as dance, fashion shows, traditional ceremonies, theatre, music and even martial arts displays.

The Government of Korea is using museums to help establish a national identity and thus large sums of money have been poured into fabulous new buildings even though many of the museums have little or no core collections.

The difference in the political environment between Britain and Korea is very marked when it comes to museums. In Korea, museums are seen as a matter of local pride and the content appears to be of little consequence. It's the building and the statement that it makes which matters. In Britain, museums are so often considered to be politically irrelevant. However, there is one aspect of museums on which politicians in both countries converge, neither understand why collections matter and why they cost so much to keep in

good order. Thus Korea is reluctant to establish a National Natural History Museum.

Main Store Seodaemun Museum of Natural History

I visited two brand new Natural History Museums, both opened in 2004, and two other museums with natural history displays, either as part of the activities of the ICOM NATHIST Committee or as part of the general conference tours. The two new museums were the Seodaemoon Natural History Museum and the Gyeryongsan Natural History Museum. Both of these new museums have had no expense spared on the buildings or their displays, but these and the two older ones we visited, the Ewha Women's University Museum and the National Science Museum, (which has a natural science display), have very similar displays, based around the "Big Bang" and Dinosaurs, followed by a general mixture of specimens with a world-wide context. In general the displays were simple with little or no imagination and no thought about what it was they wished to say. The Ewha Women's University Museum was the only one of the four that had any specific scientific collections of note. None of the displays made any real attempt to involve the visitor in any way, and I felt that the museums had not thought about the displays at all but had just bought them off the shelf. The only exception to this was the display at the Ewha Women's University Museum entitled "The Promise of Life, Seed", which did show some imagination, both in the subject and the display technique.

The stores in the Seodaemoon Natural History Museum have to be seen to be believed! The main store had a highly polished wood-block maple floor, and we were asked to change our shoes for slippers before entering the store, which proved to be almost empty, at least by British standards. The space was mainly occupied by a small number of very large geological specimens obviously recently purchased from an international dealer, and a series of local geological specimens being assessed prior to purchase, all of which were just spread out on the floor.

The difference in the political environment between Britain and Korea is very marked when it comes to museums. In Korea, museums are seen as a matter of local pride and the content appears to be of little consequence. It's the building and the statement that it makes which matters. In Britain, museums are so often considered to be politically irrelevant. However, there is one aspect of museums on which politicians in both countries converge, neither understand why collections matter and why they cost so much to keep in good order. Thus Korea is reluctant to establish a National Natural History Museum.
Most of the papers presented to the meetings of the ICOM NATHIST Committee proved to be very interesting, with speakers from Korea, Japan, Brazil, Nigeria, Russia, Germany, Hungary and France. It was a great shame for the British museum fraternity that only 3, (now 4, I registered as a member in Seoul), members of this international committee come from Britain. None of the registered members from Britain came to the Seoul meeting. I found myself as the only native English speaker at most of the meetings even though all of the proceedings of this committee are held in English. Why are there so few members of ICOM in Britain? and so few interested in the Natural Sciences? This committee is now very active and will be holding a series of international meetings between now and the next general conference, which is to be held in Vienna in 2007. The provisional programme includes meetings at the University of Helsinki in 2005 and Mysore, India in 2006.

The cost of joining ICOM is not that expensive, and most, if not all of the cost of the membership fee can be recouped from non-payment of entrance fees when visiting museums outside Britain. I find it a great embarrassment that the ICOM membership card is recognised by most museum staff throughout the world and usually gives you automatic free entry to most museums and exhibitions, whilst most museums and galleries in Britain do not recognise this international organisation.

It is therefore all the more surprising, and praiseworthy, that, with so few British members, two of the three new Honorary Members announced at the ICOM AGM were British - Patrick Boylan and Geoffrey Lewis.

Call For Information

Erecting a database of known UK *Sphenodon* (Tuatara) material - Marc Jones, UCL

I am currently doing a PhD with Professor Susan E. Evans at University College London on the skull of the Tuatara (*Sphenodon*). This genus is the only living representative of the Rhynchocephalia, a group of lizard-like animals that were widespread and diverse during the time of the dinosaurs (Sues and Reisz 1995; Evans *et al.*, 2001; Apesteguía and Novas, 2003.). *Sphenodon* is therefore of great importance and demonstrates a suite of morphological features not found in any other extant animals (www.digimorph.org/specimens/Sphenodon_punctatus/adult/).

Currently *Sphenodon* occurs naturally on only about 26 New Zealand offshore islands but during the late 19th Century and beyond many animals were collected and widely distributed among universities, museums and certain schools in Europe and North America (Schmidt, 1952). As result many old collections have one or two specimens. *Sphenodon* is now heavily protected (Newman, 1987; Daugherty *et al*., 1990), therefore previously collected material is irreplaceable and of great scientific value (Arnold, 1991).

Unfortunately many specimens have become isolated. This reduces awareness of their existence to the scientific community and precludes assessment of intraspecific variation, sexual dimorphism or ontogeny. In the long term their isolation and anonymity increases the risk of them being lost completely.

I am already in contact with the Natural History Museum; University of Cambridge Museum of Zoology; The Grant Museum of Zoology, University College London; Birkbeck College, University of London, zoology collection; Kings College London, zoology collection; the Manchester Museum; the Hancock Museum of Newcastle; the Royal Museum of Scotland, Edinburgh and the Hunterian Museum of Zoology, Glasgow.

If you possess, or know the whereabouts, of any *Sphenodon* specimens (skulls, skeletons, soft tissue, eggs, embryos, skins etc.) and want to add them to the *Sphenodon* database please send their registration numbers and brief information on the nature of the material. If you would like a copy of the database once it is complete please contact me for further details.

Please contact:
marc.jones@ucl.ac.uk
marcehjones@hotmail.com
020 7679 6162

Apesteguía S, Novas FE. 2003. Large sphenodontian from Patagonia provides insight into lepidosaur evolution in Gondwana. *Nature* **425**: 609-612.
Arnold N. 1991. Messages in a bottle. *New Scientist*. **1783**: 25-29.
Daugherty CH, Cree A, Hay JM, Thompson MB. 1990. Neglected taxonomy and continuing extinctions of tuatara (*Sphenodon*). *Nature* **347**: 177-179.
Newman D. 1987. Tuatara, endangered New Zealand wildlife series. *John McIndoe*.
Evans SE, Prasad GVR, Manhas, BK. 2001. Rhynchocephalians (Diapsida: Lepidosauria) from the Jurassic Kota Formation of India. *Zoological Journal of the Linnean Society* 133: 309-334.
Schmidt KP. 1952. References to the tuatara in the Stephen Island letter book. *Fieldiana Zoology* **34**(1): 1-10.
Sues H-D and Reisz RB. 1995. First record of the Early Mesozoic sphenodontian *Clevosaurus* (Lepidosauria: Rhynchocephalia) from the Southern Hemisphere. *Journal of Palaeontology* **69**: 123-126.

CONSERVATION NEWS

Notices, Adverts & Meetings

Call for information:

Call For Information

Anna Fraser, of Southampton University, is a part of the Great Bustard rehabilitation programme, in conjunction with the recent reintroduction to Salisbury Plain. She is researching the whereabouts of Great Bustards in Museum and other Heritage Collections, to construct a map of bird distribution before their UK extinction in 1832. If you have any such birds in your collection she would love to hear from you, together with any collection data. Specimens collected pre-1830 would be particularly useful.

If your specimen/s might be available for some DNA destructive sampling either up to 1 square centimetre of skin or a good feather, that would help her to map out population and distribution of Great Bustards at the time they were collected.

Contact:
Anna Fraser - ampf01@soton.ac.uk

Training:

Practical Insect Pest Management
London: 24 - 25 May, 2005

Tutor: David Pinniger
This course comprises lectures, discussions and practical sessions. It aims to provide participants with the basic knowledge to develop and implement an integrated pest management programme for their collections.

Discussions focus on :

- insects as pests and the damage they cause
- detection, trapping and monitoring; museum environments
- options for prevention and control
- health and safety of staff and collections

cost effective targeting treatments.

Practical sessions consider insect identification and museum surveys. Each participant is given hand-out material and a copy of the book Integrated Pest Management. The course is aimed at everybody working with or responsible for collections.

Contact:
International Academic Projects
6 Fitzroy Square, London W1T 5HJ
Tel 44 207 380 0800
jb@academicprojects.co.uk
www.academicprojects.co.uk

For sale:

Fabric Printed Banners

After completing a gallery re-display project I have a number of fabric printed banners spare
Material similar to lining material or heavy voile - lets light through so can be backlit if against solid wall. These were designed to cover UV filtered windows but were slightly too small on the first attempt they have sewn seams and two sewn pockets top & bottom for hanging rods
all are 2020mm high
wider ones = 1000mm wide
narrower = 500mm wide

Narrow:
1 = autumn leaves; 3 = cherries; 4 = tree rings; 6 = mahogany seedlings; 7 = dufrenite mineral; 9 = red cabbage; 10 = pheasant feathers; 12 = summer berries

Wide
2 = lichen on headstone; 5 = marble; 8 = venus flower basket (glass sponge skeleton); 11 = ammonite
permission to use the images was given, but an image credit would be needed somewhere...

I'm looking to re-coup some money to use for collection re-storage, so if anyone is interested let me know .... 'deals' will be considered!

Helen Fothergill
Keeper of Natural History
Plymouth City Museum & Art Gallery
Drake Circus, Plymouth, Devon, PL4 8AJ
T: 01752 304774 F: 01752 304775
www.plymouthmuseum.gov.uk

For disposal:

Free Herbarium Cabinets

The National Museum of Wales Herbarium is having a major refit and is replacing all c. 235 of their current wooden cabinets with metal cabinets. We are offering these good quality wooden cabinets to any herbaria that may need them free of charge.

The double-doored cabinets are in blocks of 1, 2, 4 or 6. Dimensions and style of the cabinets varies a little but a typical block of three cabinets high and two wide is 210cm x 140cm x 56 cm depth. There are usually eight pigeon holes to each cabinet (four on either side) and the smallest size pigeon hole is 13 x 29 x 52 cm. Some cabinets have built-in plinths. Some cabinets have locks. As with all old herbaria there is a risk of contamination from old residues but our cabinets have been spot tested and have shown a maximum of 0.5ppm naphthalene (with specimens in) and 0.0001 ppm of mercury vapour; these are both well below current health and safety occupational exposure levels.

We have about two weeks to organise removal of the cabinets which is currently under review, but at the moment plans are to have them removed between 24 February and 1 March. We would much rather they were used than destroyed, so if you want some please get organised and indicate how many you want! You would be required to organise the collection and delivery yourselves in consultation with me to avoid clashing with public opening times etc.

Please forward this on to anyone who might be interested.

Dr Tim Rich
Head of Vascular Plants
Welsh National Herbarium
National Museum & Gallery
Cathays Park
Cardiff CF10 3NP
UK
Tel 029 2057 3218 direct
Fax 029 2023 9829