



## Bone collections: using, conserving and understanding osteology in museums

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8<sup>th</sup> September 2015

University Museum of Zoology, Cambridge

Lecture Theatre	Laboratory
9.30 Registration and coffee <b>10.00 Welcome</b>	
<b>Chair Victoria Purewal</b> 'Bone Function and Form: Implications for Identification' <b>Paolo Viscardi, Horniman Museum and Gardens and also on behalf of John Hutchinson, Royal Veterinary College</b>	<b>10.00– 1.00 Bone cleaning workshop</b> Bethany Palumbo, Oxford University Museum; Vicky Singleton and Natalie Jones, University Museum of Zoology, Cambridge.
11.20 Coffee and posters	
<b>Chair Jack Ashby</b> 11.40 'Bones of Contention: common problems encountered when remounting museum skeletons and how to resolve them.' <b>Nigel Larkin, Natural History Conservation</b>	Workshop continues.
12.35 'Re-displaying old articulated specimens at Ipswich Museum' <b>Robert Entwistle and Emma Hogarth, Colchester and Ipswich Museums</b>	
1.00 Lunch, store tours and posters	
<b>Chair Jan Freedman</b> 2.00 'Skeletal reference collections for archaeologists: where zoology and humanities meet.' <b>Paolo Viscardi, Horniman Museum and Gardens on behalf of Umberto Albarella, University of Sheffield</b>	<b>2.00 – 5.00 Bone cleaning workshop</b> Bethany Palumbo, Oxford University Museum; Vicky Singleton and Natalie Jones, University Museum of Zoology, Cambridge.
2.25 'Bone Idols: Conservation in the public eye.' <b>Jack Ashby, Grant Museum of Zoology, UCL</b>	
2.50 'Conserving a rare Ganges River Dolphin Skeleton: Adhesive removal, consolidation and problem solving a challenging re-mounting dilemma' <b>Emilia Kingham &amp; Robert Price, Grant Museum of Zoology, UCL</b>	
3.15 Tea, tours and posters	
<b>Chair Jack Ashby</b> 4.00 'A Game of Bones' <b>Jan Freedman, Plymouth City Museum and Art Gallery</b>	Workshop continues.
<b>5.00 Close</b>	

## Abstracts

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### **10.00 & 2.00 Bone Cleaning Workshop**

#### **Pre-booking essential.**

*Bethany Palumbo, Conservator of Life Collections, Oxford University Museum of Natural History*

*Vicky Singleton & Natalie Jones, Conservators, University Museum of Zoology, Cambridge*

Osteological collections often form a large percentage of Natural History Collections, and many institutions are keen to discover ways of maintaining and preserving these collections. This hands-on workshop will demonstrate some methods of cleaning bone with dry and wet cleaning methods. This will be followed by a discussion into the methods, their effectiveness and provide an opportunity to share ideas and techniques.

**Workshop places are limited and must be booked before the day. To attend either the morning or afternoon workshop, please reserve a place at the time of booking.**

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### **10.00 'Bone Function and Form: Implications for Identification'**

*John R. Hutchinson, Professor of Evolutionary Biomechanics, The Royal Veterinary College*  
*Paolo Viscardi, Deputy Keeper of Natural History, Horniman Museum and Gardens*

Bone is shaped by evolution and the physical forces and processes that affect it during the life of an animal. By understanding these influences on bone, we are better able to both identify skeletal material in our collections and explore the histories of specimens. The collections themselves can also contribute to greater understanding of evolution and biomechanical behaviour, informing future research.

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### **11.40 'Bones of Contention: common problems encountered when remounting museum skeletons and how to resolve them.'**

*Nigel Larkin, freelance conservator and curator at Natural History Conservation*

A museum skeleton may require remounting because the original metal mount has been lost, is incomplete, is damaged or simply looks hideous, or because the current pose is considered to be anatomically incorrect or simply because the mountwork has to be dismantled as the specimen is to be moved - or any combination of these reasons. However, the process of remounting is rarely straightforward: conservation ethics preclude using some techniques on historical specimens that may have been employed widely in the past; bones may have been glued to the mount with irreversible resins so the metalwork cannot be removed and re-shaped; pieces of the skeleton may be missing; and there are never any instructions or diagrams showing how the specimen was put together in the first place. These and many other factors may limit what can be achieved during the remounting

process, in stark contrast to what can be achieved when mounting from scratch a 'fresh' skeleton with no historic or scientific value hindering the process. Problems encountered during projects will be discussed along with their solutions.

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### **12.30 'Re-displaying old articulated specimens at Ipswich Museum'**

*Bob Entwistle ACR, Conservation Officer, Colchester and Ipswich Museums*

*Emma Hogarth, Conservation Officer, Colchester and Ipswich Museums*

Recently I was asked by the museum's assistant curator of Natural History to help spruce up a gallery in Ipswich museum. We decided to place some old articulated skeletons back on display.

An ostrich, swan, greyhound, lion and walrus skull were chosen. By far the most problematic was the lion. All the specimens were dusty and dirty with little information. Most had lost their accession numbers and one had lost its head.

A small group of volunteers jumped at the chance to clean the skeletons and help get them back on display. Some bones were loose and had slumped and become unattached.

Different cleaning methods were tried, and the lion had to be re-articulated.

This was an opportunity to experiment with different bone cleaning and mounting techniques. This project resulted in the specimens being in a better condition and on display, enabling our visitors to see these treasures from the stores.

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### **2.00 'Skeletal reference collections for archaeologists: where zoology and humanities meet'**

*Umberto Albarella, Reader in Zooarchaeology, University of Sheffield*

In this talk, mainly aimed at biologists and natural historians, I will discuss the importance of animal skeletal reference collections for archaeologists and will highlight issues that can be of common interest for archaeologists, palaeontologists, comparative anatomists, zoologists and other researchers. I will emphasise issues concerning techniques of skeletal preparation as well as curation, layout and display of reference material. A question of common interest may concern the access to such collections and the share of resources, particularly in connection to make a public good available to the community.

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### **2.50 'Bone Idols: Conservation in the public eye.'**

*Jack Ashby, Manager, Grant Museum of Zoology, University College London*

This year the Grant Museum of Zoology, UCL has been running a major conservation project, *Bone Idols: Protecting our iconic skeletons*, which was the basis for the museum's first public fundraising campaign.

The museum's quagga (arguably the rarest skeleton in the world) would be the focus and most involved element of the project which involved conserving 39 large and significant specimens on display. Interventions will range from deep cleaning bones, repairing damaged elements and re-casing specimens through to completely remounting huge skeletons.

As much of the work as possible would be done in the public eye in the gallery, and we worked hard to communicate as much of the work as possible through social media, live conservation and a traditional media campaign. The project sought to bring conservation into the public eye, to shed light on work that typically takes place behind the scenes. *Bone Idols* was not only a project to secure the long-term future of the specimens, but to engage the public in the museum and to raise significant funds.

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### **3.15 'Conserving a rare Ganges River Dolphin Skeleton: Adhesive removal, consolidation and problem solving a challenging re-mounting dilemma'**

*Emilia Kingham, Conservator, Grant Museum of Zoology, University College London*

The conservation of a rare Ganges River Dolphin skeleton was undertaken as part of the Grant Museum of Zoology's Bone Idols project. The bones in the specimen's flippers had been covered with an adhesive, in addition to being partially wired together. FTIR analysis was used to identify the adhesive prior to deciding on a treatment. Challenges to the conservation treatment included the removal of the shrinking adhesive, extremely friable bone, corroding wire, and re-mounting the bones after treatment. A variety of techniques were tested to safely remove the adhesive without damaging the deteriorated bone. These techniques will be discussed along with how the fragile bones were re-mounted after treatment.

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### **4.00 'A Game of Bones'**

*Jan Freedman, Curator of Natural History, Plymouth City Museum and Art Gallery*

Every year fresh carcasses are brought into museums as donations. Roadkill, window strikes, or cat kills are the way to acquire fresh new specimens, with information. Often the carcasses can remain in the museums freezer for years, sometimes decades. Carcasses can be sent to be mounted, or prepared for study skins, or defleshed for the skeletons. Preparing the carcasses for disarticulated skeletons is a good way to add to collections, and is relatively straightforward with minimal cost. This talk will go through the simple methods of easily defleshing carcasses for their skeletons. Other methods are also discussed. The talk will discuss how to store and what further work can be done.