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## The Botany Collections of Oldham Museum

### The Nield Herbarium

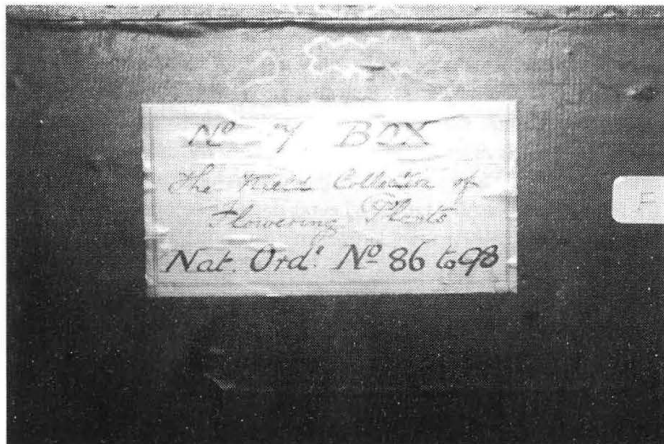
In 1995, Oldham Microscopical Society formally donated a 10,000 specimen strong herbarium to Oldham Museum. Named after a nineteenth century Oldham print worker, James Nield, it contains a fascinating history of the changing face of not only Oldham's flora, but also of other areas of the British Isles. Considerable documentary work has recently been completed on the vascular plants in the collection, and research has been undertaken on the lives of many of the collectors. This article is intended to present a summary of this work and outline future development plans.

### Background

Oldham is a metropolitan borough of over 220,000 people situated to the north east of Manchester. A place of little significance 200 years ago, Oldham rapidly became one of the biggest cotton producing towns in the world during the nineteenth century, transforming a moorland, scrub and pastoral landscape into one dominated by smoking mill chimneys and dense terraced housing. It was in this climate of intense change that the study of botany in Oldham became popular amongst the working classes, a phenomenon that can also be seen in the surrounding industrial towns of south Lancashire, such as Rochdale, Bury, Bolton and Ashton under Lyne.

The seeds of growth in the study of botany in Oldham were first sown by a local handloom weaver called John Mellor, who began holding Sunday botanical meetings in pubs in the 1770's with fellow artisans such as James Crowther and the Australasian explorer George Caley. The first Oldham Botanical Society was formed in 1775, and this led to the formation of a plethora of more localised societies in the 1800s.

The originator of this herbarium, James Nield, was born in Oldham in 1825. An early advocate for nature conservation, Nield built on the botanical legacy in Oldham by being a founder member of the Oldham Microscopical Society in 1864, a society which still meets regularly today. According



*Nield Herbarium Storage Box, Oldham Museum, February 1998. Photo Peter Fox.*



*Storage of Nield Herbarium, Oldham Museum, February 1998. Photo Peter Fox.*

to transcripts from the Oldham Microscopical Society Annual report of 1882, the herbarium began with a donation by James Nield of 900 mounted British plants. This was added to with 300 British plants not represented in the Nield collection, and including a full set of 'Bloxham's Rubi', presented by John Whitehead.

Over 100 of Nield's contemporaries are represented in the Nield Herbarium, and several twentieth century botanists have since added to the collection. Nield appears to have been a reluctant signer of herbarium sheets, making it difficult to be certain which specimens he collected; similar problems were faced when documenting the Nield Geological Collection, also held by Oldham Museum.

### Research

The Nield collection was stored in 14 large black rectangular boxes and 37 separate plastic bags. For the sake of convenience each plastic bag was numbered, and each box was given an identity letter. They were stored in Oldham Museum's Natural History stores. Sheets were stored up to 200 deep, and many of the plastic bags were very dirty. This made access very difficult, and potentially very damaging.

The Museum was fortunate to have a small but empty wooden herbarium cabinet which had been acquired from a



*Storage of Nield Herbarium, Oldham Museum, February 1998. Photo Peter Fox.*

local society a few years ago. Although not air tight, it did allow the most extreme of over packing of plastic bags to be addressed; up to three hundred herbarium sheets were rapidly transferred. Most natural history curators with large collections face a similar problem: what are my documentation priorities? These may be guided by strict adherence to documentation plans, by upcoming exhibitions or perhaps by the enthusiasm of a volunteer. My reasons for choosing to document the Nield Herbarium were three fold; that this valuable collection would seriously decay if left alone for several more years; that it was known to contain many notable specimens, but no-one knew exactly what they were or how to find them; and that I was very familiar with the subject of vascular plants, and would be able to interpret the importance of specimens in the collection.

Simon Hayhow, currently the Keeper of Natural History for Lancashire Museum Service, had already started documentation of the collection in 1989 when he worked at Oldham Museum; he had initiated a storage numbering system and had hand-written a brief synopsis of the contents of each plastic bag and black box. His notes helped enormously in my comprehending the parameters of the work involved, and provided a series of incentives for approaching each new box or bag of sheets.

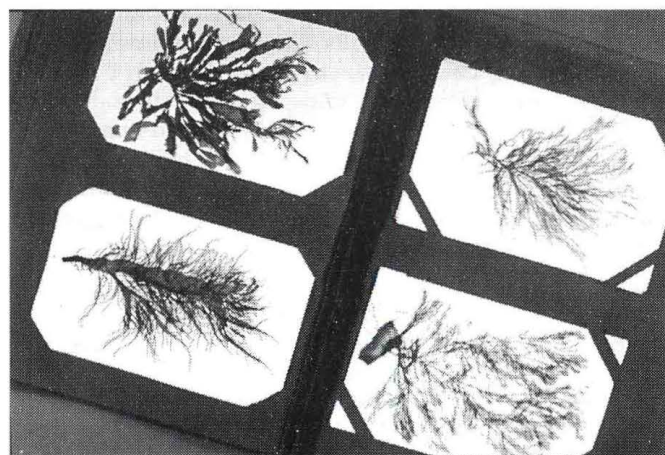
Information from each sheet was entered onto a specially tailored Smartware database. Information on common and Latin names, collector, collection location, collection date, species classification number, specimen location were recorded for every specimen, as well as occasional notes on source of the specimen, UK status of species, rarity value, composition and condition of the specimen, any literature that refers to the specimen or collector biographical detail. The names and classification system used were from the Third Edition of Flora of the British Isles by Clapham, Tutin and Moore, except for the non-British species which have largely been recorded directly from the herbarium sheet without modification.

All the documentation was done in the Museum's Natural History Store onto a lap-top computer. Sheets were recorded systematically as they came out of a bag or box. Although some sheets followed a vague order, often arranged into family groups, it was quite clear that the whole collection had never been properly ordered and that individual collections had been broken up and absorbed into the whole. This lack of order made typing in information considerably more time consuming, as precise spellings of species names were constantly having to be looked up.

Details from over 4400 specimens were computerised. It is difficult to say how long this took as I was doing other work at the same time but the whole process took 4/5 months and at times felt like it would never end. This left no time to document any of the non-vascular plants, particularly the several thousand strong bryophyte collection. There are indications that this may be an even more important collection than that of the vascular plants, but no opportunity has yet arisen to undertake this huge task.

#### **The Vascular Plants of the Nield Herbarium**

There are over 4400 sheets of dried vascular plants that include data in the Nield Herbarium, of which around 600 originate from outside the British Isles. In addition, several hundred have no data whatsoever. Using the Clapham, Tutin and Moore system of classification, 132 of the 150 British vascular plant families are represented and approximately 80% of all British species. Although there is no definitive plant list for Oldham, nor for the Greater Manchester area,



*Waddington Seaweed Collection, Oldham Museum. Photo Peter Fox.*

much of the local species that I know of are represented in the collection.

The earliest recorded date is 1846, and the vast majority of the collection dates from the nineteenth century, particularly between 1870-1890. Plant specimens have been collected from all over the British Isles but Oldham, the Channel Islands, West Cornwall and the Scottish Highlands are particularly well represented. These appear to be the most popular holiday destinations for nineteenth century Lancastrian botanists, and in a paper delivered to the Manchester Botanists' Association in 1875, there is a rather hilarious account of four local botanists' search for the alpine crocus, *Gentiana nivalis*, up Ben Cruban in the Grampians: accounts of their discoveries can be matched with specimens in the herbarium.

There are over two hundred specimens which can be considered to be real treasures. Apart from many species which are considered by Clapham, Tutin and Moore to be very rare today, there are many abnormal plant forms, geographical oddities, unusual aliens, county and British first recordings, and local, county and British extinctions. Highlights include several species lost to the Oldham area, such as *Pseudorchis albida*, *Gentianella pneumanthe*, *Hammarbya paludosa* and *Phegopteris connectilis*; the first recording of *Rubus rhombifolius* and *Rubus podophyllus*, and of the algae *Chara fragifera*, in Britain; the first record of *Circaea alpina* in Derbyshire; the first record of *Ranunculus tripartitus* in Cheshire, a species which may now be extinct in the county; possible Cornish extinctions such as *Filago gallica* and *Oxalis stricta*; possible Cheshire extinctions such as *Pilularia globulifera*; Yorkshire extinctions *Veronica triphyllos* and *Phleum phleoides*; Dorset extinction *Orobanche caryophyllaceae*; and British mainland extinction *Pinguicula alpina*.

In addition to these, there is already evidence that the herbarium contains valuable new site records; a chance conversation with Alan Howell at the Biological Curators Group (BCG) AGM at Bolton in 1995 led me to sending records to the botany section of Societe Jersaise, who wrote back to say they were delighted to be able to add new localities for particular species.

The status of many of these specimens may also change in light of the Atlas 2000 survey run by the British Botanical Society and I await their results with interest. However, if anybody has any comments on the species already mentioned, even if you wish to dispute some of the claims made, I would be happy to hear from you; John Edmondson of Liverpool Museum has already given his advice about the status of the *Rubus* specimens, including help with the wide variety of spelling sub-species' in the nineteenth century and the consequent mis-identifications.

Mosses, Algae, Seaweeds and Fungi in the Nield Herbarium There are up to 5,000 specimens of mosses in the collection, but just a few examples of algae, seaweed and fungi. The collection of mosses mainly come from the collection of John Whitehead, and a ticklist of this was annotated onto a copy of The London Catalogue of British Mosses and Hepatics in 1881, with a hand-written list of algae and fungi in the back of the book. This indicates that it is a very comprehensive collection of British cryptophytes,

dating mainly from the mid-nineteenth century, and includes a large contribution from John Nowell. In 1996, a student placement from Oldham Sixth Form College listed a small collection of seaweeds, collected by Oldhamer John Waddington in the mid-nineteenth century.

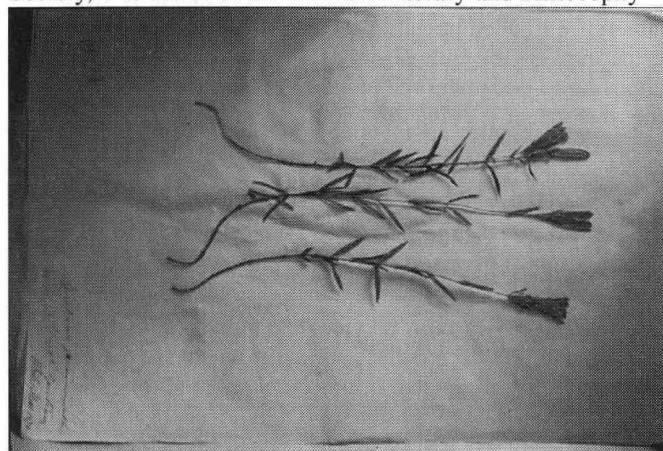
### The Collectors

Over 150 collectors have contributed to the Nield Herbarium of Vascular Plants. Some collected only one specimen, others several hundred. The following is a short synopsis of the leading contributors, with place names referring to collection locations rather than biographical origin.

H. Adair (Cumberland), E. Armitage (Herefordshire), F. Arnold Lees (Teesdale), J. Bagnall (Warwickshire), A. Bloxham (Cheshire — *Rubus* sp. 1846), N. Buckley (pre 1857), W. Curnow (Cornwall), M. Dawber (Guernsey — member of Watson Botanical Exchange Club 1886-87), A. E. Ellis (Sussex/Surrey), J. Entwhistle (Surrey), H. D. Geldart (Norfolk), G. Goode (Cambridgeshire), H. Goss (Cambridgeshire), W. J. Hannan (Lancashire/Derbyshire), S. S. Haslehurst (Channel Islands), W. Heathcote (handbook of ferns from the English Midlands), W. Hind (Suffolk), G. A. Holt (Cheshire), J. H. Jenner (Sussex), L. N. Kidd (Oldham/Derbyshire 1940-60), J. C. Melville (Perthshire), J. Nowell (Co. Clare), Rev Painter (Somerset), J. T. Palmer (Manchester), J. Percival (Lancashire/Barmouth/Scotland), J. Piquet (Jersey), J. Richen Briggs (Devon/Cornwall), C. F. Ripley (Lancaster), T. Rogers (Perthshire), R. W. Scully (Co. Kerry), Rev C. Shaw (alien flora of Oldham 1940-60), J. H. A. Stuart (Isle of Wight), J. E. Sunderland (Scotland), Dr. G. Thomson (Wales), Dr. Vigers (Cornwall), M. Ward (Fleetwood), G. Webster (York), J. A. Wheldon (Yorkshire), J. Whitelegg (Cleethorpes), T. Whitelegg (Derbyshire).

Special mention must be made of three particular collectors who contributed the bulk of the collection.

Many Oldhamers consider James Nield (1825-1896) to be the founding father of natural history study in the town. Born in Oldham's Cheapside area, he was the son of a hatter who became a printer and lithographer and town councillor. He was a founding member of the Oldham Microscopical Society, was active in the Oldham Literary and Philosophy



*Gentiana pneumanthe* White Moss, Oldham 1876  
(Nield Herbarium) — Oldham Museum.  
Photo Lee Avison, 1977.

Society and became the first President of the United Field Society. Nield discovered a fossil forest on the outskirts of Oldham town centre, was involved in the highly publicised movement of a huge erratic boulder to the entrance of Oldham's first public park, campaigned to save an 'arctic peat bog' in Oldham town centre and was one of the main instigators in the formation of the first Oldham Museum. His initial collection of 900 plants formed the basis of the Nield Herbarium, and he collected specimens from Oldham, the Scottish Highlands, and from around Tal-y-bont in north Wales, where he took up temporary residency. Oldham Museum also houses the Nield Geological Collection, a 1500+ collection of fossils, rocks and minerals. John Whitehead (1832-1896) was a working class man who gained a national reputation for his knowledge of mosses. Born in Dukinfield, Manchester he spent most of his life living around the Oldham area and wrote 'The Flora Ashton-under-Lyne' in 1888. Although he has over 100 specimens from around the British Isles in the vascular plant herbarium, it is his collection of mosses that he is best known for. When he donated his whole herbarium to the Oldham Microscopical Society and Field Club in 1892, the society's president, Mr. Pullinger, declared it to be without rival in the north of England. Whitehead made many muscological discoveries including new British and European records, and three new species to science; *Dicranella schreheri* var. *elata*, *Bryum rufum* and the liverwort *Jungermannia nevicensis* which he found on Ben Nevis in 1875.

John Byrom (dates unknown) contributed at least 720 specimens to the Nield Herbarium. A member of the Oldham Microscopical and Ashton Biological Societies, Byrom travelled extensively in search of botanical treasures. Apart from various Lancastrian localities, Byrom collected from Derbyshire, Cheshire, Cornwall, North Wales, the Grampians, Channel Islands, Norway, Switzerland and the prairies and Rocky Mountains of North America, mostly between 1870 and 1884. He gave a fascinating account of his North American travels in a paper given to Oldham Microscopical Society in 1884.

### Herbarium Development

Two of the major problems with the herbarium is storage and the need for remounting. As much as 20% of the collection is composed of loose specimens, due in part to inadequate storage conditions. The Herbarium Handbook recommends that herbarium sheets are stored at the maximum six deep: some of these are stored over 200 deep. The excellent 'Herbarium For Beginners' training day organised by the BCG at Liverpool Museum in 1996 provided excellent advice on how to begin the conservation of the collection but the main barrier is, of course, finance. Several new herbarium cabinets, professional remounting, sheet numbering and systematic sorting must all be aimed for, whilst photographic documentation would be desirable.

To help contextualise the collections with particular regard to local records, detailed study of the herbaria held by Rochdale and Tameside Museum Services would be invaluable, as they are anecdotally known to contain specimens collected by local naturalists from in and around the Oldham area.

It would be desirable to have a representative of all the British vascular plant families. Irresponsible acquisition of wild plants is quite rightly frowned upon today, so a considered, responsible strategy will be needed, and members of the Oldham Microscopical Society have already expressed interest in helping, particularly with some surprising local gaps. If anybody knows of an unwanted collection that contains any of the following family groups, could you please let me know; Paeoniaceae, Aizoaceae, Amaranthaceae, Phytolaccaceae, Simaroubaceae, Vitaceae, Hydrangeaceae, Escalloniaceae, Pittosporaceae, Sarraceniaceae, Moraceae, Juglandaceae, Diapensiaceae, Buddlejaceae, Scheuchzeriaceae, Aponogetonaceae, Pontederiaceae and Typhaceae. Finally, there is considerable work to be done on assessing the importance and potential use of the 500-600 foreign specimens, which mainly come from Switzerland, Norway and the Prairies and Rocky Mountains of North America.

### Uses of the Nield Herbarium

One of the major criticisms that I have heard of herbaria is that they are not very interesting to the general public. Having seen how creatively Liverpool Museum displays its herbarium specimens, I have been able to use the Nield Herbarium for a range of uses. In an exhibition about collecting and collectors called the 'People's Show', we used herbarium specimens collected by John Byrom in the prairies of Canada in 1881, alongside an account he gave of his trip there; we displayed a range of orchid species that have disappeared from Oldham to illustrate a section on biodiversity for an exhibition on sustainable development called 'The Rise And Fall Of Billy Small'; plant specimens from the five major wildlife habitats in Oldham were used for the exhibition 'Walk On The Wildside'; photographs and lists taken from the Nield Herbarium were used for 'The Wild Flowers of Oldham' book published last year, and the records proved valuable for researching the book; and plant specimens have also been used for a range of Museum based talks.

### Squire Ashton Herbarium

Oldham Museum also possesses a moderately sized herbarium collected by nineteenth century Oldhamer and timber yard owner called Squire Ashton. Comprising of 491 species of vascular plants and 528 species of mosses, it is stored in 14 wooden boxes and dates from 1836-1897. It is made up of British species, with a particularly good collection of local specimens. Although the large majority of sheets are unsigned, it does include examples from James Nield, John Whitehead, James Percival and John Nowell, all of whom can be found represented in the Nield Herbarium. The vascular plants were documented shortly after the Nield Herbarium documentation was completed, but the mosses have yet to be studied in any detail.

### Conclusion

This project has allowed the Nield Herbarium to grow in importance as it became more accessible and used. Indeed, there has been a definite correlation between the variety of uses that the herbarium can be put to and the level of documentation achieved. Also, the amount of conservation

work needed to improve the collection, and the storage requirements, have both become much clearer. Although time consuming, this level of documentation has been necessary to ensure the herbarium's future survival and development. If you would like to see the collection, have a full list of the collection, require information to supplement your botanical records or would even like to offer advice, I would be delighted to hear from you. I can be contacted at Oldham Museum, Greaves Street, Oldham, Greater Manchester OL1 1DN. Tel:0161-9114649/Fax:0161-9114669. E-Mail. els.museums@oldham.co.uk

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Exhibition Officer (Natural History)

## Zoology Museum Insect Project (ZIP)

### Hunterian Collections, University of Glasgow Zoology Museum

In February, 1997, the Heritage Lottery Fund awarded £118,000 to the Hunterian Museum & Art Gallery, University of Glasgow, for a curatorial and access project involving insects. The purpose of this new initiative is to create a usable resource from the extensive collections of insects which have been acquired over a period of two hundred years by the University of Glasgow. It will be accessible to all for promoting the understanding and enjoyment of the world of insects.

### Background

A brief account of the collections begins with the original bequest of William Hunter (1718-1783), which was the foundation of the Hunterian Museum in Glasgow. Included with this were five cabinets (totalling 124 drawers) of insects which had been examined by Fabricius (1745-1808) during his residence in England. Fabricius, after Linnaeus probably the most famous of the early taxonomists, described numerous species and the specimens thus identified by him, including numerous types are still present. They are frequently consulted by modern-day systematists.

Two more recent large acquisitions complement this historic material. The large quantity of cabinets and boxes from the Thomas G. Bishop (1846-1922) bequest is very strong in exotic beetles, which he obtained mainly through dealers. At the end of the project the precise value of this collection will be established. It is essentially mid-late C19th and incorporates material from the numerous active naturalists, explorers and scientists of the day. Another local collector, particularly active in field work within the British Isles, was J. J. F. X. King (1855-1933) who left the products of his life-long passion to the University. Again the project will be able to define the true extent of his resource. Added to these major items are a variety of smaller collections and the products of the Zoology students and staff during their projects or research. These latter tend towards the economically important groups such as agricultural pests and disease vectors. Approximately half of the entomological material is already in good quality 'Hills' cabinets. This is a series of British insects (in 420 drawers) and other self-contained elements (160 drawers). In addition there are 200 demonstration drawers that have been built up during several generations of teaching undergraduate courses.

It is the rest of the collections which are in need of re-housing that the curatorial part of this project is to address. Altogether there are estimated to be nearly 1000 miscellaneous media including the ubiquitous cigar box, the far from airtight home-made store box and mixture of styles of old cabinet. The contents of this plethora of containers will be brought together into a hierarchy based on taxonomic sequence with geographical undertones! The level of identification will be variable as there is clearly not enough time within this project to identify each specimen, even if it were possible for one person to have the capability. The next developmental stage in the evolution of the collection from relative obscurity to a significant resource will be to actively seek those who will enhance it. Hopefully this will be achieved through various specialists working on the existing material, adding to it and making recommendations for its improvement as a resource for the future.

### The Project

ZIP (Zoology Museum Insect Project) is funded for two years by the Heritage Lottery Fund which provides for the purchase of the specialised storage units to re-house the collection. This will provide a modern retrieval system, and is installed in a dedicated area with study facilities. A Collections Manager has been appointed on a two-year contract to carry out the work which includes appropriate documentation and the development of new museum