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A Guide to Insect Collections in the British Isles.

Jeanne Robinson, Kelvingrove Museum and Art Gallery

Introduction

The aim of this very brief guide is to give an overview of insect collections – why we have them and how we use them. Whether you are an amateur entomologist with an established collection, a student wanting to prepare specimens from a project, an artist who wants to use insects for inspiration, or are just curious, we hope there is something useful for you and pointers to find out more.

There are around 10 million insect species in the world- in the British Isles alone there are more than 25,000 species. As well as being numerous, insects are the most diverse and successful terrestrial animals on our planet. Their compact size and relatively short lives make them ideal for study and give us vital insights to the world around us. Insect collections provide the foundation for these insights.

People have been making insect collections since the 17th century. Some of these earliest specimens are housed in London's Natural History Museum and are still in surprisingly good condition. Appropriate care and housing are vital. Specimens that are well cared for have survived for over 300 years. The oldest collections are very important both scientifically and historically.



Fig 1. Specimens collected in the 18th Century from the Hunter Collection, Huntarian Museum, Glasgow.

> **Fig 2.** Specimens collected in the 18th Century from the Hunter Collection, Huntarian Museum, Glasgow.



Scope of this guide

- 1. What are insect collections used for?
- 2. What is in an insect collection?
- 3. How are collections established and expanded?
- 4. How to donate, bequeath or sell your collection
- 5. Enhancing the value of a collection
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1. What are insect collections used for?

Work on preserved biological specimens held in museum collections underpins all aspects of biological science including anatomy, biodiversity, bioinformatics, biotechnology, conservation biology and evolution. In addition to their importance to the scientific community, such collections are also an excellent tool

for engaging with the wider public.

Uses of insect collections include:

- a. Insect identification
- b. Repository for type and other voucher specimens
- c. Taxonomy and systematics research
- d. Production of identification guides
- e. Studying changes in species distribution over time
- f. Collections-based training and education
- g. Public displays
- h. Primary sources for artists
- i. Resource for medical and forensic work

a. Insect identification

Accurate species identification is of paramount importance; it underpins biodiversity, taxonomic, evolutionary, ecological, genetic, behavioural and physiological research. Without knowing the species name of an insect, you can't access the information already known about it. If insects are jeopardising health, crops, livestock or buildings we need to know what they are to combat them. Conversely, if they are eating pests, pollinating certain plants or helping recycle waste we want to know how to encourage them. The sheer number of insect species makes identification difficult at best and in many cases impossible without reference to extensive collections. Superficially similar insects may belong to different species, have different habits, distribution and economic importance. This is why accurate identification is of paramount impor-



Fig. 3 and 4. Entomologists identifying insects at the National Museums Scotland (left) and the National Museums Liverpool

tance. Identification guides are not available for many insect groups, particularly less popular ones. Those that are available are not always user-friendly and still require reference to a collection for comparisons.

b. Repository for type and other voucher specimens

Type and other voucher specimens are very important parts of an insect collection. Accessible voucher specimens are critical for accurate identification and subsequent verification of a species. Type specimens are those that were first used to describe a species. Each new species is allocated a unique name. The types show us what is unique to the organisms of that name, and allow us to distinguish them from similar species. They are the reference points for application of the name. Sometimes on closer examination, a supposedly 'new' species is found to be part of an existing species and is not distinct enough to warrant its own species name. Further study may show that what was once thought to be a single species is actually a group of closely related species. In this case new names for each additional species in the group are required. There is always a need for subsequent researchers to re-examine types to know which name applies to which species.

Other voucher specimens are those that allow reliable verification of the identity of species used in biological studies or ecological surveys, particularly published research work. The preservation of voucher specimens is important for other researchers to refer to. This is of importance when the identity of the study organism is suspect or needs to be clarified in the light of taxonomic advances. The people who conduct biological and ecological studies are not necessarily insect specialists so there is a risk of misidentification.





Figures 5 and 6. Type specimens from Manchester Museum (left) and the Hunterian Museum, Glasgow (right).

c. Taxonomy and systematics

Insect collections are a primary resource for taxonomy because they are used in the delimitation and description of new species. They can also be used to investigate the evolution and classification of insects. Such research is still necessary for most insect groups. The staff of an institution responsible for a collection or external researchers may carry out the work.

Modern scientific advances, including 'gene-sequencing', DNA amplification methods and analysis of cuticular hydrocarbons (CHCs) have added another dimension to our collections. The DNA or CHCs from existing specimens can be analysed to enhance our knowledge of taxonomy, systematics and evolutionary relationships (phylogeny). The suitability of specimens for analysis is highly dependent on the nature of the killing agents and preservatives they have been exposed to and the age of specimens. CHCs may be adversely affected by long-term storage in spirit and by certain preparatory chemicals. DNA degrades over time and certain preparatory chemicals damage it. However, as techniques develop a greater variety of older specimens can be analysed, so historical material will become more valuable for such studies. Insect collection managers must consider preserving insect specimens in ways which minimise changes in order to maximise their potential for future analysis. A piece of a specimen must be removed and ground up for genetic analysis. For CHC analysis, the specimens are washed using non-destructive chemicals and the resulting solution is analysed. Traditional taxonomic work sometimes requires another kind of destructive sampling. An insect may need to be dissected to examine internal features, but the dissected parts are retained with the specimen for subsequent examination. Museums have policies on destructive sampling in order to define what can be done to specimens for gene-sequencing and potentially other kinds of analysis.



Figs 7 and 8. Molecular analysis in action - Crown Copyright, Central Science Laboratory, 2008.

d. Production of identification guides

Specimens in collections are used to devise, update or improve identification guides. The guides are best used in conjunction with a reference collection to identify insects but they can be a useful starting point for people who cannot easily access suitable collections.

e. Studying species distribution

Records and data from specimens and field research have enormous value for building knowledge of life on our planet. Studies of ecology and distribution are required for effective conservation of species and their habitats. Many of these studies depend on museum collections. Reliable data from museum specimens can be used to compile species checklists and distribution maps for locations around the world. Because collections have been built up over a long period they can provide much more data than could be obtained in the course of a single field study. These data give a baseline to investigate changes in animal communities in response to human activity and environmental fluctuations over time.

f. Collections-based training and education

Most museums have active education programmes targeted at a wide range of age groups to encourage people to engage more with the natural world. In addition to enthusing the wider public, insect collections are used to train tomorrow's entomologists (insect specialists). This may be through schools, universities or more vocational organisations.

Examples:

CoBiD-UREKA - An international summer research programme for undergraduate students in Dublin, funded by Science Foundation Ireland [www.ucd.ie/ureka]

IDQs – Identification qualifications. Accreditation of identification skills through the Natural History Museum, London. [www.nhm.ac.uk]

BTCV Natural talent scheme. Apprenticeships that develop field and identification skills in numerous disciplines including Entomology (Scotland and Northern Ireland only) [http://www2.btcv.org.uk/display/ naturaltalent]

'If you are interested in working with insect collections please see **Section 9** below.

g. Public displays

Insects that are well displayed allow the public to explore many key biological themes without requiring a vast display space in which to do so. They are particularly useful for illustrating biodiversity, form and function, disease epidemiology and pest biology.

h. Primary sources for artists

Collections give artists access to much more of the diversity of insect form and function than would otherwise be easily available; they often capture the imagination of artists. Specimens are sourced by artists to inspire them in their diverse



Fig 9. BTCV apprentice Coleopterist and mentor, Glasgow Museums

endeavours. See **Section 8** to find out how to access insect collections.

i. Resource for medical and forensic work

Preserved specimens are sometimes lent out to clinical psychologists. They are a useful tool for helping people to come to terms with 'entomophobia' (fear of insects) and museum entomologists are called upon in cases of delusory parasitosis and certain aspects of forensic investigations. See **Section 8** to find out how to access insect collections.

2. What is in an insect collection?

Although there are collections dating back to the 17th century, few institutions are lucky enough to have material from that time. By the end of the 18th century the benefits of preserved collections of specimens with associated data on where and when they were collected had come to be appreciated. This approach forms the basis of current preservation methods. The Victorians were voracious collectors of natural his-

tory material; consequently British museums are home to a lot of material amassed by amateur entomologists in the 19th century. More recent specimens come directly from research projects, field surveys and enquiries, but collections made by amateur and professional entomologists are still important.



Figs. 10 and 11. Jewel beetles (left) and African Butterflies (right) from Manchester Museum and Glasgow Museums respectively.

An insect collection will typically comprise dried insects mounted on pins (either directly or staged on a card on the pin). It may also include:

- Dried insects stored in paper envelopes e.g. lepidoptera (butterflies and moths)
- Insects stored in alcohol
- Microscope slide preparations of whole or parts of insects
- Examples of insect labour i.e. nests, leaf-mines, galls, wood bored by insects, dung balls etc....
- Archives and associated library
- Historical insect collecting equipment

Insect collections are predominantly comprised of pinned and card mounted specimens and specimens in spirit. These may be housed in their original wooden entomological cabinets or in modern alternatives. Pinned insects are usually kept in shallow, glass-lidded drawers within wooden or metal cabinets. Some collections are housed in wooden store boxes. In either case they are lined with cork or plastic foam into which the pins are stuck. Insect collections are generally arranged taxonomically. This means that closely related species are kept together, so even when a collection is not fully catalogued, specimens can be located with ease and readily compared with similar ones.



Figs. 12 and 13. Giant earwigs on card and ladybird slide (Manchester Museum).

3. Establishment and expansion of insect collections Collections are established and expand by a number of means.

- Fieldwork Museum staff contribute specimens directly to the collection.
- *Donation* Owners of collections (private and public) donate or bequeath material. Researchers who have amassed material donate collections on completion of their project/s.
- *Enquiries* Museums receive specimens from the public for identification purposes, many of which are deposited in collections.
- *Swaps* Exchanges may be made between individuals or institutions to enhance collections and fill gaps.

• *Purchase* - Collections sometimes become available through auction or private sale. Museums generally have very limited acquisitions budgets and competition for grants is very high.



Figs 14 and 15. Entomology cabinets, National Museums of Scotland (left) National Museums Liverpool



Figs 16 and 17. Fieldwork in progress with Malaise trap (top left) and dipping net (top right) – Glasgow Museums.

Due to the huge number of insect species, there are always gaps in entomology collections. No single museum could possibly contain examples of every known insect. Museums must take into consideration the initial expense of transporting, pest checking/cleaning, the subsequent housing and long-term curation of each acquisition of specimens. Storage space comes with a cost and is often at a premium and each acquisition must be carefully justified. Collections that enhance existing holdings and have good research potential (historic or scientific) are likely to be favoured.

4. If you wish to donate, bequeath or sell your collection

There are hundreds of institutions/museums that have natural history collections and many of these have at least a few insect specimens but only a few museums in Great Britain and Ireland have designated staff for entomological collections. Such specialists provide the best care for, access to and interpretation of insect collections.

If you want to know which collections have see **Section 6**.

Unfortunately, storage space, staff and funding are not infinite. Consequently, the institution that you may

prefer your collection to go to may not be able accept it. If your chosen institution is unable to take some or any of your collection, you may wish to donate it somewhere else. The museum you have approached may be able to advise you of other suitable places to try. Institutions with a general natural history curator will still be able to offer a good standard of care for, access to and security for your specimens. If several institutions are interested; visiting their collections and meeting the staff who care for them may help inform your choice.

The Insect Collection Managers Group (ICMG) or the Natural Sciences Collections Association (NatSCA) can advise you and help you find a suitable home your collection. See **Section 11** for their contact details

There are ways in which you can make your collection more appealing to potential custodians. See Section 5 for further details.

Please note, an institution will generally require proof that specimens have been acquired legally where applicable. This could be proof of purchase where ownership may be disputed. It may be licences/permits for specimens from protected sites or of protected species (collecting and export permits) that have been collected in more recent years. Copies of these should be made available to your chosen institution.

5. Enhancing the value of a collection

The value of individual specimens and small collections can be greatly enhanced by organising them in a well-curated collection. As an individual collector or custodian of a collection, you can also make your collection more appealing in the following ways.

The physical condition of the specimens

Protect your collection from physical harm. Physical damage, exposure to light (particularly sunlight), moisture or pests may destroy or reduce the quality of your specimens. Keeping all specimens in well-sealed receptacle, storing them in a cool dark place and checking them periodically for pest damage is advisable. Specimens stored in alcohol should be regularly topped up to protect from damage if the spirit evaporates.

For more specific advice on collection housing and care contact NatSCA or ICMG - see Section 11 for their contact details. Alternatively you could contact an entomology curator/collections manager near you - see Section 10 for details.

The quality of associated data

A collection has little value unless each insect is individually and accurately labeled. The most important pieces of information are where and when a specimen was found and who collected it. If someone has identified the specimen, the name of the determiner and the date at which the determination was carried out should be recorded on a separate label. If the specimen is a type, cited in a publication or figured (pictured in a publication), a label should indicate this. Details of biological associations, such as the host an insect is associated with, details of the habitat/microhabitat in which it is found and any added notes about behaviour are potentially very useful. All data that you have about a specimen should be on a label(s) with it. Supplementary notes in a field notebook or diary further enhance the interest and utility of a collection. Never rely on memory or a system that links primary data to specimens via a numbering system. Many collections are rendered useless by the subsequent loss of the associated catalogue.

Ideally you should have a maximum of six lines per label. If you are producing labels on a computer, the font Times New Roman, size3.5 or 4 point is recommended.

Label 1: Data label - Who, what, where, when?

The following information should be included COUNTRY: Region Locality, altitude GPS reading/Map co-ordinates Date(s) collected How collected/ or on new label (see below) Collectors Label 2: Habitat/Trap data label

Example:

BOLIVIA: Dept. Santa Cruz Comorapa, 1841m alt. S17°55'59" W64°30'17" 29.xii.2004 coll. Mann, D& Include information on habitat information, method of capture or biological associations etc....

Examples:

Reared from pupae on dock (*Rumex* sp<u>.</u>) leaf Emerged 26.vii.2007

Inter-Andean dry forest open habitat, sandy soil ex. cattle dung on road verge

Label 3: Determination label

Details to include: Species name (author) in italics or underlined Determiner/Identifier Date of determination

Example:

Lucanus cervus (Linnaeus, 1758) ♂ Det: D. J. Mann, ix.2007

An institution that takes on a new collection is likely to incorporate it into their existing one because of the benefits this brings. If each specimen is fully labelled it can be easily combined with the existing collection whilst retaining its data or provenance. If you have lent material to an expert for identification your labels will prevent any mix-ups with the experts own material.

The quality of materials

It is important to use the right materials in preparing specimens. Label data should ideally be recorded using good quality permanent ink or laser printed on acid-free paper or card. The ink will need to be alcoholproof for use with specimens in spirit. This will help insure that the associated data lasts as long as the specimen itself. Good quality stainless steel entomology pins should be used for dried, pinned specimens, as these have the best longevity. Specimens mounted on cards should be on acid-free card and water-soluble glue and pinned with stainless steel pins. Specimens stored in spirit need containers with good seals to help reduce evaporation. Additions of small quantities of glycerol can also help reduce evaporation. For information on the best equipment or current suppliers contact ICMG or an entomology curator/collections manager near you.

For detailed advice on specimen preparation see specialist publications, for example the handbooks produced by the Royal Entomological Society and the Amateur Entomologist's Society or Carter et al (1998). See **Section 12** 'for details of useful references.

Multiple specimens

Like humans every individual insect is unique. Individuals can look different because of their sex, where they come from or due to environmental differences. Consequently, having one perfect specimen of each species would be of limited use as a reference tool and for research. For an insect collection to be most useful multiple specimens of each species are required to show the full variety within that species. Series of specimens should not be harvested indiscriminately; all collectors should follow Joint Committee for the Conservation of British Invertebrates (JCCBI) code of conduct. For further details visit http://www.buglife.org.uk/NR/rdonlyres/C78F6DB3-7C26-4E92-A185-B71BCEA81156/0/CodeofConduct.pdf or http://www.benhs.org.uk/code.html.

Archives and historical information

A bibliography or archive associated with the collection, biographical information about the collector/s and their collecting activities will be of interest to the wider community that will use the collection. *The insect groups covered*

The most popular and commonly collected insects are butterflies, macro-moths and the larger beetles. Less

commonly collected groups will generally be in greater demand amongst institutions with insect collections.

6. Insect collections with specialist staff

There are hundreds of institutions/museums that have natural history collections and many of them have at least a few insect specimens. However, only a few such institutes in Great Britain and Ireland have dedicated entomologists who oversee the insect collections. These specialists go by a number of names, most commonly entomology curators or collection managers. Such specialists provide the best care for, access to and interpretation of insect collections. The following institutions have designated entomologists that care for insect collections (see Section 10 for contact details)



Fig 18. Multiple specimens of the Swallowtail butterfly - Papilio machaon from the Manley Collection, Glasgow Museums.



Fig 19. Leaf insects (Manchester museum)

Central Science Laboratory, York Glasgow Museums, Culture and Sport Glasgow Oxford University Museum of Natural History Hunterian Museum, Glasgow University Manchester Museum Natural History Museum, London National Museums Liverpool National Museum of Ireland, Dublin National Museum of Scotland, Edinburgh National Museum of Scotland, Edinburgh National Museum of Wales, Cardiff University Museum of Zoology, Cambridge Ulster Museum

7. What do the specialists responsible for insect collections do?

Curating an insect collection is a fascinating and important job. In general terms the curator facilitates all the activities that insect collections are used for (see section 1) and ensures the collections are developed and cared for in the best possible way. In larger institutions, some of these tasks may be split between a number of staff. In smaller institutions, the curator is likely to be directly involved in several of them.

Entomology curators assess new material offered to their collection for quality and compatibility with their existing holdings. They assess the condition of newly acquired material to determine if it needs treatment before being incorporated in the existing collection. The curators decide how best to house material within the collection, to ensure long-term preservation and to facilitate access. They monitor the collection to ensure its condition doesn't deteriorate and treat or repair specimens as required. They oversee the cataloguing of the collection. They research it to enhance its scientific and historical value and facilitate the access by external researchers to do the same. They promote the collection amongst potentially interested parties and the wider public, such as other museums, research institutions, conservation agencies, natural history socie-

ties, education staff, artists etc. They provide consultancy and often training in all aspects of entomology such as collecting, preservation, biology and conservation. They provide an insect identification and enquiry service. Entomology curators undertake fieldwork for research projects, collections enhancement (e.g. missing species/groups) and to generate data for biological recording. They support students involved in collections-based training and work on displays and provide interpretation for display material.

If you would like to know more about working with entomology collections, see Section 9.

8. Accessing insect collections

A small proportion of museums' insect holdings are on public display at any one time. Insect collections are predominantly a research tool and are kept in accessible stores. Collections may be housed in the museums itself. In recent years due to the cost and/or practicalities of storage, collections have been moved out of the buildings housing public galleries to dedicated storage facilities. Wherever they are stored, these museum collections are best accessed by making an appointment with a staff member responsible for them, most commonly the entomology curator or collections manager. If in doubt, the main switchboard of the relevant institution should be able to advise you who to speak to. Contact details of insect collections supervised by a dedicated entomologist are provided in **Section 10**.

In addition to visiting a collection in person, museums can arrange loans of material that are in good enough condition for transportation / posting. This strategy is generally exploited by international researchers who need to access material. Material may also be borrowed for others reasons such as displays, art projects or psychology sessions. To discuss the possibility of borrowing material you should contact the member of staff responsible for the collections.

Many entomology collections are trying to make their collections more accessible on the internet with customised databases although this is very much work in progress. The collections are large and the task huge.

Here are a few examples:

The Cockayne collection: British & Irish butterflies and moths part 1: Butterflies http://www.nhm.ac.uk/research-curation/projects/cockayne/

Coleoptera Collection and Card Index http://www.nhm.ac.uk/research-curation/projects/coleoptera/

The Wallace collection http://www.nhm.ac.uk/nature-online/collections-at-the-museum/wallace-collection/themeslist.jsp

O.U.M.N.H Entomology database http://www.oum.ox.ac.uk/database/entom/moreinfo/collects.htm

The Hunterian Museum, Glasgow – General search http://www.huntsearch.gla.ac.uk/

9. Want to work with insect collections?

If you want paid work in a museum as a curator or collections manager you will need a degree in a relevant discipline and usually a postgraduate museum qualification. It is generally a strong advantage to have been a museum volunteer. The Museums Association offers excellent guidance on starting out and developing a career working with museum collections (also see '*Contact details*') http://www.museumsassociation.org/. Leicester University teaches museum studies with potential for specialising in Natural History http:// www.le.ac.uk/museumstudies/; as does Newcastle University http://www.ncl.ac.uk/sacs/postgrad/icchs/gallery.htm

Also see Section 1. f 'Collections-based training'

If you wish to volunteer you may have to approach a number of institutions. Remember that smaller institutions may not seem as glamorous but may be better placed to take you on and to offer a more varied experience. Larger institutions often have a volunteer co-ordinator for you to arrange your placement through. If not, the curator/collections manager of the relevant collection should be able to advise you. You may wish to advertise your willingness to work through http://www.natsca.org/ or the ICMG. Be warned: much of the work can be repetitive; sample sorting, labelling and curatorial duties are not all glamorous! Jobs are advertised at http://www.natsca.org/

http://www.museumjobs.com/ www.le.ac.uk/museumstudies/jobs

10. Contact details

Central Science Laboratory, York

Sand Hutton, York, UK, YO41 1LZ Tel: +44 (0)1904 462000 Fax: +44 (0)1904 462111 E-mail: info@csl.gov.uk Web: www.csl.gov.uk

Hope Entomological Collections

Oxford University Museum of Natural History, Parks Road, Oxford, UK, OX1 3PW Tel: +44 (0)1865 272950 Fax: +44 (0)1865 272970 *E-mail: entomology@oum.ox.ac.uk*

Manchester Museum

Manchester University, Oxford Road, Manchester, UK, M13 9PL Tel: +44 (0)161 275 2634 Fax: +44 (0)161 275 2676 E-mail: museum@manchester.ac.uk Web: www.museum.manchester.ac.uk

National Museums Liverpool

World Museum Liverpool, William Brown Street, Liverpool, UK, L3 8EN Tel: +44 (0)151 478 4393 Web: www.liverpoolmuseums.org.uk

Glasgow Museums

200 Woodhead Road, South Nitshill Industrial Estate, Glasgow, Scotland, UK, G53 7NN Tel: +44 (0) 141 276 9300 Text Phone : +44 (0) 141 276 9428 Fax : +44 (0) 141 276 9305 E-mail : museums@csglasgow.org Web: www.glasgowmuseums.com

Hunterian Museum (Zoology), Glasgow

Graham Kerr Building, University of Glasgow, Glasgow, Scotland, UK, G12 8QQ Tel: + 44(0)141 330 2194 Fax: + 44(0)141 330 5971 Web: www.hunterian.gla.ac.uk

Natural History Museum

Entomology Dept., Cromwell Road, London, UK, SW7 5BD Tel: +44 (0)207 9425000 (main switchboard) Website: www.nhm.ac.uk

National Museum of Ireland

Marketing Department, National Museum of Ireland, Collins Barracks, Benburb Street, Dublin 7, Ireland. Tel: +353 1 6777444 Tel LoCall: 1890 687 386 Tel LoCall: 1890 MUSEUM Fax: +353 1 6777450 Email: marketing@museum.ie Web: www.museum.ie

National Museum of Scotland

Entomology Dept., Chambers Street, Edinburgh, Scotland, UK, EH1 1JF Tel: +44 (0)131 247 4422 (main switchboard) Web: www.nms.ac.uk

Ulster Museum

Ulster Folk and Transport Museum, Cultra, Holywood, County Down, Ireland, BT18 0EU Tel: +44 (0)28 9042 8428 Fax: +44 (0)28 9042 8728 Web: www.ulstermuseum.org.uk

National Museum of Wales

Cathays Park, Cardiff, Wales, UK, CF10 3NP Tel: +44 (0) 29 2039 7951 Web: www.museumwales.ac.uk

University Museum of Zoology, Cambridge

Downing Street, Cambridge, UK, CB2 3EJ Tel: +44 (0)1223 336650 Fax: +44 (0)1223 336679 E-mail: umzc@zoo.cam.ac.uk Web: www.zoo.cam.ac.uk/museum/

11. Useful organisations

The Amateur Entomologists' Society (The AES)

PO Box 8774, London, UK, SW7 5ZG E-mail: contact@amentsoc.org

Website: http://www.amentsoc.org/aboutus.htm

The British Entomological and Natural History Society

The Secretary, c/o The Pelham-Clinton Building, Dinton Pastures Country Park, Davis Street, Hurst, Reading, Berkshire, U.K, RG10 0TH Website: http://www.benhs.org.uk

BTCV (British Trust for Conservation Volunteers) Natural Talent Scheme Natural Talent, BTCV Scotland, Balallan House, 24 Allan Park, Stirling, UK,

FK8 2QG Tel: +44 (0)1786 479 697 E-mail: Natural-Talent@btcv.org.uk Web: http://www2.btcv.org.uk/display/naturaltalent ICMG (the Insect Collection Managers Group) – Web address?

Leicester University

Department of Museum Studies, University of Leicester, 105 Princess Road East, Leicester, UK, LE1 7LG Tel: +44(0)116 252 3963 Fax: 0116 252 3960 E-mail: museum.studies@leicester.ac.uk Web: http://www.le.ac.uk/museumstudies/

The Museums Association

Museums Association, 24 Calvin Street, London, UK, E1 6NW E-mail: info@museumsassociation.org Web: http://www.museumsassociation.org/

Museum Jobs Latitude 56 Ltd, Lunga Estate, Argyll, Scotland, UK, PA31 8QR