

### Collection Forum

Spring 1990, Volume 6, Number 1

#### PAPERS

##### FREEZING FOR MUSEUM INSECT PEST ERADICATION

MARY-LOU FLORIAN

Conservation Services Section, Royal British Columbia Museum, 675  
Belleville Street, Victoria, British Columbia V8 V IX4, Canada

Abstract - Insect pests may be eradicated by freezing as an alternative to the use of fumigants and pesticides. To avoid damage from the freezing process, specimens must be sealed in polyethylene bags at room temperature, cooled steadily to - 20°C, and held at this temperature for at least 48 hr. The bag must not be opened until the contents have thawed to room temperature (at least 24 hr). Repeated freeze-thaw cycles are recommended to assure insect eradication. Freezing to control insect pests in museum specimens will be most effective when it is used as a component of an integrated pest management program.

##### A LOW-COST RADIOACTIVITY TEST FOR GEOLOGIC SPECIMENS

ALICE M. BLOUNT

The Newark Museum, P.O. Box 540, Newark, New Jersey 07101

Abstract - Fogging of black-and-white photographic film exposed in light-tight packets to geological samples containing unknown quantities of natural radioactivity is an inexpensive guide to screen collections for radioactive samples.

##### A NEW MEANS OF CONTROLLING RELATIVE HUMIDITY IN EXHIBIT CASES

CATHERINE SEASE

Division of Conservation, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, Illinois 60605

Abstract - Instead of attempting to control the relative humidity in exhibit halls to the levels necessary for the preservation of moisture-sensitive materials, the Field Museum now using modules to control the humidity within exhibit cases. These modules provide flexible, relatively simple, and cost-effective means of humidity control. Although have only been used for cases containing anthropological artifacts, they have potential for use with natural history specimens as well.

##### PH CHANGE IN A FORMALIN BORAX SOLUTION WITH INFERENCES ABOUT USES OF NEUTRALIZED FORMALIN IN VERTEBRATE COLLECTIONS

GRANT W. HUGHES AND JAMES A. COSGROVE

Royal British Columbia Museum, 675 Belleville Street, Victoria, British Columbia V8 V I X4, Canada

Abstract - Experimental evidence showed that the pH of a formalin solution stabilized with borax decreased during the fixation of fishes. An acidic

condition which could the calcium content of specimens was reached in some cases. Respondents to a survey on preservation practices indicated that most institutions attempted to neutralize the acidic nature of formalin and that borax was the most commonly used neutralizer. Test results indicate that the pH instability of these solutions necessitates a re-evaluation of the use of borax in attempting to maintain a stable pH through the fixation process.

#### MODIFICATION OF STORAGE DESIGN TO MITIGATE INSECT PROBLEMS

STEPHEN L. WILLIAMS AND SUZANNE B. McLAREN

The Carnegie Museum of Natural History, 4400 Forbes Avenue, Pittsburgh, Pennsylvania 15213

Present address for SLW: Natural Science Research Laboratory, The Museum -Texas Tech University, P.O. Box 4499, Lubbock, Texas 79409-3191

Abstract. -A case study involving a pest infestation is described. Analysis of the problem made it obvious that the use of toxic chemicals in the cases would provide only short-term relief. The source of the infestation was the organic material that accumulated underneath storage cases. The existing storage design actually provided a protected area in which insect pests flourished. To correct the situation, special metal frames with adjustable legs were designed, assembled, and incorporated in the storage design. This modification provided better support for positioning storage units, easy access to areas below cases for cleaning purposes, and better protection against insects. Furthermore, the frames are easily installed, modified, dismantled, and reused.

#### COLORING LABELS FOR TYPE SPECIMENS

J. GISBERT AND R. GARCIA-PEREA

Museo Nacional de Ciencias Naturales, C/ J. Gutierrez Abascal, 2, 28006 Madrid, Spain

Abstract. -As an extension of research on labeling papers and inks (Williams and Hawks, 1986; Walker, 1986; Gisbert et al, 1987), we have tested labels made with Tyvek and cotton rag papers impregnated with red and blue Rotring a permanent ink. The ink remained stable on the paper after a 15-month-long test period, and appeared to be unaffected by natural or artificial light, whether the labels were dry or in a 70% ethanol solution.

#### LABELING VERTEBRATE COLLECTIONS WITH TYVEK SYNTHETIC PAPER

J. GISBERT, F. PALACIOS, AND R. GARCIA-PEREA

Museo Nacional de Ciencias Naturales, C/ J. Gutierrez Abascal, 2, 28006 Madrid, Spain

Abstract. -The special properties of Tyvek synthetic paper make it very suitable for labeling vertebrates in many circumstances-collecting, processing, storage of dry skins and skeletons, and fluid-preserved specimens. Tyvek paper will withstand most of the mechanical and chemical processes used on vertebrate specimens (fixation, boiling, maceration, staining, degreasing). It is also resistant to the most commonly used fumigant substances. This paper may be written on by hand, typewriter, or dot-matrix printer, with the advantage that the imprint remains embossed permanently.

#### AN INDELIBLE PRINTING SYSTEM FOR PERMANENT RECORDS IN NATURAL HISTORY COLLECTIONS

F. PALACIOS AND J. GISBERT

Museo Nacional de Ciencias Naturales, C/ J. Gutierrez Abascal, 2, 28006  
Madrid, Spain

Abstract. -In an attempt to solve some of the problems of data recording systems (file cards, labels and catalogs) in natural history collections, such as the short life of standard typewriter or printer ribbon inks, the slowness of hand entries using indelible inks, the potential difficulty in interpreting handwritten data, and the poor legibility in fluids of labels embossed on synthetic paper without ink, we have successfully experimented with an indelible printing system. We impregnated standard nylon ribbons with Rotring ink after eliminating the original ink with ethyl alcohol and hand soap. These ribbons can then be used in typewriters or dot-matrix printers with natural or synthetic paper. Ribbons can be conserved by wrapping them in plastic film and storing them at 4°C. This system is inexpensive and produces high quality, rapid printing, which makes it very practical for use in museum collections.

#### Reviews

- An annotated bibliography on preparation, taxidermy, and collection management of vertebrates with emphasis on birds, by S. P. Rogers, M. A. Schmidt, and T. Gutebier
- Conservation of natural history specimens-vertebrates, by C. F. Horie and R. G. Murphy, eds.