The Sam Mitchel Herbarium of Fungi: A case study in digitization

Meghann Toner

The Sam Mitchel Herbarium of Fungi, housed at the Denver Botanic Gardens, provides a case study for the imaging and dissemination of digital information housed within small regional herbaria. The main focus of this herbarium is to document species of fungi found in the Western United States, especially the species of Colorado. Dr. Sam Mitchel, the founder of this collection, was a citizen scientist with the forethought in preserving not only the specimens, but also auxiliary data for each specimen. Unfortunately, this data is inaccessible in its present physical form. To digitize this data requires resources beyond the ordinary budget of this collection. To do this the Sam Mitchel Herbarium of Fungi has partnered with the William and Lynda Steere Herbarium, located at the New York Botanical Garden, as well as other United States fungi herbaria to create a consortium that will work toward digitizing and releasing this information to the scientific and citizen scientist communities.

The core of the Sam Mitchel Herbarium collection is based around the specimens and its auxiliary data. The process to preserve a fungal specimen can lead to a loss of morphological features. Depending on the species there can be tremendous alteration to defining characteristics during the preservation process. One example of a drastic change in appearance is Hygrocybe conica, a delicate species, which loses its color, mass, and overall shape (see Figure 1 and 2). This loss of distinctive morphological features is the main reason for the active documentation of each specimen before it undergoes preparation.

Auxiliary data is saved in three distinct forms. The first is the specimen storage container, which includes the label and annotation notes. Each box label acts as a source of provenance for the specimen as is common across fungi herbaria. The second form of documentation is field notes. For the Sam Mitchel Herbarium of Fungi the field notes are meticulously maintained as data cards (see Figure 3). In additional to locality data on these cards, there is detailed morphological analysis and notes. The final documentation consists of images of the specimens either in their habitat or freshly collected. The images are digital files, prints, or slides depending on the age of the image. These data sources are dispersed throughout...
**Digitization Case Study**

Within the present economic climate facing small herbaria there is a lack of resources to further the process of digitization. The Sam Mitchell Herbarium of Fungi partnered with the William and Lynda Steere Herbarium and 33 other US fungal herbaria to form the Mycology Collections Consortium. This newly created consortium successfully submitted and won a three-year National Science Foundation (NSF) grant. The core of this grant will help in the development and dissemination of the various collections digital information in an online portal while building a community of support.

The first step of this process is to transcribe the different data sources into a digital form by imaging specimens, field notes, and data cards. Specimen photographs will be taken using a standardized setup based on the work of the William and Lynda Steere Herbarium. The photographs will be reproduced as digital files. All of this information will be uploaded to both the iDigBio website and the Mycology Collection portal. The goal is to create an accessible way for the digital data to be presented to a wide audience.

The public face of the consortium is the Mycology Collection online portal. The portal also provides a toolset for small herbaria in the form of database capacity, barcode printing, and label creation. The wider scientific community can utilize the portal’s search function to answer fundamental questions in life science and add mycological data to research in different disciplines. This portal is also open to the general public including citizen scientists. The citizen scientists can supplement the needs of small herbaria by contributing their time to volunteer in the collections. This portal will help to further inspire their commitment as well as proving a place to store their contribution in the form of observations and images.

Another feature is a section of the portal that has a public interface for fungi species where images can be uploaded and general information gathered. Over the course of the grant, this portal will continue to evolve as each herbarium contributes their information and through general feedback from users of the portal.

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**Figure 1:** Hygrocybe conica before collection. Photographs by Vera Evenson, used with permission from the Denver Botanic Gardens, Sam Mitchell Herbarium of Fungi.

**Figure 2:** The Hygrocybe conica after the collection process. Photographed by Meghann Toner. Used with permission from the Denver Botanic Gardens, Sam Mitchell Herbarium of Fungi.

**Museum labels for wet collections**

A material long used in the harsh world of chemical drum labeling has properties that are beneficial to the way collections are tagged and identified. Alpha Systems has brought this exciting material to the museum environment. Now collection tags can be printed on demand and submerged in ethanol, methanol, formaldehyde, and other chemicals for an indefinite period of time. The image is excellent quality plus the tag itself is extremely durable — temperature, chemical, tear, scratch and smear resistant. Alpha Systems provides the complete collection package of thermal transfer printer, preservation tag stock and ribbon.

Alpha Systems, 13509 East Boundary Road
Midlothian, Virginia 23112.
Tel: (804) 744-9870
Email: info@alphasystemsva.com
On the web at http://www.alphasystemsva.com

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**Continued from page 1:**

**...Digitization Case Study**

The physical collection space and not easily accessible.
Presidential Report

Chris Norris

Background

I’ve been visiting museums for most of my life and I did my PhD (in zoology) in a museum, but I didn’t start out working for one. In fact, I was an administrator; I began my career working for a UK government agency, followed by a number of years in university administration. I always maintained my links with the museum world and about 15 years ago I got the opportunity to go back as collections specialist, which is what I’ve been ever since. Nonetheless, those early years were valuable. Sometimes, life in a museum collection can get a little rarerified; it’s important to remember that there’s a bigger world out there.

Involvement with SPNHC

Since joining SPNHC back in 1998, I’ve been fortunate enough to work on a number of major initiatives, chairing committees on Long Range Planning, Conferences, Mentorship, Federal Collections, Publicity & Outreach, and the future of our journal, Collection Forum, and serving as an member of the Best Practices, Finance, and Membership committees. I can testify first-hand to the energy and enthusiasm of the Society members that participate in these activities and I would urge all members of the Society to get involved in its running by joining a committee.

In the last newsletter, I described how we were in the final stages of developing a strategic plan for SPNHC – a plan that would help us to show leadership in defining and developing our profession, do a better job of communicating our achievements, make more efficient use of our limited resources, and work globally to meet the needs of our world-wide membership.

A copy of the plan is included with this Newsletter and the membership will be invited to formally approve it at this year’s Annual Business Meeting in Rapid City. Thanks are due to the co-chairs of the Long Range Planning Committee, Andy Bentley and Clare Valentine, for taking the plan through to completion, and to all of the members of the Committee and the Society who participated in its creation.

I say “completion” but it’s in the nature of strategic plans that they have neither a firm start date nor a fixed ending; a good plan should continuously evolve to reflect changing circumstances. Work is already well under way on a number of aspects of the SPNHC strategic plan.

Some of these changes are not immediately visible to the wider membership but will have a profound impact on the way that the Society does business. We have revised our budgeting procedures to incorporate a higher degree of forward planning on the part of the Society’s committees. We’ve also reduced the number of times that the Society’s Council meets at the annual meeting from two to one. At first sight, this may look like Council will be doing less work than before, but it actually reflects the fact that we expect Council and its committees to do more work over the course of the year rather than leaving everything to the very intense week of the annual meeting.

These changes are about making the governance of the Society more efficient, but they are only first steps. As I mentioned in my last report, we have set up a sessional committee on Governance, chaired by past-president Sue McLaren,

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......Presidential Report

with a remit to look at SPNHC’s internal management structure and its suitability for delivering the goals set out in our strategic plan and make recommendations to Council. That Committee has already begun work, as has a second sessional committee on International Relations, chaired by Suzanne Ryder. We look forward to hearing more about their activities in the committee reports at this year’s meeting.

Another aspect of the plan that is proceeding apace are improvements to the reach and accessibility of our publications. As announced at last year’s Annual Business Meeting, we are on-track to implement electronic publication of both Collection Forum and the SPNHC Newsletter by the beginning of 2014. A print-on-demand option will be available for those who still wish to receive a hard copy of the journal. We’ve also entered into a contract with the Copyright Clearance Center to make it easier for organizers of training courses to get permission to make and distribute copies of our publications.

Collaboration with other organizations that share our goals is another key element of the strategic plan. We are in an advanced stage of discussions with the American Institute for Conservation of Historic and Artistic Works (AIC) for the publication of a new book on preventive conservation that will build on the existing collaboration between the two groups through AIC’s Collections Care Network, and we are also working with the American Institute for Biological Sciences (AIBS) and the Natural Science Collections Alliance (NSCA) to implement the proposed Network Integrated Bio-collections Alliance (NIBA), which will coordinate digitization of natural history collections across the USA. We’ll be talking more about both these projects in Rapid City.

Speaking of Rapid City, if you haven’t yet decided whether to attend this year’s SPNHC meeting, hosted by the South Dakota School of Mines and Technology, I urge you to do so. Sally Shelton and her colleagues have put together an excellent program that should cater to all interests. You can find out more about it on the meeting website at http://cfr-sphc2013.com/. One of the highlights will be a session on the vexed subject of repositories – what happens when you agree to manage someone else’s collection on their behalf. It’s an excellent opportunity for collaboration, but one rife with potential for misunderstandings and conflicts.

It may be that custodial agreements of this sort will become more common in future years, as institutions continue to struggle with financial austerity. One of the more depressing aspects of my first year as SPNHC president has been the number of letters we have had to draft to museum directors, trustees, and politicians raising the Society’s concerns over cuts in funding, job losses, and reductions in collections support. Some of these have struck close to home; as some people may know, this year we intended to meet jointly with the Conference on Fossil Resources (CFR). That part of the meeting was cancelled because of the impact of the recent funding sequestration that resulted in a near-total ban for travel funding across a number of U.S. Federal agencies.

Thoughts of austerity and funding cuts lead me to conclude with two observations. First, we have never needed community-based professional organizations like SPNHC as much as we do now, to advocate for natural history collections and collections care and to continually remind our stakeholders of the importance of our collections to a wide range of public policy issues. If you have colleagues who haven’t joined yet, take five minutes and encourage them to do so.

Second, your Society has never needed you as much as we do now. We have an ever-increasing workload in the Society, even as demands on our time at work increase exponentially. If nothing else, our strategic planning exercise has shown us how much we need to expand the number of members actively involved in the running of the Society, not just to spread the burden, but more importantly to gain new insights and novel ideas. If you’re a SPNHC member already and you’re looking for additional challenges, join one of our committees. We are always seeking talented and energetic people to help run the Society and service is a great route for professional development. If you’re not sure what committee to join, feel free to contact me or any of the officers of the Society – our emails are on the SPNHC website. Get involved – you won’t regret it.

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This space could be yours........

SPNHC Newsletter is looking for articles, news items, etc., for the next edition. Articles of 1000 words or less considered. Contact Andrew Campbell (andrewc@ku.edu) for information. The deadline for submissions for the next issue is August 1, 2013.

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Annual Report from the SPNHC representative to the Geological Society of America (GSA):

As an associated society of GSA, SPNHC was represented at the 2012 annual meeting in Charlotte, North Carolina, Nov 4-7, 2012. We had a good clientele at the booth and are grateful for many of you took time to take the booth for a spell. And thanks to those who made sure the booth arrived and left the meeting! The next meeting of GSA is in October of this year, in Denver, Colorado, and we are hoping that SPNHC members in the vicinity of this meeting may spare some time to run the booth for a few hours. Please let me know if you can help in this capacity. Booth supporters are provided with registration. We are hoping to acknowledge our SPNHC awardees 2013 in the GSA recognition area.

Respectfully submitted,
Ann Molineux, SPNHC representative to GSA
COMMITTEE REPORTS

Bylaws Committee

The Bylaws Committee is responsible for the continued development of the Society Bylaws as needed, monitoring Society activities to ensure agreement with the Bylaws, and for periodic updates to the Leadership Manual of the Society.

Bylaws: No new issues were brought to the attention of the committee this year.

Leadership Manual: The committee is responsible for keeping the Leadership Manual current. Unfortunately, the goal of completing the revision of the Leadership Manual this year has yet to be met. We are working on a section of the Leadership Manual that can be used as a template by others to complete their section. We also acknowledge that the implementation of the Society’s Strategic Plan may impact the content of some sections of the manual.

Respectfully submitted,
Jean-Marc Gagnon, Chair

Recognition and Grants Committee

The R & G Committee is charged with promoting and reviewing the annual recognition awards that the Society can confer as well as the Faber Research Grant.

This year, the Committee did not receive any nominations for the President’s Award and the Carolyn Rose Award. Special Services Awards are being considered by Council and will be announced at the ABM of the Annual Meeting.

Two Faber Research Grant applications were received. A review of these applications is ongoing and results will be announced in the spring.

As mentioned in the September 2012 Newsletter, we made one change to the membership of the committee, so as to increase continuity. While the immediate Past President continues to lead the committee, the Past President “once-removed” continues to serve on the committee.

Respectfully submitted,
Jean-Marc Gagnon, Chair

Web committee

We have begun discussions with website design company Wall-to-Wall, looking at potential options for phase two of our website which include expanding the value and functionality of the membership database, developing an improved searchability of the site and testing the possible options for international nodes spawned from the main page. We shall present current findings

Membership

Membership dues for 2014 membership year, effective October 15, 2013, are as follows:

- Individuals ($45)
- Student, certified (US$20)
- Subscription or Library (US$55)
- Corporate/Commercial (US$350)
- Institutional (US$75)

Applications to join or renew membership may be processed at:

http://spnhc.org/14/become-a-member.

Payment online via PayPal using either a credit card or a PayPay account. While online applications and payments are preferred, a membership application/renewal form in a PDF format is available at http://spnhc.org/members/signup. If using this form, payments may be submitted by check to:

SPNHC Treasurer
Planetarium Station
P.O. Box 526
New York, NY 10024-0526
USA

Life Membership

The SPNHC Life Membership is a special membership category for those interested in the long-term financial stability of our organization. Life membership monies are invested towards the future goals of the Society. SPNHC life memberships are available for US$1,125. The fee is 25 times the Individual Membership rate, currently US$45. Life Memberships may be paid in one of three ways:

(1) one-time payment of US$1,125;
(2) two-year installments of US$610/1st year and US$515/2nd year;
(3) three-year installments of US$560/1st year, US$375/2nd year and US$190/3rd year.

Please contact the Treasurer should you require further information about life memberships.
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......Committee Reports

There is a wealth of information locked away in small regional herbaria and natural history collections across the country, but with limited resources, this information is inaccessible to a wider audience. The Sam Mitchel Herbarium of Fungi illustrates one way to unlock hidden resources. Collaborating with other herbaria allows for access to additional funding in the form of an NSF grant. The grant will last for three years and for this consortium to continue, it needs to build a community of support between the different stakeholders including fellow fungal herbaria, the scientific community and citizen scientists. Together we can continue to preserve and enhance the information stored within the physical collections and help to bring these collections into a digital world.

References


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This space could be yours......

SPNHC Newsletter is looking for articles, news items, etc., for the next edition. Articles of 1000 words or less considered. Contact Andrew Campbell (andrewc@ku.edu) for information. The deadline for submissions for the next issue is August 1, 2013.
Building a Mastodon at the Indiana State Museum

The Indiana State Museum is working in-house to construct an original-bone mount of an ancient mastodon skeleton. Most skeleton mounts consist of just casts of the bones so this is an unusual undertaking, especially using in-house talent for the creation of the steel frame to hold the extremely heavy bones. Mike Smith, Sr. Metal and Acrylic Mount Fabricator for the Indiana State Museum has been working on the project since early 2012.

In 1998, faculty, students and volunteers from Indiana University/Purdue University Ft. Wayne excavated a large mastodon that was entombed in the muck soil of an ancient lake west of Fort Wayne on farmland owned by Dan Buesching. Eight years later the Buesching family transferred the skeleton to the Indiana State Museum. The bull mastodon stood 9 feet tall at the shoulder and weighed three tons when alive. Scientific sectioning of one tusk by Dr. Daniel Fisher of the University of Michigan revealed ‘Fred’ (named for Dan Buesching’s grandfather) to have been 33 years old. A later radiocarbon date on bone estimated the skeleton to be 11,280 years old.

“Putting this mastodon back together is an exciting project for us, especially since we were able to recover more than 80% of the skeleton, vs. the average, which is much less than 60% and typically with a backhoe-fractured skull,” commented Ron Richards, Indiana State Museum Chief Curator for Science and Technology. “Once the mount is completed, he will be added to our core gallery for all to marvel at.”

The mounted mastodon will also be the centerpiece of an exhibition titled, “Indiana’s Ice Age Giants: The Mystery of Mammoths and Mastodons” scheduled to open in the fall of 2013.

This American mastodon is comprised of some 292 bones from tusks to tail and skull to foot. The museum has been running a “Buy a Bone” campaign to sell each and every one of these bones to raise the $200,000 needed to have Fred mounted. Donors received actual mastodon bone fragments from other museum digs as well as a certificate of bone ownership.

Thank you to Kathi Moore at the Indiana State Museum for this text.

SPNHC Travel Grant Program
FITZGERALD TRAVEL GRANT PROGRAM

The Society for the Preservation of Natural History Collections (SPNHC) is pleased to announce the Fitzgerald Travel Grant Program, designed to assist members with the costs of attending the Society’s annual meeting.

Four grants were awarded in 2012 for the Annual Meeting in New Haven, CT, including one postponed from the previous year. The recipients were Nickson Otieno of National Museum in Kenya, Rachel Sargent of the JFK University Museum Studies Program (also Education and Outreach Summer Intern at the Smithsonian Institution), Meghann Toner of the Denver Botanic Gardens (now at the National Museum of Natural History, Smithsonian Institution), and Ann Trapaga of the University of California at Berkeley.

Grants are available for attendance at the 2013 Annual Meeting of the Society in Rapid City, South Dakota, June 17-22, 2013. A total of $3,000 has been allocated to the program and grants will be for a minimum of $750 USD each. The deadline for application is 18 May 2013. Some conditions apply.

Most environmental and human health problems are associated with mismanagement of hazardous chemicals at their workplace or through use of common household products. This is because of a lack of knowledge about chemical risks and/or a failure to take basic protective measures. It is also noted that many construction projects at workplaces are being conducted without environment impact assessment (EIA). Lack of adequate technical, financial and/or human resources to initiate more effective risk-reduction measures is another reason for being exposed to hazardous chemicals. A comprehensive chemical policy requires strict control of each chemical type covering storage, handling and disposal mechanisms.

The Tanzanian government has been initiating policies and legislations towards chemical management in the country with the aim of protecting human health and the environment. This among others include Industrial and Consumer Chemicals (Management and Control) Act No. 3 of 2003 and Occupation Health and Safety Act No. 5 of 2003. The government is also part to multilateral conventions on chemicals management: The Basel Convention on Control of Illegal Traffic of Hazardous Chemicals and Wastes and The Stockholm Convention on Persistent Organic Pollutants. Industrial and Consumer Chemicals Act No. 3 of 2003 provides for the management and control of production, import, transport, export, storage, handling and disposal of industrial and consumer chemicals in the country whereas the Occupation Health and Safety Act No. 5 of 2003 provides for the protection of persons other than persons at work against hazards to health and safety arising out of, or in connection with, activities of persons at work and provides for connected matters.

Plans to expand the Dar es Salaam Museum (now National Museum and House of Culture-NM&HoC) were initiated in 1970’s. Despite the high demand by the public for services such as an art gallery and a multipurpose conference room, these plans were not realized till 2003 when the Management of the National Museum of Tanzania proposed to transform the Dar es Salaam Museum into a House of Culture. This transformation was funded by the Embassy of Sweden/Sida, and the government of Tanzania has provided appropriate infrastructure for preservation of collections, exhibitions and organization of programmes that target children, youth and tourists (Msemwa, 2003).

The project includes construction of new buildings and rehabilitation of the existing structures. Some of these existing structures have been serving as casting lab, laboratories, freezing rooms and photographic units where chemicals were used for a long time to make casts and curate collections. It is unfortunate that when some of these tasks ceased, chemicals which had been in use for a long time remained unchecked.

Prior to the House of Culture project in 2007 an EIA was conducted in 2003 with the expectation that activities may have some environmental impacts. Among the major impacts and the proposed mitigation measures identified in the EIA report are the ecological impacts from hazardous chemicals to the receiving land. The EIA report proposed to consult the National Environmental Management Council (NEMC) for proper advice on safe storage, handling, use and disposal of chemicals.

In 2006 museum professionals began inspecting and gathering chemicals and containers from the museum environment. An expert from NEMC was hired to study and identify chemicals and containers and recommend proper storage, handling and disposal mechanisms. Thirteen chemicals with different material identification, chemical and physical hazards, and chemical characterization, along with empty containers with a capacity of 236 mLs were identified. Out of these, three chemicals with no labels, were taken to the Department of Chemical and Process Engineering for identification. Examination showed that these chemicals had expired and were disposed of by incineration.

Another three chemicals (Polyester resin, Tetraethyl silicate and Fibre glass) were retained in the museum for use in conservation and preservation work. Seven chemicals (Potassium hydroxide pellets, Glicerina RPE – ACS [Glycerine], Manganese chloride, Sodium hydrogen carbonate, Sodium thiosulphate anhydrous, Manganese sulphate and Potassium dichromate) were donated to a secondary school for practical use. Two empty tins and plastic containers were disposed of as scrap to metal and plastic recyclers.

Given the experience of NM&HoC, measures to control exposure to, use, handling and disposal of hazardous chemicals that are valid and applicable to other museum branches were provided. Museum management has been enforcing existing procedures of limiting the use of hazardous chemicals by substituting most hazardous fumigants with less hazardous ones. For example, naphthalene balls have been used for a long time to repel insect pests in biological collec-
tions. Chemicals (Ethanol) have been purchased based on the number of collections that need preservation. Instructions have been frequently provided when dealing with chemical containers including closing them when they are not in use, providing tight lids to newly purchased storage containers to prevent evaporation, and wearing appropriate personal protective equipment such as coats, gloves and masks. Simultaneously, metal compact racks to store wet collections were added to avoid mixing with dry collections. Proper housekeeping and personal hygiene habits such as a routine program to clean floor and work surfaces, and preventing eating or drinking in workplaces have been enforced. Hazardous materials have been given separate space, and labels have been affixed to chemical containers and cabinets showing warning, caution, danger, inflammable, corrosive, combustible hazards to prevent further damage of collections and people. Laboratory manuals were prepared for laboratory users. The casting laboratory was improved with fixtures, and the same is expected for biology laboratories.

References


Useful websites
http://www.envirocare.or/uploadedPolicies/handling%20of%20industrial%20toxic%20chemicals%20by%20daniel%20ndiyo.pdf 22/11/2012

**COLLECTION FORUM**

**Manuscripts Needed!!**

Collection Forum, the official journal of SPNHC, is seeking manuscripts for our upcoming volumes. Collection Forum is the perfect publication to:

- disseminate results from grants and projects,
- expand on a talk at the SPNHC Annual Meeting, or
- describe best practices developed at your institution.

Feel free to contact the managing editor, Susan Butts, at susan.butts@yale.edu or (203) 432-3037 with questions, to discuss your ideas for possible papers, or if you are ready to submit a manuscript. Instructions to authors are available on the SPNHC website.
SPNHC Membership Profile

This time around, we are profiling two of our members, because they are a pair, having married in 2003 after corresponding professionally, and meeting up at a number of SPNHC annual conferences. Say hello to them at our upcoming meeting in South Dakota. Further, Gene shows us that there is life after retirement, and one might even add other fields of interest to an already wide natural history base.

What is your name?  
Sally Shelton

What is your position called?  
Associate director and faculty instructor

Where do you work?  
Museum of Geology, South Dakota School of Mines and Technology (also serve as curator and board member, The Journey Museum; collections committee member, The Mammoth Site of Hot Springs, Inc.; the Historic Preservation Commission of Rapid City)

How many years have you been working in this capacity?  
4+ in the Museum of Geology; 32 years in the museum field

When did you join SPNHC?  
1988, following participation in the Collections Care Pilot Training Program (CCPTP) in 1987

What is your name? Gene K. Hess

What is your position called? I am the retired Collection Manager of the Bird Collection at the Delaware Museum of Natural History (DMNH).

Where do you work? I am a volunteer collections manager at the South Dakota School of Mines Museum of Geology (SDSM). I also volunteer at the SDSM library.

How many years have you been working in this capacity? I was at DMNH for 31 years and have been at the Museum of Geology for two years (when the new building opened and the collections became accessible to me) and at the library for four years.

When did you join SPNHC? 1989
What drew you to the natural history field?
Sally: I was always interested in natural history and museums, and was fortunate enough to be at a university (Texas A&M) that combined a wildlife biology major with a museum science option. There was no looking back after that. I went from there to the museum science graduate program at Texas Tech University. I think the phrase “You can major in that?!” covers most of the reactions from friends and family. I think it was complimentary. That’s what I choose to believe, anyway.

Gene: I’ve had an interest in natural history since childhood. Some of my earliest memories involve birds and other wildlife. I had thought to pursue marine biology as a career but was dissuaded by being advised that there very few job opportunities. That summer I worked at DMNH and was invited back for the winter break and never looked back.

Describe the nature of the collections you work with.
Sally: Paleontology, mineralogy, petrology, biology, archives and library holdings, estimated at the moment at 500,000+ items. The Museum of Geology began in 1885, and the collecting program has been vigorous.

Gene: At DMNH I was responsible for all the vertebrate collections and for many years the departmental library. Birds (preserved as skins, skels, and pickles) formed the largest part followed by mammals (same formats), and lastly reptiles and fish, both very small collections. At SDSM I work primarily in the fossil and modern invertebrate and modern vertebrate collections. I expect that at some point I will be involved with the fossil and modern botany collections.

What are your responsibilities for them?
Sally: Collections management, care and conservation; policy writing and implementation; storage planning and upgrades. We have just concluded moving our collections from sub-standard storage in the basement of an old gym to a 33,000 sq. ft. dedicated collections repository that is also the first state-owned LEED Gold building. That entailed inventory, packing, triaging, labeling, and other tasks to bring order out of chaos.

Gene: Broadly speaking, at DMNH I was responsible for keeping the collections safe from damage; making them available for research, teaching, and exhibit; specimen preparation and cataloging. At the Museum of Geology I work with the Emeritus Curator of Invertebrates to organize and catalogue those collections. I am organizing the modern vertebrate collection. I am setting up the computer data entry system including data entry and scanning standards and procedures for all specimen collections at the Museum.

Describe some of your activities.
Sally:
• Collections sorting and databasing.
• Museum administration and planning.
• Teaching undergraduate and graduate courses in museum curation/conservation, museum exhibits/public programs, and the first formal paleontology resource management course in the country.

Gene:
• Liaison with our Federal, tribal, and state partners working with collections and related issues.

What do you find most interesting about your work?
Sally: The opportunity to work with the next generation of museum professionals and watch them move into 21st century collections management approaches.

Things I never thought I’d do, need or have when I was in graduate school:
• Most of the local movers and moving van rental places on speed-dial

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Continued from page 11:

Membership Profile

- A three-wheel electric forklift and a license to drive it
- Fluency in Federal-ese

Gene: Two things come to mind, first the variety of the work to be done. On any given day something unexpected could occur that requires a solution. Second, is meeting people, sharing the value of collections with them and seeing them get excited about collections. At SDSM I particularly enjoy giving students hands-on experience working with collections.

What accomplishments are you most proud of?

Sally:
- PERMIT-L, which grew out of a symposium I put together in San Diego on Federal and international scientific collecting permits.
- Cultivating an active partnership with our Lakota colleagues to develop plans and policies for the care of natural history collections from tribal lands.
- Completing the aforesaid new building and collections move, which fulfilled a promise I made to myself in 1995 that I would someday come back to Rapid City and help get the collections in order. I never thought it would happen this way, and I couldn’t be happier that it did.
- Creating the paleontology resource management course and watching our graduates get good jobs in museum and resource management fields.

Gene: At the top of the list must be “Birds of Delaware.” Then in no particular order: expanding the DMNH bird skeletal and pickle collections, the latter now having many examples of local birds at various growth stages; contributing a history of DMNH to the, “Contributions to the History of North American Ornithology” series; managing the Bird Collection during the thirteen years when there was no curator, editing the local bird club’s journal.

What have you learned from SPNHC to be particularly helpful? How has SPNHC helped you?

Sally: SPNHC has been immensely important to me from the beginning. Discovering that there were other people interested in the best possible preservation of natural history collections was like coming home. Starting with the 1987 CCPTP, I’ve been blessed to meet and network with the best people ever. I also discovered that I could help come up with the answers to preservation questions that more traditional curators told me were unanswerable, and that I could help train others in finding the answers. The best thing for me has been seeing collections management come of age as a discipline and profession in and of itself. In 1987, we were being told that collections management was something for wanna-be curators to mark time doing until they got real jobs. SPNHC has led the way, more than any other natural history collections group, in changing that attitude and in professionalizing our field. As we discover new analytical methods for unlocking the profound depths of information associated with natural history materials, we are more committed than ever to the best possible preservation to ensure that this information will be available now and in the future.

And that is largely due to the tireless efforts of the SPNHC people.

Gene: In my early years, SPNHC via talks, workshops, and meeting other collection managers provided much needed information and training. At that time collection management was just emerging as a recognized field and there were few places where one could be trained – assuming one knew of the possibility. Meeting other collection managers and sharing problems and solutions is a definite plus. Also learning who various vendors are made it much easier to find suppliers. Remember this was before there was much in the way of an Internet or a World Wide Web. What I learned from meetings helped me make the case for justifying the expense of making purchases of conservationally sound materials. As result of thinking long-term I began recording additional data on specimen preparation. This has just paid off in the ability to identify the probable source of a recently identified problem.

SPNHC Newsletter

Advertising

Why Advertise in the SPNHC Newsletter?

Members of SPNHC are the people who use your products and services. They are often the decision makers about products and procedures that will be used in their institutions. These people want to know about products and services that will help them do their jobs more effectively. They are interested in the latest techniques and materials available, as well as educational and travel opportunities, new publications, and events and programs related to natural history and collections.

All advertisements should be submitted as .tif or .pdf files, formatted for a PC. Ads can be placed in one-sixth, quarter, half or full page. It is recommended that image resolution be 300 dpi or better. Electronic files may be e-mailed (andrewc@ku.edu) or sent on a disk to the newsletter editor. Any necessary printer’s charges will be billed to the advertiser. Payment must accompany the insertion order and newsletter copies will be sent after publication.

There is limited space in each newsletter and space will be allotted on a first-come, first-served basis. Ad placement is at the discretion of the editor. More information can be found on the SPNHC website - http://www.spnhc.org.
During June 2014 the Amgueddfa Cymru - National Museum Wales (AC-NMW) and partners are honoured to be hosting the 29th SPNHC Annual General Meeting in the capital city of Wales, Cardiff. The dates have been set for the week of the 22nd to the 28th of June 2014, with the two days of talks, tradeshow and democamp being held at the iconic Wales Millennium Centre in the historic Cardiff Bay area of the city. We envisage the conference will follow the usual pattern of the SPNHC annual meeting, and should be a fine mix of fieldtrips, presentations, workshops and socials.

The overall theme of the conference will be ‘Historic Collections: A resource for the future’ which we feel will be an opportunity to link the collections at the heart of our institutions to the demands and uses these collections are meeting in the modern world. In addition there will be a range of other themed and open sessions along with the democamp. The programme for the conference is already starting to take shape with offers to host sessions, demos and workshops. However we are still very keen to receive further offers and ideas for the conference.

Wales is a land with a rich heritage and a strong cultural identity. The field trips will offer an opportunity to explore the local natural environment such as the Glamorgan Heritage Coast and the Brecon Beacons National Park, while other fabulous landscapes such as the Pembrokeshire Coast National Park are only a couple of hours travel away. Within the South Wales area there is also a wealth of historic heritage sites to visit ranging from classic castles to relics of the industrial revolution. Within Cardiff City can be found a good cultural scene with a range of performance and arts venues - the Wales Millennium Centre itself will have the play ‘Warhorse’ performing at the time of the conference if you fancy a change from the talks!

Over the course of the coming months we will endeavour to bring together the web and social media sites for the conference, but in the meantime please feel free to contact me, julian.carter@museumwales.ac.uk, over anything SPNHC 2014 related.

We look forward to offering a warm ‘croeso i Gymru’ / ‘welcome to Wales’ in 2014!
CALL FOR NOMINATIONS FOR THE PRESIDENT’S AWARD AND CAROLYN L. ROSE AWARD

The Recognition and Grants Committee is requesting nominations for the President’s Award and the Carolyn L. Rose Award.

- The President’s Award is presented to a member, or former member, whose activities have furthered the objectives of the Society through outstanding committee work, prolonged officer roles, or promotion of activities of the Society.
- The Carolyn L. Rose Award (formerly the SPNHC Award) is our Society’s highest honor and given to a practitioner (membership not required) whose work and efforts have promoted the values and objectives of the Society. Nominations should include a letter of nomination, a current curriculum vitae, and letters of recommendation.

Questions and nominations should be directed to the Chair of the Recognition and Grants Committee, Jean-Marc Gagnon (jmgagnon@mus-nature.ca), and must be submitted by November 1, 2013.

CALL FOR THE 2014 FABER RESEARCH GRANT PROPOSALS

The Recognition and Grants Committee is requesting proposals for the Faber Research Grant, a cash grant of up to $1000, to support an innovative project addressing issues on the management, care, conservation, or use of natural history collections. Applicants for this Grant must be SPNHC members in good standing for at least one year prior to the award date. The successful applicant will be expected to 1) present a final or interim report at the Annual Meeting of the Society and 2) publish the results, with the understanding that the manuscript will be sent first to the SPNHC Publications Committee for first right of refusal. Each applicant may submit only one proposal per funding period. The cover sheet should include a project title, name(s) of project personnel (including title, address, phone/fax numbers and email), and a single line spaced 100 word abstract describing the proposed project. The proposal text should include a statement of purpose, project plan (e.g., participants, methods, materials, schedule of completion, etc.), and proposed use of funds. The text should have one inch margins, 10-12 characters per inch, and double line spacing.

The application, including cover page, should not exceed 10 pages. Curriculum vita of the principal investigator and letters of commitment may be single line spaced and attached as an appendix.

Questions and proposals should be directed to the Chair of the Recognition and Grants Committee, Jean-Marc Gagnon (jmgagnon@mus-nature.ca), and must be submitted by February 1, 2014.

28TH ANNUAL MEETING OF THE SOCIETY FOR THE PRESERVATION OF NATURAL HISTORY COLLECTIONS

JUNE 17-22, 2013
MUSEUM OF GEOLOGY, SOUTH DAKOTA SCHOOL OF MINES AND TECHNOLOGY
RAPID CITY, SOUTH DAKOTA
Calendar of Events

The Calendar of Events is maintained by Christine Chandler of the Documentation Committee. Application deadlines, conferences and symposia relevant to collection management, computerization and conservation of natural history collections are listed. Notices may be submitted to Christine at Putnam Museum of History and Natural Science, 1717 West 12th Street, Davenport, IA 52804; (563) 324-1054 ext. 226; chandler@putnam.org or dinoceras@juno.com.

May 2013


June 2013

June 3, 2013. Institute of Museum and Library Services (IMLS), in cooperation with Heritage Preservation, is presenting a webinar, Using Collections Images in Online Exhibits from 2:00-3:30 p.m. EDT.
For more information, see: http://www.imls.gov/webwise_reprise_2013_free_online_webinars.aspx

June 5, 2013. Institute of Museum and Library Services (IMLS), in cooperation with Heritage Preservation, is presenting a webinar, Using Collections Images in Educational Materials from 2:00-3:30 p.m. EDT.
For more information, see: http://www.imls.gov/webwise_reprise_2013_free_online_webinars.aspx


Details at: http://www.mammalsociety.org/meetings


July 2013

July 1, 2013. Deadline for AAM's Museum Assessment Program. The Museum Assessment Program (MAP) helps small and mid-sized museums strengthen operations, plan for the future and meet national standards through self-study and a site visit from a peer reviewer. IMLS-funded MAP grants are non-competitive and provide $4,000 of consultative resources and services to participating museums.
Details at: http://www.aam-us.org/resources/assessment-programs/MAP.


July 14–July 20, 2013. Lichens, Biofilms, and Stone. Offered by the Eagle Hill Institute in Steuben, Maine, USA. Online general information may be found at: http://www.eaglehill.us

More information may be found at: http://www.wcm2013.com/.

Continued on page 18
Welcome to the 2013 meeting of the Society for the Preservation of Natural History Collections! This meeting is being held June 17-22 on the campus of the South Dakota School of Mines and Technology in Rapid City, South Dakota, home of the Museum of Geology.

Our theme this year is "Repositories and Partnerships in Managing Natural History Collections in the 21st Century." We will focus on the issues surrounding ownership, stewardship, and stakeholders in collections care throughout the meeting.

Our conference hotel is the Best Western Ramkota. To get the conference room rate, please call (605)-343-8550 and use the code cfrspnhc. This will not be available through online registration; you must call the hotel directly.

For detailed information on registration, abstract submission and program details, please visit our website at: http://cfrspnhc2013.com/index.html.

The schedule for the week is as follows:

**MONDAY, JUNE 17**

Day trips (transportation leaves from the Ramkota at 7:30 a.m.). Join us for one of our guided explorations of the region. Registration includes a box lunch. Don’t forget your camera!

- Badlands National Park
- Rare plant crawl
- Birds of the Black Hills
- Mount Rushmore National Memorial, Wind Cave National Park and Custer State Park Wildlife Loop
- Devils Tower National Monument and Vore Buffalo Jump

**TUESDAY, JUNE 18**

- Early registration opens at 9:00 at the Surbeck Center
- SPNHC committee meetings
- Other professional and specialty group meetings
- Posters go up

6:00 Icebreaker reception: Museum of Geology and Paleontology Research Laboratory

- SPNHC exclusive exhibit opening: Sabertooths of the Badlands
WEDNESDAY, JUNE 19

• Registration opens at 7:30 a.m. at the Classroom Building, SDSMT.
• Newcomers'/mentors' breakfast
• Internet cafe and poster session open at the Surbeck Center
• Vendors set up
• NSCA Board meeting 10-12

8-5 Program
Plenary address: Dr. Larry Agenbroad, The Mammoth Site of Hot Springs, Inc.
Technical sessions
Vendor set-up

6:00-9:00 Vendor reception: Journey Museum

THURSDAY, JUNE 20

• Registration opens at 7:30 a.m. at the Classroom Building, SDSMT.
• Internet cafe and poster session open at the Surbeck Center

8-5 Program
As part of the SPNHC meeting, iDigBio and the Natural Science Collections Alliance (NCSA) will host a symposium on digitization and dissemination of natural history data.

Morning: Introduction to Digitization and Dissemination of Natural History Data: iDigBio and other initiatives
Afternoon: Diverse Uses for Natural History Collections

Evening: Summer Nights! Head to downtown Rapid City on your own for a festival of live music and great food.

FRIDAY, JUNE 21

• Registration opens at 7:30 a.m. at the Classroom Building, SDSMT
• Internet cafe and poster session open at the Surbeck Center

DemoCamp provides a venue for promotion of technological solutions to advance the field of museum curation and specimen digitization, with broad applications for biology, ecology, and biodiversity informatics. DemoCamp is sponsored in part this year by iDigBio, the National Resource for Advancing Digitization of Biodiversity Collections (ADBC), funded by the U.S. National Science Foundation.

8:00 a.m.: Demo Camp I
10:00 a.m.: Break in vendors' area; poster viewing
10:30 a.m.: Demo Camp II
Posters and vendors come down

1:30 Annual General Meeting
6:00 SPNHC Banquet

SATURDAY, JUNE 22

In situ conservation: Saving the collections where they are found
Managing natural history specimens and collections in their original setting presents a suite of concerns and strategies unique to each situation. Join us at the Mammoth Site of Hot Springs, Inc., for a day-long symposium on in situ conservation approaches used at a number of important locations.

Registration includes transportation to historic Hot Springs, snacks and lunch, and a copy of workshop handouts.

August 2013


September 2013


October 2013


Publications of Interest

This section is from the Citations Sub-committee of the Conservation Committee and is chaired by Margaret Landis. Citations were submitted by, Diana Dicus (DD), Mariko Kageyama (MK), Margaret Landis (ML), Barbara Moore (BM), Ann Pinzl (AP), John Simmons (JS), and Janet Waddington (JW). Contributions, suggestions, and comments may be submitted to Margaret Landis: Sam Noble Oklahoma Museum of Natural History, 2401 Chautauqua Ave. Norman, OK 73072, USA; (405) 325-8266 (voice); (405) 325-7699 (fax); paleocatstar@ou.edu (e-mail).


- In Spanish, English title: “The Táchira Museum commemorates 29 years.” Review of the museum’s anthropological exhibitions, collections, and research.


- This practical spiral-bound guide demonstrates how lighting can shape and highlight the features of an object in a photograph. It includes 15 lighting techniques, all of which are clearly explained and illustrated with color photos. [Older, but has not appeared on our list before].

- From the abstract: “This paper addresses three questions concerning lubricants on vegetable-tanned leather. The first question is how do lubricants change leather; secondly, how deep does a lubricant absorb into leather if only applied on the grain; and further, which leather care product is most chemically stable?”


- In Spanish, English title: “The Caracas Seismology Museum: a space and an experience for interactive encounters between the community and Venezuelan seismic culture.”

Continued on page 20
- Archived webpage containing Papers/Notes from the 2011 Adhesives Symposium.


- In Spanish, English title: "Bones and some truths: reconstruction of former lives. The Physical Anthropology Forensic Laboratory of the Quibor Anthropology Museum."

- While not about Natural History the take home message of "pictures speak a thousand words" pertains just as much to our conservation needs.

- In Spanish, English title: "Interview with Fernando Cervigón 'The Margarita Marine Museum isn't what you habitually think about museums...it is a living museum.'"


- Account of methods and material used to enable chest to be displayed.


- This technical bulletin provides information and procedures for digitizing cassettes and reel-to-reel tapes. It is intended to assist small to mid-size heritage institutions that lack the funds for professional digitization. Note that the procedures discussed in the bulletin are intended primarily for oral history collections; they will not capture all the fine details extant in high-fidelity recordings.


- From the abstract: “Certain types of jewel cases and paper liners may contribute to degradation of discs. Some types of discs emit volatiles that can damage the disc if trapped within a case.”


- Excellent, concise ergonomic advice for the collection work space.


- In Spanish, English title: “Land disputes have defined the profile of the museum and its relationship with the community.” Interview with Alejandro J. Signi Sánchez, director of the Monsignor Enzo Ceccarelli Ethnological Museum of the Amazon.” A history of the museum, its mission, collections, exhibitions, and the relationship with the local community since 1984.


- Story of monkey hand tree’s exposure to western world, threaded with references to early botanists, botanical gardens and herbarium specimens; popular article suited for general public consumption to understand how botany works.


- In Spanish, English title: “Evaluating the seismic risk of museums in greater Caracas.”

- [Older, but has not appeared on our list before].

- In German, English title: “Macroscopic Preparation Techniques. Guidelines for Collection, Preparation, and Preservation.” Extremely thorough and well-illustrated guide to the collection and preservation of macroscopic invertebrates. [Older, but has not appeared on our list before].


- Lavishly illustrated history of botanical art emphasizing on the years 1750 to 1850 but with historical perspective before and after, including a discussion of contemporary botanical art.

- Good information for home or museum. Not new information, but well organized, clear, and concise. Useful in this time of climate change.


- From the abstract: “This invited paper reviews several databases of interest to vertebrate paleontologists and makes a case for including more basic research data in publicly accessible databases.”


- This is a remarkable special issue of the JAIC. A variety of mountmaking ideas, from various institutions and mountmakers. Invaluable as a reference for conservators, curators, exhibition designers, mountmakers, and preparators.

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AIC and SPNHC are happy to announce the publication of *Health & Safety for Museum Professionals*, edited by Catharine Hawks, Michael McCann, Kathryn Makus, Lisa Goldberg, David Hinkamp, Dennis Ertel, and Patricia Silence. This nineteen chapter book covers health and safety concerns, precautions, and remedies for all areas of museum work. This up-to-date reference is the ideal go-to book for conservators, exhibit producers, collection managers, curators, and administrators in all disciplines.

**Principles of Safety and Health**—safety and health programs and emergency management, facility design and construction, fire protection, occupational medicine and exposure, occupational hazard control, environmental protection, and international safety regulations impacting acquisition, transport and use of specimens

**Specific Hazards**—particulates, chemical hazards, biohazards, physical, mechanical, and electrical hazards, and radiation

**Museum Work**—facilities management, emergency salvage, collections management, fieldwork, conservation, exhibit production and maintenance, and interpretive and interactive programs