

BIG!

oēm'ao (οιμάω). To swoop or pounce upon; to dart along.
oēmo'ge (οιμωγή), f. Loud wailing, lamentation.
oēmo'zo (οιμώζω). To wail aloud.
oēmog- (οιμογ-).
oē'mus (οίμος), m. or f. A way, a road, a path.
†oēnan'the (οινάνθη), f. [Gr.] A vine-blossom; the vine; dropwort; *Spiraea filipendula*; a bird, perhaps the wheatear. [L.] The grape of the wild vine; a thorny plant, pimpinella-like dropwort, *Oenanthe pimpinelloides* Linn.; a bird also called *parra*.
 Also **oēnan'this** (οινανθίς), f.
†oē'nas (οινάς, gen. οινάδος), f. The vine; bryony; a wild pigeon of the color of ripening grapes, *Columba livia*.
 Also **oē'nias** (οινιάς).
oēn'oo (οινόω). To intoxicate.
†oēnothe'ra, oēnothe'ris, f. A sleep-producing plant.
†oēnothe'ras (οινοθήρας), m. A plant whose root smells of wine.
oē'nus (οίνος), m. Wine.
oēnut'ta (οινοῦττα), f. A plant with intoxicating properties.
oēo'buis (οιόβιος). Living alone.
oēoc'eros (οιόκερος). One-horned.
oēon'omus (οιονόμος). Feeding alone.
***oēo'nus** (οιωνός), m. A large bird, a bird of prey; a bird of omen. [Adj.] Winged.
oēsoph'agus (οισοφάγος), m. The gullet.
oēs'trao, oēs'treo (οιστράω, οιστρέω). To sting (of the gadfly); to go mad.
oēstrel'atus (οιστηλάτος). Driven by a gadfly.
***oēs'trus** (οιστρος), m. [Gr. & L.] A gadfly, probably *Tabanus bovinus* (= *asilus*). [Gr.] An arthropod that infests tunny-fish; a small insectivorous bird, probably *Sylvia trochilus*.
†oēs'sus (οισος), m. A kind of willow or osier, withy, *Vitex agnus-castus*.
†oēs'sya (οισύα), f. A tree of the osier kind.
†oētum, n. An unknown Egyptian plant.
oētus (οίτος), m. Fate, doom.
o'ëum, o'ium (ᾠεον, ᾠιον), n. Poetic form of *oum*, an egg.
oē'us (οίος). Alone, lonely.

og-. See *ob-*.
og'mus (ογμος), m. Any straight line; a furrow.
o'ia (οία), f. Var. of *oa*, a border.
***o'is** (οἷς), m. & f. (-'ois.) A sheep. (= *ovis*).
ois'tus (οἰστός), m. An arrow.
o'ius (οἷος). Of sheep.
oī'zo (οἰζω). To sit on eggs, to brood.
o'lax, gen. ola'cis. [Low L.] Smelling, odorous.
ol'buis (ὄλβιος). Happy, blessed. (= *beatus*).
†ol'lea, f. An olive; an olive tree. (= *elaea*).
o'leagin'eus. Of the olive tree; like an olive tree or an olive.
†ol'leasel'lus, m. A Calabrian species of olive tree.
†oleas'ter, gen. oleas'tri, m. The wild olive tree. (= *elaeus, cotinus*).
ol'ene (ὀλένη), f. The elbow; the arm from the elbow downward. (= *ulna*).
o'leo, act. part. o'lens. (-'olens.) To emit a smell.
oleo'sus. Oily, full of oil.
olera'ceus. Herb-like.
ol'esi- (ὀλεσι-, from ὄλλυμι). [Prefix.] Destroying; losing.
ol'esis (ὀλεσις), f. Destruction.
ol'eter, ol'etes (ὀλετήρ, ὀλέτης), m., oleti'ra, ol'etis (ὀλέτειρα, ὀλέτις), f. A destroyer, a murderer.
ole'thris (ὀλέθριος). Destructive, deadly.
ol'ethrus (ὄλεθρος), m. Ruin, destruction, death; a pest, a plague.
ol'leum, n. Oil, olive oil.
ol'idus. Smelling, emitting an odor.
oligem'erus (ὀλιγήμερος). Lasting a few days.
oligo'buis (ὀλιγόβιος). Short-lived.
ol'igogon'atus (ὀλιγογόνατος). With few joints or knots.
ol'igus (ὀλίγος). Few, scanty, small.
***olin'gus** (ὀλιγγος), m. A kind of locust.
olisthe'rus (ὀλισθηρός). Slippery. (= *lubricus*).
***olis'thus** (ὄλισθος), m. Slipperiness; a fish with a slippery skin.
†oli'va, f. An olive; an olive tree. (= *elaea*).

***ololy'gon** (ὄλολυγών), m. The of the male frog; an unknown.
***o'lor**, gen. olo'ris, m. (-'olor.) (poetic); a smell, an odor.
ol'ous (ὄλοός). Destructive, f. murderous.
ol'pe, ol'pis (ὄλπη, ὄλπις), f. Oil-flask; a vessel for pouring.
ol'us, gen. ol'eris, n. (-'olus.) Garden herbs, vegetables. (= *lachanum*). (Also *holus*).
†olusa'trum, n. A plant, *Smyrnia olusatrum* Linn.
olus'culum, n. Dim. of *olus*.
olyn'thus (ὄλυνθος), m. A wine which seldom ripens.
†oly'ra (ὄλυρα), f. [Gr. & L.] resembling spelt. (= *arinca*).
om'bria (ὀμβρία), f. Rain, rainy.
om'brius, ombre'rus (ὀμβριος, ὀμβριος), m. Rainy; of rain. (= *pluvialis*).
ombroch'ares (ὀμβροχαρής). In rain.
om'brus (ὀμβρος), m. A rain, a thunder-storm. (= *imber*).
o'men, gen. om'inis, n. An omen, an augury.
omino'sus. Foreboding, ominous.
omit'to, act. part. omit'tens, pa.
omis'sus. To let go, to let go.
om'ma (ὄμμα), n. (*om'mato-*) (= *oculus*).
omnig'enus. Of all kinds.
†omnimorb'ia, f. A plant regarded as a panacea ("all-disease").
om'nis. All, very. (= *pas*).
omniv'agus. Roving everywhere.
omniv'orus. All-devouring, omnivorous.
†omomi (ὄμωμι), n. A Persian.
omop'late (ὀμοπλάτη), f. The shoulder-blade.
†om'phacocarp'os, om'phaloca. A plant also called *apharine*, ch.
om'phalus (ὀμφαλός), m. [Gr.] The navel; anything like a navel, center or middle point. (= *umbilicus*).
om'phax (ὄμφαξ), f. (*om'phax*). An unripe grape.
o'mus (ὄμος), m. The shoulder, upper arm. (= *humerus*).
o'mus (ὄμός). Raw; unripe; unripe.
on, f. u'sa, n. on (ὄν, οὔσα, ὄν, ...)

The aims of the Biology Curators' Group are:-

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

Copy Dates for future issues based on three copies per year

31 August for October issue

31 December for February issue

30 April for June issue

TO
THOSE OF MY FELLOW-COUNTRYMEN,
AMONG THE WORKING CLASSES,
WHO WISELY EMPLOY THEIR LEISURE HOURS
IN THE
PURSUIT OF USEFUL AND ELEVATING KNOWLEDGE,
WITH THE
HOPE THAT OTHERS, AMONG THEIR RANKS,
MAY BE INDUCED TO
FORSAKE THE PATHS OF PROFITLESS AND DEGRADING
DISSIPATION,
This Volume
IS, WITH EVERY GOOD WISH,
Dedicated
BY THE AUTHOR.

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

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Cover Design: Extracted from Robert S. Wood's (compiler) *The Naturalists Lexicon* Abbey Gardens Press, Pasadena (1944) with an Addendum (English - Classical), 1947. This is a fascinating book but more especially for those of us (your Editor included) who did not have the opportunity or inclination to study the classics whilst in full-time education.

BIOLOGY CURATORS' GROUP NEWSLETTER, VOL.2 No. 7 (JUNE 1980)

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Editorial

Peter Davis received the deserved thanks of those present at the Annual General Meeting, 1980, for his work on the Newsletter. He has built up the Newsletter to its present content of about fifty pages per issue and our circulation is getting to a level at which we should be able to procur advertising revenue to offset production costs. From the current editor's point of view the happy situation is that Pete will continue to physically produce the Newsletter and this leaves him the "simple" task of obtaining copy. Several ideas for future themes and topics are being mulled over but naturally the main onus falls on the membership to use the Newsletter as their medium of communication.

Committee News

The new committee is given inside the back cover. The main changes within the structure have been in the secretary's and treasurer's positions. Stephen Flood has become Head of Information and Research for the Arts Council and hence retires from full-time involvement with natural history. Kelvin Boot, warmly thanked for his work as treasurer for three years, has been succeeded by John Mathias who also organised this year's study week-end at Leicester.

To Mike (and Gillian) Taylor, our Scottish representative on committee, a son Andrew. Congratulations!

Study Weekend at Leicester

→ reports and A.G.M.

Thirty five members and several students from the Leicester course attended the B.C.G. annual general meeting and study weekend held from 11-13 April at Leicester.

The A.G.M. commenced on Saturday morning and was well attended. Some difficulty was experienced in obtaining from the members any positive reaction to the problem of electing new officers and committee, in spite of prior warning through the newsletter, and so with the exception of voting in John Mathias (who replaces Kelvin Boot as Treasurer and Members Secretary) the 1978-79 officers and committee are still serving in various capacities. Charles Steel (Booth Museum - Brighton) suggested that the business of the B.C.G. might be better served in the future by holding the A.G.M. at the end of the meeting rather than the beginning, by which time members would have had sufficient time to discuss the election of officers and serving officers may even have had a chance to spot likely new committee members! There also appeared to be confusion as to whether or not the B.C.G. was properly constituted or, indeed, whether a constitution existed at all. Charles Steel, who raised the point, kindly offered to write one, should it be required. Perhaps someone could clarify the situation? [The committee are working on this during the year - Ed.]

Following the A.G.M. Peter Morgan (National Museum of Wales) gave a brief but informative outline of the proposed alterations and additions to the wildlife protection laws with particular reference to the need to form a register of all birds' egg collections, whether owned privately or held by a museum. Eight museums had already volunteered to help implement the scheme by acting as registration centres. An amnesty period had been proposed, during which those people in possession of eggs which, in terms of the 'old' law, were illegally taken, would be able to register the specimens without attracting penalty. I must admit to a growing scepticism as the discussion proceeded, as to the ultimate success of a scheme aiming for completion of registration in under a year from now - how are the public to be adequately informed of the new law and the specimens they hold, plus all those held in museums throughout the British Isles, be registered by April 1981? Let us hope that the public are made more aware of the proposed new law than of similar existing ones relating to the protection of specimens in the wild, the existence of which, in my experience, the majority of people remain blissfully ignorant. Also, I can't help feeling that one of the effects of any mandatory registration scheme will be to immediately create an even more profitable black market, which is partly what registration is trying to prevent. This will apply not only to birds eggs but ultimately to a whole range of mounted specimens as well. As taxidermists are likely to be the most effected by the proposed legislation, it was a great pity that there were none present to represent their views at the meeting.

Finally I can almost hear the groans of those overworked, underpaid curators who still have stored in some dark recess, boxes of birds eggs or cases of mounted specimens which they have been meaning to do something about for the last few years and which they now find need to be registered by April 1981--- or will museums press for more time? As has been suggested, let us hope that the Government can be persuaded to finance a specialist team who can inspect, identify and catalogue such collections where they exist and thus help to reduce what could in some cases be a considerable extra burden for 'non-biological' Curators of small museums.

After lunch, Tony Fletcher treated us to an intriguing demonstration of a method he has perfected of identifying lichens by thin layer chromatography - identification by chemical fingerprint. Later, Don Hall-Smith demonstrated the technique he employs in removing lepidoptera genitalia for identification purposes. Mr. Hall-Smith did say before starting that he had been unable to acquire the microscope attachment necessary to allow all of the members to observe him working and so it was difficult for someone who has never done genitalia preps to learn the technique employed. This was a great pity as his expertise was made obvious by the speed with which he completed the preps, the excellent results of which all were able to observe individually afterwards. After this, Mr. Hall-Smith demonstrated a technique he had evolved for removing corroded pins from insects, using an adapted electric soldering iron to heat up the pin and loosen it, allowing the insect to be removed and re-mounted with a drop of glue on a stainless steel pin. I must admit to a certain feeling of tension as smoke began to appear from one or two of the more stubborn cases- for some curious reason as they finally spiralled down their pins they reminded me of those distant smoking biplanes one sees shot down in films of first world war dog fights! However, all seemed to end well although I personally would hesitate to consign the more valuable specimens to such treatment. As Mr. Hall-Smith explained, finer control of the heat was desirable!

Between lectures I visited the Museum's Natural History gallery which I found immensely effective - you can't beat the immediacy of open displays. I also liked very much the small cases devoted to comparisons, one of nests of birds, mammals and insects, another of vertebrate and invertebrate skeletons. A long case demonstrated size comparisons of birds' eggs and, because it was near Easter, included a chocolate egg and some Easter chicks - just the sort of human touch which I am sure causes the public to remember and talk about the displays and one, unfortunately, so often lacking in museums.

The Sunday session started with an interesting talk by Geoff Swinney (Royal Scottish) entitled Collecting Fishes (or should it have been Collecting Fish?). He commenced with a brief history of the fish collection in the R.S. which was originally formed around the old Edinburgh University collections. Several ex Keepers - Clark, Ritchie and Stevens, had published papers, mostly confined to fish in Scottish waters. It was not until 1976 that a systematic collection was started and, as the Antarctic, South Atlantic and Pacific were already represented, active collecting was concentrated in the N.E. Atlantic and Western Europe.

Geoff is fortunate in being able to collect in the field from various research vessels and in his talk, which was illustrated with slides, he explained the use of a variety of nets and traps and some less conventional collecting methods he has used including parachutes, polo - mints and power stations! Apparently he used a small drogue 'chute on one occasion to act as a sea anchor on a purse seine net being used to collect delicate planktonic organisms. Trap nets which require a cheap but effective control to spring, have a polo-mint built into the trigger which take just the required length of time to dissolve before activating the mechanism! The use of power stations for fish collecting turned out to be nothing more exciting than picking out the fish trapped in the water inlets to the cooling towers.

A method of collecting fish fry samples was described and illustrated which overcame the bow wave and eddy effect normally encountered when pushing a conventional fine mesh net through water and thus acts as an early warning system to alert fish fry. The device, which was held in the water in front of the boat, was fitted with a metal cone-shaped front, attached to a plankton

sampling net. The cone effectively reduced eddy and allowed accurate fish fry sampling to be undertaken. The device was further improved by attaching the tapered end of the net bag to a hose pipe through which the sample water was drawn by a pump inboard - apparently the fish fry remained undamaged. Geoff also described a method of electric fishing using a D.C. generator and electrodes placed in the water. The current causes the fish to gravitate to the positive electrode where they may be netted with ease (and a well insulated net!) He finished his excellent talk with a series of slides showing various methods of storing some of the specimens in the spirit collection.

Hugh McAllister (Ness Gardens) gave a lecture on Cytotaxonomy in which he described a method of determining the taxonomy of *Hedera* (Ivy) by tracing chromosome variations and also by examination of the scale hairs on the leaf surface with the aid of a x10 magnification hand lens. I must say Mr. McAllister certainly knows how to deliver a lecture in a clear and interesting manner, if only all speakers acquired his technique. Unfortunately, I had to leave before the final talk on Sunday afternoon and so cannot comment on the Collecting and Preserving of Marine Algae.

Speaking personally I found the whole weekend to be interesting, informative and well organised: my thanks to all those members of the B.C.G. and the staff of Leicester Museum responsible.

Denis Murphy
Heresy County Museums

SURGICAL SPIRIT AS A RELAXING AGENT. — Having had problems with mould in relaxing tins, I tried using water mixed with a small amount of surgical spirit in my relaxing tin. This proved to be most effective; as well as preventing mould, this mixture has the advantage of relaxing very quickly, 24 hours being sufficient for all but the largest insects. I have even used this relaxant on dried and crumpled leaves prior to pressing them, again with great success. — P. J. JOHNSON, 7 Haverhill Road, Horseheath, Cambridge, CB1 6QR. 23.xii.1979.

(1980) Entomologist's Record, 92(2); 49.

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The B.C.G. Conference - The Leicester Students' Impressions

As Museum Studies students we welcomed the opportunity to attend the recent B.C.G. conference in Leicester. Our overall impression was that it was an enjoyable and worthwhile weekend. Of particular interest was the discussion of current issues such as that on the proposed bird protection laws, led by Peter Morgan. It is advantageous to be kept in touch with such developments. The talks by Ian Tittley on the collection and preservation of marine algae and by Geoff Swinney on the collecting of fish were valuable introductions to their subjects. Hugh McAllister gave an enthusiastic presentation of current research in cytotaxonomy. Although not of direct relevance to most curators, it illustrated the fact that 'classical' taxonomy should not be considered in isolation but should make use of related fields of research. Tony Fletcher's demonstration on the use of thin-layer chromatography in distinguishing morphologically similar lichens also served to illustrate this point. The other practical demonstrations on the Saturday afternoon presented an opportunity to familiarise ourselves with the various techniques. It is much easier to learn such methods at first-hand than from the literature.

The opportunity for informal discussion is an added benefit to such a meeting. We were surprised that only about one-fifth of the membership was present. Is this a reflection of the members' employers or of the members themselves?

An alternative contribution, or, the other half of a conference pair.

It was nice to see the faces of the names we've often seen and the voices to go with them, discussing current themes such as bird protection laws, proposed but not enacted. It would be nice to have in writing when more has been decided.

Repinning of the insects was especially useful to us, to solve some of the problems we will surely come across. As to the genitalia preps, well, what can we say? but who can name the moth flavouring soup-of-the-day?

Identification of lichens involved thin-layer chromatography
We didn't know South America was included in Leicestershire's geography.
Collecting fish is something few of us may have to do
Its nice to know that Polos, Parachutes and Power Stations have other uses to.

Current research was described in the field of cytotaxonomy
When *Sorbus* strains the brain, resort to frontal lobotomy.
The preservation of marine algae was made clear and easy to follow
Fortnum & Mason's have our custom, when mounting slides with Karo!

Several museum functions were touched on in turn
Collection, identification and research was our concern
and all were well presented, with use of demonstration.
Discussion of current topics was particularly welcome.

All in all a good weekend and we hope you thought so too.
Please unfreeze your frozen jobs - we'll come and work for you!
If this is double-dutch to you its because you didn't come
We hope you had a good excuse and you're not just a lazy individual.

Local Invertebrate Recording Schemes at Sheffield Museum

Introduction

In a recent article (Whiteley 1978) some of the problems and solutions of collecting and disseminating information on local vertebrate animals were outlined, with special reference to activities at Sheffield Museum. This present paper deals with similar and other problems encountered in recording local invertebrate animals and suggests ways in which curators in other under-recorded areas can give their invertebrate files a boost. Although we realise that we may be teaching our grandmothers to suck ova, the following notes may be of use to museums with small natural history sections lacking specialised invertebrate zoologists, and which rely to some extent on voluntary and temporary help. This situation exists at Sheffield City Museums, where two curatorial and two technical members of staff are responsible for the natural sciences (including geology and meteorology).

About twelve years ago the amount of information available on the area's invertebrates was very small and virtually non-existent for all but a handful of groups studied by a few enthusiasts in the past. In his account of the local invertebrates in the standard *Natural History of the Sheffield District* (Sorby Natural History Society, Sheffield, 1968) the recorder, W. J. Smellie, summarised the situation quite well - "Coincident with these large numbers and variety is a general lack of interest with the exception of a few orders, the present day position of invertebrate knowledge is not by any means as well outlined as it was at the turn of the century". Likewise, local invertebrate material in the Museum's collections consisted of good collections of macrolepidoptera, and a few small collections of spiders, millipedes etc., mainly the result of fieldwork by David Spalding, a former curator. A programme of collecting local invertebrate specimens and records was initiated by Tim Riley, Keeper of Natural Sciences, about eleven years ago, and aided by his assistants and others, has made considerable progress. Our current programme can be divided into three broad phases. For each invertebrate group the aim is:-

1. To list local species, i.e. to ascertain presence or absence within a designated area.
2. More detailed coverage, leading to provisional and definitive 1km sq. maps, individual site lists etc.
3. Ecological studies of selected species or small groups of species, e.g. habitat preferences, altitudinal distribution, local variation, site requirements for rarer species etc.

Problems

Invertebrate recording schemes differ in a number of ways from those dealing with flowering plants or vertebrate animals. With the exception of butterflies and larger moths, invertebrates are rarely studied by the average amateur naturalist, or natural history society (although we are aware of several societies making considerable progress in this field). Every town or district can boast at least one fanatic for an 'unpopular' group, be it slugs, pseudoscorpions, fruit flies or parasitic nematodes.

Such enthusiasts, however, rarely have time or facilities to organise local naturalists, or operate local mapping schemes. Secondly, many groups of invertebrates require specialist knowledge, literature,

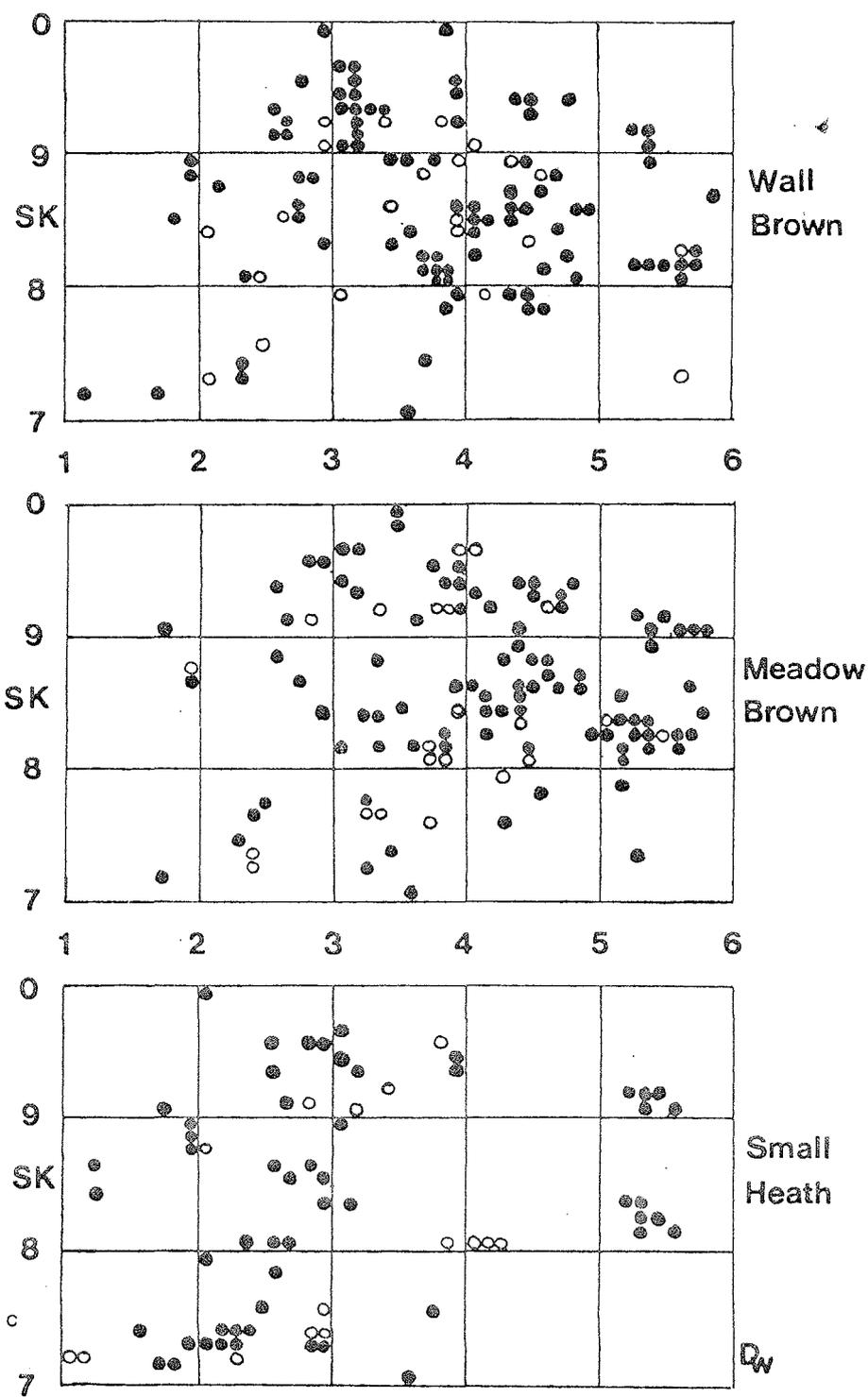


Fig.1 Provisional 1km^2 maps of Butterflies using local grid squares as a base map. (Smellie 1977) Revised edition due in 1981.

and expertise to identify individuals to species level. Also, all groups contain at least a few closely related species which require critical examination of the whole, or part of a specimen.

Bearing these difficulties in mind, therefore, collection of data on Sheffield's invertebrates has by necessity gone hand-in-hand with the collection of voucher specimens, which are added to the Museum's permanent reference collections. Even 'common' species are retained (with reason) as they form a reference source which can be subsequently re-examined. For example, our specimens of the common slug *Arion hortensis* (Fér.) are currently being redetermined in the light of recent work.

Geographical Areas

Sheffield Museum's Local Biological Records Centre (L.B.R.C.) has, by agreement with B.R.C. at Monks Wood, accepted responsibility for the post-reorganisation Metropolitan District of Sheffield, an area of about 440 km squares (South Yorkshire differs from most counties in that each of the four Met. Districts has its own L.B.R.C.). Sheffield's proximity to Rotherham and Derbyshire, both with L.B.R.C.'s, but both traditionally and currently studied by Sheffield naturalists, has created problems over the choice of area to map. Therefore, published maps cover a variety of geographical areas, depending on circumstances at the time of the survey, and the author's own interests.

General considerations are:-

1. Natural History Societies. Some do not restrict their fieldwork to political boundaries, but record by grid squares (see Butterfly maps. Fig. 1).
2. Availability of manpower, time etc. May limit a survey to the Sheffield District (e.g. Freshwater Invertebrates, Moths).
3. Other local recording schemes. To prevent duplication of effort with the Derbyshire Entomological Society's county lepidoptera survey, our own moth survey was limited to the District. (Fig. 2)
4. Recorders, using our data for their own schemes may wish to publish maps for a wider area. For example, Bill Ely's millipede maps cover the whole county of South Yorkshire. (Fig. 3)

Data Collection Techniques

A. Fieldwork by Museum Staff

Specimens are collected in the field, killed, preserved, labelled and accessioned; followed by preliminary sorting by museum staff into class, order and family, pending specific identification. Referees identify material which staff feel incompetent to name, or to check rarities and critical species. Otherwise specimens are 'shelved' until referees can be found. Neighbouring curators, local experts, county recorders and organisers of national mapping schemes have willingly examined our material. However not all these experts are able to undertake this service, and it makes sense to ask first. Also, specialists are often more keen to look at material if assistance is given by labelling series of named specimens. This usually means re-grouping specimens from

DISTRIBUTION MAPS

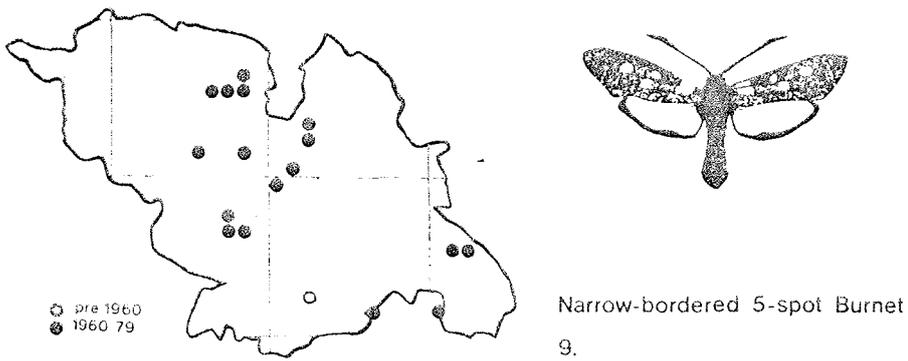
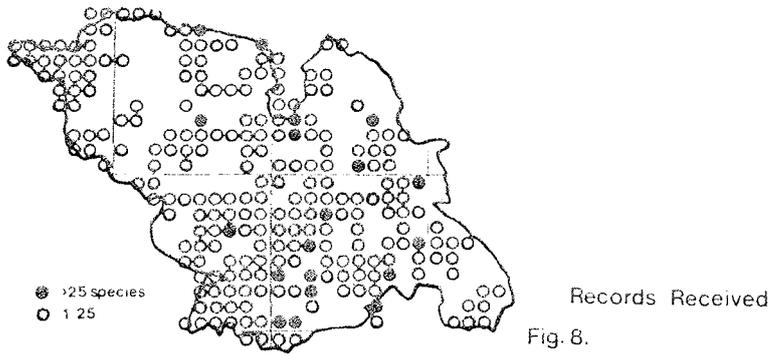


Fig.2 Provisional 1km² maps of Moths using the Sheffield Metropolitan District as a base map. (Garland 1979)

several different collections; hence the need to accession material first.

Usually, two or three collection sites are selected for study each year. They may be local reserves, S.S.S.I.'s, field study sites, nature trails, or sites which require further information in response to enquiries.

B. Volunteers and Students

Each year up to three undergraduate or graduate biology students and several volunteers have been attached to the museum to collect and preserve invertebrates. This has proved to be highly profitable as only a basic training is required and the results can be very rewarding (in terms of new records) particularly as their expertise in sampling develops. (Again, a word of warning! Prepare provenance and accession labels in advance, and ask the collectors to label their own collections, otherwise you are likely to be swamped with hundreds of pinned insects or spirit tubes with cryptic labels, which will keep you busy well into the winter. Better to have a smaller, well-labelled discreet field collection ready for identification. We print our own labels by photographically reducing A4 sheets of 'golf-ball' bold typed labels. 32 ASA film and Grade 4 paper give the best results. In addition, some of our volunteers and students have been encouraged to identify some of their own captures. One student became competent at naming *Staphylinidae* (Rove beetles) - not an easy group. A local railwayman and amateur naturalist collects several thousand insects for us each year and is making a special study of hoverflies (Diptera; Syrphidae). Students and volunteers also help to extract information from collections onto card indexes.

C. Manpower Services Commission

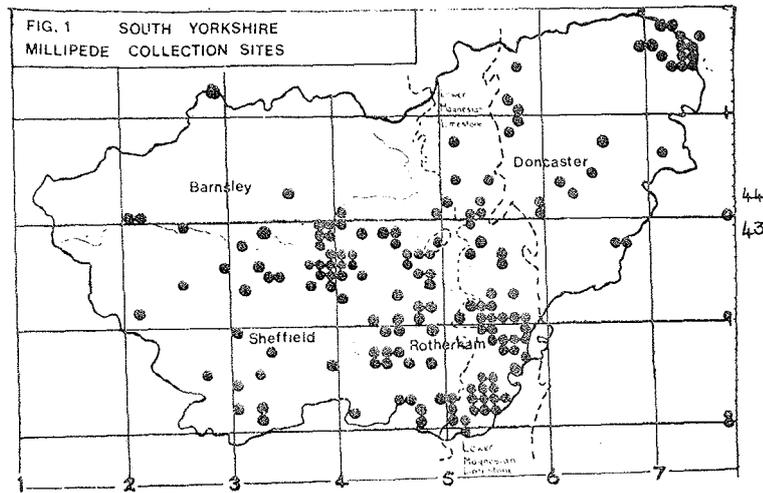
Following the success of a J.C.P. scheme to provide basic data on local biological and geological sites in 1978, a plan to extend the work using the S.T.E.P. scheme, involving a survey of local freshwater sites, commenced in July 1979. Samples of freshwater invertebrates have been collected from at least one site in each 1 km square, together with a record of environmental details, vegetation and ownership of each site. Samples have been preserved, sorted, labelled and stored (as an experiment) in standard jars ordered by site. Cross references to species are entered onto M.D.A. Continuation Cards. Graduate biologists, Eluned Smith and Dave Cooper (replaced by Krys Zasada) were selected for the posts and have been encouraged to identify groups of their own choice, before the specimens are checked by referees.

D. Extramural Courses

Evening classes organised by Sheffield University and Workers Education Association on "Sheffield's Lesser-known Animals" in which museum staff have acted as tutors have contributed small but significant additions to the Mollusca, Isopoda and Myriapoda collections and records. One student compiled a card index of local records of slugs.

E. Local Natural History Societies

Local natural history societies are another useful source of information. The membership of our local societies, Sorby N.H.S., Derbyshire Ent. Soc. and Yorkshire Naturalists Union, includes a 'hard core' of skilled



2. GLOMERIS MARGINATA Pill Millipede

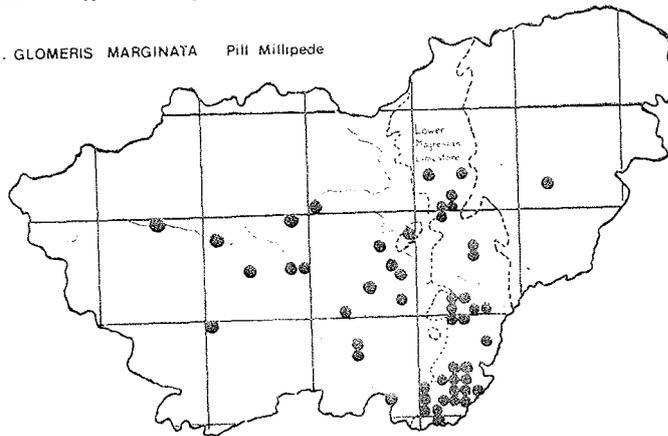


Fig.3 Provisional 1km² maps of Millipedes using South Yorkshire County as a base map (Ely 1977)

SHEFFIELD MUSEUM MOTH SURVEY - RECORD FORM

Name .. Austin Brackenbury Telephone .. 52899

Address .. 76 Crawford Road

Where was the specimen found? .. Oughtibridge Box, Wharnccliffe Wood .. SK 311936

When? .. 15 August 1978

Species identified as .. Lesser Treble Bar

SPECIMENS WILL BE RELEASED OR DISCARDED UNLESS OTHERWISE SPECIFIED

Fig.4 Record form which accompanied specimens submitted by the public.

invertebrate zoologists capable of organising recording schemes. Society recorders are encouraged by museum staff to publish their data, and supported whenever possible with additional records from the museum. To aid such a venture on one occasion we drew up 1 km² distribution maps to add to the published text. Liaison with local experts often results in them working through the relevant museum collections, preparing lists and redetermining material. Conversely, the museum benefits by obtaining from the recorder his sometimes considerable field data. Surveys of butterflies, dragonflies and moths in part followed this pattern.

Society field excursions and indoor meetings provide opportunity to publicise projects, and to provide advice and tuition to members. Apart from the amateur expert, there is an army of willing and enthusiastic 'semi-skilled' naturalists who are quite capable of providing useful contributions, if coaxed and directed. To this end, Museum staff have been involved in an 'Invertebrates Workshop' organised by the Sorby N.H.S., in which tuition was provided on the identification and biology of millipedes, moths, hoverflies, beetles, grasshoppers and allies etc.

A full-day symposium on "Local Invertebrates and Invertebrate Recording Schemes" was held in 1979, again providing opportunity to present papers on the museum's role as a recording unit at local and national levels, and to publicise our holdings. Both venues were very successful, well attended, and provided a chance for recorders and museum staff to point keen members in the right direction and to make contact with new faces. If your local society is unable to organise such events, try organising one at your museum. All you need is a spare Saturday afternoon, a room, a few specimens and books, and half a dozen willing tutors.

Attendance at exhibitions and meetings of national and county societies (Royal Ent. Soc., Derbyshire Ent. Soc., Y.N.U. etc.) has resulted in making contacts with county and national recorders. A small portable exhibition has been mounted, demonstrating current work and interesting new records aimed at 'bringing the mountains to Mohammed'.

F. Gallery Displays and Public Appeals

Davis (1979) has already outlined the pro's and cons of public participation surveys based at museums. After two successful vertebrate projects on amphibians and fishes (Whiteley 1978) we constructed a display aimed at encouraging members of the public to bring in moth specimens for identification; and including a selection of common moths to attract interest. The 'Moth Survey' was also publicised on BBC Radio Sheffield and in a short interview an appeal for specimens was made. There was a good response to the scheme. There was an expected bias towards awe-inspiring monster species with big staring eyes or nasty stings. Trembling members of the public were reassured that their specimens (jar-bound with the ubiquitous handful of grass) were harmless, but were still only too happy for the museum staff to perform the release. Three or four good moth-trapping evenings would probably have produced as many records, but public specimens usually came from inaccessible urban areas, where running an M.V. trap attracts more people than moths. However, as a public relations exercise, the survey was a success, and created much goodwill with our visitors.

This year's effort, aimed at the coleoptera fraternity, and entitled "Join our Beetle Drive" has so far been on display only during the winter, and attracted only a few enquiries. (Again, more urban and synanthropic species, rarely recorded by naturalists). However, an additional bonus has been contacts made with local coleopterists, previously unknown to us. Such discoveries are all too rare, but always worth trapping and preserving.

G. Personal Fieldwork

A vital part of any recording scheme. Much work can be achieved during evening work with light traps and week-end trips to supplement the limited time available for fieldwork during office hours. It is difficult to run a scheme without getting involved oneself, and liaison with an active local recorder can be enhanced if museum staff are themselves active contributors.

H. Direct Appeals to Companies

Devices designed to kill insects are frequently found in hospitals, kitchens, restaurants and food factories, and consist of an ultra-violet lamp which attracts insects, and an electrified grid which kills them. Insect remains are usually recognisable, but sometimes charred and always brittle. If examined periodically these lamps can provide useful species lists, and an approximate indication of relative populations. If the problem of persuading the owners that their smelly remains are of scientific value can be overcome, these traps provide a wonderful sampling technique, particularly in industrial areas. During our Moth Survey one Sheffield hospital furnished over sixty species of macro moths and a few dozen micros in just two years.

I. Use of Museum Collections

By tapping the third source (Skidmore, 1978) we have been able to trace a valuable amount of previously unpublished data. During the Moth Survey data was extracted from our own collection, and the impressive collection of William Reid, a former local lepidopterist who sold his collection to the B.M. (Natural History). After consulting a checklist of records and borrowing his diaries from the B.M. for data extraction, it was only necessary for one person to spend a single day in London to tie up the loose ends. The B.M. staff were, understandably, unable to extract this data, so it was vital that as much information as possible was sorted prior to the visit.

Relations with neighbouring museums, particularly Rotherham, are good, and joint recording trips to localities of mutual interest and exchanges of specimens are frequent. In particular, each museum willingly provides the other with records for publication on areas larger than the Districts e.g. Millipedes (Ely 1977), Butterflies (Smellie 1977) and Centipedes (Addey 1978).

Recording Formats

After a number of years experimenting with different cards and indices for various recording schemes, two standard cards have been selected to suit different requirements:-

B.R.C. 80-column "pink" cards. Used for groups with a small number of species (e.g. ants, millipedes, woodlice) and groups for which habitat data is an important requirement (e.g. grass-

B.R.C. 5-11	SPECIES NO.	ORDER NO.		SPECIES NO.		GENUS & SPECIES				SUB-SPECIES etc.			V.C. NO.
		1-4		5-9		11-24				10			
	GRID REFERENCE		VICE COUNTY		LOCALITY				ALTITUDE				
	25-32				1 mile S. of Hathersage				56-57			ft	
	4323-80-		33-35		57				36-55			m	
	HABITAT		DATE		RECORDER'S NAME				REC. NO.				
	58-59 W. facing grassy banks		60-64		R & V. Clinging				65-68				
	RARITY		STAGE		COMMENTS & COMPILER								
	69		72		colonies at :								
	73-76		77-79		43/238801 and 43/238804								
DETAILS OF SOURCE		EXPERT		R. Clinging									
73-76		77-79											
IBM 865-22288											NATURE CONSERVANCY		

Fig.5 B.R.C. 80-column 'pink' card used for the local Orthoptera mapping scheme.

Phragmatobia fuliginosa L.	Ruby Tiger	ARCTIIDAE		
Langsett (Midhope)	15 larvae	8 April 1898	A Whitaker	
Langsett	3 pupae	4 May 1899	"	
Midhope Moors	1 pupa	16 April 1900	"	
Strines Moor	2 larvae	19 Sept. 1950	T Ford	
Totley	2 adults	4 & 6 Aug. 1950	W Reid	3180
Whirlow Park Road	1 adult	4 Aug. 1952	"	3282
Loxley Common	2 larvae	11 Aug. 1968	F Harrison	3090/3190
Greno Wood	1 adult	12 June 1969	"	3295
Richmond	1 adult	16 June 1969	"	3985
Greno Wood	1 adult	29 May 1978	R Clinging	3296
Unsliven Bridge	1 adult	19 June 1978	J Lee	2599
Hallam Moors	1 larva	20 Sept. 1978	S P Garland	2484
Brown Edge	1 larva	21 Sept. 1978	"	2686

Fig.6 Standard 8" x 5" filing card used for the local Lepidoptera mapping scheme

hoppers). "Pink" cards can be filed by species, grid reference, habitat or date and manually sorted for different classes of data. (Fig. 5)

8" x 5" filing cards. Used for groups with a large number of species, one card per species with multiple entries. (Fig. 6) Not as flexible as "pink" cards, but they are easier and quicker to fill in.

In addition, standard B.R.C. Field Cards (RA1 to RA33) are used to forward records to national recorders, and for cross-indexing records to the local 'Biological Sites' file.

Publications

Publications of records in various forms is one of the most efficient ways of disseminating information - an important function of a L.B.R.C.

Newsletters of local societies e.g. D.E.S. and S.N.H.S. have proved useful for initial launching of surveys, frequent reminders, progress reports, notes on interesting finds and general humorous anecdotes. It costs the museum nothing and reaches 600 naturalists.

Local Journals e.g. the Sorby Record are ideal for the publication of provisional and definite maps, annual reports and a variety of other notes of permanent interest. (Hint - it helps having an editor on the staff).

Joint Publications. The problem of publishing a large paper such as a local moth fauna, without dominating an issue of a journal (and receiving rude words from non-lepidopterists) was overcome by initiating a joint publication the Sorby Record Special Series, financed by both the Sorby N.H.S. and the Museum. Each institution takes a number of copies proportional to the financial input. Issue No. 1 "The Moths of Sheffield" (Garland 1979) is already selling well, and further invertebrate volumes are planned on Freshwater Invertebrates and Butterflies. Each subject is suitably packaged with maps, illustrations and potted biologies for public consumption.

Internal Publication. A detailed report of the results of the freshwater invertebrates survey will be published later this year for restricted circulation to planners, water authorities and other relevant institutions.

The Value of Invertebrate Records

The invertebrate recording schemes have been of great benefit, not only to this Museum, but to a wider natural history movement.

Most of all, the Museum has established a central co-ordinating role within Sheffield, without stealing the thunder from amateur workers. Undoubtedly, these joint recording schemes, publications and meetings have helped create an almost symbiotic relationship resulting in greater local interest and activity.

The benefits of sound, well-identified reference collections cannot be over-emphasised. Far fewer specimens need to be referred to referees once verified examples of critical species are available for comparison with freshly collected material. Our own expertise has

increased by working with the reference collections and in recent years an increasing number of naturalists have been using our specimens to identify their own material. The invertebrate recording schemes have played a large part in stimulating the local natural history movement to look more closely at under-recorded groups, which had barely received any attention a few years ago. Some local youngsters have even forsaken the well-trodden ornithological path into natural history, in favour of coleoptera, for example.

Public participation surveys have resulted in an awareness of the museum's living role in recording the local environment, and increasing contact with visitors yields useful and interesting enquiries.

Invertebrate surveys have also provided more site-orientated data which is useful when the conservation value of a site is assessed. A number of insect species are indicators of old, well-established bogs and woodlands, and records supplement or even supplant botanical information on relict sites. We are currently liaising with the N.C.C. to revise local S.S.S.I.'s and information on the invertebrates is proving to be particularly useful. Several other institutions, particularly water authorities, have expressed an interest in the forthcoming results of the freshwater survey.

On a broader front, relevant records are forwarded to a wider range of national recording schemes, organised by the B.R.C. and others, for inclusion in the national atlases, which have their own far-reaching applications. In addition, larger collections and files enable us to handle more detailed research enquiries. Recent examples include an enquiry into the 1976 'invasion' of the Camberwell Beauty, the variations of the drone fly *Eristalis tenax*, and elytral patterns of the longhorn beetle *Strangalia maculata*.

Acknowledgements

We are grateful to our museum colleagues, particularly Jerry Lee and Tim Riley for instigating, collaborating and supporting local projects, many local naturalists, and to John Bartlett (Director) and Councillor E. Hattersley (Chairman) for their constant interest in our activities.

Opinions expressed in this article are personal, and are not necessarily official museum policy.

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Appendix

Current 1 km sq mapping schemes in the Sheffield District (invertebrates)

* maps published or in preparation

- * Amphipoda (freshwater shrimps)
- Chilopoda (centipedes)
- * Diplopoda (millipedes)
- Isopoda (woodlice/waterlice)
- * Hirudinea (leeches)
- Mollusca (land and freshwater)
- * Ephemeroptera (mayflies)
- * Plecoptera (stoneflies)
- * Trichoptera (caddisflies)
- * Odonata (dragonflies)
- * Orthoptera (grasshoppers)
- * Lepidoptera (butterflies and macro moths)
- * Hemiptera - Corixidae etc. (water bugs)
- Coleoptera - Carabidae (ground beetles)
- * - (water beetles)
- * - Coccinellidae (ladybirds)
- Cerambycidae (longhorns)
- Scarabaeidae
- other selected species
- * Hymenoptera - Formicidae (ants)
- Bombus, Psythirus (bumble and cuckoo bees)
- Diptera - Syrphidae (hover flies)

Steven P. Garland, Natural Sciences Section

Derek Whiteley, Sheffield City Museum

Greenwood for Council

Our Chairman, Eric Greenwood, will be standing for membership of Council of the Museums Association. Please use your vote to ensure a voice for biologists within the Association.

Field work in the service of Biological Collections

Recently Evans (1979) discussed the question, 'Are your collections really necessary?' He characterised various levels of organisation in the natural world and considered how representative biological collections were in respect of these, concluding that they were adequate for only a few. Evans urged that we seek remedies in order to portray these levels and thereby to develop the use of biological collections. For example, he suggested collecting from areas where destruction of the habitat is inevitable to provide records for posterity, and to collect and collate information on other sites in preparation for possible conservation measures. These suggestions are admirable, but in the sense of providing a remedy to ensure the development of biological collections, they do not, I think, go far enough.

The essential scientific contribution collections make to biology is that they provide reference material- reference in the widest sense. This is important because the identities of specimens used in a particular piece of research can be verified, if necessary, when the species is considered again. Of course the need for reference goes further than this. It is important to possess the means to verify all manner of relationships, for example organisms associated with particular plants, predators and their prey, etc. If samples are taken quantitatively and stored, then numerical relationships can be confirmed and so on. Thus one way to develop biological collections is to increase their potential for reference. How can this be achieved? Clearly, the more information there is with a specimen the greater the potential for reference. Therefore, whenever possible, the curator should act to maximise the amount of data collected with a specimen.

The deficiency of the usual distribution and survey schemes is the limited information collected with the specimens. Greater amounts of data could be recorded such as, method of capture, time of day when caught, grid reference, activity when caught, reason for capture, observed associations with biotic or abiotic parts of the environment, weather conditions etc. To substantially increase data levels small scale, detailed projects are necessary. These should be designed with a specific objective in mind and made to yield results that can be quantified. An excellent text describing sampling techniques and methods of analysis is Southwood's 'Ecological Methods'. We should research our sampling techniques and apply them in conjunction with others, make the important measurements, store the specimens, analyse the data and then publish. For our purposes, such an approach is suitable for measuring along gradients of various kinds, for example, altitude or one vegetation type merging into another. Also comparing floral and faunal changes in space and time, for example in streams, grass tussocks, compost heaps, aphid colonies, flowerheads and so on. Such work extends the tradition of distribution studies begun by our predecessors.

With modern emphasis on relationships it is an appropriate time to assess the possibilities of assembling bionomic collections. These seek to illustrate naturally occurring relationships such as predators with their prey, phytophagous insects and their plants etc. Bionomic

collections can also be built around species displaying some common behaviour such as those that court and mate close to certain plants or aggregate at particular places for shelter etc.

With the use of tested, quantitatively based recording techniques, a high level biological monitoring of selected parts of the environment could be achieved. This will be good for our collections, for suggesting new research projects, assisting planners and conservation bodies and so on. It is important to publish the results because it makes known the work done in museums, may assist in attracting grant aid and is, of course, a good discipline for curators. However the chief reason for writing papers must be that it disperses knowledge about our collections and what is contained in them.

In my opinion, to ensure the development of biological collections, it is far better to attempt a detailed study of, for example, the knapweed gall fly in relation to its host plant in a small area, than it is to produce a map of the distribution of the adult fly in a particular county. This is because of the greater amount of information obtained from the smaller scale, detailed study which automatically increases the potential for reference in the future; thereby adding value to the collection in which the specimens are stored. In any case a map can be produced at a later date if required.

The work suggested here is not new. It may sometimes overlap with work done elsewhere but that need not matter. What is important is that we make an effective contribution to the biological and environmental sciences based on the use, growth and increasing relevance of biological collections. I suggest that this is dependent, in part, on developing a sophisticated approach to fieldwork. Co-operative projects between curators could be started on regional or a national basis. This has many advantages, such as centralising resources, a narrow range of objectives can be tackled with increased chances of success making maximum use of available expertise, apart from encouraging communication between widely dispersed curators. Perhaps, ultimately, we could look forward to the founding of a journal devoted to publishing the results of biological work carried out by museum workers or work based on biological collections.

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Museum Assistants Group Transactions, 15; 26-30
- Southwood, T. R. E. (1978) Ecological methods with special reference to the study of insect populations, (2nd edn). Chapman & Hall, London.

G. E. Rotheray,
Merseyside County Museums,
Liverpool.

BOOKS ON MUSEUM STUDIES

The Leicester University Bookshop stocks a range of books on this subject. Those of natural history interest are listed below. A full list is available from them, Mayors Walk, Leicester, LE1 7RD.

ANDERSON, E.	Methods of Collecting & Preserving Vertebrate Animals	£3.94
BATEMAN, P.L.G.	Household Pests	£5.95
BEAZLEY, E.	Countryside on View	£1.50
BIOLOGICAL SOC. OF WASHINGTON	Natural History Collections, Past, Present and Future	£1.90
ENGSTROM, K. & JOHNELS	Natural History Museums and the Community	£9.35
HOWER, R. O.	Freeze Drying Biological Specimens	*
KERRICH, G. J. ET AL	Key Works to the Fauna and Flora of the British Isles and North Western Europe	£7.80
MORRIS, H. V.	Planning a Nature Trail	0.70
MOYER, J. W.	Practical Taxidermy	£8.95
MUSEUM ASSN.	Handbooks for Curators: Guide to Herbarium Practice	0.45
NATIONAL AUDUBON SOCIETY	Planning a Nature Centre	£1.50
NATIONAL AUDUBON SOCIETY	Trail Planning and Layout	£2.20
ROYAL BOTANICAL GARDEN	Nature Trails: Royal Botanical Garden Technical Bulletin No. 9	*
SAVILLE, D.B.O.	Collection and Care of Botanical Specimens	£3.50
SMITH, E.	Taxonomy in Britain	£3.50
STANSFIELD, G.	Natural History Museums	*
WAGSTAFF & FIDLER	Preservation of Natural History Specimens Vol.1	£3.50
WAGSTAFF & FIDLER	Preservation of Natural History Specimens Vol.2	£6.50
WALKER, A.K. & CROSBY	Preparation and Curation of Insects	*

ALL STOCK SUBJECT TO AVAILABILITY AND PRICES

SUBJECT TO ALTERATIONS

* Books to be stocked shortly. Leicester University Bookshop will record orders.

BOOK NOTICES

The Editor has asked me to write a short note about the special issue of the *Journal of the Biological Society of Washington*, 82 (1969); 559-762 devoted to papers presented at a Symposium in 1968 entitled "Natural History Collections. Past-Present-Future".

A full review appeared in the *Museums Journal*, 70 (1970); 34. In this review I made the point that collections of papers on the theoretical and practical aspects of maintaining natural history collections are few and far between. Although ten years old, this collection of papers is well worth reading. Most of the contributors are in fact members of staff of the Smithsonian Institution. The first paper by Ritterbush "Art and Science as Influences on the Early Development of Natural History Collections" examines the background to the early natural history collections. Other titles include "The Role of the National Parasite Collection in Veterinary Parasitology", "The National Collections as Biological Standards", "The Role of Museum Collections in Ornithological Research", "Malacological Collections - Development and Management" and "Automation in Museum Collections". An exhaustive article by Shetler on "The Herbarium" considers the economic aspects of herbarium collections. He estimates that in 1968 at least 4 million dollars was spent on herbaria in the United States including research and curation. He has figures for the estimated cost of processing specimens and for storing specimens. His argument that the large capital investment in herbarium collections warrants greater expenditure on collection maintenance can be applied to other types of collections.

Walker, A.K., and Crosby, T.K., *The preparation and curation of insects*, New Zealand Department of Scientific and Industrial Research and the Entomological Society of New Zealand, 1979. 55 pages.

This small booklet is a useful addition to the relatively sparse literature on the subject. It covers the "Initial processing of specimens", "Handling specimens", "Methods of preparing and preserving specimens", "Specimen labels", "Organisation of the collection", "Loans", "Packaging and posting specimens", "Restoration of specimens" and a number of other topics. There are useful references and a bibliography.

(*Natural History Collections* is normally stocked by the University of Leicester Bookshop although temporarily out of stock, and *The preparation and curation of insects* is on order).

G. Stansfield.

Museums Association Diploma Bibliographies.

The BCG has been asked to up-date the bibliography on natural history museums and natural history museum practice. The Secretary would be glad to receive any offer of help and any suggestions for additions to the bibliography.

Manual of Curatorship

The Museums Association is seeking funds for the proposed manual and is looking to the specialist groups to provide the copy for the curatorial aspects relating to their particular disciplines. Offers of help and suggestions would be welcome.

11. Emergency treatment of biological materials

11.1 Biological materials can be divided into two categories; dry specimens such as skins, furs, feathers, pinned insects and herbarium material, and wet specimens which are normally stored in 60-95% ethyl alcohol.

11.2 Large dry vertebrate specimens which have been saturated with water should first be allowed to dry out (see Part III, 3.7-8). This is continued until a relative humidity of 60% is achieved, which is the correct environment for these materials.

11.3 The dry specimens should then be cleaned using fine-haired paint brushes, or a vacuum cleaner with a cloth baffle over the hose, to remove dirt and mould.

11.4 To prevent the growth of mould the specimens are treated in a cabinet with thymol or chlorocresol crystals (see Part III, 4.14). For large specimens a 10% solution of either sodium pentachlorophenate or sodium orthophenylphenate in ethyl alcohol or industrial methylated spirits (NOT household "methylated spirits") can be applied as a spray using a garden spray gun. A spirit soluble fungicide must be used so that the relative humidity of the environment is not increased.

11.5 Pinned insects that have become wet should be dried fairly rapidly at a temperature no greater than 40°C. In this way they can be dried before any mould growth can occur. Should there be any hold up in the drying due to the amount of material that is wet the bulk of the material should be held in a freezer. Either thymol or chlorocresol may be used to prevent mould growth where immediate drying or freezer space is not available.

11.6 Should mould have developed on specimens it may be readily removed, after drying, by immersing the specimen for a short time in chloroform and then cleaning off the remaining mycelia with a fine camel hair brush as the specimen dries.

11.7 Dried herbarium material, usually in paper folders, should be treated in the same manner as library materials (see Part III, 4).

11.8 The majority of wet specimens are stored in ethyl alcohol contained in glass jars or tubes. If these containers are broken care must first be taken to retain all identification labels with the correct specimens if this is possible. Provided the specimens have not dried or shrivelled they should be washed, first in clean water, then in a fresh mixture of the preservative in which they were stored. They may then be stored, in preservative, in a new jar or tube.

11.9 Should the specimens have become dried or shrivelled, more especially the exoskeletons of invertebrates, they can be completely restored by soaking them in Decon 90 (a surface active agent) for about 16 hours. Following this they should be thoroughly rinsed and immersed in water until restoration is complete. They may then be stored.

from Upton, M.S. & Pearson, C. (1978) *Disaster Planning and Emergency Treatments in Museums, Art Galleries, Libraries, Archives and Allied Institutions*, The Institute for Conservation of Cultural Material Incorporated, Canberra.

As it is unlikely that any survivors of a global nuclear war would be very interested in reconstituting museum collections, this booklet is no doubt intended to rescue specimens after tornado, volcanic or other extremes of nature have passed through one's museum. Your editor can think of some museums not one hundred miles from his own in which this sort of advice is necessary yet there has been no civil war for several hundred years. This booklet contains some sound methods for treatment of material which has suffered from neglect as well as disaster.

ANY IRISH STOAT SKULLS?

James Fairley of the Zoology Department, University College, Galway, would like to know of Irish specimens of the skulls of stoats (*Mustela erminea hibernica*) in collections and be able to measure them. This is a continuation of his work on this subject, e.g. New Data on the Irish Stoat, *Irish Naturalists' Journal*, 17(2); 49-57 (1971) and has already examined the specimens from Dublin and Belfast Museums. Fairley is, of course, getting much material in the flesh from gamekeepers but needs as much data as possible in order to look into regional variation within Ireland.

NORTH HERTFORDSHIRE MUSEUMS HERBARIUM

Brian Sawford, the Senior Keeper of Natural History, has informed us that the various herbaria of the North Hertfordshire Museums Natural History Department have now been fully documented. Species lists based on vice comital areas can be supplied on request. A detailed paper on the contents and background of the herbarium will appear in the next issue.

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GARDNER, James. *London W.1. Mid 19th cent.*
Victorian taxidermist with a business in Oxford St., which expanded to include Nos. 29-31. Held a Royal Warrant to Queen Victoria and dealt largely in foreign and exotic birds.
Examples: Bognor Regis Museum, Sussex. Curtis Museum, Alton, Hants. Dorset Natural History Society Museum.

Advertisement found pasted into the flyleaf of a book; the catalogue entry from Herriot, S (1968) British Taxidermists, a historical directory, Leicester Museums, 36pp.

The origins of Sunderland Museum

- a further note

Following publication of my description of the origins and biology collections of Museums in Tyne and Wear (BCG Newsletter 2 (5), p.232-240) I received an informative and helpful letter from Dr. Hugh Torrens. I had referred to the specimen of *Platysomus parvus* mentioned by Adam Sedgwick as being in the 'Museum of Sunderland' in 1829. Dr. Torrens pointed out that this specimen is also referred to by G. T. Fox (1827) in his *Synopsis of the Newcastle Museum* (p.307), where it is stated to be 'in the Collections of the Sunderland Subscription Library' and not that of the Literary and Philosophical Society, as I had suspected. Beckwith (1947) states that the Subscription Library was founded in 1794 (before the Literary Society) and had over 4,500 volumes in 1831 according to Samuel Lewis (1844).

Knowing that the Subscription Library was implicated, a further search of the Library Archives was carried out. Beckwith also mentions a *Catalogue of the Library* published in 1884, which was quickly traced, but provided no reference to the Museum. However, after a prolonged search a *Catalogue of the Subscription Library*, dated 1825, was found which includes a comprehensive *Catalogue of the Sunderland Museum*, with a list of subscribers. This *Catalogue* in the library appears to have belonged to J. W. Kirkby [1] (1834-1902), a noted geologist and former Curator of Sunderland Museum.

The title page states that the Sunderland Museum was 'Instituted 13th March 1810' and presented to the Subscription Library in 1821. The Patroness of the Museum was the Hon. Lady Noel [2], President Stephen Pemberton [3] M.B. and Treasurer/Secretary William Burn [4].

The list of subscribers prefixed to the Catalogue is particularly interesting, and includes a number of local worthies. Of particular note are:

John Armstrong M.D. (1784-1829). A local doctor who contributed a number of papers to the *Edinburgh Medical and Surgical Journal*, the *Medical Intelligencer* and the *Transactions of the Associated Apothecaries of England and Wales*. His 'Lectures on the morbid anatomy, nature and treatment of acute and chronic diseases' edited by Joseph Rix was published in 1834, and a memoir of his life and work, compiled by Francis Boot M.D. was published in two volumes in the same year.

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- [1] See Trans. Geol. Soc. Edinburgh 8, 1902.
- [2] Judith Noel (? - 1822), daughter of Sir Edward Noel, Viscount Wentworth, married Sir Ralph Milbanke of Seaham Hall, Co. Durham, the family assuming the name of Noel on succeeding to the Wentworth estates in 1815.
- [3] Stephen Pemberton (1743-1831) J.P. for Durham and fellow of Oriel College.
- [4] William Sedley Burn (1790-1861) local physician and J.P.

William Reid Clanny M.D. (1777-1850). Ardent scientist and experim-ent-
alist. His miners safety ('Clanny') lamp [1] drawings were laid before
the Newcastle Literary and Philosophical Society in August 1812, and in
1816 he received the silver medal of the Society of Arts for this work.
He published the first scientific treatise on cholera (1832). He
presented various natural history items to the Subscription Library
including a dolphin, a shark and remoras.

George Townshend Fox (1782-1848). A G. F. Fox appears in the list of
subscribers from 1810-1816, but must surely be G. T. Fox. Rev. Fox, of
St. Nicholas', Durham, married Ann Stote Crofton and settled in South
Shields. The Stote Estate was considerable, and gave George Fox the
opportunity he needed to devote more time (and money) to philanthropic
causes. He was the first President of the Mechanics Institute in South
Shields (hence his connections with the Museum in the town), and a
prominent member of the Newcastle Literary and Philosophical Society.
Fox advanced £400 to the latter to purchase the George Allan Museum in
1822. His 'Synopsis of the Newcastle Museum, late the Allan, formerly
the Tunstall or Wycliffe Museum' was published in 1827 - and included the
reference to the Subscription Library and Museum in Sunderland. Fox was
also a Fellow of the Linnean Society and a Fellow of the Zoological
Society, and donated numerous specimens (particularly birds) to the
infant Sunderland Museum.

Thomas Robson (1779-1853). Son of Stephen Robson of Darlington (1741-
1779), Quaker botanist and author of *The British Flora* (York, 1777).

Tipping Brown M.D. (?1759-1811). Founder and President of the Subscrip-
tion Library, respected medical practitioner, philanthropist and Freemason.
President of the Physical Society, 1779-1781.

The list of subscribers indicates the reasons for the eventual presentation
of the museum collections to the Subscription Library in 1821. From the
initial subscribers list of 36 in 1810, membership had fallen to 5 nine
years later, and presumably the museum was facing severe financial problems.
Unfortunately the Catalogue does not indicate where the Museum was housed
during its first eleven years, although it is suspected that as the
majority of subscribers were also members of the Subscription Library, the
collections may well have been housed in their spacious building in High
Street.

The Catalogue makes entertaining reading, with its full quota of curios-
ities. It is divided into sections listing specimens from the Animal
Kingdom, Vegetable Kingdom, and Mineral Kingdom, the latter making up the
bulk of the list. A further section on 'antiques' (mainly ethnographical
items) completes the text. Of the biological specimens none of the
original specimens listed can be positively identified.

The majority of specimens listed do not have a donor's name attached, but
those that do help to indicate the major interests of the subscribers.
J. B. Taylor and Bernard Ogden were blatant herpetophiles, whereas the
fish collections obviously occupied the talents of Messrs. W. Taylor and
T. Wilkinson. The donation of major collections does not appear to have

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[1] The original lamp, and a collection of insects made by C. Caldcleugh
at the Cape of Good Hope in his possession, were donated to Newcastle
Literary and Philosophical Society.

been a feature of the early days of the Museum, the only large donations being geological material, principally local minerals, made by the Patroness, Lady Noel. The specimen of *Platysomus parvus* is listed as specimen 171 'Brown Dolomite, or Magnesian Limestone, with the petrification of a fish, also counterpart of ditto - from Pallion Quarry, near Sunderland - J. Goodchild'.

The following summarises the history of the Museum:

- 1810 Sunderland Museum instituted 13th March.
- 1821 Museum presented to the Subscription Library and housed in their premises in High Street.
- ? Collections transferred to Literary Society, Villiers Street, and then to the Athanaeum Building, Fawcett Street.
- 1836 Formation of the Sunderland Natural History and Antiquarian Society (17th November) under whose guidance the museum flourished.
- 1846 Museum transferred to Sunderland Corporation, though still housed in the Athanaeum.
- 1879 Museum and Library moved to new premises on Borough Road.
- 1974 Museum administration transferred to Tyne and Wear County Council.

What of the Subscription Library, whose members had been so involved with the Museum? It was just one of a number of attempts to provide reading matter in Sunderland, competing with the Circulating Library, the Wesleyan Library (1803), the library of the Mechanics Institute (1825) and even a Pier Library (formed 1844, subscription ha'penny a week) organised expressly for the workmen engaged on the construction of the pier! The Subscription Library was certainly the most durable, thriving in the 1870's even in competition with the Free Public Library which had been established in 1858. Only in 1938 did the Subscription Library doors close, when its premises and stock were auctioned.

As Hugh Torrens indicated to me, perhaps the most interesting fact to come from this look at Sunderland Museum is that at least one of the numerous subscription libraries which became so fashionable in the late 18th century served not only as a receptacle for books but also for objects - a somewhat sideways evolution of museums which deserves further investigation.

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ACKNOWLEDGEMENTS

Thanks to Hugh Torrens for drawing my attention to the involvement of the Sunderland Subscription Library, and to the Local Studies Librarians at Sunderland for their help and patience.

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Peter Davis
Sunderland Museum

A
CATALOGUE
OF THE
SUNDERLAND MUSEUM,

Instituted 13th March, 1810,

AND

PRESENTED TO THE SUBSCRIPTION LIBRARY,

1821.

Patroness.—The Hon. Lady Noel.

OFFICERS, 1821.

President.—STEPHEN PEMBERTON, M. B.

Treasurer and Secretary.—WILLIAM BURN.

Sunderland:

PRINTED BY REED AND SON,

1825.

The committee are very grateful to your chairman for his single-handed labours in drawing up these comments. An essential function of a specialist group such as ours is to ensure that we are not under-represented in the fields in which we are active and, more importantly, are consulted when future wide-reaching reports, white papers, etc., are being drafted.

2nd April, 1980.

The Secretary,
Advisory Board for the Research Councils,
c/o Natural Environment Research Council,
Alhambra House,
27-33 Charing Cross Road,
London,
WC2 OAX.

Dear Sir,

I am enclosing some remarks prepared by the Biology Curator's Group on the ABRC report on 'Taxonomy in Britain' (HMSO 1979) in which the Board might be interested.

At the time the Review Group was carrying out its survey work, the Biology Curator's Group (BCG) was only in its formative stages and was not able to contribute to the survey.

The BCG was formed in 1975 and consists largely of professional curators working in museums. It is representative of all museums throughout the U.K. but has paid particular attention to the problems of museums and their biological collections outside London. It is particularly anxious to see that museums in the provinces work closely with Universities, Polytechnics and the Research Councils to ensure that collections acquired in the course of research are adequately curated. Consequently in making comments on the ABRC report, the BCG would like to see a positive response from the Board that might lead to a closer relationship between museums and the Research Councils and especially the Natural Environment Research Council.

For the Board's information, I am also enclosing the BCG's comments on 'Framework for a System for Museums' (HMSO 1978), prepared under the Chairmanship of Sir Arthur Drew.

Yours faithfully,

E.F. Greenwood
Chairman

Biology Curator's Group

Comments on 'Taxonomy in Britain' Report by the Review Group on Taxonomy set up by the Advisory Board for the Research Councils under the Chairmanship of Sir Eric Smith, FRS, HMSO 1978.

1. The Biology Curator's Group (BCG) notes the recommendations the report makes concerning the priorities for taxonomic coverage and user needs (R11 - R13).
2. However, in so far that the Report reviews the position of collections in museums the BCG notes that the Report is based largely on the situation as it relates to the British Museum (Natural History) and the Royal Botanic Gardens at Kew and Edinburgh.
3. References to provincial museums' collections, especially those administered by local authorities and universities, are at times inaccurate (Par. 420 and 512) and there seems to have been a general lack of information on which to base remarks.
4. The importance of the collections at the British Museum (Natural History) and the Royal Botanic Gardens, Kew, is rightly stressed. Nevertheless, the size, historical and taxonomic significance of the larger local authority and university museum collections deserve considerable attention. (Over 5 million plant and nearly 7 million animal specimens). In addition, the taxonomic significance of collections in small museums should not be overlooked, especially where specialised collections have been assembled.
5. Almost all these collections are underworked and ⁿmay create severe curatorial problems (Par 528 and 908). Yet ~~x~~ research is almost always rewarding with the discovery of much that is of historic or taxonomic significance. The BCG feels, therefore, that positive recommendations should have been made rather than the negative reaction embodied in recommendation R6. Perhaps it should also be pointed out that British Museum (Natural History) spokesmen have indicated that they could not accommodate and curate adequately large collections from the provinces. Furthermore, some of the important collections held by provincial museums are ones that were once turned down by the British Museum (Natural History).

6. The Report comments on where taxonomic research is carried out, often in universities and on those that make use of taxonomic resources, e.g. the Research Institutes. These organisations are scattered throughout the country and the BCG feels that provincial museums have an important role to play in their work. (See recommendations of NERC Working Party on the Role of Taxonomy in Ecology.) These museums can provide a repository for collections acquired in the course of research (taxonomic and some ecological research) and at the same time also provide local reference material. In addition, the major provincial museums should be able to provide the necessary expertise for providing courses in identification; skills that are sometimes severely handicapping ecological work.
7. The Report comments on the need to provide post expedition finance to provide for the taxonomic study of material gathered (R10). However, when research grants are awarded for taxonomic research or finance is given to expeditions, the long term storage of collections should also be considered. This is an increasingly expensive consequence of research involving collection acquisition, which is often overlooked.
8. The BCG welcomes the recommendations to prepare inventories of taxonomically important specimens (R14). The BCG has adopted a regional approach to this problem and sees no reason why preliminary listings of collections, collectors and type specimens held in provincial museums (i.e. all collections held by institutions outside London) cannot be prepared in a fairly short period of time, given the injection of modest amounts of finance.
9. Whilst the BCG agrees with the comments in Chap. 8 on the training and recruitment of taxonomists, it regrets that no mention is made of curatorial training other than the vague recommendation (R23) to publicise more extensively existing opportunities. The BCG feels that the report should have commented specifically on the role of curatorial courses that lead to the only professional qualification available: the Diploma of the Museums Association
10. Finally, the BCG would like to draw the attention of the ABRC to the report by a Working Party of the Standing Commission on Museums and Galleries under the Chairmanship of Sir Arthur Drew entitled 'Framework for a System for Museums', HMSO 1978. This report covers, or is of relevance to, many of the topics covered by 'Taxonomy in Britain' and the BCG regrets that the authors of these reports do not appear to have met at any time, although both were involved in their preparatory work at much the same time.

April 1980

Bird Egg Collections of the BM(NH)

The main problem with the BM(NH) collection, as Chekhov said about his damned cherry orchard, is its size, it's VERY BIG. In fact it's probably the largest egg collection in the world, and though the world may be shrinking all the time due to improved travelling facilities, even the gigantic loss (which most of you will by now know about) which we have recently sustained, has done little to dent the indomitability of the collection which has come to rule my life. Besides being the largest collection, it is almost certainly the oldest. It is not quite certain just how old the oldest bits of it are, for the Museum's original collection, which started to be a collection in the early part of the nineteenth century, was mounted on bits of board in the public gallery, and most of the eggs perished or became so bleached by exposure to light as to be rendered useless. Few of these early eggs had any data, and so those that have survived the vicissitudes of time are for the most part referred to as the "Old Collection". A few of them, however, are more identifiable, such as an eighteenth century egg of the Great Bustard taken in Wiltshire and from the George Montagu collection, possibly the oldest egg in the world. The oldest actually dateable egg is a faded Gannet's egg from Bass Rock, collected in 1807.

In the 1840s, collections began to be properly catalogued, and during the nineteenth century collections, most comparatively small, began to be purchased or received as gifts. Among the many names were such notable gentlemen as Governor Holböll (of the Redpoll) of Greenland; Sir George Grey, Governor of New Zealand; E. L. Layard and John Gould. In 1885 the collection was swelled to probably three or four times its size by the acquisition of two of the largest private collections of the day, the massive Indian collection of Allan Hume, and the large, mainly Palaearctic collection formed jointly by Frederic DuCane Godman and Osbert Salvin.

In 1893, Henry Seebohm presented his large collection to the Museum and also undertook to catalogue the entire Museum collection while at the same time incorporating his own collection with it. It comes as a bit of a shock to realise that this is the last occasion on which the Museum's collection was every completely catalogued. Seebohm prepared a manuscript catalogue in 10 volumes, which is still in the Museum, and this catalogue formed the basis for Eugene Oates' "Catalogue of the Collection of Birds' Eggs in the British Museum" which was published in 5 volumes from 1901-1912. This book is now not only out of date, but in a number of places known to be inaccurate.

During the present century many more collections, some very large, have been received. Some of these are unregistered, some partly registered, some registered but not incorporated, and some incorporated but not registered. I should perhaps explain that "registered" means that every clutch is assigned a multi-digit number, which is written into the accessions Register, written on every egg on the clutch, on the label in the box and on the index card in the clutch card index. As readers will appreciate, this work is both tedious and time-consuming in the extreme, and there are moments, nay hours, when one queries the usefulness of the system. During the years between Seebohm and 1960 the Bird room had a staff of about 2, and eggs were a very low priority. Several people worked intermittently on the egg collection, but did little more than shove eggs into already full boxes with tatty scraps of paper on which the data had been written. Much damage resulted. In about 1960 a serious attempt was at last begun by Colin Harrison and Shane Parker to properly recatalogue the collection, and for the last 10 years I have been carrying on this work.

Although the collection is world wide, it is strongest on Palaearctic and Indian, indeed the Indian collections are particularly fine. Many of the officers of the British Army in India were avid egg collectors, probably because it was essential to have a hobby to pass the weary months when not actually on active service and indeed most of the work on Indian biology, not to say ornithology, was done by these intrepid gentlemen, most of whose collections have ended up with us. One of the largest and most notorious of these was that of E. C. Stuart Baker, whose obsession with eggs (and cuckoos in particular) is almost as well known as his aptitude for falsifying data. But his collection is too big and too important to be ignored, for he has the only known eggs of some avian species, as well as eggs alleged to be the only eggs of certain avian species, but clearly erroneously identified. Perhaps it was just retribution that his collection was one to have suffered most severely from the depredations of the recent egg thief.

The other collection to have suffered heavily is sadder - the collection of Rev. F. C. R. Jourdain. While its owner was alive this was probably the finest Palaearctic egg collection the world has ever seen. It is, alas, so no longer. Its tortuous history is one of the most tragic stories biology can present. Jourdain's daughter was a religious maniac who disapproved of her father's collection, which she regarded as "laying up for yourself treasure upon earth, where moth doth corrupt, and where thieves break in and steal". Her attitude was prophetic, for moth hath indeed corrupted, and thieves broken in and stolen. The collection is believed to have been burgled twice while it was still in Jourdain's house. It was then bought by a mad millionaire Captain Vivian Hewitt who lived in a fortified house on Anglesey, surrounded by a high wall with a postern gate! Hewitt collected everything from butterflies to Chinese jades but rarely looked at anything once he had bought it. Here the Jourdain collection lay for some time, unregarded, in somewhat damp conditions, with no protection from parasites until Hewitt's death. His heir, frightened by the prospect of death duties, was within an inch of destroying the entire collections by dumping them over the cliff into the sea. Eventually, however, a legal loophole was apparently found, and the birds and eggs were passed to the British Trust for Ornithology. The latter decided to sell most of these to an American Museum, excepting only the Jourdain Collection which was presented to the British Museum, as it was of British and Palaearctic importance. Somewhere, between its leaving Jourdain's house and its arrival at the Museum, via the BTO it is believed to have been burgled again, as well as being repacked several times, so that it was in a right muddle by the time I began to look at it. There were large numbers of data slips for which no eggs could be found, and vice versa. As intimated, its troubles were still not over, and was burgled yet again, even in the holy of holies. Jourdain must be positively whizzing round in his grave, but no doubt his daughter is clicking her teeth in full approval! Happily, there are less depressing aspects too.

The massive bequest of Lord Rothschild frequently produces gems which make the curator's day seem more bright. This ponderous morass of frequently unsorted material, like Jonathan Jo with a mouth like an O, often turns out to be a wheelbarrow filled with surprises. In the basement, soon after our arrival in Tring whence we were moved from London in the early 70s, I found an old cabinet with a forgotten drawer which had some small *Acrocephalus*-like eggs rolling about on the bare wood. An accompanying nest, and several scraps of paper revealed that they were the eggs of the extinct Millerbird of Laysan Island, and possibly the only ones known. On another occasion, in sorting through a box of "junk" I saw a couple of bulbul's eggs which had escaped the damage which had befallen most of the other inmates of this container. Careful examination of the name scrawled on them in the usual almost illegible nineteenth century writing, together

with the date and locality, revealed that they were the only eggs ever collected of *Hypsipetes affinis* a species only found on some of the Moluccas. I expect most collections have their curious, our prize examples in this category include an ostrich egg which once belonged to Lawrence of Arabia; and a nineteenth century Mute Swan's egg which has had spots painted on it so that it could be sold (as it indeed was) as the egg of a Great Auk! We have actually six eggs of the latter, and a tatty looking lot they are too. The series of plaster casts and models which we also have, look much nicer. Someday, if the fates are kind to me, I shall rewrite and update Oate's catalogue!

Michael Walters,
Tring.

HAVE YOU ANY GENUINE WOODEN DUCK DECOYS?

Wildfowlers have always had to use subterfuge in pursuing a living, a way of life now virtually disappeared. Using decoys carved in wood is one classic way to attract the bird within range. The use of decoys has been traced to prehistoric times and is practised today by primitive tribes. Nowadays, of course, the sportsman uses lightweight, sometimes inflatable, plastic or rubber ducks, being unwilling to carry the relatively heavy and bulky wooden types across miles of saltmarsh. These latter have now virtually disappeared and are seldom seen in this country (though there is a thriving hobby in North America of collecting genuine wooden bird decoys of various species).

I recently staged a display by a local sculptor and artist, Stephen Radnedge of Fennisowles, Darwen, of modern examples supported by information on other methods, pipe decoys (now used for ringing and migration studies by ornithologists), the use of calls, etc. We did not have any examples of genuine decoy ducks, the only one so listed in the inventory turned out to be a Sikkim Gold Ore Smelter's Steam Generator, an unlikely identification which I made following a visit to the Horniman Museum where they have one just like it. Stephen Radnedge is now thinking of writing an illustrated booklet on the subject of wooden duck decoys and therefore any member aware of the existence of such artefacts, please contact the Editor.

E. G. Hancock.

'Irreparable damage' to national heritage by museum eggs theft

From Our Correspondent Luton

A man who admitted stealing about 3,000 eggs in four years from the British Museum collection at Tring, Hertfordshire, was jailed for two years at St Albans Crown Court yesterday.

Mervyn Shorthouse, aged 37, of Mays Lane, Barnet, also pleaded guilty to stealing 540 eggs from the museum on November 7 last. His plea of not guilty to stealing 10,000 eggs was accepted by the prosecution after the court heard that he would not dispute ownership of any eggs which the museum claimed.

He also pleaded guilty to a charge of going equipped for theft.

Mr Joseph Gosschalk, for the prosecution, said: "The result has been incalculable damage to part of the national heritage.

"The collection amounts to 500,000 eggs. As a result of this defendant's theft, not only have eggs been lost, but the system adopted was for the defendant to replace those that he took with others.

"The museum have the enormous task of not only recovering the ones he took, but of systematically examining the entire collection."

Mr Gosschalk said that Mr Shorthouse was allowed to visit the museum on compassionate grounds in 1975 after he had had an accident with electricity. Eggs were later reported miss-

ing but could not be traced until a display box disappeared last October after he had paid a visit.

In November he was arrested by the regional crime squad and 540 eggs, valued at £5,200, were found on him.

Mr Gosschalk said that Mr Shorthouse wore a large overcoat with openings to conceal the eggs. Some were put into socks. He also wore women's tights, cut open at the knee so that the eggs could be inserted.

About 10,000 eggs were found at his home. He told police he had also sold eggs to collectors.

Judge Marcus Anwyl-Davies told Mr Shorthouse: "I have heard that part of our national heritage has been irreparably damaged. It is a priceless and unique collection that has been recklessly damaged by your depredations.

"Many people devoted to science over decades have amassed this collection which, being unique, is available throughout the world for the spreading of knowledge. You, in the course of taking these eggs, have destroyed information which can never be replaced."

Mr Ian Galbraith, head of the ornithology subdepartment at the museum, said it was used by 1,000 researchers daily. He said: "This has caused enormous trouble. We were particularly worried by the loss of the information."

Crack haul of an egg thief

POLICE found birds' eggs galore when they searched Mervyn Shorthouse as he left a museum.

They were bulging from specially concealed pockets in his large overcoat and stuffed into socks.

But the officers' biggest surprise came when they

searched Shorthouse again at the police station, St. Albans Crown Court heard yesterday.

Under his trousers he was wearing women's tights with openings at the knees.

And rammed down the side of his legs were many more valuable eggs.

The court heard that the search revealed 540 eggs worth £5,200.

And when police went to Shorthouse's home in Barnet they recovered thousands more.

Prosecutor Joseph Gosschalk said 37-year-old Shorthouse plundered the eggs on visits to the British Museum's collection at Tring.

Shorthouse, who admitted stealing 3,000 eggs over four years, was jailed for two years.

Daily Mirror
1 May 1980

Missing eggs mystery cracked

A man who systematically stole thousands of eggs from the British Museum collection at Tring, Hertfordshire, was jailed for two years yesterday.

Mervyn Shorthouse, aged 37, of Mays Lane, Barnet, was said to have plundered a unique collection of eggs over a period of several years. Mr Joseph Gosschalk, prosecuting, at St Albans Crown Court, said: "The result has been incalculable damage to part of the national heritage.

"The collection itself amounts to 500,000 eggs and as a result of this defendant's theft not only have eggs been lost, but the system adopted was for the defendant to replace those that he took with others, and the museum have the enormous task of not only recovering the ones he took but of systematically examining the entire collection."

"You have done this resourcefully and by clever abstractions, aggravated by skilful substitution with spurious eggs, to cover your crime and for personal gratifications."

Mr Gosschalk said that Mr Shorthouse began stealing the eggs in 1975 after an accident in which he was electrocuted. He was allowed to make visits to the museum on compassionate grounds.

Over the next few years the museum noticed that eggs were missing but was unable to trace them. "However, the matter came to the forefront in October 1979 when he visited the museum. He was given access to part of the collection and immediately afterwards a display box was found to have gone.

Later he was arrested, said Mr Gosschalk. He was searched and found to have 540 eggs, worth £5,200 on him.

Mr Gosschalk said that Mr Shorthouse's home was searched and about 10,000 eggs were removed.

Mr Shorthouse told the police that some of the eggs were sold to other collectors, and others he kept for himself.

Mr Shorthouse admitted stealing 540 eggs from the museum on November 7 1979, and around 3,000 between September 1975 and October 1979. His plea of not guilty to stealing 10,000 was accepted by the prosecution after the court heard that he would not dispute ownership of any eggs which the museum claimed. He also pleaded guilty to a charge of going equipped for theft.

The Times 1 May 1980

Guardian 1 May 1980

Proposed Wildlife Legislation

In the last newsletter (vol. 2, page 252) mention was made of a "possible scheme for the registration of skin collections by the Guild of Taxidermists". This was erroneous in its implications and the Guild's representative on the B.C.G. committee, Bari Logan, has asked us to correct this impression. Their current discussion with the D.o.E. on this matter resulted in the following note published in their last Newsletter (March 1980) page 56.

In the Spring of 1978 the Department of the Environment consulted the Guild about the proposed Wildlife and Countryside legislation in connection with the E.E.C. Directive on the conservation of wild birds.

Guild representatives (Messrs. Logan, Metcalf, Sharp and Trodd) and Mr. P. Robinson of the R.S.P.B. met with the D.o.E. in April, 1978 to discuss a proposed registration system for taxidermists who sell mounted birds.

[To clarify this issue, the legislation is only concerned with specimens which a taxidermist has legally acquired himself, are therefore his own property, and which he subsequently mounts and offers for sale. It does not concern itself with specimens legally acquired by a third party and given to a taxidermist to mount for that third party nor does it concern itself with specimens that a taxidermist mounts for himself.

The D.o.E. suggested that the Guild should act as a registering body, a suggestion initially refused by the Guild on the ground of its already heavy workload.

On 10th October, 1979, an emergency meeting was called to discuss this topic again and to clarify certain points in the proposed legislation. Notice of this meeting was sent to fourteen taxidermists (seven museum and seven commercial) in order to get a fair representation of Guild opinion. Attending the meeting were Messrs. Trodd, Metcalf, Sharp, Rose, Dickinson, Teasdale, Dunton, Summers, Stoate, Owen, Robinson (R.S.P.B.), Waymouth and Padden (D.o.E.).

It was made quite clear that the D.o.E. had no particular interest in taxidermy or taxidermists and was mainly concerned with implementing the proposed legislation. It was also pointed out that if the Guild refused to act as the registering body then the cost of such a scheme run by the D.o.E. itself would be considerably higher. In order to keep the cost as low as possible and to safeguard the interests of all taxidermists the Guild agreed to act as the registering body providing that the administrative costs would be met by the D.o.E. and from registration fees.

At present it is proposed that taxidermists who sell mounted birds, other than a small number of game and wildfowl species, will be registered with the Guild and must keep an up-to-date log-book containing the following details:

- Name of bird, sex and log number.
- Name and address of finder.
- Date when found.
- Locality.
- Condition of carcass, cause of death where known.
- Preparation i.e. skin, mount or skeleton.
- Customers name and address.
- Date of sale.

As most taxidermists keep a log-book already this should not involve much extra work. Each bird processed and sold will have an official number attached to it which will coincide with the number in the log-book. As the log-book will be open to inspection at any time it will become the taxidermists main safeguard when justifying the legal status of birds which he offers for sale. This documentation is very important as the R.S.P.B. has often stated that a specimen without full data is a specimen suspected of being illegally taken.

At present the Guild Working Party under the Chairmanship of Mr. C. E. Owen, Deputy Director of Leicestershire Museums is still discussing the finer points of the registration system and an up-to-date account of their progress will be included in the next Newsletter.

There appears to be some confusion over the possible consequences of the proposed Wildlife Legislation. Firstly, it is necessary to point out that the proposals for such legislation have not yet been fully drafted by the Department of the Environment. Therefore, nothing said to date need form part of any resulting Act of Parliament.

The legislation, with regard to birds, will apply only to Schedule I species and will not replace or cancel the current Protection of Birds' Acts. It appears to fall into two distinct categories in the bird section, that is eggs and birds. This also appears to cause two distinct problems for museums, one being the "registration" of birds' eggs and the other the position of taxidermists and their dealings with mounted specimens. By this is meant not only the position of museums when they wish to buy specimens or objects incorporating parts of the protected species, etc., but also museum-based taxidermy operations.

The B.C.G. is involved at the committee level in discussion on these topics, with the D. of E., the Museums Association and the Guild of Taxidermists. This is notwithstanding the rather odd fact that the initial list of bodies circulated by the D. of E. did not include either B.C.G. or the M.A., nor the fact the initial reaction of the M.A. to this proposed legislation was uninformed and disappointing. Members who have any questions or comment on the subject are urged to write to the Secretary of B.C.G., address given at the end of the Newsletter.

DRAGONFLY FICTION IN BOLTON

It seems to be a peculiar impression which local people have that dragonflies are valuable. In this area of (formerly) south-east Lancashire, several children each summer come into the museum to ask who will give them money for unidentified parts of the dragonflies which they catch in a variety of containers. There is now no one that I can trace that has ever given money for these insects so where does the "legend" come from? It seems to extend from Bolton to include the areas around Leigh and Swinton and originated in at least their grandparents' generation. The basic idea appears to be that pharmacists took these in (rather like various shops do with rosehips) and extracted a form of chemical useful to mankind and his medicine, according to some from the brown wings of *Aeschna grandis* (L). This is not so, as reference to any pharmacopeia or chemist will not produce any information on dragonflies. One local pharmacist actually suggested they may have been used for bloodletting years ago but, contrary to folk names such as Horse Stinger and Devil's Darning Needle, they are incapable of inflicting such wounds.

The only reasonable suggestion to explain this situation is that there was once a local chemist who collected insects and was prepared to pay a penny or shilling to the person who brought him a rarity not represented in his collection. Or perhaps other regions of the country can provide an answer?

E. G. Hancock.

Collections and Information Sought and found

Collections and Information Sought (and found, we hope)

First of all your editor looked in Roget's Thesaurus and made a list of synonyms possibly of use in titling this new section (only the 'official' recognition of the process and having a title make it new because we have always dealt with collections and information exchange). Quest, trace, hunt, discover, enquire, detect, etc., presented themselves but as we have the same aim as the Geological Curators' Group in this respect and there is considerable scope for joint explorations into collection and collectors' histories, the same title became the obvious choice.

Please send all queries and discoveries to the editor. This section will also include appeals for data in a more general sense.

SOUGHT

ANTS FROM HERTFORDSHIRE

In gathering information on ants in Hertfordshire, Brian Sawford, Senior Keeper of Natural History, North Herts Museums, Broadway, Letchworth, Herts, has come across the following collectors' names.

Apart from additional biographical information, do any members know of, or curate specimens of ants by these people? If so, the data and the presence of any manuscript material (notebooks, catalogues, diaries, etc.) would be welcomed for incorporation into this project.

.....

Butler, Edward Albert (1845-1925)

His main collections were passed to the BM(NH) and he seems to have concentrated mainly on Hemiptera-Heteroptera. Obituaries are given in Gilbert, P (1977) *A compendium of the biographical literature on deceased Entomologists*, BM(NH), London, 455pp.

Morris, ? -

Nothing known at the moment on this person who is thought to have collected ants in Hertfordshire.

B. S. Williams

Lived at Harpenden, Herts. (ca 1924-27).

Collected Coleoptera and Hemiptera.

Sent difficult species to Philip Harwood

Assisted Harwood in producing the Hertfordshire Coleoptera list, noted as collecting many specimens.

Published 'A further list of species of Coleoptera new to the County of Hertfordshire', updating Harwood's 1925 list. (*Transactions Hertfordshire Natural History Society*, 28; 172.
(See 'Found', p 335)

Robert Bernard Benson MA, FZS, FRES.

Born Berkhamsted, Herts in 1904; died (London ?) 5 November 1967.

Expert on Hymenoptera-Symphyta: worked on Symphyta in the Department of Entomology at the British Museum (Natural History).

Collected Symphyta in Buckinghamshire and South West Hertfordshire, collections in BM(NH); possibly also collected Coleoptera, Hemiptera and Hymenoptera - Formicidae. Probably collected with Philip Harwood (see below).

Joined the Hertfordshire Natural History Society in 1923 as a Life Member.

Lived at Dellfield, Featherbed Lane, Felden, Boxmoor, Herts from 1923 until 1961 or 62, then at Flat 10, 51/57 Ladbroke Grove, London W11.

Several papers published in the *Transactions of the Hertfordshire Natural History Society* including

'The Geum Leaf-miner and other alien Sawflies in Hertfordshire' (Vol. 20, p.87).

'Sawflies of the Berkhamsted District, with list of Sawflies of Hertfordshire and Buckinghamshire and a survey of the British species (Hymenoptera-Symphyta)' (Vol. 21, p.177-231).

'The Sawflies of Hertfordshire and Buckinghamshire. A further contribution' (Vol. 25, p.96-101).

Hertfordshire Natural History Society recorder for Hymenoptera and Orthoptera (ca 1944-1960); recorder for Insects, except small groups (1961 to 1967).

President of Hertfordshire Natural History Society - 1950/51; Vice-President 1952-54 and 1959/60; Council member 1954-58 and 1961/62.

Author of 'An introduction to the Natural history of British sawflies (Hymenoptera Symphyta). *Trans. Soc. Br. Ent.*, 70(2); 45-142. (1950) and 'Hymenoptera Symphyta. *Handbk Ident. Br. Insects*, 6 (2a-c); 1-252 + i-vi. (1951-1958).

Obituary in *Transactions of Hertfordshire Natural History Society*, 26; 217.

Philip Harwood

Lived at Harpenden, Herts (ca 1924-27).

Collected with R. B. Benson and worked with B. S. Williams on the identification of difficult species of Coleoptera.

Collected Coleoptera in south and south-west Hertfordshire (many records from the Harpenden area).

Published 'Coleoptera observed in Hertfordshire in 1924' *Transactions of the Hertfordshire Natural History Society*, 78; 113.

Albert Piffard

Extract from the *Transactions of the Hertfordshire Natural History Society*, 73; 249 'A preliminary list of Hertfordshire Diptera' - 'Mr Albert Piffard, of Felden, Boxmoor (Herts.) - extensive collection of flies now in the British Museum'. This collection was formed during the last decade of the 19th century and contains many thousands of specimens all carefully labelled

with date and place of capture. Most were taken within the vicinity of Piffard's home and have now been incorporated into the collection of the BM(NH).

In the *Transactions of the Hertfordshire Natural History Society*, 18; 93 there is reference to Hymenoptera collected by Piffard near Boxmoor, Tring, Herts.

An Atlas of Australian Birds

The Royal Australian Ornithologists Union is in the process of compiling 'An Atlas of Australian Birds'. The aim of this publication is to determine the past and present distribution of all Australian bird species, including details of their breeding ranges. Included in the publication will be details of present locations of specimens and information about collectors.

Penelope Paton, who is correlating this information, has spent three months in the U.K. gleaning details from some of the larger, more well known collections. Inevitably there are collections, both large and small, which she has been unable to study, due to lack of time or because she did not know of their existence.

If your museum holds any Australian avian material, including eggs and skeletons, Penelope Paton would like to hear from you. Whilst full information is the ideal, it is realised that information may be in a form which makes retrieval difficult. If this is the case any information, however incomplete, would be most welcome, even if it is merely an indication of the presence of specimens.

Details should be sent to, or further information can be obtained from:

Mrs. P. A. Paton,
c/o Dr. David C. Paton,
Dept. of Ecology and Evol. Biol.,
University of California,
Irvine,
California,
U.S.A. 92717

Francis Buchanan White (1842-94)

F. B. White was a noted entomologist and botanist, the founder of the Perthshire Society of Natural Science and the 'Scottish Naturalist', and author of the 'Flora of Perthshire' (published posthumously in 1898). After his death most of his family emigrated to Canada but his descendants there do not possess any of his (presumably) extensive correspondence or manuscript notes. However, there is a small chance that they may have been deposited somewhere in Britain. Would any member with any information which may lead to their discovery, please contact:

Michael A. Taylor,
Keeper of Natural Sciences,
Perth Museum & Art Gallery,
George Street,
Perth.

HUDLESTON, Wilfrid Hudleston (1828-1909)

Dr. Colin Forbes has put a descendant of this important palaeontologist in touch with us. Hudleston is best remembered for his palaeontological work on Jurassic gastropoda but he had early interests in ornithology as Mrs. Hudleston's letter below points out. His other interest in marine biology led to his greatly aiding the founding of the Dove marine laboratory at Cullercoats now part of the University of Newcastle-on-Tyne.

Mrs. Hudleston's letter reads as follows:

"W. H. Hudleston was my husband's Great-Uncle. Family diaries have recently been brought to our attention and revived our interest in Great-Uncle Wilfrid, especially so since we have met his grand-daughter. In his pre-geological days W. H. Hudleston - or W. H. Simpson as he was then called - was an ornithologist. His collection of stuffed birds and eggs was divided in two, one half descending down my husband's line of family. [His will dated 1908 speaks of the collection of birds at Cayton Hall to go to his brother Rev. John Henry Hudleston (1834-1912), while the collection of birds and eggs at 8 Stanhope Gardens, London with the minerals in the same cabinet as the eggs to go to his wife]. When my husband was a schoolboy of about 13 years [1927] his father died and the representative of some Museum or other either called at the house or wrote saying that 'they' had one half of the collection and could they please now have the other half. This they were allowed to do, and undoubtedly collected it. We cannot, however, trace any part of the collection. Dr. Forbes tells me that you may be able to help us with this query. He also suggests that failing this information being to hand, you might be able to publish a request for information in the Newsletter.

It would also be interesting to know of any outlying bits of his geological collection. I think first choice went to the Sedgwick, but I believe that the widowed Mrs. Hudleston [she was Rose second daughter of William Heywood Benson of Littlethorpe, Yorks. whom he married in 1890 and who survived him] was empowered to sell off or otherwise dispose of parts of the collection.

We are also trying to locate a number of missing family portraits which are thought to have been sold, along with W. H. Hudleston's portrait, about 1950. Do you by any chance know of the whereabouts of his portrait (oils, I gather)? To locate even one portrait would almost certainly give some lead on the others. I am neither an ornithologist nor a geologist, but I do find Wilfrid Hudleston, like his father, an entertaining diarist. It seems a great pity that his direct descendants do not have any portrait of him.

I shall be very grateful indeed for any information which you can let me have.

Yours faithfully,

Mrs. N. A. Hudleston
Cayton Hall,
South Stainley,
Harrogate, Yorks., HG3 3LY."

Reproduced verbatim from a forthcoming Geological Curators' Group Newsletter. The possibility of further inter-related research topics is likely to increase if we have a regular "Collections and Information Sought" section to the B.C.G. Newsletter.

Please send material and information to the Editor in the first instance.

FOUND

Further information on one of the possible active hymenopterists in Hertfordshire has been provided.

Benjamin Samuel Williams (1891-1941) obituary *Entomologist's Monthly Magazine* Vol. 77 (1941).

In 1942 Liverpool Museum obtained the main beetle collection of Williams which contains almost all the British species known in the 1930s. The museum had lost almost all its insect collections in the blitz and engaged the well-known Harry Britten of Manchester Museum to obtain replacement material. We obtained this collection for £50 from Mrs. Williams *via* E. C. Bedwell who had been charged with its disposal to a worthy home.

The collection contains syntypes of at least 3 species, paratypes of at least 4 more and figured specimens of at least a further 6. Williams described 5 species but only one has not been subsequently sunk in synonymy and the fate of even that is at present uncertain. He co-operated with many of the coleopterists, in particular Philip Harwood.

By chance I found out that Williams collecting notebooks were the property of his son-in-law Mr. C. Mackechnie-Jarvis, another well known coleopterist. The following information is derived from Mr. Mackechnie-Jarvis and the relevant notebooks which he kindly lent to me.

Williams was a very disciplined collector. From 1909-1914 he collected macro-lepidoptera, 1920-1931 coleoptera and subsequently hemiptera, (I know of no ants). Apparently Williams established a reference collection of beetles (other groups too perhaps!) for the newly established agricultural laboratories at Rothamstead. I have not checked up on this or to see if there is a large number of coleoptera from Frederick Bates of Leicestershire (brother of H. W. Bates of the Amazon and mimicry). That collection was given to Williams by Professor G. W. Nicholson when the latter was no longer competent to look after it.

I look forward to hearing of any success Brian Sawford has in tracking down further details of the collections. The Frederick Bates material would contain many interesting specimens.

Ian Wallace,
Merseyside County Museums,
Liverpool.

Hudleston, W. F.

The aforementioned G.C.G. Newsletter (now retitled *The Geological Curator*) has been published, Volume 2(8), and much additional information has been traced on the geological side. The editor hopes that some other facts, concerning his zoological activities, can be provided by his colleagues especially in the north east.

Please help to fill this space
in the next issue!

18th March, 1980.

Mr. P. Davis,
Sunderland Museum & A.G.,
Borough Road,
Sunderland,
SR1 1PP

Museum and Art Gallery Service for Yorkshire & Humberside

Dear Mr. Davis

I am writing to ask for your help in locating models of human parasites for inclusion in an exhibition that is currently being researched and titled "The Life that Lives on Man".

The exhibition will be intended for the general public and will be based upon the book of the same title by Michael Andrews. We propose to show how the human skin is a self-renewing system which supports countless organisms. We propose also to consider this system in terms of ecology and to show the necessary relationships between the various factors in this system.

Our exhibitions tour the Yorkshire and Humberside area for a period of two years each and all exhibits loaned are comprehensively insured and handled only by experienced personnel.

The models I am seeking are of :

Pediculus humanus capitis - the head louse
Pulex Irritans - the human flea
Cimex lectularius - the bed bug
Dermatophagoides pteronissinus - the dust mite
Demodex folliculorum - the follicle mite
Sarcoptes scabiei - the scabies mite
Phthirus Pubis - the crab louse

You will note that the creatures I have listed are by no means all benign. Although our emphasis will be on the normal inhabitants of our skin I think it would be unfair to neglect mention of some of our less friendly but still quite common tenants.

I look forward to your reply.

Yours sincerely,



Russell Boyd,
Senior Exhibitions Researcher

Flood tide-ings or apres moi, le deluge.

It will seem odd reading about the activities of BCG instead of being involved. As many of you will know by now I have handed in my vasculum and am about to become respectable, as an employee of the Art Council (perhaps I could wear flowers in my hair?). Not, I suppose, that I have been much more than a desk biologist for some years; now I can become an amateur again, and pester my local museum for biological records, collection details and recondite identifications (advance warning especially to those on my migratory routes north and east).

It would be in keeping with occasions such as this to indulge in platitudinous reminiscences of past successes and failures, and philosophical meanderings about the future of biology in museums. However I suspect that, in common with many others, I have talked too much and too long (especially in late bars) about these matters without getting very far - or perhaps instead of getting very far? In any event the BCG did provide what I needed most as a 'one man' curator - the chance to meet others with similar problems and differing solutions. Some meetings may have been useful professionally but it is the people I shall remember longest. Of course, I wish the BCG well in its curatorial and 'political' ambitions; someone is bound to notice one day.

So I shall miss museums; apart from anything else I have discovered I do not even own a bird book of my own! And do not imagine you can get rid of me that easily; I may well appear at Conferences (although you may not recognise me in a suit) and, even if my own particular species of quango is rendered extinct (Howe? - you may well ask) I could always sell the serialisation rights of 'Biological Recording - the true facts' to a Sunday Newspaper. If any of you should be in the Piccadilly area do call in at 105 and see all the equipment I have been buying. (It will be nice spending money again) - my 'phone number is 01-629-9495.

- and so, with barely a backward glance, the former BCG Secretary (and Chairman and Editor) galloped off into the sunset.

Will the Lone Arranger return?

Stephen Flood

1980 AWARDS

As it seems to be the season for it, may I suggest a few BCG Awards for Contributions to Biology:

For finding humour in the face of animal droppings - Colin Howes

For extracting michaels from collection surveys - Tony Irwin

Fiction Award - NERC Taxonomy Report.

'Entrails' Award for the publication of unconsidered trifles -
GCG Newsletter
(will BCG snatch this prize
next year?)

Most talked about Quiz Show - 'Just a Minute' (or Diploma Practical Examination in Natural History)

'Suspense' Award (carried over from 1977, 1978 and 1979) - a Welsh printer and a hairy ornithologist.

Award for labouring in far vineyards without recognition and appreciation (the rewards will probably be delayed indefinitely) - all biology curators working alone in provincial museums.

Committee

At the Annual General Meeting, Leicester, 12 April 1980, the officers and committee were elected as follows:

Chairman

Eric Greenwood
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051 207 0001

Secretary

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0533 28273

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Co-opted Members

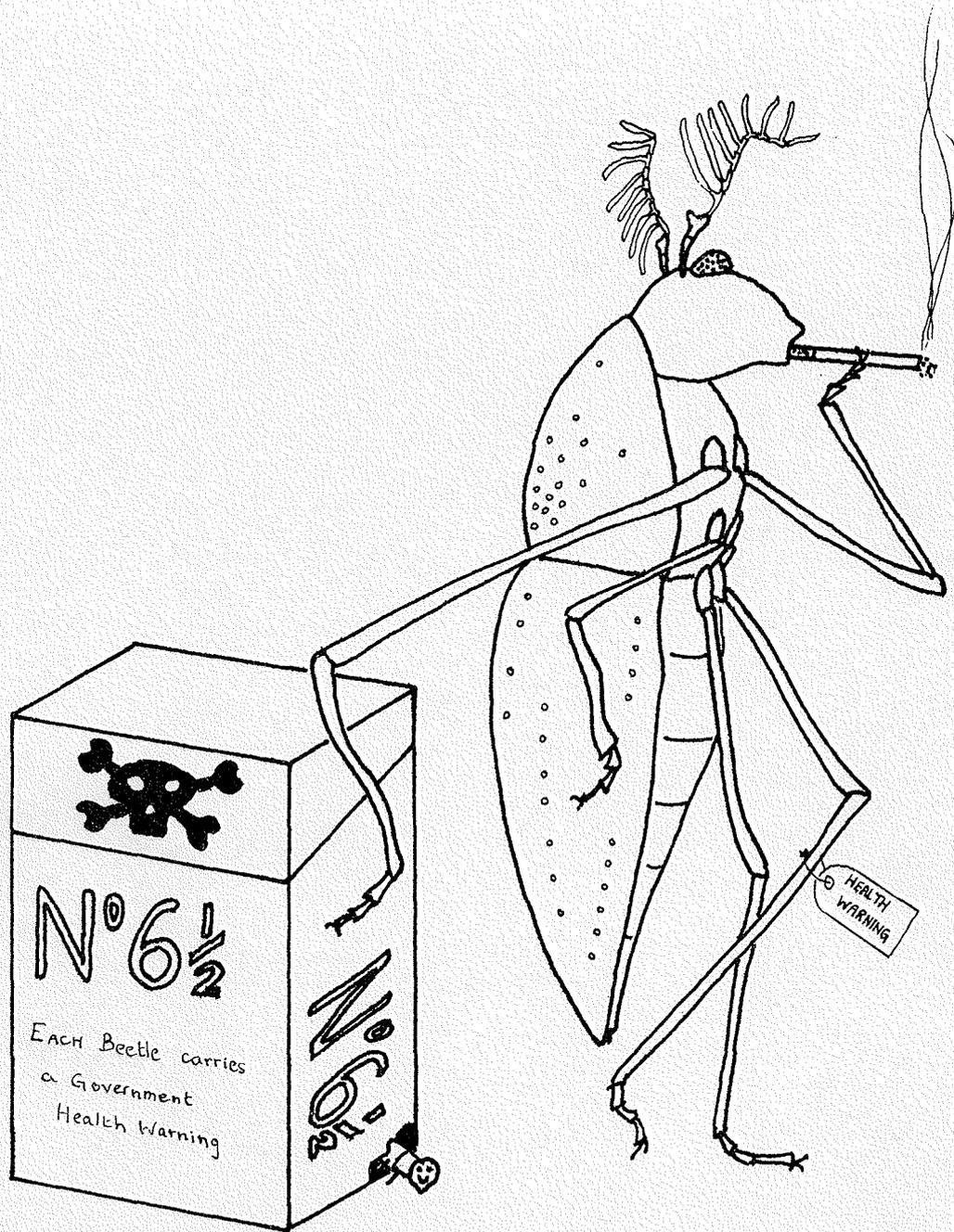
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01 405 3474

James Bateman
County Museum
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Woodstock, OX7 1SN
0993 811456



Lasioderma lungcancerensis nov. sp.

Inspired by 24 across, see crossword Vol.2(6); 251.
This does not constitute a valid description according
to the Rules of Zoological Nomenclature (1964)!