B.C.G.

Newsletter

Vol.2 No.9

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BIOLOGY

CURATORS'

GROUP

February 1981

POTTERS MUSEUM OF CURIOSITY

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EIGHTH EDITION.

The aims of the Biology Curators' Group are:-

- To facilitate the exchange of information between individuals concerned with collections of specimens and records, their conservation and interpretation.
- ii) To present the views of biological curators to the Museums Association of Great Britain and to other bodies.

Copy dates for future issues based on three copies per year

- 31 August for October issue
- 31 December for February issue
- 30 April for June issue

Editor's Note

Sorry about the "Featured Institution" section. Would anyone like to volunteer to provide copy for such an article for the next Newsletter?! It is envisaged that this section would cover a museum somewhat like a cross between the "Featured Institution" as it is treated in the Newsletter of the Association of Systematics Collections and the "Collections and Collectors of Note" as in the Geological Curator.

The opinions expressed in this Newsletter are not necessarily those of the Committee of the Biology Curators' Group.

© Biology Curators' Group

Cover Design: Potter's Museum is well known for its animal tableaux. The cover of the catalogue dates from before 1972/3 when the entire contents were offered for sale and despite interest from overseas (especially North America) it was bought and moved from Bramber to Arundel. There is also the "National" Butterfly museum at Bramber, and although your editor has been to neither of these two "curious" museums, they must be well known to our colleagues in the south east of England.

Back Numbers: Contact the Editor for details of cost and availability.

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1983:	The Internation	al Counc	:11 of Mu	iseums (I	COM) is	meeting in	

this country. A programme for the Natural History Committee, i.e., the membership within that discipline, will be organised.

CHAIRMAN'S REPORT 1980/81

During the course of the year the committee have been active in a number of fields, most of which have been reported in the pages of the "Newsletter".

As in last year's report, I see little point in reviewing the year's work, but it is perhaps worth highlighting one or two features. The Easter meeting of the Group was the main meeting of the year, and with its emphasis on techniques, was found to be a most useful and informative meeting.

During the summer and autumn, the Group has been surveying jointly with the Biological Records Centre, the present position of local biological record centres, and by December, 1980, there had been a most encouraging response to the questionnaire. It is expected that the results will be published during 1981, probably in two parts. However, from the response to the questionnaire, it is hoped that it may be possible to advise museums on how best they can contribute to the national recording pattern for natural history. In order to do this, it is necessary to know the present position in detail, and with this information, it is intended that a tripartite meeting involving the BCG, BRC and the Nature Conservancy Council can be arranged.

Members will recall that the Group responded in some detail to two recently published reports ("Framework for a System for Museums" and "Taxonomy in Britain") and whilst there has been little comment from the profession, the Natural Environment Research Council has responded favourably to a request to discuss how best museums can co-operate with their work. However, it was suggested that the discussions should also include the GCG and whilst the necessary consultations have delayed the meeting, it is expected that this will take place early in 1981.

Concern about the state of natural history collections in in British museums has continued to be expressed publicly, and reports have been taken to ICOM at their meeting in Mexico in October 1980 and to the European Science Foundation. In both instances, the positive approach and achievement of the BCG was praised, but in September, 1980, at the Museum Association Conference in London, less favourable comments were voiced in some circles.

Certainly the problem of acquisition, care and maintenance of scientific collections has been aired, but there is not likely to be any finance made available to do anything about it in a climate of economic squeeze, and when the politicians cannot see the relevance of these collections to the vast majority of their electors. I raised this problem last year,

as a major issue facing biologists working in museums, and so far, this difficulty has not been solved. It is an issue that has been given a great deal of thought by the Association of Systematics Collections in North America, and they have demonstrated the relevance of their collections through an environmental role. However, the level of taxonomic and ecological knowledge of the North American flora and fauna is so much less when compared to that of the British Isles and hence the importance of systematic collections is that much greater.

In this country, Peter Morgan of the National Museum of Wales is also demonstrating through the environmental role, the importance of museum collections (see BCG Newsletter, Vol. 2 No. 8, 1980), but I wonder to what extent this concept can be extended to local authority museums. Most local authorities will not be able to obtain the resources to tackle a project of the size of the "Christos Bitas" whilst it will still not satisfy the politicians demand that most of the collections should be readily available to and used by most of their electors. The indirect importance to the public through scientific research of such an environmental role for collections, I fear will have little impact upon them. What they require is a display or educational role, but is this realistic for primarily scientific collections?

It seems to me that all museums including the British Museum (Natural History) and other National Institutions with museum collections should take part in this debate. I hope therefore that these institutions and their staff will in future become more involved with the work of both the BCG and the Museums Association so that their expertise can be utilised and so that the present good relations which exist informally can be strengthened.

It is with some of these problems in mind that the BCG still hopes to hold a conference in Cardiff in 1982 on policies relating to museum collections. It is hoped that those that determine research policies, those that carry out collection based research and those that curate collections, i.e., the products of research, will come together and discuss ways in which a more co-ordinated or co-operative approach can be made towards a national scheme for natural history collections.

Although it is clearly important that all concerned with museums and collection-based research should contribute to the conference, considerable difficulties have been experienced in developing these themes and many problems remain to be overcome. Further details will, of course, be published in due course.

There is much for the Group to do in the coming years, but your officers have all got full time jobs which leave little time for BCG activities. Nevertheless, I feel the BCG is providing a service to its members through its 'Newsletter' and meetings and is making itself known more generally.

E. F. Greenwood January 1981.

Editor's Report 1980-81

With this, the third issue for which I have been responsible for obtaining copy, pasting up, etc., the production has also become transferred to Bolton. Although this means more work it is more satisfying to be able to be in complete control from the manuscript stage to posting the complete printed newsletter. Astute readers have noticed that we have decided on three newsletters per year but that about the same numbers of pages are produced in that time. This saves on labour and postage, envelopes, etc., an important consideration. Similarly, attempts at obtaining advertising revenue and selling offprints are decreasing the costs of production, albeit marginally.

The last editor's report appealed for more membership comment on the newsletter in the realms of philosophy or practicality but none has been received. In the absence of any such criticism (or even praise) we can only carry on in the same vein and format. Initiating such ventures as "Featured Institution", "Collections and Information Sought and Found" and "Handwriting" relies on the members sending in material to keep these sections going. Little snippets of interest to fill up the bottom halves of pages are also difficult to find single-handed. Many thanks to those who have responded to requests for material or even sent in copy completely unsolicited over the last year. Keep up the good work!

- $\hbox{\tt E. Geoffrey Hancock}$
- 27 January 1981.

SURREY BIOLOGICAL RECORD CENTRE

The Surrey Biological Records Centre (covering the whole of v.c.17) has recently been established as an independent unit of the County Library Service at Leatherhead and we are at present attempting to compile a list of existing material and records in our county establishments so that the record can be as complete as possible.

We would be grateful to hear from curators of biological collections who have any relevant Surrey material in their care or have during the course of their investigations come across material or records in other collections or institutions.

This coverage should ideally state:-

- 1) Nature, range and dates of collection of the material or records (if known).
- 2) Condition and degree of risk they would attach to it (i.e. seen in garage or loft, unlikely to survive more than five years, or whatever).
- 3) We are especially interested in tracing manuscript notes of unpublished work. The area includes much of the present Greater London area south of the Thames and it would be invaluable to know of old records from this area which is now largely built over.

Telephone calls are welcome: J. A. Keefe, Surrey Biological Records Centre, Biology Centre, Chipstead Valley Road, Coulsdon, Surrey. Tel: 633-8881 or Caterham 43727).

Secretary's Report 1980/1981

It was not until the Annual General Meeting in Leicester that we learned that Stephen Flood was taking up a post in the Arts Council and that he would be giving up his position of Honorary Secretary and it was consequently with very little warning that I took over his duties. My first, and pleasant duty is to place on record our thanks to Stephen for his contribution to the work of the Group through his term of office and to wish him well in his new post.

Other officers and committee members elected at the Annual General Meeting on 12th April are given elsewhere in this Nesletter in the report of the meeting.

Three committee meetings have been held during the year, on 8th May in London; 25th July in London and 31st October in London, and one more is planned for 30th January. Two general meetings have been arranged for members during the year, the Study Weekend in Leicester which has already been reported and a meeting at the British Museum (Natural History) Annexe at Tring when some thirty members were able to see the new storage building housing the bird collections, and the refurbished displays in what was the Rothschild Museum.

The main achievement of the year has been the publication of the long awaited Collection Survey Report. This has provided the incentive to begin planning the next stage - a survey of University collections and the possible preparation of a National Plan for systematics collections on the lines of the American Association of Systematics Collections Report.

Much of the Honorary Secretary's time during the year seems to have been taken up with correspondence and discussions of the implications for museums of the Wildlife and Countryside Bill which at the time of writing has just had its first reading. A statement of the effects of the Bill, approved by the Department of the Environment and the Taxidermists Guild appeared in an earlier Newsletter and the progress of the Bill will be closely monitored. The Honorary Secretary has also during the year, prepared an updated bibliography on natural history museums and the management of natural history collections and intended primarily for the guidance of Museums Association Diploma students. The bibliography will be available shortly from the Education Officer.

Other matters discussed at committee have included representation on the Wildlife Link committee of CoEnCo, cooperation with the Geology Curators Group, and cooperation with the Museums Association Manual of Curatorship. Comments have been forwarded to the Research Council on the report 'Taxonomy in Britain', a new draft constitution is being drawn up and a publicity leaflet designed. The Group is cooperating with Paul Harding of the Biological Records Centre on a survey of Regional Biological Records Centres.

As far as future conferences are concerned it was decided that to allow sufficient time to make proper arrangements, this would have to be deferred until July 1982. It is planned however to hold a one day meeting in Birmingham in April and to make arrangements for members to meet during the Museums Association Conference in Manchester on 21st September.

Report of Treasurer and Membership Secretary

The major item of expenditure for the 1980-81 financial year was the first Special Report: A Survey of Zoological and Botanical Material in Museums and Other Institutions of Great Britain. Printing and binding costs totalled £1488.00 of which £1380.00 was received as grant-aid (Royal Society £630.00; Museum Professionals Group £150.00; South-West Area Council £100.00; National Museum of Wales £500.00). This left a BCG contribution of £108.00.

The production and postage costs of the newsletter represent our biggest ongoing financial outlay. During 1980 three issues were produced at a total cost of £450.85 (production £348.57, postage £102.28). In 1981 this is likely to be nearer £600. Our first study week-end at Leicester lost £66.95 and we must ensure that future conferences and week-end meetings are self-financing.

Membership figures remain fairly constant. During the year there has been an overall increase of five bringing the total to 190 (160 personal and 30 institutional). Revenue from subscriptions in 1981 should, in theory, pay for the estimated costs of newsletter production but with very little to spare. We must therefore try to find new sources of revenue during the year (increased advertising perhaps) or we must seriously consider raising the subscription rates in 1982.

John Mathias, 20 January 1981.

The boys walked rapidly to the gloomy red pile of the Natural History museum, and roamed the halls. When they halted before the skeleton of the mastodon, Cliff surveyed the towering fossil and wistfully wished there were a live mastodon in the Zoo; Herbie looked at the strolling crowd through the dry ribs and sought a little figure with red hair. For an hour and a half they quested through corridors of bones, horns, skins, rocks, and stuffed beasts and fish. When they halted at last at a water fountain, Herbie said despondently, "She ain't here."

It is a low building facing the street. The basement is loaded with jars of preserved animals. And in the basement is a sink and instrument for embalming and for injecting. Then you go through the backyard to a covered shed on piles over the ocean and here are the tanks for the larger animals, the sharks and rays and octopi, each in their concrete tanks. There is a stairway up the front of the building and a door that opens into an office where there is a deak piled high with unopened mail, filing cabinets, and a safe with the door propped open. Once the safe got locked by mistake and no one knew the combination. And in the safe was an open can of sardines and a piece of Roquefort cheese.

Surprisingly enough, a correct answer was received as to the identity of the source of the quotation given in the last issue. Penny Wheatcroft was apparently brought up on 'Penguin' Crime paperbacks and recognised it as Sweet Danger by Margery Allingham. She also sent in the above two extracts for others to try their skill on. The second one is not referring to a museum as such but should be the easier of the two.

Annual General Meeting at Birmingham Museums and Art Gallery

Saturday, 4th April 1981

P	rc	g	ra	m	m	е
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10.30 a.m.	Reception and coffee
11.00 a.m.	"In-house cataloguing by mini-computer" B.A. Seddon.
11.20 a.m.	"The Bird Collections of Wm. Chase and Others". P. Hamer.
11.40 a.m.	"The Entomological Collections at B'ham." M.D. Bryan.
12 noon	Viewing collections in Natural History Department.
12.45 p.m 2.	00 p.m. Interval for Lunch
2.00 p.m.	"Restoring a Herbarium". B. A. Seddon.
2.20 p.m.	"Planning a Gallery of Invertebrates". P. Hamer and M.D. Bryan.
2.40 p.m.	Viewing the Gallery under Reconstruction (and others).
3.10 p.m.	Return to Meeting Room.
3.15 p.m.	A.G.M.
3.45 p.m.	Tea and end of meeting.

PLEASE NOTE that the A.G.M. itself has been placed at the end of the day. This is for two reasons. At the 1980 meeting, there was a feeling that it would be more appropriate at this time, and secondly, the logistics of planning the meeting at Birmingham also make this a particularly suitable time of the day for the meeting.

Dr Abell Seddon would be grateful if those intending to attend this meeting would let him know in advance in order to have numbers for the morning coffee and afternoon tea.

Minutes of the Annual General Meeting of the Biology Curators Group held at Leicester Museum on Saturday 12th April. 1980.

- 1. Apologies were received from J.Mathias, E.Greenwood and M.Taylor.
- 2. Chairman Geoff Hancock was elected chairman for the meeting.
- 3. Minutes of the previous meeting held on 3rd April 1979 were approved.
- 4. Officers Reports The reports, which had been circulated in the Newsletter were adopted.
- 5. Election of Committee for 1980/81.

Chairman Eric Greenwood (re-elected).

Treasurer John Mathias.

Editor Geoff Hancock.

Secretary Geoff Stansfield

Committee Members Kelvin Boct, Peter Davis. Martin Brendell,

Peter Morgan, Mike Hounsome, Howard Mendel.

Co-opted Members Dave Erwin, Ray Ingle, Mike Taylor, Bari Logan,

James Bateman.

6. Meeting at the Museums Association Conference.

This meeting would take place on Monday 22nd September. Stephen Flood undertook to continue making arrangements for this meeting and to look into the possibility of a visit to Tring.

- 7. BCG Conference to be held in Cardiff from 9th to 11th Sept 1981
 Peter Morgan reported that he was making contacts with possible speakers.
 It was hoped that it might be possible to invite a speaker from the Association of Systematics Collections.
- 8. Affiliation to the Museums Association. It was agreed that this matter be left to the Committee.
- 9. Any Other Business
 - a) <u>Collection Survey Report</u> Peter Morgan reported that this had now reached the proof stage. Members would receive a free copy, other copies would be sold.
 - b) Constitution of BCG It was agreed that there was a need for a more detailed constitution. Charles Steel offered to prepare a draft to be considered by the committee.

G.Stansfield Hon. Secretary

Animal Identification - A reference guide

Published by BM(NH) 1980

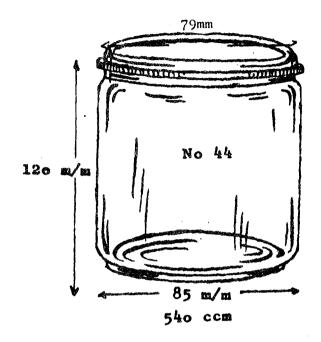
This work is the reference source for the means of identifying animal groups but covers the world fauna unlike Systematics Association's Key Works to the Fauna & Flora of the British Isles and Northwestern Europe (1978 - Acadamic Press).

The Animal Identification Guide is published in parts as follows

- Volume 1 Marine and brackish water animals (£9.00)
 - 2 Land and Freshwater Animals (not Insects) (£9.00)
 - 3 Insects (£13.00)

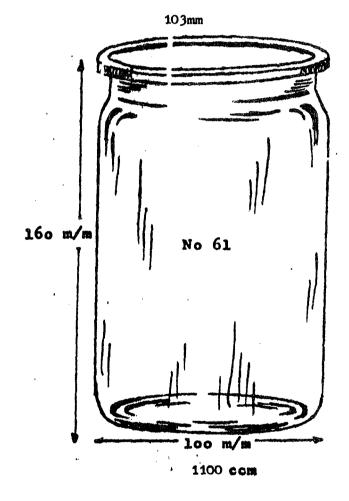
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LETTERS

HERBARIUM LABEL and INDEX CARD

Anyone consulting a major herbarium must be struck by the enormous variety of labels used, and by the resulting variation in the quality of information given on each sheet.

Many of those consulting herbaria are not particularly anxious to examine the actual specimen itself, but are mainly interested in the data on the label e.g. locality etc. With this in mind, a card index system, duplicating the information on the sheet, would prevent unnecessary handling of, and consequent damage to, the actual sheets.

Would it be possible for the BSBI, acting in conjunction with museums and herbaria to devise a "British Standard" herbarium label? This could be printed on paper backed with pancake dry gum, and an interleaf of one-time carbon inserted between it and a thin card, all three being bound together as a unit. The top would then form the label for the relevant sheet, and the bottom copy could be filed in a card index.

Such labels could be produced in bulk by the Society and sold to institutions as well as to those members who maintain herbaria. This would bring a degree of uniformity into the labelling of specimens as well as creating an efficient information retrieval system.

Of course this does not guarantee that all the information asked for on the label got filled in, but at least the blank spaces would act as a reproachful spur to memory!

ROBIN STEVENSON, 13 Brookside Gardens, SUNDERLAND, Tyne & Wear.

HERBARIUM LABELS AND INDEX

Referring to Robin Stevenson's plea for a standard herbarium label combined with an index card, I have serious doubts whether such a label would find general acceptance and whether it would fulfill modern information needs. This is not to deny the attraction of Mr. Stevenson's idea, but we must consider the limitations that might curtail its usefulness if it were adopted and put into practice.

The following remarks are based upon experience gained in cataloguing more than 20,000 herbarium specimens.

A standard label can restrict the amount of information recorded because of its limited size, and because only a few headings are prescribed on it. Full documentation requires an A5 (210mm x 148mm) record form, which is too large in the original to be used as a herbarium label. However, used as a written record to accompany a specimen, such a form can be devised so that a reduced version can be printed in 12-point typeface from an office word-processor or mini-computer.

The use of a carbon copy index card is restricted by the fact that a set of cards can be arranged in only one sequence, e.g. by Dandy number or by grid square or by vice county, etc. Finally, the introduction of a standard label of conventional type would not resolve the greater problem of making available existing herbarium data.

With the latter objective in view a project to catalogue all our British vascular plant specimens has been in progress at Birmingham City Museum (BIRA) since June 1979. It involves firstly, transcribing the original collector's labels and annotations on to a standard form arranged by subject headings and secondly, typing into a computer keyboard to permit automatic sorting, selection, arrangement and printing of catalogues and indexes. A full account will be published in due course (computer input will finish in June 1981), but readers may like to know that our standard form is size A5 and contains no less than 20 headings. This is necessary to accommodate the miscellany of information that the nineteenth century collector recorded and the additional data needed to create a modern biological record. A copy of this form can be supplied on receipt of a stamped addressed envelope.

The system we are operating would very easily deal with the accession of new specimens and the mini-computer in use here offers far more versatile indexing than any carbon duplicate. On printing-out from the mini-computer (in typeface quality equal to electric typewriter), the data can be neatly condensed to label size while at the same time producing multiple copies as index 'cards'.

I would suggest adoption of record forms printed in books on tear-out pages with interleaved carbon for the collector to retain. Initially however, some tried and tested schemes should be examined to discover the best formula for recording.

DR B.A. SEDDON, Keeper, Nat. Hist. Dep't, City Museums and Art Gallery, BIRMINGHAM B3 3DH.

An enzyme technique for the rapid preparation of osteological specimens

by Clem Fisher and George McInnes, Merseyside County Museums.

Merseyside County Museums deal with much archaeological bone material, especially bird remains, from the north-west area. To provide comparative specimens we are continually adding to the reference collection of skeletal material held in this museum and have been, for the last six months, experimenting with various enzyme techniques. We have now developed a system which seems to produce satisfactory results and is both speedy and simple to operate.

The first problem was to devise a system for dealing with the fumes produced by the enzyme degradation as the preparation area is adjacent to offices and research collections. The apparatus was installed in the Taxidermy skinning room, which already had an efficient air extraction unit, and this has now been supplemented by an electric air freshener. These together reduced the smell to a level which can be tolerated, even by our non-zoologist neighbours.

We use a stainless-steel bath, actually an old aquarium filtration unit, with a base sloping down to the outlet (see diagram). A plastic bath would be easier to clean and less vulnerable to corrosion but it would possibly have been distorted by our heating system. A plug is fitted to the outlet in the bath and a pipe leads from here straight into the drainage channel in the skinning room, over which the bath stands. An electric stirrer (constructed from an old gramophone motor to which was attached a stirring spindle fitted with extra plastic blades) is fixed to the side of the bath and set to run at 78 r.p.m. Two 100 watt heaters are fitted to the base of the bath with suction caps and a thermostat, set at 37°C and fixed to the outside of the bath and checked by an accurate thermometer suspended in the liquid.

The bath is filled to about four inches below the top with water, to which 100gm of dry Pancreatin/100 litres was added when the bath reached the correct temperature.

When set up, the bath is obviously a haven for germs and we use gloves and masks while working, disinfecting ourselves thoroughly afterwards. The surface of the bath tends to become covered with a thick layer of mould (somewhat like chamois leather) after a few days - this can be removed in large pieces with a pair of long-handled forceps. A lid will reduce the health hazard but slows the enzyme action.

Preparation of specimen

- 1. Defrost completely, rough-flesh as far as possible and boil in water. A few minutes is enough for small mammals and passerines, up to half an hour for very large specimens.
- 2. Rough-flesh further and divide joints. Pull the skin off the toes of mammals as far as possible, score those of birds heavily with a scalpal.
- 3. Form a suitably sized bag out of fine mesh material. We find nylon stocking is best for the lighter specimens as it can be cut and tied easily and has a mesh too fine for the smallest bone to fall through. For heavier bones that might tear stocking, we use hand-sewn bags cut from nylon aquarium filter mesh (polyester monofil, 40" wide).

Biology Curator's Group Newsletter, 2(9), 1981

- 4. Place the bones in the bag, tie the mouth and hang from the sides of the bath or from supports (dowelling etc) placed over the top. Label each bag with water-proof (and enzyme-proof!) card and ink. We use plastic-coated card and "Rötring" pen.
- 5. Check contents every other day, removing delicate bones (e.g. bird skulls) if they show signs of deterioration. Generally small birds and mammals should be clean after about 5 days; a duck or crow will take about 8. We have yet to use the bath for the really large mammals. The only problem we envisage is the increased odour level and duration of immersion.
- 6. Remove the bag from the bath and wash under tap to rinse away the tissue, now soup-like, remaining inside. Turn the contents into a container and wash again, using a sieve if necessary.
- 7. Boil specimen for a few minutes (longer for larger specimens) in a solution of Boots' "Nappy Cleanse" and sodium perborate which will help clean and degrease the bones keeping an eye open for overflowing foam! Clean off any remaining pieces of cartilage we prefer to use dental tools as the bone is slightly soft from immersion and easily damaged.
- 8. Degrease further (usually necessary). We find this a great problem as commercial powders tend to leave a deposit on the bone and are not very efficient; we are loathe to use the various carcinogens such as carbon tetrachloride, benzene-based products, etc., that we have heard do work! Does anybody know of an alternative?*
- 9. The sodium perborate solution will have already bleached the bones to some extent we use a 10% solution of hydrogen peroxide to bleach them further if necessary.
- 10. Wash well in cold water and spread out to dry on white blotting paper.

Suppliers

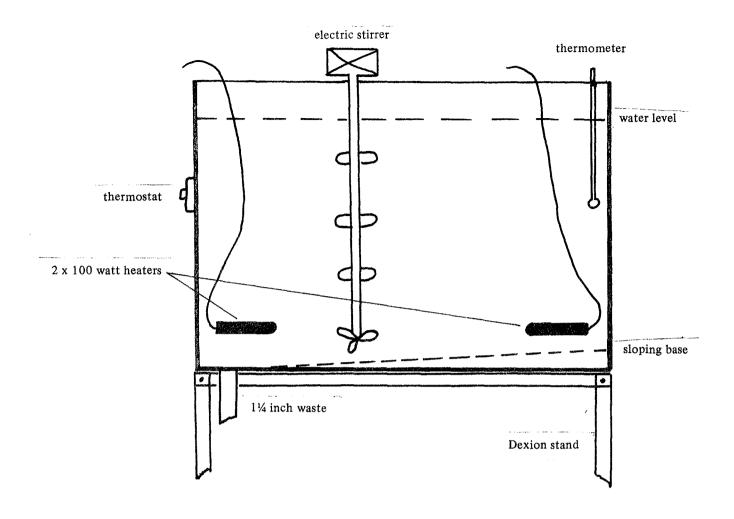
Polyester Monofil (PES 574 mesh width) Polymon G.G.: John Staniar, Sherborne Street, Manchester, M13 FD.

Pancreaton, Sodium perborate, Hydrogen peroxide: Oakes Eddon and Co. Ltd., Dryden Street, Liverpool 5.

Electric Air Freshener; Zal-Air Electric: Sterling Industrial, Chapeltown, Sheffield, S30 4YP.

Nappy Cleanse: Commonly found at branches of Boots the Chemists.

*Editor's Note: At Bolton we use "Inhibisol" which is 1.1.1. Trichloroethane (not Trichloroethylene!). It is non-flammable but whilst ideal for degreasing skins is not as efficient with bone material. It can be obtained from Blastobell Paints and Chemicals Ltd., Bassington Industrial Estate, Cramlington, Northumberland.



PREPARING ARTHROPOD SKELETONS

The use of enzyme baths and general rotting are a well known way of producing vertebrate skeletons. I have just received a reprint describing a sophistication for invertebrates:— Dartevelle, Marlier & Marlier (1980) *Mise en évidence de l'anatomie externe des arthropodes par digestion bactérienne des organes internes. Annales Soc. r. Zool. Belg., 109 (1979); 29 — 30.

The skeletons of insects and small crustacea were cleared of flesh in about a week by use of a strain of <u>Bacillus subtilis</u> which had a particularly strong activity on protein substrates. The technique was found preferable to maceration with caustic potash if delicate parts were required for examination because of the considerable distortion the latter treatment normally produces.

Of course, having prepared your skeleton, you then have the task of deciding its ultimate fate - cabinet-skin or a mount!

lan Wallace, Merseyside County Museums, Liverpool

ORNITHOLOGICAL COLLECTIONS IN THE BOTANIC GARDENS MUSEUM, SOTHPORT

Recent cataloguing work at the Botanic Gardens Museum, Southport, based on MDA cards, has brought to light considerable data on the collections of birds and eggs. Most of this is in the form of labels associated with the specimens, though there is a published catalogue of the principal collection of mounted birds. In all there are 500 skins, 2917 eggs and 28 nests. 322 species are represented, though only 177 as skins. Most of the latter represent birds shot by a local wildfowler, D. D. Pennington (1885-1938) who donated his collection to the museum just before his death. However the egg collections are the work of a number of collectors, mainly the Edwards family who appear to have lived at Roundhay near Leeds, and who also contributed to a collection of molluscs now housed in the Botanic Gardens Museum. I would be grateful for any information relating to the listed collectors, particularly the Edwards family.

Reference

Pennington, D. D. (1918) Catalogue of Birds in the Collection of D. D. Pennington, Birkdale. Southport Society of Natural Science. Appendix to the Report, 1917-18.

LIST OF COLLECTORS REPRESENTED

Name	Dates	Collecting areas
Angus, W C	1867	Aberdeenshire
Arnold, E P B	1833	Natal
Bazeley, A	1919	Southport
Blundell, R	1907	SW Lancs.
Britton, H	1910-13	Yorks., Cumbria
Brown, T	1921	Cumbria
Devvan, D	1858	North Uist
Edwards, E	1904-22	Yorks., Cumbria, Isle of Man, Suffolk,
		Lancashire
Edwards, E M	1870-71	Kent, Suffolk
Edwards, F A	1909	Yorks.
Edwards, J G	1904-21	Yorks., Suffolk, Cumbria, Isle of Man,
		Lancashire
Edwards, L A	1915-20	Yorks., Cumbria
Edwards, L M	1906-18	Yorks., Lincolnshire
Eggles, ?	1913	Surrey
Ferguson, J	1921	St Kilda

Name	Dates	Collecting areas
Goodman, T	1906	Hampshire
Gordon, J G	1902	Iceland
Halsall, T	1914	SW Lancs.
Hilton, F	1919	9
Kelly, A	1912-19	Aberdeenshire, Sutherland
Kelly, J	1914	Fair Isle
Kitchen, M	1923	Yorks.
Kup, R	1909-10	Shetland
Mannell, C	1909	Dorset
Palsson, W P	1917-20	Iceland?
Pennington, D.	D. 1899-1918	Lancs., Yorks., Cumbria, Norfolk, Orkneys, Staffordshire, N. Wales, Hants.
Reid, A	1909	Ailsa Craig, Dumfriesshire
Rule, T	1902	Cumbria
Ryding, J	1930	SW Lancashire
Warren, ?	1909	Yorks.
Warren, G	1906-18	Yorks., Suffolk, Kent
Warren, J	1914	Yorks.
Wilding, G	1897-1901	Southport
Witherington,	G 1907	Sutherland

Ian O. Morrison

Keeper of Museums

Botanic Gardens Museum

Churchtown

Southport, Merseyside, PR9 7NB

NIGHT RAIDS AT THE HORNIMAN

Recently the Natural History Department at the Horniman Museum gained a new and enthusiastic type of visitor. Unfortunately these keen would-be naturalists were inclined to visit outside the normal opening hours, possibly carrying large sacks labelled SWAG. We had no less than <u>four</u> attempted or successful thefts within a four week period.

The first incident was a theft of birds eggs from inside the museum. We have a complex alarm system and night security staff, yet two persons unknown managed to enter, because the relevant alarm chose that moment to malfunction. The thieves tried to kick in the front of the egg showcase (we had footprints to prove it) but the 1906 vintage plate glass resisted. Eventually they managed a small hole in the side of the case, and reached in, risking sliced arteries from the edges of the glass.

Most of the eggs had been glued down in 1954, so the thieves broke as many as were removed whole. All in all around 40 eggs were broken or taken whole, ranging from quite common species to the inevitable ospreys. It is probable that the osprey eggs were the main reason for the visit, but due to the glue, both were broken, though the thieves took the fragments.

Okay, I'm sure everyone is smugly saying that it served us right for displaying birds' eggs. I agree, but I inherited the display and had already set wheels in motion to remove it. The wheels simply didn't move fast enough; because there had always been an egg display in that case, and there had never been any problems before.

The aftermath of the theft led to the problem of valuation. I know that no decent, clean-living curator/keeper should sully his/her lips by asking about black market values of eggs. BUT how do you explain this to the Catford cops, who are more used to sorting out actual bodily harm? Eggs have no real value in law, as they cannot be sold legally without a Home Office licence. Yet, in the right market certain eggs can be sold illegally at inflated prices. So it was difficult to convince the police and security staff that birds' eggs are potentially worth stealing, and do require to be kept in secure conditions. It would be helpful if some official body (perhaps BCG?) could comment on the relative values and 'stealability' of Natural History specimens.*

The second incident occurred about a week later over the next weekend. The museum had a small external display case containing three mounted freshwater fishes in a surprise encounter with a lobster. At some stage on Sunday night, someone unscrewed the back of the case, and neatly removed the fishes. (The lobster disintegrated and was left behind). This was clearly theft, not vandalism, but the police were still politely unconvinced that anyone might wish to buy a stuffed fish for real money. The local press became very excited, particularly when I mentioned the possibility that the skins might have been prepared using arsenical soap, but no trace of the fishes was found.

Over a week passed by without excitement. Then some enthusiast tried to batter his way into the Natural History hall (via the fire doors) in the wee small hours. The doors resisted (- well, it is a listed building -) and the prospective visitor ran away, bleeding slightly from the encounter with the doors. We thought the experience would discourage him, but no so.

The next Friday night he returned bearing a metal anti-parking bollard to use as a battering ram. The doors withstood this further onslaught, and he cut himself more severely than before. This time he was almost caught

by security staff as he fled, bleeding dramatically.

Things have been quite peaceful of late (if you don't count the lead thieves on the roof but that's another story). Perhaps our unconventional nature lover is nursing his lacerations and biding his time. Meanwhile, we have removed the rest of the eggs to a safe place, and decided to use the external showcase for posters.

All the incidents may be quite unconnected; it could be that the publicity for the first theft triggered off the later attempts. But if an anaemic and somewhat scarred individual offers you a cheap carp or some cracked eggs - be warned, it could be our visitor. The local police have had no success in tracing the thief or thieves, and so I doubt we shall see the specimens again. As a consolation prize a local primary school gave us a very large, unidentified and UNBLOWN egg of uncertain age. If the thief calls again, I think we might have a suitable present for him.....

Penny Wheatcroft, Horniman Museum, London Road, Forest Hill, London, SE23 3PQ.

p.s. Needless to say that none of the stolen specimens bore distinguishing marks etc., so we would have difficulty proving ownership.

* Editor's note: perhaps an important element concerning the valuation of items like birds' eggs is the question of insurance. Can a curator make an insurance claim following the loss or breakage of birds' eggs? If he does make a claim is he or she breaking the law?!

FREEZE-DRYING ARCHAEOLOGISTS

This meeting will be held on Thursday, 7 May 1981 at the Institute of Archaeology, London, and will cover various aspects of the theory and practice of freeze-drying. The provisional programme consists of contributions from suppliers of freeze-driers on the theory of the process and the technology involved, and also lectures by various conservators who regularly use or have adopted freeze-drying techniques and machines to suit their own particular problems.

Among the speakers who have been approached are Jacqui Watson, Jim Spriggs, Howard Murray, Edwards High Vacuum and, if the finances can be arranged, a speaker from Copenhagen.

A finalised programme should be available before Christmas and those interested in attending should contact Mark Norman, City Museum, Queen's Road, Bristol, BS8 1RL.

Half-price for members

The issue of the Journal of the Society for the Bibliography of Natural History (Vol. 9 part 4) mentioned in the last Newsletter can be obtained at half price (i.e. £10.00) by members of BCG. This concession, available also to Geological Curators' Group members, is allowed to us as joint sponsors of the Conference on the History of Museums and Collections in Natural History. It is the papers read at that conference which fill the 305 pages of this part.

British Vascular Plant Collection of the Ulster Museum by Paul Hackney.

A brief history of the vascular plant herbaria now housed in the Ulster Museum has been published already (Hackney 1972). Briefly the present herbarium (BEL) consists of collections from four institutions/organisations - Belfast Natural History & Philosophical Society (founded 1821); Belfast Museum & Art Gallery (formed 1905 - it acquired the two society herbaria c.1910); Queen's University, Dept. of Botany (founded as Queen's College, Belfast in 1845). The Belfast Museum & Art Gallery (BMAG) became the Ulster Museum in 1963 and it acquired the Queen's University herbarium (BFT) in 1968. The present herbarium now consists of an estimated 60,000 specimens.

Hackney's (1972) account concentrates on the collections of Irish provenance which naturally receive greater attention and use. However recent reorganisation of the herbarium has directed the attention of the curating staff towards those specimens whose provenance is other than Irish. Of these non-Irish specimens about half are from Great Britain, largely collected by British (as distinct from Irish) botanists. This British herbarium (as distinct from the Irish and Foreign sections) includes an estimated 8,000 specimens of pteridophytes and angiosperms.

The botanists resident in the north of Ireland whose collective efforts have built up the herbarium have done little or no collecting outside Ireland (and this confined mainly to Ulster), with some exceptions. This means that there is relatively little material in the herbarium of British provenance which is "original" material as opposed to material acquired through exchange from collectors in Gt. Britain. The more important exceptions to the rule are T. H. Corry, C. H. Waddell, S. A. Bennett, C. D. Chase, F. H. W. Kerr, and, more recently, M. P. H. Kertland. For convenience a brief account of these collectors follows.

Thomas Hughes Corry 1859-1883

b. Belfast, educated Royal Belfast Academical Institute and Queen's College, Belfast. Subsequently entered Gonville and Caius College, Cambridge. Became Assistant Curator of Cambridge University Herbarium. His British specimens are principally dated 1881-1883 and are mostly from the counties of Cambridgeshire, Huntingdonshire and Norfolk, with a few other counties (e.g. Cornwall) represented. Died 1883, drowned in Lough Gill, Sligo. Included in his collection in BEL are plants collected by Richard Francis Towndrow of Malvern Link (1845-1937).

Rev. Coslett Herbert Waddell 1858-1919

b. Magheralin [= Maralin] Co. Down; educated Trinity College, Dublin; rector at Saintfield and Greyabbey (both Co. Down). Secretary of the Moss Exchange Club 1896-1903. He was resident at or near Kendal, Westmorland in the 1890s, the provenance of some of his British specimens. Other counties represented are Yorkshire, Sussex, Worcestershire, Nottinghamshire, all dated in the 1900s. Herbarium donated to Queen's University by his widow in 1919.

Stephen Allen Bennett 1868-1934

b. Burslem, Staffs. Cousin of Arnold Bennett, the "Five Towns" novelist. Science teacher at Campbell College Belfast 1898-1926, a friend and colleague of C. D. Chase (q.v.). His herbarium of about 4,000 sheets

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contains specimens from Staffordshire, N. Wales, Derbyshire etc., as well as the north of Ireland. Died at Burslem, buried at Lawton, Cheshire. Herbarium acquired by Ulster Museum from Campbell College in 1972.

Corrie Denew Chase 1878-1965

b. Keswick, Cumberland. Language teacher at Campbell College, Belfast 1905-59. Travelled extensively and frequently on the continent - his herbarium of about 4,000 sheets is mainly continental. His herbarium was handed over to Mr. P. Paice of Methodist College who donated it to the Ulster Museum in 1970.

Rev. Frederick Hugh Woodhams Kerr 1885-1958

b. Cerne Abbas, Dorset, d. Hazaribegh, India. His British plants in BEL are dated c1934, mostly from Devon, but the bulk of his herbarium is from Co. Tyrone and India. The following biographical note has been kindly supplied by Dr. G. Gillespie of Ballygawley, Co. Tyrone, who collaborated with Kerr in preparing a Flora of Tyrone (unpublished).

As well as his herbarium there are also five notebooks containing his plant records from vice counties 5, 6, 9, 17, 32, 33, 34, 38, 40, 55, several Irish counties and India. The British records are dated c.1925.

"Frederick Hugh Woodhams Kerr was son of Dr. E. Kerr of Dorchester, who had himself come from the Irish mid-lands. In 1907 he took his degree at Trinity (Dublin) obtaining a Senior Moderatorship in Ethic and Logic. He was ordained in 1907 and became Curate in Southwark and later in Rugby. He left this to go to the Dublin University Mission at Hazaribegh in Bihar, India. During the first World War he became an Army Chaplain and saw service in Italy. After the war he returned to Hazaribegh where in 1928 he married a fellow worker - daughter of the Rev. Joseph Chamney of Dormiskin. In 1928 they returned to Ireland and he became Curate-in-charge of Arboe, Co. Tyrone. Mrs. Kerr died about 1948 and in 1951 he returned to Hazaribegh. His heart was giving trouble and in 1951 he returned to Ireland and took up a curacy in Galway, but his heart was in India and again he returned to Hazaribegh in February 1953, and there he died May 19, 1958 during a very trying drought. A very keen botanist, he was meticulous in his work going over and over a specimen and then if it was something rare sending it on to some of his extensive range of friends at Kew or the British Museum where I believe they have a collection of his Indian Plants. Personally he was a delightful man, shy, humourous, with an old world preciseness that was enhanced by his always wearing the little white bow tie that one sees in Victorian Clerical photographs. His energy was amazing. On his last voyage back to India - at an advanced age and with a bad heart, he wrote me with delight that owing to Suez the ship had had to go via the Cape and he had got to the top of Table Mountain and found Proteaceae new to him. In a letter just before his death - he had joined up with a Jain pilgramge in order to get to some Sacred Mountain where he had never botanised.

An Elder brother - a medical man - went to Siam where he became a distinguished botanist."

Miss M. P. H. Kertland 1902 -

Educated Queen's University, Belfast. Junior Lecturer Q.U.B. in Botany 1938-48. Appointed Curator Q.U.B. herbarium (herb. BFT) in c.1948. Editor

of Irish Naturalists' Journal 1947-1976. British herbarium material mostly from Scotland, 1950s-1960s. Also much foreign material - E. African, N. America, Europe.

The Queen's University herbarium also acquired, in 1918, a large number of specimens from Charles Bailey (1838-1924). The principal collection of Bailey plants is at herb MANCH and it is presumed that those in BFT are duplicates. Most of the material is foreign (Europe and Middle-East) and collected by others, but there is a not inconsiderable number of sheets of British specimens collected by Bailey himself. Much of the Bailey collection has only recently been mounted.

The remaining collectors are principally represented as exchange material. The oldest British specimens are represented in the Queen's University collection, dating from the 1840s and 1850s and were probably acquired about that time. The majority of specimens, however, fall into the period 1880-1920 and seem to have been acquired by various local botanists notably S. A. Stewart, the Belfast Naturalists' Field Club, the Belfast Natural History & Philosophical Society and C. H. Waddell. They were acquired either by personal arrangement or thorugh one of the exchange clubs.

The list that follows is a compilation of the collectors' names that appear on the herbarium labels most frequently, i.e., collectors represented by only a few sheets do not appear.

REFERENCES

Desmond, R. 1977. Dictionary of British & Irish Botanists & Horticulturists, London.

Hackney, P. Notes on the Vascular Plant Herbarium of the Ulster Museum Ir. Nat. J., 17(7); 230-233.

2.1		Approx. Dates	(C	Vice Counties = Channel Islands)
餐	Charles Cardale Babington	1840's		29,90
	Charles Bailey (incl. several other collectors)			
	John Hutton Balfour	1840's		21
	William Charles Barton	1914/17		11,26,48,13,10
	John Gilbert Baker	1860's		62,65
	Arthur Bennett	1870's		15,16,17,70
	Stephen Allen Bennett	1920's		39,49,57,48,17, Yorks
*	T. Butler	1846-1880's		10,40,55
	Andrew Brotherston	1870 ' s		80
	Spencer Henry Bickham	1890's 1900's		15,36,37,39
	Henry Bromwich	1880's		38
**	T.B. Bell	1830's		40?
	Corrie Denew Chase	1920-1950		C,1,2

	**T.P. Curnow	1870's	4
	**McTaggart Cowan Jr. * Thomas Hughes Corry George Claridge Druce	1900's 1880's	88 27,28,29,31
	* Joseph Dickinson	1840's	58
	<pre># Botanical Soc. of Edinburgh including:</pre>	1830's - 40's	
	Christopher Edmund Broome		7,8
	_{K×} T. Fraser		105, 106
	Joseph B. French		59
	Rev.William Hincks		20
	George Lawson		Dundee
	Robert Maulkin Lingwood		5,6
	♥¥L. Rabenhorst		no locations
	James Mitchell MD		56
	John Thomas Irvine Syme		Lancs, 82
	John Fraser MD	1870's	39
	Alfred Fryer	1898-1915	29,31. Potamogeton only
4	William Gardiner	1840's	90, 92, 93
	Henry & James Groves	1870's - 90's	many cos.
餐	* J.E. Griffith (of Bangor)	1880's	?
	George Goode (incl. plants by R.H. Goode)	1880's 1890's 1900's	48,29
*	* Paul Hackney	1967 -	49,59
	Frederick Janson Hanbury	1890's	107, 108
	William Marsden Hind	1880's	?
×	* John Heslop-Harrison	1940's	Hebrides etc.
¥	* A. Hosking	1880's - 90's	29,36,58
	George Alfred Holt	1880's	
	Samuel Holker Haslam	?	Bristol area
	Arthur Reginald Horwoood	1900's	55
	Fredk. Hugh Woodhams Kerr	1920's - 1930's	3,4 (and others?)
景	* Mary Patricia Happer Kertland	1950's - 60's	Scotland
	Rev. Augustin Ley	1870-1910	many cos.
	Frederick Arnold Lees	1870's	Yorks

	Joseph Edward Little	c1910	20
	Rev. Edward Francis Linton	1880-1920	9,27,28
	Rev. Wm. Richardson Linton	1880's - 90's	31,57
	John Harbord Lewis	1880's	59
长台	T.P. Lucas	1860 's	31
**	A. Melvin (of Malvern) (assoc. with S.A. Stewart herbm.)	1860's	Malvern area, 15/16
	Rev. Edward Shearburn Marshall	1880-1917	many cos.
	Symers Macdonald Macvicar	1890's	97,88
	Rev. William Hunt Painter	1870's - 1900's	5,6,40,57,38
	Ida Mary Roper	c.1910	6
	Rev. Harry Joseph Riddelsdell	1900's	23,41
*	↓J.T. Robinson		
	Arthur Wilson Stelfox	1950-1960	Ben Lawers area
	Charles Edgar Salmon	1890 ' s	5, Perths. 98
	Alexander Somerville	1890 's	96
*	John Thomas Irvine Syme	1840's	82
	William Andrew Shoolbred	1890's	Inverness, 35,90
*		c.1840-50	Clova, Arran, Eden etc.
	Richard Francis Towndrow	1880's - 90's	36,37
₩-¥	George Taylor (det. J.E.Dandy)	1940's - 50's	many cos. Potamogeton only
*	Sir Charles Wyville Thomson	1850's	BM duplicates
**	4 Miss D.E. de Vesian	1950's - 60's	Galloway
	William Booth Waterfall	1870's	3,4
	James Alfred Wheldon	1880's	Yorks
	Rev, Coslett Herbert Waddell	1890's - 1900's	Yorks, Sussex, 69,37
	James Walter White	1880-1916	6,34
	Charles Waterfall	1890's	61
M. M.	Mary McCallum Webster	1960's	Aliens
**		19401 - 2	govern1 gg=
'A'	Hewett Cottrell Watson	1840's ?	several cos.
	Anthony Hurt Wolley-Dod	c.1900	several cos.
	Albert Wilson	1890's ?	60,

^{**} Not in Desmond (1977)

^{*} Acquired by Queen's University , probably before 1860

BOOK REVIEW

MAMMALS OF THE SHEFFIELD AREA by Valerie Clinging and Derek Whiteley

This booklet, published by the Sorby Natural History Society and Sheffield City Museums, is the result of six years intensive survey of mammals in the Sheffield area by the authors and others, and draws together a vast amount of information collected in the field, and extracted from published literature, records, notebooks, manuscript material and museum specimens. The geographical area covered comprises some 1500 km. squares centred on Sheffield and includes examples of most inland British habitats, ranging from the high peat moorlands of Kinder Scout to the lowland fen of Potteric Carr.

For each species there is a synopsis of past and present status, and a distribution map. It is pleasing to see an overlay provided for use with the latter, indicating major towns and river system, solid geology and altitude. A very comprehensive bibliography is provided, and the quality of the publication is enhanced by pen and ink drawings by members of the Museums Natural Sciences Staff.

Altogether an excellent booklet, informative, and attractively and thought-fully produced. The Society and the Museum deserve our congratulations on setting such high standards in the publications, and the present work will serve as a model for any other Museum preparing a publication relating to distribution studies. The price makes the Mammals of the Sheffield Area even more desirable - a mere 75p (+ 18p postage) from The City Museum, Weston Park, Sheffield.

Peter Davis

November 1980

University of wales, Cardiff - Zoological Collections

As an addition to the previous issue of the Newsletter (B.C.G.1980 2(8)), it is perhaps worth noting that the Department of Zoology, University of Wales, Cardiff possesses a small spirit teaching collection which at one time contained specimens from important collections e.g. H.M.S. Challenger (1872-76). The British Museum (Natural History) presented, in 1899, 23 Challenger specimens including probable paratypes of Cucumaria insolens Théel, C. serrata Théel, Leuconia multiformis Poléjaeff, Ophiolebes scorteus Lyman, and Polyeunoa laevis M'Intosh. These were apparently returned with other material in the late 1960's. A rapid visit in 1978 confirmed that no Challenger material remained.

Peter Lingwood.

ORIGIN OF THE SPECIES

Innovation and imagination were the qualities that won this year's museum of the year award for the Natural History Museum. Giles Velarde looks at its new exhibition on evolution

Two great basilicas straddle the southern end of London's appropriately named Exhibition Road: the Victoria and Albert and the Natural History museums. Both command immense numbers of visitors and no matter which high priest is in residence their attendance remains roughly the same.

While the design of the V & A's permanent galleries remains firmly rooted in the nineteenth century, its policy leans towards show business: it has a continuous programme of temporary exhibitions which are partially financed by the public. The Natural History museum, by contrast, is dedicated to education, so financial return is not sought and the number of visitors has no commercial significance. The aim is to make it 'an exciting place where the layman can enjoy exploring and discovering natural history.'

Before the beginning of the 'sixties, when museums first came into contact with designers, most museum-goers had to explore before they could discover anything. Those who went to the Natural History museum found a man-made jungle of stuffed tigers, toucans and whales in which they had to grope for information.

Still, they had fun. They didn't when the museum began edging towards the twentieth century with its Fossil Mammal gallery: despite its marvellous models, tableaux and dioramas, its single and disastrously high academic level and its cumbersome design made it obsolete before its completion.

The Natural History museum's exhibition, 'British Birds' was much more successful, and, by the mid 'seventies, it had adopted methods heavily influenced by evaluation techniques which had originated in commercial museums in Milwaukee and Chicago. The public services department set up an ambitious programme that rightly commanded the attention of all who were interested in museums, exhibitions and education.

'Man's place in evolution' is the latest in this series. It marks a major step forward in the evolution of the building from a museum into a natural science centre. But have the designers fulfilled their part in expressing this complex policy? Have they learnt from the trial-and-error techiques started with the Hall of Human Biology?

No doubt about it, 'Man's place in evolution' is most professional. The stan-

dard of finish is very high, almost to the point of being overdesigned, but the enclosing of both the graphics and the exhibits in immense glass cases is intended to pay off in permanence and low maintenance costs. On the other hand there must be doubt that the question and answer presentation, which is set this time at 'O' level standard, will remain interesting for long enough to justify its Fort Knox construction. The entrance feature - a nude albino couple at the top of the great staircase is a magnificent draw; but once inside, you are in a compulsory push-button sequence which, I suspect, will prove ultimately tiresome and which can certainly be demoralising (if you fail to pay attention in test 1.1 you will feel stupid in test 1.2 and will wind up confronted by the computer humourlessly dismissing your failures at the end of the exam). In this way, enjoyable exploration has been replaced by dry didacticism.

The lighting is superb; spotlights on a high, unobtrusive frame brightly illuminate the displays with great economy. There has been a deliberate attempt to respect the building and it has partially succeeded with the consultative help of \$ir Hugh

Casson, one of the museum's trustees. The designers have isolated all the bulky cases from the architecture and allowed visual access to the fine 'clerestory' windows and detailed brickwork. But forcing the exhibition structure into the access gallery to make space between it and the fabric of the building has cramped its visitors and confined their view.

Though the story follows a linear path through the exhibition, it is also developed through vertical paragraphs in a 1550mm band mounted 450mm above the floor. Because maintaining a linear flow has become difficult, the designers have resorted to arrows. The trouble with this is that an arrow is such a familiar visual command that it automatically demands attention on its first appearance. For instance: if a right-pointing arrow on the right of a panel is the first thing to catch your eye, you tend to bypass the information to the left of it, and thus lose the sequence of the exhibition.

A radical force in a conservative environment, the public services department of the museum has been put on to the defensive. It has published numerous reasoned arguments and references in

support of its activities, as will as statistics as proof of its success. All of this would be unnecessary if it weren't for the barrage of abuse levelled at it (by everybody except the general public). The department deserves to be allowed to get on with its method of expressing the museum's historic ideals. Time will prove it right or wrong. Still, its sensitivity to criticism is evident in the self-conscious atmosphere of its exhibitions.

When communication designers spend their time drafting rather than designing, deciding policy rather than applying method, then their exhibition work will tend to be academic and aloof. A warm and welcoming atmosphere is the fundamental strength of any exhibition – its importance cannot be overestimated. I feel that the Natural History museum needs to relax, to allow its designers and public more freedom and fun and thus produce exhibitions which will have more valuable, if less definable, qualities than those they are constantly having to try to justify.

The exhibition is open from Monday to Saturday between 10am and 6pm and on Sunday between 2 and 6pm

Register of Natural Science Collections in Northwest England

Hancock, E. G. & Pettitt, C. W. (Editors) Manchester Museum, 1981.

The details of museum collections from over seventy museums totally about 1600 main entries are catalogued and cross indexed by subject and geographical origin. A consortium of natural history curators forming the Northwest Collection Research Unit have gathered the data over a period of two years. Originally the data were available through computerised retrieval but this has been found too unwieldy to satisfy the constant demands so the Register is now available as a publication. The full price of £6.00 includes postage and packing. The Register will be sent out from Easter 1981. Orders to be sent to E. G. Hancock, c/o Bolton Museum and Art Gallery, Le Mans Crescent, Bolton, BL1 1SA, England, cheques and postal orders made payable to the Northwest Collection Research Unit (overseas subscribers, International Money Orders in Pounds Sterling, please).

p.s. This is not free to BCG members and is not the same as the <u>BCG Report No. 1</u> (A Survey of Zoological and Botanical material in Museums and related institutions of Great Britain, 1980) although some people appear to have this misconception. The latter is available for £3.00.

ICOM Meeting in Mexico

Those privileged few who could travel so far produced the following reports and contributed to the resolutions passed on for further consideration.

We were the three Brits in the Natural History Committee, (which totalled about 60, give or take a few locals), Anne Clarke from South Kensington, Peter Morgan from the Principality (where else?), also representing Europe, and me from Tyneside (also representing the rest of England). We read two papers each which is six out of 18, so, considering the strong side fielded by the rest of the world, we did allright. In fact we were quite proud of ourselves. There was a little trouble with the projector, Mexican carousels do strange things to some slides (I think) and Mexican carousel operators do even stranger things to Mexican carousels (I know) and thats not a lot, especially when you really want them to do something and that was quite often. Apart from that the hosts were super, remarkable people, the climate was comfortable, the smells, like the water, quite disgusting and the whole incident something I would not have missed for worlds.

The Natural History Committee which met in the City's newish Natural History Museum, a series of huge concrete mole-hills linked by very hacienda-style open corridors twixt palms and fountains, decided that through general education of the masses, we could persuade everyone not to louse up this, our only planet, save the world from international democracy or communism, or whatever, and ask for more money to do it. I think I can just recognise one of our resolutions amongst those debated by the final plenary session. That however, is another story. My final comment must be on Senor Montezuma. I do not know who did what to this chap, but it must have been pretty nasty, judging from the vicious revenge he took on yours truly at 2.00 a.m. on 1st November.

Tony Tynan

from ICOM U.K. Nessletter, No.12 (Nov. 1980)



After the constant noise and pollution of Mexico City, the clean air and tranquillity of the north Mexican desert was an ideal setting in which to relax and talk over the events of the week.

'The Lucky Ten' of us flew with two staff from the Institute of Terrestrial Ecology to Torreon on the first leg of our journey to the Institute's Desert Field Station. At Torreon the party divided, five going on by small plane, the rest of us setting off by minibus on the four-hour journey first following the line of the railroad and then branching on to a dirt track across a desert landscape reminiscent of scenes from the 'Magnificent Seven'.

As a complete newcomer to deserts, my eyes darted from the strange and varied forms of desert plants to lizards that scuttled across the track in front of us, and hawks wheeling overhead. Occasionally we glimpsed the ear-tips of a jackrabbit and the flashing colours of a beautiful butterfly.

At the Field Station Mrs Halftter and the staff welcomed us with a marvellous meal and while devouring a huge basket of crystallised fruit we discussed the work of the Field Station and its role in the 'Man and the Biosphere' project of which it is a part. Lunch finally ended about 5 pm just in 'time for us to walk up a nearby hill to watch the sun set -a magical sight, looking over the vast desert plain below to the red glow that gradually disappeared behind distant mountains.

Sunday gave us the opportunity to become more familiar with some of the desert wildlife: a variety of birds ranging from a golden eagle to tiny humming birds, a horned lizard and young, as well as the inevitable tarantulas and scorpions.

Anne Clarke

RESOLUTIONS

Adopted at the meeting of the International Committee of Natural History Museums in Mexico City on 29 October 1980

Resolution 1

Be it resolved that the International Committee of Natural Hisory Museums of ICOM continue its efforts to develop an International Code of Ethics for Natural History Museums throughout the world, and specifically that the basic document, presented at this meeting, be more widely distributed so that additional comments can be sought from museum colleagues not able to attend this meeting; that all who took part in this meeting be encouraged to prepare, in writing, specific comments for the use of the subcommittee on ethics in their effort to revise the document; and, finally, that this sub-committee, after considering all comments, present a final draft of an International Code of Ethics for Natural History Museums at the next meeting of this ICOM Committee.

Resolution 2

Recognising the urgency of the present and projected loss of the world's heritage of natural habitats and species, described and undescribed;

Recognising the vital role museums have in monitoring that loss;

Realising that such environmental management, determined from ecological studies, can be biologically sound only if based on adequate taxonomic and systematic studies;

Recognising that a number of reports have recently been published in various countries drawing attention to serious gaps in our knowledge of the biotas of major geographical regions and of habitats being destroyed or adversely affected;

Recognising that the same reports note that the teaching and training of taxonomists is seriously insufficient for present and future requirements; and

Recognising the essential and fundamental role of Natural History Museums and departments in providing adequate facilities through the collections and libraries for the present and future training of curators, taxonomists and systematics;

Be it resolved that the International Committee of Natural History Museums of ICOM:

- 1. Establish a working group to examine anew and to co-ordinate existing information on collections and future curatorial needs, especially those pertinent to the conservation of the world's natural resources.
- 2. Urges all countries to institute or expand training programs in their natural history museums, departments and research institutes; and
- 3. Urges countries to provide greater employment opportunities for biological taxonomists and systematists, especially in museums.

Resolution 3

The International Committee of Natural History Museums of ICOM resolves that:

- 1. Palaeontological collections should be in the charge of specialist curators. Museums without such staff should seek advice, and should consider passing important collections to institutions where they will be properly curated.
- 2. Organisations, such as Museums Associations and the International Council of Museums (ICOM), should be urged to establish courses for specialist training in all aspects of geological curating and specimen conservation.
- 3. Type and other described and cited fossil specimens should be deposited in a reputable and publicly accessible museum, and Editors of journals should accept papers for publication only when this condition is satisfied. Types should be made freely available for research purposes; in some cases

preparation of such specimens may be necessary and if curators are in any doubt about granting permission they should consult other specialists in the field for advice.

- 4. Museums with stated acquisition policies should be encouraged to make them widely known.
- 5. Palaeontological sites and especially type sections, should be treated with respect through following recommended Codes of Conduct; where necessary sites should be protected by legislation to prevent over-collecting.
- 6. In addition to computer technologies and data-formats, terminology and hierarchies require standardisation if computerised cataloguing techniques are to become widely used and effective for indexing and data-exchange in palaeontology.

Resolution 4

Recognising that museums have a fundamental role to play in environmental education, especially with respect to promoting the objectives of the World Conservation Strategy; and

Recognising that there are an increasing number of museums that are developing exhibitions and education programs in the field of environmental education and that many more are keen to do so;

Be it resolved that the Natural History Committee expresses its support of the working group on Environmental Education formed at the May, 1979 meeting in Vienna whose role is to support and promote the work of museums in environmental education.

The working group's objectives include:

- 1. Development of ways to encourage natural support and exchange of ideas,
- 2. Promotion of co-operation and co-ordination between museums and other organisations involved in environmental education, e.g. the IUCN.
- 3. Preparation of a series of brief guidelines to help those initiating projects of environmental education in museums.
- 4. Encouragement of the development of joint proposals between museums in the field of environmental education.
- 5. Provision of consultancy service to museums where needed.

Resolution 5

Recognising that many environments and biota of the world are undergoing destruction, and that the role of natural history museums is to preserve examples of such biota for the future.

Be it resolved that the International Committee of Natural History Museums of ICOM recommends that:

- 1. ICOM, UNESCO and other pertinent world organisations establish as an urgent priority the conservation of natural resources in endangered environments of the world;
- 2. Natural History Museums and their programs be established in those areas where destruction constitutes a threat to natural patrimony;
- 3. When the formation of new natural history museums is impossible, action be taken to implement the international co-operation necessary for salvaging representative collections of flora and fauna for permanent preservation in pre-existing museums of natural history.

Resolution 6

That the International Committee of Natural History Museums adopt as a continuing project the compilation and dissemination of the histories of natural history museums in ICOM's participating countries, each history to feature a narrative historical account, to include accompanying illustrations, diagrams of the "model(s)" of the museums showing the relationship between collecting, exhibiting, and educating; and a schematic synopsis of its initial design and exucution, and projected plans for the future.

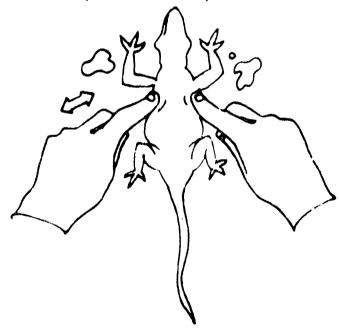
HOW TO RESUSCITATE A LIZARD



Scoop lizard from pool.

2. Shake out lizard.

3. Massage lizard's torso, applying on and off pressure, directly behind frontal legs.



4. Apply mouth to mouth resuscitation to lizard's mouth, breathing slowly and forcefully.



Form MIS National Lizard Lead

Handwriting Section

This is a new venture designed to cover the handwriting and labelling styles of naturalists in order to assist identifying the origins of material. This issue begins with three conchologists of interest in the north west of England. The furtherance of this idea will rely on you lot out there (i.e. fellow colleages and members!) sending your editor material for inclusion.

The GCG editor is considering starting a similar column in Geological Curator (née GCG Newsletter) which should complement ours. The calligraphic consideration of labels can be an important part of curatorial work. The lead of such works as Horn & Kahler 'Über entomologische Sammlungen' which illustrates many famous entomologists' labels needs to be followed.

Some of the minorals I most of the Chalke I destray rofoils are named: but I cann wouch for their accuracy. A very few of the coal fofoils are named. I some han their exact locality stated: but as a general rule the specimens are neither classified nor named: and are in fact so much "raw material."

Thilly Plainenter
Feb 15 H, 1861.

From a report on Mathew Dawes' Collection in Bolton Museum prepared by the Warrington conchologist Philip Pearsall Carpenter (1819-1877) - see B.C.G. Newsletter Vol. 1 Pt 3, page 3; Pt 9, page 15.

With the Unthous bestrespection gut 90th 1852.
Wordhine Outlage Rusholme

From a presentation copy of Dyson, D (1850) The Land and Freshwater shells of the districts around Manchester with their particular localities to which are added instructions to collectors

John Harrison (Manchester) XIX + 96pp.

N.B. Where is David Dyson's collection ?

Examples of the hand of J. W. Baldwin, from labels and his extensive notebooks, whose collections were acquired by Bolton Museum in 1912.

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Collections & Information

Sought

ANY "FRESH" PASSENGER PIGEONS?

The Institute for Avian Research would like to know of any possible Passenger Pigeon (*Ectopis migratoris*), whole or bits, preserved in "Cryonic suspension". As this is extremely unlikely, wet preserved material may be available in a museum in this country. Please contact The Director, Jeanguy Bisson, 240 Pembina, University of Alberta, Edmonton, Alberta, CANADA.

BIRD BONES FROM CAVES AND EXCAVATIONS

I am researching into the field of birds in Pleistocene/Early Holocene deposits and hope to locate all surviving material from British sites of this period.

During discussion with Dr. Harrison of the British Museum at Tring, he suggested I contact you with regard to the publicising of my aims - i.e. locating the remains, checking identifications, and bringing all the information together in an interpretative study. The major stumbling block is clearly the getting in touch with the numerous museums and private collections which may be housing bird bones from excavations often dating back several decades. It was suggested that an advertisement in the journal of the Biology Curators Group would greatly facilitate this process.

Sheila A. Sutherland, Department of Prehistory & Archaeology, The University of Sheffield.

Information requested on collector - G. L. Hey

In 1980 a donation was made to the Leicestershire Museums Service of a collection of 2,600 35mm colour transparencies by one G. L. Hey. They clearly represent a lifetime's work on the culture and propogation of exotic orchids. The whole collection is meticulously indexed and may have been a personal reference series or, and I think this more likely, a teaching resource. Most of the slides show orchids in bloom but there are also some of glasshouses and propogation techniques, some of which are highly advanced and unlikely to be the work of an amateur.

Unfortunately the donor knows nothing of Mr. Hey and nor do I. If any reader recognises the name and can give me a lead as to who Mr. Hey may be (even whether he is alive or dead) I would be most grateful.

J. H. Matthias, Keeper of Biology, Leicestershire Museum Service.

Coleopterist's Newsletter

Following a successful meeting of coleopterists at Monkswood on the weekend of 16-18 May 1980, John Cooter of Hereford Museum has started the Coleopterist's Newsletter of which Number 1 appeared in August 1980. Articles include collecting microcoleoptera, beetle larvae and checklist changes since the last issue of Kloet & Hincks (1977).

Enquiries to John Cooter, 20 Burden Drive, Bartestree, Herefordshire, HR1 4DL.

LINOCUT BY STEPHEN RADNEDGE

Readers will remember the request for information of the whereabouts of decoys. So far only three responses have been made - surely there are more preserved in our multitudinous museums.



This decoy, a Lapwing or generally termed Plover, decoy, was made in Friesland, Holland about forty years ago, constructed of paper strips glued around a mould and covered with linen and plaster and painted. Extremely light but very fragile.

Stephen Radnedge, 10 Park Place, Feniscowles, nr. Blackburn, Lancashire. BB2 5EH.

BRITISH AND IRISHHERBARIA

British Herbaria, being an index to the location of herbaria of British vascular plants, with biographical reference to their collectors was published by the Botanical Society of the British Isles in 1958. Since that time data on many additional collections have been accumulated, while some information given has become outdated. The society have, therefore, authorised the preparation of a new edition of the book with a view to it being published in 1983. Curators of herbaria at university botany departments, museums, and other institutions are accordingly invited to submit to the undersigned data on collections in their care for inclusion in the revised edition. The information required is (1) Surname and full Christian name of collectors. (2) For deceased botanists, year of birth and of death, where known, alternatively approximate period when collection was made. (3) Approximate number of sheets in each herbarium or collection if known. A herbarium should be prefixed by an asterisk to distinguish it from smaller collections. (4) Any area of specialisation, e.g. vice-county or smaller area, particular genera studied, etc.

Similar data in respect of herbaria in private hands is also solicited.

D. H. Kent 75 Adelaide Road West Ealing London W13 9ED

Editor's Note

Naturally, the data already gathered by the Collection Research Units will be made available to Douglas Kent.

BUTTERFLY TABLETS

I was very interested to read the article about the butterfly tablets in the Horniman Museum, described by Penny Wheatcroft in the last Newsletter. By strange coincidence Mr. A. Walker of the Marine Biology Station, Menai Bridge, brought a box of them to show me a few months ago. I had never seen this type of mounting before and we were fascinated by the way they were done. We have had them on display in our small departmental museum and they have raised a lot of interest. There are about 100 of them ranging in size from 28 x 22mm to 162 x 125mm. Almost all are in perfect condition except for two or three with cracked glass.

They differ from the Horniman Museum collection in that they are all from Trinidad, but the labels are obviously the same. As well as moths and butterflies there is also one large unnamed metallic blue and green wasp. The Lepidoptera all bear a Latin name, at least the genus, but mostly identified to species.

Mr. Walker had acquired this collection from the estate of a recently deceased elderly relative but had no information as to its previous history.

Mrs. M. J. Morgan, Dept. Applied Zoology, U.C.N.W., Bangor.

FOUND

PERTH ENIGMA SOLVED

The five entries incorrectly listed as at Perth Museum in Sherborn's "Where is the - collection" (1940) as mentioned in the last issue were the result of a rare error on the part of Sherborn himself. Ron Cleevely (Dept. of Palaeontology, BM NH) wrote to point out that the files and letters pertinent to Sherborn's work are preserved and sent a copy of a letter from Rodger Waterston to J. R. le B. Tomlin (5 April 1938). This was the source of information Sherborn used and in the letter almost entirely devoted to discussing Buchanan White's collections at Perth is a somewhat ambiguous mention of the five names, but with reference to the Royal Scottish Museum.

In the knowledge that Sherborn was an extremely able and proficient cataloguer this was an uncharacteristic mistake on his part but perhaps an excuse can be made for him in that this work was one of his last and he was to die in 1942 aged 81 years. $\varepsilon \cdot 6.4.$

Information received, thanks to BCG.

My recent appeal for information about the J. Cooper collection of mammal skeletons (BCG Vol.2 No.8) led to instantaneous success. The actual collector, John Cooper, now works in the BM (NH) Palaeontology Department and BCG member Tony Hutson, of the BM (NH) Entomology Department, very kindly showed him the article.

John Cooper then rang me to establish that it was his collection, and very helpfully offered to send us photocopies of his original catalogue. The catalogue provides detailed background information on all the specimens, and so greatly enhances the collection. We are most grateful to John Cooper for this information, and to Tony Hutson for passing on the query.

I also received news of another collection of 'Denton's Patent Butterfly Tablets' from Mrs. Morgan of the Zoology Department at Bangor University, who will be writing a note to the newsletter herself about the collection. So, having scored successes with two of my list of queries, I am still hoping for news of the Polar Bear. Further (verbal) information from previous staff seems to indicate that the specimen was sold, not destroyed, and was later seen 'in some sort of grotto'. Perhaps even now it is lurking behind the gnomes in Santa's Magic Cave somewhere, lavishly draped in tinsel and snarling in festive fashion?

Penny Wheatcroft, Keeper of Natural History, Horniman Museum, London.

FOUND - H.M.S. SYLVIA

It would appear that there were several ships called H.M.S. "Sylvia" engaged in hydrographic surveying during the 19th Century. One 'Sylvia' was used, sometime between 1844-53, by Commander Sheringham in his survey of the south coast of England and another is recorded by J.J. Colledge. (Ships of the Royal Navy: An historical index 1966 vol 1) as being a screw sloop built in 1866. Presumably the duplication of names is a result of the well established naval custom of naming a ship after a predecessor.

An H.M.S. "Sylvia", presumably the later version, visited the Red Sea in 1872 and brought back sounding samples which were later examined and acquired by Sir John Murray, whose collection of deep sea deposits was eventually transferred to the British Museum (Natural History) in 1920. The specimens at Bolton Museum from the east coast of Africa may well have been from part of this voyage.

H.M.S. "Sylvia" was later sent to survey the coasts of South America, especially the straits of Magellan and to observe the Transit of Venus in December 1882. (Admiral G.S. Ritchie. 1967, The Admiralty Chart). She was commanded by Captain William James Lloyd Wharton (1843-1905). His previous command had been of H.M.S. "Shearwater" in the survey of the Mediterranean and East Coast of Africa in 1872-76 and he had just completed writing his classic, "Hydrographic surveying: a description of the methods employed in constructing Marine Charts" (London 1882). He was recalled from H.M.S. "Sylvia" in 1884 to succeed Sir Frederick Evans (1815-1885) as Hydrographer of the Navy. Presumably the "valuable collection" acquired by the British Museum (Natural History) in 1882-3 (Gunther, A.E. 1912. "Appendix to the History of the collections contained in the Natural History Departments of the British Museum") were from this voyage. Unfortunately neither this Appendix or volume 2 gives details of the size of the collection, its provenance or the taxa which it contained. It was presented by a Mr L.D. Wodsworth, of whom I can find no mention in the scientific literature. He was presumably either the naturalist or surgeon for him to have devoted sufficient time to natural history during the rigour of surveying.

PETER LINGWOOD

STOP PRESS - EGG THEFTS

Reports have come in of attempted and partially successful approaches by persons as yet unknown, masquerading as lookers at eggs. Their aim appears to be to steal eggs, especially Guillemots possibly to disguise them as Great Auks (!). One approach is to be a researcher per se, while the other uses two journalists about to write an article on the variation of eggs for a magazine called "Oceans".

As the police have been called in following their visit to University College, London, please contact Rosina Down there (tel: 01-387-7050 ext. 416) if you have similar requests. Probably the best strategy is to egg them on (excuse the phrase) if approaches are made while you observe, witness, record and variously acquire evidence while calling the local

February 1981.

Protection for collections of eggs in museums

House of Lords

Collections of birds' eggs already Collections of birds' eggs already in the possession of museums before enactment of the Wildlife and the Countryside Bill were not intended to be the subject of prosecutions, the Earl of Avon, a Lord in Waiting, said when the Bill was considered in committee.

Lord Montagu of Beaulieu moved an amendment to Clause 1 (Protection of wild birds, their nests and eggs) which would provide a eggs) which would provide a defence for bona-fide museums with existing collections of birds and eggs able to show that these collections were in their possession before the passing of the Act.

He said he was not an egg collector but the Council of Museums Associations, of which he was a member, were concerned on this point. It would be difficult in the future for museums to prove the source of their eggs if indeed it were known.

Kingsbridge Lord Donaldson OF (Lab), for the Opposition, said his party supported the amendment. Lord Mowbray and Stourton (C) said the amendment only covered museums. The private person whose grandfather might have had a collection needed protection too.

The Earl of Avon said should a case come to court the Government believed it would be sufficient for a museum to have kept records of all eggs received after enactment of the Bill and to swear an affada-vit that all other eggs in its posses-sion were held before the Act sion were held applied to them.

He understood museums had recently been advised that for their protection they should keep good records and mark and protect their property.

The Government believed amendment created more problems than it attempted to solve. Pre-Act egg collections were not intended and not likely to be the subject of prosecutions.

The amendment was withdrawn. There were one or two wildfowl like the wigeon and the pinkfoot which one could only shoot at night, Viscount Massereene and Ferrard (C) explained in opposing an amendment banning the shoot-ing of any wild bird between an hour after sunset and an hour before sunrise.

You can (he said) only shoot wigeon if the moon is right and the tide and cloud is right. This only happens two or three times a month.

Lord Begumont of Whitley who moved the amendment, said the shooting of wildfowl and waders at night was not as selec-tive as it ought to be, It was easy for protected species to be shot by mistake.

mistake.

Lord Buxton of Alsa (C) said the amendment was grossly unfair to a very small section of the community. They were a band of people around the coast, dedicated enthusiasts who owned no land and had nowhere else to go.

Lord Leatherland (Lab) asked to say a few words on behalf of courting couples.

My memory (he said) is not what it used to be but I believe sometimes well-intentioned young

people sit in hedgerows at night. They want to sit there peacefully and uninterrupted. Just think what would happen if at some emotional moment there was a shot and they were peopered with pellets from 80 yards?

Lord Buxton of Alsa: There is no

known species on this planet that courts in 10 degrees of frost at night in January.

The Earl of Avon, a Lord in Waiting, said the Government had taken advice on the practice of night shooting. They must remember that in the main this type of shooting was only possible on a few nights each whiter and its practioners were few and, for practioners were few and, for the most part, the most skilled of wild fowlers.

The amendment was withdrawn. The committee stage was The committee adjourned. stage

The Bill of Rights Bill completed its report stage and the Imprisonment (Temporary Provisions) Act (Continuence No 3) Order was approved.

House adjourned, 10 pm.

The Times, 28 January 1981

To summarise the meaning of this future act as it effects museums it is merely necessary to point out that if the eggs are accessioned and catalogued then this is sufficient. This is still with the proviso that the eggs were taken before the present legislation or after then but under the licensing provisions. (This was discussed in the last issue, 2(8), page 376).

The B.C.G. is planning to hold a meeting inviting interested parties to discuss such topics as a standard method of indelibly marking eggs, etc. The results of this will be published.

MEMBERSHIP LIST AT END OF JANUARY, 1981

Miss E. Allen	Mr. D. E. Bolton
Hunterian Museum	R.A.M. Museum
Royal College of Surgeons of England	Queen Street
Lincoln's Inn Fields	EXETER
LONDON	EX4 3RX 1979
WC2A 3PN 1981	
	Mr. M. J. D. Brendell
Mr. A. Amsden	Dept. of Entomology
Zoology Department	British Museum of Natural History
National Museum of Wales	LONDON
Cathays Park	SW7 5BD 1981
CARDIFF CF1 3NP 1981	Mrs. D. II. Darimle 1 ora
CFI 5NF 1901	Mr. R. K. Brinklow Dundee Museum and Art Gallery
Mr. K. W. Anckorn	Albert Square
16 Melrose Close	DUNDEE
Brunton Park	DD1 1DA 1981
Gosforth	551 1511
NEWCASTLE UPON TYNE	Miss R. A. Brind
NE3 5NY 1980	46 Southdown Road
	Harpenden
Miss S. M. Ashurst	Herts.
Dept. of Museum Studies	AL5 1PG 1980
University of Leicester	
152 Upper New Walk	Mr. G. Carter,
LEICESTER 1979	Countryside Education Trust
7 A D (Beaulieu Manor
Mr. J. A. Bateman	Beaulie
Oxfordshire County Museum Service, Woodstock Museum	Hants.
OXON 1981	SO4 7EN 1980
OXON	Mrs. J. E. Chamberlain
Mr. P. C. Bates	City Museum and Art Gallery
Museum of Pathology	Museum Road
The Royal Free Hospital	PORTSMOUTH
Pond Street	PO1 2LJ 1981
Hampstead	
LONDON	Mr. J. Chambers
NW3 2QG 1981	Fish Section
	Department of Zoology
Miss K. M. Berry	British Museum of Natural History
338 Newbrook Road	LONDON
Atherton, MANCHESTER 1981	SW7 5BD 1981
PIAMOREO LEIX 1901	Migg C D Charman
Dr. F. A. Bisby	Miss S. D. Chapman
Biology Department	Palaeo Lab. Palaeo Dept.
Building 44	British Museum of Natural History
University of Southampton	Cromwell Road
SOUTHAMPTON	LONDON.
SO9 5NH 1981	SW7 5BD 1981
Mr. J. A. Blair	Mr. J. R. Charter
Museum and Art Gallery	8 Abney Close
Perth	Brockwell
SCOTLAND 1981	Chesterfield
Mr. K. J. Boot	Derbyshire
R.A.M. Museum,	SLO 4PE 1980
Queen Street	
EXETER	
EX4 3RX 1980	

Mr. D. J. Clarke		Denise Cutts	
Carlisle Museum and Art Gallery		Dorman Memorial Museum	
Tullie House		Linthorpe Road	
Castle Street		Middlesborough	
CARLISLE		Cleveland	1980
	1981		
		Mr. Simon Davey	
Mr. D. Claugher		Hampshire County Museum Service	e
Electron Microscope Unit		Chilcomb House	
British Museum of Natural History	y	Chilcomb Lane	
Cromwell Road	•	Bar End	
LONDON		WINCHESTER	
	1981	Hants	1980
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Mr. T. M. Clegg		Mr. P. S. Davis	
Yorkshire Museums		Hancock Museum	
Museum Gardens		Barras Bridge	
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Dr. Collinson		IV Land 10	2,00
c/o Dept. of Palaeontology		Miss J. E. Dawson	
British Museum of Natural History	v	Biology Section	
Cromwell Road	,	Museum & Art Gallery	
LONDON		New Walk	
	1981	LEICESTER	1981
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Mr. A. Coles		Mrs. R. M. Down	
Assistant Curator		Museum of Zoology & Comparativ	e Anatomy
Woodspring Museum		University College	
Burlington Street		Gower Street	
Weston-Super-Mare		LONDON	
	1981	WC1E 6BT	1981
		11022 032	
Mr. C. J. T. Copp		Mr. W. A. Ely	
City Museum and Art Gallery		Clifton Park Museum	
Queens Road		Clifton Lane	
BRISTOL		ROTHERHAM	
	1980	South Yorks.	1981
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Dr. M. D. Crane		Mr. D. G. Erwin	
City Museum		Ulster Museum	
Queens Road		Dept. of Botany & Zoology	
BRISTOL		Botanic Gardens	
	1981	BELFAST	
		BT9 5AB	1980
Mrs. M. Crittenden			
6 Oakburn Court		Mr. I. M. Evans	
Broomhall Road		Leicestershire Museums Service	
Sheffield		96 New Walk	
S10 2DR	1981	LEICESTER	19 80
Mr. D. Curry		Mr. J. R. Edmondson	
Dept. of Natural History		Keeper of Botany	
City Museum		Merseyside County Museum	
Drake Circus		William Brown Street	
PLYMOUTH	1981	LIVERPOOL	•
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Mr. R. J. Cleevely			•
Dept. of Paleo			
British Museum of Natural History	у		
Cromwell Road			
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Miss V. Field		Dr. J. R. A. Gray	
c/o Newbury Museum		Bolton Museum & Art Gallery	
Wharf Street		Civic Centre	
NEWBURY		BOLTON	
Berks.	1981	BL1 1SA	1980
Miss C. Fisher		Mr. A. S. Gunn	
Merseyside County Museum		Department of Botany	
William Brown Street		Merseyside County Museums	
LIVERPOOL		William Brown Street	
L3 8EN	1980	LIVERPOOL	
		L3 8EN	1981
Mr. S. W. Flood			
City Museum		Mr. E. F. Greenwood	
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St. Albans, HERTS.	1979	LIVERPOOL	
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Mrs. A. Frankish		13 011	1700
Dept. of Nat. History		Mr. C. Grist	
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Scunthorpe		The Quay	
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Dr. A. Fletcher		Carol Green	
Leicestershire Museums Service		The Museum	
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LEICESTER		Ipswich	
LE1 6TD	1980	SUFFOLK	1980
Mr. S. P. Garland		Dr. J. A. Gibson	
Nat. Sciences Department		Foremount House	
Sheffield Museum		Kilbarchan	
Weston Park		RENFREWSHIRE	
SHEFFIELD		PA10 2EZ	1980
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		P. Hackney	
Mr. R. C. Garner		Ulster Museum	
Natural History Laboratory		Botanic Gardens	
Manchester Museum Oxford Road		BELFAST (1001
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M13 9PL	1981	Mr. G. Halfpenny	
		City Museums Dept.	
Mr. A. Garside		Unit House	
City Museum & Art Gallery		Hanley	
Albert Square		STOKE-ON-TRENT	
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Dr. E. D. Goodhew		Mr. E. G. Hancock	
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ORPINGTON		BOLTON	
Kent		BL1 1SA	1980
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II W 0	į.	Mr. J. I. Harris	
W. M. Grange		Merseyside County Museums	
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D:	r. C. J. O. Harrison		Mr. R. H. Harris	
	ub-Dept. Ornithology		The Music Room	
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			Mr. J. M. C. Holmes	
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	est Yorks.		Mr. D. T. Holyoak	
B)	D2O 6LH	1981	Dept. of Geography	
			University of Reading	
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			Dept. of Entomology	
	iss K. M. Hawkins		British Museum of Natural His	story
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M:	r. R. Hendry		Mrs. R. F. Hadden,	
	rt Gallery & Museum		Eightlands Cottage	
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м-	rs. A. Hollowell		•	
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Dr. A. G. Irwin		Mr. P. W. Lambley	
Castle Museum		Norfolk Museum Service	
NORWICH		Castle Museum	1070
Norfolk	1001	NORWICH	1979
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Dr. M. J. Isaac		Dept. of Botany	
University College of Swansea &	:	British Museum of Natural Hist	cory
Royal Institution of S. Wales		Cromwell Road	
(Swansea Museum)		LONDON.	1000
Victoria Road SWANSEA		SW7 5BD	1980
	1001	Ma A Injoh	
SA1 1SN	1981	Mr. A. Leigh 17 Austral Avenue	
Mr. M. Tohnaon		Woolston	
Mr. M. Johnson Asst. Keeper of Natural History		Warrington	
City & County Museum		CHESHIRE	
Greyfriars		WA1 4ND	1981
Broadgate		WAI 4ND	TOOT
LINCOLN		Dr. G. Legg	
LN2 1EZ	1978	Booth Museum of Natural Histor	•37
TW5 175	1770	194 Dyke Road	. У
Miss G. L. Jones		BRIGHTON	
Council of Museums in Wales		Sussex	1980
4 Museum Place		bussex	1700
CARDIFF		Mr. M. Limbert	
CF1 3BG	1980	23 Brockenhurst Road	
0.1 0.20	1700	HATFIELD	
Mr. S. L. Jury		Doncaster	
Dept. of Botany		DN7 6SH	1980
Plant Science Labs,			2,00
The University of Reading		Ms C. S. Klemperer	
Whiteknights		Bolton Museum and Art Gallery	
READING		Le Mans Crescent	
RG6 2AS	1980	BOLTON	
		BL1 1SA	1980
Mr. T. J. James			
Keeper of Natural History		M. A. Kirby	
North Hertfordshire Museums		'Melbreak',	
Old Fire Station		97 Blackbull Lane	
Baldock		FULWOOD	
Herts.	1980	Preston	
		PR2 3QA	1981
Mr. J. A. Keefe			
Croydon Nat. History & Scientif	ic Soc.		
Museum Building		15 Bain Road	
Chipstead Valley School		BOSTON	
Chipstead Valley Road		Lincolnshire	
COULSDON		PE21 7QE	1980
Surrey	1981		
D' 11 1		Mr. R. Mahoney	
Diana Kingham		Dept. of Zoology	
19 Albert Street		University College London	
Castlefields		Gower Street	
SHREWSBURY	1001	LONDON	
Salop	1981	WC1/ 6BT	1981
Miss J. Lambert		Mr. M. MoVo-	
The Yorkshire Museum		Mr. M. McKee	
Museum Street		Dept. of Botany & Zoology Ulster Museum	
YORK	1979		
TOTAL	エフ/ブ	Botanic Gardens BELFAST	
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Mr. J. H. Mathias		Mr. P. J. Morgan	
Biology Section		National Museum of Wales	
Leicester Museum & Records Servi	ce	Cathays Park	
Biology Section		CARDIFF	1981
96 New Walk			
LEICESTER	1980	Mr. I. O. Morrison	
		Botanic Gardens	
Mrs. N. F. McMillan		Churchtown	
The Nook		SOUTHPORT	
Uplands Road		PR9 7NB	1981
Bromborough		110 /110	
CHESHIRE	1980	Mr. M. D. Murphy	
CHESTIKE	1,00	'The Stables'	
D Mollow		Osborne House	
D. Mellor		Fulwood Park	
Museum & Art Gallery			1981
High Street		LIVERPOOL 17	TAOT
PAISLEY	1980	M II I M MDE	
PA1 2BA	1900	Mr. W. J. Norton, MBE	
		County Museum Service	
Mr. H. Mendel		Old Street	
c/o The Museum		LUDLOW	
High Street		Shropshire	1981
IPSWICH	1000		
IP1 3QH	1980	Mr. J. H. Nunney	
		Leeds City Museums	
Mr. C. L. Meredith		Municipal Buildings	
Zoology Dept.		LEEDS	
Imperial College		LS1 3AA	1980
Prince Consort Road			
LONDON		James P. O'Connor	
SW7 2BB	1979	National Museum of Ireland	
		Kildaire Street	
Mr. N. J. Moyes		DUBLIN 2	1981
c/o 23 Ellenbridge Way			
Sanderstead		Mr. S. E. Okeke	
South Croydon		Biology Dept.	
SURREY		Alvan Ikoku College of Education	on
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Mr. O. Morton		IMO State	
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Malone Road		W- 0 01:	
BELFAST 9	1981	Mr. G. Oliver	
N. Ireland	1901	National Museum of Wales	
W. B. B. Wesser		Cathays Park	1070
Miss F. R. Moore		CARDIFF	1979
83 Sheil Road			
LIVERPOOL	1000	Mr. A. Norris	
L6 3AD	1980	City Museum	
		Municipal Buildings	
Mr. S. J. Moore		LEEDS	
36 Chelwood Gardens		LS1 3AA	1980
Kew			
RICHMOND		Mr. T. Pain	
Surrey		47 Reynolds House	
TW9 4JQ	1981	Millbank	
		LONDON	
Mrs. M. J. Morgan		SW1P 4HP	
Dept. of Applied Zoology			
University College of N. Wales		Mr. C. E. Palmar	
Bangor		Art Gallery & Museum	
GWYNNED	1981	Kelvingrove	
		GLASGOW	
		G3 8AG	1981

	Mrs. S. J. Patrick		Mr. R. G. Payne	
	91 Uttoxeter Road		Southend Museums Service	
	MICKLEOVER		Central Museum	
	Derby.	1981	Victoria Avenue	
			Southend-on-Sea	
	Mr. C. W. Pettitt		Essex	1980
	Manchester Museum			
	The University		Mr. B. R. Sawford	
	MANCHESTER MI 2 ORI	1980	Senior Keeper	
	M13 9PL	1900	Natural History Dept. North Hertfordshire Museums	
	Mr. P. W. Phillips		Old Fire Station	
	Geology Dept.		BALDOCK	
	Merseyside County Museums		Herts	1980
	William Brown Street			
	LIVERPOOL	1980	Mr. C. N. G. Scotter	
			Leicester Museum & Art Gallery	
	Mr. B. R. P. Playle		96 New Walk	
	Natural History Museum		LEICESTER	1979
	Wollaton Hall NOTTINGHAM		Des D. A. Calden	
	NG8 2AE	1981	Dr. B. A. Seddon Birmingham City Museums	
	1100 2111	1701	BIRMINGHAM	
	Mr. E. J. Redshaw		B3 3DH	1981
	The Museum			
	Broad Street,		Mr. P. Sewell	
	SPALDING		Cumberland House	
	Lincs.	1980	Museum & Aquarium	
	Mica M. T. Doille		Eastern Parade	
	Miss M. T. Reilly Dept. of Zoology		Southsea Portsmouth	
	University of Glasgow		Hants	1979
	GLASGOW G12	1981	nanes	1717
			Mr. D. P. Sharp	
	Mr. T. H. Riley		The Natural History Museum	
	Sheffield City Museums		Wollaton Hall	
	Weston Park		NOTTINGHAM	1980
	SHEFFIELD S10 2TP	1980	v	
	510 211	1900	Mr. P. W. Simmonds	
	Mr. A. B. Ritchie		Natural History Museum Wollaton Hall	
	Museum and Art Gallery		NOTTINGHAM	
	Albert Square		NG8 2AE	1981
	DUNDEE	1981		
			Mr. Peter Skidmore	
	Mrs. H. C. G. Ross		Keeper of Natural Sciences	
	Ulster Museum		Museum & Art Gallery	
	Botanic Gardens BELFAST		Chequer Road	1
	BT9 JAB	1981	DONCASTER DN1 2AE	1980
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	Dr. C. J. Palmer		Mr. John Skinner	
,	Asst. Keeper of Natural History		Central Museum	
(mass)	Herbert Art Gallery & Museum		Victoria Avenue	
	Bayley Lane		SOUTHEND-ON-SEA	1979
	COVENTRY W. Midlands	1981	w w a w a tot	
	M. LITATAMAS	TOOT	Mr. K. G. V. Smith	
	Mrs. S. Rynn		Dept. of Entomology British Museum of Natural Histo	. * *
	32 Eccleston Street		Cromwell Road	
	WIGAN		LONDON	
	Greater Manchester	1980	SW7 5BD	1981

Mr. G. Stansfield		Dr. I. D. Wallace	
Dept. of Museum Studies		Dept. of Invert. Zoology	
152 Upper New Walk		Merseyside County Museums	
LEICESTER		William Brown Street	
LE1 7QA	1981	LIVERPOOL	
221 / (12		L3 8EN	1980
Mr. C. A. B. Stee1			
Booth Museum of Natural History		Mr. G. P. Walley .	
Dyke Road		Natural History Museum	
BRIGHTON	1981	Wollaton Hall	
		NOTTINGHAM	
Mr. D. I. Steward		NG8 2AE	1981
Natural History Section			
The New Museum		Mr. S. V. Walmsley	
Broad Street		Zoology Dept.	
Hanley		University Colleg of Swansea	
STOKE-ON-TRENT		Singleton Park	
Staffs.	1980	SWANSEA	
		W. Glamorgan	-00-
Miss S. M. Stone		SA2 8PP	1981
Zoology Dept.			
British Museum of Natural Histo	ry	Mr. M. P. Walters	
Cromwell Road		Tring Museum	
LONDON	1000	Akeman Street	
SW7 5BD	1980	TRING	1001
N C N C T		Herts	1981
Mr. G. N. Swinney		W. W. W.	
Dept. of Natural History		Mr. M. Warren	
Royal Scottish Museum Chamber Street		Curator Cromer Museum	
EDINBURGH	1979	Tucker Street	
EDINDORGII	1777	CROMER	
Mr. N. Smith		Norfolk	1981
Dept. of Biology		HOLLOIK	2,02
Building 44		Mr. K. R. Watt	
University of Southampton		Zoology Dept.	
SOUTHAMPTON		Museum	
SO9 5NH	1980	Aberdeen University	
		Tithydrone Avenue	
Miss K. M. Sykes		ABERDEEN	
Bagshaw Museum		AB9 2TN	1981
Wilton Park			
BATLEY		Dr. P. Wheatcroft	
W. Yorkshire	1980	Horniman Museum	
		London Road	
Mr. M. A. Taylor		Forest Hill	1000
Perth Museum & Art Gallery		LONDON SE23	1980
George Street		T M 171 1	
PERTH	1981	I. M. White	
Tayside	1901	36 Craigmont Brae EDINBURGH	
Dr. N. Tebble		EH12 8XD	1981
Royal Scottish Museum		EIII OND	IJUI
Chambers Street		Mr. D. Whiteley	
EDINBURGH	1981	City Museum & Art Gallery	
		Weston Bank	
Alison Trew		SHEFFIELD	
Zoology Dept.		S10 2TP	1980
National Museum of Wales			
CARDIFF		Mr. A. S. Wright	
CF1 3NP	1980	Herbert Art Gallery & Museum	
		Bayley Lane	
		COVENTRY	
		W. Midlands	1981

Ms Agnes Walker		The Council for Museums & Gall	eries
Art Gallery & Museum		in Scotland	CIICS
•		Talbooth	
Kelvingrove			
GLASGOW	1000	St. John Street	
G3 8AG	1980	STIRLING	1000
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<u> INSTITUTIONAL</u>			
		B. Page	
The Grosvenor Museum		Geological Curators Group	
27 Grosvenor Street		University of Keele	
Chester		Keele	
CH1 2DD	1980	Staffs.	Comp.
Wigan Museum Servoce		K. Gordon	
Limehouse		Fauna Preservation Society	
Newton Road		c/o Zoological Society of Lond	on
Lowton		Regents Park	
Nr. Warrington		LONDON	
WA3 1HF	1980	NW1 4RY	Comp.
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Church Street		Museum of Natural History	
Aylesbury		University of Kansas 66045	
Bucks.		U.S.A.	Comp.
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		Bowerwood	
J. Bensusan		St. Botolph's Road	
Gibralter Museum		Sevenoaks	
18-20 Bomb House Lane		KENT	1980
GIBRALTER	1980		
		Mrs. D. Scott	
Mr. Sverre Bakkevig		Deputy Librarian	
Arkeologisk museum i Stavanger		Royal Botanic Gardens	
BOX 478		KEW	
4001 Stavanger		Richmond	
NORWAY	1980	Surrey	
		TW9 3AE	1980
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Director		Inverness Museum & Art Gallery	
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34 Burners Lane		Inverness	
Kiln Farm		IB2 3ED	
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Bucks	1070	The Library	
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		Chamber Street	
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Imperial War Museum		EH1 1JF	1980
Duxford Airfield			
DUXFORD			
Cambridgeshire. CB2 4QR	1980		

H. S. Middleton General Library British Museum of Natural History Gray Art Gallery & Museum Clarence Road Cromwell Road HARTLEPOOL LONDON SW7 5BD 1980 Cleveland TS24 8BT 1980 c/o Director Mr. R. Toynton Oxfordshire Museums Service Scunthorpe Borough Museum & Art Gallery WOODSTOCK Oswald Road 0xford 1981 SCUNTHORPE Mr. I. G. Robertson S. Humberside 1980 Passmore Edwards Museum Romford Road Dr. David C. Houston Stratford Hunterian Museum LONDON Zoology Dept. Glasgow University E15 4LZ 1980 GLASGOW 1980 Portsmouth City Museum & Art Gallery G12 8QQ Museum Road Mr. A. Tynan Old Portsmouth The Hancock Museum HAMPSHIRE University of Newcastle Upon Tyne PO1 2LJ 1980 Barras Bridge NEWCASTLE-UPON-TYNE NE2 4PT 1980 Mrs. P. Copson The County Museum Market Place WARWICK 1981 N. K. Atkinson District Curator Montrose Museum Panmure Place MONTROSE Angus 1980 Nat. History Dept. Birmingham Museum & Art Gallery Congreve Street **BIRMINGHAM** B3 3DH 1980 c/o G. Hancock Central Museum & Art Gallery Le Mans Crescent Bolton BL1 1SA 1980 Royal Albert Memorial Museum Queen Street EXETER 1980 Glasgow Art Gallery & Museums Kelvingrove GLASGOW G3 8AE 1979 J. Goude

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History of natural history museums

Băscescu, M. 'L'évolution des musées de science naturelles' in Journal of World History 14(1), pp74-102, 1972. Bateman, J.A. The functions of museums in biology. Museums J, 74(4), pp159-64, 1975. Bell, W. J. A Cabinet of Curiosities. University of Virginia Press, 1967. Davies, K.C. & The zoological collections of the Oxford University Museum. Oxford, 1976. Hull, J. Dexter, R.W. Frederick Ward Putman & the development of Museums of Natural History & Anthropology in the United States. Curator, 10(3), pp151-154, 1966. Eales, N.B. The Cole Library of Early Medicine and Zoology, Reading, Reading, 1969. Gunther, A.E. A Century of Zoology at the British Museum through the lives of two Keepers, 1815-1914, Dawsons, 1975. Bankers Bones and Beetles. The Natural History Press, Hellman, G. New York, 1968. Octopus on the Mall, Connecticut, 1967. Murray, D. Museums, their history and their use, Glasgow, 1904. Oehser, P.H. The Smithsonian Institution, Praeger, 1970. Puccetti, M. La Specola, The Zoological Museum of the University of Florence. Curator, 15(2), pp93-112, 1972. Ritterbush, P.C. Art & Science as influences on the early development of Natural History collections. Proc. Biol. Soc. Wash., 82, pp561- , 1969. Rodeck, H. Directory of Natural Science Museums of the World, Bucharest, 1971. Sherborn, C.D. Where is the ... collection, Cambridge University Press, 1940. Stearn, W.T. Natural History Museums & the 18th Century. Museums J, 59, pp44-48, **1**959. Whitehead, P.J.P. Museums in the History of Zoology. Part 1 Museums J, 70(2), pp50-57, 1970. Part 2 Museums J, 70(4),

Wittlin, A. Collections as a means of stimulating curiosity and enquiry in Museums - In Search of a Usable Future.

The MIT Press, London, 1970.

pp155-160, 1971.

The functions of natural history museums and the duties of the curator

Anon. Symposium Report The museum and the naturalist,

Museums J, 51(2), pp118-25, 1961.

Anon. Science policy report, Curator, 14(4), pp235-40, 1971.

Amadon, D. Natural History Museums - some trends, Curator,

14(1), pp42-49, 1971.

Barrera, A. The Natural History Museum of Mexico City: organisation

and operation. Museum, 24(4), pp218-31, 1972.

Bateman, J.A. The functions of museums in biology, <u>Museums J</u>, 74(4),

pp159-64, 1975.

Black, C.C. New strains on our resources, Museum News, 56(3),

pp18-22, 1978.

Carter, H. H. Museums and the public, Museums J, 58(11), pp247-53,

1959.

Caso, A. Proposal for a Museum of Natural History for the National

University of Mexico, Curator, 4(4), pp341-51, 1961.

Colbert, E. H. On being a curator, Curator, 1(1), pp7-12, 1958.

What is a museum? Curator, 4(2), pp138-46, 1961.

Corbet, G.B. Natural History in a National Museum, Museums J,

66(2), pp111-14, 1966.

Cowan, R. The national collections as biological standards.

Proc. Biol. Soc. Wash., 82, pp611-18, 1969.

Engel, H. Museums of natural history, Museum, 15(2), pp124-27,

1962.

Engstrom, K. & Natural History Museums and the Community,

Johnels, A.G. Universitetsforlaget, Oslo, 1973.

Evans, I. M. Natural History in a Provincial Museum, Museums J,

66(2), pp114-20, 1966.

Evans, J.W. Some observations, remarks and suggestions concerning

natural history museums, Curator, 5(1), pp77-93, 1962.

Friedmann, H. The Curator, Curator, 4(4), pp280-81, 1963.

Greenwood, E.F. Botany and English Provincial Museums, Museums J,

70(4), pp165-68, 1971.

Heim, R.	Protection of nature and museums of natural history, Museum, 6(3), pp150-53, 1953.
Illg, P.L.	The recruitment and training of curators for natural science museums, <u>Curator</u> , 6(4), pp296-302, 1963.
Jewell, A.L.	Natural History in the small museum, <u>Museums J</u> , 56(10), pp238-41, 1957.
Johnels, A.G.	Role of natural history museums, <u>Museum</u> , 25(1/2), pp54-58, 1973.
Lindsay G. E.	The new Museum of Natural History - a case study, Journal of World History, 14(1), 1972.
Lovejoy, T.E.	Conservation - can systematics provide the answer? Association of Systematics Collections Newsletter, 5, pp4-5, 1977.
Miller, A.H.	The curator as a research worker, <u>Curator</u> , 6(4), pp282-86, 1963.
Netting, M.G.	Objectives of museum research in natural history, Museum News, 41(3), pp30-34, 1962.
Nicholson, T.D.	Systematic collections and the law, <u>Curator</u> , 19(1), pp21-28, 1976.
Oliver, J.A.	Remarks at the Centennial Convocation of the American Museum of Natural History, Museum News, 47(2), pp28-30, 1969.
Parr, A.E.	Museums of nature and man, Museums J, 50(9), pp165-71, 1950.
	Mostly about Museums, American Museum Nat. Hist., pp9-22, 1959.
	Museums and Museums of Natural History, <u>Curator</u> , 5(2), ppi37-44, 1962.
Parr, A.E.	Curatorial functions in education, <u>Curator</u> , 6(4), pp287-91, 1963.
	Yesterday and tomorrow in museums of natural history, Curator, 2(1), pp15-19, 1966.
Ripley, D.	The sacred grove, Gollancz, 1970.
Rodeck, H.G.	The research role of the local natural history museum,

Museum News, 41(3), pp34-37, 1962.

Rolfe, W.D.I.

A University Museum, Museums J, 69(1), pp7-11, 1969.

Schafer, W.	Scientific research in natural history museums, <u>Museum</u> , 21(2), pp125-27, 1968.
Shetler, S.G.	The herbarium: past, present and future. <u>Proc. Biol.</u> <u>Soc. Wash.</u> , 82, pp687-758, 1969.
Schmidt, K.P.	The nature of natural history museums, Curator, 1(1), pp20-28, 1958.
Stewart, J. M.	University of Stirling: Department of Biology Museum, Museums J, 72(4), pp149-52, 1973.
Squires, D.F.	Schizophrenia: the plight of the natural history curator, Museum News, 47(7), pp18-21, 1969.
Tynan, A.M.	Museums and natural history, Museums J, 70(3), pp128-29, 1970.
Walker, B.W.	The curator as a custodian of collections, <u>Curator</u> , 6(4), pp292-95, 1963.
Washburn, W.	Grandmotherology and museology, Curator, 10(1), pp43-48, 1967.
White, A.M.	A new museum policy, Curator, 2(3), pp285-86, 1959.
Yochelson, E.L.	Fossils - the how and why of collecting and storing, Proc. Biol. Soc. Wash., 82, pp585-602, 1969.
Zusi, L.	The role of museum collections in ornithological research, Proc. Biol. Soc. Wash., 82, pp651-62, 1959.

Collection management

General

Anon.

Compactors: one solution to the problem of collection growth, Association of Systematics Collections

Newsletter, 4(2), pp21-23, 1977.

Force, R.W.

Museum collections - access, use and control, Curator, 18(4), pp249-55, 1975.

Steffan, W.A.

Collection management practices for increased user accessibility, Association of Systematics Collections Newsletter, 5, pp65-67, 1977.

Collecting policies

Anon.

A code for insect collecting, Joint Committee for the Conservation of British Insects, Cambridge (no date).

The nature photographer's code of practice, Royal Society for the Protection of Birds, Sandy, Beds, (no date).

A statement of policy and procedures regulating the acquisition and disposition of natural history specimens, (American Museum of Natural History), Curator, 17(2), pp83-90, 1974.

'Museums and Federal Wildlife Laws', ASC Newsletter, 4(3), pp36-38, June 1976.

A code of conduct, Botanical Society for the British Isles, London 1977.

Index to US Federal Wildlife Regulations, Association of Systematic Collections, Lawrence, Kansas 1977.

Towards a policy, Leicestershire Museums 1977.

A code for geological field work, Geologists' Association, 1978.

Davis, P.

Endangered species (import and export) act 1976, BCG Newsletter, 8, pp13-19, March 1978.

Flood, S.

The conservation of wild creatures and wild plants act, 1975, BCG Newsletter, 1, pp2-4 & 9, 1975.

Hart, C.W.

The burden of regulations, <u>Museum News</u>, 56(3), 1978.

Neal, A., Haglund, K., & Webb E.

Evolving a policy manual, Museum News, 56(3), pp26-30, (Jan/Feb 1978).

Nicholson, T.D.

The publication of a statement of guidelines for the management of collections, Curator, 17(2), pp81-90, 1974.

The Australian Museum and the Field Museum adopt policy statements regarding collections, Curator, 18(4), pp296-314, 1975.

Systematic collections and the law, <u>Curator</u>, 19(1), pp21-28, 1976.

Documentation

Anon.

Information retrieval for museums, Museums J, 67(2), pp88-120, 1967.

Chenhall, R.G.

Museum cataloguing in the computer age, Nashville 1975.

Cutbill, J.L.

Data processing in biology and geology, Academic Press 1971.

New methods for handling biological information, Biological Journal of the Linnaean Society, 3, pp253-260, 1971.

Computer filing systems for museums and research, London 1973.

Crovello, T.J.

Problems in the use of electronic data processing in biological collections, <u>Taxon</u>, 16, pp481-494, 1967.

Everist, S. L.

Computer processing of labels in the Queensland Herbarium, <u>Kalori</u>, 45, pp57-62, Sydney 1973.

Emerson, W.K. & Ross, A.

Invertebrate collections: trash or treasure? Curator, 8(4), pp333-46, 1965.

Ehrlich, P.R.

Some axioms of taxonomy, <u>Systematic</u> Zoology, 13, pp109-123, 1964.

Gautier, T.G.

Automated collection documentation at the National Museum of Natural History, <u>Museum</u>, 30(1/2), pp160-68, 1978.

Hackman, W.

The evaluation of a museum communication format Part 1 Collection of input data, Oxford 1973.

McCallister, D.E., Murphy, R., & Morrison, J. The compleat minicomputer cataloguing and research system for a museum, <u>Curator</u>, 21(1), pp63-91, 1978.

Manning, R.B.

A computer generated catalogue of types: a by-product of data processing in museums, <u>Curator</u>, 12(2), pp134-38, 1969.

Automation in museum collections, <u>Proceedings of the Biological Society of Washington</u>, 82, pp671-86, 1969.

Michener, C.D.

Some future developments in taxonomy, <u>Systematic</u> Zoology, 12, pp151-72, 1963.

Peters, J.A.

The computer and the collection at large, Curator, 13(4), pp263-66, 1970.

The time shared computer as an adjunct to museum exhibits, Museums J, 72(4), pp143-45, 1973.

Roberts, D.A.

Proposals for a survey of cataloguing practice in British Museums, <u>Museums J</u>, 75(2), pp78-80, 1975.

Rogers, D.J., Fleming, H.S. & Estabrook, G. Use of computers in studies of taxonomy and evolution, Evolutionary Biology, 1, pp169-96, 1967.

Sokal, R.R. & Sneath, P.M.A.

Efficiency in taxonomy, <u>Taxon</u>, 15, pp1-21, 1966.

Soper, J.H.

Mapping the distribution of plants by machine, Canadian Journal of Botany, 42, pp1087-100, 1964.

Soper, J.H. & Perring, F.H.

Data processing in the herbarium and museum, Taxon, 16, pp13-19, 1976.

Squires, D.F.

Data processing and museum collections, a problem for the present, Curator, 9(3), pp216-27, 1966.

Collections and the computer, <u>Bioscience</u>, 18(10), pp973-974, 1968.

Squires, D.F.

An information storage and retrieval system for biological and geological data, <u>Curator</u>, 13(1), pp43-62, 1970.

Van-Gelder, R.G. & Anderson, S.

An information retrieval system for collections of mammals, <u>Curator</u>, 10(1), pp32-42, 1967.

Museums and computers, Museum, 30(3/4), 1978, (special issue).

Fumigation procedures

Anon.

Edolan U: A new chemical for the preservation of natural history specimens, ASC Newsletter, 4, p34, 1976.

Federal regulations and the museum community, ASC Newsletter, 4, pp38-39, 1976.

Fumigants... procedures, precautions and institutional responsibility for their safe use, ASC Newsletter, 4, pp5-6, 1976.

NMNH bird division to close twice annually, ASC Newsletter, 4, p35, 1976.

Funk, F. & Sherfey, K.

Uses of Edolan U in museum preparation and conservation of zoological materials, <u>Curator</u>, 18(1), pp68-76, 1975.

Lewis, R.H.

Manual for Museums, pp34-37, 39, & 272-76, U.S. Govt. Printing Office, Washington DC, 1976.

Plenderleith, H.J.

The conservation of antiquities and works of art, London 1971.

Redhead, D.

Fumigation in the museum, Kalori, 35, pp54-66, 1968.

Ward, P.R.

Getting the bugs out, Museum methods manual no 4, Victoria B. C. 1976.

Williams, S. L., Laubach, R. & Genoways, H.H. A guide to the management of recent mammal collections, Carnegie Museum of Natural History, Pittsburg, pp54-56, 1977.

Yaldon, V.L.

A portable fumigation chamber for the small museum, Museum News, 44(5), pp28-29, 1966.

Health hazards

Griffiths, F.B.,

Summary of recommended procedures, Zooplankton fixation and preservation, UNESCO, 1976.

Fleminger, A., Kimor, B. & Vanucci, M.

The potential hazards of solvents, fumigants,

repellents and the pesticides handled in the museum,

Kalori, 35, pp67-75, 1968.

Harris, R.H.

Harben, D.F.

Biodeterioration, Biology Curators Group Newsletter, 8, pp3-12, 1978.

Irvin, A.D., Cooper, J.E. & Hedges, S.R.

Possible health hazards associated with the collection and handling of post-mortem zoological material, Mammal Review, 2, pp43-54, 1972.

Jones, A.T.

Museum health hazards, Kalori, 45, pp19-21, 1973.

Lassak, E.

Dangerous museum chemicals, <u>Kalori</u>, 45, pp15-18, 1973.

McDiarmid, A.

Safety precautions at post-mortem examinations, Mammal Society Bulletin, 26, pp17-18, 1966.

Pedler, K.

Safety with plastics and plastics for display purposes, Kalori, 45, pp6-10, 1973.

Williams, B.

Diseases communicable from animals to man,

Museum Assistants' Group Transactions, 13, pp46-48,

1978.

Winsor, L.

Safety aspects of solvent use, Kalori, 45, pp3-5, 1973.

Health hazards for zoological staff, Museum Assistants' Group Newsletter, pp9-10, 1973.

Health and safety in museums symposium, <u>Museum Assistants' Group Transactions</u>, 13, 1978 (special issue).

Type specimens

Anderson,

Methods of collecting and preserving vertebrate animals, p8, National Museum of Canada 1965.

Embry, P. & Hey, M.

Type specimens in mineralogy, <u>Mineralogical</u> Record, 1(3), pp102-, 1970.

Owen, D.

Care of type specimens, <u>Museums J</u>, 63(4), p288, 1964.

Sizer, C.A.

Figured and cited specimens in the Department of Geology, Leicester Museums & Art Galleries, 1962.

Swinton, W.E.

Type specimens in botany and zoology - recommendations for their conservation in natural history in general museums, ICOM, Paris 1955.

A preliminary list of catalogues of type specimens in zoology and palaeontology, ICOM, 1968.

Notes for students (3) type specimens, Museums J, 48(4), p72, 1968.

Exhibition general

Alt. M.B.

Heritage, New Scientist, 77(1091), pp520-21, 1978.

Alt, M.B. & Morris, R.G.M.

The human biology exhibition at the Natural History Museum, Bulletin of the British Psychological Society,

32, pp273-78, 1979.

Amadon, D.

On first looking at Chapman's New Forest, Curator,

1(3), pp5-7, 1958.

Anon.

A new gallery at Cardiff - The animal kingdom,

AMGUEDDFA, 21, pp4-6, 1975.

Botany in Wales, AMGUEDDFA, 21, pp2-3, 1975.

Barrera, A.

The Natural History Museum of Mexico City, Museum,

24(4), pp218-27, 1972.

Bateman, J.A.

The environment and the visitor at the National Museum

of Wales, Museums J, 75(3), ppxxxi-xxxii, 1975.

Belcher, M.G.

Displays at the British Museum (Nat. Hist.), MAG

Transactions, 10, pp23-29, 1971.

Bergmann, E.

Exhibits that flow, Curator, 14(4), pp278-86, 1971.

Design and production of a new herpetology hall, Curator,

21(3), pp199-216, 1978.

Bergmann, E.

Designing for natural history, Curator, 17(3), pp 203-06,

1974.

Bliss, D.E.

Creating a conceptual teaching hall on the invertebrates,

Curator, 14(4), pp243-63, 1971.

Browning, G.

Some aspects of dioramas, Kalori, 45, pp22-27, 1973.

Burbridge, B. et al

A new plant exhibition hall in Edinburgh, Museums J,

70(4), pp161-63, 1971.

Burns, N.J.

Modern trends in the natural history museums of the United States of America, Museum, 6(3), pp164-69,

1953.

Cannon, J.R.M.

The new botanical exhibition gallery at the British Museum

(Natural History), Curator, 5(1), pp26-35, 1962.

Carr, W.H.

The desert speaks - the Arizona Sonora Desert Museum,

Biologist,

<u>Curator</u>, 17(3), pp231-48, 1974.

Clarke G. C. S., &

The natural history museum and the public, 27(2), pp81-85, 1980.

Miles, R.S.

How to exhibit a bullfrog, Curator, 11(4), p310, 1968.

Environmental museums and environmental exhibits,

From pole to pole; new exhibition hall at Copenhagen Zoological Museum, Museum, 27(3), pp128-33, 1975.

Museums, pp91-94, Ottawa 1976.

Exhibitions on ecology and resources in Danish Museums, Meeting of the International Committee of Natural History

Conway, W.C.

Doughty, P.

Museums J, 75(3), pp xxix-xxx, 1975. Dunning, F.W. The story of the earth, Museum, 26(2), pp99-109, 1974. Evolution and minerals at the R.S.M., Museums J. 76(1), ppl1-14, 1976. The Delaware Museum of Natural History - prototype for Du Pont, J.E. future museums? Curator, 16(2), pp99-102, 1973. Evans, I.M. A new natural history gallery at Liverpool, Museums J, 74(2), pp59-61, 1974. Fifield, R. Heritage - displaymanship, New Scientist, 73, p293, 1977. A new natural history gallery at Dorset County Museum, Grange, W. Museum Assistants Group Newsletter, 3, pp20-23, 1977. Gray, J. Natural History Gallery - Liverpool 1974, Museums J, 75(3), pp xxvii-xxix, 1975. Griesemer, A.D. & Believable dinosaurs, Curator, 21(3), pp191-98, 1979. Vandiver, R.A. New designs for a systematic exhibit of birds, Curator, Hartman, S.G. 15(2), pp113-20, 1972. Henriksen, H.C. Cutting down the evolutionary tree, Curator, 11(4), p306, 1968. Hollowell, A. New natural history displays at the Bristol City Museum, Biology Curators Group Newsletter, 2(4), pp145-50, 1979. Jorgensen, B. The new Zoological Museum, Copenhagen, Museum, 25(1/2), pp63-66, 1973.

Lambley, P., Heathcote, K. A new natural history gallery at Norwich Castle Museum. & Arber, N. Museums J, 76(1), pp21-22, 1976. Presenting physiological concepts in a museum exhibit, Mantel, L.H. Curator, 14(4), pp264-77, 1971. Matheson, C. A zoological exhibit at Cardiff, Museums J. 60(). p101, 1960. Human biology and the new exhibition scheme in the Miles, R.S. & Tout, A.F. British Museum (Natural History), Curator, 21(1), pp36-50, 1978. Outline of a technology for effective science exhibits. Special Papers in Palaeontology, 22, pp209-44, 1979. Miles, R.S. Introducing ecology at the British Museum (Natural History), Museums J, 79(1), pp23-26, 1979. Morano, V.J. Something old under the sun, Curator, 15(2), pp131-38, 1972. Palmar, C.E. Zoological displays at Kelvingrove, Museums J, 60(1), pp33-36, 1960. Parr. A.E. Designed for display, Curator, 2(4), pp313-34, 1959. The habitat group, Curator, 2(2), pp107-28, 1959. The revival of systematic exhibits, Curator, 4(2), pp117-37, 1961. Screven, C.G. Evaluating the impact of museum exhibits, Meeting of the International Committee of Natural History Museums, pp37-43, Ottawa 1976. The effectiveness of guidance devices in visitor learning, Curator, 18(3), pp219-43, 1975. Seyd, E. A working model for the Natural History Department, Museums J, 60(10), pp258-59, 1961. Sidamon-Eristoff, A., Art in a Natural History Museum, Curator, 16(4), pp306-14, 1973. Introducing ecology - a review of the exhibition, Swinney, G. Museums J, 78(4), pp163-64, 1979.

Swinton, W.E.

A display of evolution, Museums J, 59(8), pp184-86,

1959.

Walrond, G.F.J.

A Stroud Dinosaur: recent developments at Stroud and District Museum, Museums J, 76(1), pp19-20, 1976.

Waterston, C.D.

Evolution and minerals at the R.S.M., Museums J,

76(1), pp9-10, 1976.

Exhibition - Live exhibits

Bateman, J.A.

The incidence and use of live animals in museums in the British Isles, Museums Association Diploma Thesis (unpublished) 1968.

Burbidge, G., Eudall, R., & Watling, R.

A new plant exhibition hall in Edinburgh, Museums J, 70(4), pp161-163, 1970.

Carr, W. H.

The desert speaks - the Arizona Sonora Desert Museum, Curator, 17(1), pp231-48, 1974.

Crowcroft, W.P.

The zoological park as a museum, Kalori, 46, pp13-15, 1973.

Daniels, B.

Comes alive, Museum News, 56(3), pp32-33, 1978.

Ellis, R.

Museum exhibits in zoos and aquariums, Curator, 10(4), pp318-29, 1967.

Goor, R. & Mahoney, J.

Has your museum gone buggy? Museum News, 51(8), pp13-19, 1973.

Greenwood, B.D., Greenwood, E.F. & Moore, D.K. A plant room for museum displays of living plants, Museums J, 78(2), pp67-69, 1978.

Harvey, G.F. & Hems, J.

The vivarium, London 1967.

Howell, A.

The Wollaton Hall formicarium, Museums J, 75(2), pp81-82, 1975.

Milligan, H.M.

A handbook of marine aquaria, Horniman Museum, London 1924.

Peithman, R.I.

Live animals in museums, <u>Curator</u>, 18(2), pp109-14, 1975.

Pryor, K.

Sea life park and oceanic institution, <u>Curator</u>, 10(3),

pp227-47, 1967.

Serrao, J.

An exhibit of small mammals, <u>Curator</u>, 17(2),

pp119-25, 1974.

Serrao, J. & Hale, S.

New designs for exhibiting small mammals, <u>Curator</u>, 18(3), pp177-81, 1975.

Seyd, E.L.

The Cannon aquarium and vivarium at Manchester Museum, Museums J, 72(2), pp46-48, 1972.

Williams, G.E.

Tropical aquaria, London 1960.

Worden, A.N. & Petter, W.L.

UFAW Handbook on the care and management of laboratory animals, London 1967.

Robinson, R.S. & Tuck, R.G.

Display modules for live animals in natural history museums, <u>Curator</u>, 21(3), pp225-34, 1978.

Preservation of biological material - general

Anderson, S. Techniques of preservation, Museums J, 74(4),

pp166-68, 1975.

Barker, H.D. Some techniques used in the preparation of natural

history specimens, Kalori, 50, pp19-25, 1975.

Brain, C.K. Museum collecting in zoology, in Museology 111,

Cape Town 1972.

Brown, M. Taxidermy and modelling, London 1896.

Practical taxidermy, London 1922.

Burns, N.J. Field Manual for Museums, U.S. Government Printing

Office, Washington D.C., (no date).

L'art de la taxidermie au XX^e siècle, London 1968. Didier, R. &

Boudarel, A.

Histological laboratory methods, London 1970. Disbey, B.D. &

Rack, J.H.

Farber, P.L. The development of taxidermy and the history of

ornithology, Isis, 68(244), pp550-66, 1977.

Griffiths, F.B.,

Shipboard and curating techniques, in Zooplankton fixation and preservation, pp17-31, UNESCO, Fleminger, A., Kimor, B.,

Paris, 1976. & Vannucci, M.

Harris, R.H. The conservation of one of the earliest known examples

of a fluid preserved injection dissection, Museums J.

79(2), pp71-72, 1979.

Kung, K., Bahler, R., &

Huber, W.

Sheals, J.G.

Field work techniques in zoology, in Field Manual for

Museums, UNESCO, Paris 1970.

Knudsen, J.W. Biological techniques, New York 1966.

Collecting and preserving plants and animals, Harper

and Row, London 1972.

Levi, H.W. Care of alcoholic collections of small invertebrates,

Systematic Zoology, 15, pp183-88, 1966.

Lincoln, R.J. & Invertebrate animals - collections and preservation,

British Museum (Natural History), and C. U. P.,

London 1979.

Lewis, R.H.

Manual for Museums, U.S. Government Printing

Office, Washington D.C. 1976.

Mahoney, R.

Laboratory techniques in zoology, Butterworths,

London 1966.

Moyer, J.W.

Practical taxidermy, Wiley, New York 1969.

Palmar, W.M.

Inexpensive jars for museum specimens, Curator,

17(4), pp321-24, 1974.

Pettit, W.M.

Label materials for wet-preserved biological

specimens, Museums J, 75(4), pp175-76, 1976.

Rowley, J.

Taxidermy and museum exhibition, Appleton,

New York, 1925.

Smaldon, G.

In praise of soda water, Biology Curators Group

Newsletter, 2(1), pp18-19, 1978.

Smaldon, G. & Lee, E.W.

A synopsis of methods for the narcotisation of

marine invertebrates, Royal Scottish Museum,

Edinburgh 1979.

Sommer, H.G. &

Anderson, S.

Cleaning skeletons with dermestid beetles - two refinements in the method, Curator, 17(4),

pp290-98, 1978.

Steedman, H. F.

Narcotizing agents and methods, in Zooplankton

fixation and preservation, pp87-94, UNESCO,

Paris 1976.

Miscellaneous preservation techniques, in Zooplankton

fixation and preservation, pp175-81, UNESCO,

Paris 1976.

Wagstaffe, R., &

Fidler, J. H.

The preservation of natural history specimens Vol 1, Invertebrates, Witherby, London 1955.

Vol 2, Vertebrates, Witherby, London 1968.

Winsor, L.

Degreasing bones for museum purposes, Kalori,

43, pp15-19, 1972.

Preparation of biological material - freeze-drying

Davies, D.A.L.

On the preservation of insects by drying in vacuo at low temperature, Entomologist, 87, p36, 1954.

Davies, D.A.L. & Baugh, U.S.G.

Preservation of animals and plants by drying from the frozen state, Nature, 77(2), pp657-58, 1956.

Davies, D.A.L.

The preservation of the larger fungi by freezedrying, Transactions of the British Mycological Society, 45(3), pp424-28, 1962.

Gersh, I.

The Altmann technique for fixation by drying when freezing, Anatomical Record, 53(3), pp309-37, 1932.

Harris, R.H.

Vacuum dehydration and freeze drying of entire biological specimens, Annals and Magazine of Natural History, 7, pp65-74, 1964.

Freeze drying, <u>Museum Assistants Group Transactions</u>, 3, pp14-18, 1964.

Haskins, R.H.

Freeze drying of macro fungi for display, <u>Mycologia</u> 5011, (1), pp161-64, 1963.

Hower, R.O.

Freeze drying biological specimens, Museum News,

The freeze-dry preservation of biological specimens, Proceedings of the United States National Museum, Vol 119, 3549, Washington D. C. 1967.

Advances in freeze-dry preservation of biological specimens, <u>Curator</u>, 13(2), pp135-52, 1970.

<u>Manual</u>, Smithsonian Institution Press, Washington D. C. 1979.

Meryman, H. T.

The preparation of biological museums specimens by freeze drying, Curator, 3(1), pp5-19, 1960.

The preparation of biological museum specimens by freeze drying (instrumentation), <u>Curator</u>, 4(2), pp153-74, 1961.

Rowe, T.

The theory and practice of freeze drying, Annals of the New York Academy of Sciences, 85, pp679-81, 1960.

Stadelmann, E.J.

The use of Mercie's method of freeze drying for the preparation of fungi for demonstration, <u>Proceedings</u> of the Eleventh International Botanical Congress, 11, pp376-, Montreal 1959.

Wigglesworth, V.B.

How insects survive extreme conditions, <u>Discovery</u>, 24(12), pp43-47, 1963.

Woodring, J.P.& Blum, N.S.

Preservation of insect larvae by vacuum dehydration, Journal of the Kansas Entomological Society, 36, pp96-101, 1963.

Freeze drying of spiders and immature insects, Annals of the Entomological Society of America, 56(2), pp138-41, 1963.

Preservation of biological material - vertebrates - general

Anderson, R.M. Methods of collecting and preserving vertebrate

animals, Ottawa, Canada, 4th Edn, 1965.

Dimpel, H. The field preservation of birds and mammals for

scientific study collections, Kalori, 52, pp51-54,

1977.

Frazier, J. A. An eye for an eye, Kalori, 43, pp68-70, 1972.

Hall, E.R. Collecting and preparing study specimens of

vertebrates, Kansas 1962.

Harris, R. H. Small vertebrate skeletons, Museums J, 58(9),

pp223-24, 1959.

Head, W. Polyurethane and taxidermy, Kalori, 43, pp38-41,

1972.

Quay, W.B. Birds and mammal specimens in fluid - objectives

and methods, Curator, 17(2), pp91-104, 1974.

Mammal collections

Anderson, S.

Old monkeys in new cases, <u>Curator</u>, 7(3), pp232-43, 1964.

Anon.

Mammals, Instructions for Collectors Series, No 1., 6th Edn, 1968.

Chapman, D.E.

The use of sodium perborate in the preparation of mammalian skeletons, <u>Proceedings of the Zoological Society</u>, 159(4), pp522-23, 1964.

Day, M.G.

Identification of hair and feather remains in the gut of stoats and weasels, <u>Journal of Zoology</u>, 148, pp201-207, 1966.

De Mars, L.

Perfume from mammals - a new dimension to exhibits, Curator, 15(2), pp145-52, 1972.

Downing, G.R.

Horns and antiers in a new setting, <u>Curator</u>, 6(3), pp244-46, 1963.

Osborn, D.J.

Dressing the naked cage, <u>Curator</u>, 14(3), pp194-99, 1971.

Parr, A.E.

Concerning whales and museums, <u>Curator</u>, 6(1), pp65-76, 1963.

Serrao, J.

An exhibit of small mammals, <u>Curator</u>, 17(2), pp119-25, 1974.

Serrao, J. & Hale, S.

New designs for exhibiting small mammals, <u>Curator</u>, 18(3), pp177-81, 1975.

Smithers, R. H. N.

Museum contributions to mammology, <u>SAMAB</u>, 8, pp433-442, 1967.

Thompsett, D.H.

The preparation of skeletons, <u>Museums J</u>, 57(12), pp 282-86, 1958.

Williams, S. L., Laubach, R. & Genoways, H.H. A guide to the management of recent mammal collections, Carnegie Museum of Natural History, Special Publication No 4., Pittsburg 1977.

Bird collections

Amadon, D.

The use of scientific study skins of birds, <u>Curator</u>, 1(1), pp 77-80, 1958.

A new hall of North American Birds, <u>Curator</u>, 7(3), pp 171-80, 1964.

Anon.

Birds and their eggs, Instructions for Collectors Series No 2, British Museum (Natural History), London 1964.

Pavilion of birds, Area Service Magazine, 25, pp 20-21, 1974.

Burton-on-Trent Bird Gallery, <u>Area Service Magazine</u>, 21, pp 1974.

Brain, C.K.

Museum collecting: zoology, in Museology 111, pp 1-10, Capetown 1972.

Hanney, P.

A new Bird Gallery at Birmingham, <u>Museums</u> J, 68(4), pp 165-75, 1969.

Harrison, C.J.O., Cowles, G.S. & Dahl, A.L. Instructions for collectors No 2a Birds, British Museum (Natural History), London 1970.

Hartman, S.G.

New designs for a Systematic Exhibit of Birds, Curator, 15(2), pp 113-20, 1972.

Holler, A.

A technique for repairing birds' eggs, <u>Kalori</u>, 44, pp 24-26, 1972.

Hose, T.A.

A method of arranging a collection of mounted birds, Biology Curators Group Newsletter, 5, pp 20-22, 1977.

Keast, J.A.

The museum in ornithology, Emu, 73, pp 242-47, 1973.

Lyster, I.H.J.

New exhibition resulting from reconstruction and rennovation - New Hall of British Birds, in Report for 1973, pp 23-35, Royal Scottish Museum, 1973.

Parr, A.E.

The revival of Systematic Exhibits, <u>Curator</u>, 4(2), pp 117-, 1961.

Prynne, M.

Egg shells, Barrie and Rockliffe, London 1963.

Simson, S.

Ornithology and zoology in Chalmers-Hunt, J. M. Natural History Auctions, pp 23-31, London 1976.

Steel, C.A.B.

A system for the storage of mounted birds, Museums J, 70(1), pp 10-12, 1970.

Vernon, D.P.

Improved bird skins for study in natural history museums, Kalori, 49, pp 45-47, 1974.

Zusi, R.L.

The role of museum collections in ornithological research, Proceedings of the Biological Society of Washington, 82, pp 651-62, 1969.

Amphibia, reptile and fish collections

Anderson, S.

Mock turtle - random harvest, <u>Curator</u>, 19(2), pp 123-29, 1976.

Anon.

Reptiles, amphibia and fish, Instructions for Collectors Series, No 3, British Museum (Natural History), London 1953.

Fishes, Instructions for Collectors Series, No 3, British Museum (Natural History), London 1965.

Management of herpetological collections, Herpetological Review, 6, pp 34-36, 1975.

National plan for ichthyology, <u>Association of</u> Systematics Collections Newsletter, 4, p 33, 1976.

Conway, W.G.

How to exhibit a bullfrog, Curator, 11(4), pp 310-18, 1968.

Cross, F.B.

Collecting and preserving fishes, in Hall, E.R. Collecting and preparing vertebrate specimens, pp 41-44, Kansas 1962.

Duellman, W.E.

Directions for preserving amphibia and reptiles, in Hall, E.R. Collecting and preserving vertebrate specimens, pp 37-40, Kansas 1962.

Gardner, G.S.

Casting lifelike models from living animals, <u>Curator</u>, 17(1), pp 10-15, 1974.

Gans, C. & Taub, A.M.

Precautions for keeping poisonous snakes in captivity, Curator, 7(3), pp 196-205, 1964.

Hangay, G.

Mounting a Galapogos turtle and a cassowary, <u>Kalori</u>, 52, pp 46-50, 1977.

Konnerth, A.

Preparation of ligamentary articulated fish skeletons, Curator, 8(4), pp 325-32, 1965.

McGonigal, S.

Transparent fish casts for museum displays, Museums J, 69(4), pp 169-72, 1970.

Migdalski, A.C.

How to make fish mounts, New York 1960.

Fish exhibits, Curator, 6(4), pp 312-16, 1963.

Murphy, M.D.

Aquaria in museums, Biology Curators Group Newsletter,

5, pp 9-10, 1977.

Peden, A.E.

Collecting and preserving fishes, Museum Methods Manual 3, British Columbia Provincial Museum 1976.

Smith, C.L.

Maintaining inactive fish collections, Curator, 8(3),

pp 248-55, 1965.

Smith, J. L. B.

The collecting and preserving of fishes, SAMAB,

9(6), pp 202-06, 1968.

Stuart, J.

The fabrication of a large lizard in fibreglass, Kalori,

47, pp 28-30, 1973.

Tempest, P.F.

Are taxidermists fair to fish?, SAMAB, 12, pp 3-9,

1976.

Zweifel, R.G.

Guidelines for the care of herpetological collections,

Curator, 9(3), pp 24-35, 1966.

Insect collections

Anon.

The new Insect Gallery, in Report of the British Museum (Natural History) 1966-8, pp 59-60, 1969.

Insects, Instructions for Collectors Series No 4a,

British Museum (Natural History), 1974.

The changing nature of entomological collections: use, function, growth and management, E.S.9,

pp 146-47, 1978.

Barker, H.D.

Three model insects, Kalori, 46, pp 22-23, 1973.

Chalmers-Hunt, J.M.

Entomological sales, in Natural History Auctions, Sotheby Parke Bernet, pp 3-14, London 1976.

Coffin-Gray, T.W.,

Donnelly, T. &

Pinkez, E.G.

The Chirinda Forest insect habitat group, National Museum Bulawayo, Curator, 10(2), pp 127-36,

1966.

Gautier, T.G.

Electronic data processing, Entomologica Scandinavica,

9, pp 161-68, 1978.

Gunther, R.G.

An economical way to make insect labels in large quantities, Turtox News, 48, p31, 1970.

Howell, A. The Wollaton Hall formicarium, Museums J, 75(2), pp 81-82, 1975. Kim, K.C. Entomological collections in the contemporary world, E.S.9, pp 148-50, 1978. Knutson, L.V. Uses and user community of entomological collections, E.S.9, pp 155-60, 1978. Functions of entomological collections, E.S.9, pp 151-54, Lindroth, C.H. 1978. Mahoney, J. & Goor, R. Has your museum gone buggy?, Museum News, 51(7), pp 13-19, 1973. The Australian insect export legislation, E.S.9, Marks, E.N. pp 172-77, 1978. Morris, M.G. Insect collecting with special reference to nature reserves, in The Biotic Effects of public pressures on the environment, Monks Wood Experimental Station of the Nature Conservancy, Symposium No 3, pp:20-24, 1967. Mound, L.A. The availability of insect collections for taxonomic research, E.S.9, pp 169-71, 1978. Oldroyd, H. Collecting, preserving and studying insects, London 1970. Oman, P.W. & Cushman, A.D. Pub. 601, 1948 (reprint 1964).

Collecting and preservation of insects, Washington DC: Govt Printing Office, U.S. Dept. of Agriculture, Misc.

Conservation and the collector, in The Biotic Effects of Ratcliffe, D.A. public pressures on the environment, pp 16-19, 1967.

Struckenberg, B.R. & Standards for entomological labels, SAMAB, 10, Irwin, M.E. pp 134-42, 1972.

Walker, A.K. & The preparation and curation of insects, Department of Crosby, T.K. Industrial and Scientific Research, Auckland, New Zealand 1979.

Wood, A.A. Preparing insect displays, Canadian Department of Agriculture, Ottawa 1958.

Mollusc collections

Cooper, M. Mollusks and mankind - a new hall and a new

approach, Curator, 19(2), pp 95-115, 1976.

Dance, S. P. Shell sales, in Natural History Auctions, Sotheby

Parke Bernett, pp 45-51, London 1976.

Du Pont, J. E. The Delaware Museum of Natural History - a prototype

for future museums, Curator, 16(2), pp 99-102, 1973.

Lingwood, P. A reference list of museums in the British Isles with

mollusc collections, Biological Curators Group

Newsletter, 5, pp 16-19, 1977.

Mathieson, C. An exhibit on mollusca, Curator, 4(2), pp 147-52,

1961.

Rosewater, J. Malacological collections - development and management,

Proceedings of the Biological Society of Washington,

82, pp 663-70, 1969.

Botanical collections

Anon. Plants, Instructions for Collectors Series No 10,

British Museum (Natural History), 1965.

New galleries at Cardiff - Botany in Wales,

Amgueddfa, 21, pp 2-3, 1975.

Burbidge, G., Endall, R.,

& Watling, R.

A new plant exhibition hall in Edinburgh, Museums J,

70(), pp 161-63, 1971.

Brayshaw, T.C. Plant collecting for the amateur, Museum Methods

Manual 1, British Columbia Provincial Museum, 1976.

Brenan, J.P.M. (Ed). Computers in botanical collections, London 1975.

Burrell, W.H. &

Grainer, J.

The preservation of plants, The Naturalist, pp 241-43,

1931.

Cannon, J. F. M. The new botanical exhibition gallery at the British

Museum (Natural History), Curator, 5(1), pp 26-35,

1962.

Some problems in botanical exhibition work: the new

botanical gallery at the Natural History Museum,

Museums J, 62(3), pp 167-73, 1962.

Davis, P.H. Hints for hard pressed collectors, Watsonia, 4,

pp 283-89, 1961.

Franks, J.W.	A guide to herbarium practice, Handbooks for museum curators series, Museums Association, London 1965.
Everist, S. L.	Computer processing of labels in the Queensland Herbarium, Kalori, 45, pp 57-62, 1973.
Greenwood, E.F.	Botany and English provincial museums, Museums J, 70(4), pp 164-68, 1971.
Harrison, S. G.	Extra-mural work of the Department of the National Museum of Wales - Botany, Amgueddfa, 17, pp 5-16, 1974.
Irwin, H.S.	Botanical gardens in the decade ahead, Curator, 16(1), pp 45-55, 1973.
	Grocery store botany, Curator, 20(1), pp 5-14, 1977.
Jewell, A.L.	Local botany, Transactions of the Museum Assistant's Group, pp 8-12, 1963.
Lane, C.J.	The preparation of plants for exhibition, Museums J, 39(12), p 488, 1940.
McClean, A.D.P., & Storey, H.H.	A drying cabinet for the preparation of plant specimens for the herbarium, <u>Bottalia</u> , 3, pp , 1930.
Parr, A.E.	Museums and museums of natural history, <u>Curator</u> , 5(2), pp 137-44, 1962.
Parr, A.E. Peterson, G.E.	empty-company of the company of the
	5(2), pp 137-44, 1962.
	5(2), pp 137-44, 1962. Artificial plants, Curator, 1(3), pp 12-35, 1958.
Peterson, G.E.	5(2), pp 137-44, 1962. Artificial plants, Curator, 1(3), pp 12-35, 1958. Artificial mushrooms, Curator, 9(1), pp 62-65, 1966. Collection and care of botanical specimens, Canada
Peterson, G. E. Savile, D. B. O. Shetler, S. G., &	5(2), pp 137-44, 1962. Artificial plants, Curator, 1(3), pp 12-35, 1958. Artificial mushrooms, Curator, 9(1), pp 62-65, 1966. Collection and care of botanical specimens, Canada Department of Agriculture, Ottawa 1973. The herbarium: past, present and future, Proceedings of the Biological Society of Washington, 82, pp 687-58,
Peterson, G. E. Savile, D. B. O. Shetler, S. G., & Stanwyn, G.	5(2), pp 137-44, 1962. Artificial plants, Curator, 1(3), pp 12-35, 1958. Artificial mushrooms, Curator, 9(1), pp 62-65, 1966. Collection and care of botanical specimens, Canada Department of Agriculture, Ottawa 1973. The herbarium: past, present and future, Proceedings of the Biological Society of Washington, 82, pp 687-58, 1969. Flowers in plastics, Part 1, Museums J, 75(4),

Environmental responsibilities

American Association Museums and the environment a handbook for of Museums education, Washington DC 1971. Anon. (Various authors), Museums and environment, special issue of Museum, 25(1/2), 1973. BIOREC 75 Biological recording in Scotland, Dundee Museum, 1975. Bateman, J.A. The environment and the visitor at the National Museum of Wales, Museums J, 75(3), pp xxxi-xxxii, 1975. Black, C.C. New strains on our resources, Museum News, 56(3), pp 18-22, 1978. Doughty, P. Environmental museums and environmental exhibits, Museums J, 75(3), pp xxix-xxx, 1975. Job creation and biological records at Clifton Park Ely, B. Museum, Rotherham, Biology Curators Goup Newsletter, 9, pp 11-13, 1978. Flood, S. Museums as biological record centres, Museums J, 75(1), pp 27-28, 1975. Record centres and interpretation, Museums J, 75(3), pp xxxii-xxxiii, 1975. A handbook for local biological record centres, Flood, S. & Biological Curators Group and Biological Records Perring, F.H. Centre, 1978. Greenwood, E.F. North West Biological Field Data Bank, Museums J, 71(1), pp 7-10, 1971. North West Biological Field Data Bank, Proceedings of the Museums Association, pp 23-24, 1976. Instructions for recorders, Biological Record Centre, Heath, J. & Scott, D. Monks Wood, 1972. Holdgate, M.W. The impact of human civilization upon the Ecosystems of the Earth, Museum, 25(1/2), pp 4-9, 1977. Museums in the service of man - today and tomorrow, Hubendick, B. Papers of the ninth ICOM Congress, Paris 1972. Role of natural history museums in environmental Johnels, A.G.

monitoring, Museum, 25(1/2), pp 54-58, 1973.

Lanning, J. C.

County Planning Officer's View, Proceedings of the Museums Association, p 22, 1976.

Lavin, J. C. & The development of the Biological Data Bank, West

Perring, F. A biological record network, <u>Proceedings of the</u>
Museums Association, pp 19-22, 1976.

Perring, F. & Biological recording in Europe, Endeavour, 34(123), Heath, J. pp 103-07, 1975.

Yorkshire Region, Museums J, 77(1), pp 2-6, 1977.

Pottinger, P.M. Towards an environmental record - some problems, Museums J, 77(2), pp 65-66, 1977.

Ripley, S.D. Museums and the natural heritage, <u>Museum</u>, 25(), pp 10-14, 1973.

Stansfield, G. (Ed.)

Centres for environmental records, Departments of
Museum Studies and Adult Education, University of
Leicester, 1973.

Environmental education

Wilmore, G. T. D.

Anon. Glanely Gallery (Cardiff), Amgueddfa, 12, pp 1-3, 1972.

Curry, D.A. Warleigh Wood Field Museum and Educational Nature Reserve, Museums J, 69(2), pp 70-71, 1969.

Deane, C.D. A field museum and nature trail in Northern Ireland, Museums J, 65(2), pp 97-99, 1965.

The Tollymore Forest Park Trailside Museum, Museums J, 69(2), pp 68-69, 1969.

Engstrom, K. Temporary and travelling exhibitions: a means of providing information on nature conservation, <u>Museum</u>, 25 (1/2), pp 89-92, 1973.

Greenwood, E.F. Smithills Hall Trailside Museum, Bolton, Museums J, 76(2), p 66, 1976.

Jorgensen, B. The new Zoological Museum, Copenhagen, Museum, 25(1/2), pp 63-68, 1973.

Lewis, R.H. Environmental education and research in Yellowstone National Park, <u>Museum</u>, 25(1/2), pp 85-88, 1973.

Selecting exhibit themes for Park Museums, Park Practice Programme Guideline, 7, pp 14, 1963.

Pennyfather, K. Guide to Countryside Interpretation Part Two -

Interpretive Media and Facilities, Countryside

Commission, 1975.

Pessino, C. City ecology for city children, Curator, 18(1),

pp 47-54, 1975.

Ripley, S.D. Museums and the natural heritage, Museum, 25(1/2),

pp 10-14, 1973.

Stansfield, G. (Ed.) Conference on countryside centres, Museums J,

69(2), pp 63-73, 1964.

Stansfield, G. Museums in the countryside, Museums J, 67(3),

pp 212-18, 1967.

Tynan, A.M. The Border Forest Park Museum, Northumberland,

Museums J, 69(2), pp 69-70, 1969.

Bibliography - natural history museums and natural history collections

The attached bibliography has been compiled by Geoff Stansfield in his capacity as Honorary Secretary of the Biology Curators Group and Lecturer in Museum Studies in the Department of Museum Studies at the University of Leicester. It is based upon a previous bibliography prepared by Geoff Stansfield, Geoff Tresise and Jim Bateman and on bibliographies prepared for use in the Department of Museum Studies.

The bibliography is intended primarily for the guidance of Museums Association Diploma students and to assist them in locating literature relating to natural history museums and the mnaagement of natural history collections.

No bibliography of this kind can be comprehensive and it should be used in conjunction with the standard sources of the kind outlined in the Museums Association Information Sheet Sources of Museological Literature. The bibliography concentrates on literature which would normally be available in the United Kingdom. With few exceptions it does not include references to literature other than those in the English language.

It is hoped that the bibliography will be revised and updated from time to time. Any errors or suggestions for additions should be drawn to the attention of the Honorary Secretary of the Biology Curators Group.

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POTTER'S MUSEUM

Beetles, etc., including two large specimens of Centi-127 pede.

Antlers with fourteen points (Home Park, Scotland).

130-THE HOUSE THAT JACK BUILT

Walter Potter has introduced into this case all the Walter Potter has introduced into this case all the features of the popular nursery rhyme. The dog, the cat, the rat; the "maiden all forlorn," who "married the man all tattered and torn," and the cock that "crowed in the morn," are all present. In addition, "Jack" may be seen tying up a sack in one of the ground floor rooms of the mait house. Just inside one of the windows a file of bills is hanging, and there is a holst for lifting sacks into the loft. In the doorway, the contents of a sack is spilling through a hole—evidence that the rat really did eat the mait. Two items are of special interest; the cow, made by stretching call skin over a wooden framework, and the stretching calf skin over a wooden framework, and the little rooster which was built up by sticking carefully selected feathers on to a model. The "chickens' eggs" in the farmyard are really those of a Wren.

131 Collection of Beetles, etc., including Four Leaf insects from Ceylon.

132 Rabbit and young.

Hedgehog and young.
Chained to his kennel, the little Pug Puppy keeps all

intruders away, including the birds in a nearby tree, who have an eye for his bowl.

nave an eye for his bowl.

135 English Partridge.
136 Green Woodpecker.
137 English Partridge.
138 Indian Pheasants, Toads, etc. The thorn bush, upon which the various birds are arranged, was actually responsible for the death of Lord De Clifford in 1909. In order to avoid a collision with a cart on the Beeding-Henfield Road, the car he was driving mounted the bank and was overturned by it.

139

14

140 The fox has already had one meal, but lusts after another one, and more sport.

141 British Grass Snakes (harmless) and Adders (or Vipers). The latter are venomous, and can always be distinguished by the black zig-zag line running down their backs, and the black "V" on the head.

Base

Collection of birds.

On beam above 2nd Table

Portrait of Walter Potter at the age of seventy-five, by Bernard Lucas, R.A.

Wandering Albatross. Wing span 9ft. 10 ins. Found in the South Seas, particularly around the Cape of Good Hope. A wing span of 14ft. is not uncommon and it is one of the largest birds capable of sustained flight. In days of sailing ships, much superstition was attached to it

THE KITTENS' WEDDING

Twenty little kittens are taking part in this colourful ceremony. The Bride is wearing a dress of cream brocade, with a long veil and orange blossom; the six Bridesmaids are dressed in pink or cream. The chief Bridesmaid and the Bride are probably sisters, and the little "boy" wearing the Bride are probably sisters, and the little "boy" wearing the sailor suit is their younger brother, for they all have the same fair colouring. Under the watchful eye of the Parson, the Bridegroom, with head on one side, has just placed a golden ring on the Bride's finger. The tiny prayer books are open at the Marriage Service, but the Parson, who possibly does not need a book anyway, has failed to turn the page. It is a pity that such a happy occasion should have a jarring note, but the scowl of disapproval on the face of the "man" in the row next to the back, seems to indicate that he thinks the wrong "man" is standing beside the Bride! The case was made in 1890, and is the last one that Walter Potter completed: also it is is standing deside the Bride: The case was made in 1890, and is the last one that Walter Potter completed; also it is the only one in the Museum in which the animals are "dressed." It has since proved to be one of his most popular tableaux, and was lent to the "Festival of Sussex" Exhibition in 1951.

On Floor

Badger. Average size. A quiet and inoffensive animal if unprovoked—except perhaps for its smell! A powerful digger. Its jaws are capable of "locking" together without the need of any special effort on the part of the animal.

POTTER'S MUSEUM

15

142 Speckled Blackbird.

143 Duck with four legs. Lived for thirteen years at Portslade-by-Sea. It appeared to walk with three legs and four feet, but when it was preserved, the skin was severed, giving it four distinct legs and feet. It laid but one small egg during its life.

144 Duck with three legs. Reared at Thames Haven, Essex. As a duckling it was allowed the sanctuary of its owner's garden, since it was slow in movement and ostracised by the rest of the brood. An unusual duck, and one that met with an even more unusual end, for it was killed by a hailstone during a storm on a summers day. It was about one year old, and as far as is known, laid no eggs. A small additional tail was found when it was being preserved.

145 Lamb with two heads. It has four eyes, two noses, two mouths, but only two ears. Born on Beeding Downs, and brought to the Museum by Mr. Bailey, the shepherd. A similar specimen of a lamb's double head may be seen in the third centre table, where it is exhibited with the skull.

146 Hen with four legs. Full grown, and known to have laid several eggs. Reared by Mr. S. Earl, Butcher, of High Street, Steyning, in 1908. The additional legs became entangled in the wire netting of the enclosure, and eventually caused its death. Presented to the Museum in 1909.

147 Flying Fish from the Pacific.

148 Eleven Canaries—all killed by a dog which gained entry to their aviary. They are carefully arranged in the case to conceal their various injuries.

149 ATHLETIC TOADS. Common English eighteen of them, enjoying a sunny afternoon in the park with swings and see-saws (mechanically driven). The very nature of the Toad makes it difficult to stuff, particularly such small specimens as those on the centre swing. In olden days Toads were thought to have venomous fangs, like serpents, and as a result were amongst the most maligned of creatures. Actually they are quite harmless and of considerable use for destroying insects.

Gulf Weed from the Sargasso Sea. 151