

Collection Forum

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Papers

AN INVESTIGATION OF PH CHANGES IN A SELECTION OF
FORMALDEHYDE BUFFERING AGENTS USED ON A FISH,
PARASITOLOGY RESEARCH COLLECTION
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Problems with acidity were being encountered in a research fish parasitology collection preserved in various concentrations of formaldehyde solutions. Initial conservation work failed to correct this problem despite using some form of buffering control for the acidity in the replacement formaldehyde solutions. As a result work was carried out to look into more effective means of buffering acidity in this material by choosing a range of suitable buffering agents, monitoring the pH levels over a period of time and comparing their ability to control acidity through a series of acid titrations. The buffers chosen were all sodium based and their action was compared when used with 4% formaldehyde solutions, made up in both saline and deionised water. The final results suggested that using 0.05M sodium-p-glycerophosphate in solutions made up in deionised water was the most effective means of buffering the fish parasitology material.

AN INVESTIGATION INTO THE COMPOSITION OF BOTANICAL
WAX MODELS WITH A VIEW TO THEIR CONSERVATION
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Abstract.– The Department of Biodiversity and Systematic Biology, within the National Museum and Galleries of Wales has a valuable collection of wax plant models which have been modelled for the collection since 1908. Wax conservation data is quite limited but certain recommendations have been made concerning environmental conditions for storage. The temperature should be 13 – 20°C and never exceed 25°C with a RH of 50 – 60%. However, as the properties of waxes vary, effective research into the composition of each model was necessary to develop guidelines to aid the conservation of the models. A condition survey, carried out in 1993 on the collection of models, disclosed that the recommended conditions were not necessarily ideal. Part of the collection was housed within a cool, dry environment and the other in a room with a constant temperature of 25°C with a RH 20% lower than recommended. The results were confusing as the collection in the warmer environment was of a more stable condition. This, therefore, raises the problem that wax requirements may be specific depending on age and composition. Samples of the wax models were analysed successfully using Gas Chromatography Mass Spectrometry. By comparing the spectra with wax standards their content and composition

could be established. It is hoped that this research will lead to a greater understanding of the typical compositions used by wax modellers and how these mixtures degrade over time.

PROBLEMS FACING SMALLER HERBARIA

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Traditionally, herbaria have been viewed as playing a role in research and teaching as well as being a storehouse of botanical diversity. Recently there has been a growing concern regarding the lack of funding and appreciation for these invaluable resources especially at the less well-known institutions. Perceptions of the herbarium's role have changed somewhat, partly because of a greater emphasis placed on the sub-organismal aspects of plants but also because systematics, in general, is considered by some as being of much less importance than an understanding of plant genetics (due to a lack of understanding of what constitutes systematics). The problems facing herbaria today may also be a result of taxonomists' own inability or unwillingness to recognize and act on the herbarium's role as a museum and to instill respect for the herbarium-as-museum among our students.

PRELIMINARY ANALYSIS OF THE EFFECTS OF COLD STORAGE ON FUR GARMENTS AND MAMMAL SKINS

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Cold storage has been adopted from the commercial fur storage industry by museums to control insects and microbial pests in fur garment and mammal skin collections. A pilot experiment was conducted to determine the effects of cold storage and chill-thaw cycles on these collections. The results showed that as the skin samples were cycled in and out of refrigerated conditions, they exhibited a loss of moisture regain and possibly a loss of hysteresis over time. The apparent loss of hysteresis may have been caused by the migration of salts out of the interfibrillar areas of the skins. It is recommended that cold storage temperatures be raised to within 10°C of room temperature, and that fur garments and skins be bagged and acclimated to room temperature when taken in and out of cold storage.

Notes

- The contribution of in-state depositories to the natural history of their states, by Arnold Grobman

Reviews

- Learning from Things: Method and Theory of Material Culture Studies, by W. David Kingery, ed.
- Developing Staff Resources for Managing Collections, by P. S.

Cato, R. Waller, L. Sharp, J. Simmons, and S. L. Williams, eds.

- Guidelines for Institutional Policies and Planning in Natural History Collections, by K. E. Hoagland, ed.
- Manual Of Natural History Curatorship, by G. Stanfield, J. Mathias, and G. Reid, eds.