Collection Forum
Spring 2005, Volume 19, Numbers 1 & 2

Papers

SPNHC: THE SECOND TEN YEARS (1995-2005)

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In 1985, the Society for the Preservation of Natural History Collections (SPNHC) was created to meet the concerns of a growing number of individuals involved with the development, management, and care of natural history collections. After 20 years of existence, the Society continues to be unique among natural history professional organizations, because of its international scope and multidisciplinary approach to collections management and care. The second ten years of the organization is featured with national recognition for outstanding commitment to the preservation of collections, as well as a strong record of conducting annual meetings, providing continuing education opportunities, producing literature that adds to the knowledge base of the museum community, and a variety of successful projects. In celebration of the Society's twentieth anniversary, the history and accomplishments of SPNHC during the last decade are documented.

HEAT TREATMENT OF ENTOMOLOGICAL DRAWERS USING THE THERMO LIGNUM® HEAT PROCESS

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The Natural History Museum’s entomological collections are likely to undergo relocation, raising the need for a practical and effective regime for pest eradication within any moving strategy. The Thermo Lignum® heat process, incorporating controls on relative humidity variation, was evaluated as a possible practical option. Our results show that entomological drawers and their contents can be treated safely through this method, even with drawer lids in place; however, sufficient free space must be maintained around each individual drawer to allow for unhindered air circulation during the treatment process. When stacked closely, humidity within the drawers rose to unacceptable levels.

MULTIPLE INTERACTING FACTORS AFFECT pH IN MUSEUM STORAGE SOLUTIONS

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Maintaining a stable storage solution environment within desirable limits is an important goal for long-term specimen conservation in archival collections. In a 70-day study, we tested the effects of label type, presence of formalin-fixed fish specimens, and source of water (tap water vs. distilled water) used to mix alcohol solutions on the pH of 50% isopropanol and 70% ethanol solutions in standard museum jars. In treatments without formalin-fixed specimens, Resistall label paper reduced storage solution pH more than non-Resistall cotton label paper, thermal printed labels, and no label controls, but, unexpectedly, the differences among label types were absent when formalin-fixed fish specimens were included in the jar. The initial pH of the storage solution (determined largely by water source and alcohol type) was an important factor that strongly influenced the final pH of the solution. We suggest that interactions among factors can influence solution pH and should be considered when designing storage protocols for fluid collections. Although our results are likely unique to our tap water source, the results strongly suggest that collections that use tap water to make up solutions for archival storage should evaluate the chemical conditions of their tap water source and, if necessary, use an appropriate water purification system to alleviate unfavorable storage fluid conditions.

POLICY THEORY AND APPLICATION FOR MUSEUMS

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The museum community is inundated with literature about organizational policies, yet there are few examples of policies being successfully implemented within a given organization. Recognized reasons for this include inappropriate concern, inappropriate process, inappropriate product, or any combination of these reasons. To address the issue, basic concepts of policy theory are applied to policy development and implementation. Policy development involves a foundation stage, a strategic planning stage, and a conceptualization stage for individual policies. The conceptualization stage can be the most challenging part of policy development because it requires careful consideration of policy purpose and policy objectives. Policy implementation requires that the policy document be holistically administered by the organizational leadership, and be understood, familiar, and supported by the organizational membership.

DECONTAMINATION OF ETHNOLOGICAL COLLECTIONS USING SUPERCRITICAL CARBON DIOXIDE

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Examinations of objects in the Ethnological Museum in Berlin showed that materials such as leather, fur, hair, hide, skins and feathers contained highly toxic arsenic and mercury compounds as well as chlorine-containing pesticides such as DDT (dichlorodiphenyltrichloroethane), lindane (γ-hexachlorocyclohexane) and PCP (pentachlorophenol). Normal cleaning techniques cannot remove the embedded residues from the heavy metals and pesticides that still remain in layers near the surface.

A series of tests was carried out using high-pressure extraction with carbon dioxide. This method utilizes the good solvent properties of CO_2 in its supercritical state (above 31°C and 73.8 bar). The survey was conducted in a laboratory plant for screening experiments of the Fraunhofer-Institute for Environmental, Safety and Energy Technology UMSICHT in Oberhausen, Nordrhein-Westfalen, Germany.

The experiments have shown that ethnological objects, with the exception of fur, can be decontaminated without substantial damage to the materials through the use of supercritical carbon dioxide (SC-CO_2) at 40°C and 350 bar.

LASER-PRINTED LABELS IN WET COLLECTIONS: WILL THEY HOLD UP?

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Biological specimens are identified by a printed label detailing their collection and curation information. Deterioration of specimen labels can render specimens scientifically valueless. Given that this problem is a threat to wet-preserved collections, it is critically important to know which label preparation techniques will withstand decades of immersion in common preservatives. Traditional print methods that have lasted for centuries, such as writing in pencil or India ink on cotton rag paper, are time-consuming and not amenable to producing multiple copies of labels. Laser-printing technology greatly increases label production rates, but its durability on assorted label papers or stored in common preservatives has not been quantitatively tested

COLLECTION IDEAS: EARTHQUAKE STRAPPING

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Staff members from the Natural History Museum have started an earthquake strapping project to mitigate potential earthquake damage to collections, addressing the most vulnerable collections first. Our method of earthquake strapping is low cost, easy to

install and use, and adaptable to many different types of collection storage units. This article describes the steps in making the earthquake straps and provides examples of their use in museum collection storage areas.

Reviews

A Legal Primer on Managing Museum Collections, 2nd Edition, by Marie C. Malaro.

The Use of Oxygen-Free Environments in the Control of Museum Insect Pests, by Shin Maekawa and Kerstin Elert

Stuffed Animals and Pickled Heads: The Culture and Evolution of Natural History Museums, by Stephen T. Asma