

COMMENT: This electronic version of the newsletter was created by scanning the original copy and then editing as needed. Apologies for any scanning errors that have not been corrected. Karsten E. Hartel, MCZ January 1994. hartel@mcz.harvard.edu

CURATION NEWSLETTER No. 8 June 1986  
American Society of Ichthyologists and Herpetologists

UPDATE ON MOVE OF SMITHSONIAN COLLECTIONS TO THE MUSEUM SUPPORT CENTER - - During the past year portions of the USNM nontype fish and herp collections were moved to the Smithsonian's new Museum Support Center (MSC) in Suitland, MD, nine miles from the Natural History Building (NHB) on the Mall. The MSC consists of four specimen storage "pods" (large temperature and humidity controlled rooms, each 150 x 240 ft., 25.5 ft high), one wet-specimen and three dry-specimen pods, in addition to laboratories, a small library, shipping office and numerous other facilities. The specimens moved from the NHB to the MSC this year are all stored in alcohol. A move of dry herpetological specimens is scheduled to occur during the next 2-3 years, after the dry pod has been equipped with storage cases.

Herpetological collections now housed at the MSC include all bottled and tank specimens of turtles and crocodylians, and all other herpetological specimens that are stored in tanks. The move of the salamander collection is scheduled for the latter part of this year.

Among the ichthyological nontype collections moved to the MSC are family groups (i.e. families that are grouped under one number in our collection arrangement) that consist exclusively of North American freshwater fishes. Family groups that include a mixture of freshwater and marine fishes are being retained at the NHB with the exception of the Poeciliidae/Cyprinodontidae family group. Other portions of the collection that were moved include the cephalochordates, agnathans, elasmobranchs and a large portion of the "OCEAN ACRE" collection of Atlantic midwater fishes. The entire "tank collection" of nontype specimens including all fishes that are too large to fit in jars, regardless of family, has also been moved to the MSC.

Our next big project involves the "shift" of the remaining portion of the NHB fish collection, to fill in the space created by the move. This will occur during the next year or so, as time and staffing permit.

Splitting our collection of fishes between two different sites has created certain problems that affect not only us, but also individuals visiting our collection or wanting to borrow material from us. Loans of specimens housed at the MSC will take a little longer to process than those originating at the NHB. Visitors may have to work at both sites and should therefore allow more time for their visit. In the latter situation, I encourage all visitors who plan to come to the USNM to give us plenty of advance notice and provide us with details about which groups they intend to examine. We can provide listings of material housed at the MSC, thus a visitor can preview those holdings and determine in advance if a trip out there will be necessary. Security at the MSC is more rigid than in the NHB and advance planning is critical. It is not necessary to provide your own transportation to the MSC; a shuttle bus makes several trips a day between the NHB and the MSC. Working at the MSC in the evening and on the weekend is possible but more difficult than at the NHB.

Overcrowding of collections in the NHB was the reason for the partial move of our holdings to the MSC. We don't expect to regain the ease and

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convenience of having all of our material in one place, but we hope to make the existing situation easy to deal with and convenient for all. In the long run, this arrangement will allow for better care of existing collections and future expansion of our holdings. S. L. Jewett, USNM

**MOVE OF THE SMITHSONIAN OCEANOGRAPHIC SORTING CENTER** - The SOSOC has also moved to the new Museum Support Center and its collections are now in the same storage pod as the Fish Division collections. The mailing address for Dr. Leslie Knapp and his staff has not changed.

**AVAILABILITY (OR LACK THEREOF) OF GOOD QUALITY LABEL PAPER** - A number of inquiries have come to the attention of this committee regarding the availability of label paper, in particular, Byron Weston Resistal. A representative of Byron Weston has indicated that this paper has been discontinued due to lack of sales. Apparently, the manufacturing process is an expensive one and not worth the company's time to process.

Since a number of institutions are dangerously low on good label paper, we would appreciate some input from you. If you currently use an acceptable paper, please send the name and address (if possible) of the manufacturer to Bill Saul, Academy of Natural Sciences, 19th & the Parkway, Philadelphia, PA 19103.

**STAINLESS STEEL SPECIMEN TANKS** - The Division of Fishes, Museum of Zoology, University of Michigan (UMMZ), contracted for and recently received 154 stainless steel specimen tanks. These tanks were custom built by Unifab Corporation, 5260 Lovers Lane, Kalamazoo, Michigan 49002.

**Specifications-** T316L extra low carbon stainless steel with 2-B finish. Tank sides and bottom 18 gauge; top 16 gauge. Two - shaped (in cross section) angle stiffeners run the length of the lid. All seams heli-arc welded using T316L rod. Gasket 25 durometer Buna-N synthetic rubber, made in four pieces and glued into a 0.5" wide X 0.25" deep channel using a silicone cement. Lid is clamped in place using twist-type, quick release latches, (Nielsen-Howe, Hartford, Connecticut). Two sizes of tanks were manufactured: 18" (length) X 15" (height) X 15" (depth) and 32" X 15" X 15" (external dimensions). Price of the small tank was \$207 and that of the large tank was \$321.

**Tests-** The tanks were tested in two ways. They were first filled (to a depth of 100 mm) with water, the lids were clamped in place, and, after 15 minutes, the tanks were turned upside-down. In the second test, the tanks were filled to within 20 mm of the bottom of the gasket channel and, after one day, were vigorously shaken. Leaks and other comments were noted on the tanks. All tanks were tested.

**Results-** The final design (described above) yielded a failure (any detectable leakage in either test) rate of 20% for the small tanks and less than 4% (2 tanks) for the large tanks. The problem causing the leaks in the small tanks was improper (too great a tolerance) vertical placement of the latch on one (long) side (very rarely both sides), causing the lid to be clamped down in an uneven fashion. All leaks in the small tanks were corrected by inserting a thin, soft metal shim between the receiving lip of the lid and the engaging clamp of the latch. The leaks in the two large tanks were caused by a variety of factors and were not completely correctable. A single small tank, filled with ethanol on 12 April 1985 (77% by hydrometer reading; 81°F), showed no significant loss of fluid or alcohol strength after 7 months: reading on 23 April 1986 was 76% at 77 F. This, admittedly, is not an adequate archival test; however, most potential vendors cannot await archival storage tests prior to payment for the product.

Discussion- Based on our experience with design and testing of these tanks, we make the following recommendations.

1. Follow basic materials and manufacturing guidelines suggested in ASIH Report on Current Supplies and Practices Used in Curation of Ichthyological Collections (1978).
2. Plan ahead and budget for a large number of tanks.
3. We have found that the large tanks (32" long) had fewer leakage problems than did the small tanks. The large tanks are also more cost effective in terms of storage volume, but are not as convenient in terms of collection subdivision and organization.
4. Single-piece, Buna-N gaskets can be molded by most gasket manufacturers. Initial costs for building the molds run \$800-1200 per mold; piece prices run \$6-10 in lots of 100 or more. The obvious advantage of a single-piece gasket, custom fit to the tank, is that the gasket can be easily replaced when a permanent "set" develops in the old gasket (as happens in jar gaskets).
5. We have discovered that multi-piece gaskets must be cemented into the gasket channel.
6. The twist-type latches are adequate, but a lever-action, spring-loaded latch would probably be easier to operate and could be affixed in such a way to clamp the lid more tightly.

A final comment (and one which pertains to many items used in museums) is worthwhile. Large orders of relatively few types (i.e., styles, sizes, etc.) of tanks and corresponding gaskets provide a much more advantageous bargaining position from which to approach a potential vendor and, in the long run, provide many more tanks for the same expenditure. This could most profitably be achieved by pooling orders among institutions, but would involve compromises on sizes and tank designs, long-range administrative planning, etc. The benefit (many more tanks, gaskets, etc./money spent) makes such planning a worthwhile consideration among museums and may be a suitable topic for discussion at future meetings of the Curatorial Committee. Douglas W. Nelson, UMMZ

ADDITIONAL NOTE ON STAINLESS STEEL SPECIMEN TANKS - The Division of Fishes, USNM, has been purchasing stainless steel specimen tanks from the Steel Fixture Manufacturing Co., PO Box 917, Topeka, KS 66601, for a number of years. Although costly, the specimen tanks are of excellent quality and the management of this company has been very cooperative about resolving problems when they are encountered. We have never subjected these tanks to testing as described by Doug Nelson of the UMMZ (see article this issue), so direct comparison with the ones he purchased is not possible. Over time, some evaporation from our tanks does occur. Steel Fixture tanks are constructed of chemical resistant stainless steel (20 gauge 18-20 MO-ELC). The low carbon-high nickel material is heli-arc fused, using no welding or brazing rod. Lids are fastened with multiple Simmons link-lok fasteners, and seal is chemical resistant Buna-N closed cell rubber. Supporting dollies and full suspension extension shelving are available for purchase at extra cost. Two of the tank models, the FST and SST, are similar in size to the UMMZ tanks. For comparative purposes, the following are the prices we paid for a relatively small order placed last fall: FST (18" wide, 15" deep, 15" high) - \$246.00; SST (36" x 15" x 15") - \$376.00; CST (29" x 24" x 23") \$595.00. For a more complete discussion of tanks, refer to the ASIH Report on Current Supplies and Practices Used in Curation of Ichthyological Collections, copies of which can be obtained from me. S. L. Jewett, USNM

**WARNING: GLOVES DON'T OFFER FULL PROTECTION AGAINST FORMALDEHYDE!** - A study on the degree of protection against formaldehyde penetration offered by protective gloves was reported on in *SCIENCE NEWS* v. 127, p. 297, May 11, 1985. A team of researchers from three institutions studied five popular brands of commercial protective gloves for penetrability by formaldehyde. The gloves tested included three varieties of "surgeon's gloves" made of natural rubber, one type of glove made of polyethylene and one made of polyvinyl chloride. Thicknesses ranged from 0.05-0.2 mm. All gloves tested allowed formaldehyde concentrations as low as 8.5% in water to penetrate within 1-10 minutes. Concentrations of 33% formaldehyde took a few minutes longer. Once breakthrough occurred, seepage continued at rates of 0.1-0.3 microgram per square centimeter per minute.

Another type of glove made of 0.25 mm thick neoprene latex, experimentally developed for this study but unfortunately not commercially available, was found to provide greater protection. Formaldehyde breakthrough took 50-150 minutes to occur for the same concentrations tested. However, once penetration did occur, seepage rate was equivalent to that of the other gloves.

#### ADDITIONAL CLEARING AND STAINING INFORMATION -

Carlson, Bruce M., B. Kay Simandl, Kate M. Stocker, Thomas G. Connelly and John F. Fallon. 1986. A method for combined gross skeletal staining and Feulgen staining of embryonic chick tissue. *Stain Technology* 61(1):27-31. (This article is of special interest in that it uses Victoria Blue B as the cartilage stain.)

Francillon, H. and F. J. Meunier. 1986. Conservation et presentation des preparations colorees au bleu alcian et a l'alizarine. *Cybiurn* 1985, 9(2): 121-126.

Taylor, W. R. and G. C. Van Dyke. 1986. Revised procedures for staining and clearing small fishes and other vertebrates for bone and cartilage. *Cybiurn* 1985, 9(2): 107-119.

#### SKELETAL PREPARATIONS

Maiorana, V. C. and L. M. Van Valen. 1985. Terrestrial isopods for preparing delicate vertebrate skeletons. *Syst. Zool.* 34(2): 242-245.

#### MUSEUM COLLECTIONS: THEIR ROLES AND FUTURE IN BIOLOGICAL RESEARCH -

Edited by E. H. Miller, 1985. Occasional Papers of the British Columbia Provincial Museum No. 25: x + 221 pp. The editor states that this volume brings together ideas, criticisms, and observations from an array of disciplines. The sixteen papers contain a wealth of ideas, some directly related to curation, some much less so.

**ACRONYM LIST** - Standards for "acronyms" used in reference to herpetological and ichthyological specimen collections were published in *Copeia*, 1985(3), pp. 802-832. We encourage everyone to use the standard codes or acronyms that were determined to be valid. Citing the *Copeia* paper instead of listing acronyms will save considerable space in future publications. Reprints of this paper be obtained from R. H. Gibbs, Jr., Division of Fishes, NMNH Rm. WG-12, Smithsonian Institution, Washington, D. C. 20560.

**NEW NATURAL HISTORY SOCIETY** - A new organization called the Society for the Preservation of Natural History Collections has been formed. It is multi-disciplinary, including anthropology, botany, geology, paleontology and zoology and is dedicated to the preservation of natural history collections which are defined as the specimens and their supporting materials. The society will encourage research, education and communication by holding meetings, producing publications (beginning with "Collection Forum" to be published biannually), and conducting other related activities. Although still in the developmental stage, dues are being collected and its first meeting is planned for June 9-10, 1986 in Washington, D.C. If you wish to join the society (\$12.00 U.S. or \$15.00 Canadian) or obtain more information write to Shirley Albright, New Jersey State Museum, 205 W. State St., CN-530, Trenton, NJ 08625 or Dr. Daniel J. Faber, National Museum of Natural Sciences, Ottawa, Canada K1A 0M8.

**COLLECTIONS MANAGEMENT CONFERENCE** - Preliminary plans for an International Conference on Collections Management in Natural History are being drawn up by a committee headed by Fred Collier, Collection Manager, Dept. of Paleobiology, NHB Rm. 206, Smithsonian Institution, Washington, D.C. 20560. The conference is tentative, pending funding, and has a target date of the summer of 1987. Proposed topics include: legal aspects and ethics of collecting; information management and technology; collection management as a profession; documentation of collections; preventative conservation; pest control; security and safety issues; specimen preparation techniques; and the moving of collections. If anyone has an interest in participating in the planning of such a conference, contact Fred at the above address, or communicate your ideas to Susan Jewett who is on the planning committee.

Except where noted, this newsletter is written and compiled by the ASIH Committee on Curatorial Supplies and Practices and is intended for use by our membership. Comments are not to be construed as an endorsement of practices or products by ASIH. Correspondence should be addressed to: George Burgess, Div. Fishes, Florida State Mus., Univ. of Florida, Gainesville, FL 32611; (904) 392-1721. Terry Grande, Div. Fishes, Field Mus. Nat. Hist., Roosevelt Rd. at Lake Shore Dr., Chicago, IL 60605; (312) 922-9410 x428. Karsten E. Hartel (Committee Chairman), MCZ, Harvard Univ., Cambridge, MA 02138; (617) 495-2477. Susan L. Jewett, Div. Fishes, NHB WG-12, Smithsonian Inst., Washington, D.C. 20560; (202) 357-3300. Leslie W. Knapp, SOSC, Museum Support Center, Smithsonian Institution, Washington, DC 20560; (202) 287-3798. Douglas W. Nelson, Div. Fishes, Mus. Zoology, Univ. Michigan, Ann Arbor, MI 48109; (313) 764-0464. Stuart Poss, Gulf Coast Res. Lab. Mus., PO Drawer AG, Ocean Springs, MS 39564; (601) 872-4238. William G. Saul, Acad. Nat. Sci., 19th & the Parkway, Philadelphia, PA 19103; (215) 299-1026. Jeffrey A. Seigel, Sect. Fishes, LA Co. Nat. Hist. Mus., 900 Exposition Blvd., Los Angeles, CA 94118; (213) 744-3374. John E. Simmons, Dept. Herpetology, Univ. Kansas, Lawrence, KS 66045; (913) 864-3342. Jens Vindum, Dept. Herpetology, Calif. Acad. Sciences, Golden Gate Park, San Francisco, CA 94118; (415) 221-5100 x234