The Biology Curator

Title: 2001: A Pest Odyssey

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Source: Campbell, A. (2001). 2001: A Pest Odyssey. *The Biology Curator*, *Issue 21*, 14 - 15.

URL: http://www.natsca.org/article/606

2001 : A Pest Odyssey

Amelia Campbell

The beginning of October saw the long awaited pest control conference held at the British Museum. It was a joint conference, organised by the Science Museum, English Heritage and the National Preservation Office. There was a huge interest in the conference with representatives from all over the globe, from Australia to Peru to Japan to list a few, with the delegates being from a number of different fields including conservators and curators from museums and galleries to chemical engineers.

The aim of the conference was to bring people together to discuss the problem of pest infestation in vulnerable collections, methods of dealing with it and the importance of an integrated pest management (IPM) policy for collections.

Everybody knows the impact of a pest attack on a collection, from the relatively small damage caused by the chewing of glue on labels to the damage they can do in devastating dry mounted botanical or entomological specimens. There were interesting talks on this subject by David Pinniger, a consultant used by many museums and institutions, including the Natural History Museum, who listed all the usual suspects that we see in temperate climates for example the Guernsey Carpet Beetle Anthrenus sarnicus and the Brown Carpet Beetle (nicknamed the vodka beetle) Anthrenus smirnovi. He also talked about a few new pests that might start cropping up, for example termites, which can be very destructive and have recently been found in Devon. A talk by Lydia Egunnike, Senior conservator from the State Library of Queensland in Brisbane gave us a taste of the types of pests they have to deal with in the tropics including possums, which have a tendancy to create havoc if they get into the library and "marauding" geckos, both of which almost made the pests which we have in UK museums seem gentle by comparison.

There were a number of presentations on the methods of dealing with pest attacks which started with a very interesting talk by Bob Child, the Head of Conservation at the National Museums and Galleries of Wales; he outlined the history of dealing with pest outbreaks, which mainly seemed to consist of spraying the infected area and objects with substances now known to be highly toxic and dangerous. Yvette Harvey of Kew Gardens told how in the past fumigation of infected materials was carried out by junior botanists using cyanide! Fortunately nowadays the treatments for pest infestation are far safer mainly due to the Control of Pesticides Regulation Act 1986. The methods employed for the treatment of infested specimens now seems to fall into three main categories.

* The treatment of pest infested material in an anoxic environment was discussed by a number of the speakers. This consists of placing the infected material in an airtight chamber with either a very low concentration of oxygen (<0.2%), high carbon dioxide concentration (>60%) or nitrogen treatment with the addition of oxygen scavengers to decrease the concentration of oxygen and kill the pests.

* The use of temperature to kill insect pests was also discussed in detail and seems to be the most economical and time saving method of dealing with a pest outbreak. Tom Strang of the Canadian Conservation Institute of Canadian Heritage gave an interesting talk on the methods of heating infested material to kill pests. He bought up many important points about the potentially damaging effects that heating may have on the materials and discussed different methods for heating of different materials. The easiest method of treating an infestation seems to be the freezing of material for a period of 72 hours in a -30(C freezer although of course this is only possible if you have a freezer large enough to house the specimens you want to freeze.

* The third method of dealing with an infestation and one that seems to be the last resort is the use of a pesticide which is highly effective but which may involve as yet unknown potential effects on health and possible damage to specimens. Dr Sagit Singh from Environmental Building Solutions Ltd

told how he sees the treatment of infestation using a pesticide as useless unless the source of the infestation is also located and eradicated.

The strong message throughout the conference was that the best method of controlling pests is to take steps to deny them access to the area in the first place. Lydia Egunnike told how in the State Library of Queensland there are designated eating areas and employees are not allowed to eat in the areas near the books so that the pests are not attracted to these sensitive areas. Another way of reducing the presence of pests is to try and remove the areas that harbour them. Val Blythe of the V&A told how the likely areas known to be attractive to pests are dead spaces, for example under cabinets and under false ceilings, and areas with links to the outside like heating vents; she suggested that if possible there should be a physical barrier so the pests cannot blunder their way in. Quarantine of incoming material is also important as it can stop any infected material getting into an otherwise pest free environment. The best procedure is to isolate and freeze the material before allowing it into the collection area. Janet Berry from the Department of Museum Studies at Leicester University explained the plan of action they took for the treatment of a pest infestation in the mounted mammal collection at Liverpool Museum from the initial examination of specimens for pest activity to the wrapping of the specimens and transportation to the Conservation Cold Room for programmed freezing.

The need for monitoring pest activity was strongly emphasised, otherwise by the time you notice that you have a pest problem there may have already been significant damage to vulnerable material. The pest monitoring of historic houses was presented by Amber Xavier-Rowe, the Head of Collections Conservation for English Heritage. Training courses are set up for the staff at these houses where they are instructed in the importance of pest monitoring and are trained to identify pests that they might encounter; this makes the task of monitoring pests in different locations much more efficient.

The final message at the conference was to reiterate the importance of pest control and pest management strategies as these pests can literally destroy the invaluable collections of a library or museum if left to happily chomp their way through unchecked.

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The Reconstitution of Dehydrated Museum Specimens III

Kenneth D Vogt

The evaporation of preservatives and subsequent dehydration of specimens is an on going problem in many zoological collections. Vogt (1991) reviewed existing methods and proposed a method of reconstituting specimens based on an acidic solution. Vogt (1998) provided a method based on a less acidic pH (6.5) for small specimens (larval and juvenile fish). This paper describes a method based on high pH (pH 10) for large specimens.

Methods

A wet weight of fifteen specimens of fish, amphibians, and squid was taken to the nearest hundredth of a gram on a Metler balance. Specimens were air-dried in a fume hood for four days. An additional nine fish specimens that were found dehydrated were also used in this experiment. Specimens were placed in individual containers with a solution containing one pH 10 buffer tablet per 100mls of water. The buffer tablets were produced by Micro Essential Laboratory, Brooklyn New York. Specimens were kept in the buffer solution for three weeks then transferred to a water bath for three weeks. A Kruskal-Wallis test (Conover, 1980) was used to compare the weight gains of large specimens in the Vogt (1991,1998) techniques and the technique reported here.

Results

The wet weight of specimens ranged from 191.06 to 387.75 grams. The dried weight of