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NEWSLETTER



Volume 3 Part 2

Feb 1982

Biology Curators' Group



The aims of the Biology Curators' Group are:-

- i) 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

Our colleagues at Sheffield Museum have responded magnificently as the "Features Institution" in this issue.

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

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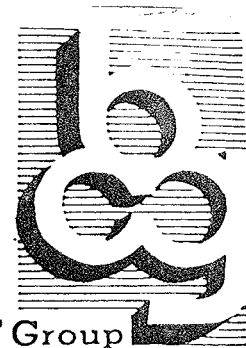
Note: Subscriptions for 1982 will be at a new rate, approved at the AGM in April 1981. £4.00 p.a. for individual membership and £7.00 for institutional and overseas members. Due in January 1982.

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TO A YOUNG LADY WHO CONTEMPLATED MARRYING AN
ENTOMOLOGIST

A further disadvantage with which you would have to contend, should you decide to contract a marriage with a person addicted to this pursuit, is an increasing *gaucherie* of your husband's speech. Entomologists are unable to discuss objects of nature, or indeed any natural phenomenon, without giving utterance to unusual words, quite unintelligible to cultured persons; and there can be nothing more distressing when guests are present than for one's husband to launch forth in the uncouth jargon used by men who inhabit museums, laboratories, and suchlike resorts of the lower classes. It is impossible to break them of this unpleasant habit, and should you attempt to do so friction is bound to result. You must remember also that a man who indulges in this form of recreation is given to wool-gathering, and this engenders a slowing-down of the normal male mental processes. Should you marry an entomologist, therefore, you must be prepared for your husband's mental apprehension to degenerate progressively.

Sound advice from P.B.M. Allan's Moths and Memories, 1948

Biology Curators Group

AGM Sheffield, 2 April 1982

Proposed programme

10.30 - 11.00	Meet at City Museum, Weston Park, for coffee and biscuits.	
11.00 - 12.30	<u>Zoological collecting and recording at Sheffield City Museums</u>	
	Freshwater invertebrate survey	Tim Riley
	Butterflies and moths	Steve Garland
	Beetles	Jerry Lee
	Vertebrates and publication	Derek Whiteley
12.30 - 1.30	Lunch in a local pub	
1.30 - 2.00	Tour of Natural Sciences galleries, laboratory and storage areas.	
2.00 - 3.00	<u>Annual General Meeting</u>	
3.00 - 4.00	<u>South Yorkshire Review</u>	
	What the cat brought in	Colin Howes (Doncaster Museum)
	Rotherham Museum natural science collections	Bill Ely (Rotherham Museum)
	Why collect flies?	Peter Skidmore (Doncaster Museum)

How to find Sheffield City Museum on 2 April

By Car

M1 from N. or S. Leave at Junction 33 Catcliffe and take the link road (Sheffield Parkway) to the centre of Sheffield. Right turn at the terminal roundabout and follow the signs for the University (or A57 Manchester). The Museum is situated about 1 mile to the W. of the City in Weston Park, close to the University.

From the West. A57 Snake Pass (if free of snow) enters Sheffield past the University.

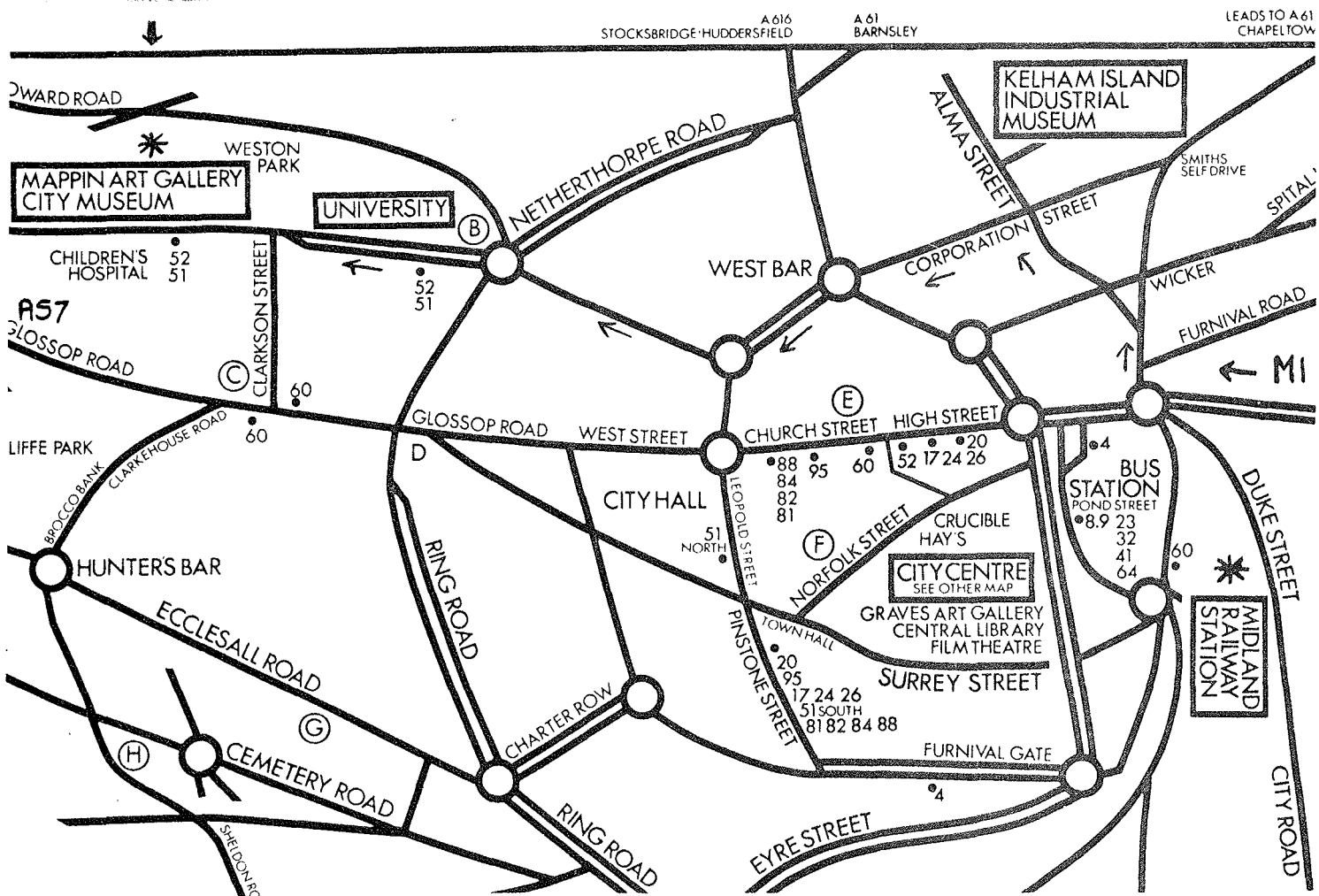
Parking is possible on a number of local side roads all day, or on the main road outside the Museum between 9.30 and 4.30 only.

By Rail

Take the No. 60 bus (every 5 min.) from outside railway station to the University, followed by short walk to Museum.

or

Walk from railway station to High Street. Take No. 52 bus directly to the Museum.



Biology Curators Group

Notice of Annual General Meeting

The Annual General Meeting of the Biology Curators Group will be held at 2.00 pm at Sheffield City Museum, Weston Park, Sheffield on Friday 2nd April 1982.

Agenda

1. Apologies
2. Minutes of the Annual General Meeting held at Birmingham on 12th April 1981 (Printed in BCG Newsletter Vol2 No 9 Feb 1981)
3. Secretary's Report (Included in this Newsletter)
4. Treasurer's Report
5. Editor's Report
6. Election of Officers and Committee
7. Adoption of revised Constitution
8. Date and place of next meeting
9. Any other business (To be notified in writing to the Honorary Secretary at least two weeks before the meeting)

Nominations are invited for the Officers and Committee members.

Present position

<u>Chairman</u>	Eric Greenwood	willing to stand for re-election
<u>Secretary</u>	Geoff Stansfield	"
<u>Treasurer</u>	John Mathias	"
<u>Editor</u>	Geoff Hancock	prefers not to stand for re-election

Committee members

Peter Davis	willing to stand for re-election
Peter Morgan	"
Martin Brendell	"
Kelvin Boot	"
Howard Mendel	"
Mike Hounsome	"

Note Nominations, together with a signed statement that the nominee is willing to stand should be sent to the Honorary Secretary to arrive two weeks before the meeting.

G.Stansfield
Honorary Secretary
c/o Department of Museum Studies
105 Princess Road East
Leicester LE1 7LG
Tel (0533) 553560

Chairman's Report

This year I propose to say very little in my annual report. Most of the work of the BCG is fully reported in the Newsletter but I can forgive members who may feel that not a great deal has happened.

In many respects this is true. Successful meetings were held at Birmingham (AGM) and Manchester (preceding the Museums Association Annual Conference) but there have been no other functions. However, members who read the Newsletter will appreciate that your committee has been very active and that the result of this work should be apparent during 1982. Perhaps I can just highlight a few of the important issues that have occupied the committee's minds during the year.

Early in the year it became apparent that the work of the various regionally based collection research units needed to be co-ordinated and formalised. This was done and FENSCORE became established and work on the documentation of collections nation-wide is proceeding with renewed vigor. More recently attention has turned to the possibility of producing a national type register and progress on this will be reported in due course.

The importance of collections and the lack of knowledge about them has led to a many pronged attack to rectify the situation. A meeting was held (jointly with GCG) with NERC which proved most rewarding and elsewhere in this issue of the Newsletter a report of the meeting is published. Also on the issue of collections the Museums Association established a working party following the comments made by Geoffrey Hancock and Phil. Doughty at the Association's Annual Conference in 1980. Both the deliberations of FENSCORE and the Association's working party have identified the need to know more about collections and their care before decisions on their future curation and use can be made. In this respect collections both in universities and museums must be covered but in the light of various discussions that have been held it appears large collections of biological material are held elsewhere, e.g. in various research stations and field centres.

Whilst still on the subject of collections the BCG has, for some time, been concerned to organise a conference that would bring together the curator, researcher and administrator/policy maker to discuss the question of collections. Getting the right mix of speakers and obtaining the financial backing are both difficult issues for a small group such as the BCG but through the kindness of the Director of the National Museums of Wales, Dr. D.A. Bassett, these difficulties have been overcome. Again, the details of this conference, "A National Plan for Systematics Collections?", to be held in Cardiff on 6-9 July 1982 are included with this issue of the Newsletter. This conference should be a landmark so far as the function and scientific use of collections is concerned. However, we must remember that a full appreciation of collections will only be realised when a much wider use can be realised.

These topics have more than kept the Committee busy but many other issues have been discussed. The Wildlife and Countryside legislation and the Manual of Curatorship are two such subjects. However, perhaps I should finish on a survey that has not been discussed a great deal. In 1980, in collaboration with Paul Harding of the Biological Records Centre, members responded to a questionnaire on local record centres. Preliminary information was published early in the year and a further analysis was promised. This proved a very time consuming exercise but I hope the results will be published in this Newsletter.

Editor's Report 1981-2

Having been Assistant Editor since 1978 and responsible for getting the issue together in its entirety since Vol. 2 (6), the time has come for a change. I know this because I no longer look forward to rooting about for and pasting up all the little things which get pushed into the few pages at the back! However, getting them printed and posted is not a mind-boggling task so are there any volunteers for Editor? He or she would be responsible for producing the "camera-ready" copy and I could continue to do the rest for another year.

As a committee member I have attended several meetings on behalf of the Biology Curators' Group. The Geological Curators' Group meetings are the most enjoyable, the Museums Association Professional Consultative Committee was most instructive and the FENSCORE Type Registry working party potentially the most exciting.

E. G. Hancock,
January 1982.

Report of the Treasurer and Membership Secretary

I am pleased to be able to report that 1981 was a satisfactory year for the Group financially. Our bank balance remains in credit although it is fair to say there have been few financial commitments apart from the production and mailing of the Newsletter. Paper and printing costs for the three issues were £352.75 and mailing cost £131.50 (this figure was kept low by extensive hand delivery) giving a total of £484.25. We can expect this to increase in 1982 but the new membership rates (£4.00 personal, £7.00 institutional from January 1st 1982) should be adequate to finance the Newsletter and one or two other items which have been undertaken by the committee. These include the printing of a leaflet outlining the aims and objectives of the Group, expenses for the Cardiff Conference, and a possible reprint of volume 1 of the Newsletter.

The only grant received in 1981 was £25.00 from the Museums Association to cover the cost of BCG observer membership of the Council for Environmental Conservation. There was an increase in advertising revenue during the year, but the Newsletter could easily carry more advertisements than it does and we should look to increased income from this source in 1982.

Membership went up during the year to 205 (38 institutional and 167 personal) although there remains a handful of members who are two years in arrears with their subscriptions and will be deleted from the membership list at the next review.

The full balance sheet will be submitted to the AGM for approval at the end of the financial year.

John Mathias
18.1.1982

**£90,000 FOR
NATURE
FOUNDATION**

Daily Telegraph Reporter

NATURALIST Dr David Bellamy said yesterday that he had been given £90,000 of industrial sponsorship to use for conservation purposes with which he intended to start a Conservation Foundation that would help with "conservation in the broadest sense from artifacts to natural history."

He was speaking at the re-opening of the Kendal Museum, which has been modernised at a cost of £44,000 with substantial help from the English Tourist Board and the North West Museums Advisory service.

Dr Bellamy said: "The £90,000 has come as a result of my saying on the radio that big industry should come forward with sponsorship for conservation."

10 October 1981

'TV extravaganza'

"When the offer was made I said I just had ideas and was not an organiser. But then I decided to take it and think of some way to use it, and the Conservation Foundation is the result."

"It will have an office in London and will be launched officially next year," he added.

He hoped that his foundation would be able to promote conservation awards similar to academy awards given for film acting and so on.

He said: "I want to see a two-hour extravaganza on television celebrating conservation ideas, with Conservation Foundation awards given for museums and natural history."

Secretary's Report 1981-82

Three committee meetings have been held during the year, on 30th January, 2nd April and 10th September and a further meeting is planned for January 1982.

Because the planned Cardiff conference was put back to 1982, no meetings were organised for members during the year apart from the Annual General Meeting in Birmingham on April 12th and a meeting with the GCG at Manchester on 22nd September at the start of the Museums Association conference.

Committee business has included a further consideration of the implications of the Wildlife and Countryside Bill which becomes Law in the New Year. At the time of writing copies of the Bill are not widely available, but when it has been studied, it is planned to hold a seminar in cooperation with the Museums Association to consider how it will affect museums. Comments were sent to the Standing on the section of the report on Conservation dealing with natural history collections. A new constitution has been prepared with the intention of submitting it to the Annual General Meeting in Sheffield. Draft papers have been prepared on the Criteria to be satisfied by museums accepting research collections and a Basic guide to collecting procedures for natural history material for inclusion in the NERC Newsletter. It is hoped to prepare a note for the Newsletter on museum involvement in the identification of animal and plant material for H.M. Customs and some thought has been given to the preparation of advisory notes on the use of pesticides and fungicides in natural history museums.

It is hoped shortly to announce the programme of the conference 'A National Plan for Systematic Collections' to take place in Cardiff from 6th to 9th July 1982. The Conference will be held in association with the National Museum of Wales to celebrate its 75th anniversary, and the Group is grateful to Dr Bassett and Peter Morgan for taking on most of the organization.

The committee has been represented at meetings of the Professional Groups Committee of the Museums Association (now renamed the Professional Consultative Committee); The Working Party on Natural Science Collection Resources; FENSCORE; and the Geology Curators Group. A meeting has also taken place with NERC to consider their involvement with natural history collections.

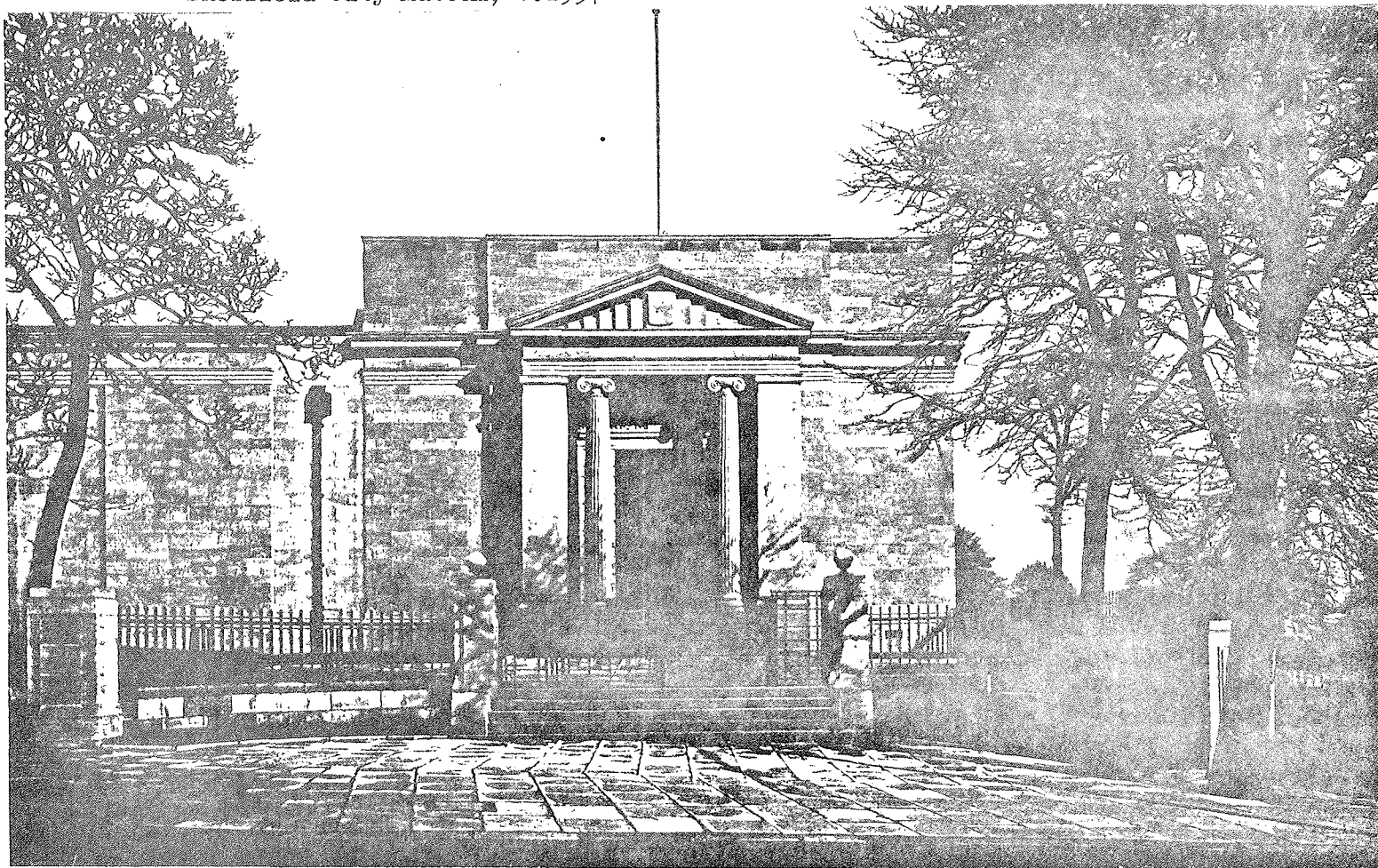
G.Stansfield, December 1981

SHEFFIELD CITY MUSEUMS : NATURAL SCIENCES SECTION

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Sheffield City Museum, c.1937



Sheffield Public Museum, later titled Sheffield City Museums, was opened on 6 September 1875, and like many other provincial museums is founded upon collections assembled and presented by the local literary and philosophical society. The Sheffield Literary and Philosophical Society (1822-1932) owned substantial collections, and maintained a museum under honorary curators (Porter 1922). However some of the material listed in their Annual Report appears never to have been transferred to the Public Museum, and much of the remainder lacks original provenance.

Brittain (1899) in his presidential address to the Museums Association documents the foundation and early growth of the Museum, of whose governing Committee he was Chairman for many years. The Annual Report of the Committee provides some insight into the running of the Museum in its infancy, frequently referring to the perennial problems of limited finance and space. However it is difficult to reconstruct much idea of the curatorial rôle in the natural sciences, as the style is often rigorously brief.

"The work of the Museum calls for no special remark, having gone on in the usual progressive manner." (Annual Report 1894-95).

The manuscript Minute Books of the Committee and the entries of the Curator in his Daily Report, however, are full of more detailed accounts, and indicate intense activity in the acquisition and display of collections. Then as now the natural sciences occupied a considerable proportion of the Museum.

Staff

The first Curator, Charles Callaway (d. 1915), was a geologist, however his appointment terminated in October 1875 after barely a year in office (Riley 1980). He was succeeded by Elijah Howarth (b. 25 June 1854, d. 1 April 1939), who served for a much longer period (1876-1928), and laid the groundwork for the Museum's subsequent development. Howarth was a pioneer in the museum profession being one of the founders of the Museums Association in 1888, and subsequently holding office as Honorary Secretary and President (1912-13). He was also Editor of the Proceedings and later (1901) first Editor of the Museums Journal. His many interests encompassed the natural sciences, (he was a Fellow of the Zoological Society of London and a Member of the Société Zoologique de France), and also archaeology and fine art. He was responsible for the foundation of the Weston Park Meteorological Station (see Garland in this issue) in 1882, and the Weston Park Observatory in 1879-80, and he also introduced one of the first school loan services in 1892-93. An obituary can be found in the Museums Journal for June 1938.

Howarth was assisted for most of his career by Charles Bradshaw (b. 9 August 1860, d. 3 July 1917), who was successively Assistant (1876-ca.1910) and Chief Assistant (ca.1910-1917). Bradshaw's special aptitude was for science, and particularly geology wherein he published a few short papers, although he

worked in most areas of museum activity. He was a President and Secretary of the Sheffield Naturalists' Club, Secretary of the Geological Section of the Yorkshire Naturalists' Union, and also a Fellow of the Chemical Society and the Geological Society of London.

Joseph W. Baggaley (b. 1 October 1886, d. ca. 1962-3) joined the Museum in 1900, and rose through the ranks to become Curator, succeeding Howarth in 1929 and retiring in 1951. For a period (1907-1918) he held office as Biological Assistant, apparently the first time that a post was formally designated in the natural sciences. He was a Secretary of the Sorby Natural History Society, and authored several papers on natural history techniques in the Museums Journal. Baggaley (1933) gives a short account of the Museum at this time.

Doris Downend joined the Museum in 1926, becoming Assistant (1933) and later Biological Assistant (1935) until her departure in 1945. She was closely involved with the Sorby Natural History Society, holding various offices including President (1944-45), an association which continues to the present day under her married name of Doris Parkin. Contemporary newspaper accounts refer to Miss Downend principally as a botanist with an extensive knowledge of local plants.

It will be seen that the Museum passed its initial seventy-five years to 1950 with only three successive Curators (later Directors) in charge, and with what would nowadays be considered as minimal staff resources. It was not until the years approaching the Museum's centenary under the directorships of H. Raymond Singleton (1951-65), Geoffrey D. Lewis (1966-72) and John E. Bartlett (1972-present), that in common with other subject areas, a Natural History (later Natural Sciences) Section was established and developed. The Natural Sciences staff over this period were somewhat numerous, however I feel it is worth recording here their names and thumbnail sketches of their Sheffield careers. In doing so I must apologise in advance for any short measure that I may give to those whom I have not known personally, and for any bias towards those who have worked with me.

Section Heads (a title officially introduced in the mid-sixties)

T. Michael Clegg	Junior Assistant 1 Dec. 1952 - Nov. 1955
Stanley Shaw	Assistant (Natural History) 28 May 1956 - 31 May 1959
T. Michael Clegg	Natural History Assistant 12 Oct. 1959 - 31 May 1963
David A. E. Spalding	Natural History Assistant/later Keeper (Natural History) 1 Aug. 1963 - Sept. 1967
Tim H. Riley	Keeper (Natural History/later Natural Sciences) 10 June 1968 - present

Assistants to Section Head

Neil M. Henderson	Junior Assistant (Natural History) 1 Sept. 1959 - 30 Nov. 1960
C. Ian Massey	Junior Assistant (Natural History) 3 July 1961 - 31 Dec. 1961
Robin O. S. Clarke	Junior Assistant (Natural History) 19 Feb. 1962 - 20 Jan. 1965
Tim S. Sands	Assistant (Natural History) May 1965 - 3 Aug. 1969
E. Basil Bush	Assistant (Natural History) 18 Aug. 1969 - 9 May 1971
P. Brian Mander	Assistant (Natural History) 12 July 1971 - 30 June 1973
Peter S. Davis	Assistant/later Assistant Keeper (Natural History) 6 Aug. 1973 - 8 June 1975
Margaret Thompson	Temporary Assistant Keeper (Natural History) 25 June 1975 - 28 Aug. 1975
Derek Whiteley	Assistant Keeper (Natural History/ later Natural Sciences) 1 Sept. 1975 - present
Steve P. Garland	Assistant Keeper (Meteorology/Natural Sciences) previously titled Trainee Technician (Met./Nat. Sci.) 1 Dec. 1978 - present

Technical Assistants

Jim A. Dickinson	Technician (Natural History) 1 Mar. 1971 - 30 Apr. 1973
Paul Rose	Technician (Natural History) 18 June 1973 - 13 Oct. 1974
W. Jerry Lee	Technician (Natural History) later re-titled Conservator (Natural Sciences) 16 Dec. 1974 - present

Michael Clegg served for two periods at the Museum, broken by a stay at the Natural History Museum, Scarborough. His principal interests were in mammals and birds and he authored many papers in The Naturalist at this time. He was responsible for the re-display of the natural history galleries, before leaving to become Keeper of Natural Sciences at Doncaster Museum, later joining Batley Museum and Dundee Museum, before becoming Director of the Yorkshire Museum.

Stanley Shaw came to Sheffield from the Manchester Museum,

where he had been Assistant in the Department of Entomology. He worked on the organisation of the insect collections, and undertook research on the Cassidininae (Coleoptera Chrysomelidae) of New Zealand and the Belgian Congo. He was Coleoptera recorder for the Yorkshire Naturalists' Union. Stanley Shaw left for the Coventry Museum, before becoming Director at Salford.

David Spalding worked at Scunthorpe and Hull Museums before coming to Sheffield. However as a Sheffield native he was already familiar with the area, an invaluable asset in the production of his bibliographical work on local natural history, which with other papers is partly published in the Sorby Record. His interests covered many areas, making substantial additions to the collections of mosses and spiders, and initiating the Museum's rôle as a Biological Record Centre. He left to take charge of natural history in the Provincial Museum of Alberta in Edmonton.

The author worked at the Doncaster and Leicester Museums before coming to Sheffield. He has been principally involved with the systematic organisation of the geological collections, with improvements in technical and storage facilities, with the re-display of the Evolution (Geology) Gallery, and with the expansion of the Museum's Biological Record Centre particularly in respect of site files. As collector he has worked mainly on minerals and molluscs, and on the establishment of a comprehensive local collection of 'less-popular' insects, especially Diptera and Hymenoptera.

Turning to those who have provided assistance to the Section Heads, I must admit that I know almost nothing of the work of Neil Henderson, who left to join the Town Hall staff, and of Ian Massey before his departure to the Natural History Museum, Scarborough. My apologies to them both.

Robin Clarke worked on the re-organisation of the Lepidoptera and Coleoptera collections, and built up a reference collection of British Ants. He wrote on local beetles in the Sorby Record (1965, 1967). I have no knowledge of his subsequent career, apart from his authorship (1973) of the Royal Entomological Society's Handbook on Coleoptera Heteroceridae.

Tim Sands began the re-organisation of the herbarium, and with David Spalding undertook the initial survey of the area which became the Agden Bog Nature Reserve. He published several papers on local naturalists in the Sorby Record (1966, 1967), which he edited for a while before joining the Council for Nature and later the Society for the Promotion of Nature Reserves.

Basil Bush is chiefly remembered in connection with the Museum's work in the Sheffield Field Studies Group, in particular on the Hartley Brook site. He left to join the Passmore Edwards Museum.

Brian Mander was primarily interested in fish, and undertook a comprehensive survey of the local fauna which was later published (1973, 1976). He also made significant additions to the collections of millipedes and centipedes, the latter of

which are largely cited by Addey (1978). Brian Mander left to undertake research in manatees in Nigeria, and has since been involved in fisheries management.

Peter Davis came to the Museum from the Peak Park Planning Board. His principal interests were in freshwater ecology, and he set up a distributional survey of local Amphibia, "Spot the Frog", designed to generate public participation. The survey continued after his departure to the Tyne and Wear Museum Service, and was augmented and written up by Whiteley (1979).

Derek Whiteley, one of relatively few Sheffielders to have joined the Museum's curatorial staff in recent years, came well versed in local natural history. He has been closely associated with the Sorby Natural History Society, holding several offices including President (1978-80) and Editor of the Sorby Record, wherein are many papers describing his researches, mainly on mammals and other non-avian vertebrates. More recently his interests have encompassed insects to a greater extent, particularly Diptera Syrphidae.

Steve Garland came to the Museum on a Manpower Services Commission (JCP) scheme to survey local sites of biological interest, and subsequently joined the permanent staff as the first holder of the newly established Meteorology/Natural Sciences post. Besides meteorology he has been extensively involved in surveys of local insects, and has authored books on the moths and butterflies (1979, 1981).

Jim Dickinson worked at Bolton Museum as a Carnegie taxidermy trainee before coming to Sheffield Museum as our first natural history technician. Besides helping to develop this new facility, he was also involved as collector in the initial seasons of the Museum's long term entomological survey of the Sheffield District. He left to become Natural History Officer to the North-Western Area Museums Service.

Paul Rose, likewise a Carnegie taxidermy trainee, came from Bristol Museum, and arrived to coincide with the transfer of natural history technical work from a shared general laboratory in the main museum building to a separate unit in the Museum Annexe. He mainly worked on the preparation of new mammal and bird mounts to replace long-faded specimens, before joining the North of England Area Museums Service as Natural History Officer.

Our present conservator, Jerry Lee, had previously worked as taxidermist at Rowland Ward's and in private practice. Besides taxidermy he has worked extensively on the collection and description of the local beetle fauna (1980, 1981), and on the design of gallery displays.

Collections

Sheffield City Museums' collections in the natural sciences are being fully documented by collector, subject and provenance, as part of a survey instituted by the Yorkshire and Humberside Collection Research Unit in 1979. Data from this survey is being processed and stored on computer at Manchester University, and will in due course be made available in readable form to

interested persons. Accordingly the papers which follow in this issue only describe some of the more important collections, thought to be of general interest. In numerical terms, at our last count in March 1977, we housed about 8,000 plants, 6,200 vertebrates, 42,500 invertebrates, 15,000 fossils and 4,500 minerals and rocks. Numbers have increased by perhaps 15,000 since then.

Judging from the material acquired, it appears that collecting policy for almost the first hundred years of the Museum was wide in the extreme. Accordingly the resulting collections derive from worldwide sources, and represent most major taxonomic groups. The tables and figures given in Hancock and Morgan (1980) illustrate this well. Notwithstanding, however, the Museum has accrued considerable collections of local origin from South Yorkshire and Derbyshire, which may represent half of the total holding.

From 1968 a more structured policy has operated, aimed at rationalising the type and origin of material collected, to make more efficient use of the resources available, and to generally improve the service provided. This collecting policy effectively builds on the existing local strengths of the collections, and is founded on the belief that the Museum should first and foremost relate to its immediate region. A statement summarising the policy was submitted to the Working Party on a National Plan for Museums in 1975, and is reproduced verbatim here.

- A. Whenever possible and relevant, specimens of local provenance should be collected, whether for display, reference or research.
- B. Research collections should invariably be of local origin, for it is here that staff can expect to make most contribution to their subject, and to curate collections of most value to other workers. To this end, however, occasionally it may be desirable to acquire some non-local material for comparative purposes.
- C. Reference collections should be acquired as an aid to identifying local material, and interpreting local features. They will therefore be mainly of British provenance.
- D. Display collections should relate to local aspects of natural history in the main, although there is a stronger case here for the incorporation of non-local (including non-British) specimens for comparative purposes, and to provide exhibitions (perhaps of a temporary nature) to show the wide variety of biological and geological material.

In consequence, the last decade has seen a strong local bias in the material acquired, and the development of collections in groups, which were poorly represented in the Museum and generally poorly recorded in the field. The principal growth areas have been in insects (particularly flies, beetles, bugs, Hymenoptera and the 'small orders'), other arthropods

(centipedes, millipedes and woodlice), and non-marine molluscs. Amongst vertebrates, the preparation of un-articulated bird and mammal skeletons for comparison with bones retrieved from bird pellets, archaeological excavations and other sources has been a main priority. Very little collecting has been done in Botany.

Local expeditions have been mounted to achieve the above ends, including a comprehensive freshwater invertebrate survey (Zasada and Smith 1981), and in depth collecting on selected sites of ecological interest or potential by Section staff, by local naturalists under direction and by students employed or commissioned during summer vacations. The latter, normally biologists though not always naturalists, have made significant additions to the collections and to local knowledge by concentrated collecting over small areas. It has been gratifying and instructive to see how, by this method, and by working poorly-known groups, novice collectors have invariably reaped a nice harvest, including new county, vice-county and other interesting records. Some of these students have gone on to pursue museum or other careers in the natural sciences, whilst some have apparently left our sphere, to be remembered by the data label on some particularly choice specimen. Mainly for our own reference, I list their names and principal collecting areas here.

- 1971 Gillian M. Squire (Ford Valley)
- 1973 Bill Davison (Agden Bog; Killamarsh)
- 1974 Derek Whiteley (Agden Bog)
- 1975 Derek Whiteley (Great Hollins and Wilson Spring Woods)
- 1976 Derek Cawthorne (Ewden Valley)
- 1977 Susan Ashurst (Chapelton area)
- 1978 Keith Clarkson; Carol Klemperer (both laboratory work)
- 1979 Graham Bullivant; Carol Klemperer; Neil Redgate (all Ecclesall Wood; Porter Valley)
- 1980 Andrew McCann; Neil Redgate; Susan Watson (all Ecclesall Wood)
- 1981 Tim Bird (Rocher, Bradfield); Susan Watson (Holbrook)

Before leaving the subject of collections, it is relevant to say a few words about storage. From the earliest days until the mid-1970's, substantial parts of the collections were held in drawered units in the galleries and therefore immediately available for public inspection. However, as displays have been modernised, material has been removed to separate stores, largely outside the main museum building in the Museum Annexe. This early Victorian town house now holds the Section's laboratories, an office and a series of about ten rooms, each

devoted to one or more subject areas of the collections. Although not ideal, and as usual somewhat crowded, it has been possible to store most material in a systematic manner to facilitate search and access. The majority of the collections are now once more easily available for study, having been in some disarray for many years apparently in consequence of blast damage and chaos resulting from a near-miss bomb in December 1940.

It is pertinent also to note that the Museum has a substantial library for staff use, which is available for reference to the public on application. Present purchase funds allow the addition of new key works on the British fauna and flora, and a few works of more general nature. Very few journals are taken in the natural sciences, being restricted mainly to those of Yorkshire or Derbyshire origin. This apparent short-coming however is largely off-set by the immediate proximity of the University's main and departmental libraries, although some subjects notably entomology, are poorly covered.

Display

The Natural Sciences Section is currently responsible for the display of two galleries (ca. 225 sq. metres each) and six corridor cases. The galleries include an Evolution, principally geology, gallery, which was re-cased and re-displayed in 1976. The second gallery is devoted to local natural history, described in broad habitat terms, and to a smaller area of foreign material. This gallery is being re-displayed piece-meal in Victorian cases, until capital monies become available for a complete modernisation, which has been postponed some five years to achieve other museum developments. However current work is following the same, detailed brief that will be used in the major scheme, in order to test ideas and to reduce subsequent preparation time.

Somewhat unfashionably for a large provincial museum, Sheffield has not yet added design staff to its establishment, although consultant designers have been used on major gallery schemes. Fortunately the Natural Sciences staff over recent years have included a number of accomplished illustrators, and currently includes Jerry Lee who has a Diploma in Art and Design.

In common with other museums, Sheffield maintains and displays a small amount of livestock. Currently this is restricted to an observation bee-hive, which has in some form been in more or less continuous operation since the early 1950's. A series of aquaria and cages in modified display cases were finally removed in 1974 during a major re-development of the museum foyer. However it is intended that an area for fish and invertebrates will form part of the new gallery development. Living plants have been incorporated into the Evolution Gallery, and have been described (Riley 1978) in a previous issue of this Newsletter.

Extramural activities

The Natural Sciences Section have maintained close contact with a number of local bodies active in related fields. Of longest standing, as the staff profiles show, has been the liaison with the Sorby Natural History Society and its

precursors. In 1981, all four Section members served on the Society's Council in some capacity and all serve as recorders for their specialist subjects. The Museum has also published several works jointly with the Society, beginning with Birds of the Sheffield area (1974) and continuing with items in the Sorby Record Special Series on moths, butterflies, etc. The mutual benefits of these ventures lie essentially in maximising print numbers to reduce unit costs, and in rapid initial sales to a receptive market of members.

Staff have also been associated with the Sheffield Bird Study Group, the Derbyshire Entomological Society, with various Sections of the Yorkshire Naturalists' Union, and with the Derbyshire and Yorkshire Naturalists' Trusts. The Museum, through David Spalding, was instrumental in establishing the latter's Agden Bog Nature Reserve, and has subsequently done much recording on the site. The author has been Chairman of the Management Committee for several years.

Staff of the Section have lectured on a variety of extramural courses for the W.E.A., and more recently for Sheffield University's Department of Continuing Education. All personnel are currently involved in a series of courses for the latter, aimed at promoting the less-popular branches of natural history in Sheffield and outlying areas.

In common with many other museums at the time, Sheffield developed two nature trails in the late 1960's, on land managed by the Council's Recreation Department. Both trails are brochure-guided and still in operation.

The Museum has also been involved with several local ad hoc bodies, including the Sheffield Field Studies Group and the Amenity Woodland Advisory Group. The former consisted of Council representatives and teachers, and published guides describing mainly ecological projects at four specific sites in the Sheffield District and another on general urban studies. The Amenity Woodland Advisory Group was established by the Council's Recreation Department to sound out opinion from bodies interested in woodland management. The Museum has undertaken surveys for the Group, and generally provided information on wildlife and conservation.

Publications

As previously described, the Museum has published several books and information sheets on the natural sciences, which are sold from the museum enquiry desk together with outside-produced material. The list below itemises the former which are currently in print. Prices are subject to 10% addition for postage and packing (minimum 12p), and are payable in advance.

An introduction to Sheffield natural history (Spalding 1973)	45p
Birds of the Sheffield area (ed. Smith 1974)	£1.50
Mammals of the Sheffield area (Clinging and Whiteley 1980)	80p

Ringling and recoveries in the Sheffield area (Crabtree and Mawson 1980)	65p
The Moths of Sheffield (Garland 1979)	65p
Butterflies of the Sheffield area (Garland 1981)	90p
Freshwater Invertebrates of the Sheffield District (ed. Zasada and Smith 1981)	£1.00
Freshwater fishes of the Sheffield area (Mander, Riley and Whiteley 1976)	15p
Amphibians and reptiles in the Sheffield area (Whiteley 1979)	10p
Climate of Sheffield (Whiteley 1976)	10p
Rivelin Nature Trail brochure (ed. Sands 1968)	45p
Graves Park Nature Trail brochure (ed. Riley 1970)	25p

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The botanical collections number some 8000 specimens, and include several collections of importance or interest, which are outlined below.

Fungi

T. L. C. Bottomley

A small collection of ca. 60 freeze dried fungi from local sites.

Lichenes

Jonathan Salt (1759-1815)

About 85 lichens collected between 1795 and 1807, and mounted on sheets or in folders. Principally from Derbyshire and South Yorkshire, they include species new to both counties and some now extinct (e.g. Ramalina fraxinea - Derbyshire). Of special interest as the collection predates subsequent losses through atmospheric pollution. Re-determined and described by Hawksworth (1967).

Algae

Jonathan Salt

105 specimens or thereabouts, but unlike his lichens largely un-localised.

Margaret Gatty (1809-1873)/Horatia K. F. Eden (1846-1945)

A collection of British and foreign, mainly marine, algae made by Margaret Gatty and donated by her daughter Horatia Eden. There is much material from William H. Harvey, including a volume titled Australian Algae (1857). The latter has Harvey's coded locality numbers and may include co-types (pers. comm. Dr. Helen Blackler, University of St. Andrews).

Margaret Gatty was a correspondent and friend of Harvey, who named the alga Gattya pinella for her, as did George Johnston the marine worm Gattia spectabilis. Her own writings included a re-drawn version of Harvey's Phycologia Britannica, which was published in 1872, under the name Mrs. Alfred Gatty, and many children's stories. The Sheffield collection includes some drawings and proofs, correspondence with E. C. Jelly and Busk, and watercolours of algae by Miss Hutchins of Bantry which she received from Harvey and were once in the possession of W. J. Hooker.

Margaret Gatty's life and works are described by Maxwell (1947). Other algae from the Gatty collection are in the Gatty Marine Laboratory, University of St. Andrews.

Bryophyta

Jonathan Salt

Salt again provides the basic collection, consisting of nearly

200 sheets or folders. Dated items cover the period 1800-1807, but relatively little is localised. Contains specimens from Sowerby, Steinhauer and Donn's Herbarium (G. Donn).

David A. E. Spalding

About 150 packets collected ca. 1963 in Yorkshire and Derbyshire.

M. (Margaret) Stovin (1756-1846)

A small collection of 18 sheets (plus 1 lichen and a few vascular plants), including some Derbyshire material, all of which are signed Mrs. M. Stovin. Presumably the collection given by Margaret Stovin to the Sheffield Literary and Philosophical Society. Mentioned here because of the recent interest and published work on the collector. (Allen and Lousley 1979 ; Skidmore 1981).

Pteridophyta

Several small collections, including local specimens from Jonathan Salt (ca. 100 sheets) are present. The following may be of general interest.

Thomas Carnelley

Two bound volumes of about 200 specimens dated 1867-72, including specimens from Cheshire, Scotland, Ireland and Switzerland. Additional information on Carnelley would be welcomed. (An associate collector is Surr.)

Spermatophyta

Jonathan Salt (1759-1815)

A substantial herbarium of about 2500 British and 1700 foreign plants (plus non-vascular plants noted above), once in the possession of W. Staniforth and given by him in 1826 to the Sheffield Literary and Philosophical Society who later added to it. Salt's manuscript Flora Sheffieldiensis is also in the Museum. Howarth (1889) describes the collector and most of the British material, amongst which are many first records for Derbyshire and Yorkshire (Linton 1903; Lees 1888). Salt discovered Carex elongata in Britain, however all Carex sheets are apparently missing, and any information on their present whereabouts would be gratefully received.

The foreign plants are currently being researched by the author. They are mainly cultivated specimens from nurseries in Sheffield and London (Lees; Loddiges; etc.), and gardens. Many are associated with the name Cooper, who is possibly Joseph Cooper, gardener to Lord Fitzwilliam of Wentworth Woodhouse (Rotherham) from which garden and stove many items came. A few sheets are labelled 'native specimen, New Holland' and others 'Botany Bay', the latter apparently per Kew Gardens. Being assembled mainly over the period 1800-10, many species were recently introduced and new to cultivation. Large numbers of South African Erica are present, including E. jasminiflora Salisb. currently considered a threatened

species (Lucas, G. and Synge, H. 1978).

Amos Carr (d. 1884)

A remnant of about 20 sheets of local plants, being all that remains of a much larger collection given by the Sheffield Naturalists' Club in 1883. See Anon (1884) for list of the collection and obituary, and Lees (op. cit.) for many records from Carr.

J.S.

A large collection (around 1500 sheets) of British plants collected between 1817 and 1850 with ca. 40 associated collectors. Inferred by David Spalding to be possibly the herbarium of John Smith (1798-1888) of Kew, but more recently by Peter Davis as that of Johannes Stephenson, on the basis that some sheets are enfolded in uncut and corrected proofs of the latter's book De humani generis varietatibus. Published in Edinburgh in 1817, this is also the location and date of the earliest items in the collection. Any further information on Stephenson is required.

Charles B. Waite (d. 1977)

About 1000 plants collected 1943-1970 throughout Britain and Europe. Past-president of the Sorby Natural History Society.

Rose H. Mawson

Around 300 watercolours, including a few of fungi, painted around 1900 from plants, some originating in Derbyshire and Yorkshire but mainly unlocalised.

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Natural History Gallery, June 1937

Lepidoptera

In common with most museums this order constitutes the bulk of the insect collections with about 24,000 specimens. In total we possess a very good British reference collection of Macrolepidoptera with a good proportion of material from the Sheffield area. The Microlepidoptera collection is incomplete in many areas but over 400 species are represented with a high proportion of Pyralidae and Tortricoidea. Foreign Lepidoptera are represented mostly by butterflies and are largely unidentified, although some rare species are present. Many of the collections contain small numbers of blown larvae and occasional pupae, but otherwise we have no preserved immature stages.

British Macrolepidoptera are now collected passively with a strong emphasis on local specimens. The Microlepidoptera collections require significant additions to render them useful as a British reference collection and are short of recent material from the Sheffield area.

Coleoptera

We possess a collection of over 7000 British Coleoptera that forms a useful reference collection in certain families. In addition recent work has been concentrated on field collections of species in our local area and a good voucher collection has resulted. This recent collection was built up by using staff fieldwork time, the fieldwork of volunteers during the summer months and local naturalists. It has reached the state when the main need is to concentrate on additions to certain as yet unstudied families.

Local material will continue to be added to the voucher collection and there is a possibility that a good British reference collection could be built up using the existing, older material as a basis. This would necessarily involve accepting non-local specimens.

The non-British Coleoptera collection contains a large amount of duplicate British Museum material and also several privately donated collections, in all totalling about 2000 specimens. As a whole it contains a great variety of species from a wide geographical area and may include some interesting specimens.

Hemiptera, Diptera, Hymenoptera and all other Orders

These insect orders were very poorly represented up to the late 1960's, since when museum staff fieldwork and the work of volunteers and local naturalists has been concentrated on their collection. When staff expertise is available, or an external expert is willing, the relevant field has been studied and collections made.

We now possess a good local voucher collection of Diptera, which is however deficient in certain difficult areas requiring

a specialist knowledge that has not been available. The Hemiptera, Odonata, Orthoptera and certain sections of the Hymenoptera have also reached a similar level with the basis of a good local voucher collection.

Collecting of other Orders has been mostly passive with the exception of freshwater insects.

The Freshwater Invertebrates Survey employed two people on a STEP scheme for one year to collect samples of freshwater invertebrates from each one kilometre square of the National Grid in the Sheffield Metropolitan District. Material was identified by the STEP employees, museum staff or by external experts for certain Orders. The results were published jointly by the Sorby Natural History Society and Sheffield City Museums as Freshwater Invertebrates of the Sheffield District by K. A. Zasada and E. H. Smith (eds. 1981). The resulting specimens are stored in propylene phenoxetol solution in glass tubes with one tube per species per site; approximately 5000 tubes in total.

This survey has resulted in very good local collections of aquatic Hemiptera and Coleoptera adults and a few immature stages. Larvae and nymphs of Trichoptera, Plecoptera, Ephemeroptera, Odonata, Megaloptera and Diptera are all well represented as are 'non-insect' invertebrates.

The pinned insect collections include small numbers of British Odonata, Orthoptera, Neuroptera and Mecoptera and there is a small, recent Siphonaptera collection in phenoxetol.

Non-British collections of Hymenoptera, Hemiptera, Neuroptera and other Orders are small, containing British Museum duplicates and small private collections from many areas of the world.

Chas. G. Barrett

Barrett donated this small collection of 230 British Microlepidoptera in 1886 and 1892. Unfortunately there is no data with them. Barrett was the author of many papers on Microlepidoptera and of The Lepidoptera of the British Islands (1892-1907). Several rare species are present.

Austin Brackenbury

The Brackenbury Collection is a recent one donated by the collector, who is a local naturalist. He is still collecting and donating material, most of which is from the Sheffield area including a large proportion from Wharncliffe Woods. The collection numbers over 4000 insects, predominantly Diptera, but including Coleoptera, Hemiptera, Hymenoptera and a few other Orders.

W. E. Brady

This collection of about 2000 Macrolepidoptera was received in 1980 from Mr. L. H. H. Glover of Barnsley who had rescued it when the collections of the Barnsley Naturalists' Society were

disposed of at the closure of Barnsley Museum in the 1960's. (A small number of specimens of local interest were also donated from another collection, which was also the Society's own with small numbers of specimens from many Barnsley area lepidopterists.) Brady's collection contains no data labels, but many specimens bear numbers which refer to data in notebooks owned by Barnsley District Libraries. These also contain many local conchological notes. The notes begin with specimen number 67 in 1897, so apparently an earlier volume must have existed.

D. Bryce

A collection of about 340 British Coleoptera with locality data mostly from Lancashire (especially Clitheroe), but also including specimens from Yorkshire, Isle of Wight, Hants., N. Wales and Cumbria. A few associated collectors include Alan Brindle. Most specimens were collected in 1949 and 1950.

William Buckley

A collection of over 7600 Lepidoptera made in the first half of this century, the majority of which are British. 230 are foreign, largely from Spain. S.W. Yorkshire is most strongly represented in the collection but there are specimens from all over the country. Over 150 associated collectors include large contributions from H. W. Baker (specimens mostly from Stowmarket and Needham Market), B. Cooper (mostly S.E. England), T. H. Fisher (mostly S.W. Yorkshire), B. Morley (mostly S.W. Yorkshire), F. Norton (mostly Wales), F. J. Rasell (mostly Northants.) and H. D. Smart (U.K.). Not a fully comprehensive British collection, but contains some interesting species. A small number of Microlepidoptera are present and include a few specimens collected by H. H. Corbett in the Doncaster area around 1920. These bear original exhibition labels from the occasion when they were exhibited at the Yorkshire Naturalists' Union. They include some new Yorkshire records. (See Beaumont, H. E. 1981. Naturalist no. 106 83-4.)

Captain Ernest B. Connell

200 accessioned and probably as many unaccessioned West Indian invertebrates. Nearly all are insects including numerous Coleoptera. Most are from Trinidad and were collected around 1914.

Albert Ernest Hall

A Sheffield collector who lived in Pitsmoor and collected extensively in this area during the 1880s and 1890s. His Macrolepidoptera were presumably scattered when they were sold by Watkins and Doncasters Ltd. and only a few exist at Sheffield. (Information on Hall specimens in other museums would be welcome.) The 590 specimens are largely British Microlepidoptera with the majority from Sheffield. Hall's entomological diaries are owned by the Museum and contain mostly references to his collecting of Macrolepidoptera. His colleague Mr. Batty collected with him, but the whereabouts of his collection is not known.

E. A. Price

About 1130 specimens of Macrolepidoptera, mostly British, much with locality data. Over 50 associated collectors constitute a minor part of the collection. Price collected largely around Bakewell in Derbyshire and published 'Butterflies and Moths in the Bakewell District' in the Derbyshire Archaeological Journal (1954) pp. 62-67.

The collection was donated by Mrs. Curtis in 1964 and includes a diary relating to the butterfly specimens.

William Sheldon

A collection of about 3800 Lepidoptera purchased in 1884. The Macrolepidoptera are largely with data and include many Sheffield specimens with a selection from other areas of Britain. The Microlepidoptera are nearly all without data.

Lieutenant G. Shepley

A large number of British Coleoptera with no known data, which were donated to the Museum in 1945 by his brother.

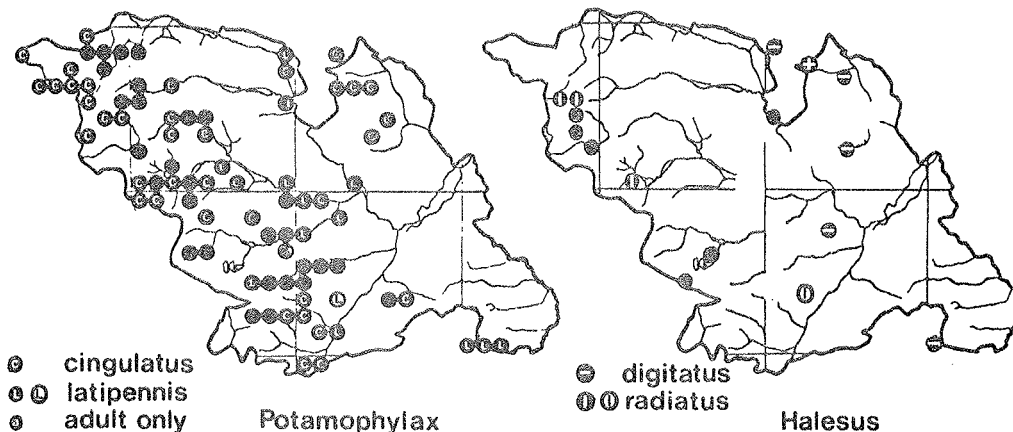
Reverend E. Ashford Smith

Over 2800 British Coleoptera purchased in 1911. It has been inferred that they were collected in the Nottingham District in 1880, but seems unlikely for some (including coastal) species.

Arthur Whitaker (d. 1949)

6200 Macrolepidoptera, 180 larvae and 54 pupae. Apart from the immature stages, data is present and over 150 associated collectors are represented. Whitaker collected extensively around Barnsley and also generally around Britain. Major associate collectors include B. W. Adkin, R. T. Cassal, A. J. Hipwell (who collected largely at Wisbeck, Norfolk), J. Mason (Cumbria), H. Massey, B. Morley, L. W. Newman and S. Walker (of York). The Museum also has a photocopy of Whitaker's entomological diary.

Caddis 2



At our last count (March 1977), the mollusc collections at Sheffield City Museums numbered some 5000 specimens or sets, being made up of about 150 local, 850 other British, and 4000 foreign items. Since then, we have added perhaps 500 sets from our Freshwater Survey of the Sheffield District, and a few examples of newly recorded local species such as Boettgerilla pallens. These figures are exclusive of fossil and sub-fossil material.

The above collections derive from over eighty donors, mostly contributing small quantities of common species. There are however several more interesting collections, which warrant separate mention.

Sheffield Literary and Philosophical Society (1822-1932)

A collection of over 800 items, no doubt from a variety of original sources which require further research as they include several interesting lots, such as some 50 North American Unionidae.

J. Harris (of London)

About 450 sets donated in 1875 per A. J. Mundella (M.P. for Sheffield). Most are from Moreton Bay (Queensland), Australia.

Henry Clifton Sorby (1826-1908)

British marine molluscs given at various dates by this pioneer marine biologist, and including several preserved $3\frac{1}{4}$ inch square lantern slides.

British Museum (Natural History)

Presented in 1880, 1895 and 1908. Around 200 sets of duplicate specimens, including material from the collector Hugh Cumming (Dance 1966), and an interesting suite of freshwater molluscs with marine affinities from Lake Tanganika.

General Sir Galbraith Lowry Cole (1772-1842)

A collection of about 400 sets of marine molluscs from Mauritius, given in 1881 by the family of Lowry Cole, but presumably collected by himself. Lowry Cole was the younger son of the 1st Earl of Inniskillen, and a well-known soldier, serving in the West Indies (1794) and Egypt (1801), and commanding the 4th division in the Peninsula (1809-14). He was subsequently governor of Mauritius (1823-8) and Cape Colony (1828-30). Lowry Cole and Gwynn (eds. 1934) describe his career including his time in Mauritius which had just been won from the French, but do not mention any interest in shells. The British Museum also received items from the Lowry Cole collection.

John W. Taylor (of Leeds)

A reference collection of British non-marine molluscs presented in 1910 and 1915 by this well-known authority.

Associated collectors include W. A. Gain, Miss Hele, F. (or T.) W. Wotton, C. G. Barrett and B. Tomlin.

A. L. Booker

A small collection of about 120 sets of foreign land molluscs given in 1927, including a few items from the Sir R. Rawson and Nevill collections.

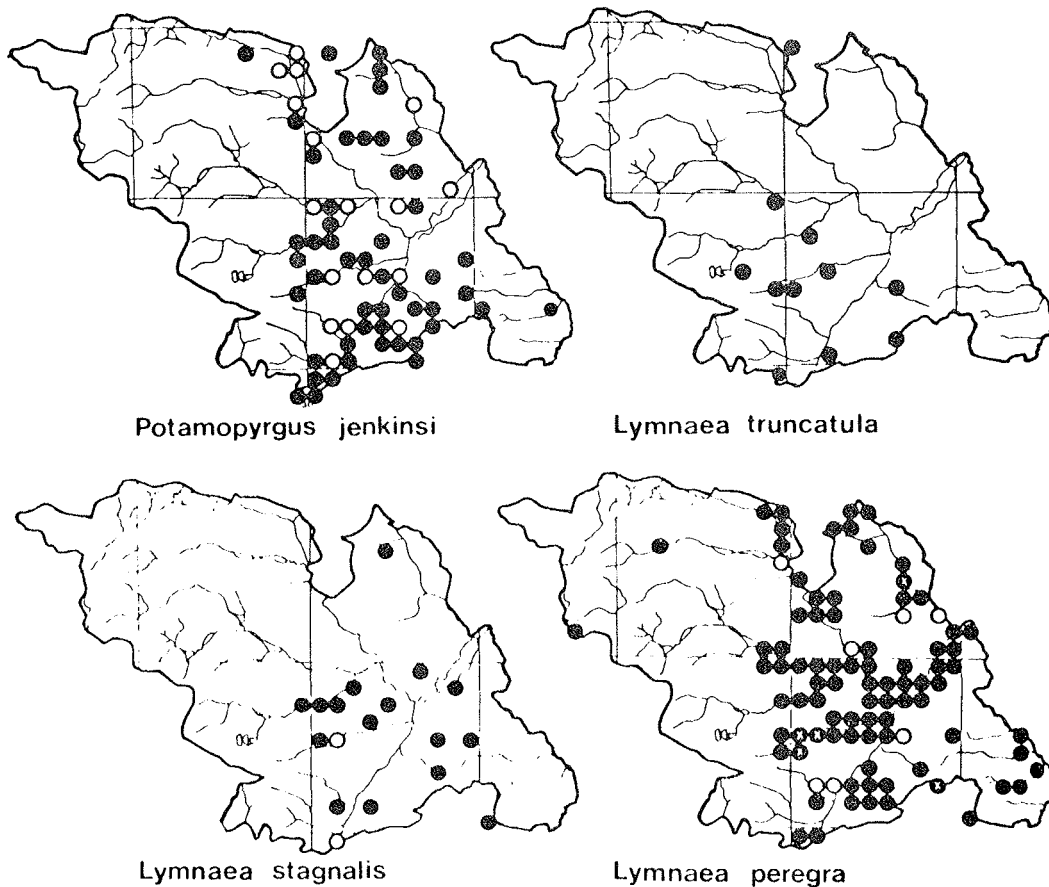
Freshwater Survey

The voucher collection of freshwater molluscs resulting from the Museum's Sheffield District survey of 1979-80. Described in Riley (1981) and comprising perhaps 500 sets preserved in Steedman's B solution.

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Molluscs 1



This section deals with the collections of invertebrate animals other than insects and molluscs. Historically, the collections are worldwide in scope, and mainly marine, although one or two smaller collections of terrestrial invertebrates are local in origin and are useful historical voucher material for present day surveys. In the past 18 years or so conscious efforts have been made to collect and survey local invertebrates as part of a systematic fieldwork programme; and at the same time to build up comprehensive reference collections; and to publish survey results whenever relevant.

Marine Invertebrates

Mrs. H. K. F. EDEN (née GATTY) (1846-1945) donated a collection of at least 700 items, mainly foreign bryozoans, but also corals, gorgonians, sponges and hydrozoans collected between 1849 and 1886. Some material was almost certainly collected by her mother Mrs. Margaret GATTY (1809-1873), and material from other collectors includes Dr. JOHNSTON of Berwick. Many specimens are cited or figured, including some material which was transferred to the British Museum (Natural History). Other types or fragments of types may still exist in our collection, but they await further specialist research.

Miss E. C. JELLY donated between 1883 and 1887 about 240 bryozoans mainly from Australia and the English south coast.

Dr. Henry Clifton SORBY during his summer cruises aboard his yacht, the 'Glimpse' in the period 1881-1902 collected 312 various marine organisms, which he bequeathed to the museum in 1908. His excursions took him along the east and south coasts of England, exploring adjacent seas and estuaries along the way. He appeared to have a particular interest in ascidians; and also developed a technique for mounting entire organisms between glass lantern slides for projection, experimenting with various staining techniques for transparent specimens such as jellyfish.

Terrestrial and Freshwater Invertebrates

1. Crustacea

Almost entirely the result of local recent fieldwork by museum staff. The fluid preserved collection of woodlice (Isopoda) resulted from a survey to assist the national mapping scheme in the 1970's. The Sheffield Freshwater Invertebrates Survey (see 'Insects' section) sampled over 430 sites, which provided good systematic series of Argulus, Asellus, Gammarus and Crangonyx.

2. Chilopoda and Myriapoda

About 200 specimens consisting of local material collected since 1960. Field recording has added considerably to our knowledge of these animals in our area.

3. Arachnida

The collections consist largely of spiders, but a few harvestmen, pseudoscorpions, ticks and water mites are represented.

The Ernest A. PARSONS collection contains about 450 tubes mainly from Yorkshire and Lincolnshire, with associated correspondence and manuscript material. Collected between 1907 and 1912.

Thomas WINDER collected about 80 arachnids from Yorkshire between 1881 and 1891.

David A. E. SPALDING was Section Head in the 1960's and collected spiders from Derbyshire, Yorkshire, Shropshire and Northumberland. More recently, systematic collecting and pitfall-trapping projects at selected sites, have taken place as part of a general assessment of local invertebrate faunas. Andrew MACAN and Austin BRACKENBURY have added several hundred samples from Ecclesall Wood (1980) and Wharncliffe Wood (1977-80) respectively. Local specialists Colin Howes, Michael Roberts and Clifford Smith have encouraged collecting and have willingly identified material for us. Clifford's book The Spiders of Yorkshire is scheduled for publication in 1982.

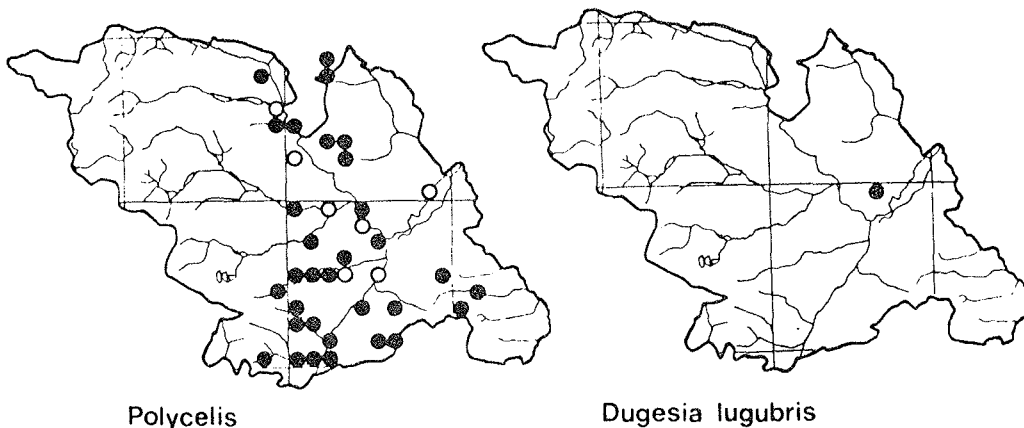
Foreign arachnids are represented by a few pinned specimens, and an interesting voucher collection of imported aliens and casuals found in Sheffield's fruit and vegetable shops and markets.

4. 'Worms' and Sponges

Mainly specimens from the Sheffield Freshwater Invertebrates Survey 1979/80. The oligochaetes were cleared in lactic acid and mounted in polyvinyl lactophenol on microscope slides for identification. About 200 samples were collected.

One of our few foreign freshwater sponges Uruguaya coralloides, collected by Alderman Bragge in the R. Uruguay, has recently been researched during a taxonomic revision of the species. Its provenance is closely associated with the type specimen, possibly being collected at the same time.

Flatworms & True Worms



Vertebrates account for about 13% by number of the total natural sciences collections at Sheffield City Museums, but owing to the wide range of size, fragility and preservation of specimens, pose continuous curatorial problems.

General storage problems have been overcome to a great extent during the past decade, by the use of standard lightweight metal office cabinets (6' x 3' x 1½') with adjustable shelves, and close-fitting locking doors. They can be purchased 'off the peg' each year, as revenue budgets permit and are light enough to move around as collections expand. Mounted specimens, articulated skeletons and large study skins are now almost totally housed in these units, and a further year should see the re-housing programme completed.

The entire spirit collections (vertebrates and invertebrates) formerly preserved in alcohol (70% I.M.S.) or formalin were transferred to 1% propylene phenoxetol (Steedman's B soln.) in 1979. The project took 3 months and 200 litres of Steedman's solution, and solved the problems of meeting fire and health/safety standards, and evaporation of preservatives. At the same time much dried out spirit material was successfully reconstituted using sodium orthophosphate solution. Three years later specimens show no signs of deterioration, and significant time has been saved from routine 'topping-up'. However, thin paper labels are more fragile in the new medium, and further work is required to identify a better label material.

Hand in hand with good collections are efficient technical facilities. To conform with the Health and Safety at Work Act a skinning room, wet-preservation room, chemical store and general preparation room were either installed or improved in 1978, thus providing essential back-up facilities for the conservation, curation, growth, and indeed, use of vertebrate material.

Although the vertebrate collections are of no known major taxonomic importance, they constitute a very important part of the Section's work. They are essential for display and teaching purposes (particularly mounts and articulated skeletons), invaluable assistance for identification (particularly bones, eggs, study skins and spirit material); many serve as vouchers for important biological records; and many act as primary material for ecological, faunal and taxonomic research. At Sheffield Museum use of collections and facilities by amateur and professional zoologists is encouraged as much as possible.

Fish

The fish collections are relatively small, comprising about 250 specimens in total. Reference specimens, mainly British freshwater species, stored in propylene phenoxetol, are a major part of the collection. In addition, a small number of mounted specimens, angling trophies and casts are used for displays and exhibitions.

P. Brian MANDER and James A. DICKINSON collected over 50 specimens during the Sheffield Fish Survey, organised by the

Museum in 1971-72. This formed the basis of a local fluid-preserved voucher collection which is slowly growing as local fieldwork progresses. A short term aim is to fill the remaining gaps to provide a comprehensive reference collection of local species and hybrids, together with microscope slides of associated scales.

Henry Clifton SORBY (1826-1908) donated a collection of about 80 marine fishes from the English East coast, taken on summer cruises aboard his yacht 'The Glympse' in the 1880's. It includes entire specimens mounted as $3\frac{1}{4}$ " square lantern slides, a technique first perfected and described by Sorby.

Amphibians and Reptiles

About 300 specimens, mainly fluid preserved, together with a small but useful collection of mounted reptiles, and flat skins of snakes.

The largest collections are of L. F. PEACOCK who donated 70 fluid-preserved snakes from Honda, New Granada in 1876, and the BRITISH MUSEUM who increased the foreign collection in 1895 by donating 170 'duplicate' amphibians and reptiles.

Fortunately, most of the older British material originates from Sheffield and North Derbyshire and is significant with respect to local studies. It forms a basic collection to which new material is slowly but actively being added, representing series of local native species and vouchers of casual aliens. A collection of Common Toad road casualties is currently in deep freeze awaiting stomach analysis, measuring and permanent preservation.

The main uses of these collections are reference for identification, faunal studies; and teaching, mainly connected with specialist evening classes.

Birds

The total bird skin and mount collections include about 3000 specimens, of which about half are British. In recent years mounted specimens have been rehoused in lightweight metal office cabinets. This programme is ongoing, and will be completed shortly. British study skins are stored in 'Tring' drawer units, in systematic order, and have been checked for identification. Foreign skins require further attention. Major collections include:-

BRITISH MUSEUM 'duplicates'. About 420 foreign bird skins, with an emphasis on Asian material, collected in the 19th Century and donated by the Trustees in 1885.

Charles DIXON (1858-1926) was originally a Sheffield ornithologist, who later discovered the St. Kilda Wren. He donated or sold 135 skins and mounts from Britain and Europe, but most of his collection went to the British Museum.

Samuel GARDNER donated a very fine collection of raptors and owls in 1875, mainly British in origin and including some specimens taken around Sheffield.

Prof. C. J. PATTEN (1870-1948) during his period as Professor of Anatomy at Sheffield University, donated nearly 500 bird study skins, and various manuscripts, photographs and lantern slides. His specimens are fully documented, mostly from light stations in Co. Wexford, Eire; but a good proportion were taken in Yorkshire and Derbyshire. Other material collected by Patten was presented to Belfast and Dublin Museums.

Henry SEEBOHM (1832-1895) was a Sheffield businessman in the iron & steel trade, and expert ornithologist who travelled widely throughout Europe and Siberia. His collection of nearly 490 eggs and 452 skins reflects his travels, but emphasises his interest in Siberian and N. European birds, particularly waders. The Museum's copy of Seebohm's The Geographical Distribution of the Family Charadriidae is annotated by Seebohm and includes some original colour proofs, but his ornithological notebook was apparently sold by Quaritch in 1973 (to whom?). Seebohm either exchanged material, or had collectors working for him in other countries, as 15 associates have been identified so far from specimen labels. His major collection is in the British Museum (Nat. Hist.).

Reuben WEBSTER was a taxidermist working in Sheffield at least during the period 1859-1902. In 1890 the museum purchased 271 birds preserved and mounted by Webster, and collected during the period 1863-1884, mainly from Yorkshire and Derbyshire. A further 496 cases were sold to unknown persons.

In recent years our policy has been to replace faded, worn or historically valuable specimens on display with new mounts prepared from corpses in our taxidermy workshop. An army of local body-snatchers donate a constant stream of road casualties, window-strikes, victims of severe weather, cat kills and exhausted rare vagrants, which keep our deep freezers full to the brim. The latter group of rarities are prepared as 'voucher' cabinet skins, thus sparing a detailed description to the local or national 'Rare Birds Committee'. It really is surprising what the public can turn up. In recent years we have received Sheffield's second Storm Petrel, first Leach's Petrel, fourth Shag, second Red-throated Diver, and first Long-tailed Skua.

Occasionally a series of a single species may be added to the collection. One recent researcher offered to make round skins of our deep-frozen Yellowhammers, whilst analysing their stomach contents. Otherwise, the short-term aim is for a comprehensive collection of British species, for reference purposes, demonstrating differences in sex, age and forms.

Bird Eggs

Three major collections constitute a large proportion of the estimated total collection of 7000 eggs.

Arthur WHITAKER bequeathed about 750 clutches of British birds collected mainly around Sheffield and Barnsley earlier this century. Whitaker was a well-known egg specialist during the 1930's and 1940's, and the collection's associated card index records much accurate information on breeding sites, nest construction, clutch sizes, habitat etc. His ornithological diaries are stored at the Edward Grey Institute.

J. B. WHEAT was a Sheffield solicitor who collected eggs throughout Britain during the period 1888-1934. The collection consists of two cabinets accompanied by a detailed notebook. Several associated collectors include Dr. Norman H. Joy's (the famous coleopterist) eggs from Berkshire.

Victor H. SANDFORD was also a Sheffield solicitor, who donated a cabinet of 1108 British and European eggs collected during the period 1892-1900. Sandford's collection includes many species not represented elsewhere in the museum.

The more interesting small collections are those of William REID, collected mainly from Yorkshire between 1903 and 1932; Henry SEEBOHM (European - see bird skin collections); and some 60 eggs from the well known Rev. F.C.A. JOURDAIN.

The bird egg collections as a whole receive more attention from enquirers than the skin collections. Of course, casual browsers (mainly youngsters) account for most enquiries. In the peak season up to a dozen oologists a week may ask to see the well-secured reference set of British bird eggs. This specially prepared set saves wear and tear on the more important scientific collections, and prevents further stimulation to take clutches. As an aside, youngsters usually subsequently leave with a few R.S.P.B. and Y.O.C. handouts, to fire an interest in bird-watching as opposed to egg collecting.

Researchers requiring measurements, weights, details of colour variation, 'dumping' or 'dwarf' eggs, are dealt with personally or by post and have been a welcomed increasing trend. Also, a remarkable number of historical records of breeding birds locked up within the collections, are currently being tapped for a local publication.

Mammals

The mammal collections currently number about 850 specimens. Mounted animals, used mainly for display represent most major taxonomic groups, and include many good specimens of British and foreign origin (including 5 Duck-billed Platypuses). Some of the finest include early mounts by Gerrard's and Rowland Ward's. New mounts are being prepared from corpses at a steady rate for present and future redisplay projects.

The study skin collection, almost entirely British, with a distinct local flavour has been rehoused systematically in 'Tring' drawered units. Several small systematic studies by local amateur mammalogists have resulted in significant additions to this collection, including:-

- | | |
|---------------|--|
| Mountain Hare | - pelage study by Mrs. V. Clinging:
skins, skulls. |
| Grey Squirrel | - pelage study by D. Whiteley <u>et al</u> :
skins. |

- Mole - diet study by I. Alcock: skins, skeletons and stomach contents retained.
- Small mammal ecology - study by N. Redgate: skins, skeletons, signs.
- Pipistrelle Bat roosts - casual finds: entire specimens incl. young.
- Badger and Fox - a series of road casualties: skins and skulls.

The Natural Sciences Conservator, Jeremy Lee, and Derek Whiteley actively encourage enthusiastic amateur mammalogists, and press-gang night school students to prepare their own skins. Efficient modernised laboratory facilities have proved essential for this sort of work.

The more interesting collections include the following:-

T. M. CLEGG collected mammal skins in South Yorkshire, during his time as Natural History Assistant at the Museum (1959-1963). Part of his collection was donated to the Museum.

E. GERRARD (jnr.) ca. 90 mounts and skeletons were purchased between 1880 and 1937.

Arthur WHITAKER (with Jos. ARMITAGE) pioneered studies of bats in Yorkshire and published many observations in The Naturalist. His collection of bat skins relates to the period 1905-1919, and includes an early specimen of the Grey Long-eared Bat (Plecotus austriacus) from Christchurch in 1909.

B. H. WOODWARD (of Perth Museum, Australia). A small collection of mounted Australian mammals was received by exchange in 1905.

Osteology

Historically, the bone collections consist of a miscellany of articulated skeletons, a few teaching specimens prepared by dealers, and various exotic skulls, large limb bones, teeth and the inevitable bird sternum collection. One item appearing in an early gallery photograph, but now missing is the entire skeleton of a whale.

Storage problems have generally been solved by the use of standard metal office-type cabinets for larger material. Smaller specimens, now mainly disarticulated are stored in open-topped drawer units, in resealable polythene bags, tubes or plastic boxes for ease of reference.

The main current growth area is the preparation of a comprehensive series of British bird skeletons. A large water bath and large cooking dixie are recent acquisitions which have facilitated both enzyme digestion and direct heating techniques respectively. Several hundred disarticulated bird skeletons have been prepared from frozen corpses in the past three years. A variety of freshwater fish, British and domestic

mammals, and reptile skeletons are being prepared at a slower but steady rate. Smaller and more delicate species are preserved entire as alizarin-stained specimens in propanol.

Alongside the growth in the bone collection there is a corresponding steady growth in their use.

- Members of staff are still major users. Public identification enquiries ranging from single bones to samples of owl pellets, and archaeological and Pleistocene finds are now answered more efficiently with handy reference material.
- Researchers and enquirers are encouraged to use the collection personally. Links have been established with students from the nearby Department of Prehistory and Archaeology at Sheffield University (which is very active in the field of environmental archaeology).
- Local ornithologists are beginning to find the growing collections of bird skeletons of assistance in the analysis of raptor and owl diets.

Pleistocene Vertebrates

The collections of Pleistocene vertebrates number about 3,500 individual items in total, and represent a wide range of species with a strong local bias. They are housed in open-drawer wooden cupboards, and curated with the geological collections. Three fairly large recently acquired collections have yet to be accessioned and amalgamated.

Sheffield is situated midway between two major outcrops of limestone. To the south-west lies the Carboniferous Limestone of the Peak National Park, and to the east the Permian (Magnesian) Limestone. Both regions are scattered with various outcrops, caves, shelters and fissures; the traditional hunting ground for Pleistocene geologists, biologists, and archaeologists for over 100 years.

Some of our older collections represent pioneer 19th Century excavations at these sites.

Rev. J. M. MELLO excavated Creswell Crags on the Derbyshire/ Nottinghamshire border in the 1870's, and donated 114 mammal bones in 1875. Some are cited in a number of papers published in local and national journals.

Prof. W. BOYD DAWKINS of Manchester University also worked at Creswell Crags in the 1870's, often in association with Mello. He donated a further 45 mammal bones in 1878, and published widely on the finds at Creswell.

A. Leslie ARMSTRONG (d. 1959) was an eminent local archaeologist who excavated various caves at Creswell and other sites in Derbyshire in the mid 20th Century. He donated at least one Pleistocene specimen, but a much larger collection, at present awaiting attention is almost certainly Armstrong's material. Some of his excavation notebooks and drawings are held by the Museum's Antiquities Section.

Rooke PENNINGTON donated 92 Pleistocene mammal bones from the fissure at Windy Knoll, Castleton, Derbyshire in 1876. Pennington's main collection is at Bolton Museum.

George NELSON donated in 1876 a collection of Pleistocene mammals mainly Glyptodon and Megatherium excavated from the banks of the River Salado, Buenos Aires.

Smaller Pleistocene collections include the following

J. VIRTUE TEBBS. Oligocene and Pleistocene mammals from South and East England, comprising elephants and Palaeotherium medium. Purchased in 1900.

Alderman BRAGGE. A small collection of Pleistocene edentates from Brazil, purchased in 1877.

Beaumont MORFIT. Mammals from Atwick, East Yorkshire. Donated 1897-1900.

Col. R.A.J. KINGSCOTE. Megaceros from Ireland. Purchased 1923.

Rev. J. S. KING. Mammals, mostly from Creswell Crags. Purchased in 1893.

In more recent years, two large interesting local collections have been received

A. L. PILL, a businessman from Castleton, Derbyshire, donated a collection of about 2000 bones, excavated from three caves in Hartle Dale, Bradwell, during the period ca. 1961-1963. These fossils, supposedly Bronze Age are mainly Mammalia, including small rodents, lagomorphs and carnivores; and a few avian and amphibian specimens.

Museum fieldwork by Tim H. RILEY in 1974 resulted in the collection of about 300 bones from a fissure at Hazlebadge, near Bradwell, Derbyshire. The material represents a cold climate fauna, probably Devensian, comprising mainly mammal remains, with a few amphibians and birds. The collection is currently being researched by T.H.R. and includes samples of unsieved matrix for detailed examination.

History

The first readings were taken at Weston Park in September 1882 when wet-bulb, dry-bulb, maximum and minimum temperatures, barometric pressure, rainfall and an estimate of wind speed and direction were recorded. In January 1898 the addition of a sunshine recorder, a cup-counter anemometer and two earth thermometers brought the Station up to the required standard for a Meteorological Office Climatological Station. From that time the Station's monthly readings have been published in the Monthly Weather Report of the Meteorological Office.

Until January 1937 Elijah Howarth, the Curator of Sheffield City Museum, maintained the Station privately but in that month it was formally adopted by Sheffield Corporation Museums Department to be run as a public service. From 1937 to 1945 the Station was maintained jointly by Mr. Baggaley (Curator) and Mr. Walker (Chief Assistant: metalwork and numismatics), and later by Mr. Barwick of the Schools Service Section until 1959. In that year responsibility for the Station fell on the Natural History Section where it has remained to present.

Following a report to the Art Galleries and Museums Sub-Committee in January 1978, in November 1978 the first appointment was made with specific responsibility for running the Meteorological Station when a Trainee Technician (Natural Sciences/Meteorology) was appointed. In May 1981 this post was subsequently regraded to Assistant Keeper. The work is within the Natural Sciences Section with about one third of the work devoted to meteorology, the rest of the time involving natural sciences work.

Throughout the recent history of Weston Park Meteorological Station the Attendant staff have also played a vital role. Readings at weekends and on public holidays are performed by them, and a weather diary is kept during working hours. All new Attendants are given a basic training by the Assistant Keeper and a set of instructions have been specially produced to assist beginners with the job.

The work of the Station

The operation of Weston Park as a Climatological Station co-operating with the Meteorological Office requires that the recordings must be of a high standard. Any problems relating to the purchasing of instruments or with the running of the Station are usually solved by consulting the local Meteorological Office at Bawtry. The Station is inspected by an official from the Meteorological Office every few years to check the condition and accuracy of the instruments and any faults are quickly rectified. In addition the observer can attend a short course run by the Meteorological Office at their Shinfield Park College near Reading to improve the quality of recording and to help solve any problems.

Figure 1.

SHEFFIELD CITY MUSEUMS

WESTON PARK METEOROLOGICAL STATIONDECEMBER 1981

<u>Date</u>	<u>Wind Direction & Knots</u>	<u>Dry Bulb °C</u>	<u>Humidity %</u>	<u>Air</u>		<u>Rainfall mm</u>	<u>Sunshine Hours</u>
				<u>Max. °C</u>	<u>Min. °C</u>		
1	NW 7	2.7	82	5.7	2.1	tr.	5.7
2	NW 7	5.0	89	10.3	2.7	-	1.3
3	WNW12	10.2	91	11.2	2.7	3.7	-
4	NNW12	5.2	95	7.2	5.1	0.4	2.0
5	WNW 6	4.3	89	6.1	2.5	1.7	1.5
6	W 9	4.3	93	6.2	2.6	1.5	0.3
7	W 6	4.9	86	5.1	0.3	tr.	-
8	NW 6	-2.2	81	1.1	-2.9	-	4.1
9	W 10	0.2	85	2.0	-2.3	1.1	2.2
10	Calm	-2.2	94	-0.1	-2.2	2.6	1.7
11	NW 3	-3.0	-	-0.1	-5.2	-	-
12	NW 5	-2.1	-	0.9	-3.5	-	5.3
13	S 4	-3.5	80	0.4	-5.4	23.6	-
14	WNW 3	0-	78	3.1	-3.8	18.1	1.1
15	Calm	-1.2	91	0.6	-2.4	tr.	def.
16	Calm	-5.2	93	-1.6	-6.0	-	1.2
17	Calm	-5.8	92	-1.2	-7.8	-	0.2
18	NNW 6	-1.5	90	0.6	-9.1	-	4.4
19	Calm	-6.2	-	1.2	-6.8	7.3	2.3
20	SE 12	0.3	96	1.2	-6.5	10.0	-
21	ESE 3	0	96	0.4	-0.3	4.1	-
22	NNE 6	-0.9	91	-0.4	-1.5	tr.	0.7
23	Calm	-2.4	93	1.1	-4.4	1.6	-
24	N 6	1.1	96	2.1	-2.5	-	-
25	Calm	-2.5	-	1.0	-3.1	tr.	2.1
26	Calm	-6.0	92	0.8	-7.5	0.9	-
27	E 10	0.8	85	1.5	-6.6	2.6	-
28	NNE 4	1.5	98	1.8	0	3.0	-
29	NNE 4	1.6	98	2.0	-3.1	8.0	-
30	Calm	1.1	98	5.5	-2.8	11.9	-
31	Calm	2.5	95	4.6	-0.6	0.1	1.3
						<u>102.2</u>	<u>37.4</u>

Mean of daily maximum temperatures 2.6
Mean of daily minimum temperatures -2.5
Mean of max. and min. temperatures 0.1

Long term averages for December

Sunshine hours 35 (1941-70)
Rainfall mm 74 (1941-70)
Mean of daily maximum temperatures 6.9 (1941-70)
Mean of daily minimum temperatures 2.3 (1941-70)
Mean of max. and min. temperatures 4.6

Note: the above are a selection of the readings taken at 09.00 hours G.M.T. Details of Grass Minimum and Earth Temperatures, Snowfall, 24 hour Anemograph Traces, Cloud Cover etc. are available on request.

Two Meteorological Office forms are completed regularly. The first is sent weekly and contains only the major readings to assist with forecasting. The second is the monthly return form which transfers all of our data from the previous month to the Meteorological Office. The form is designed for computer input and all of our more recent data is held on the Bracknell Headquarters' computer along with that of around 800 other Climatological Stations. Weston Park is apparently the 25th oldest of the stations currently co-operating with the Meteorological Office.

In addition to the above forms, at the end of each month all of the data is entered into a permanent ledger held at the Museum. A monthly form is also completed to provide a summary of data for Dr. Fellowes who runs a co-ordinating survey for stations in the North Midlands. He produces monthly sheets with summaries of data from all the region's stations.

Service to the public

Apart from fulfilling the requirements of a co-operating Climatological Station for the Meteorological Office, Sheffield City Museums makes data from the Weston Park Station freely available to the public. Each month the more important daily figures are stencilled and about 150 copies are duplicated (Fig.1). Over 70 of these are sent out to various individuals, institutions and industries each month and many others are distributed to casual enquirers. These sheets are available for all years since 1963, although photocopy charges are made for months which have been fully used. A time and money saving system for sending out the 70 or so sheets involves all the recipients depositing a set of 12 stamped, addressed envelopes with the Museum each year.

Daily and monthly figures are also displayed on a board outside the main Museum entrance and many people consult them every week.

Enquiries are very varied, the major categories are listed below:-

1. Casual public enquiries such as "when did my roof blow off?" and readings for setting barometers.
2. Enquiries from the media. Daily figures are published in the Sheffield Morning Telegraph and occasionally a telephone conversation will lead to a paragraph concerning any unusual weather recorded. Also BBC Radio Sheffield records interviews for broadcast when particularly interesting weather conditions occur.
3. Enquiries from teachers and pupils concerning school projects, and more detailed enquiries from undergraduate and post-graduate university students.
4. Enquiries from agriculture, architects, builders and heating engineers concerning extremes and averages.

5. Legal enquiries usually concerning insurance claims for storm damage, floods and motor accidents. Occasionally an official letter is written for the presentation of our data in a court case; time-consuming personal appearances are actively avoided.

All of the above enquiries are answered free-of-charge except when a commercial company or department is involved. Under these circumstances a charge is made to cover the cost of typing and materials with a minimum charge of £2. (This is probably the smallest amount worth recovering!) Longer enquiries are costed-out, according to the time involved.

An information sheet, Climate of Sheffield, was produced in 1976 and contains all of the 30 year standard averages as well as records and facts about the Station. It sells for 10 pence at our reception desk.

Including the 800 or more monthly sheets distributed during the year, enquiries numbered over 3000 during 1980. This represents a steady increase in numbers from about 500 in 1960, and about 2300 in 1970. The majority of these enquiries are handled by the Assistant Keeper (Meteorology/Natural Sciences) although small numbers are also dealt with by the other Assistant Keeper and the Keeper of Natural Sciences in his absence. The enormous use made of this service illustrates the demand for such data by many different people. Although most is also available from the Meteorological Office, the accessibility of our data to the casual enquirer is probably easier.

The Extension Services Section of the Museum is also involved by giving talks about the Station and the services provided both to schoolchildren and to teachers. During the school year September 1980 - July 1981, there were 23 of the former and 3 teachers' courses. Meteorology now comes 3rd in popularity of the talks which the Section provides.

The future

We are currently considering possible improvements to the service provided which would result from computerisation of the data with direct access to the files via a desk-top console. Hopefully this facility could arrive during the next few years as computer technology and prices change favourably.

Report of the Fourth meeting of FENSCORE, the Federation for Natural Sciences Collection Research.

FENSCORE committee met on 22 October 1981 at Manchester University. Present were representatives of the regional Collection Research Units and representatives of the following institutions: British Museum (Natural History), Biological Records Centre, Institute of Geological Sciences, National Museum of Wales, Manchester Museum, Royal Scottish Museum.

The Secretary reported that an updated security copy of the database had been deposited with MDA for safe keeping. The now widely published note requesting information on collections in private hands was meeting an encouraging response. A manual, MANDATA, How to obtain information from the Manchester Museum databases, is being distributed, and includes a section on the Natural Sciences Collection Register.

At the beginning of October, the Collection Register database contained 3253 records, made up of contributions from Midlands CRU (439), North East CRU (75), North West CRU (1221), South West CRU (91), Scottish CRU (78) and Yorks & Humberside CRU (1349). In addition, over one thousand more input sheets had been received since the start of October and are being added to the database. Multiple copies of cross indexed working catalogues for each CRU were distributed to their representatives, to enable them to monitor progress.

Some operational changes are being made at Manchester Museum in the CRU data handling system, to increase efficiency. The principle effect that may be visible to curators is an apparent delay in correcting notified errors - this is because editing work is to be done in larger but less frequent jobs.

The reports from each of the CRU's showed all to be active, and that the inflow of records could be expected to increase over the next few months; several units were hoping to obtain the use of Manpower Services CEP schemes to assist the work. A common thread to the reports was the firm backing the Units were getting from their respective Area Services/Councils; notable here is the appointment by the Yorks and Humberside Area Service of a peripatetic curator for three months, to complete the work of the YHCRU.

The report of the FENSCORE working party on a register of type and figured specimens held in collections in the British Isles was discussed and confirmed. It was decided that the compilation of such a register was desirable and technically feasible; the major difficulty would appear to be the satisfactory refereeing of data supplied for inclusion in the register. To investigate this problem a pilot study of between one and two thousand specimens was to be done by the NWCRU, with the objective of permitting the Working Party of submit to the FENSCORE meeting scheduled for June 1982, firm proposals for the compilation of the register. To assist this work the Museum Documentation Association offered to computerise the pilot study data without charge, an offer readily accepted by the FENSCORE committee.

The Chairman reported on meeting of the Museums Association Working Party on Collections, and also gave advance information on the conference entitled "A National Plan for Systematic Collections" to be held in Cardiff from 6 to 9 July 1982, and being jointly sponsored by the Biology Curators Group and the National Museum of Wales.

Charles Pettitt,
Executive Secretary.

SHEFFIELD CITY MUSEUMS
WESTON PARK

ANNUAL WEATHER SUMMARY 1981

	<u>Highest Max. °C</u>	<u>Lowest Min. °C</u>	<u>Mean Temp. °C</u>	<u>Rain mm</u>	<u>Rain Days</u>	<u>Sun Hours</u>	<u>Snow Lying Days</u>
Jan.	11.7	-2.2	4.9	56.4	17	47.8	2
Feb.	12.1	-3.3	2.9	89.4	15	55.6	10
Mar.	15.4	0.0	7.4	149.9	25	48.3	-
Apr.	19.0	-0.7	7.4	110.5	14	112.6	5
May	20.7	0.1	11.6	65.3	19	149.0	-
June	23.2	5.1	13.6	33.4	14	163.7	-
July	24.0	9.1	15.9	18.8	15	172.6	-
Aug.	27.1	8.0	16.4	57.2	7	174.4	-
Sept.	24.5	7.4	15.0	107.8	12	162.2	-
Oct.	17.6	0.0	8.3	87.9	20	112.0	-
Nov.	15.1	0.2	7.7	70.4	17	41.1	-
Dec.	11.2	-9.1	0.1	102.2	17	37.4	21
				<u>949.2</u>	<u>192</u>	<u>1276.7</u>	<u>38</u>

Mean of daily maximum temperatures 12.5°C
 Mean of daily minimum temperatures 6.0°C
 Mean of max. and min. temperatures 9.3°C

Days with fog 7
 Days with thunder 6

Extremes for 1981

Hottest day 27 August 27.1°C
 Wettest day 24 April 39.9 mm
 Sunniest day 22 June, 29 July 13.7 hours
 Coldest night 18 December -9.1°C

Long term averages (1941-70)

Mean daily maximum	12.7°C	Mean annual sun	1236 hrs.
Mean daily minimum	6.3°C	Mean no. of rain days	181
Mean of max. & min.	9.5°C	Mean no. of days with	
Mean Annual Rainfall	802 mm	snow lying	27

THE BIG FREEZE GOES ON

FORECASTERS said this afternoon there is no let-up in the Arctic weather in the Arctic region until after the end of the month.

Goodbye to the Indian summer

The weather in October was average for the time of year, with sunshine and a few points off the mean in the last two weeks of the month. Most of the heavy rain recorded at Weston Park weather station was on the 25th.

Highest max: 16.5C, 61.7F on the 2nd (21.1C, 70.0F on the 8th). Lowest max: 7.8C, 46.0 F on the 27th (9.4C, 48.9F on the 27th and 28th). Lowest min: -2.2C, 28.1F on the 28th (1.6C, 34.9F on the 28th).

Total rain: 69.7mm (66.4mm). Rain days: 15 (15). Heaviest fall: 29.1mm on the 25th (28.3mm on the 25th).

Yesterday's weather
Readings taken at Weston Park, between 9 am Tuesday and 9 am yesterday: Max temp 3.5C (38.3F); min -1.4C (29.5F). Rain 3mm. Sun 3 hrs. Temp at 9 am yesterday 0.8C (33.4F). Max yesterday 3.1C (37.6F).

The icy grip refuses to let go

MORE SNOW is forecast for the weekend, but the Sheffield region should suffer only isolated showers.

The bulk of the snow will fall down the eastern rim of the country, but weathermen at Bawtry Met Office warn that the bitter cold will continue.

The forecast for the area is clear periods, with some sunshine today.

The weather cold that the sun at Weston Park is giving false road Park weatherman

land said yesterday: "The sunshine recorder, a glass ball which burns a trace on a card, was covered with ice this morning. We won't know whether it has been going wrong until the Met Office get in touch with us."

Mr Garland, the coldest December in 100 years

Riviera and Venice, before escaping the arctic conditions. Back home, sheep farm at

June set to be the wettest yet

This month is already a hot contender for the title of wettest June on record, but there were reports that it had gone one better and produced snow during yesterday's storm as parts of Sheffield were turned white.

Weston Park weather station had several calls saying that the storm had brought a June snowfall to the city, but the experts are convinced it was not snow in summer but a heavy hail shower.

"There have been one or two occurrences of snow in June, but it was far too warm yesterday, the temperature remained around 12C," said a spokesman at Weston Park.

He added that with up to an inch of

hail covering the ground in higher parts of Sheffield it would look like snow.

Yesterday's heavy rainfall will take this month near to the record books, adding to the 91.7mm already measured. The wettest June was in 1958, when 126.3mm fell, and the average rainfall for the month is 52mm.

South Yorkshire police said that motorway traffic was restricted to 40 mph during the cloudburst but no incidents were reported.

Violent storms rocked north Nottinghamshire yesterday, cutting off telephones and electricity supplies, and causing severe flooding.

Traffic on the A614 south of Ollerton came to a halt at one stage, when torrential rain and hailstones cut visibility and made the road treacherous.

Streets in several villages became small rivers as monsoon-style showers swept the area.

A council house at Manton, Worksop, was damaged yesterday when lightning struck a chimney stack, dislodging bricks and tiles.

Workmen carried out emergency repairs, so the family did not have to be rehoused.

Report on proposed pilot study for a national Register of Type and Figured Material: extracted from the unconfirmed minutes of the NWCRU meeting held on 11 November at Merseyside County Museums.

Eric Greenwood, Chairman of the FENSCORE working party on a type register, first took members through the report of that working party (previously circulated). A further point that had emerged since that report was that we should add a suprafamilial tag to every record to permit the register to be divided easily into sections for convenient use.

There followed a long and thoughtful debate on the necessity and utility of the register. Two suggestions were made for referral to FENSCORE a) that the provisional nature of the list should be stressed at every opportunity, and that the term be included in the title of the register, and b) that thought should be given to forming a permanent record of the type material, e.g. for botanical types as microfiche photos; it was accepted that this could form a separate but parallel project, possibly organised by groups of specialists in each phyla using the data gleaned from the register to guide them.

At the end of the debate a show of hands indicated all but one of the members present agreed that the register was a worthwhile and timely project, and that the NWCRU would make the pilot study as requested by FENSCORE.

Organisation of the pilot study: Manchester Museum and Merseyside County Museums are to provide 500 records each, taken from several taxonomic groups and presented in a variety of formats, as available. In addition records are to be requested from the following other museums in the region:

Bolton Museum

Altrincham (via Charles Pettitt)

Carlisle Museum

Clitheroe Museum (via Phil Philipps)

Kendal Museum (? Bryophytes)

Lancaster University (via Geoff Halliday)

Liverpool, School of Tropical Medicine (via Malcolm Largen)

Liverpool, University Zoology Dept. (via Ian Wallace)

Oldham (via Leonard Kidd)

Rochdale (via Fiona Mackenzie)

All records to be sent to John Gray, who would act as central collator. Dr. Gray will then pass all botanical records to John Edmondson and geological ones to Phil Philipps for "sifting"; Dr. Gray will "sift" the zoological records himself. The sifters will arrange on an ad hoc basis for any specialist refereeing required.

The timetable agreed is that all data should reach Dr. Gray by Christmas, be distributed to the sifters by the third week of January, with a report to be presented to a joint meeting of the NWCRU and the FENSCORE working party to be held at Merseyside County Museums on 17 March 1982.

SURVEY OF LOCAL & REGIONAL BIOLOGICAL RECORDS CENTRES

- ANALYSIS OF RESULTS -

by

E. F. Greenwood

Merseyside County Museums,
William Brown Street,
Liverpool, L3 8EN

and Paul T. Harding

Institute of Terrestrial Ecology
Monks Wood Experimental Station,
Abbots Ripton, Huntingdon, Cambs. PE17 2LS

The Biological Records Centre (I.T.E., Monks Wood) and the Biology Curators Group collaborated in 1980 to compile an inventory of local and regional Biological Record Centres in the United Kingdom. A questionnaire was designed and circulated to all known records centres in September 1980 (BCG Newsletter, Vol. 2, No. 8). The last replies to the questionnaire were received in February 1981.

The questionnaire was sent to seventy-four centres, and replies were received from, or on behalf of, sixty-seven of these. Sixty centres are currently operating, are expected to be operational in 1981 or 1982, or are under active consideration. These centres were listed in our earlier paper (BCG Newsletter, Vol. 2, No. 10) giving details of addresses, areas of coverage, telephone numbers, dates when centres were set up and names of persons to contact.

The questionnaires from 59 of these centres have been analysed; the remaining replies contained too little information to warrant inclusion. All results are expressed here as a percentage of the 59 centres whose replies were analysed, unless indicated otherwise. However, replies from many centres did not include answers to all questions but no figures for nil returns are given in the following analysis.

Inventory of Local and Regional Biological Record Centres 1980

A total of 59 centres responded with replies that could be answered.

All results expressed as a percentage of the total number of centres responding unless indicated otherwise.

1. Staffing of Record Centres

Record centres with permanent staff.	81%
Record centres with permanent staff with or without other duties.	47%
Record centres with permanent staff with or without other duties and employing temporary staff in addition.	7%
Record centres with permanent staff with or without other duties and using volunteers in addition.	25%
Record centres with permanent staff with or without other duties and in addition employing both temporary and voluntary staff.	2%
Record centres employing temporary staff only.	0%
Record centres without permanent staff.	19%
Record centres using volunteers only.	12%
Record centres without staff of any kind.	7%
Record centres where permanent staff have job descriptions mentioning work in the Record Centre.	49%
Record centres where temporary staff have job descriptions mentioning work in the Record Centre.	8%

2. Funding of Record Centres

Record centres with Central Government funding.	4%
Record centres with Local Authority funding.	81%
Record centres with Manpower Services Commission funding only.	10%
Record centres with University funding.	5%
Other record centres receiving funding from:	
local societies	3%
The Field Studies Council	2%
The Nature Conservancy Council	2%
County Naturalists Trusts	3%

Numerous record centres receive additional finance from the Manpower Services Commission. No funding of any kind is given to 3% of record centres.

3. Format of Data held by Record Centres

Record Centres holding species records 89%

Record Centres holding site files 81%

Record Centres holding species records use the following grid square units:-

10 km	17%
5 km	2%
2 km	20%
1 km	24%

61% of Record Centres contain a total of 2,544,000 species records - average of 70,666/centre.

63% of Record Centres contain data on 21,182 sites with an average of 572 sites per centre. However, not included in these figures are two centres who stated they had information on 30,000 and 40,000 sites respectively.

4. Handling of Data

Record Centres using manual systems. 98%

Record Centres using mechanical systems. 3%

Record Centres using a mini-computer. 0%

Record Centres having access to a computer which they may or may not use. 7%

5. Control of Quality of Data

Record Centres having records assessed by an expert. 81%

Record Centres not having records assessed by an expert. 14%

Number of groups served by a local expert at Record Centres. average 12

Record Centres ensuring voucher specimens kept in a Museum. 86%

Record Centres not ensuring voucher specimens kept in a Museum. 10%

6. Main Sources of Data

a. Local Naturalists and Societies

Level of Importance	1	2	3	4	5	6
% of Record Centres	41	34	5	8	3	0

b. Records Centre Staff

Level of importance	1	2	3	4	5	6
% of Record Centres	44	22	15	2	2	3

c. National Biological Recording Schemes

Level of Importance	1	2	3	4	5	6	7
% of Record Centres	0	3	3	17	25	10	2

d. Biological Records Centre

Level of Importance	1	2	3	4	5	6
% of Record Centres	0	2	7	14	17	22

e. Local Museums

Level of Importance	1	2	3	4	5	6
% of Record Centres	7	7	17	14	8	8

f. Published Sources

Level of Importance	1	2	3	4	5	6
% of Record Centres	5	17	29	10	10	5

Other sources of data include the Nature Conservancy Council (14% of Centres), Universities (5% of Centres), Local Authority Planning Departments, The National Trust, research workers, students and other visitors.

Note the highest level of importance is denoted by category 1.

7. Use of Past Records

a. Publications

Record Centres abstracting data	69%
Record Centres not abstracting data	27%

b. Museum Collections

Record Centres abstracting data	61%
Record Centres not abstracting data	34%

c. Local Naturalists supplying past records

Record Centres obtaining records	68%
Record Centres not obtaining records	24%

8. Input of Data

Record Centres Receiving species records in 1979	39%
Average/centre	4460
Record Centres Receiving site files in 1979	47%
Average/centre	107
Record Centres with site files containing at least one comprehensive list for one taxonomic group	44%
Average No. of site files/centre	201
Record Centres with site files containing a full ecological description.	39%
Average No. of files/centre	23

9. Relationship with Biological Records Centre (BRC)

Record centres having abstracted records from BRC.	29%
Record centres never having abstracted records from BRC.	59%
Record centres considering abstracting records from BRC.	25%
Record centres supplying BRC with records on a regular basis.	22%
Record centres supplying BRC with records occasionally.	10%
Record centres which have not supplied BRC with records.	58%

Records for the following groups were most frequently mentioned in this section:

vascular plants, Lepidoptera, Amphibia and reptiles, Mammals, non-marine Mollusca.

10. Relationship with National Biological Recording Schemes

Record centres having asked schemes to supply records.	46%
Record centres having received records from schemes.	39%
Record centres never having asked schemes for records.	44%
Record centres regularly supplying <u>at least one</u> scheme with records.	46%
Record centres not supplying schemes with records.	42%

Of the record centres that had received records for schemes, 74% commented that the definition of the records was often too coarse to be of great use to centres interested in "site" records.

11. Users of Record Centres

User Group	% of Record Centres			
	Frequent	Regular	Occasional	Never
Local Authority Planners and Ecologists	12	15	39	19
Local Water Authority	0	2	27	53
County Naturalists Trust	24	10	32	12
Nature Conservancy Council	17	14	41	10
National Trust	0	3	10	66
Local Natural History Societies	12	15	34	24
Local Naturalists	15	27	34	5

21% of Record Centres cite 'others' as users of the data held and included Researchers, Educationalists, Land Agents and the Ministry of Agriculture amongst others.

12. Access to Data held by Record Centres

- a. Record Centres open to all enquirers (except confidential data) 42%
- b. Record Centres allowing access to some enquirers only 44%
- c. Record Centres available only to official users 2%
- d. Record centres allowing landowners open access to data relating to their own property (in combination with a. or b. above) 12%

13. Interpretation of Information Supplied

- a. Record Centres always providing some form of interpretation 15%
- b. Record Centres sometimes providing some form of interpretation 61%
- c. Record Centres never providing some form of interpretation 10%

14. Evaluation of Sites

Record Centres evaluating sites	a. In the county	61%
	b. In the surrounding region (sometimes less than a county)	37%
Record Centres not evaluating sites	a. In the county	29%
	b. In the surrounding region (sometimes less than a county)	51%

15. Number of Enquiries

During a period of 12 months 71% of the Record Centres answered an average of 61 enquiries. This level of activity ranged from no enquiries for three centres to 500 for one centre.

16. Contact with Record Centres for other disciplines

Contact was made by Local Biological Record Centres with centres for other disciplines as follows:-

Local History	34%
Archaeology	49%
Industrial Archaeology	31%
Geology	63%
Other Disciplines (meteorology, rural life)	3%

17. Publications

A newsletter of some kind was produced by 29% of Record Centres.

Formaldehyde

There has been some concern recently about the possible carcinogenic properties of formaldehyde, following experiments on some animals in the United States. The Health and Safety Executive has sent us the following statement (13 February 1981):

1 Formaldehyde is a known irritant

and sensitiser. It is a known mutagen when tested in several systems. Two studies have recently been carried out in the United States, both relating to the possible carcinogenicity of formaldehyde.

2 The evidence from these recent studies indicates that at higher levels of exposure formaldehyde causes nasal cancer in animals. There is at present no epidemiological evidence to associate exposure to formaldehyde with the occurrence of cancer in humans.

3 Formaldehyde will shortly be reviewed by the Health and Safety Commission's Advisory Committee on Toxic Substances which will make appropriate recommendations.

DORSET COUNTY MUSEUM HERBARIUM

Work on the Herbarium Collections in the Dorset County Museum has continued since the last article. (M.A. Smith, 1979).

After the removal of the Dorset material was completed the remainder of the Mansel-Pleydell Collection was cleaned and reboxed in the spring of 1980, with volunteers working under the direction of the Assistant Curator.

The remaining plants were collected in other counties of the British Isles and many European countries, and will be referred to as the Western European section. Accessioning of this section has now started, with each sheet (or each specimen if more than one species is present on the sheet) receiving a number. The material will remain in its original arrangement, that of Nyman (1878-1882) but it is hoped that the nomenclature will be updated to that used in the present Flora Europaea (C.U.P., 1964-1980).

The separate collections in the Herbarium are now listed and each box or folder has been assigned an identification number. Three main sections are apparent - the Mansel-Pleydell Dorset Collection (boxes 1-45), the Mansel-Pleydell Western European Collection (boxes 46-134), and the 'Other Material' section (Nos. 135-194) consisting of eleven distinct collections of varied size, and other assorted material. (See Appendix 1).

Of these other collections three have been or are being accessioned. (6.1981). These are:

1) Miss Payne's Herbarium, with about 2300 British specimens of vascular plants and pteridophytes arranged roughly by county. Most of this collection has now been accessioned and the other collectors represented have been listed (see Appendix 2). The remaining section (Payne Cabinet, No. 194) has yet to be worked through. Of the 2000 sheets accessioned so far, about 1130 were collected by Miss Payne and the rest by other collectors.

2) Miss Lister's collection of Dorset Mosses, with 310 specimens of mosses collected mainly in the area of Lyme Regis (although about half were in fact from the Devon side of the county boundary). The collection was used by Miss Lister when she wrote an article on the bryophytes of Dorset for the Victoria County History Of Dorset, but unfortunately the volume in which it was to have appeared was never published. (The manuscripts are in the British Museum (Natural History), according to H. J. M. Bowen (1976). The nomenclature has been updated to agree with that of A. J. E. Smith (1978).

3) The Dunston Collection of Dorset Sphagna, with 117 specimens of *Sphagnum* collected in Purbeck during the last war. All the material was collected by Captain A. E. A. Dunston and identified for him by W. R. Sherrin and A. Thompson, two of the top authorities on Sphagnum at that time.

The former two collections both contain material collected or identified by well known botanists of the time, including H. N. Dixon (author of the 'Students' Handbook of British Mosses'), W. Moyle-Rogers, F. Arnold Lees, E. F. Linton, and Hewett C. Watson. More than 190 other collectors are represented in Miss Payne's Herbarium (see Appendix 2) and some at least of the material was passed on through the Botanical Exchange Club of the British Isles. Many of the non-Dorset specimens in Miss Lister's collection were contributed by members of the 'Moss Exchange Club' (see Appendix 3).

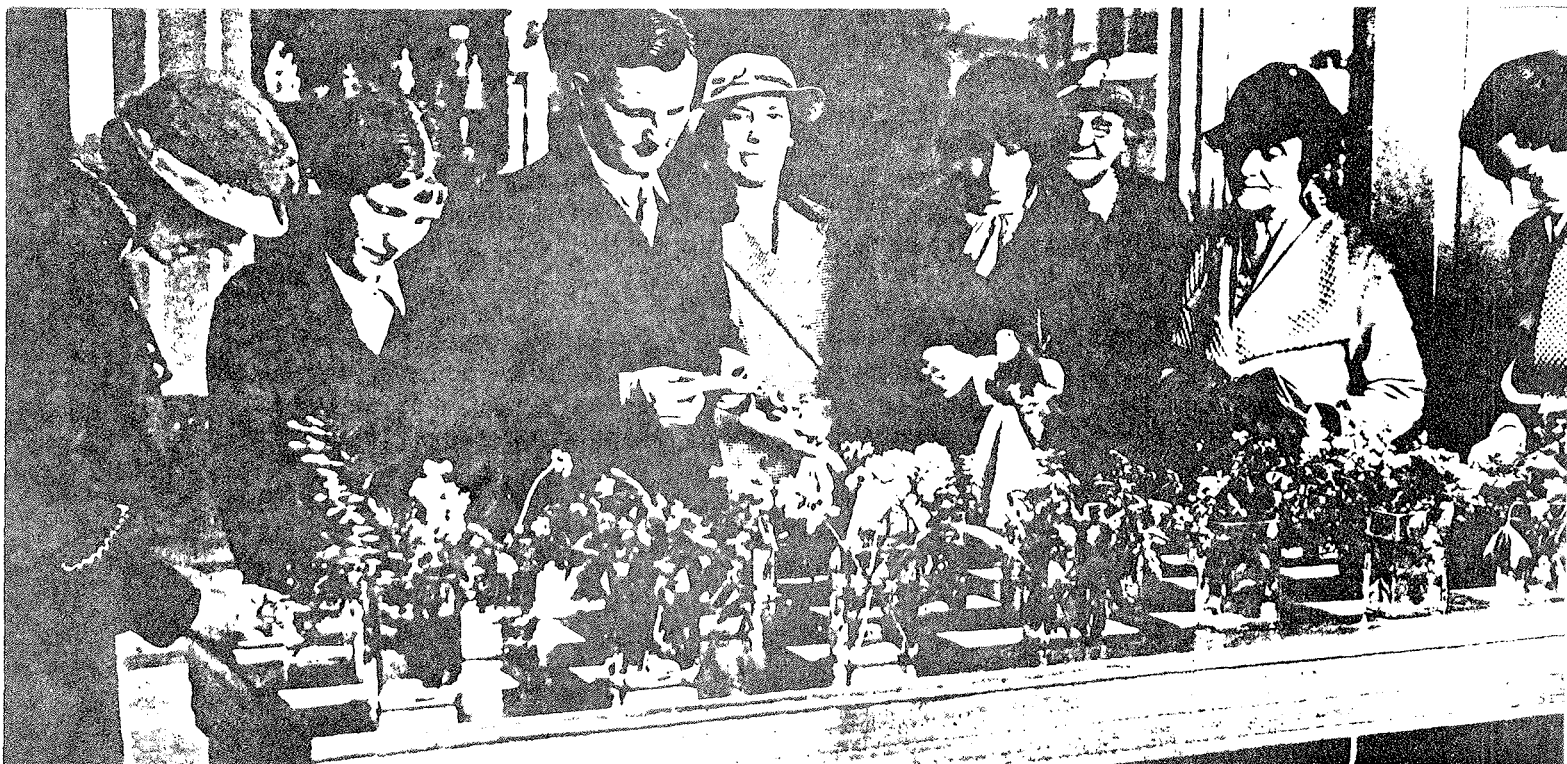
Of the remaining material in the herbarium, the collections made by H. Bowen and R. Good are particularly important as they are associated with county floras; - 'The Lichen Flora of Dorset' (H. J. M. Bowen 1976) and 'A Geographical Handbook of the Dorset Flora' (R. Good 1948).

Including these collections, there remain approximately 2800 specimens of higher plants (including pteridophytes), 402 lichen specimens, 71 bryophytes, and 1328 dried algae to be accessioned in this section. The Mansel-Pleydell Western European Section contains approximately 9800 specimens, and the Dorset Section c.5000, giving a total of approximately 21,820 dried specimens in the Herbarium, of which 2427 have been accessioned so far.

REFERENCES

- Bowen, H. J. M. (1976) The Lichen Flora of Dorset. Lichenologist, 8; 1-33
- Dixon, H. N. (1924) The Student's Handbook of the British Mosses. V. Sumfield, Eastbourne.
- Good, R. (1948) A Geographical Handbook of the Dorset Flora, Dorchester.
- Nyman (1878-1882) Conspectus Flora Europaea, Örebro.
- Smith, A.J.E. (1978) The Moss Flora of Britain and Ireland, C.U.P.
- Smith, M. A. (1979) The Mansel-Pleydell Herbarium. B.C.G. Newsletter, 2(4); 129.

Miss Angela Newton, (Volunteer, January 1981 - July 1981)
Dorset County Museum.
June 1981.



Plant table at Sheffield

DORSET COUNTY MUSEUM, HERBARIUM COLLECTIONS. Appendix 1.

<u>H.O. No.</u>	<u>Contents</u>	<u>Approx. no. of specimens.</u>
1-45	Dorset section, Mansel-Pleydell Collection	c.5000
46-134	Western European section, Mansel-Pleydell Collection	c.9800
135	Characeae Britanica, Groves.	25
	Assorted plants and algae from the Swanage area	12
136-139	Set of British Rubi, 1892-1893. Issued by Revs. E.F.Linton Wm. R. Linton, R.P.Murray and W.Boyle-Rogers. Fascicles I-IV	106
140 to 148	Miss Payne's Herbarium. Counties represented; Huntingdonshire, Hereford, Shropshire, Yorkshire, Northumberland Monmouthshire, Leicestershire, Nottinghamshire, Essex, Sussex, Kent, Cheshire, Dorset, Devon, also Scotland, Wales, Ireland, Channel Isles and the Mediterranean.	c.2000
149	Notebooks, folders etc.	
150	R.Good's Herbarium. 'Flora of Dorset'. In two parts, families arranged alphabetically.	392
157-158	Dunston Collection of Dorset Sphagna.	117
159	Local contributions.	16
160	'British Flowering Plants 1823-1836, several from Dorset Habitats'.	251
161	'Book of English Ferns, and Grasses and Wild Flowers of the Isle of Purbeck, Dorset.' Collected by Mr W.R.Brodie Junr., Jan. 4th, 1861.	8
162	'Dorset Mosses.' Collected by Miss Lister, F.L.S. of Lyme Regis, Dorset, for the Victoria County History of Dorset. Sept. 20th 1929.	309
163	Graminaceae. (Collector unknown)	112
164	Dorset Underwater Survey, 1976-1978. Marine algae.	151
	Richardson Algal Herbarium. (No.s 165-169)	
165	'Seaweeds' Collected by Miss H.M.Nelson.	76
166	'Jersey Algae' N.M.Ricardson.	156
167	'Sea Weeds' N.M.Richardson.	36
168	'Algae' H.M.Nelson.	288
169	'Algae Corallines' H.M.Nelson.	220
170	Marine Algae. (From Corfe Castle museum, 1931.)	100
171	Assorted marine algae, mainly of Irish origin.	237
172	Marine Algae Collection, Dr. E.M.Burrows.	39
173-174	Dorset Lichens, H.J.M.Bowen.	279
175	Dorset Lichens and Mosses, E.H.Holmes. Hepaticae	10
176-177	" Mosses	71
178-180	" Lichens	123
181-190	Dorset Herbarium, C.D.Day.	370
191-193	Flora of Dorset, D.Meggison, 1937	1309
194	Payne Cabinet. Plants from South west counties.	300

Miss Payne's Herbarium. - other collectors represented. (Appendix 2)

Abbott, Ian / Jas.	1	Dickinson, Mr.	1
Addison, F.	2	Digby, Miss.	1
Ainly.	1	Dodd, J.H.	2
Allin, Rev. J.	2	Don, Mr D.	1
Anon.	4	Donaldson, Mr.	44
Archer-Brigg, T.	3	Doubleday, Mr.	1
Atkinson, Mr.	2	Druce, G.C.	1
Atkinson, Mrs.	4	Drummond-Hay, H.M.	5
		Drummond, Mr J.R.	7
B, W.	1	Drummond, Mr Tom.	6
Bagnall, J.M.	12	Duthie, Mr J.T.	3
Bailey, Charles	11		
Baker, Mr J.G.	13	Edmonds, Mary.	2
Balfs, J.	1		
Ballin, M.L.	1	Farrer Rev. H.	1
Barret, W.B.	1	Flower T.B.	2
Barrow, J.	1	Fisher, H.S.	9
Beale, Mrs	1	Fisher, A.P.	1
Beeby, W.H.	1	Foggett, T.J.	4
Bennett, A.	4	Fortescue, J.B.	1
Benson, J.B.	1	Fortescue, M.	1
Blanchard-White, F.	1	Fox, Rev. E.P.	1
Blow, T.B.	4	Fraser, Dr J.	12
Bond, Mr J.	7	French, M.A.	2
Born, G.	1		
Boswell, H.	1	Gale, J.	1
Boswell, J.S.	4	Garrell, Mr.	5
Boswell, J.T.	5	Gifford, J.	1
Boswell-Syme, I.	23	Green, Mr.	1
Bowles-Barrett, Mr.	6	Griffiths, Miss.	1
Brady, H.	1	Gespigney, E.	2
Bray, B	1	Groves, H.	10
Brickman, Mrs.	1	Groves, J.	9
Bromwich, A.B.	23		
Brotherston, A.	7	Hanbury, F.J.	2
Brown, Robert.	3	Hayward, Mr.	8
Buchanan-White, F.	2	Hiezin, M.P.	2
Burton, J.	1	Hodson, Mr.	1
Burton, Wm.	2	Holmes, E.M.	1
Butter, M.	1	Horn, G.	5
		Hugh, Miss.	1
C, B.E.	1	Hunt, G.J.	1
C, L.B.G.	3	Hutcheson, J.C.	53
Caer, A.	1	Hutchinson, J.G.	1
Churchill, Mr G.	1		
Colquhan, Mr.	1	Isaac, Miss.	1
Comber, T.	3	Isaac, Mr.	1
Coney, Rev. C.	1	Irvine, Mr C.	4
Craig-Christie, A.	1		
Cross, Mr.	1	Jarrell, Mr.	1
Crosse, Miss.	2	Jenkyns, Mr H.	1
Cunnack, James.	2	Jenner, J.N.A.	3
Curnom, Mr.	2	Jones, Elizabeth.	4
D.	1	Keith, Rev. J.	1
Darnell, Wm.	1	Kirkby, W.	1
Davis, J.M.	1		
Dick, Mr R.	1		

L, W.T.	1	South, J.P.	1
Lachlan, J.W.	1	Spicer, W.W.	1
Late, B.	1	Stewart, S.	1
Lawrence, Miss H.	2	Storey, W.	3
Lee, Mr Maurice.	1	Storrie, Mr.	5
Leeds, T.A.	1	Streathfield, G.J.	1
Lees, F.Arnold.	66	Stratton, Fred.	1
Lewis, Mr.	6	Stuart, H.	2
Lewis, J. Harbord.	41	Symonds, Miss J.	1
Ley, Augustinia.	5		
Ley, Rev. Augustin.	24 *	Tempere, J.	2
Linton, E.F.	16	Thisilton-Dyer, Mr	2
Linton, John.	2	Thompson, Miss.	16
Linton, W.R.	9	Tillam, Mr W.	3
Lomax, Mrs.	2	Todd, William.	5
Lowe, R.T.	1	Tottenham, Mr.	1
Lucus, Mr.	6	Townsend, W.Fred.	1
		Trimmer, Rev. E.	1
M, E.	1	Trusted, G.	1
Maclagan, P.N	1		
Mallyson, P.N.	1	Vareman, E.G.	2
Mansel, C.J.	1	Vaudrey, Rev.J.	7
Mansel-Pleydell, J.C.	2		
Marshall, Mr.	1	Warburton, Miss E.	1
Martin, G.J.	1	Ward, Mr J.	3
Martin, J.T.	5	Warner, F.I.	1
Martin, Mrs J.M.	1	Warren, J.C.	2
McKay, Richard,	2	Waterfall, W.B.	1
Melvin, A.D.	6	Watergate, W.B.	1
Morton, Miss.	1	Watkins, B.M.	1
Mott, F.T.	1	Watson, Hewett C.	10
Moyle-Rogers, W.	7 *	Webb, Mr F.M.	3
		Webster, G.	7
Nicholson, J.	3	Wells, J.	1
Notcutt, Mr L.	1	White, J.W.	1
		White, Richard.	2
Oakshott, Mrs B.M.	4	White, W.	1
		Willoughby, Mrs	1
Pagan, J.W.	15	Wolley-Dodd, A.H.	1
Painter, Rev. W.M.	1 *	Wood, Mr	2
Payne, E.	7	Wood, Rev.	1
Payne, J.S.	1	Wood, Rev. H.H.	1
		Wood, Rev. J.	1
Ravinhill, Miss, E.	1	Wood, Rev. M.	3
Ray, Mr.	2	Wood, Rev. Robert.	20
Richardson, W.	4		
Robinson, J.F.	1		
Robson, J.G.	2		
Ross, Miss G.	2		
Roy, W.	3		
Roy, J.	3		
Roy, G.	1		
Sendall, Miss	1		
Shatton, F.	1		
Smith, Miss.	1		
Smith, Mr	3		
Souter, J.P.	1		

Numbers are of herbarium sheets on which each name appears.

The spelling of names is open to interpretation, since the majority are handwritten and many are difficult to decipher.

* - indicates specimen stamped 'Botanical Exchange Club of the British Isles'.

Blaxiston, Rev. C.	Gill, G.
Bower, F.O.	H, G.S.
Bowley.	Hules, C.
Curnow, W.	Hules, D.H.
Dixon, H.H.	Pearson, A.G.
Fry, Sir E.	R, M.
Holmes, E.M.	Salmon, J.S.
Ingham, W.	Slater, A.B.
J, A.B.	Tindall, E.H.
Jackson, C.H.B.	

suggestions as to full names of those collectors represented by initials will be welcomed.

GEOLOGICAL EXHIBITIONS FOR THE MID 80s

Geological Curators' Group Meeting

Friday, 23rd April, 1982

at the City Museum & Art Gallery, Bethesda Street, Hanley, Stoke-on-Trent.

The meeting will discuss aspects of the developments in geological displays, their costs, and how these can be overcome. Emphasis will be placed on travelling exhibitions.

The latter part of the meeting will give an opportunity to see the new arrangements at Stoke Museum.

Programme

- 10.15 Assembly and refreshments (available at the Museum Cafeteria)
- 10.45 Introduction and opening by the Chairman - Dr. Philip Doughty (Ulster Museum)
- 11.30 Andrew Millward (Manchester Museum)
- 12.00 Giles Velarde (Geological Museum)
- 12.30 David Downe (West Midlands Area Service)
- 1.00 Lunch (a list of eating places will be available)
- 1.50 Discussion on the morning programme lead by Dr. Hugh Torrens (Keele University)
- 2.30 Introduction to Stoke Museum by Mr. Arnold Mountford (Director)
- 2.45 Geoff Halfpenny (Keeper of Natural History)
- 3.10 Tea (available at the Museum Cafeteria)
- 3.30 Visit to the Natural History stores and gallery

Ichthyosaurs : A History of Fossil 'Sea-Dragons'
by S R Howe, T Sharpe and H S Torrens
Published by the National Museum of Wales. 32 pages. Price 90p

I first looked at Ichthyosaurs in detail while studying geology at University College, Cardiff and ever since that time these dolphin-like reptiles have held a particular fascination for me. This was, however, unknown to our editor when he asked me to review this latest product of the presses of the National Museum of Wales.

The booklet follows the same format as previous N.M.W. publications such as 'Plants of the Coal Measure Swamps' and 'Plant Hunting in Wales' but unlike it's predecessors which were reprinted from 'Amgueddfa' (Bulletin of the N.M.W.) this one was specially written to "expand the theme of an exhibit in the Department of Geology". One legacy of 'Amgueddfa' is the use of two columns of text on each page which I find difficult to read comfortably, especially when illustrations are also included in the columns. However, this does not detract from its usefulness. The booklet contains 33 black and white illustrations from many sources which show some of the collectors, early fossil finds and a series of reconstructions which clearly show how the scientific and popular image of ichthyosaurs has changed over the years as more information has come to light. Indeed, it is probably as examples of the interpretation of fossils using well tried biological techniques that ichthyosaurs are most useful to the biologist. If Phil Doughty's survey of geology collections is anything to go by, there can be few 'Biology Curators' who have not some responsibility for geological material. Here is a perfect example of the continued use of old geological collections often from inland sites which are no longer accessible and without which the science could not have progressed. How often too have you been asked by school children for details of some "prehistoric monster" ? So why not give Tyrannosaurus a rest and use the ichthyosaur - its a common fossil in most Mesozoic sediments, it's skeleton and skin are known in detail as is its habit of giving birth to live young. Even it's droppings are common fossils so we know what it ate. Compare it with the dolphin, better examples of analogous structures are hard to find. It all makes a great lecture.

It's plainly obvious that I'm hooked on ichthyosaurs (shame there are none in Perthshire !) but read the booklet and perhaps you will be too. And it is not without its moral tales. The stamp of Hugh Torrens is clear on the historical anecdotes one of which concerns the collection of Samuel Day which was dumped into the family duckpond c.1816 from where parts of it were retrieved about 30 years ago. Biology collections are not usually quite as durable !

All in all a most worthwhile publication - and very reasonably priced .

M A Taylor
Perth Museum & Art Gallery

Pest Control in Museums: A Status Report (1980)

Compiled and Edited by Stephen R. Edwards, Bruce M. Bell and Mary Elizabeth King.

177mm x 254mm, VII + 34pp; app. A-G; 35 black + white figures.
Kansas, U.S.A. (Association of Systematics Collections): 1981. £12.50*
paperback.

This sewn paperback is the outcome of an inter disciplinary conference on the use of pesticides in museums sponsored by the Smithsonian Institution and supported by the Association of Systematics Collections. The book is plainly more useful to North American institutions where the legislation is appropriate and the 'trade name' terminology is understandable. Nevertheless, to the non chemist, the book provides alphabetical information on the terminology of pesticides which should reduce the risk of erroneous references to all pest control agents as "fumigants". A useful list of pesticides (with alternative names) chemical composition, recommended use, dosage and hazards is included in Appendix A which readily allows the reader to avoid the most lethal chemicals.

Appendix B which is entitled an Illustrated Guide to Common Insect Pests in Museums is somewhat disappointing as it merely lists the order, family and latin names followed by the sparsest of descriptions and occurrence records. This appendix gives little assistance to the non-entomologist in the question of pest identification. The illustrations are competent but cannot be considered as an aid to species determination. (British readers would be much better served by Common Insect Pests of Stored Food Products, 6th Ed. P. Freeman, British Museum (Natural History) Economic Series No. 15). Appendix C is a Reference Listing of Museum Pests which is a phylo genetic listing of plants and animals including the scientific and common names with an indication of the food preference and the public health problem. It is reassuring to know, if reassurance is the correct word, that most of the pests listed from America also occur on this side of the Atlantic.

Appendix E is entirely devoted to enforcement regulations of federal legislation concerning pesticides and therefore is of little relevance to British readers. Conversely Appendix E is an annotated Bibliography of the literature pertaining to Pest Control which is a comprehensive up to date reference source which should prove invaluable to any researcher in the museum pesticide field.

The listing of State and Federal Agencies with responsibilities for pesticide use and application has little of value to offer but the final appendix G read in conjunction with the main text entry on "Survey of Pest Control Procedures in Museums" reflects a position which the receiver suspects is accurate on this side of the Atlantic too.

I cannot recommend that every museum in the country should buy this book because of the understandably inappropriate information it contains when not used in the country of publication but it does provide useful bibliographic and technical information and would form a valuable addition to a museological research library.

John Gray.

* £12.50 is the cost of this book ordered through Leicester University Bookshop. Ordered direct from U.S.A. the cost would be \$15 plus exchange rate costs and postage.

LIAISON BETWEEN NERC AND THE BIOLOGY AND GEOLOGICAL CURATORS GROUPS

REPORT OF MEETING HELD AT BRITISH MUSEUM (NATURAL HISTORY) ON 11 JUNE 1981

Present:	NERC	Mr J D D Smith (HQ)
		Mr M G Morris (ITE)
		Mr F W Dunning (Curator, Geological Museum, IGS)
		Dr W H C Ramsbottom (Chief Palaeontologist, IGS)
		Mr H J Killick (HQ)
	Biology Curators Group	Mr E F Greenwood
		Dr M V Hounsome
	Geology Curators Group	Dr C H C Brunton
		Dr R Clements
		Dr H S Torrens

1. OBJECTIVE OF MEETING - The meeting had been requested by the two Curators Groups who wished to follow up some of the recommendations in the report of the ABRC Working Party on Taxonomy. They wished to know more about NERC policy for the preservation of collections of specimens as a first stage in developing a more effective policy in this area.
2. CURATION OF COLLECTIONS - Public money is awarded in the form of NERC research grants and research studentships and many of the projects thus supported result in the collection of valuable material, but this is not always adequately curated. The Curators Groups considered that it was important to ensure that potentially valuable material was adequately curated and documented by research staff or students. Those university departments which make it a condition of the award of a PhD that the research student curates his collection satisfactorily were to be commended.

It would be desirable to draw to the attention of universities the need for adequate training for students in curatorial methods. This should be introduced at the undergraduate level and form a significant part of postgraduate training where collections are made. In addition, it could be introduced into those MSc courses where the collection of specimens is relevant.

These points should be drawn to the attention of university departments, perhaps through committees of heads of departments such as the Committee of Heads of University Geology Departments.

It would be helpful if museum curators drew up a code of practice for the curation of specimens and for this to be widely circulated.

3. PRESERVATION OF SPECIMENS - Even where specimens are adequately curated there are often no facilities for permanent preservation in circumstances where the collections can be made available for study by others. Some universities have museum facilities but the staffing of these may be at risk following cuts in university funding.

It was suggested that NERC should take action to ensure that university research workers supported on research grants or research studentships ensure the permanent preservation of collections where their importance justifies this. Except in those cases where the university has adequate museum facilities such collections should be offered to local or national museums. This would result in increased offers of collections to museums and any such action would need to be undertaken in liaison with the Curators Groups. Museums would need to be selective in their acquisitions and in the length of retention. They would also need to ensure that indexes and catalogues of collections were published. It would be helpful if museum curators could identify and nominate museums with special strengths in particular groups.

Even if NERC was unwilling to make it a condition of an award that such steps should be taken, it should strongly encourage university research workers to take this line of action.

4. NERC INSTITUTES - The Geological Museum, within the Institute of Geological Sciences, is the only public museum within NERC. Although its policy for accession of specimens is firmly based, it would be worth considering whether there was scope for a more positive policy in relation to collections acquired by university workers supported on NERC research grants or research studentships.

In the Institute of Terrestrial Ecology (ITE) the distinction could be drawn between ecological collections and collections built up for taxonomic or identification purposes. ITE could not afford extensive unified curation and many of the large ecological collections would probably not be retained in the long-term. ITE could be invited to formulate a policy for curation and preservation of specimens and this policy might be of value to other NERC institutes.

5. PUBLICITY - Greater awareness of the importance of curation and preservation of collections is crucial. An article in the NERC Newsjournal would assist in achieving this awareness.

The Wildlife and Countryside Act 1981 has now been published. It can be obtained from Leicester University Bookshop, price £6.35, who have it in stock.

National Butterfly Museum - or is it?

Is this operation a "National Museum of Butterflies" or a simple commercial operation disguised by words such as "curator" and "museum"? If the latter, then what advantage would this confer on a business for profit? As a matter of semantics it cannot be objected to legally. This is unfortunate, as has been pointed out in similar cases before, because although there is nothing wrong with "National" by itself, in conjunction with "museum" it means something other than private enterprise.

The image of museums in the eyes of the public is particularly at threat in this case. Most curators will have had visitors wishing to buy specimens obviously under misapprehensions as to the function of a museum. The National Butterfly Museum, however, it appears from its own publicity and advertisements, is the place to go specifically to buy insects. What ethical problems arise if a collector leaves his life's work to the N.B.M. thinking that it is a "museum" and the rarities are sold off to pay for the central heating costs? None, of course, because it is not a publicly accountable museum and can do anything. Further confusion is added because there is already a National Museum of Natural History with one of the world's biggest collections of butterflies. (With the National Motor Museum there was no competition and respectability was conferred with central government blessing after a period of time; no doubt being a peer of the realm helped). There is also the National collection of Lepidoptera, being the amalgamation of the Rothschild/Cockayne/Kettlewell collections in South Kensington.

The inescapable conclusion is that this concern in West Sussex is using its title to give a certain status to its activities by using the word 'museum' in a way which the majority of curators would like to see strictly controlled. This control can only be achieved by supporting the Museums Association in its efforts over a broad front and especially through the new Museums and Galleries Commission. Private institutions can be excellent museums and, of course, some public museums are appalling. What is needed is a working system of accrediting museums, a legal definition of the word and this will only be achieved when our profession shouts loudly enough with a united voice.

BUTTERFLIES
The National Butterfly Museum, the best suppliers in the world. Send SAE for free literature to: National Butterfly Museum, The National Butterfly Museum, Bramber, Sussex. Tel. Steyning (0903) 813158. P. 51

ST. MARY'S AND THE NATIONAL BUTTERFLY MUSEUM, BRAMBER, NEAR STEYNING, WEST SUSSEX, BN4 3WE, ENGLAND. Telephone: Steyning (0903) 813158

The National Butterfly Museum (formerly The Saruman Museum) is Britain's only museum devoted to entomology and is independent. Funds for the museum are raised in part from the supply of specimens, equipment, books, photographs etc., to other museums, university departments, schools and private collectors worldwide - a service that has operated since 1970.

TERMS OF BUSINESS

Orders must be PRE-PAID and on the official order forms provided. Cheques and postal orders should be made out to 'St. Mary's'.

Specimens are supplied in two ways:

- with the wings folded in a triangular paper envelope - these are relaxed and set (see opposite). UNLESS OTHERWISE STATED (for mounted specimens) ALL SPECIMENS LISTED ARE OFFERED PAPERED. If you require SET SPECIMENS 25p per specimen should be added to the price (including postage and VAT).

and no ...
virginiensis ...
L. and a series of extreme ...
he took himself. The remarkable ... collection on entomological pins, supplied
Copper which he took at Wembury Point in ... of mounted specimens necessitates
Museum (Natural History) but the remainder of this collection these are higher.
sold in 1975 and is in the National Butterfly Museum at Bramber.
Afterwards he formed another collection of butterflies,
and arranged and containing some fine vars. taken

On the virtues of an "Expendable Dump"

An "expendable dump" is museum natural history material which is superfluous, either because it lacks all documentation or is in very poor condition. I have had such a "dump" of Mollusca for some years and it is quite astonishing how often it is called upon to supply specimens. Specimens for artists to draw and for schoolchildren to examine and handle (it does not matter if the specimens get broken or lost). I have also been asked for "tiny shells" for making collages, "large shells" for flower arrangements and "pretty shells" for ornaments.

For more strictly scientific purposes various large bivalves are requested in order to show students different sorts of hingelines and internal markings, and gastropods demonstrate the phenomenon of dextral and sinistral shells. Really delapidated shells can usefully be broken into bits so that the fragments can be used to help identify fragments from Holocene or Pleistocene deposits.

In short, an expendable dump of Mollusca obviates much wear-and-tear upon the reserve collections and is an invaluable adjunct to the department.

Lest historically-oriented colleagues rush to point out how important it is to make quite sure that nothing of possible value is discarded, I must state categorically that only after a most thorough "screening" is anything relegated to the "expendable dump".

The "expendable dump" in the Mollusca section of Merseyside County Museums is sorted roughly into marine gastropods, marine bivalves, land and freshwater gastropods and freshwater bivalves, all British. Extra-British material is similarly classified.

Nora F. McMillan,
Merseyside County Museums,
Liverpool.

8 January 1982.

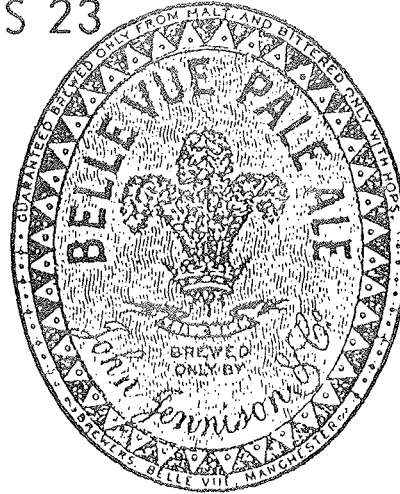
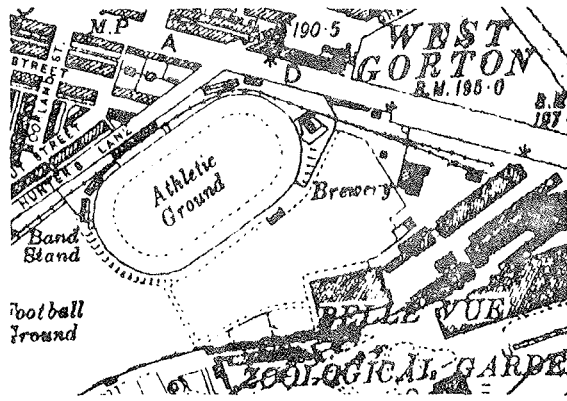
THERE ARE SHELLS AND SHELLS

When I worked at Towneley Hall Art Gallery & Museums, Burnley I remember seeing an entry in the old inventory which listed a "Fragment of a shell from the Franco-Prussian War" - under 'Natural History' ! Which may not be so odd because here at Perth the registers contain the following entry "8 shells found in a ruined house at Diekebush, a few miles east of Ypres (Murex, Mitra, Oliva, Pteroceras). Got while the house was still being shelled by the Germans 1916. Pte Morrison, 3rd Black Watch" - How's that for enthusiastic collecting (or is it looting ?).

M A Taylor
Perth Museum & Art Gallery

MANCHESTER BREWERIES 23

John Jennison & Co



The Victorians were responsible for a great variety of interesting, if not always practical, commercial schemes. At Brighton, Magnus Volk constructed a railway which actually ran along the sea bed at high tide (the train was on stilts!), Blackpool acquired a tower and John Jennison founded Belle Vue Zoological Gardens. The first was a resounding flop but Belle Vue, like Blackpool Tower, became a famous attraction. Apart from the sheer magnitude of recreational facilities on offer, the gardens were remarkable for other reasons. In an attempt to make Belle Vue self-contained, Jennison introduced a number of innovations, including building an electricity generating plant at a time when Manchester Corporation had yet to develop a system. Jennison also kept herds of cattle, which could be turned into meat pies in his own bakery; he built a gas works, a printing works, developed a large ice storage business and, naturally, brewed his own beer.

Jennison's first venture was a tea garden at Stockport, opened in 1828. Here he kept a small collection of monkeys and parrots for the amusement of customers. Meanwhile, a Mr John Walker occupied a house and about 36 acres of land on Hyde Road. The only public attraction was a bowling green, known even at that time as Belle Vue Gardens. Walker sold the land to William Crisp in 1833, who added a further plot that had been used for grazing. In 1836 John Jennison bought the land and the Belle Vue House Tavern, and moved in with his monkeys. A couple of years after the first opening of the gardens, the Broughton Zoological Gardens closed down. (Largely for lack of patronage as they were not allowed to open on Sundays) Jennison seized the opportunity to increase the number and variety of animals at Belle Vue, and so created the first successful privately owned zoo in Britain.

Many more people were able to take advantage of the Gardens with the advent of the railways. The western entrance was close to the Longsight station of the L&NWR and about half a mile away stood the Gorton station. Belle Vue Station itself was built on the Central & Midland Railway line.

Exactly when Jennisons first began brewing is uncertain. They never advertised as commercial brewers, possibly because of limited capacity, with only enough to supply the refreshment rooms at the gardens and the few hotels. The Belle Vue House Hotel was supplemented in the mid 1870s by the building of the Midland Hotel and then the Lake Hotel, all within the grounds. They also had an interest in the Waggon & Horses on Hyde Road. Hannah Jennison is listed as licensee in the 1880s and William Jennison was the owner. The brewery, estimated to have been of about 10 quarter size, occupied some 600 square yards in the north eastern corner of the gardens. Apart from the grounds, and the hotels previously mentioned, the brewery did have at least one other outlet. This was a beerhouse called the Garibaldi Inn, which stood on Lees Street in Gorton.

John Jennison & Co was obviously a family concern. In 1910 at least ten members of the family were actively employed, as licensees of the various hotels and in administering the grounds. Angelo Jennison, grandson of the founder, also had another brewing connection. In 1904 he joined the board of directors at John Henry Lees Ltd, based at the Moss Side Brewery. By 1910 he had become managing director of Lees, a post he held until the appointment of a receiver in 1913. Angelo died in 1936 after many years of failing health.

Just before the First World War, Belle Vue Pale Ale cost 3d for a half pint bottle. The same price applied to Allsopp's lager and Murphy's stout, which were also on

sale in the grounds. Bitter beer on draught sold for 2d a glass. The pale ale label shown here dates from 1902, one of the few remaining relics. Brewing is thought to have ceased before 1916 and John Jennison & Co Ltd sold out to Belle Vue (Manchester) Ltd in 1925. John Jennison Junior, a grandson of "Old John", continued to work at the gardens, first as general manager, then as resident works manager. The last surviving member of the Jennison family, Mrs Emily Studholme, died in Sale, aged 86, in May 1958.

Alan Gall

Reproduced from the Camra Newsletter (Manchester branch)

Jennison was the source of numerous exotic creatures donated in the flesh to the museums in the area. They then had the problem of getting the larger ones mounted which was usually done by H. Brazenor of 34 Lloyd Street, Greenheys, Manchester. I do not think he was related to the Brazenor's of Brighton although it is an uncommon name. The best examples of his work were the exhibits at Salford (Buile Hill) Museum. The mounted mammals there were known as the "Brazenor Environmental Collection". These have now been dismantled and dispersed as the result of devoting the Buile Hill building to a museum of mining technology. Brazenor's work can also be seen at Bolton and Manchester, with specimens from Belle Vue Zoo in a large number of cases.

E. G. Hancock.

Dimethyl hydantoin formaldehyde (D.M.H.F.); an alternative mountant for insect genitalia

Although by no means new (see Angus, R. B., 1969, *Entomologist's Mon. Mag.*, 105(1); 2 and Sinclair, M., 1978, *Balfour-Browne Club Newsletter*, No. 10; p.6). D.M.H.F. is not widely known even amongst entomologists. It is a colourless, transparent, water-soluble resin, especially suitable for mounting smaller, more delicate structures, which may be introduced to a bead of the mountant on a card. The bead will set hard in a matter of days, without distortion of the specimen which may be dissolved out with water at any time in the future. One advantage of this substance is that the genitalia can be transferred to it directly from water and this saves considerable time.

D.M.H.F. may be obtained from W. S. Simpson & Co. Ltd., 1-23 Linden Way, Southgate, London N14 4LT and costs about £7.50 for 500 gms. Though to date this mountant has been used mainly by coleopterists it deserves far wider attention.

Howard Mendel,
Ipswich Museums,
High Street,
Ipswich. IP1 3QH

British and Irish Herbaria - new edition

The BCG are meeting Douglas Kent and his collaborator David Allen in order to identify and solve any problems of overlap which are concerning some curators. From the curator's point of view (and he or she is quite likely not to be a botanist) an entry for the Collections Research Unit's registers is as much as can be found. Often these can be very detailed;

sometimes all that is known is the surname of a person whose collection was destroyed by fire many decades ago. All the information is grist to the mill, however small, but if nothing else is known, or can be readily discovered, then it cannot be invented.

The only way a new edition of British and Irish Herbaria can be more comprehensive than the data base at Manchester is for under-represented (i.e. under-manned) museums to be visited by willing and competent botanists with an extensive knowledge of the history of the subject and the biographies of the men who made the collections. Obviously a small number of people, on a voluntary basis, are going to be extremely busy and expend not a little money travelling around the British Isles. Perhaps even this could only be achieved in an ideal world. Let us hope not, for the effort necessary to make this BSBI project as complete as it ought to be will be of enormous benefit to the scientific community. If only there could be about twenty peripatetic David Allen's who could visit every little museum basement, library attic and open every school room cupboard.....

Houbara or MacQueen's Bustard *Chlamydotis undulata macqueenii*

Four British records are quoted for this species in the Handbook of British Birds by Witherby, etc. Are any of these specimens in your collection?

Kirton-in-Lindsey, Lincs. Oct. 1847
Redcar, Yorks (ad. male) 5 Oct. 1892
Spurn, Yorks (male) 17 Oct. 1896
St. Fergus, Aberdeen (female) 24 Oct. 1898

There is a fine bird in a private collection in Warwickshire, mounted by Henry Shaw of High Street, Shrewsbury (therefore presumably c.1890), but without further details. It is most probably of foreign origin, but just might be the second bird above.

Information on these or any others would be of great interest.

Mrs. Pam Copson,
Warwickshire Museum,
Market Place, Warwick.

The Butterflies and Moths of Shropshire

by Adrian M. Riley, published by Shropshire County Museums, 1981, 24 pp.

This is a list of the macrolepidoptera of the county of Salop with an asterisk system for indicating relative abundance of records. There is, however, no discussion as to why some species are less frequently recorded than others. No information is given on the methods of sampling although collections have been consulted, from those of local lepidopterists still in private hands up to the BM(NH).

Only records since 1965 have been included so that an up-to-date picture is presented to compare with earlier efforts. This might also help encourage further recording to fill the gaps but geographical coverage is not indicated to assist in this. Copies are obtainable from John Norton, Ludlow Museum (no price given).

27 JAN 1982

Disposal of bases for Hill's type entomological cabinets

Leicestershire Museums Service has for disposal a number of mahogany bases for Hills type entomological cabinets. They are offered free to any Museum willing to collect them or pay the costs of transportation. The precise details are given below.

1. For cabinets $19\frac{3}{4}$ " x 18", seating studs at $16\frac{1}{2}$ " and $14\frac{1}{4}$ "
 - (i) Beading on three sides of the base 2 available
 - (ii) Beading on one side of the base 10 available
 - (iii) No beading 1 available

2. For cabinets 20" x $20\frac{3}{8}$ ", seating studs at 16"
 - (i) Beading on two edges 1 available

If you are interested, please contact John Mathias, Keeper of Biology, Leicestershire Museums Service, 96 New Walk, Leicester LE1 6TD (Tel: Leicester 554100 ext.262).

S T O P P R E S S ! !

BIOLOGY CURATORS GROUP - OFFICERS AND COMMITTEE 1980/81

Chairman

Eric Greenwood
Merseyside County Museums
William Brown Street
Liverpool L3 8EN
051 207 0001

Secretary

Geoff Stansfield
Department of Museum Studies
105 Princess Road East
Leicester LE1 7LG
0533 553560

Editor

Geoff Hancock
Bolton Museum
Le Mans Crescent
Bolton BL1 1SA
0204 22311 ext 361

Treasurer/Membership Sec.

John Mathias
Leicestershire Museums
96 New Walk
Leicester LE1 6TD
0533 554100

Museums Association Liaison Officer

Janet Chamberlain
City Museum
Museum Road
Old Portsmouth PO1 2LJ
0705 811527

Committee Members

Peter Morgan
National Museum of Wales
Cathays Park
Cardiff CF1 3NP
0222 26241

Kelvin Boot
Royal Albert Memorial Museum
Queen Street
Exeter EX4 3RX
0392 56724

Martin Brendell
British Museum (NH)
Cromwell Road
London SW7 5BD
01 589 6323 ext.332

Mike Hounsome
Manchester Museum
Oxford Road
Manchester
061 273 3333 ext 3129

Peter Davis
Hancock Museum
Barras Bridge
Newcastle upon Tyne NE2 4PT
0632 322359

Howard Mendel
The Museum
High Street
Ipswich IP1 3QH
0473 213761

Co-opted Members

Bari Logan
Royal College of Surgeons
Lincoln's Inn Fields
London WC2A 3PN
01 405 3474
(Guild of Taxidermists)

James Bateman
County Museum
Fletchers House
Woodstock OX7 1SN
0993 811456
(Museums Association)

Yorkshire Telegraph Star Sept 1939

Protecting Sheffield's Treasures

WORK of safeguarding specimens many of which could not be replaced is going on rapidly at a Sheffield museum.

Hundreds of fragile specimens have been packed safely in—dustbins!

The idea was that of the Curator. While trying to find the safest means of storing the museum's treasures he happened to see a dustbin.

He went off immediately and ordered six dozen.

SAFE STORAGE

Soundly made, water-tight, and with bell lids, they form perfect protection, and already over 50 have been packed with treasures and have been removed to safe storage.

Besides this work, thousands of square feet of glass in showcases have been protected by thick, brown paper, glued into place.

The tops of the cases are being protected by means of "rafts" of boarding.

"Star" 4th Sept. 1939.

THE STAR, 7934.

TREASURES IN DUST BINS



GUARDING THE TREASURES at a local museum. Works of art are being safely packed and stored away in dustbins.

Yorkshire Telegraph Star January 10 1930.

SHEFFIELD PERSONALITIES: By Heap.



No. 70.—Mr. J. W. BAGGLEY, CURATOR, WESTON PARK MUSEUM AND ART GALLERY.

They criticise our art displays,
And so on, soon and later;
But money's the decisive phase,
So don't blame the Curator,