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Increasing access to collections through partnerships

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Introduction

It is often estimated that more than 90% of museum collections are in storage, and in many museums these are only ever seen by curators and the occasional researcher. In these economic times it is more important than ever that these reserve collections are used and can prove their worth. At Gloucester City Museum we are aiming to increase access to the natural history collection through partnerships with universities and secondary schools.

Gloucester City Museum and Art Gallery is part of Gloucester Museums Service. We have two museums: the City Museum, which holds the archaeology, natural science and art collections and the Folk Museum, which holds the social history collection. We have 13 full time or FTE members of staff, including two curators, a collections manager, a learning officer and myself, the documentation officer, working across both sites. We are celebrating two major anniversaries this year – the City Museum is 150 years old (although it did not occupy the present building until 1873) (Fig. 1), and the Folk Museum is 75 years old .



Fig. 1. Gloucester City Museum & Art Gallery (Image Copyright Gloucester City Museum & Art Gallery)

The Natural History Collection

The museums service does not currently have natural history curator. The last curator retired more than ten years ago and was not replaced. The natural history collection has not been neglected, but is vastly under-used. It consists of an estimated 60,000 specimens or groups of specimens, many of which are catalogued in old ledgers, but are not yet on the museum database.

The collection includes around 7000 fossils such as the Drybrook (Forest of Dean) fossil plants, the Hornsleasow dinosaurs and microfossils, and around 5000 brachiopods; a world-wide rock and mineral collection; a herbarium of around 16000 specimens, including the archive of the Definitive Flora of Gloucester published in 1948; birds and mammals; land, freshwater and marine molluscs; Palaeartic birds' eggs; and a large collection of invertebrate specimens including British beetles, butterflies, moths and a wide range of other insect groups. There are several special collections including the Lloyd-Baker, Clutterbuck, Greville Smith and Wild zoology collections; the Riddelsdell, Lucy and Haines herbaria; the Charles Upton brachiopods and recent molluscs; and the Walter Smith marine shell collection. In 2005 a survey of the collection undertaken by curators from Bristol Museum described it as being 'of great local and national importance' and 'one of six main natural history collections in the southwest'.

Why Have Partnerships?

It is not unusual for museums to work in partnership with other organisations outside of the museum sector, as is clearly illustrated by some of the talks at this conference, but on the whole it tends to be larger museums with more staff and more resources that do so. This was not always the case – go back twenty or thirty years, when even small museums had specialist curators, and generally they worked fairly closely with specialist groups and organisations in the area. At Gloucester City Museum the natural history department was very active, working with local wildlife and geology groups and participating in biological recording and academic research. Sadly with the departure of the last curator these links were lost, and although there has still been an interest in the collection from other members of staff, and the museum has had natural science exhibitions and events, things have dropped off considerably.

Working with partners brings benefits beyond economic ones - it can breathe life into an old collection. Partners can use the collection for academic research and any publications resulting from this will bring kudos to the museum; they can bring their specialist expertise adding value to the collection; and they can use the collection to teach others – practical resources like this are relatively rare.

Much of what we have in the natural history collection at Gloucester City Museum is not suitable for display and not relevant for primary school education sessions, for example we have systematic collections of many families of insects. The aim of the partnership project is to enable university undergraduate and post-graduates, as well as GCSE and 'A' level students, to be able to come in and use the collections for study and research.

First Steps

In June last year, Gloucester City Museum was approached by the Linnaean Society asking for a representative to go to London to discuss with them the future of systematics and taxonomy in the UK. Each year we are losing some of our older experienced taxonomists, but fewer students are taking up taxonomy as a career. The Linnaean Society was interested in exploring ways in which museums could contribute to helping revive an interest in taxonomy among younger people. Following this discussion, I approached heads of departments of the relevant disciplines of all universities within about an hour's journey from Gloucester, offering to show them around and suggesting that students could use the collections for research or study, or could help to catalogue parts of the collection, perhaps also students could give their expertise to help identify specimens. The response has been varied. Some did not seem to think they had anything to offer, some were keen to get involved, but were too busy, but the University of Gloucestershire responded very positively.

Positive Outcomes

Adam Hart, the head of biological sciences at Gloucestershire University and an entomologist, came down to look at the collection, along with Anne Goodenough, head of avian research and Rick Stafford, a biology lecturer. They were excited to see the collection and seemed genuine impressed with the range of specimens that we have. I was surprised to discover that the university has very little in the way of preserved specimens for students to work with.

Shortly afterwards, Adam, who has a weekly science slot on BBC Radio Gloucestershire, arranged for the presenter Anna King to come over and do an interview with both Adam and myself in the natural history store room to talk about the collection and natural history in museums. It was really good to get this kind of media focus on our natural history collection!

Just before Christmas 2009 Anne Goodenough came over with some students to carry out some biometric research on the bird collection, which has now been written up and submitted to a journal for publication. The experiment was planned carefully, using specimens that were not rare, were not part of a special collection, and were not considered to be fragile. The students were chosen by Anne as being ones who would take care when handling the specimens. On the success of this, more research projects are being planned for the future. One of these students, a postgraduate, is now working with the bird collection as a volunteer, checking the identification and entering the data onto the museum database.

Both lecturers were keen to bring groups of undergraduates to the museum to look at specimens – Adam told me that some students begin the course never having seen even some fairly common species in the wild, so this would be an ideal way to familiarise them with different species. We have also talked about involving local schools, so that ‘A’ level students can get the same kind of experience. The first students from the Gloucestershire University Avian Biology group came in January 2010. A range of bird species were set out to illustrate various points regarding taxonomy and anatomy (Fig. 2). Anne, the lecturer, was the only one to handle the specimens, except at one point when she asked if the students could hold one specimen to look more closely at a particular feature. Both Anne and Adam are very aware of how fragile specimens can be and also of the health and safety issues regarding old taxidermy specimens.



Fig. 2. Bird specimens used by the Avian Biology group (Image Copyright Gloucester City Museum & Art Gallery)

Albert Brydges Farn

Another interesting outcome from this partnership was the Albert Brydges Farn paper. While cataloguing the museum archive, I came across two volumes of 'A Manual of British Butterflies and Moths' by H.T. Stanton. The inside covers were stamped with the name 'A.B. Farn', and were heavily annotated in the margins and between paragraphs. Some of the comments were quite critical of the text and I was so intrigued by this man who obviously felt very passionately about his subject, that I decided to find out more.

Research revealed him to be Albert Bridges Farn, a naturalist born in 1841 in London and described as a 'tall man with magnificent shoulders' (Kershaw, 1956) (Fig. 3). Farn started his training to become a medical doctor, but appeared to have abandoned it when he received a large inheritance. He married and had a son and daughter, but his marriage broke up and by 1874 he was living in Dartford, Kent, with his son and common-law wife. He was a great collector of 'variants', and at one time was reputed to have the best collection in England. He was interested in the influence of the environment on colour forms, and on 18th November 1878 he wrote to Charles Darwin the following letter (Farn, 1878):

My dear Sir,

The belief that I am about to relate something which may be of interest to you, just be my excuse for troubling you with a letter. Perhaps among the whole of the British Lepidoptera, no species varies more, according to the locality in which it is found, than does that Geometer, Gnophos obscurata. They are almost black on the New Forest peat; grey on limestone; almost white on the chalk near Lewes; and brown on clay, and on the red soil of Herefordshire.

Do these variations point to the "survival of the fittest"? I think so.

It was, therefore, with some surprise that I took specimens as dark as any of those in the New Forest on a chalk slope; and I have pondered for a solution. Can this be it? It is a curious fact, in connexion with these dark specimens, that for the last quarter of a century the chalk slope, on which they occur, has been swept by volumes of black smoke from some lime-kilns situated at the bottom: the herbage, although growing luxuriantly, is blackened by it.

I am told, too, that the very light specimens are now much less common at Lewes than formerly, and that, for some few years, lime-kilns have been in use there.

These are the facts I desire to bring to your notice.

I am, Dear Sir, Yours very faithfully,

A. B. Farn



Fig. 3. Albert Brydges Farn: 'a tall man with magnificent shoulders' (Image Copyright The Entomologist's Record and Journal of Variation)

'On the Origin of Species' was published in 1859, and although this introduced the world to the concept of evolution, it crucially missed the evidence for contemporary evolution through natural selection. The case of industrial melanism of the peppered moth (*Biston betularia*) is often regarded as the clearest case of evolution in action. This was first observed in 1848 by Edleston, but it was not until 1896, 14 years after Darwin's death that Tutt explicitly linked melanism with natural selection. The correspondence from Farn indicates that Darwin was aware of this connection many years earlier, but appeared not to realise the significance of this information. Adam and Anne from Gloucestershire University did some background research and together we published a paper in Current Biology (Hart *et al*, 2010). This again resulted in more media attention; it was exciting for the museum to have its first natural history publication for more than a decade.

The Future?

It is early days yet, but some changes have been made to the layout of the natural sciences store so that there is a working area at one end and we are applying for funding for some basic equipment, such as microscopes, callipers and hand lenses. Building on the success of the project so far I plan to extend the project to other universities, and perhaps high schools, to run similar projects using the geology collection. I have been in contact with conservation groups and local wildlife groups, who have shown an interest in the collection, although there are no plans as yet to work together.

In the current economic climate museum collections are at risk of being lost in order to save money. It is vital that we use our reserve collections in order to safeguard them for the future.

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