

NEWSLETTER

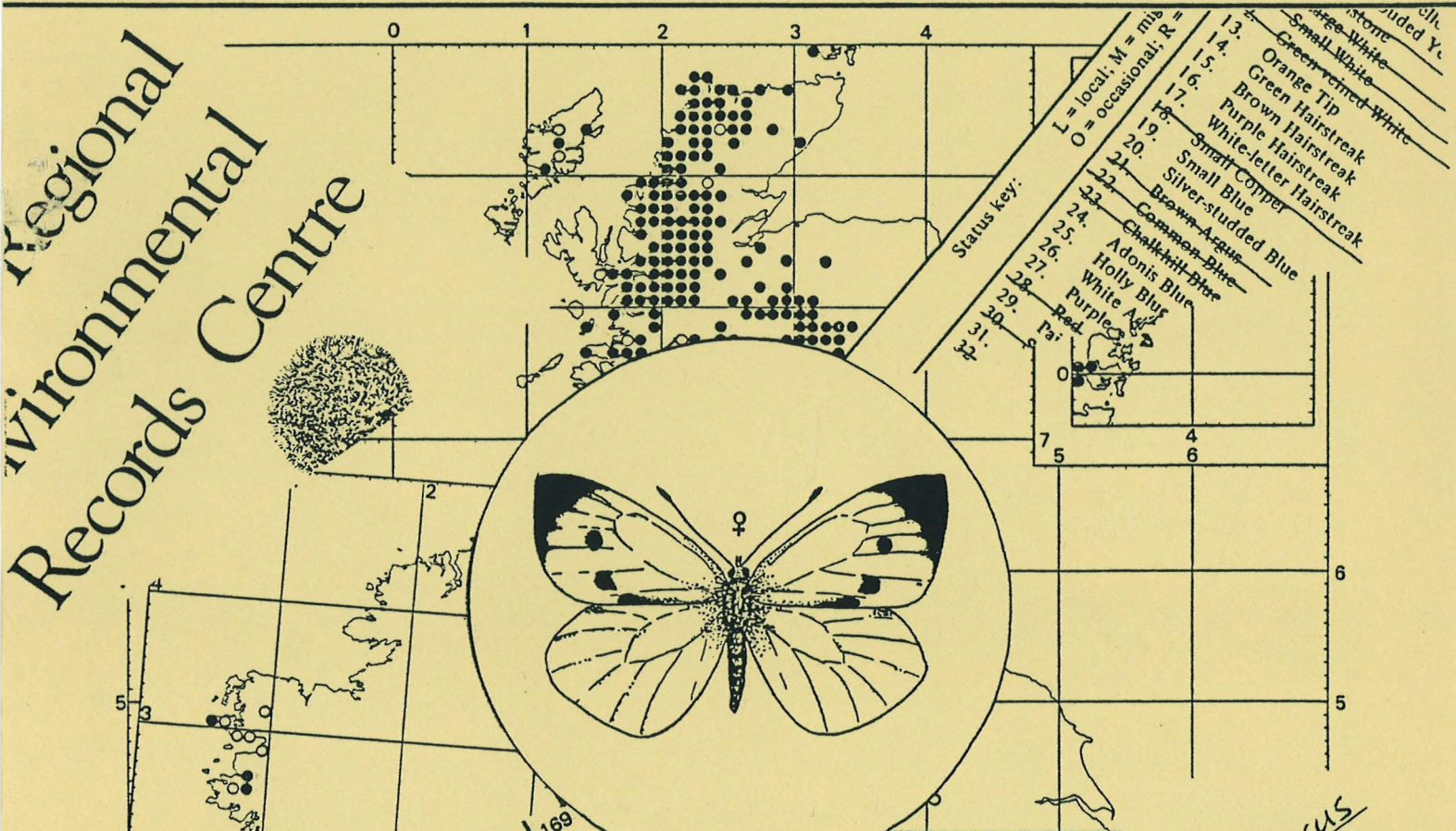


Volume 3 Part 7

1983

Biology Curators' Group

Regional
Environmental
Records Centre



- Status key:
L = local; M = mis
O = occasional; R =
13. Small White
 14. Green-veined White
 15. Orange Tip
 16. Green Hairstreak
 17. Purple Hairstreak
 18. White-letter Hairstreak
 19. Small Copper
 20. Silver-studded Blue
 21. Beeswing
 22. Common Blue
 23. Chalkhill Blue
 24. Adonis Blue
 25. Holly Blue
 26. White Admiral
 27. Purple Admiral
 28. Red Admiral
 29. Peacock
 30. Peacock
 31. Peacock

HABITAT	NOTES	DATE	COLLECTED BY	DETERMINED BY
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LARGE POND ON RED SANDSTONE	COLLECTED ON UNIVERSITY ENTOMOL TRIP	8.6.82		BRISTOL UNIVERSITY
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THEODOXUS FLUVIATILIS

BIOLOGICAL REC OXFORDSHIRE

D. Whiteley

BIOLOGY CURATORS GROUP

NEWSLETTER

vol. 3 no. 7

1983

Editor : Steve Garland

Assistant Editor : Derek Whiteley

Production Editor: Geoff Hancock

published by BCG

ISSN 0144 588 X

The aims of the Biology Curators' Group are:-

- i) to facilitate the exchange of information between individuals concerned with the management of biological collections and records, their research, conservation and interpretation.
- ii) to present the view of curators of biological collections.

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

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

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

Advertising Rates:

Full Page	£25.00
Half Page	£14.00
Insert	£15.00

Subscriptions for 1982 are £4.00 for individual membership and £7.00 for institutional and overseas members.

Cover design: Derek Whiteley

EDITORIAL

Many thanks to our contributors. Yet again they have provided a varied and interesting Newsletter. Richard Brinklow of Dundee Museum has written a marvellous Featured Institution section and at last we are able to include a D.W. mammoth paper on the survey of species recording schemes. In addition there is a good selection of letters on varying topics. Penny Wheatcroft's is very interesting and is a valid question when applied to many of the fumigants, preservatives and repellants that we use daily! There are many rumours in our profession, but few scientifically proven facts. Mysterious rumours follow around substances such as naphthalene, paradichlorobenzene and propylene phenoxetol; yet many of us take these chemicals for granted and no-one appears to have researched them fully.

Notes for Diploma Students appears to be superfluous so it has been abandoned.

The Lost and Found section seems to be surprisingly thin of late, but I suppose that everyone is too busy doing collections research. Hopefully this will result in a bigger response at a later date.

Now is the time to put pen to paper for the February issue. What about that article you've been going to write for ages? Why not now, while you remember? More discussions too. (I would imagine that some comment will be forthcoming concerning Brian Abel Seddon's contribution).

Meanwhile a merry xmas to you all.

Steve
&
Derek

Competition of the Month

This issue's competition should stretch the imagination a bit. Do you ever wonder what anonymous people on photographs are thinking or saying? Well look closely at the guy in the photo of Barrack St. Museum, Dundee, on p.350, OR look at the couple on the front cover of the Stoke issue. What are they saying? Send your captions to us by the next copy date and we will print the best, and try to find a bit of something for the winner.

Notes from the BCG Committee meeting of 19th July 1983

The Harrison Museum visit took place on 28th June when only 4 BCG members plus two spouses attended. Four local RSPB members were included in the party with mixed success, as their interests differed from the BCG members. Dr. Harrison is willing to consider a further visit.

(Ed. Do members want to attend this type of meeting and if so why was this date not suitable? Is there a demand for such meetings?)

There are now only 15 copies of the original printing of the Wildlife & Countryside Seminar Report left. A second printing will contain several corrections.

A biological Record Centre Seminar is envisaged for the summer of 1984. Details are still being finalized.

Ms. Bernice Williams has been appointed to the post of the Working Party on Natural Science Collection Resources. She began work in September 1983.

The American journal 'Smithsonian Contributions to Zoology' which has been sent to BCG on an exchange basis over the years is now housed in the Horniman Museum's Reference Library. It is open to the public from Tuesday to Saturday and on Sunday afternoons. BCG members can also gain access on Mondays via the Museum staff.

Bird Egg Displays

It seems to me that Alec Coles' comments on the above topic (BCG Newsletter Vol.3 Pt.6 p.345) calls for some reply. Mr. Coles is right in thinking there is no real evidence to suggest that displays of eggs in museums encourages people to go out and collect eggs from the wild; but there is ample evidence that it encourages them to steal those eggs from the Museum display itself. Clearly though, the reason why Mr. Coles missed this point is because, on his own admission, his museum does not have a display of eggs. I am sure there are many museum curators who could provide horrific stories of public displays of birds eggs which have been repeatedly broken into and items removed over a long period of time.

There is of course another point. Eggs exposed over a long period of time to daylight will fade. Such fading (though varying much from species to species) may be apparent after only ten years or so, and after a century will be bleached almost white. This was the fate of the British Museum's original egg collection, set up in the eighteenth century and finally dismounted in the 1840s or thereabouts. There will therefore be a general wastage over the years of any eggs set up on public display. In an age when fresh supplies of these materials are not, at least in theory, obtainable, it would seem more long sighted to explore the possibility of developing accurate plastic replicas for display, unless the the eggs which Peter Morgan destroys as being with insufficient data (q.v. Report No.2 p5) can be recycled to county museums for this purpose.

Michael Walters,
4, Prince's Road,
Richmond,
Surrey.



HORNIMAN MUSEUM AND LIBRARY

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The Editor,
BCG Newsletter,
Sheffield City Museum,
Weston Park,
Sheffield.

PW/JM

8 September 1983

Dear Sir,

Velson Horie's recent and informative article on the Renovation of the Manchester Bird Gallery mentions possible adverse reactions of the fumigant methyl bromide with specimens. Please could someone, somewhere specify what the problems of methyl bromide are. There appear to be more rumours about this fumigant than any other. For instance I have been told that 'it causes protein breakdown', 'it attacks fats', 'it leaves acid fumes', 'it leaves an unpleasant smell due to breaking down, sulphur bonds' or 'it only affects specimens in poor condition.' Alternatively there are those who say they have heard a good authority from Curator X who spoke to Mr. Y at Research Lab that the damage is minimal. Maybe the optimists are right, but I'd like to see some written evidence that I can judge for myself.

Given the general confusion about fumigation and fumigants I feel that BCG should consider providing some guidance for members, even if this is simply a compilation of members experience. I for one would be everlastingly grateful and would help compile such a record if necessary.

Yours faithfully,

Penny Wheatcroft

Keeper of Natural History

THE
BI-CENTENARY
OF CLIFTON HOUSE
1783 - 1983

Th/LMA/C/5351



ROTHERHAM METROPOLITAN BOROUGH COUNCIL

C. C. Williams, D.M.A., A.L.A.
Director of Libraries, Museum and Arts

Brian O'Malley Central Library
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The Editor,
Biology Curators' Group,
Sheffield City Museum,
Weston Park,
SHEFFIELD. S10 2TP

14th July, 1983.

Dear Steve,

Collecting Policies

I should like to endorse Mike Taylor's comments (BCG Newsletter 3, 6) on the need for collecting policies for all museums. We are employed as professionals not as dilettante collectors and we must be prepared to work in a disciplined manner. On a wider front, most of us are paid by the public and we, therefore, have a duty to work in co-operation with our colleagues in other museums and not in competition with them.

I accept that it is easier for a small museum like Rotherham, with limited resources in staff, space and finance, to decide that our aims must be limited by these constraints and to develop a collecting policy (and other policies) accordingly. We have, therefore, decided not to compete with our larger, better staffed and better funded neighbours and we now concentrate our resources on being a local museum. Other institutions may feel that they have the resources to be regional, national or international museums, but that is still a conscious decision and the implications and priorities still need to be thought through. The alternative is, as Mike pointed out, a museum which sways from one theme to another at the whim of each curator.

It is also worth bearing in mind that a collecting policy is not a display policy. I still display specimens from other parts of Britain and from the rest of the world, but I rarely collect such specimens.

Yours sincerely,

Bill Ely,
Keeper of Natural History,
Clifton Park Museum.



The Editor,
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Your ref Newsletter Vol. 3 Our ref NH/MIS/GH/KB
Pt. 6 p.327

Date: 24th August, 1983

Dear Steve,

Whilst not wishing to take up too much of the Newsletter's valuable space, with your permission I would like to comment on Dr. Mound's letter concerning the reprinting of the Information leaflet on Psocids.

I suspect that space in the Newsletter would not allow the inclusion of the seven page report which summarizes the work on which the leaflet is based. Bearing this in mind, are the questionable statements (a failing of many condensed and popularized accounts) so damning as to negate its purpose?

With respect to Dr. Mound paragraph four does not state, nor to my mind imply, that psocids are "never found where food is produced" but that the sorts of psocids found in homes are never found where food is produced. This again is an oversimplification as species of the genera Lepinotus and Trogium have been recorded in industrial and domestic locations. However, the scientific basis of the statement is that one particular species - Liposcelis bostrychophilus Badonnel, the major species associated with consumer complaints, has never been discovered in industrial premises.

I would submit that the leaflet with all its faults contains advice of value to the enquirer and is a useful, time-saving and yet scientifically justifiable report.

Yours sincerely,

GEOFFREY HALFPENNY, B.A., A.M.A.,
Keeper of Natural History

featured institution

DUNDEE MUSEUMS & ART GALLERIES

NATURAL HISTORY SECTION

Introduction

Dundee is one of Scotland's larger cities, with a population of about 180,000. Its Museums and Art Galleries Service has for many years been the responsibility of the Local Authority. The first museum in the city was that of the Watt Institution, founded in 1824 to provide further education for industrial employees. After flourishing for a few years, it declined and was wound up in the 1850's, the collections eventually being transferred to the Town Council to provide the original nucleus of the present Museum's collections.

Although the first of our present museum buildings was completed in 1867, it was not until 1949 that the need to employ a full time Curator was accepted, and as recently as 1970 that the first Natural Historian was employed to take charge of the Natural History collections. It is therefore not surprising that much of the biological material assembled in the early years has failed to survive to the present day.



Barrack Street Museum

The Staff

The present permanent staff of the Natural History Section consist of a Keeper, Mr. R.K. Brinklow : Two Assistant Keepers, one of Biology, Mr. A. Garside, and the other of Geology, Mr. D.S. Henderson : An Astronomer, Dr. F. Vincent : A Taxidermist, Mr. M. Nicoll and a Natural History Technician, Mr. J. Sage. Miss M. Matthews, a biologist who is the museum's Assistant Extension Services Officer, completes the professional team responsible for all aspects of the Natural History Service in Dundee.

In addition, the Curator (the administrative head of the whole Museums and Art Galleries Department) Mr. A.B. Ritchie, a former Keeper of Natural History himself, maintains a personal interest in the subject although not actively contributing to the work of the Section.

As the staff list implies, "Natural History" is interpreted in its widest sense in Dundee, although the astronomical activities and geological collections have been excluded as being beyond the scope of this article.

The Buildings

Four separate buildings scattered across the city house the Natural History staff and facilities. Two main buildings, the Central Museum and Barrack Street Museum, both near the city centre, house, at the time of writing, Natural History displays. Those in the Central Museum are, however, to be transferred to Barrack Street Museum, where most of the staff and collections are accommodated, in the near future. Broughty Castle, five kilometres to the east in the suburb of Broughty Ferry at the mouth of the River Tay, contains our Seashore Gallery and provides accommodation for the Assistant Keeper (Geology). The Mills Observatory, built in 1935 as a public observatory and set high on a hill in one of the city parks, completes the list of buildings.

Displays

In the Central Museum we have one gallery (150 m²) completed in 1973 in which local birds and mammals are displayed, mainly in ecological groupings or habitat settings. At Broughty Castle, the Seashore Gallery (60 m²) which was opened in 1977, includes open displays of the sandy and rocky shore creatures and an audio-visual presentation. Barrack Street Museum has one gallery (130 m²) containing a mixture of temporary Natural History displays currently open to the public. Our only live exhibit at the moment is a full size observation beehive, the sometimes temperamental behaviour of which is more than outweighed by its public popularity.

The Tay Whale Skeleton, which was formerly suspended from the ceiling in the Central Museum, has recently been dismantled and is stored awaiting gallery modifications at Barrack Street which will enable its redisplay. The vertebrate displays will then join it as part of a rationalisation programme to develop Barrack Street as Dundee's Natural History Museum. It is hoped that this will eventually result in the opening of five galleries, providing a total of more than 500 m² of Natural History and Geology displays in the building. The Seashore gallery will remain at Broughty Castle.

Collections

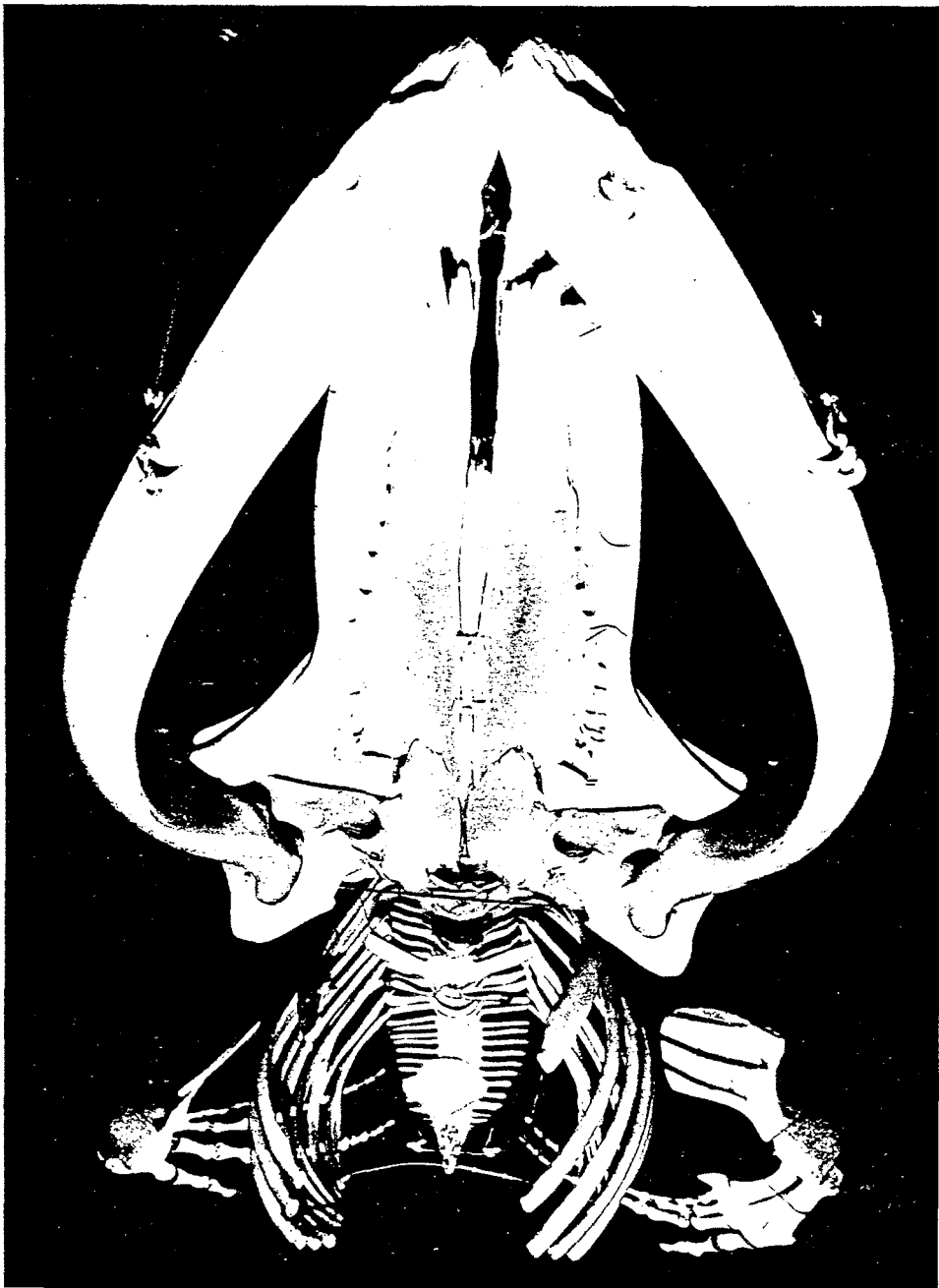
The historic collections in Dundee have still to be fully researched and documented. The following is therefore a preliminary account and is based on information collected as part of the Scottish Natural Sciences Collections Research exercise. We have recently begun a complete inventory of our entire collections which is programmed to be completed by April 1984.

Dundee was formerly a major whaling port and at one time the museum contained a very fine collection of Arctic, and to a lesser extent Antarctic, specimens. In addition, the captains of trading vessels returning from all parts of the British Empire presented a rich variety of exotic material. Surviving donations books from the 1880's to 1930's make tantalising reading, but indicate an overwhelming predominance of exotic over Scottish specimens. Years of neglect undoubtedly resulted in the destruction of many of these specimens, while a policy decision in the early 1950's to concentrate on local material led to the destruction or dispersal of still more of the foreign collections, so that only a fraction now remains.

Since 1970 a policy of concentrating on the active accumulation of well-documented Scottish specimens has been followed.

Vertebrate Zoology

Undoubtedly our most impressive specimen is the "Tay Whale" which has been one of Dundee Museum's main attractions for the last hundred years. The skeleton is that of a male Humpback Whale, *Megaptera novaeangliae*, nearly forty feet long, which was harpooned in the River Tay in December 1883.



The Tay Whale Skeleton

Bird Mounts : About 350 specimens survive from the previously much more extensive collections assembled in the late 19th and early 20th century. The modern collection contains some 420 specimens, almost all of Scottish origin and mounted by museum taxidermists, J. Wardrope and M. Nicoll. In addition we have 33 specimens from the Charles Stonham collection which were purchased in 1976.

Bird Skins : The 1,500 skins in our collection comprise : 650 modern Scottish specimens prepared by museum staff; 400 British and 40 foreign specimens from the J F T Nisbet collection purchased in 1971; 80 British and 75 foreign specimens from the J T Boase collection, donated in 1949; and 60 foreign specimens that formerly belonged to the Dundee Naturalists' Society.

Osteology : In addition to a heterogeneous assemblage of old material, our osteology includes over 100 bird sterna and over 100 bird skulls, prepared recently from Scottish specimens. The majority of the mammal study skins also have skulls attached.

Birds Eggs : These total nearly 7,000 and include the Alex Kennedy collection (1,000 British and foreign eggs from the late 19th and early 10th C.); the J F T Nisbet collection (535 eggs, mainly British and dated between 1920 and 1970) and the Dundee Naturalists' Society collection (3,373 eggs, mainly British and from the period 1900 to 1920). Of historical interest are 16 eggs collected by Sir Ernest Shackleton on South Georgia in 1914. Most of our eggs are however very poorly documented and appear to have little scientific value. The egg collection is not currently being increased.

Mammals : Of the late 19th and early 20th C collections of probably several hundred mounts, less than 20 still survive. However, since 1960, some 130 British specimens have been prepared. The mammal skin collection includes more than 200 British mammal skins prepared by museum staff and a further 60 skins from the J F T Nisbet collection that were purchased in 1971.

Fish : This collection amounts to over 500 specimens, the vast majority of which are spirit preserved. Almost all are modern, local specimens and most were collected by J. Sage from the Tay Estuary during a survey of the water cooling system of the Carolina Port Power Station, which has since closed.

Invertebrate Zoology

Insects : These total approximately 12,500 specimens. About half are old (late 19th and early 20th C) specimens and include some 2,000 generally poorly documented exotic specimens, mainly Lepidoptera and Coleoptera; 3,200 generally poorly documented British Lepidoptera and 930 specimens from the A F Braznor collection purchased in 1973. This well documented collection, mainly from Sussex, includes 220 Orthoptera.

The modern material (6,250 specimens) is almost all well-documented, of Scottish origin, and collected since 1970. The major components are as follows:

Lepidoptera

Garside, A.	1,100 specimens
Brinklow, R.K.	520 "
Wardrope, J.	110 "

Coleoptera

Garside, A.	1,100 specimens
Smith, M.	750 "

Diptera
 Smith, D 600 specimens
 Brinklow, R.K. 430 "

Hymenoptera
 Brinklow, R.K. 150 specimens

Hepiptera
 Smith, M. 100 specimens

Trichoptera
 Garside, A. 180 tubes

Plecoptera
 Garside, A. 100 tubes

Molluscs : This collection contains about 6,000 specimens, although in many cases a "specimen" is a bag containing a number of shells. Exotic material constitutes the major part, but most is poorly or totally without documentation. Potentially interesting however, is a collection of 1,200 American Gastropoda and Bivalvia, principally from the Milwaukee and Wisconsin river systems. Unfortunately the collector has not yet been identified. Very little old Scottish material is present, while the modern collection (about 500 specimens) has largely been made by members of museum staff, past and present, particularly T M Clegg and C R McLeod.

Other Invertebrates : Virtually none of the once extensive spirit collections from the late 19th C. have survived, but we do still have a few Porifera specimens from the 1873 - 76 Challenger Expedition and a small collection (85 sheets) of mainly local Coelenterata, Bryozoa and Porifera probably made by W. Gardiner between 1830 and 1852. We have 285 recently collected tubes of local freshwater and terrestrial invertebrates (other than insects or molluscs). Groups represented include; Arachnida, Crustacea, Myriapoda, Annelida and Platyhelminthes. The collectors are Campbell, J.K., Dodd, C., Harper, D., in addition to museum staff.

Modern marine invertebrates are represented by about 100 specimens covering, Arachnida, Coelenterata, Porifera, Bryozoa, Annelida, Crustacea and Echinodermata, all acquired as the result of fieldwork by museum staff.



Natural History Gallery circa 1960

Botany

Vascular Plants : There are approximately 9,000 herbarium sheets of vascular plants. The main collections included are: Miss U.K. Duncan (3,500 specimens), all of high quality, well documented and mainly Scottish, including some 2,200 voucher specimens for the "Flora of Angus", and 563 for the "Flora of East Ross-shire"; David, F. (1,600 specimens) collected between 1920 and 1960, well documented and mainly from VC 75 and 101.

Dundee Naturalists' Society (about 1,400 sheets), a poorly documented British collection from the second half of the 19th C.

Historically interesting collections include: 350 local specimens, the remnants of the herbarium of W. Gardiner, author of the "Flora of Forfarshire" (1848), and 49 specimens from his father, D. Gardiner.

We also have three out of the set of six fasciculi of Alexander Croall's "Plants of Braemar" (291 specimens).

The so called "Dundee Museum old collection" amounting to some 500 sheets dated between 1870 and 1920, is a motley collection with very variable data. As yet not fully catalogued, it contains specimens from J. Aimer, J.P. Low, J. Fulton, D.R. Robertson and T.K. Braithwaite.

Of the herbarium of the Dundee Watt Institution collected in the 1850's just over one hundred sheets have survived.

The foreign material, in addition to some pretty, but dataless albums of ferns, includes about 200 sheets collected by James Brebner between 1870 and 1900, mainly from Switzerland, Norway and Palestine; 43 sheets collected by A.Hutton between 1865 and 1867 in New Zealand and 18 sheets collected by G.L. Durando in 1862 and 1863 in Algeria and labelled "Flora Atlantica Exsiccata."

Current botanical activity is reflected in the H J Noltie and R K Brinklow collections, 300 and 200 Scottish sheets respectively, which have been gathered over the past decade.

Bryophytes : The museum collection contains between 3,000 and 3,500 specimens of which some 1,500 form the "Old Museum Collection" of British specimens, collected between 1830 and 1900 and a further 1,000 specimens of the G.Forbes collection, again mainly British and dated between 1870 and 1900. Both contain a considerable number of exchange specimens with over seventy associated collectors being represented.

Also present are 250 specimens of J.Ferguson, collected between 1869 and 1879, mainly from Angus and Perthshire, and 150 of W.Gardiner from the same area collected between 1830 and 1848.

Foreign material amounting to less than 200 specimens dating from 1830 to 1900, includes specimens from Germany, N. America, East Indies, and New Zealand. The associated names include; G.D.Brighton, G.Davies, T.Drummond, I.Eulenstein, W.Gourlie and R.Miller.

Our only modern bryophytes are 250 specimens collected by R K Brinklow from Angus and Perthshire.

Lichens : Most of the 2,000 or so lichens in the museum are modern, more than 1,500 being R.K. Brinklow specimens, mainly from Scotland and many being voucher specimens from the Angus Lichen Flora project. Other modern collectors include A.B. Ritchie (177 specimens), P. B. Topham and S. R. Davey (each 25 specimens).

We have approximately 150 local specimens from the mid to late 19th C. by collectors such as W Gardiner, A. Croall, A Kerr, W Jackson and also one copy of Fasciculus 2 and 3 only of W Mudd's lichens, (200 specimens).

Marine Algae : Ignoring the several hundred specimens on scraps of paper that totally lack data, the marine algae in the herbarium include about 500 British sheets from the second half of the 19th C., Angus, Fife, Orkney, Devon and Dorset are the main areas represented and G. Bell and A. Croall among the collectors.

In addition there is a collection of 200 foreign specimens donated by Max Paulsen in 1922. This contains many German specimens, but other localities include Australia, Tasmania, New Zealand, China Sea, Brazil, W. Indies and South Africa and were apparently collected in the 1860's.

Fungi : The only historic material present is one small collection of 53 microscopic fungi collected by W. Gardiner about 1848. The rest of the collection, size unknown, was lent to the Royal Botanic Gardens, Edinburgh in 1933.

We also have a small collection of about 100 modern macro fungi, the majority of which have been prepared as freeze dried display specimens.

Biological Records

As in many museums, the gathering of biological records is seen at Dundee as an important part of the work, and a logical extension of the data associated with the specimens which are recorded on MDA cards. The records cover most taxonomic groups and include species, collector and locality-based lists and composite mapping cards.

At the moment all the information is transcribed manually, imposing a considerable clerical workload on the curatorial members of the section. Future developments in the automatic handling of data may help to ease the situation. This could be very important, as I suspect that the manipulation of scientific data will become an increasingly important part of museum work.

Publications

Over the years, the museum has published a number of booklets and information sheets on various aspects of Natural History. The publication of "The Flora of Angus" by Ruth Ingram and Henry J. Noltie in 1981 is however our first major book. Running to more than 300 pages, it forms the first comprehensive account of the vascular flora of VC 90 since W. Gardiner's "Flora of Forfarshire" in 1848.

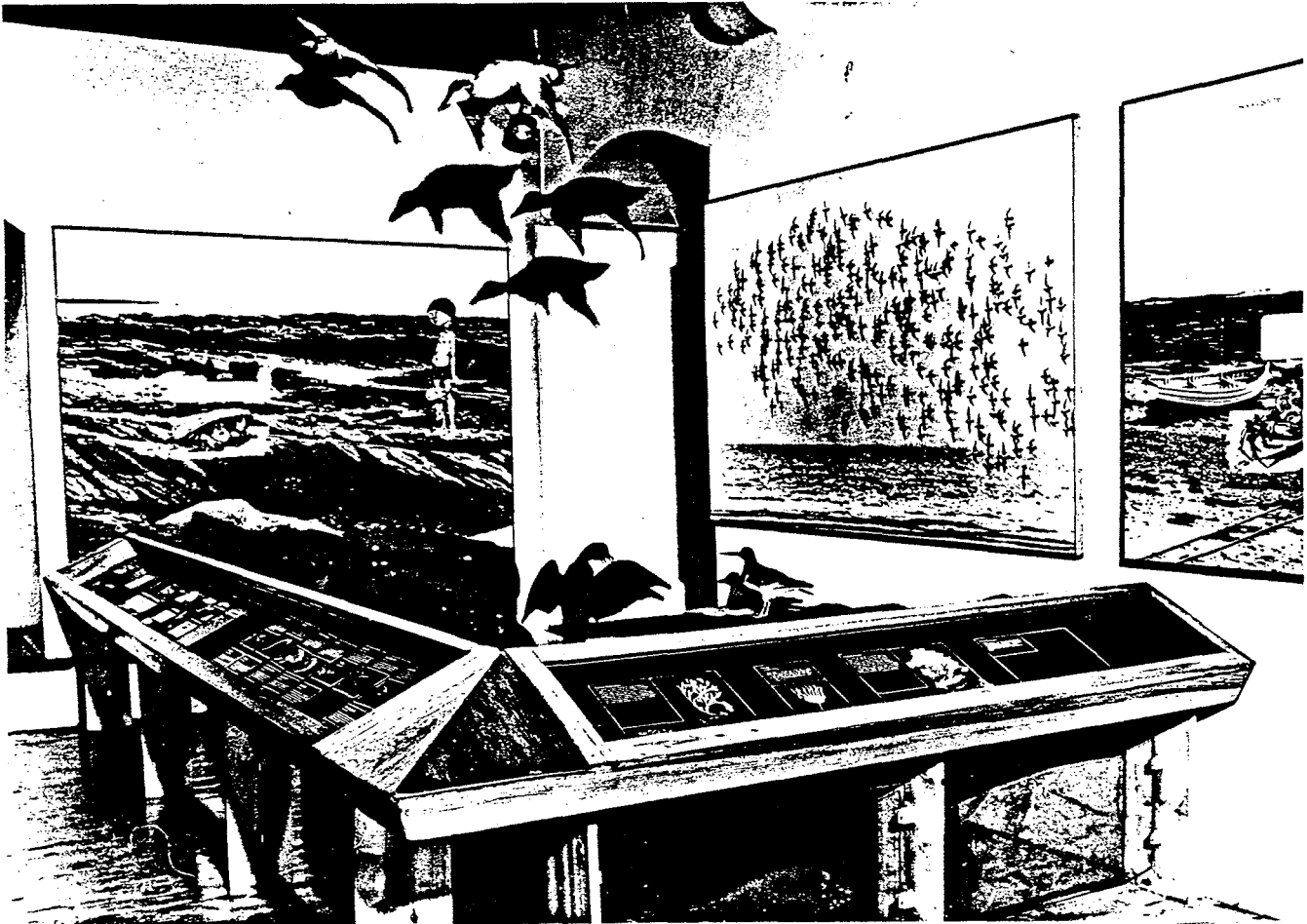
Research and Fieldwork

As previously indicated, active collecting by members of staff is now our major source of specimens. In botany, "The Flora of Angus" is being continuously updated, while the accumulation of both field records and voucher specimens as part of an "Angus Lichen Flora" project is the other main activity.

In invertebrate zoology, insect collecting and recording is the main area of interest. Lepidoptera, mainly sampled by regular light trapping, and to a lesser extent Coleoptera, Trichoptera and Plecoptera, are the main groups being investigated. We are currently concentrating on trying to build up reasonably representative data on a small number of the more interesting local sites.

Our activity in vertebrate zoology is reflected by the steadily increasing size of our bird study-skin collection. Excellent contacts with the local birdwatching and ringing fraternity are maintained by the Taxidermist, mainly as a result of his active personal involvement in ringing and migration studies.

In addition to these main interests, an attempt is made to gather information on all aspects of Natural History. This local knowledge underpins our public displays, and our identification and information service. We also try to contribute data to as many of the mapping schemes as possible.



Seashore Gallery, Broughty Castle

Extension Services Activities

The museum has an active Extension Services Section which liaises closely with the local Education Authority. One main feature of this work is the School Loans Service; specimens are lent to local schools, being delivered and collected each week by the museum van. Wherever possible, our policy has been to mount specimens specifically for the school loans collection rather than send out reject display material.

The current catalogue lists over 70 vertebrates, almost all local birds and mammals.

The collection also contains kits on a variety of topics such as local and exotic insects and seashore life. More recently small travelling displays on subjects linked to the school syllabus such as "Minibeasts" and "Animal Tracks and Signs" have been produced.

Educational activities within our buildings are at the moment limited by the lack of any suitable facilities, but staff regularly visit schools to give illustrated talks, and to assist with projects and to lead fieldwork excursions to sites in and around the town.

Extra Mural Lectures

For a number of years, members of the Natural History staff have given series of lectures on various aspects of Natural History as part of Dundee University's Extra-Mural programme, both in Dundee and the surrounding area. There is also a steady demand for museum speakers to address a wide range of local clubs and societies.

Redevelopment Plans

As previously mentioned, Barrack Street Museum has been designated to become Dundee's Natural History Museum as part of a rationalisation programme.

It is a fairly typical early 20th C building about 25 metres square, situated near the centre of the city and containing two public floors and a semi-basement. For more than 50 years it housed both part of the library service and museum galleries, but since the end of 1978, when a brand new library was opened elsewhere, the whole building has been under museum control. The Natural History collections were transferred temporarily into a public gallery and the redevelopment work began.

By 1980 a new boiler-room and firestair had been installed, two offices constructed and detailed redevelopment briefs for the whole building prepared. Unfortunately, restrictions on capital expenditure have resulted in little progress since that date. When completed, in addition to five public galleries, the building will contain modern storage facilities for the study collections and a suite of technical rooms. At the moment, however, although we have a range of technical equipment including two freeze-dryers, the working conditions of our technical staff leave much to be desired.

The proposed technical facilities include a general workshop and a laboratory, with separate taxidermy and geology workrooms, all to be hygienic, well-lit and ventilated and equipped to modern standards, including fume-cupboards where necessary.

I look forward to a time when the standard of the non-public areas matches those that are expected of public galleries.



150 YEARS OF LUDLOW MUSEUM

Ludlow Museum will celebrate its 150th anniversary at the Feathers Hotel, Ludlow, on the 12th October this year. It is believed the first suggestion for a Museum at Ludlow came even earlier from the time when Lucien Bonaparte, brother of Napoleon was taken prisoner of war. He was provided with Dinham House, Ludlow, as a residence where he lived with his family and a large number of servants. Lucien formed a small Museum in the Stables of Dinham House and on leaving Ludlow in 1811, is supposed to have left behind certain things to form a nucleus for a future town Museum. After that a Mr. Jones lived at Dinham House and continued to add to the collection, taking particular interest in the local fossils.

On the 12th October 1833 the Museum and Ludlow Natural History Society was founded by a group of local naturalists. Among these were the Rev. T. T. Lewis of Aymestry and Dr. Thomas Lloyd of Ludlow. It was their pioneer work on local geology which provided much of the information used by Sir Roderick Murchison, in his work on the geology of this part of the Welsh Borderland. Sir Roderick was himself one of the founder members of the Society which also included the Earl of Powis, T. A. Knight of Downton Castle, the celebrated horticulturalist, Lady H. Clive and Lady L. Clive, Mr. H. Salwey, Mr. B. Botfield, Miss Walcot, Mrs. Stackhouse, the Rev. Thomas Wellings, Mrs. Johnes-Knight, Mr. Swainson and Mr. R. Marston. The first annual report lists donations of geological and other specimens including fossils given by Mr. John Galliers of Stapleton Castle, who was known for experiments with electricity and his knowledge of natural history.

The Museum continues its natural sciences tradition to this day and now has more than 35,000 geological specimens, the majority coming from Shropshire and North Herefordshire. It is very much hoped that additional space may soon be provided in Ludlow for much needed displays which would tell the geological story of this part of the Welsh Borderland and for wildlife habitat groups.

Mr. and Mrs. W. Bonaparte-Wyse are attending the Museum's 150th anniversary. Mr. Bonaparte-Wyse is a descendant of Lucien Bonaparte. Many of the other guests will be members of the families of the original founders.

John Norton

Brief History of a Department : Natural History
at Birmingham City Museums and Art Gallery.

- April 1977 Natural History Branch Museum (Cannon Hill)
CLOSED in reaction to cuts in local authority
funding.
- December
1978 Plans for a British Wildlife Gallery drawn up
and case specifications considered.
- March 1979 City Architect's still preparing specification
of works (alterations, re-decoration, etc.)
but finance not available as the scheme was
listed in "Desirable Additional Works extra to
Recurrent Budget". Capital funds also failed.
- September
1980 Human Biology Gallery dismantled as refurbishment
overdue. Temporary exhibitions substituted.
- December
1980 Old Taxidermy Laboratory handed over to Museum's
Design and Display Unit as workroom.
- December
1980 Director asked for plans to replace Human Biology:
Draft layout prepared for new Invertebrate Gallery
incorporating space from old offices.
- December
1980 Proposed Scheme for re-opening the Branch Museum
prepared for Leisure Services Committee, but not
included on Agenda and not discussed.
- February/
April 1981 Modelmaking Consultant investigating feasibility *and*
costs.
- June 1981 No budget available: BOTH PROJECTS SHELVED.
- April 1981 Director toured NHD Galleries making specific
comment on displays where changes are required.
- June 1981 Museum Education Dept. moved into old NHD Offices
(effectively excluding that space from redevelopment
as gallery).
- May 1982 Cannon Hill Branch Museum completely refurbished
and requisitioned for storage of Applied Art
collections.
- October 1982 Director instructs NHD to prepare a scheme for a
major gallery renewal on Capital Funds.
- May 1983 Consultant Designer's cost estimate received.
- July 1983 New Zoology Gallery Feasibility Report presented.
PROJECT RE-SCHEDULED by Director for April 1985
(depending on sufficient funds in Museum's allocation)
giving first priority to construction of new workshops
and storage for Art Dept.

The preceding report is a purely factual record and discloses nothing that is professionally confidential. Although these issues and events have involved considerable staff time and efforts, none of them has ever reached the Committee whose elected members therefore have no knowledge of the activities of the Natural History Department in their City Museum. With the help of this Newsletter, I should like to inform our colleagues in other local authority museums that it is not due to apathy or inability on our part that we are not seen to be doing more.

B. A. Seddon
Keeper of Natural History
Birmingham City Museums (etc.)

PREVENTIVE AGAINST MADNESS IN ELEPHANTS. BY CARL FREIHERB
VON HUGEL.

The announcement in the Berlin papers of the tragical end of M. Tourniaire's Elephant*, certainly renders it desirable to know some means of preventing similar misfortunes, which have already occurred so frequently in Europe. The state of the Elephant which drives it to madness is termed by the Indians *Mosti*, literally, intoxicated by sexual stimulus or by spirituous liquors, and as soon as the keeper of the Elephants observes the symptoms of the *mosti* coming on, he has a never-failing means of restoring the animal confided to his care immediately to his senses. He places before it a vessel with three seers (a seer is somewhat more than a pound) of fluid butter, called *Ghie*, which the Elephant swallows and again becomes sober. When on great festivals Elephants are intoxicated with brandy for the purpose of fighting them, they are rendered sober as soon as desired by the same means. *Ghie* has moreover the same effect on Dromedaries and Camels when they are *mosti*. A portion of *Ghie* poured down their throats soon restores them to their usual state.—*Wiegmann's Archiv*.

Annals of
Natural
History
4 (1840)

* Poisoned with hydrocyanic acid. Our readers will also remember the fate of Mr. Cross's Elephant, which it became necessary to shoot from the same cause.

A SURVEY OF SPECIES RECORDING SCHEMES IN LOCAL BIOLOGICAL RECORDS CENTRES ■ DEREK WHITELEY ■

From time to time members receive requests from a number of sources for information or advice on how to keep records of local fauna and flora in a species orientated file. Sometimes enquiries are from embryo L.B.R.C.'s trying to embark on the most cost-efficient and time-efficient system when new curators pick the brains of the "old-timers". Others include naturalists, planners, conservationists etc. etc., and of course colleagues in neighbouring museums who always like to keep an eye on what the other folks are up to!

The "Handbook for Biological Records Centres" by S. W. Flood and F. H. Perring provides some guidance. It recommends that standard B.R.C. species list cards are marked for occurrence in each 10km square, and the use of species record cards with a county map printed on one side showing boundary of recording area and recording units e.g. tetrads. Localities for records can be entered on the reverse and the maps marked with dots etc.

Having tried several different card and loose-leaf formats as a recorder at Sheffield Museum and with the Sorby Nat. Hist. Society, I became interested in seeing how other museums function, and always made a point of sneaking a quick peep inside the filing cabinet on museum visits.

A brief survey seemed to be the answer, and consequently several appeals were made via the B.C.G. Newsletter and by personal contact for examples of recording paraphernalia.

The following is a slightly edited version of the replies to this appeal. At this point I would like to thank all museums and staff who took pains to answer yet another B.C.G. request for information, and express apologies to those who I didn't chase up for one reason or another. The results seem to represent a fair cross section of museums, both geographical and functional, and I hope this review will provide further ideas for some, inspiration for others, and interesting browsing to most of us.





BUCKINGHAMSHIRE COUNTY COUNCIL

Miss J. Royston (AYBCM) writes "Herewith a copy of the quarto cards used at AYBCM to record individual sightings of species. Any list of species from a site is filed separately under the site and not cross referenced yet."

BADGER (*Meles meles*)

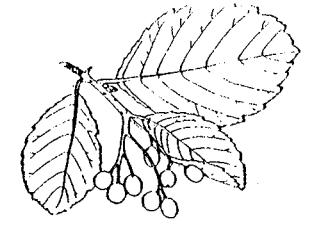
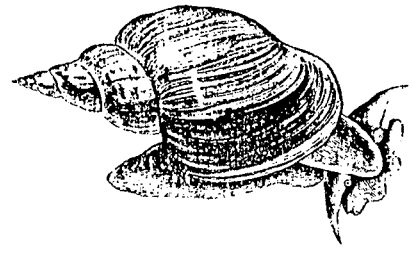
CARD 2

- 26. iv 1970 Cub, Short Heath farm JR)
nr Addington (Exhib 1905)
- 25 iii 1971 Eythrope road. Seen at bend of road below Nursery spinney (AW)
- 26 iii 1971 Waddesdon cross roads (Teacher)
- ✓ iii 1971 Abundant all along border of Ashrodge estate (JW)
- 7 iv 1971 Chartridge Lane- wood near 136 (E Humphreys)
- 3 iv 1971 138 Chartridge Lane (CDNHS)
- ix 1946 Wendover SP 883067 (Arch map)
- 24 ii 1910 ♂ ♂ ♂ Hardwick (BCM 85.10)
- 1946 Spinney N of concord wood. Sett (BCM 137.46)
- ✓ 26 i 1971 Bledlow Ridge SP 76 99 circa (day book)
- 5 v 1971 Hawridge common (day book)
- 18 vi 1971 Speen (day book)
- 28 vi 1971 High Wycombe (day book)
- 28 vi 1971 Chinnot Hill (day book)
- 18 x 1971 Aston Abbotts (day book)
- 1292 Licence to hunt in N Bucks (WB)
- 1925 Creslow (WB)
- ✓ 1971 SP 769179 Sett in covert. 5 young in 1971 (Mr. Beckett, 5000)
- ✓ 1971 SP 797203 circa POSSIBLE sett (Mr Beckett, 5000)
- 1971 Sett facing SW on cultivation terr ces SP 749137 in use (CNG)
- 1971 SP 879109 sett about here (JG)
- ✓ 1971 904118 " " " "
- 13 vi 1972 Ilmer - sent to Killingley (Via telephone SC)
- see The Grebe 1971-2
- 11 vi 1972 Amersham hill (CDNHS)
- end July 1972 Near Latimer (CDNHS)
- 30 ix 1972 SP 774165 on A 41 at Fleet Marston (report)
- 30 ix 1972 SP 723123 on Cuddington to Lower Winchendon Rd (report,
2 v big setts at Shenley (GH)
- ✓ 3 xi 1971 Marlow Su 855888 (day book)
- 5 xi 1972 Aston Clinton (day book)
- 30 xii 1971 Stoke Mandeville (day book)
- 10 vi 1972 Crows nest, Tring Hill (day book)
- 24 viii 1972 Grendon Rd, Ickford (day book)
- 29 ix 1972 Fleet Marston (day book)
- 2 x 1972 Cuddinton - L Winchendon Rd (day book)
- 7 March 1973 SP 718348 (day book)
- 21 May 1974 A413 Boswell. (Day book)

Robert Butler (Supervisor, Bristol Regional Environmental Records Centre) enclosed samples of home produced cards, and a very useful information sheet (reproduced here) on the function and activities of the B.R.E.R.C. In addition to these locally orientated species cards, Bristol also uses standard BRC species cards. Robert Butler adds "The Flora of Avon species list was produced by an Avon County Council MSC survey scheme. We are currently using it, but will shortly be extensively revising it."

Flora of Avon species list	Site Name: <i>Dolebury Warren</i>	Site No: <i>0410</i>
Date & Source <i>27.4.82</i>	MUSEUM BRISTOL	Gid-Ref. & Map No:
Parish/District: <i>CHURCHILL / WOODSPRING</i>		Vice County:
Habitats: <i>Limestone Grassland + Iron Age campment + modern Warren</i>		

Abies	alba	Amaranth	caudatu	Aster	tripolium	Callitri	stagnal	Carex	polyphylla
Abies	grandis	Amelanch	laevis	Astragal	danicus	Calluna	vulgaris	Carex	pseudocype
Abies	procera	Ammophila	arenar	Astragal	glycyph	Caltha	palustris	Carex	pulicaris
Acer	campestre	Anacampt	pyramid	Athyri	felix-fem	Calysteg	sepium	Carex	remota
Acer	platanoides	Anagal	aven/aven	Atriplex	glabrius	Calysteg	soldane	Carex	riparia
Acer	pseudoplat	Anagal	aven/foem	Atriplex	hastata	Camelina	sativa	Carex	rostrata
Achillea	millefo	Anagalis	minima	Atriplex	patula	Campanul	glomera	Carex	serotina
Achillea	ptarmic	Anagalis	tenella	Atropa	bell donn	Campanul	patula	Carex	strigosa
Acinos	arvensis	Anemone	nemorosa	Avena	fatua	Campanul	rotundi	Carex	sylvatica
Aconitum	napellu	Angelic	sylvestr	Avena	ludviciana	Campanul	trachel	Carex	vesicaria
Acorus	calamus	Anisanth	madrite	BALDELLI	ranuncu	Cannabis	sativa	Carex	vulpina
Adonis	annua	Anisanth	sterili	Ballot	nigr/foet	Capsella	burs-pa	Carlina	vulgaris
Adoxa	moschatell	Antennar	dioica	Barbarea	interme	Cardamin	amara	Carpinus	betulus
Aegopodi	podagra	Anthemis	arvensi	Barbarea	stricta	Cardamin	flexuos	Carpobro	edulis
Aesculus	carnea	Anthemis	cotula	Barbarea	verna	Cardamin	hirsuta	Carum	carvi
Aesculus	hippoca	Anthemis	tinctor	Barbarea	vulgari	Cardamin	impatie	Castanea	sativa
Aethusa	cynapium	Anthoxan	odoratu	Bellis	perennis	Cardamin	pratens	Catabros	aquatic
Agrimoni	eupatori	Anthrisc	caucali	Berberis	vulgari	Cardaria	draba	Catapodi	marinum
Agrimoni	procera	Anthrisc	cerefol	Bertheroa	incana	Carduus	acanthoi	Catapodi	rigidum
Agropyro	caninum	Anthrisc	sylvest	Berula	erecta	Carduus	nutans	Caucalis	latifol
Agropyro	junceif	Anthylli	vulnera	Beta	vulgari	Carduus	tenuiflo	Caucalis	platyca
Agropyro	maritimi	Antirrh	majus	Betonica	officin	Carex	acuta	Centaure	cyanus
Agropyro	pungens	Antirrh	orontum	Betula	pendula	Carex	acutiformi	Centaurea	jacea
Agropyro	repens	Apera	spicata	Bidens	cernua	Carex	arenaria	Centaure	nigra
Agrostem	githago	Aphanes	arvensis	Bidens	frondosa	Carex	binervis	Centaure	scabios
Agrost	cani/cani	Aphanes	microcar	Bidens	tripartit	Carex	capillaris	Centauri	erythra
Agrost	cani/mont	Apium	graveolens	Bilderdy	convolv	Carex	caryophyll	Centauri	pulchell
Agrosti	gigantea	Apium	inundatum	Blackston	perfol	Carex	demissa	Centrant	ruber
Agrostis	setacea	Apium	nodiflorum	Blechnum	spicant	Carex	depauperat	Cephalan	damsoni
Agrostis	stoloni	Aquilegi	vulgari	Blysmus	compress	Carex	diandra	Cephalan	longifo
Agrostis	tenius	Arabidop	thalian	Borago	officinal	Carex	digitata	Cerastiu	arvense
Aira	caryophylle	Arabis	hirsuta	Botrychi	lunaria	Carex	distans	Cerastiu	diffusum
Aira	praecox	Arabis	stricta	Brachipod	pinnat	Carex	disticha	Cerastiu	fontanu
Ajuga	reptans	Arctium	lappa	Brachipod	sylvati	Carex	divisa	Cerastiu	glomera
Alchemil	vulagg	Arctium	minus	Brassica	napus	Carex	divulsa	Cerastiu	pumilum
Alchemil	glabra	Arctium	tormento	Brassica	rapa	Carex	echinata	Cerastiu	semidec
Alchemil	vestita	Arenaria	leptocl	Briza	media	Carex	elata	Cerastiu	torment
Alchemil	xanthoc	Arenaria	serpyll	Bromus	commutatu	Carex	extensa	Ceratoph	demersu
Alisma	lanceolat	Armeria	maritima	Bromus	lepidus	Carex	flacca	Ceratoph	submers
Alisma	plant-aqu	Armoraci	rustica	Bromus	mollis	Carex	flava	Ceterach	officina
Alliaria	petiola	Arnoseri	minima	Bromus	racemosus	Carex	filiformis	Chaenorh	minus
Allium	oleraceum	Arrhenan	elatius	Bromus	secalinu	Carex	hirta	Chaeroph	temulen
Allium	sphaeroce	Artemesi	absinth	Bromus	thomini	Carex	hostiana	Chamaeoc	lawsoni
Allium	ursinum	Artemesi	maritim	Bryonia	cretica	Carex	humilis	Chamaeoc	leyland
Allium	vincale	Artemesi	vulgari	Buddleja	davidii	Carex	laevigata	Chamaeoc	nobile
Alnus	glutinosa	Arum	italicum	Bupleuru	rotundi	Carex	lepidocarp	Cheirant	cheiri
Alnus	incana	Arum	maculatum	Bupleuru	tenuiss	Carex	montana	Chelidon	majus
Alnus	viridis	Asparagu	officin	Butomus	umbellat	Carex	muricata	Chenopod	album
Alopecur	bulbosu	Asperugo	procumb	Buxus	semperviv	Carex	nigra	Chenopod	bon hen
Alopecur	genicul	Asperula	arvensi	CAKILE	maritima	Carex	otrubae	Chenopod	murale
Alopecur	myosuuro	Asperula	cynanch	Calamagr	epigejo	Carex	ovalis	Chenopod	polyspe
Alopecur	pratens	Asplenium	adiant	Calamint	nepeta	Carex	pallescens	Chenopod	rubrum
Althaea	hirsuta	Asplenium	marinu	Calamint	sylvati	Carex	panicea	Chenopod	vulvari
Althaea	officina	Asplen	ruta-mura	Callitri	interme	Carex	paniculata	Chrysant	segetum
Althaea	rosea	Asplenium	tricho	Callitri	obtusum	Carex	pendula	Chrysosp	alterni
Alyssum	alyssoid	Aster	novi-belgi	Callitri	platyca	Carex	pilulifera	Chrysosp	opposit



WHAT YOU CAN DO

It is not the policy of the centre to replace the existing system of data flow based on local and national recorders feeding information directly to specialist societies and the National Biological Records Centre, but rather to fill the gaps which exist in the data-gathering system and to provide a permanent archive for individual and society natural history records and official surveys.

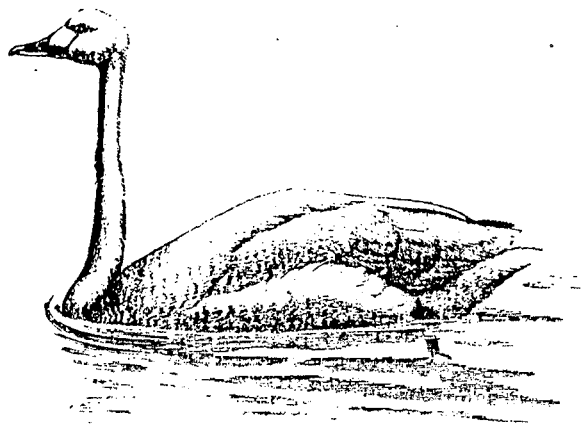
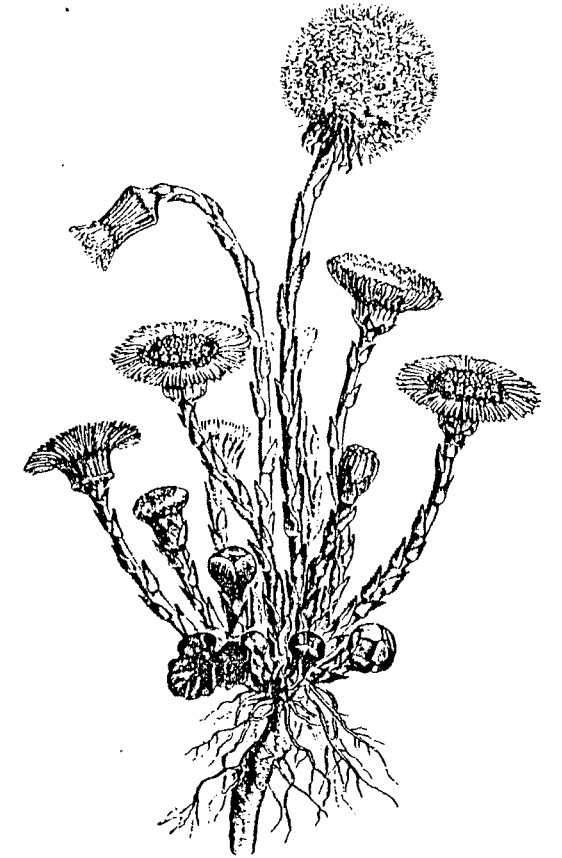
For individuals and groups who are keen to contribute biological records, there are projects run by the centre (see B.R.E.R.C. newsletters) for which recording cards will be made available - alternatively, individuals and groups are encouraged to record for any species or sites in which they are interested. The centre will be glad to advise on surveying methods and to provide specimen recording cards where required.

We can be contacted at:

B.R.E.R.C.,
City of Bristol Museum & Art Gallery,
Natural History Section,
Queen's Road,
Bristol BS8 1RL

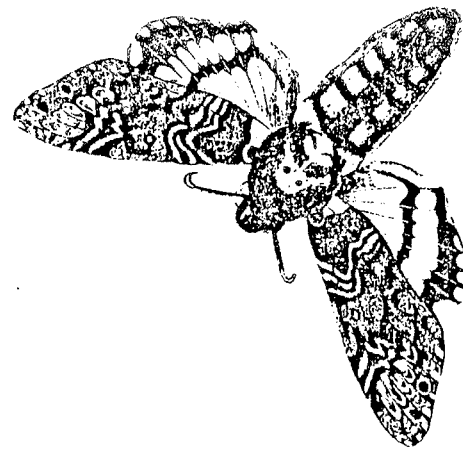
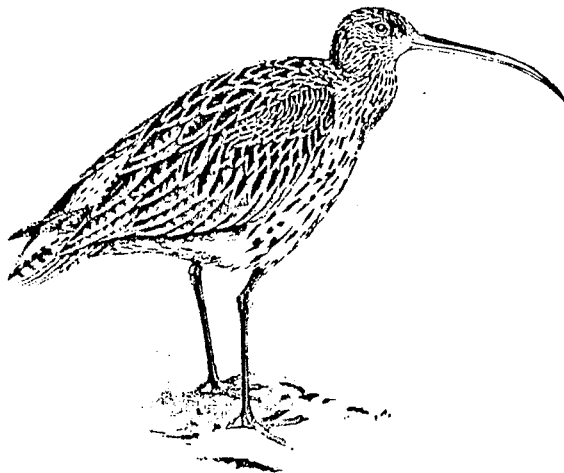
Tel: (0272) 299771

Bristol Regional Environmental Records Centre



WHAT IS B.R.E.R.C.?

- * It is the Bristol Regional Environmental Records Centre.
- * It aims to provide a centre of reference for information on the status and distribution of plants and animals in the region.
- * It aims to maintain and update a record of local sites of natural history and geological interest.
- * It is a regional link with the National Biological Records Centre at Monkswood, Cambridgeshire.
- * It aims to act in an impartial manner concerning the collection and release of information (with necessary restrictions on sensitive data).
- * It is maintained by the staff of the Natural History section of the City of Bristol Museum and Art Gallery and, currently, by staff employed on a Community Enterprise Project funded by the Manpower Services Commission.



WHAT IS THE FUNCTION OF B.R.E.R.C.?

- * To provide a permanent archive for the deposition and management of natural history records which are based on field records, museum collections and published works amassed by individuals, societies and official surveys.
- * To encourage and co-ordinate biological recording by developing a liaison between individuals and organisations.
- * To co-operate with relevant bodies including the local wildlife trusts and planning departments with the aim of identifying sites of significance for conservation and education and to monitor threatened sites or species.
- * To make available information for research.
- * To promote the publication of atlases, guides, surveys and scientific works to disseminate information and to promote a better understanding of wildlife in the region.

WHAT DOES B.R.E.R.C. DO?

- * Stores information on both cards and a computer which ensures the maximum use of the data through an extensive system of cross references.
- * Offers help and advice concerning collecting, recording and identifying flora and fauna.
- * Maintains a bibliography of the natural history of the region.
- * Encourages standardised recording in the region.
- * Prepares information in response to enquiries.
- * Maintains a directory of local specialists and recorders.



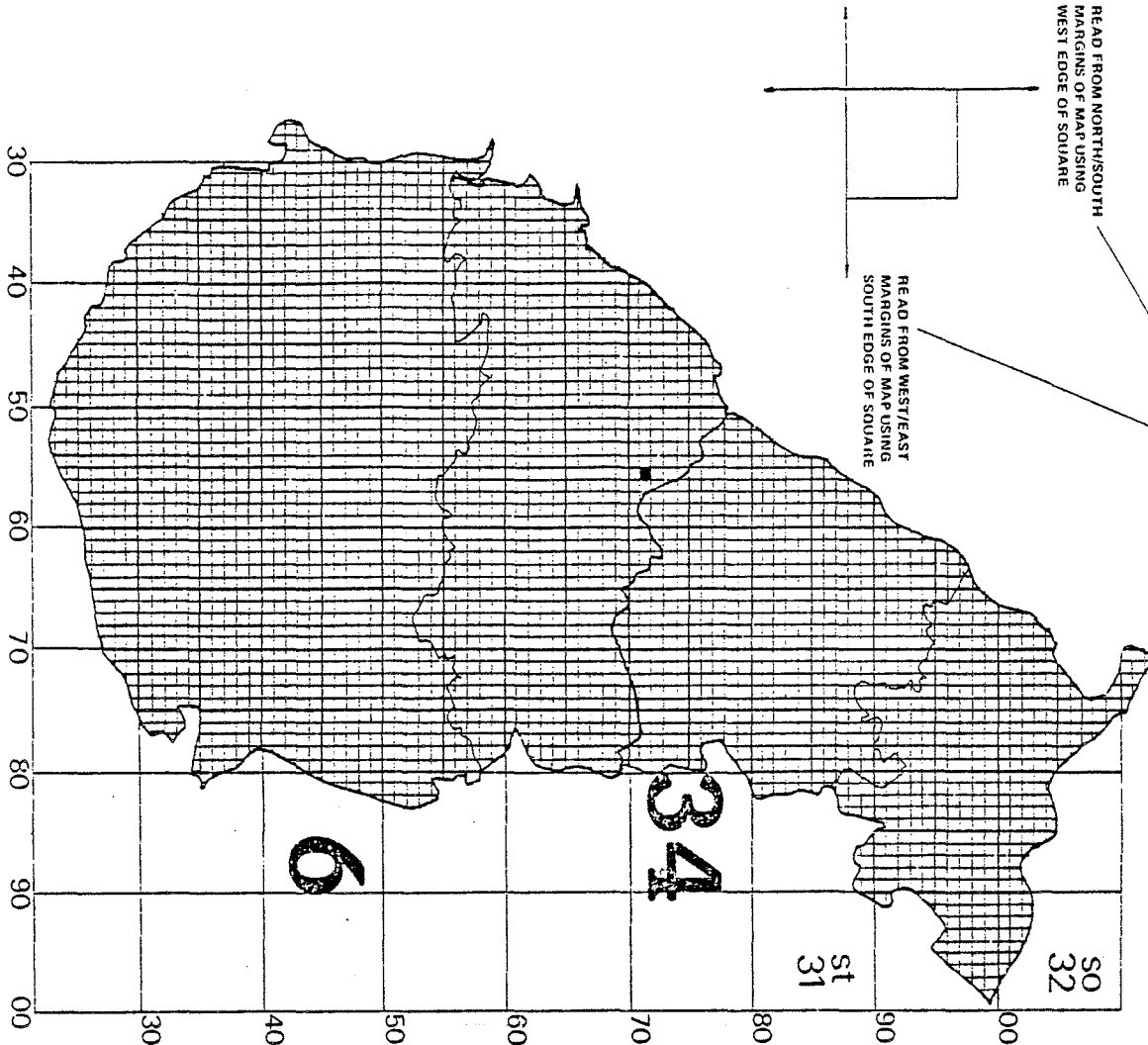


GRID REF'S

100 Km² SQUARE CODE — ST 78 34
DIGITS OR LETTERS
ONLY SO, ST IN AVON

READ FROM NORTH/SOUTH
MARGINS OF MAP USING
WEST EDGE OF SQUARE

READ FROM WEST/EAST
MARGINS OF MAP USING
SOUTH EDGE OF SQUARE



ROYAL ALBERT MEMORIAL MUSEUM



Exeter

Kelvin Boot at Exeter Museum uses a home-produced 8" x 5" multi-record card, cross referenced to a site file. Species check-lists are used in a site file.

Species are mapped at the tetrad level, with at least two maps indicating distribution during the period 1950-1976, and more recent records.

Three sorts of hand-outs are provided to encourage the general public or naturalist to submit records

- a) a species recording form
- b) a habitat survey sheet for locality studies
- c) forms for special surveys

Grassland, Heath and Moorland

1. (a) Name and point locality of site
 - (b) National Grid Reference
 - (c) Name and address of recorder(s)

 - (d) Sketch map to indicate survey area as part of overall district

 - (e) Date(s) of visits (with time of day)
 - (f) Outstanding interest(s)
 - (g) Land ownership/management, to include recent objectives and activity (approximately the last 50 years)
2. Description - underline accordingly
 - (a) Grassland type; eg. open pasture, arable, grazing land, tall grasses (5' or more), short grasses (6" or less), bunch grasses in clumps, sod-formers with underground rhizomes, non-grassy herbs, woody plants, parkland, scrub, heather, gorse, open heath, moorland
 - (b) Margin; eg. abrupt, diffuse, continual grassland, fence or hedge, wall, water, etc.
 - (c) Soil; eg. acid, peat, alluvium, sand, loam, clay
 - (d) Adjacent land use; eg. scrub, arable, cultivated or rough pasture, marsh or fen, road, rail, river, quarry, seashore, clifftop, housing, industry, military, etc.
 - (e) Additional habitats and microhabitats; eg. ditch, banks, paths, rock outcrops, scree, boulders, marsh, pond, stream, river, lake, canal, buildings, isolated trees, dung-pats, etc.
 - (f) Comment on any features of particular geological interest

3. Natural History Status

Please tick the relevant groups being investigated, and add any comments as a footnote. Separate species can then be written on the relevant group species lists that are subsequently attached.

PLANT GROUPS

TREES

FLOWERS

SHRUBS/GORSE/HEATHER
GRASSES

LICHEN

FUNGAE

ALGAE

FERNS

MOSSES

ANIMAL GROUPS

BIRDS

MAMMALS

ARTHROPODS (insects, etc.)

REPTILES

AMPHIBIANS

FISH

WORMS

MOLLUSCS (slugs, snails, etc.)

Comments

4. (a) Pollution Is there known or visible pollution? (State whether industrial or domestic, effluent or 'solid' - including tipping - the source if known, and whether pollution is permanent or occasional).

(b) Amenity ie. recreational use of the area; eg. nature trails, picnicing, camping, angling, swimming, boating, organised sport, casual use by children. If such use is made by an organised club, please give the name if known.

Further Comments

Group Species Record Sheet

1. (a) Name and point locality of survey site :
- (b) National Grid Reference :
- (c) Name and address of recorder :

Date	<u>SPECIES DETAILS</u>	(continue overleaf)
	Species name	Comments; eg. very common, common, rare, stage of development, sex, interesting points of behaviour, whether feeding, etc.

NORTH HERTFORDSHIRE DISTRICT COUNCIL

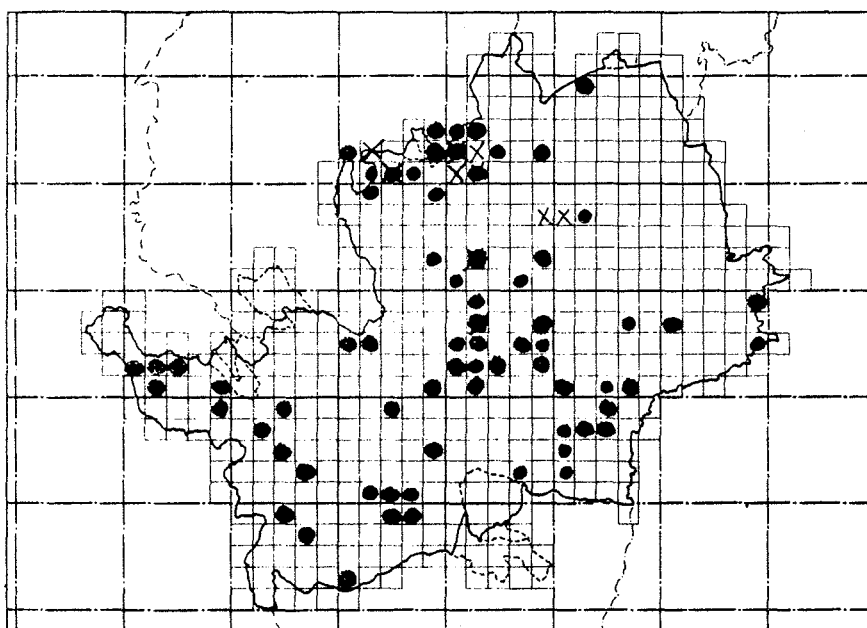
MUSEUMS SERVICES

Brian Sawford (North Herts.) writes "I enclose photocopies indicating the system that we operate. This scheme has been found to be very easy to use, both by ourselves and the various researchers, recorders, etc. that make and take data.

Most data are post-1974 (when the biological data bank was set up), although some earlier records are annotated either by open circles or crosses. We have established a biological recording forum for Hertfordshire that facilitates close contacts with County recorders and national networks, and ensures positive data movement. For some groups we act as County recorders and for others we receive duplicate records. In conjunction with the species distribution we also maintain biological and geological sites files for northern Hertfordshire, which contain a mixture of standard species record cards, maps, photographs, etc.

For vascular plants you will note that two maps are used, the smaller has been taken from the extant County Flora, and the larger indicates post-Flora records on a 2x2 Km basis. This facilitates our work as BSBI vice county recorders. Using such integrated data we also have established habitat assessment regimes for relatively rapid evaluation of sites in conjunction with various planning and conservation requirements.

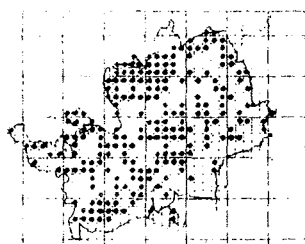
Comma Polygona c-album



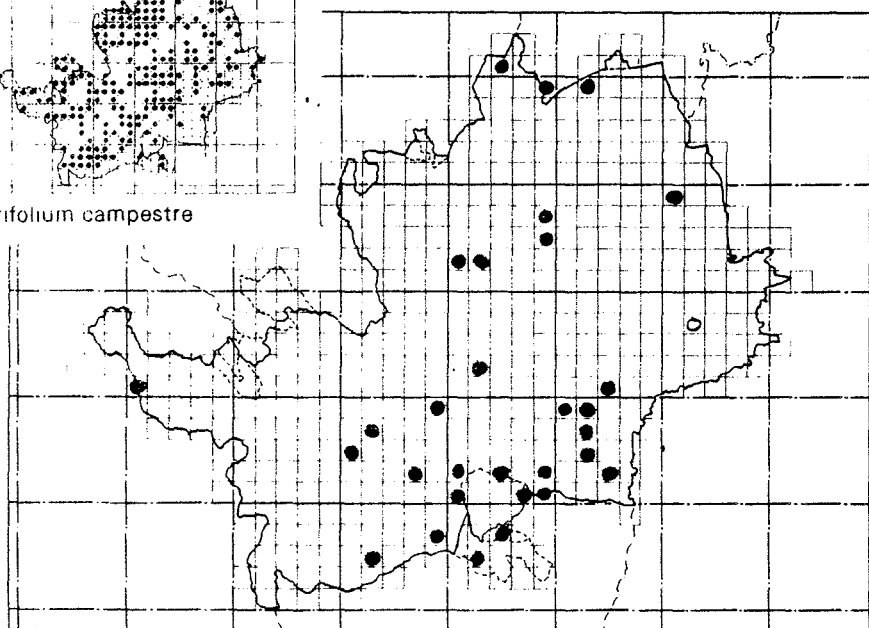
- Norton Common (1922) - Ray Palmer
 Hine (2 records from Letchworth, 1 from Apsley End)
 n. William (1953) - R. Edwards
 prior to 1833 abundant in Herts' - Illustrations of Brit. Entomology - J.H. Stephens.
 n. Hitchin (21/9/21) - N.T. Easton Jour. LNHS (2).
 Norton Common (7/5/22) - R. Palmer
 (-19/22) - N.T. Easton
 n. Pigeonwidge, Knebworth (28/7/35) - R. Palmer
 Baldock Rd, Letchworth (-19/35)
 Letchworth (6/7/47) - S. Bourden, J. LNHS (7).
 Knebworth (27/7/47)
 n. Welham (1945) Rev. W. G. Graham THNHS XVI (4)
 Pirton (1911) C. Burton THNHS 27 (4) (TL 13/K).
 TL 21/I Welwyn, 1945. R. Ferry.
 TL 22/G Knebworth Woods, 1946 R. Ferry.
 TL 23/L Baldock 23/8/76. B.R. Sawford
 TL 13/Q Oughton Head, 20/6/76. W.O. Morris
 TL 12/W By Hitch Wood, 30.6.76 T. James.
 TL 13/Q Oughton Head, 19.9.75 T.J.
 TL 31/T Cold Christies 1.8.76 T.J.
 TL 30/C Home Farm, Newgate St. 1972. T.J.
 TL 30/B Cuffley occasional 19701 T.J.
 TL 13/F. Dinton (1976). C. Burton
 TL 23 B. Letchworth (1976) B.R. Sawford.
 TL 21/X Branfield Park Wood, 24.4.77. T. James
 TL 22/Q. Astonbury Wood (1974) Tomkins & Burton
 TL 22/Q. Astonbury (1977). Tomkins & Burton
 TL 21/C Dowsdale Wood, 15/4/79 T. James.
 TL 23/B. Norton Common 16/4/80. BRS.
 TL 30/I Broxbourne Woods, 21/7/81. CM James.

- TL 31/K Hertford Heath 29.8.77. T.J. (+ Balls Wood).
 TL 22/A Graffridge Wood. 4.9.77. T.J.
 TL 32/E Watling place Green. 20.11.1977 T.J.
 TL 13/K. Pirton, several (25/5/77) C. Burton.
 TL 12/J Letchwell Way, n. Telegraph Hill (1978/79). BRS.
 TL 10/K.R. Radlett (1970) B. Wildridge.
 TL 19/P.R. Radlett
 TL 10/F. Brick Wood (1979) B. Wildridge.

Trifolium campestris. 192. 21



Trifolium campestris



- TL 30/E (1974). J. Killick.
 TL 23/Z Slane Bank, Ashwell, 11.9.77 T.J.
 TL 33/J. Hitches Valley (27/7/78) BRS/TJ
 TL 42/E green Lane, E. of Sparkfield, 1/7/79. T.J.
 TL 24/K. Ashwell Sewage Farm 25/7/79 T.J.
 TL 31/K. Balls Wood 1978/9. P. Maddox.
 TL 41/I. Hadham Towers (1953-1970) J. Fielding

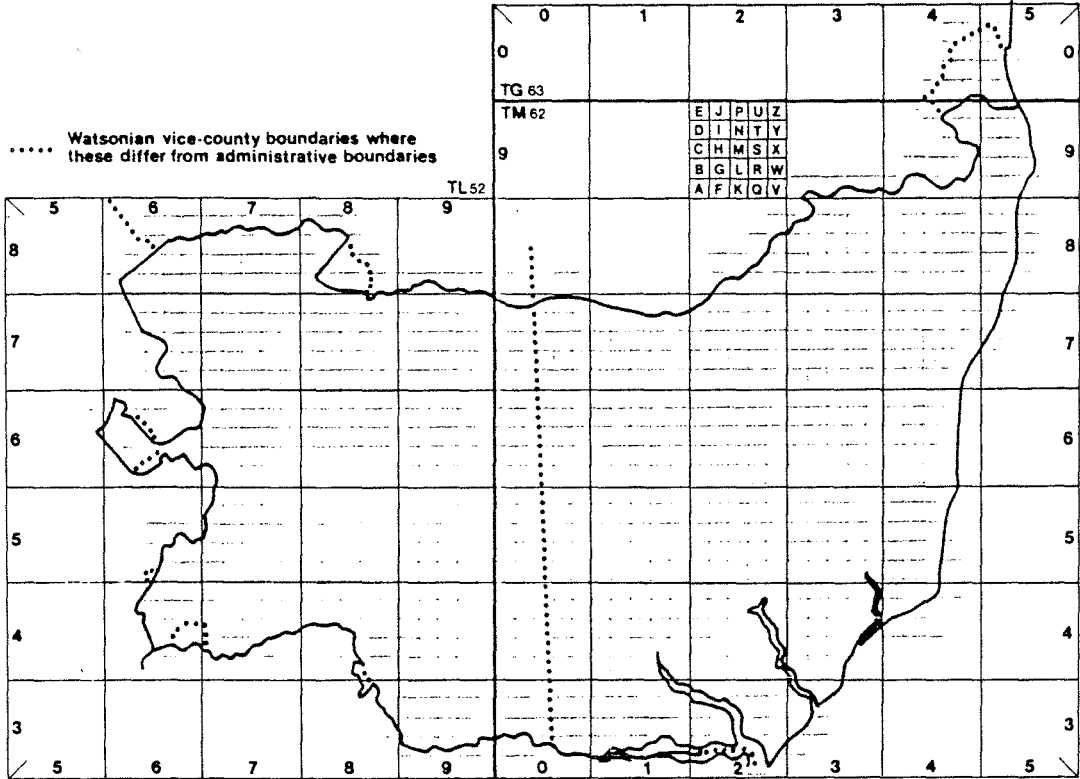


BOROUGH OF IPSWICH

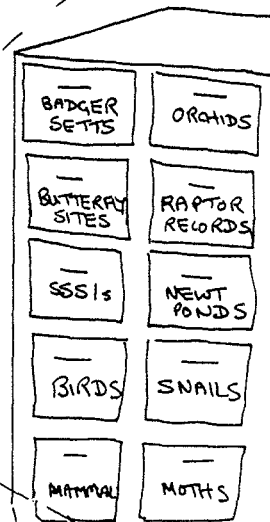
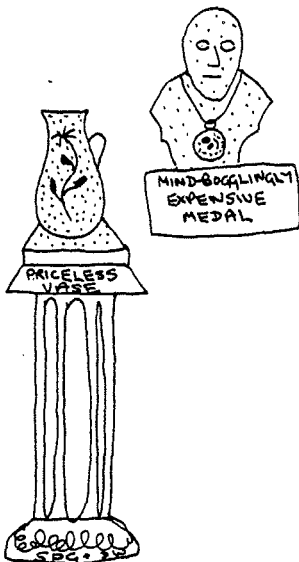
Howard Mendel (Ipswich Museum) and the S.B.R.C. use B.R.C. GEN 7's in conjunction with the home-produced distribution map card.

SUFFOLK

WATSONIAN VICE-COUNTIES 25 East Suffolk
26 West Suffolk



MUSEUM STORE



BUTTERFLIES AND MOTHS IN LEICESTERSHIRE

LEICESTERSHIRE LEPIDOPTERA RECORDING SCHEME

The last published account of Leicestershire butterflies and moths (Lepidoptera) was the Victoria History of the County of Leicester (1907) (V.C.H.). Leicestershire has changed a lot since then, particularly in the way the land is used and managed. As a result some of the species recorded in 1907 can no longer be found in the county; others not in the V.C.H. have been recorded recently.

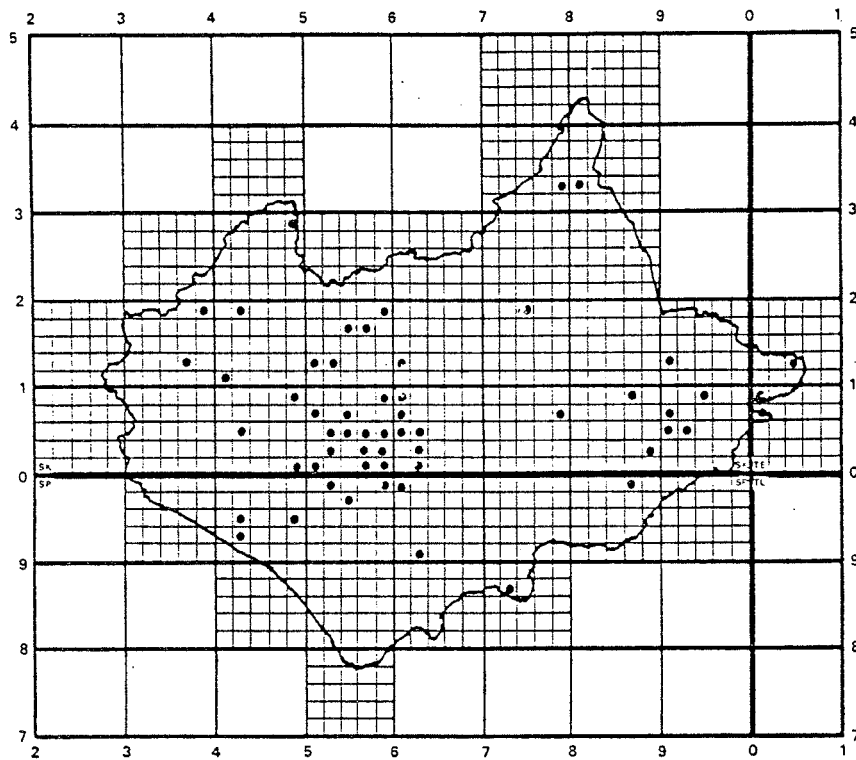
In 1954, H.A. Buckler brought together many of the records from the 1930s and 1940s and compared them with the V.C.H. listings. Changes had already taken place. About 90 of the species on the 1907 list had not been recorded subsequently, but nearly 40 new species had been added. However, it must be remembered that when both lists were compiled only a small number of people were observing and recording lepidoptera so only certain areas of the county were covered.

At the national level, recording since 1964 has been coordinated by the Biological Records Centre at Monks Wood Experimental Station in Cambridgeshire. The system which they use is based on the 10 kilometre squares (squares with sides of 10 kilometres) of the Ordnance Survey National Grid. Data for the butterflies and some of the moths have already been published in the form of distribution maps. These maps reveal a lack of information for parts of Leicestershire, even for the most common species.

10km square distribution maps are not sufficiently precise to provide the more detailed information required by people interested in studying and conserving lepidoptera in Leicestershire. To supply this more precise information the Leicestershire Lepidoptera Recording Scheme was established at the Museum in 1977. This scheme is based on 'tetrad' distribution maps. A tetrad is the area enclosed by a 2km x 2 km square (i.e. FOUR square kilometres), thus every 10 km square is divided into 25 tetrads. There are 41 10 km squares which contain 713 tetrads wholly or partly within our county.

The tetrad distribution map for the elephant hawk-moth Deilephila elpenor is shown overpage. The larvae (caterpillars) of this moth feed on willow herb and other common plants. Food is therefore abundant throughout the county and one would expect a corresponding county-wide distribution of moths. However the distribution shown on the map indicates the main concentration in the city and its suburbs. Is this really what happens or are city dwellers more observant and curious than people who live out in the county?

Tetrad distribution map for the elephant hawk-moth in Leicestershire.
 A dot is put in each tetrad for which at least one record has been received.



So far we have received records of 46 species which were not recorded in either the V.C.H. or the Buckler list; even so records from some parts of the county are few or non-existent.

To be successful the Leicestershire Lepidoptera Recording Scheme requires field workers, recorders and a coordinator.

The field workers range from casual observers who bring specimens to the Museum for identification or only note butterflies which they see in their gardens to dedicated amateurs who are happy to sit all night with a generator-powered light, catching moths, at some remote spot in the county.

The recorders collate the information received from the field workers and then mark up the maps. Previous knowledge of Lepidoptera is not essential.

The scheme is being coordinated by an Assistant Keeper in the Biology Section at the New Walk Museum, Lt. Col. Donald Hall-Smith.

We need your help with this scheme.

If you are a Lepidopterist may we have access to your records?

If you are interested and you live in a poorly recorded part of the county then let us know about any Lepidoptera which you see and can positively identify - such as butterflies in your garden.

If you would like to help us with the work of transferring and mapping records then come to the Museum for an hour or two and give us a hand.

Anyone who would like to help in any way should contact Donald Hall-Smith at the New Walk Museum or by phone:- Leicester 554100 Ext.288.

LEICESTERSHIRE LEPIDOPTERA RECORDING SCHEME

Notes for Observers

The information needed from observers for any sighting is as follows.

Name of locality, including the parish if known

The name of the parish is required for the main record cards. If it is known to the observer and entered on the sighting card this will help the recorder who transfers the information from the sighting card to the main record cards.

Map reference

A six figure map reference should be given if possible. A four figure reference is the minimum requirement to enable the appropriate tetrad to be identified. Advice on how to work out map references is given on a separate sheet. If the sighting is in your garden and you do not have a map from which to obtain the map reference please enter the full postal address in the Locality box.

Date(s) of sighting(s)

A periodic list for one locality covering any length of time during a calendar year is just as useful as separate lists for each date of sighting during that year. When a periodic list is prepared in subsequent years it is helpful if species not seen in previous years are marked, may be with *. The distribution maps are initiated at 10 yearly intervals therefore when lists which cover more than one year are prepared it will be helpful if sightings during different decades are kept separate e.g. 1 Jan 1970 to 31 Dec 1979, 1 Jan 1980 to 31 Dec 1989.

Name and address of the observer. Telephone number if on the phone.

List of species seen.

The scientific names used for the scheme are those given in "A Check List of British Insects, Part 2: Lepidoptera", 1972, by Kloet and Hincks. The English names used are those given in "Butterflies of the British Isles" by R. South and the two volumes of "Moths of the British Isles" by R. South. Both scientific and English names are shown in "A Recorders Log Book or Label List of British Butterflies and Moths" by J.D. Bradley and D.S. Fletcher, 1979, published by Curwen Books. It costs about £2.00.

The main record cards and dot maps are filed in alphabetical order by genus and also alphabetically by species within genera. Whenever possible lists of species should be in alphabetical order, preferably by scientific names but lists of English names can be used.

A specimen of the Sighting Cards which are available to observers is attached. Would observers who are working in the Biological Records Centre scheme please let us have their B.R.C. cards to copy before they send them to the B.R.C.

LEICESTERSHIRE LEPIDOPTERA RECORDING SCHEME

Notes for Recorders

(Revised June 1981)

Main record cards are divided into butterflies (rhopalocera), the larger moths (macro heterocera) and the smaller moths (micro heterocera).

Main record cards and tetrad maps are filed in the above three groups in alphabetical order by genus and also alphabetically by species within genera.

The publications etc. which it may be necessary to use

The BRC RAS Master Card and supplementary card

NOTE The smaller moths are not on these cards

A BRC RAS record card which has been annotated and amended. When a main record card and tetrad map have been prepared for a species the appropriate mark is put against the species number on this card. Where necessary the names have been altered to agree with current usage.

A species not on the BRC RAS Master Card is entered on the supplementary card when a main record card and a tetrad map for it have been prepared. They are in BRC numerical order.

The smaller moths Master Card

This shows the smaller moths, with B & F number, for which main record cards and tetrad maps have been prepared.

BRC Indices of English Names and Scientific Names

This consists of the following alphabetically arranged lists:-

English names with scientific names and BRC code numbers for

Butterflies

The larger moths

Scientific names with BRC code numbers for

The larger moths

Bradley & Fletcher (B & F) = "A Recorder's Log Book or Label List, 1979"

This is a systematic list of the current scientific names of all the British Lepidoptera and the commonly used English names.

There have been some amendments to the Kloet & Hincks names.

Kloet & Hincks = "A Check List of British Insects, Part 2: Lepidoptera", 1972 by Kloet & Hincks.

This is a list of the scientific names of the British Lepidoptera arranged in systematic order and includes synonyms.

Gazetteer of Leicestershire

This contains alphabetical list of place names, parishes and districts and their map references.

Maps, Ordnance Survey 1:50,000, Sheets 128, 129, 139, 140 and 141.
Street map of Leicester, 4 inches to 1 mile (1:15,840)

RECORDING PROCEDURE

To enable the name used on the sighting card to be connected with the correct main record card it is necessary to allocate the appropriate BRC or B & F number to it. This number is then found on the applicable Master card (if not already done, the appropriate mark is put on the Master Card) and the name shown is then selected from the main record card and tetrad map file.

The appropriate entries are made on the main record card.

The tetrad map card is to be marked by putting a number in the appropriate tetrad and this number is entered below the map reference in the Map Ref. box on the main record card and ringed thus (5). The numbers are to run sequentially from 1. If subsequent records are received for an already numbered tetrad the original number is to be used for them also.

When the necessary entries have been made on the main record card and the tetrad map card, a red mark is put against the name on the sighting card. When all of the species reported on the sighting card have been dealt with there will be a red mark against each name, the sighting card sequential number is then ringed with red.

Finally the map showing all tetrads from which records have been received is to be marked.

A "Recorder's Flowchart" is available.

D.H. Hall-Smith
June 1981

Hereford City Museums

Jonathan Cooter from Hereford City Museums sent a sample card for the Herefordshire lepidoptera scheme, using different coloured inks for records of the different forms of the Peppered Moth. (I have annotated the black and white photocopy for those who are interested B = Blue Bk = Black R = Red G = Green - ed.). Jonathan writes "This is typical of the lepidoptera, but of course the different colours used with this species are unique. As yet we have not searched the literature but see a few problems in this - it was (from 1874 to about the 1940's) the done thing to record by Parish (in which case we record the ref. for the church) or by "Woolhope Divisions" - a device used by the Woolhope Naturalists Field Club, mainly for plants. Any 10km sq. records are noted and the square shaded in lightly with lead pencil. For very common species - small tortoiseshell, "whites" etc., we assume they occur throughout the 10km sq. and leave it at that, but note the locality, of course.

At present the lepidoptera records we have amassed reflect the areas in which Dr. Harper and Dr. Miles live, plus a few extras, mostly made up of "night ops" that Dr. Harper and I have made. At present Dr. Harper is getting ten years intensive recording of micros into an order that others, apart from himself, can understand. These will then be added to our BRC cards.

We concentrate on insects - birds have been recorded for years by the Ornithological Club, plants by the Bot. Soc. and I see no point, other than centralising records, for duplicating these groups. We have access to each other's records.



SPECIES *Biston betularia* (L.)

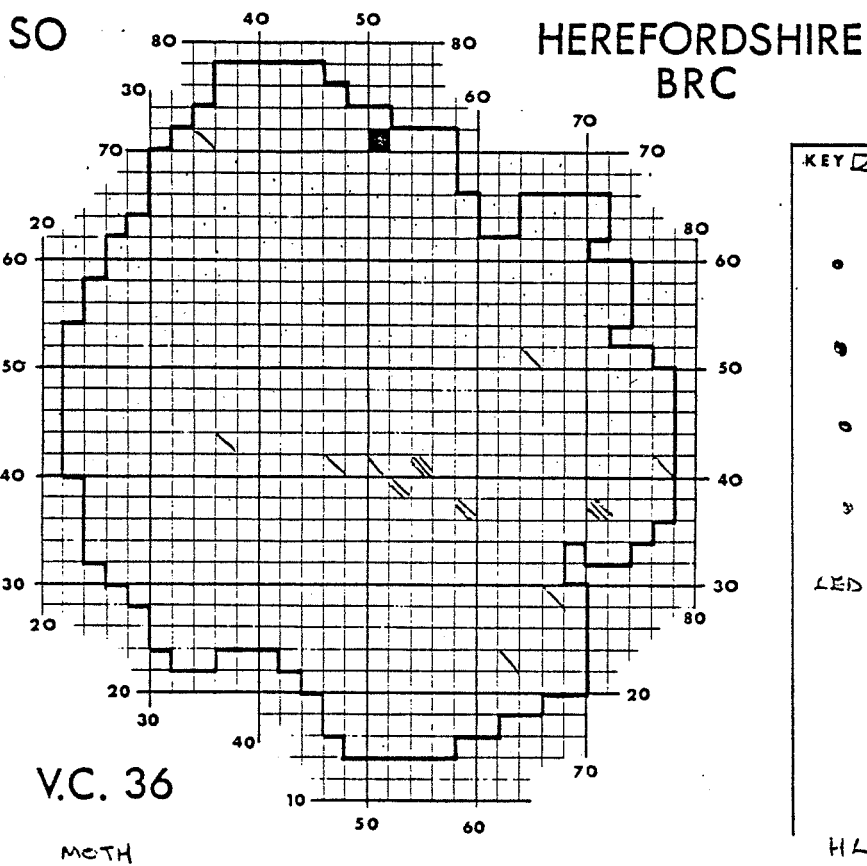
HEREFORDSHIRE BRC

V.C. 36

COMMON NAME PEPPERED MOTH		STATUS RESIDENT	
GRID REF.	HABITAT/LOCALITY	RECORDER	DATE
1	35.71 B. Bampton Bampton Pk. Wash, MV	J. Coster	12.11.1919
	34.72 B. Marston Park	D. Kennell	17.18.1919
	70.36 B. Kalsburg (Connalbury)	M. Harper	1968.75
5	70.36 R. Kalsburg	M. Harper	1968.75
	70.36 Bk. Kalsburg	M. Harper	1968.75
	76.40 B. British Camp 30 HL	M. Harper	21.11.1972
	74.36 B. Ragged Stone Hill 20 HL	M. Harper	23.11.1971
	64.50 B. Instone Ct. Bishop's Farm	M. Young	1964-1971
	66.28 B. Queen's Wood - Kempton	M. Harper	18.11.1972
	62.22 B. Waston-under-Penyard	M. Harper	1969
10	58.36 R. House Wood 10 HL	M. Harper	15.11.1971
	58.37 B. Razer's Wood 10 HL	M. Harper	18.11.1970
	52.39 B. Hereford, Basil Miles MV	M. Harper	1973-1978
	52.39 Bk. Hereford, Basil Miles MV	M. Harper	1977(1) 1978
15	54.40 Bk. Logwoodine 2 ans	M. Young	1967-74
	54.40 R. Logwoodine 3 ans	M. Young	1967-70
	54.40 B. Logwoodine 31 ans	M. Young	1967-70
	46.40 B. Swainshill - Sturton Sugaw	M. Harper	1964
20	77.45 G. The ...	Paul ...	1968 (1)
	74.40 G. The ...	Paul ...	1968 (1)
	518.411 Bk. Penn Grove Rd, Hereford	R. Hall	31.11.1982
25			
30			
35			

HEREFORD MUSEUM AND ART GALLERY
COPY 68

Print Plus Hereford 2026



SPECIES *Biston betularia* (L.)

COMMON NAME PEPPERED MOTH

KEY = pre 1960 = post 1960

- NON-MELANIC (typical) [Blue ink]
- MELANIC (carbonaria) [Black]
- INTERMEDIATE (intermedia) [Red]
- NOT INDICATED [Green]

LED BURY Dr. Harper's records, all these annually
Typical > intermedia > carbonaria

HL = Health light
MV = Robinson pattern mercury vapour



Merseyside County Council

John Edmondson (Dept. of Botany) sent an example of a "home-produced" species card for flowering plants and ferns.

Grid ref.	A	Locality	Date	Habitat	Recorder					
		5 Acer	pse	241 Biden	cer	520 pal	745 Erodi	cic*	995 Hotto	pal
		7 Achil	mil	242	tri	522 vul	753 Eroph	ver*	998 Hydro	mor
		9	pta	243 Black	per	528 Clema	758 Eryng	mar	999 Hydro	vul
		19 Adoxa	mos	244 Blech	spi	530 Clino	759 Erysi	che	1002 Hyosc	nig
		20 Aegop	pod	245 Blysm	com	532 Cochl	763 Eupat	can	1003 Hyper	and
		2241 Aescu	hip	246	ruf	533	771 Eupho	exi	1011	hum
		21 Aethu	cyn	248 Botry	lun	540 Coniu	772	hel	1006	mac
		22 Agrim	eup	250 Brach	syl	541 Conop	775	par	1014	per
		26 Agrop	can	251 Brass	nap	544 Convo	777	pep	1015	pul
		28	jun	252	nig	551 Coron	780	por	1016	tet
		32	pun	254	rap	552	2243 Euphr	off*	1018 Hypoc	glad
		33	rep	256 Briza	med	555 Coryd	810 Fagus	syl	1020	rad
		35 Agros	can*	269 Bromu	mol*	557 Coryl	813 Festu	aru	1023 Ilex	aqu
		36	gig	271	rac	565 Cramb	816	gig	1026 Impat	gla
		39	sto	272	ram	569 Crata	821	ovi*	1030 Inula	con
		40	ten	273	sec	570	823	pra	1038 Iris	pse
		41	Aira	113	ste	571 Crepi	824	rub*	1047 Isole	set
		42	pra	276 Bryon	dio	572	830 Filag	ger	1048 Jasio	mon
		46 Ajuga	rep	277 Buddl	dav	875 Cruci	831	min	1050 Juncu	acuti
		58 Alche	vul*	288 Butom	umb	592 Cymba	833 Filip	ulm	1054	art
		62 Alism	lan	291 Cakil	mar	596 Cynog	838 Fraga	ves	1057	bur*
		63	pla	292 Calam	can	597 Cynos	839 Frang	aln	1058	bul*
		64 Allia	pet	293	epi	598	841 Fraxi	exc	1062	com
		71 Alliu	sco	2249 Calli	agg*	607 Dacty	Fumar	spp*	1063	con
		75	urs	309 Callu	vul	608 Dacty	862 Galeo	lut	1067	eff
		76	vin	310 Calth	pal*	609	867 Galeo	spe	1069	ger
		77 Alnus	glu	2248 Calys	sep*	610	868	mac	1070	inf
		82 Alope	gen	313	sil	612	873 Galiu	apa	1072	mar
		84	myo	312	sol	613	879	mol*	1075	squ
		85	pra	316 Campa	lat	620 Daucu	183	odo	1076	subn
		97 Ammop	arc	322	rot	627 Desch	882	pal*	1077	ten
		99 Anaga	arv*	325 Capse	bur	628	878	sax	1084 Knaut	arv
		456	min	327 Carda	ama	640 Digit	887	uli	1095 Lactu	vir
		100	ten	328	fle	644 Diplo	888	ver	1098 Lamiu	alb
		1218 Anchu	arv	329	hir	645	893 Genis	tin	1099	amp
		105 Anemo	nem	331	pra	646 Dipsa	895 Genti	pne	1100	hyb
		109 Angel	syl	333 Carda	dra	657 Drose	898 Genti	ama	1103	pur
		117 Anthe	arv	335 Cardu	cri	666 Dryop	901	cam	1104 Lapsa	com
		118	cot	337	nut	661	906 Geran	col	1105 Larix	dec
		121 Antho	odo	339	ten	664	907	dis	1107 Lathr	squ
		123 Anthr	cau	Carex	spp*	670 Echiu	909	luc	1112 Lathy	mon
		125	syl	427 Carli	vul	675 Eleoc	911	mol	1116	pra
		126 Anthy	vul*	428 Carpi	bet	677	914	pra	1125 Lemna	gib
		131 Aphan	arv*	432 Casta	sat	678	916	pus	1126	min
		134 Apium	gra	433 Catab	agu	679 Eleog	917	pyr	1127	pol
		135	intu	434 Catap	mar	681 Elode	918	rob*	1128	tri
		137	nod	435	rig	997	920	san	1129 Leont	aut
		142 Arabi	tha	444 Centa	nig*	682 Elymu	924 Geum	riv	1130	his
		150 Arcti	agg*	446	sca	687 Endym	925	urb	1131	tar
		161 Arena	ser*	451 Centa	ery	688 Epilo	929 Glauc	fla	1133 Lepid	cam
		166 Armer	mar	450	lit	477	930 Glauc	mar	1139	het
		169 Arrhe	ela	453	pub	692	931 Glech	hed	2250 Ligus	ova
		175 Artem	vul	455 Centr	rub	695	932 Glyce	dec	1144	vul
		176 Arum	mac	461 Ceras	arv	699	933	flu	1164 Linar	vul
		185 Asple	adi	462	atr	696	934	max	1168 Linum	bie
		192	rut	466	gio	697	936	pli	1169	cat
		194	tri	467	hol	698	940 Gnaph	syl	1173 Liste	ova
		204 Aster	tri	469	sem	700	941	uli	1174 Litho	off
		211 Athyr	fil	470	tom	689	944 Groen	den	1175 Litto	uni
		212 Atrip	gla	471 Cerat	dem	704 Epipa	948 Gymna	con	1182 Loliu	mul
		214	has	473 Ceter	off	705	950 Halim	por	1183	per
		216	lac	474 Chaen	min	708	952 Heder	hel	1188 Lonic	per
		217	lit	476 Chaer	tem	709	961 Helic	pra	1191 Lotus	cor
		218	pat	479 Cheir	che	712 Equis	962	pub	1193	ten
		223 Azoll	fil	480 Cheli	maj	713	968 Herac	sph	1194	uli
		224 Balde	ran	Cheno	spp*	717	Hiera	agg*	1201 Luzul	cam
		225 Ballo	nig*	484	bon	720	976	pil*	1204	mul
		229 Barba	vul	502 Chrys	leu	721	980 Hippo	rha	1207	pil
		231 Belli	per	503	par	723	981 Hippu	vul	1209	syl
		234 Berul	ere	504	seg	726 Erica	983 Holcu	lan	1210 Lychn	flo
		235 Beta	vul*	2033	vul	731	984	mol	1219 Lycop	cur
		237 Beton	off	506 Chrys	opp	733 Erige	988 Honky	pep	1221 Lysim	nem
		239 Betul	pen	513 Circa	lut	740 Eriop	992 Horde	mur	1222	num
		240	pub	515 Cirsi	arv	744	993	sec	1225	vul



Clem Fisher and Cliff Bradley (Dept. of Vertebrate Zoology) sent the following summary of vertebrate recording activities in the north-west.

Biological Recording in the NW of England

Mammals -

Publication in Mammal Review of the first set of provisional distribution maps for British mammals (Corbet 1971) showed that a great deal remained to be learned about even the most common species. It was at this time that the Department of Vertebrate Zoology, MERSEYSIDE COUNTY MUSEUMS was asked by the Nature Conservancy Council to accept responsibility for mammal recording in the northwestern region of the country; essentially vice-counties 58, 59 and 60. Since then a network of contributors has been built up, including many amateur naturalists, who regularly forward records and sometimes specimens to the Museum.

Each record received by the Museum is entered on two (old style) Biological Records Centre computer cards, one to be filed in a species index and the other in a geographical index. The record is then added to the appropriate distribution maps, of which there are five for each species. One map shows the total recorded distribution of the species in Merseyside, Lancashire, Cheshire and Greater Manchester on a 2km² grid. Three further maps break this information down by date class for the periods pre 1970, 1970-1979 and 1980 onwards. A fifth map records the data on a 10km² basis. New 10km² records are forwarded to the Biological Records Centre at regular intervals, for incorporation into the national data bank.

During the past two years, helped by a Manpower Services Commission Scheme, it has been possible to extend this project to include a review of the literature for older records, and fieldwork within Merseyside to investigate previously under recorded areas. As a result the distribution maps now give a truer picture of species' occurrence, where previously they perhaps revealed more about the distribution of recorders (and of their favourite hostelries).

Freshwater fish -

Biological recording in the N.W. of England was extended in April 1981 with the introduction of a scheme to document the distribution of freshwater fish in Merseyside. A great deal of information has since been obtained by circulating a questionnaire to the secretaries of local angling clubs and this data is currently being supplemented by walking river and canal banks to discover what anglers are catching. Knowledge of the smaller species which are of little interest to most anglers is proving more difficult to acquire and a need for additional fieldwork by Museum staff is clearly evident.

Each record obtained is entered on a (new style) BRC computer card, which is filed in a species index, and plotted on 1km² and 10km² distribution maps.

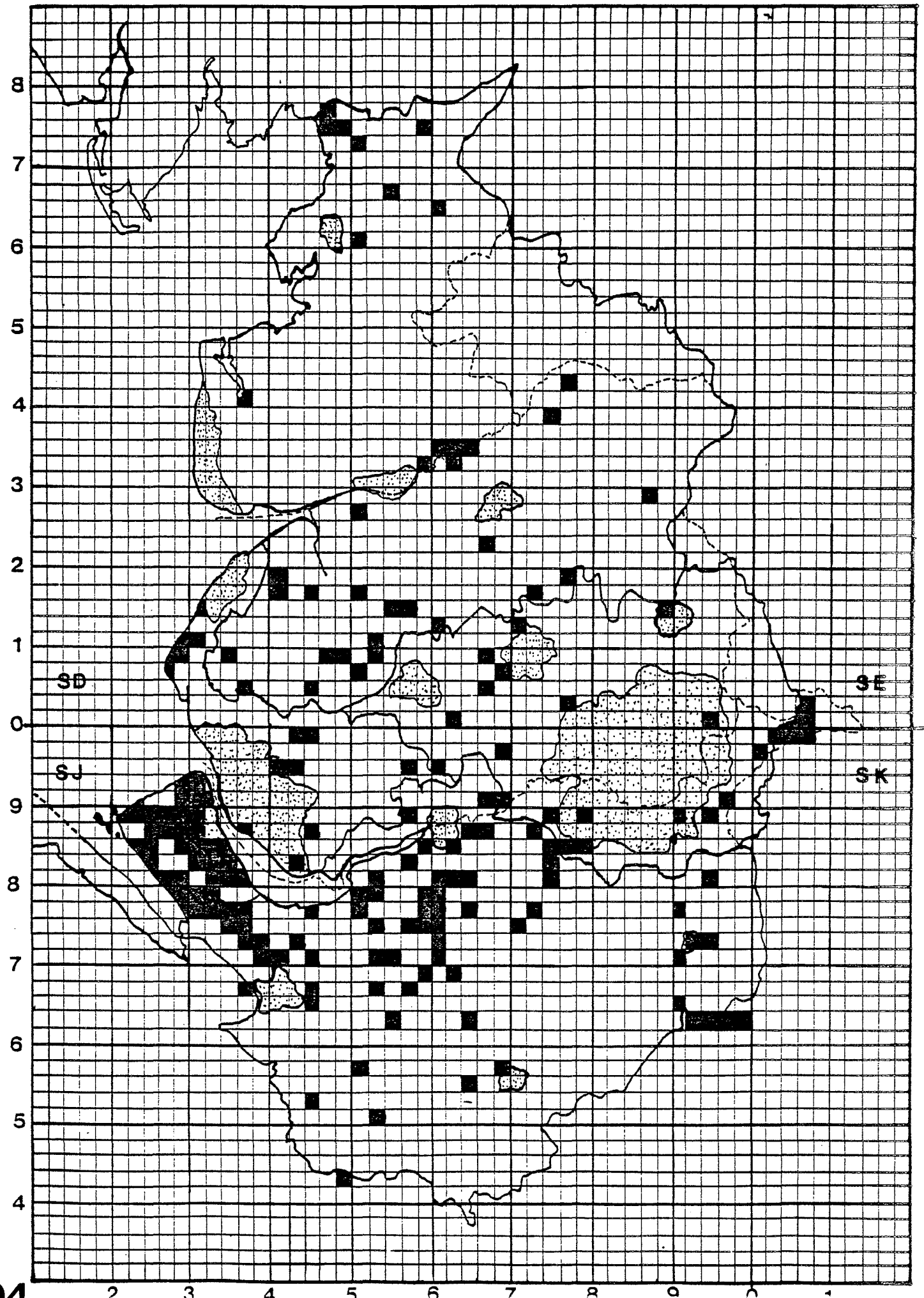
The task of processing incoming mammal and fish records is largely a matter of routine and presents few difficulties apart from the time which it consumes. Here again, the Museum benefits from the participation of Manpower Services Commission personnel. The chief problem is in contacting people who are willing and competent to contribute to the schemes and in maintaining their interest once this has been stimulated. Recorders are most easily recruited by personal contact so that a considerable amount of public relations work is involved. This approach has now been supplemented by preparing a travelling exhibition on biological recording which can be lent to Country Parks, schools and other centres of interest in the northwest. We have plans also to advertise our activities through the publications of local natural history societies and the regional news media.

SPECIES NO.	ORDER NO.	SPECIES NO.	GENUS & SPECIES		SUB-SPECIES etc.	
	7-4	5-9	Sorex araneus		10	
GRID REFERENCE			VICE COUNTY	LOCALITY	ALTITUDE	
25-32			33-35	36-55	56-57 ft.	
553896			59	Fazakerley Hospital		
HABITAT			DATE	RECORDER'S NAME	REC. NO.	
58-59			60-64	Natural History Survey Team	65-68	
open field			26081982			
RARETY	RARE	EXT.	CONF.	STATUS	COMMENTS & COLL. CSB	
69	1	2	9	70	Longworth Trap	
STAGE	♂	♀	♂	OVA	♀ 11.5g	
72	1	2	3	4	second year animal	
DETAILS OF SOURCE			EXPERT			
73-76			77-79			

MERSEYSIDE COUNTY MUSEUMS

SPECIES : *Vulpes vulpes*

DATE CLASS : Total 2 km.



ORDER

GENUS & SPECIES

Rutilus rutilus

VICE-COUNTY

LOCALITY

Greenbank Park Lake

ALTITUDE m.

ALTITUDE ft.

V.-C. No.

S 9

GRID REFERENCE

S 5 3 8 5 8 8 5

STATUS

NAT

INT

ESC

MIG

CAS

UNK

RECORDER/COLLECTOR

Dave Haughton

DATE OF RECORD

1 9 8 1

COMPILER

P.A.T.

DETERMINER

DATE OF DETERMINATION

DATE OF COMPILATION

0 1 0 2 1 9 8 2

STAGE

HOST/FOODPLANT

HABITAT

ASPECT

Ova Nymph Skin ♂ ♀ Seedling FL.

lake

SLOPE

Larva Pupa Skel ♂ Adult Juv Veg Frt

SOURCE

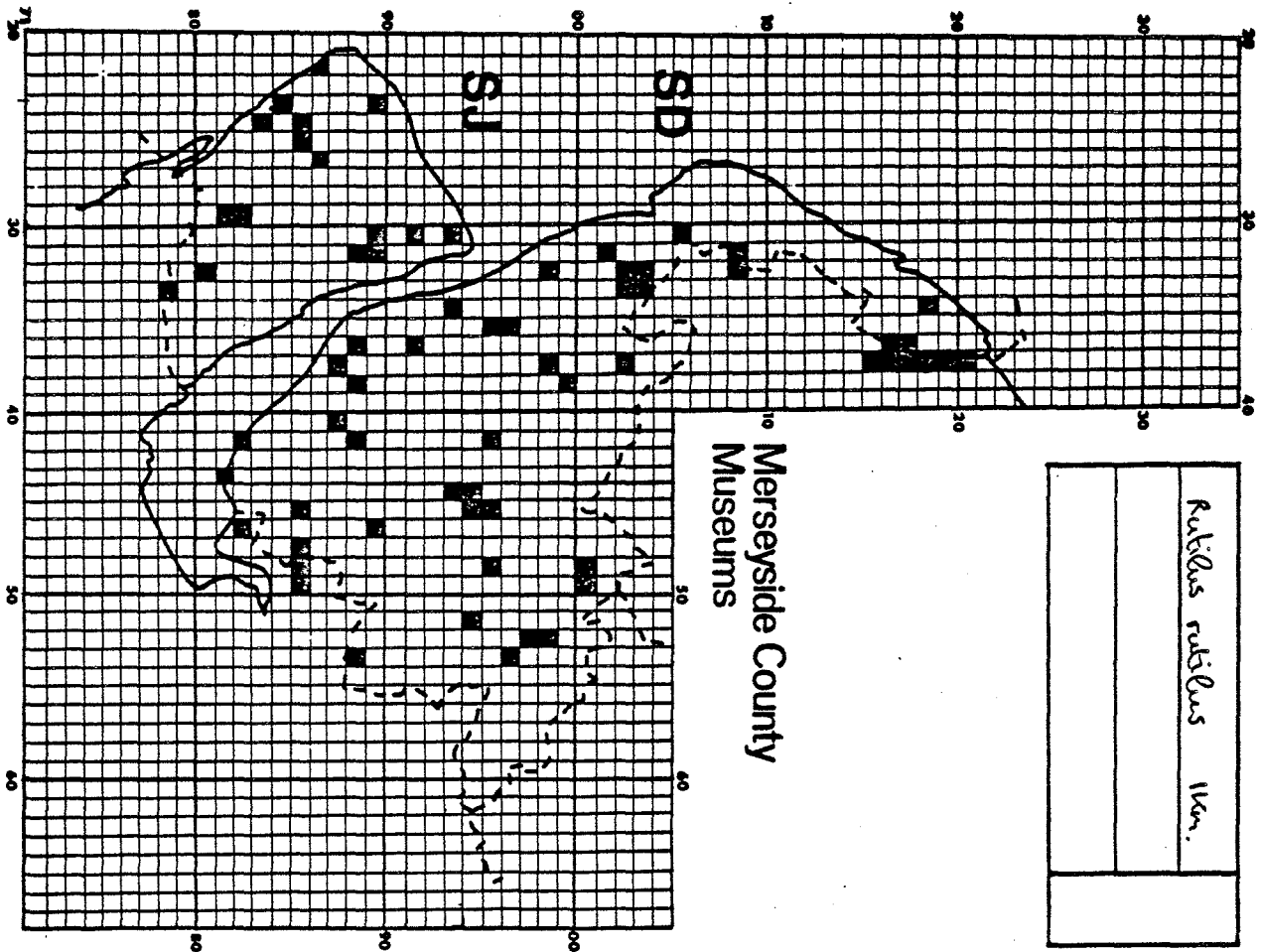
COMMENTS

present

Biological Records Centre

October 1980

GEN 8



North Wales

Joan Morgan (University College of North Wales) writes "I enclose two examples of one species recording cards. Virtually every specimen from North Wales in our collection is recorded on card, so that these have accumulated to an impressive number over the years and are of increasing value (ref. Biology Curators Group Newsletter Vol.2 No.8 p.372).

New.

SPECIES <i>CHRYSOPA CILIATA</i>		DATE: 5.10.69
		TYPE REF:
LOCALITY: <i>Llyn-y-parc, Gwydyr Forest, Caerns.</i>	ALTITUDE: 650'	
GRID REF. <i>SH 79 58</i>		
NATURE OF HABITAT: <i>beaten from willow</i>		
REPRODUCTIVE DATA: <i>Several larvae coated with debris. 1 pupated 9.10.69. Adult emerged 25.10.70</i>		
NOTES ON SIZE, ABUNDANCE, Etc. <i>Several seen</i>		
OBSERVER: <i>M.J. Morgan</i>		

Lep.

SPECIES <i>ORTHOZIA (TAENIOCAMPA) MUNDA</i>		DATE: 7.4.1860
<i>Twinspot Quaker</i>		TYPE REF:
LOCALITY: <i>near Mostyn, Flints.</i>	ALTITUDE:	
GRID REF.		
NATURE OF HABITAT:		
REPRODUCTIVE DATA:		
NOTES ON SIZE, ABUNDANCE, Etc. <i>Ent. Weekly Intelligence vol. VIII, 1860, p.36</i>		
OBSERVER: <i>Edwin Birchall</i>		

Oxfordshire County Council



John Campbell (Oxfordshire) writes "Records normally come in on the B.R.C. species cards. We do have a casual slip (below) for odd records. We have kept it as simple as possible, no altitude etc."

Species

Grid Ref.						
Date						

Comments and place.

Name & Address of Observer

OCC Dept. Museum Ser., Biological Recording Scheme, Woodstock, Oxford

Lichens Where possible we show the substrate, also for bryophytes etc.

DERMATOCARPON MINIATUM (L) Mann

Lichens.

Tetrad	VC	Date	Location and Substrate	Recorder
28.18	23	9.12.76	Ascott-n-Wychwood. Asbestos	Jm Campbell
36.08	"	27.7.76	Cogges. Cotswold Slate	"
30.18	"	30.10.76	Ascott-n-Wychwood "	"
22.00	22	11.74	Little Faringdon "	HJM Bowen
26.10	23	12.9.78	Widford M.71 "	Jm Campbell.
4/1	"	1968	Church Hamborough	HJM Bowen

Mammals

The Nature of the record is given e.g. footprint, skull or whatever.

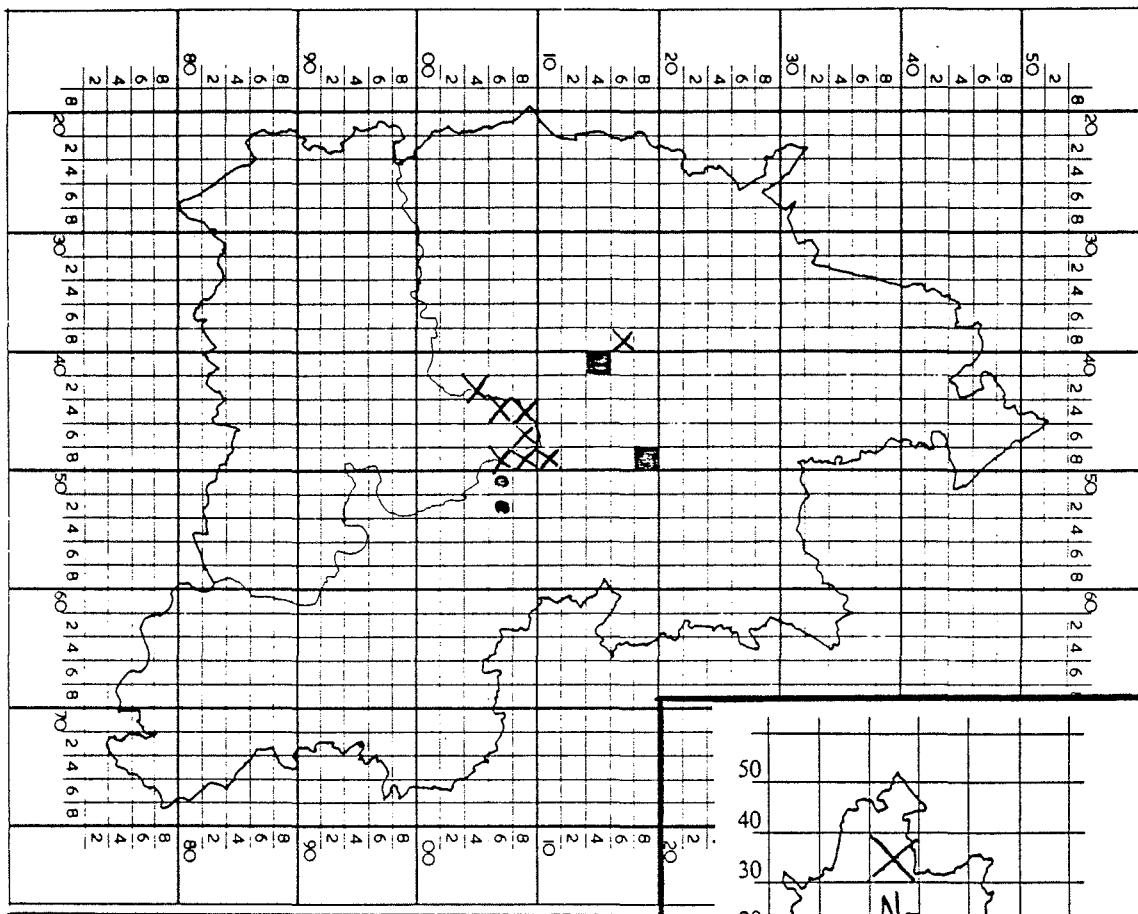
Odonata

This card shows the variety of sources, including the Victoria County History, Wytham Ecological Survey of Charles Elton, the Hope collections at the University Museum etc. On the reverse of the map there is the 10km. grid. Usually we stamp it on, but the clarity is not always that great. Where there is an atlas, the data is transferred so that new and updated records at the 10km. square level are easily apparent. Our tetrads are shown as four figures. I do not find any advantage in using a letter, and I am sure it would muddle many of our recorders.

PLATYCNEMIS PENNIPES (Pallas)

Odonata ♀

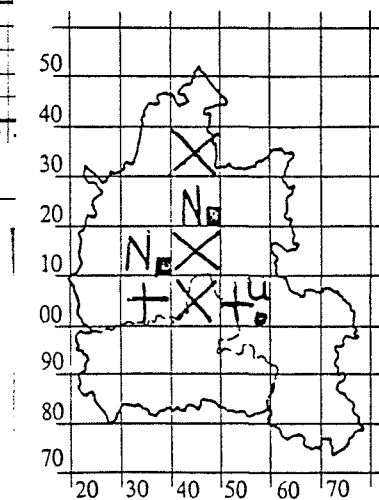
Tetrad	VC.	Date	Location	Recorder
44.88	22	5.7.45	Wytham Wood	Wytham Survey
48.06	"	10.6.47	"	"
46.08	"	5.6.48	"	"
44.06	"	2.7.48	"	"
38.16	23	22.6.46	R. Evenlode, Ashford Mill	"
52.06	"	6.78	R. Cherwell, Holywell Meadow	A.J. Parr
50.06	"	22.7.78	R. Thames, Fiddlers Island	"
48.18	"	5.6.82	Oxford Canal; Kirtlington	R. Frederick
40.14	"	3.7.82	N. Leigh Common	JM & Jo Campbell
48.10	"	1902	R. Thames, Kings Weir	V.C.H
48.08	"	1.7.1903	" Godstow	"
42.04	"	Pre 1938	" Bablock Hythe	"



PLATYCNEMIS PENNIPES (Pallas)

OXFORDSHIRE
BIOLOGICAL RECORDING SCHEME - OCC. DEPT. MUS. SER.

1950 -
1960 - '79
Pre 1960



X Atlas post '60
+ Atlas pre '60
N New record \blacksquare 1950 -
 \circ 1960 - '79
 x Pre 1960
U Update + period symbol

ROTHERHAM METROPOLITAN BOROUGH COUNCIL

Recording Cards for Biological Records

Bill Ely, of Rotherham Museum, uses the B.R.C. record cards for his local data bank, using one set of cards (or more accurately, papers) for each site. He had also produced a number of cards for other groups, to a similar format to the B.R.C. ones but more basic. The following have been produced so far:-

- Coleoptera - Histeroidea
 Staphylinoida (excluding Staphylinidae and Pselaphidae)
 Staphylinidae I (subfamilies Micropeplinae to Steninae)
 Staphylinidae II (subfamilies Euaesthetinae to Tachyporinae)
 Pselaphidae and Scarabaeiformia
 Dascilliformia
 Curculionoidea
- Diptera - Nematocera I (Psychodidae, Dixidae, Chaoboridae, Culicidae, Thaumaleidae, Ceratopogonidae, Simuliidae, Bibionidae and Scatopsidae).
 Chironomidae
 Empididae
 Dolichopodidae and Lonchopteridae
 Pipunculidae and Conopidae

Siphonaptera

Hymenoptera - Symphyta.

Bill is willing to supply a sample of each of these cards on receipt of an s.a.e. (at least 9" x 5"). Please state which ones you require. If you do not have reprographic facilities then contact Bill to see if he can help.

Have you produced any recording forms which have improved or simplified your biological records? Can you make copies available to other curators? If so, Bill is willing to act as a clearing house for this information, or else burst into print yourself!

<u>Coleoptera</u>	xxx	pustulatus	xxx	Cytillus	xxx	sericeus	xxx	Morychus	xxx	aeneus	xxx	Murcinolus	xxx	Porcinolus	xxx	maculosa	xxx	Simplocaria	xxx	semistriata	xxx	setigera	xxx	Syncalyptra	xxx	spinosa	xxx	striatopunctata																																				
<u>Dascilliformia</u>	xxx	palustris	xxx	Psephenidae	xxx	fenestratus	xxx	Eubria	xxx	flexuosus	xxx	Heteroceridae	xxx	Heterocerus	xxx	fossor	xxx	Heteroceridae	xxx	fuscus	xxx	hispidulus	xxx	Heteroceridae	xxx	marginatus	xxx	maritimus	xxx	obsoletus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
<u>Dascillidae</u>	xxx	cervinus	xxx	Elmidae	xxx	flexuosus	xxx	Elmis	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx	Dascillus	dubius	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
<u>Clambidae</u>	xxx	armadillo	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx	Calyptomerus	evae	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx	Clambus	nigrellus	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx		nigriclavus	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx		pallidulus	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx		pubescens	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx		punctulus	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx		radula	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
<u>Euclinetidae</u>	xxx	meridionalis	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx	Euclinetus	coarctatus	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
<u>Scirtidae</u>	xxx	hilaris	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx	Cyphon	ochraceus	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx		padi	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx		palustris	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx		pragmiticola	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx		pubescens	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx		punctipennis	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx		variabilis	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx	luridus	xxx	nitidulus	xxx	striatellus	xxx	substriatus	xxx	aenea	xxx	parallelepipedus	xxx	volckmari	xxx	quadrifurcatus	xxx	nitens	xxx	rivularis	xxx	trogodytes	xxx	tuberculatus
xxx	Elodes	marginata	xxx	Elmidae	xxx	flexuosus	xxx	Elmus	xxx	fossor	xxx	Elmidae	xxx	Elmus	xxx	fuscus	xxx	Elmidae	xxx	hispidulus	xxx	hispidulus	xxx	Elmidae	xxx	Elmus	xxx	marginatus	xxx	maritimus	xxx	pygmaeus	xxx	anglicanus	xxx	auriculatus	xxx	ernesti	xxx	griseus	xxx																							



Museums Department

Sheffield City Museum has a flexible species index which can take cards of different sizes from various sources and integrate them into the same system. The main types used are:-

1. B.R.C. 80-column "pink" cards. Used for many years for individual records of vertebrates and invertebrates. They are very versatile, and can be filed in date order, species order, grid-reference order or any other required order and re-shuffled to suit immediate needs. The major disadvantage is the time required to enter several thousand records onto pink cards. We now use pink cards only for rarities, and special records where details of habitat and precise locations are required. Hence they are very useful for recording Badger setts (see example) and similar observations.
2. Several years ago, we changed to 8" x 5" multi-record filing cards which were found to be easier and quicker to enter, without too much loss of information. They can be photocopied for circulation to neighbouring recorders. At the same time, the twelve or so "Recorders" in the Zoology Section of the Sorby Nat. Hist. Society got their heads together and jointly designed an 8" x 5" card which is used for all zoological groups. It can be easily integrated into the museum's file (see example) either as a card or a photocopy.
3. More recently we have switched to A5 size cards produced by B.R.C. (GEN 7). They have the additional advantage of compatibility with national recording schemes, and can be photocopied directly onto A4 card for sending to recorders. Duplicate M.D.A. NATURAL HISTORY SPECIMEN cards can be inserted into this file where relevant, thus integrating museum specimens with records.
4. Standard B.R.C. species check-lists are used for summarising records within a 10km. square, and entering data into the site files.
5. Most species are mapped at the 1km² level, and maps are published quite as frequently.

For further information on zoological recording practices see

Whiteley D. (1978) "Vertebrate Recording Schemes at Sheffield Museum"
B.C.G. Newsletter Vol. 1. no.9 p.17-23
and

Garland S. P. and Whiteley D. (1980) "Local Invertebrate Recording
Schemes at Sheffield Museum" B.C.G. Newsletter Vol.2. No.7 p.300-311

SPECIES NO.	ORDER NO.		SPECIES NO.		GENUS & SPECIES				SUB-SPECIES etc.			V.C. NO.		
	1-4		5-9		Badger				10 sett					
GRID REFERENCE					VICE COUNTY			LOCALITY				ALTITUDE		
25-32					Derbys.			Fox House, Longshaw (No. 3)				56-57 ft.		
43123XYZ					057									
HABITAT					DATE			RECORDER'S NAME			REC. NO.			
58-59 open moorland					60-64			D. Whiteley.			65-68			
Calluna / Festuca					10121982									
RARETY	RARE	EXT.	CONF.	STATUS	NAT.	INT.	ESC.	MIG.	CAS.	SOURCE	FLZ.	MUS.	LIT.	COMMENTS & COMPILER
69	1	2	3	70	1	2	3	4	5	71	1	2	3	single entrance large sandstone heap. active. prints/hairs.
STAGE	1	2	3	OVA	LARV.	PUPA	SKIN	SKEL.	ADDITIONAL DATA					
72	1	2	3	4	5	6	7	8	80					
DETAILS OF SOURCE					EXPERT									
73-76					77-79									

City of Stoke-on-Trent



Geoff Halfpenny of Staffordshire Biological Records Centre uses 8" x 5" standard BRC cards (check-lists) for all groups where available, together with standard recording slips for each individual record, combined with 1km. and 10km. distribution maps.

NAME OF SPECIES:

10 km sq, reference (map reference preferred):

Habitat (brief comment):

Date (please state Pre 1940; 1940-60; 1961 onwards):

Your name, address and any comment regarding the records:

*Standard species record slip - completed in duplicate or triplicate
1 copy - species file, 1 copy 10km sq. file, 1 copy - site file*

One recording format apparently unique to Staffordshire is the "Monthly input" sheet illustrated overleaf.

In addition, Geoff writes "We are hoping shortly to computerise our records as I have a thirteen strong Environmental Survey team starting on 31st August 1982 to record the geology and biology of the city during the next twelve months and this will add impetus to our work."

Monthly input.

CITY MUSEUM & ART GALLERY, BETHESDA STREET, HANLEY, STOKE-ON-TRENT
 STAFFORDSHIRE BIOLOGICAL RECORDS CENTRE

Species Records

Month/Year

IN

OUT

B1	Fungi		
B2	Algae		
B3	Lichens		
B4	Mosses		
B5	Liverworts		
B6	Flowering Plants and Ferns		
Z1	Protozoa		
Z2	Sponges (Freshwater porifera)		
Z3	Cnidaria		
Z4	Platyhelminthes		
Z5	Aschelminthes		
Z6	Mollusca		
Z7	Annelida		
Z8	Arachnida		
Z9	Crustacea		
Z10	Myriapoda		
Z11	Thysanura /Diplura		
Z12	Ephemeroptera		
Z13	Odonata		
Z14	Plecoptera		
Z15	Dictyoptera		
Z16	Orthoptera		
Z17	Dermaptera		
Z18	Psocoptera		
Z19	Mallophaga		
Z20	Anoplura		
Z21	Thysanoptera		
Z22	Hemiptera		
Z23	Neuroptera		
Z24	Coleoptera		
Z25	Mecoptera		
Z26	Trichoptera		
Z27	Lepidoptera		
Z28	Diptera		
Z29	Siphonaptera		
Z30	Hymenoptera		
Z31	Fish		
Z32	Amphibians		
Z33	Reptiles		
Z34	Birds		
Z35	Mammals		

Z36 Minor phyla. (Tardigrada, Bryozoa
 Acanthocephala, Mesozoa)

TOTAL:

Files relating to each of these categories are located
 in each 10km sq. file.



TYNE AND WEAR COUNTY COUNCIL

John Bainbridge of Tyne and Wear writes "I enclose a short article about some of the species recording cards we use in Sunderland Museum. Perhaps people will be interested in our home produced equivalent of B.R.C.'s GEN 7 card, - the main theme of the article."

Species Records and Recording Cards in use at Sunderland Museum

The North East Environmental Records Centre set up at Sunderland Museum to serve the counties of Tyne and Wear, Durham and Cleveland* utilises many of the recording cards available from the Biological Records Centre and others that have been constructed along similar lines to BRC cards either to serve some particular purpose or with a species context more likely to be encountered in the North East. An example of the former type is the use of the pink terrestrial and yellow marine Individual record card plus the use of Field Cards for groups such as Butterflies, Bumble bees, Moths etc., whilst an example of a home produced ware is the Flowering Plant Field Card Fig. 1.

At a recent meeting of recorders it was decided to produce a card (Fig.2) which would take a batch of records pertaining to one particular species, thereby lessening the cost, and the bulk in storage, of using the pink or yellow Individual Records Cards for all records. Although it can be used in the field, it is really suited to collating the records sent in by different recorders, records from literature searches or those taken from Museum records. It is printed on both sides but with 'Species' and 'check list Name and Number' deleted from the reverse. Each card can hold twenty entries.

In order to complete this recording card fully the recorder or compiler would need to refer to the card which shows the boundaries of the area served by the North East Environmental Records Centre and the tetrads contained within them. Fig.3.

Many of the records which we receive tend to be taken randomly and not organised on a tetrad basis but where this is the case, such as in the Durham Flora project, the tetrads are coded according to the system accredited to Dr. Dony. For example tetrad 12M would lie within the 10 Kilometre square bounded by the lines 10 Easting and 20 Northing with the tetrads assigned A to Z omitting O, A being the first tetrad in the South-west corner of the square and the rest following in an ascending order within each column.

At the time I was unaware that B.R.C. produced such a card (GEN 7.) and recommended readers in their Booklet 'Instructions for Recorders' to use the pink or yellow cards "only when it is desirable to give more information about a specimen than is allowed for on Field Cards".

Readers may like to compare our card Fig.2 to that of BRC's card coded Gen 7.

*Cleveland now has its own Environmental Records Centre.

Id Ref. **2361505** Tetrad **35K**
 Name **OH TCO PR JB**
 Date(s) **29th July 81**

Species	H	Species	H	Species	H	Species	H
Carda		flex		Frigo		mult	
pseu		hirs		Fraga		coere	
ptar		prat		Fraxi		exce	
mosc		Cardu		Fumar		offi	
podc		Carex		Galeo		off	
hipp		echi		Galiu		apar	
cyna		nigr		odor		patu	
eupa		Cent		saxa		Evonn	
cap		scab		Geran		Evism	
stov		font		diss		Malus	
vine		Chaer		moli		Malva	
prae		temu		prat		Matr	
glab		Chamo		robe		Medic	
vest		Cheno		apil		Mento	
xant		abou		Geum		Merol	
patu		oboc		uva		Melan	
ursi		Orsi		lute		Musc	
grol		arve		Glech		offi	
prat		Conop		Slyde		ne	
arve		maju		Heder		can	
nemo		arve		Hierac		perp	
sylv		avel		Hiera		perp	
mono		Coryl		oleo		agg	
sylv		Crata		pho		trio	
vuln		mono		vulb		vulb	
nerio		Crepi		capr		Helcu	
serp		Cruci		laev		mon	
elat		Cymba		mura		Horde	
vulg		Cynns		cris		Hyaci	
macu		Cytis		scop		Hyper	
tili		Dactyl		scop		perp	
patu		Dactyl		fuch		pulo	
pube		Desch		flex		tetr	
nigr		Digit		purp		Hypoc	
perie		Ornyp		aust		lex	
interm		Eleac		tili		impat	
peno		Elytru		patu		Juncu	
pube		Epilo		cani		acut	
sylv		mont		repe		acut	
rapa		obsc		angu		acut	
horz		Equis		Knaut		acut	
nor		illuv		Lamiu		acut	
ramo		patu		Lapsa		acut	
ster		sylv		Larix		acut	
stag		heli		Lainy		acut	
vulg		pepi		Lemna		acut	
sepi		nermo		Leont		acut	
sylv		Fagus		Leuca		acut	
lati		Festu		Ligus		acut	
bars		giga		limar		acut	
		ovir		prat		acut	
		prat				acut	

Species	H	Species	H	Main habitats
Ranun		Sorbu		1
acri		aucu		
bulb		*erec		
*lica		Sparg		
fic/fic		Sperg		
fic/bulb		Stach		
fic/bulb		Stell		2
llam		gram		
Rapha		holo		
Resed		lutea		
luteo		medi		
Rhina		Succi		
Ribes		Symph		3
Rosa		Symph		
cani		Tanac		
cori		Tarax		
moll		Teucr		
sher		Thy:nu		4
Rubus		Torit		
dasy		Trago		
ebor		Trilo		
idae		camp		
Rumex		dubi		
acet		hybr		5
cong		mod		
cris		prat		
Merol		repe		
Merol		flav		
Sagin		Trise		
proc		Tussr		
capr		Ulex		6
cin/olei		Ulmus		
frag		giab		
Sambu		proc		
Sangu		nigr		
Scirp		offi		
Scrop		Urtic		
nodu		Vacci		7
Sedum		Valer		
Senec		Verba		
acac		Veron		
acac		thap		
acac		pace		
acac		cnam		
acac		*hede		
acac		mont		8
acac		offi		
Silen		pers		
alba		serp		
dioi		opul		
vulg		Vibur		
arve		Vicia		
offi		crac		
Sinap		sege		
Sisym		sepi		
Solan		arve		
Solid		rivi		
Sonch				

Other Species
Glyceria plicata, *Myosotis palustris*
Sedum
Trochis pal
Sorbus

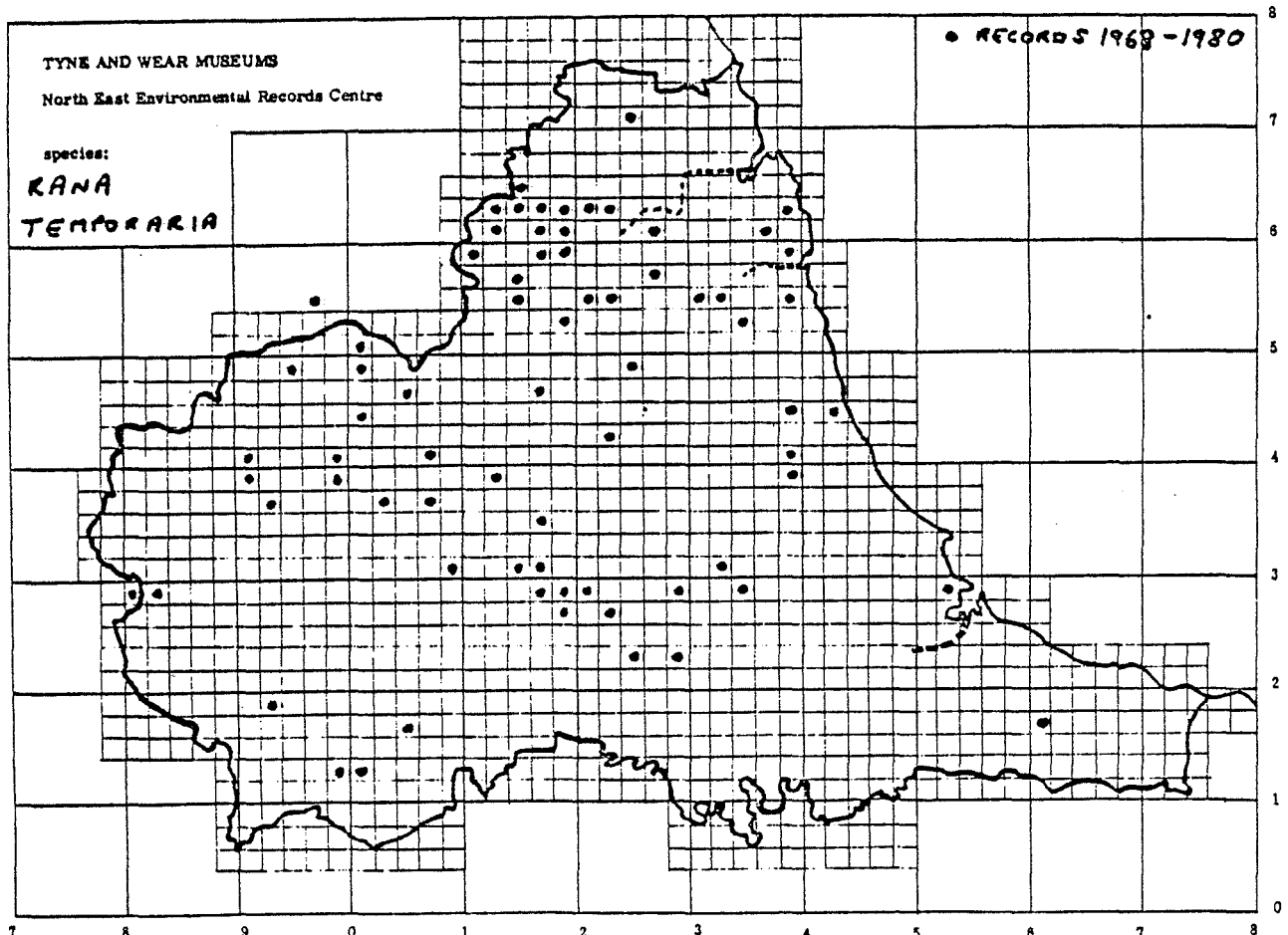
Fig. 1. Flowering Plant Card.
 Front. The column H is to record the subdivision of a locality into ecological areas. These are coded and recorded on the reverse side.

Fig. 2. Species Record Card. Equivalent to that produced by BRC known as GEN 7.

Species <i>Vipera berus</i> (Adder)							Check List Name and Number		
Site	District	County	Grid Ref	Tetrad	V.C.	Date	Det. by & Date	Reference	
Rowley		Durham	N2 087479		66	1960	Gent, C.J	Vase. XLVI p. 6.	
The Smeap		Durham	N2 05 49		66	21.5.1960		Vase XLV p. 12.	
Ballichope Burn		Durham	N2 03 36		66	29.7.1961		Vase XLVI p. 19.	
Knitsley Fell		Durham	N 093348		66	3.8.1977	P. Howard		
Ribside	Gateshead	Tyne & Wear	N2 176589		66	3.8.1979	J. Rushin		
13 The Haythams East Boldon	Sunderland	Tyne & Wear	N2 366614		66	10.6.1980	P.S. Buis	TWCM 5: C14 971	

Fig. 3. Species Distribution/Tetrad Map.

This card shows the boundary of the area originally served by the North East Environmental Records Centre. It is used to plot the distribution of species down to tetrad level.



Summary

It is obvious, even from this minority cross-section of museum record centres, that a wide variety of cards and sheets with different layouts are currently in use, although the actual information recorded by each centre is fairly consistent. Home-produced multi-record 8" x 5" and A5 sized cards seem to be the current trend, with less emphasis on standard B.R.C. cards nowadays, than a few years ago. County tetrad maps appear to have developed as the "norm" although some museums with small mapping areas, for example 'non-county' district museums at Sheffield and Rotherham use finer 1km. squares as the basic unit.

Further Information

Centres which are not represented in this survey may feel that they can contribute additional ideas, examples and experiences. If there is sufficient demand and additional new material it may be possible to compile a supplement to this report. Museums which 'dipped out' and now wish to contribute should contact the author.

Also, the editors would be pleased to receive letters and comments concerning the contents of this report, particularly from museums which benefit from or have found a disadvantage in any of the ideas expressed here!

SPECIES NO.	ORDER NO.	SPECIES NO.	GENUS & SPECIES		SUB-SPECIES etc.		V.C. NO.							
	1-4	5-9	Whiteley derek 11-24		10 Summer pelage blonde									
GRID REFERENCE			VICE COUNTY		LOCALITY		ALTITUDE							
25-32 4 3 3 3 5 8 5 7			S.W. Yorks 33-35 0 6 3		The Porter Cottage & Hunters Bar & Sheffield 36-55		56-57 ft. m							
HABITAT				DATE		RECORDER'S NAME								
56-59 mainly urban, occasionally extends range into woodland and moorland for courtship				60-64 2 2 0 9 1 9 8 3		SHEFFIELD CITY MUSEUM								
RARITY	RARE	EXT.	CONF.	STATUS	NAV.	INT.	ESC.	MIG.	CAS.	SOURCE	FLB.	MUS.	LIT.	COMMENTS & COMMENTS
59	1	2	9	70	1	2	3	4	5	71	1	2	3	
STAGE	♂	♀	♂	♀	OVA	LARV.	PUPA	SKIN	SKEL.	ADDITIONAL DATA				RED DATA BOOK SPECIES
72	1	2	3	4	5	6	7	8	80					
DETAILS OF SOURCE					EXPERT									
73-76					77-79									

Sources of Biological Records

"The Naturalist"

(Part 2)

I have had a small amount of feedback concerning the preferred format for this information, the most useful being an offer from Kenneth Watt to prepare computer-generated indices. The result is a much improved list which I hope will prove easier to use

"The Naturalist" changed in several ways with Volume 10. Both editors handed over to new ones and the period of publication was changed - Vol. 10 ran for eighteen months, to the end of 1885, and subsequent ones coincided with the calendar years. The following references have been abbreviated, and the dates are as follows:-

Vol. 10 (p1-114)	1884
Vol. 10 (p115-end)	1885
Vol. 11	1886
Vol. 12	1887
Vol. 13	1888
Vol. 14	1889

While the earlier editions had contained information of wide geographical origin, the later ones concentrated more on the wildlife of the northern counties. These records were indexed at the end of each volume, and in addition each volume contained one or more bibliographies of northern natural history.

The "foreign" records from the South and Midlands of England, Wales, Scotland and Ireland became rather fewer in number. These are presented here in three indices - obituary, taxonomy and locality. In the taxonomic index the name of the country has been abbreviated - E (England), CI (Channel Islands), I (Ireland), S (Scotland) and W (Wales).

Obituary Index

Carr, A	Kent/Sussex, Warwicks.	X:71
Newbould, W. W.	London	XI:159-160

Taxonomic Index

Meteorology

E, Leics., Loughborough	X:384
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Geology

E, Salop, Bridgenorth, Grinshill & Ness Cliff	XIV:108-109
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Palaeontology

I, Castle Espie	X:372
I, Hook Point	X:316
S, Abden	X:372
S, Beith, Boghead, Gare, Gillfoot, Hairmyres & High Blantire	X:315-317
W, (unlocalised)	X:375
W, Halken	X:316-317
W, Sturaway Mine	X:372

Algae

I, Lough Mourne	X:232
W, (North)	X:232
W, Monmouth	XI:35

Lichen

E, Devon, Leaton	XII:362
E, Gloucs., Cirencester	XII:357
E, Hants., Lyndhurst	XI:49
E, Leics. (unlocalised)	XII:296
E, Oxon, Weston	XII:359-360
E, Salop (unlocalised)	XII:296, 299
I, (unlocalised)	XI:49
S, Braemar	XII:362
S, Craig Guie, Grampians & Portlethen	XII:356-357
W, (unlocalised)	XII:362
W, Bangor	XII:364
W, Barmouth	X:259
W, New Radnor	XII:356

Bryophyte

E, Berks. (unlocalised)	X:160
E, Cornwall (unlocalised)	X:160
E, Oxon (unlocalised)	X:21
E, Sussex (unlocalised)	X:160
I, Co. Derry	X:114
I, Co. Down	XIII:143
I, Killarney	X:160
S, Balmoral	X:21
S, Braemar	X:113, 114; XI:212
S, Kirkcudbright & Loch-na-Gar	X:114
S, New Galloway	X:259
W, (South)	X:21
W, Barmouth	X:114
W, Dolgelly	X:259; XI:212
W, Llanberis	X:36
W, Nant Francon	X:259

Pteridophyte

E, Devon (unlocalised)	X:378
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Vascular Plants

CI, Guernsey (ref.)	XIV:277
E, Beds., Brickhill Woods	X:35
E, Beds. (unlocalised)	X:70
E, Essex, Purfleet (ref.)	XIV:277
E, Gloucs. (unlocalised)	X:70
E, Gloucs., Gloucester (ref.)	XIV:277
E, Hants. (South)	X:69
E, Hants., Drayton & Portsmouth (ref.)	XIV:277
E, Hereford (unlocalised)	X:70
E, Kent (ref)	XIV:277

E, Kent, Herne Bay	X:390-391
E, Norfolk (ref.)	XIV:277
E, Norfolk, Broads	X:70
E, Oxon (unlocalised)	X:35
E, Oxon, Charlbury	X:69
E, Somerset (North)	X:69
E, Surrey	X:36
E, Sussex (unlocalised)	X:70
E, Worcs., Hartlebury Common	X:70
I,(North-eastern) (review)	XIV:21-24
I, Ben Bulbin	XIV:337-338
I, Killarney	XII:182, 185
S, Aberdeen & Ben Lawers	X:70
S, Berwickshire, Alewater	X:178
S, Eastern Borders	X:342-344
S, Fife (ref.)	XIV:277
S, Inch-na-damph, Orkney & Shetland	XIV:338
S, Perth (East)	X35-36
S, Perthshire	XII:181
S, Wigtonshire	X:35-36, 85-86
W, Breidden Hills	XII:186
W, Capel Curig & Llanberis	XII:188-190
W, Dinas Bran, Wrexham & Wynnstay Park	XII:186, 188-190
W, Festiniog	XII:276
W, Twl-ddu	XII:181

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S, Berwick	XIII:230
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E, Cambs., Cambridge	XII:20, 38
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E, Essex, Dagenham	XIII:230
E, Hants., Southampton	XIII:230
E, Hereford, Bishopswood	X:321
E, Kent, Birchington & St. Nicholas Marshes	X:321
E, London, Battersea	XIII:230
E, London, Hampstead	XIV:104-107
E, London, Highgate	XIII:230; XIV:104-107
E, Middlesex, Wood Green	XIV:104
E, Norfolk, Norwich, R. Bure & Starston	XIII:230
E, Salop, Oswestry	X:321
E, Staffs., Froghall, Kingsley, Leek & Cheddleton	XI:58-59
E, Suffolk (unlocalised)	XIII:230
E, Sussex, Brighton and Chichester	XIII:230
E, Sussex, Eastbourne	X:181
I, Arran, Galway & Killarney	XIII:230
I, Co. Antrim	X:366
I, Dublin	XII:38
S, Edinburgh, Orkneys & Shetland	XIII:230
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W, Tenby	XIII:230

Arthropoda - Arachnida

E, Dorset (unlocalised) X:103
E, Kent, Dover X:103

Arthropoda - Insecta

W, North XIII:103-105

Arthropoda - Insecta - Hymenoptera

S, Rannoch X:206

Arthropoda - Insecta - Lepidoptera

E, Cambs., Wicken Fen X:347
E, Dorset (unlocalised) X:383
E, Hants., New Forest X:80; XII:69
E, Hereford, Leominster X:42
E, Hunts., Monks Wood X:57
E, Kent, Deal XIII:298
E, Kent, Dover XI:213; XII:69
E, Kent, Folkestone XII:69
E, Kent, St. Margaret's Bay XIII:298
E, Surrey (unlocalised) XI:213
E, Surrey "hills" XII:69
E, Sussex, Lewes XII:69
I, (unlocalised) XII:69
I, Co. Clare X:76-77
S, (unlocalised) X:347
S, Arran, Argyllshire, Hoy, Lewis, Orkneys, Perthshire & Shetlands XI:213
S, Hebrides XIV:100
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E, Devon, R. Plym, R. Tamar & R. Tavy XI:24
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E, Gloucs.?, R. Severn XI:123
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S, R. Annan, R. Bridekirk, R. Hoddan, R. Loos & R. Teith XI:124-126
S, R. Cassley, R. Oykel, R. Shin, R. Solway & R. Tay XI:21-23
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E, Kent, Romney Marshes	XI:235
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E, Norfolk, The Wash	X:344
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E, Oxon (North)	X:248
E, Oxon (ref.)	XIII:170
E, Somerset, Bath & Williton	X:250
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E, Suffolk, Aldeburgh & Leiston	XI:235
E, Warwicks., R. Avon	XI:237
E, Wilts., Avonturn	X:248-250
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S, Dumfries	XIII:236
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E, Devon, Plymouth	X:128
E, Devon, (unlocalised)	XI:337-339
E, London, (unlocalised)	X:128
E, Norfolk, Great Yarmouth	X:228
E, Norfolk, Beccles	X:88
E, Suffolk, Beccles	X:88
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S, Skye	X:228

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Channel Islands

Guernsey (ref.)	Vascular Plants	XIV:277
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England

Avon, Bathwick Hill	Mollusca	XI:59
Beds. (unlocalised)	Vascular Plants	X:70
Beds., Brickhill Woods	Vascular Plants	X:35
Berks. (unlocalised)	Bryophyte	X:160
Cambs., Cambridge	Mollusca	XII:20, 38

Cambs., Wicken Fen	Lepidoptera	X:347
Cornwall, (unlocalised)	Bryophyte	X:160
Cornwall, Falmouth	Mollusca	XIII:230
Cornwall, R. Fowey	Fish	XI:118
Cornwall, Plymouth	Mammal	X:128
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Devon, (unlocalised)	Pteridophyte	X:378
Devon, Exmouth	Mollusca	XIII:230
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Devon, Modbury	Birds	X:251
Devon, Plymouth	Mammal	X:128
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Devon, R. Tavy	Fish	XI:24
Devon, Torquay	Mollusca	X:181
Dorset, (ref.)	Birds	XIV:79
Dorset, (unlocalised)	Arachnida	X:103
Dorset, (unlocalised)	Lepidoptera	X:383
Dorset, Alton St. Pancras	Birds	X:251
Essex, Dagenham	Mollusca	XIII:230
Essex, Epping Forest	Birds	X:19
Essex, Purfleet (ref.)	Vascular Plants	XIV:277
Gloucs., (unlocalised)	Vascular Plants	X:70
Gloucs., Cirencester	Lichen	XII:357
Gloucs., Gloucester (ref.)	Vascular Plants	XIV:277
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Gloucs?, R. Severn	Fish	XI:123
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Hants., Drayton	Vascular Plants	XIV:277
Hants., Lyndhurst	Lichen	XI:49
Hants., New Forest	Birds	XI:340
Hants., New Forest	Lepidoptera	X:80; XII:69
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Hants., Southampton	Mollusca	XIII:230
Hereford, (unlocalised)	Vascular Plants	X:70
Hereford, Bishopswood	Mollusca	X:321
Hereford, Leominster	Lepidoptera	X:42
Herts., Hoddesdon (ref.)	Birds	XIII:170
Hunts., Monks Wood	Lepidoptera	X:57
Kent, (ref.)	Vascular Plants	XIV:277
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Kent, Deal	Lepidoptera	XIII:298
Kent, Dover	Arachnida	X:103
Kent, Dover	Lepidoptera	XI:213; XII:69
Kent, Folkestone	Lepidoptera	XII:69
Kent, Herne Bay	Vascular Plants	X:390-391
Kent, Leigh	Birds	XIII:264
Kent, Romney Marshes	Birds	XI:235
Kent, St. Margaret's Bay	Lepidoptera	XIII:298
Kent, St. Nicholas Marshes	Mollusca	X:321
Leics., (unlocalised)	Lichen	XII:296
Leics., Loughborough	Meteorology	X:384
London, (unlocalised)	Mammals	X:128
London, Battersea	Mollusca	XIII:230
London, Hampstead	Mollusca	XIV:104-107
London, Highgate	Mollusca	XIII:230; XIV:104-107
Middlesex, Wood Green	Mollusca	XIV:104

Norfolk, (ref.)	Vascular Plants	XIV:277
Norfolk, (unlocalised)	Birds	X:267; XI:277; XII:79-80
Norfolk, Beccles	Mammals	X:88
Norfolk, Broads	Vascular Plants	X:70
Norfolk, Great Yarmouth	Mammals	X:228
Norfolk, Norwich	Birds	XIII:330
Norfolk, Norwich	Mollusca	XIII:230
Norfolk, R. Bure	Mollusca	XIII:230
Norfolk, Starston	Mollusca	XIII:230
Norfolk, The Wash	Birds	X:344
Northants., Cowland	Duck Decoy	XI:340
Oxon, (North)	Birds	X:248
Oxon, (ref.)	Birds	XIII:170
Oxon, (unlocalised)	Vascular Plants	X:35
Oxon, (unlocalised)	Bryophyte	X:21
Oxon, Charlbury	Vascular Plants	X:69
Oxon, Weston	Lichen	XII:359-360
Salop, (unlocalised)	Lichen	XII:296, 299
Salop, Bridgenorth	Geology	XIV:108-109
Salop, Grinshill	Geology	XIV:108-109
Salop, Ness Cliff	Geology	XIV:108-109
Salop, Oswestry	Mollusca	X:321
Somerset, (North)	Vascular Plants	X:69
Somerset, Bath	Birds	X:250
Somerset, Williton	Birds	X:250
Staffs., Cheddleton	Mollusca	XI:58-59
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Bill Ely
Clifton Park Museum,
Rotherham.

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BOOK NEWS
AND REVIEWS



An Atlas of Oxfordshire Dragonflies by J. M. Campbell. Occasional Paper No. 3. Oxfordshire Museums 1983. £1.05 (+ 35p by post)

An Atlas of Oxfordshire Amphibians and Reptiles by J. Coldrey and J. M. Campbell. Occasional Paper No. 4. 85p (+ 30p by post)

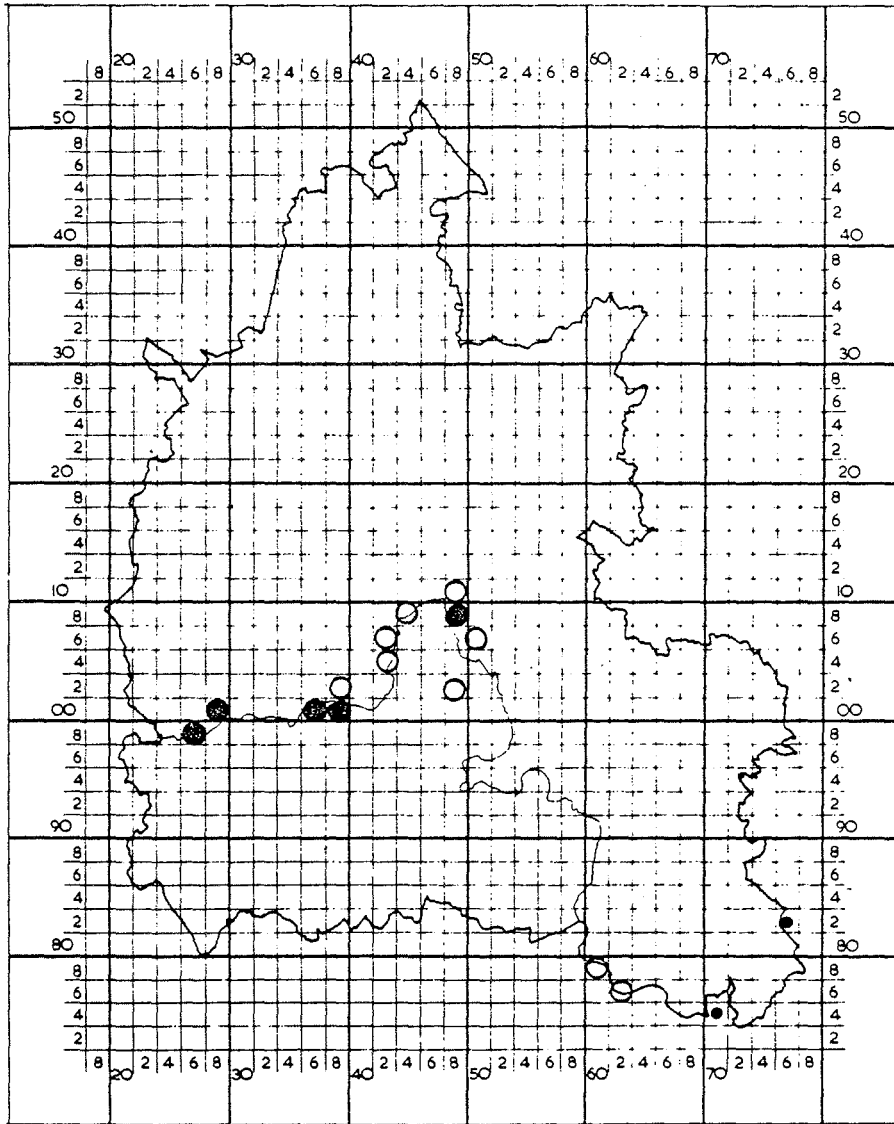
Hot follow-ups to their first two atlases, the Oxfordshire Biological Recording Scheme folks have just produced two more publications, both on subjects which are close to my heart. Once again, the tetrad maps are a bit thin, but the large number of post-1979 and post-1980 records respectively indicate that recording work in the county is pretty hot. Each map is accompanied by notes on historical and current distribution and some habitat correlations which I found particularly interesting for comparison with my own counties. Recommended to anyone interested in British Odonata, reptiles or amphibians, local recording schemes as well as naturalists visiting Oxfordshire.

D.W.

GOMPHUS VULGATISSIMUS Linn

Club-tailed Dragonfly

- Post 1979
- 1950-79
- Pre 1950



This dragonfly requires well aerated water with plenty of silt on the bed. Apart from a 1919 record from Stanton St. John, all the records are from the River Thames or from near to the river. They are on the wing from late May until the end of June. One near Radcot was seen to carry and eat a Banded Agrion.

BYNE'S DISEASE

Most natural history curators will have seen a white deposit or a slight furry growth on the surface of shells. This is Byne's disease. The fact that it even has a name and has been described is of interest.

Unfortunately, as with Pyrites 'rot' or 'disease', the implication in the name is that a biological agent is at work. Also, once the symptom is removed, it is assumed the causative effect has also been dealt with. As there is strong evidence that external factors are the cause, the similarity with problems associated with pyritised geological material is again reinforced. Indeed, the entire story of the understanding and eventual treatment may well exactly parallel the latter problem.

One of the first jobs given to me in museum employment was to treat a collection of molluscs which had been donated. A large proportion of the shells were showing the signs of Byne's disease. Treatment consisted of boiling each specimen in water for a few minutes and then, when dry but still warm, rubbing each shell in the hand with a small quantity of petroleum jelly. Naturally, the problem of keeping the labels with the appropriate lots in a collection of several thousand shells made this a laborious task. It was done to render the shell surface and pattern visible again and to prevent both further decay and possible 'spread' to the rest of the collections when the specimens were incorporated. (Again, the 'disease' concept which may not be valid.)

In collections of birds' eggs, there appears to be a similar problem. Eggs are universally stored in cotton wool. Wagstaffe and Fidler, 1968, The Preservation of Natural History Specimens, volume 2, specifically mention a storage problem in this respect. They advise changing the cotton wool biennially, or more often, in conditions of dampness - "otherwise, the eggs may become mouldy and in consequence permanently stained". They also state that this 'mould growth' shows up under ultra-violet light as yellowish or orange patches. This is certainly the case with specimens that I have examined.

The substance in common in these two groups of museum specimens is calcium carbonate. Recent research shows that the Byne's disease symptoms are products of the effect of acid vapour and humidity on this compound. Whereas the exact chemical processes have not been defined, it is clear that storing such material in oak or other acid-producing timber cabinets in high humidity conditions is the major contributory cause. Similarly, the use of acid-free card for trays, boxes, tissue and cotton wool will relieve the problem. These same considerations have also to be borne in mind by the curator in respect of pyritised fossils and objects of pure lead.

There are various questions which spring to my mind in connection with this problem:

Why does the Byne's disease affect some species or groups of species more than others?

What is the best interim treatment, on the assumption that the cost of replacing all cabinets and installing air conditioning is financially impossible?

Does the UV fluorescence mentioned above result from the products of calcium carbonate alteration, or do these fungal hyphae - if such they are - have similar properties?

For how long do oak cabinets continue to release acid vapour? As many such cabinets are over one hundred years old, this may be of relevance.

The overall conclusion is obviously that natural history curators need the expert advice of conservators. I am indebted to Dr. Norman Tennent of Glasgow Museums, who is currently investigating the phenomenon, for much of the above information. Any curator who has evidence of Byne's disease should contact him as he is anxious to gather data on its incidence and to measure the various parameters. There is a strong case for the establishment of conservation staff attached directly to the natural history departments of larger museums. Current back-up facilities for curatorial staff are usually confined to a taxidermist, whose work in that specific sphere does not fulfil the requirements across the extensive range of material found in natural history collections.

Conservation News, No. 21
UKIC. (July 1983)
(Reproduced with the permission of their editor)

E. G. Hancock
Bolton Museum

Footnote

Some additional facts have come to my notice as a result of this note. The last paragraph is of direct relevance to biology curators - please respond. For example, the additional presence of salt in marine molluscs (especially if not cleaned properly) may be a factor. Has anyone seen Byne's disease on freshwater or terrestrial shells? Also, despite the fact that the most obvious items of calcium carbonate in a museum collection will be found in the mineral cabinets, I have not heard of a geologist ever complain of symptoms of this effect damaging the calcites, etc.

What Journal?

S P Garland

In response to an enquiry from Kelvin Boot regarding entomological journals we have decided to initiate a new section providing information about journals. Few museums, if any, can afford to subscribe to all relevant journals so one must choose a few from the numbers on offer. In addition, curators are often asked for advice about journals by local naturalists which is difficult to give unless you have personal experience of them.

We start this series off with entomology. I have tried to be objective and unbiased (yes, I am a lepidopterist). Unfortunately, there is no journal to which you can subscribe that is concise for your field whether you are a dipterist, hymenopterist or coleopterist, but some are better than others. In my amateur naturalist capacity I personally subscribe to some of these and swap them periodically (ouch!) with other people who take other journals. That way you all get to see everything eventually!

ENTOMOLOGY

Entomologist's Record & Journal of Variation - Predominantly Lepidoptera, but also includes a number of useful papers on other orders. Distribution and ecology are important themes, but many descriptions of species new to Britain and identification keys are published. The content is predominantly British, with occasional papers concerning the European fauna and rarely further afield. A large number of short "Notes and Observations" are included. Papers are mostly shortish and range from popular to scientific styles of writing. Subscription (1983) £10.00. Write to: Honorary Treasurer, P. J. Johnson, 10 Crossfield Road, Hampstead, London NW3 4NS. It is issued bi-monthly and totals about 350 pages per year.

Entomologist's Monthly Magazine - Lepidoptera maintain a low profile in this journal, but do creep in on rare occasions. Distribution, ecology and taxonomy are all included and numerous important identification keys are published. Papers are shortish and numerous notes and observations are included. The British Isles predominates, especially in the short notes, but the world fauna is always well represented and has on occasion been rather too well represented for a home-bound British entomologist. However, this is still the major journal for anyone interested in the British non-lepidopterous insects. Subscription (1983) £16.50. Write to: The Entomologist's Monthly Magazine, Brightwood, Wallingford, Oxon., OX10 0QD. No longer monthly; now 3 per year. About 250-300 pages per year.

Entomologist's Gazette - More lepidoptera than anything else, especially in the short notes sections, but not as much so as in the Ent. Record. It covers the Palearctic region so you don't have to read about Papuan Collembola. However non-British papers are fairly common. Apart from the notes it specialises in longer papers that the other journals wouldn't print or would serialize. Ecology, distribution and taxonomy are covered and the long papers admitted include many valuable studies of insects and regularly include important identification keys. Subscription (1983) £12.50. Write to: E. W. Classey Ltd., P.O. Box 93, Faringdon, Oxon., SN7 7DR. Four parts per year. About 250-300 pages per year.

Antenna - The newsletter of the Royal Entomological Society. Definitely a newsletter rather than a journal. Chatty articles on all insect related subjects. Its main value to any entomologist is the "British Insect Fauna" section which is an abstracting section updating all nomenclature changes and newly discovered species and giving a full bibliography of

important papers concerning the identification or ecology of British insects. The Royal Entomological Society personal subscription is £17.50 (1983). A bit steep for just 'Antenna' you might say, but a serious entomologist could reduce this by claiming tax back from the Inland Revenue on the subs; also 30% off all R.E.S. Handbooks can be worth having. Finally you might like to see F.R.E.S. after your name. The R.E.S. also publishes 3 journals; Ecological, Physiological and Systematic Entomology. These are rather high-level (much cheaper to Fellows than non-Fellows or institutions). In fact to most of us they are a bit 'over-the-top', but there are a few useful articles in Ecological Entomology. Systematic Entomology is not full of useful keys to British insects! Write to Royal Entomological Society of London, 41 Queen's Gate, London SW7 5HU. They hold numerous meetings in London each year and usually one in the wild north each year. The exhibits are usually very interesting and include regional museums, local societies and amateurs as exhibitors. Not as high level as you might imagine!

Bulletin of the Amateur Entomologists' Society. Largely lepidopterists again! This contains much chatty information and is full of useful tips and hints. It is aimed at the amateur and caters for a wide readership, including breeders and rearers of insects. The Journal of the Amateur Entomologists' Society is published occasionally and includes the excellent Coleopterist's, Dipterist's, Hymenopterist's and Lepidopterist's Handbooks. Also published are pamphlets on numerous subjects such as how to collect 'micros' and how to do genitalia preparations. (All highly recommended whether or not you join). Their Annual Exhibition is a big affair in London, unfortunately dominated by dealers. Membership fees unknown to me, but not high. A quarterly Bulletin, with about 150-200 pages per year. Write to the Amateur Entomologists' Society, 355 Hounslow Road, Hanworth, Feltham, London. Send an SAE for details.

Proceedings and Transactions of The British Entomological and Natural History Society. Mostly lepidopterists again. However, many useful notes, keys etc. concerning other groups are published. A rather large number of pages are given over to meetings reports, although the field meeting lists are interesting. Nearly all indoor and outdoor meetings are around London so they have a special cheap membership rate for Country Members of £5.50. Tough luck Londoners, £9.50, but you get to the meetings! Proceedings etc..etc... two per year with about 130 pages total. Write to The British Entomological and Natural History Society, Alpine Club, 74 South Audley Street, London W1Y 5FF. Their annual exhibition in London is worth visiting. No dealers, but very "leppy".

In addition many regional entomological societies exist and many publish journals. Our local one is the Derbyshire Entomological Society which produces a quarterly journal. Cheap to join and keeps you in touch with local entomologists. Mostly lepidoptera again, are there really so many of them or do they just write faster?

I hope that this summary is of use. If you send an S.A.E. most Journals will happily send out a free sample copy. However don't be put off if it's not too good. After all they are probably sending an old copy of a volume which doesn't sell too well as a back number!

Finally I must mention the proliferation of newsletters, often packed with valuable notes, keys etc. The Dipterists' and Coleopterists' Newsletters and the Balfour Brown Club Newsletter (water beetles) are examples. In addition many national recording schemes produce occasional newsletters on woodlice, ants, bees, butterflies etc. These are cheap to subscribe to and the recording scheme ones are usually free to contributors of records.

Editor. For future issues please. A similar treatment for vertebrates, molluscs, spiders, freshwater life, marine life, botany and any other useful journals, e.g. Field Studies. Give us a ring before you put pen to paper so that we don't get duplication.

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