

FLORIDA PALEONTOLOGICAL SOCIETY

# NEVSLETTER

VOLUME 19 NO. 1

# WINTER 2002

# Spring Meeting News...

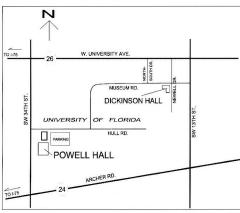
The Florida Paleontological Society Spring 2002 Meeting will be held in Gainesville, March 16-17th. Attendees will be able to tour the popular traveling museum ehibit **A T**. **rex Named Sue** during it's only Florida venue this year.

# Schedule of Events Saturday March 16th

Dickinson Hall				
10 am – 12 pm:	Business meeting			
12 pm – 3 pm:	Range tours and fossil identification			
Powell Hall				
4 pm – 5 pm:	Fossil Hall tour			
5 pm – 6:30 pm:	Presentations, Gordon Hubbell,			
	Bruce MacFadden			
6:30 pm – 7:30 pm: Dinner, David's BBQ				
7:30 pm - ??	A T. rex named Sue exhibit			
Sunday March 17th				
D'1' II 11				

Dickinson Hall 8 am – 1 pm

n Eocene limerock quarry (not Haile quarry)



Please call prior to the dinner if there are any vegetarians. Dinner is buffet style pork and chicken with beans, coleslaw, garlic bread and drinks. Dinner cost \$10 per person, Sue tickets \$4 adults, \$2 children.

Note, this weekend is Gator Nationals and lodging will be tight. Don't assume your favorite motel will be available. See www.visitgainesville.net for lodging options.

**Please RSVP to George Hecht** and indicate how many people will be attending the banquet dinner and the *T. rex* exhibit on Saturday. George may be reached at (352) 392-1721 ext 254, or email <u>fps@flmnh.ufl.edu</u>. Information on the *T. rex* exhibit is available at <u>www.flmnh.ufl.edu</u>.

## **Our Evolving Newsletter...**

For nearly fifteen years the familar, color-cover FPS Newsletter has arrived in members mail boxes. The current issue marks the first significant departure from that established style. We are trying this new format In an effort to best utilize new desktop publishing techniques and maximize club resources. The format will likely continue to evolve as we accomodate changing styles and member interests.

# Fall 2001 Meeting Highlights...

**by John Beerensson and Barbara Rolph** The November 10-11th FPS meeting in Gainesville was the best FPS meeting we have yet attended. We arrived early, but Roger Portell was waiting to greet us. Co-host George Hecht also greeted us, along with Tom Ahern, our FPS President.



John Beerensson, Barbara Rolph, Barbara Toomey, Reed Toomey, George Hecht, Roger Portell, Nita Akin, Ted Akin, Richard Anderson, Tom Ahern in front of the newly dedicated fossil Cypress tree in front of Powell Hall.

Once the rest of the FPS members arrived, we were escorted to meet Terry Lott in Paleobotany. Terry gave a very informative presentation and thoroughly covered the work that is currently being done by David Dilcher, Steve Manchester, and the students of the Department. Terry was joined by Steve Manchester, and together they answered the group's many questions. It was of interest to learn that much of the plant material being field collected comes from Kansas, Nebraska, and Wyoming. We are fortunate to have such experts in Paleobotany working at UF.

Speaking of experts, it became Roger Portell's turn to tour the group. The Invertebrate

## FLORIDA PALEONTOLOGICAL SOCIETY OFFICERS AND BOARD

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### BOARD OF DIRECTORS

Ted Akin, Tampa, 2002	Sue Hutchens, Old Town, 2003
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Steve Hutchens, Old Town, 2000	Marcia Wright, , 2003

#### **COMMITTEES AND APPOINTMENTS**

Book Committee:	R. Hulbert
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Anita Brown Lelia and William Brayfield David Webb Gary Morgan Clifford Jeremiah Gordon Hubbell

INFORMATION, MEMBERSHIP, AND PUBLICATION INFORMATION Please Address: Secretary, Florida Paleontological Society, Inc. Florida Museum of Natural History, P.O. Box 117800 University of Florida, Gainesville, FL 32611-7800 email: fps@flmnh.ufl.edu

# Meeting Highlights, continued:

Paleontology Division is a great place to tour. There was not a question that Roger could not answer, from "what echinoid is that?" to "tell me more about the ghost crab *Ocypode quadrata.*" Everyone was asked which fossil they wanted to see, and Roger made sure they saw it. George Hecht talked about microfossils, and what was involved from the collecting, preparation, and cataloging process. Roger and George also showed us fossils from the Burgess Shale. These are amazing things to see. There were quite a few "ooohs" and "aaahs" registered. Our time in IP was most informative and rewarding.

We broke for lunch while the FPS officers and directors met for a business meeting. We learned later that James Toomey was chosen to be the recipient of the Howard Converse Award. Congratulation to James, well deserved. The Converse Award acknowledges outstanding contribution to Florida Paleontology by a non-professional. Jim has contributed to the museum financially, and materially with his collections and still finds time in his busy schedule to be active in the field. After lunch we attended the fossil tree dedication at Powell Hall. The fossil plant display at the Museum is wonderful. Equally wonderful was seeing David Webb in his dinosaur costume. Before we knew it was David behind the dinosaur, there was some concern that the plants would be eaten and the display would have to be closed.

After the dedication we were met by Gina Gould to tour the Fossil Hall, currently under construction. Very little can be said other than "WOW!" Gina's enthusiasm rubs off on everyone. The plans for the fossil hall are spectacular. The materials to be used in the construction of the exhibits are the highest of high tech. The artists behind the scenes are the most creative of the creative. The preparation expertise of the staff, including Steve and Susan Hutchens who were with our group, is beyond great. We are out of adjectives! Take our word for it that when the Hall opens in 2003, it will be a must see for everyone. Highlights include one of the largest re-constructed fossil shark jaw collections, and recreations of an Eocene limerock wall from the Limerock Products quarry near Newberry, and a floor to ceiling rendition of the Macasphalt (APAC) guarry in Sarasota. Fossil vertebrates are displayed on an "island" surrounded by a curving ramp. Residents of the island include spectacled bear, glyptodont, saber and scimitar cats, panther, sloth, camel, tapir, and many more. The mounts are very realistic, and the panther leap-



Steve Hutchens happily displays his fossil stone crab from the Haile Quarry trip.

ing after a frightened peccary has to be seen to be believed. Fleshed out models of the skeletons will be cast in bronze and along with touchable relief maps of the state through geologic time will give sightimpaired visitors a better sense of our fossil past. At dinner, all we could talk about was how great our day had been.

Sunday morning we met at Dickinson Hall to caravan out to Haile Quarry for the field trip. This is a wonderful collecting site. From Eocene echinoids to Plio-Pleistocene giant ground sloths, the thought of

# Meeting Highlights, continued:

this quarry having so many wonderful things is mind-boggling. To top it off, having Roger Portell with us to explain everything was incredible. Any invertebrate find brought to Roger was instantly identified. We were taken to three different collecting sites within the quarry. Many good finds were made. It was a thrill to hear Roger say, "that is a keeper." What that really means is he wants it for the museum's collection. We were blessed with finding and contributing a "keeper." Many more in our group were finding "keepers", so it was a great collecting day on a museum level as well as a personal level. Many echinoids and quite a few stone crabs were wrapped and taken home that day.

We felt bad for George Hecht because he had to check out the directions to the Rhino Dig Site while the rest of us were in heaven at Haile. However, he soon returned and he too was able to do some heavy collecting for the museum. We wish we could list all the names of those with us from FPS. The congeniality of the group was amazing. Everyone went out of their way to be helpful.

Later in the afternoon we went over to the Rhino site. Richard Hulbert greeted us, and he gave a very informative presentation. It is an exciting dig, and volunteers are needed. If we had not had to leave for



home that afternoon, we would have been thrilled to have joined Richard in working the site then and there. The highlight was seeing a rhino jaw still in place with seven inches of tusk laid out in front of it.

Thank you again Roger Portell

and George Hecht for being the perfect hosts. The knowledge you shared with us, and the fun and excitement you provided will always be fondly remembered.

# News from the Florida Museum of Natural History - Division of Paleobotany...

Paleobotanists at the Museum continue to be active in the study of fossil plants from Florida and around the globe. We have worked with our exhibition designers to include fossil woods, leaves and seeds in the new permanent fossil exhibit hall, currently under construction at Powell Hall. But due to space constraints, the fossils to be displayed are merely the "tip of the iceberg" relative to the holdings remaining at Dickinson Hall.

On November 10, 2001, at the FPS fall meet-

ing, the Museum dedicated the newly installed 20 ft-tall fossil Cypress tree trunk from the Miocene of Gadsen County, Florida, which now towers proudly to the left of the main entrance to Powell Hall. The tree, donated by the Florida Geological Survey, was on display outside the FGS headquarters in Tallahassee for over 30 years, and was brought over from Tallahassee by flat bed truck with a crew headed by **George** Hecht and the talented exhibits construction staff. The tree was encased in concrete and several trips were made to insure that it could be removed without destroying the specimen. Once at the museum Jay Fowler of the exhibits design staff took on the task of reassembling and erecting the specimen in the Fossil Garden display. Engineers designed a concrete footing and a steel armature which supports the massive stump and the fragments of the hollow midsection of the trunk. An additional 8 feet of trunk is displayed at the base of the display. An overview of our activities and the nature of the museums fossil plant collection, along with a gallery of fossil plant images, is available at: http://www.flmnh.ufl.edu/natsci/paleobotany/ paleobotany.htm.

The large collection of plant fossils from mostly Cretaceous and Tertiary localities around the world, are by far the finest collections in the southeastern United States, and among the top ranked collections worldwide.

David Dilcher has been working on the vegetational history of the last few thousands of years in north central Florida by study pollen from cores taken from swamps just east of Gainesville. The goal is to correlations changes in vegetation with changes in precipitation and CO2 levels, in relation to the El Niño - La Niña effects. This work is being done in cooperation with a team from the University of Utrecht, Netherlands. Beth Kowalski, Terry Lott and David Dilcher have been studying modern forests along a latitudinal range from southern Florida to New Hampshire. By studying the correlations between temperature, moisture and leaf size and form in these modern forests, they hope to develop a more refined basis for determining ancient climates on the basis of fossil leaf assemblages. They are also studying wood samples from the same trees to document changes in wood anatomy along the same latitudinal gradient. Next they plan to test the hypothesis that trees from swamps have significantly smaller leaves that those in drier areas but living under

# News from the Paleobotany Division, cont.

the same overall climate.

David M. Jarzen has completed five years service as Collection Manager for the Paleobotany and Palynology holdings at the Florida Museum of Natural History, Gainesville, Florida. His efforts along with volunteer service of his wife Susan **Jarzen** have brought the collection to the standards of a first-rate museum in its organization and cataloguing. As of June 2002, David and Susan are leaving the FLMNH to take positions at the Marie Selby Botanical Gardens, Sarasota, Florida. David will be the Director of Global Training in Tropical Botany. His duties there will tap his experience and understanding of angiosperm evolution and plant distributions on a world scale. Although David promises to continue his connections with the FLMNH through joint exhibit and research efforts we will miss him around here.

**Sarah Corbett** joined us Fall Semester, 2001 as a new graduate student in the Botany Department. For her Master's thesis research, she has initiated a study of the middle Miocene fossil flora of Alum Bluff on the Apalachicola River, based on leaves, seeds and pollen. The site is protected in a beautiful natural area managed by the Nature Conservancy. Although the fossil flora includes some genera familiar to that of Northern Florida today, such as sabal palms, oaks and pines, we have also recovered plants that know longer grow in this area today, such as *Paliurus* (common name Christ's thorn), which is native to Europe and Asia today.

**Xin Wang** has his masters degree in Paleobotany from the Beijing Institute of Botany, and is working on his PhD here at UF. He is currently studying plant mesofossils (fossils with sizes between those of megafossils and microfossils) recovered by screenwashing sediments from the mid-Cretaceous from Kansas. The fossil flora is quite diversified, including more than hundred different taxa. Last November Xin gave a presentation about this research at Geological Society of America annual meeting in Boston.

Since September of 2001, **Yongdong Wang** has been working at the FLMNH as a senior visiting research fellow in paleobotany. He received his training in Geology at Lanzhou University, the Chinese Academy of Sciences and Northwest University in Xi'an China, where he received his PhD in 1996. Since 2000, Dr. Wang has served as Research Professor at the Nanjing Institute of Geology and Paleontology, CAS (NIGPAS), China. Nanjing, China. While here in Gainesville, Yongdong is continuing his work on comparative anatomy and fine structure of representative Mesozoic plants. As part of this project he and David Dilcher are studying reproductive plant fossil remains from the Early Cretaceous of Northern America, including flowers, cones and fruits. The work makes use of scanning electron and light microscopy to show the epidermal anatomy of the fossil remains.

We are developing good collaborative ties with paleobotanists from many other countries so that we can compare the past vegetation of Florida and other parts of North America with that of other regions around the world. Carlos Jaramillo from Colombia has been working in our lab studying Paleocene and Eocene pollen assemblages from equatorial South America and Africa with those of midlatitude North America to compare changes in plant diversity during an interval when climate became much warmer than In association with colleagues from it is today. China, David Dilcher continues to seek the first With Sun Ge from Nanjing, he has flower. described some of the oldest well-preserved flowering plant remains from northeastern China.

**Steve Manchester** received a new National Science Foundation grant to join colleagues in China, and Germany for making detailed comparisons of fossil leaf assemblages from 45-million year old lake deposits of Europe, Asia and North America. We are finding that some plant genera were shared only between North America and Asia, suggesting a land connection across the Bering regions, while others were shared only between North America and Europe, suggesting dispersal of plants across Canada and Greenland.

Please keep us in mind when you come across fossil plant remains in the field. The sciences of Paleobotany continues to make great strides in our understanding of past plants and environments, largely through the generosity of amateur paleontologists who share their knowledge of new localities and bring important new specimens to our attention. We are especially interested to learn more about the fossil plant record of our home state.

Dr. Steven R. Manchester Associate Curator, Paleobotany Florida Museum of Natural History Dickinson Hall PO Box 117800 Museum Road and Newell Drive University of Florida Gainesville FL 32611-7800 Ph 352 392 1721 ex 495 Fax 352 846 0287 http://www.flmnh.ufl.edu/staff/cvs/steven cv.ht

# Consolidants for Fossil Preparation

# by Russ McCarty (reprinted)

Consolidants or hardeners are often the collector's first line of defense against deterioration of the specimens in their collection, especially those comprised of poorly mineralized sub-fossil bone often found in Pleistocene deposits. By definition, a consolidant is a resin which has been dissolved in a solvent. Common solvents are water, acetone, alcohol, and toluene. Consolidants are purchased in two forms: 1) pure resin, 2) emulsions.

# Resins

Pure resins consolidants are resins dissolved in a solvent, such as Butvar (polyvinyl butyral) granules dissolved in acetone. These consolidants should only be used on dry specimens, since even a small amount of moisture in the specimen can react adversely with the consolidant destroying its desired properties. Museums in the U.S. and Europe stick with a few tried and true consolidants which are known to have a low tendency for crosslinking and which do not lose their consolidant properties over time. Chief among these are polyvinyl butyral (Butvar), a thermoplastic resin, and Acryloid B-72, an acrylic resin. PVA (polyvinyl acetate), used as a pure resin is still available, but most users have switched to Acryloid B72, which is harder, more durable, and exhibits less flexibility. Pure resins are mixed with their solvents to form a very thin, watery solution which is then applied to the specimen (or the specimen is immersed in the solution). I stress thin and watery. The idea is to get the resin where it's needed, and in order to penetrate the specimen's surface and carry resin down into the interior of the fossil bone, the consolidant must be thin or else it will be deposited on the surface of the bone only. like shellac or varnish used in the past. Those treatments may have protected the surface, but did little to strengthen the whole bone.

# **Emulsions**

The second class of consolidants, the emulsions are mainly used to treat wet or moist specimens. Emulsions are suspensions, in water, of a resin and solvent solution, and like Elmer's Glue, a popular polyvinyl acetate emulsion, are generally white, milky mixtures. As consolidants go, emulsions are not as desirable as pure resins. It is hard to reverse emulsions once they have dried, and virtually impossible once they have cross-linked with exposure to UV light from sun or fluorescent bulbs. Emulsions also have a tendency to turn yellow with age and cross-linking. But, these negative aspects aside, there is no better treatment for soft, wet bone. Brand names such as Rhoplex AC33, CM Bond M3, and Union Carbide's AYAF, are all good general purpose PVA emulsions. They are normally mixed with water in a ratio of 15 to 20 parts emulsion to 85 to 80 parts water. This mixture can be brushed on the bone, or the specimen can be immersed in the consolidant mixture. As I mentioned. Elmer's Glue, is a type of polyvinyl acetate emulsion, and could be used on wet specimens. Because proprietary (commercial) brands such as Elmer's generally keep their formulas secret, and even periodically change their formulas, museum conservators do not like to use these commercial PVA emulsions. However. Rhoplex, CM Bond M3 and Union Carbide AYAF PVA emulsions are specifically designed and sold for conservation purposes and should be used when possible.

When considering the possibility of using consolidants on a specimen, the collector should remember that not all specimens need consolidation. One of the axioms of conservation is: Mimimal intervention is best, in other words, do as little as possible to a specimen that will change its nature. And when dealing with sturdy wet specimens, the best approach may be to place the specimen in a slow drying chamber, rather than treating the specimen with a water based emulsion resin like Rhoplex or CM Bond M3.

All of the products mentioned above are available from Conservation Materials, Ltd., 240 Freeport Blvd., Sparks, NV 89431.

Questions, comments, and suggestions should be directed to Russ McCarty at the VP Prep Lab, Florida Museum of Natural History, University of Florida, Gainesville, FL 32611. Telephone: (352) 392-1721. Email: Cormac@flmnh.ufl.edu

## FLORIDA PALEONTOLOGICAL SOCIETY, INC.

As stated in the Articles of Incorporation, "The purposes of this Corporation shall be to advance the science of Paleontology, especially in Florida, to disseminate knowledge of this subject and to facilitate cooperation of all persons concerned with the history stratigraphy, evolution, ecology, anatomy, and taxonomy of Florida's past fauna and flora. The Corporation shall also be concerned with the collection and preservation of Florida fossils." (Article III, Section 1).

### CODE OF ETHICS

## ARTICLE IX

Section 1.	Members of the Florida Paleontological Society, Inc., are expected to respect all private and public properties.
Section 2.	No member shall collect without appropriate permission on private or public properties.
Section 3.	Members should make a sincere effort to keep them- selves informed of laws, regulations, and rules on collecting on private or public properties.
Section 4.	Members shall not use firearms, blasting equipment, or dredging apparatuses without appropriate licenses and permits.
Section 5.	Members shall dispose of litter properly.
Section 6.	Members shall report to proper state offices any seemingly important paleontological and archaeological sites.
Section 7.	Members shall respect and cooperate with field trip leaders or designated authorities in all collecting areas.
Section 8.	Members shall appreciate and protect our heritage of natural resources.
Section 9.	Members shall conduct themselves in a manner that best represents the Florida Paleontological Society, Inc.

# Recent Publications of the Florida Geological Survey



**Geologic Map of the State of Florida**, by Tom Scott and others, 1:750,000 scale, color.

The new state geologic map, represents over 36 years of new geological data collection. The map illustrates the areal extent of the surface and nearsurface geologic units, which are color-keyed to the legend. Cross-sections s and a generalized stratigraphic column are included on the map. Open File Report 80, which describes each lithostratigraphic unit, is aloso included with the map. The map and accompanying text may be ordered from the FGS library for \$10. Contact Carol Armstrong @ 850-488-9380. You may also download the map from our web site: www.dep.state.fl.us/geology/gisdatamaps/ index.htm.

## **Open File Report 85**

*First Magnitude Springs of Florida*, by Thomas M. Scott, Guy H. Means, Ryan C. Means, and Rebecca Meegan, 2002, 138 p. Color, with maps and photos.

Seventeen springs, eight spring groups/ systems, seven river rises, and one karst window (49 vents total) were sampled from 25 September 2001 through 15 November 2001. The physical characteristics, water chemistry and bacteriology of Florida's first order magnitude springs are discussed and described in this report. Call 850-488-9380 for ordering information.

**ANNUAL DUES** for the FPS are \$5.00 for Associate Membership (persons under age 18) and \$15.00 for Full Membership (persons over age 18) and Institutional Subscriptions. Couples may join for \$20.00, and Family memberships (3 or more persons) are available for \$25.00. Persons interested in FPS membership need only send their names, addresses, and appropriate dues to the Secretary, Florida Paleontological Society, Inc., at the address on page 2. Please make checks payable to the FPS. Members receive the FPS newsletter, the Papers in Florida Paleontology, and other random publications entitled to members.

**NEWSLETTER POLICY**: All worthy news items, art work, and photographs related to paleontology and various clubs in Floricla are welcome. The editors reserve the right not to publish submissions and to edit those which are published. Please address submissions to the Editors, Florida Paleontological Society, Inc. Newsletter, at the address inside the front cover.

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FAMILY AND COUPLES PLEASE LIST NAMES OF ALL APPL HAVE OCCURRED SINCE PREVIOUS YEAR. NOTE!!! MEMBERSHIPS ARE FOR A CALENDAR YEAR AND PLEASE RENEW ON TIME!		NEW OR CHANGES
<ol> <li>NUMBER OF YEARS OF INTEREST IN PALEONTOLOGY _</li> <li>WHICH BEST DESCRIBES YOUR STATUS: COLLECTOR FULL TIME DEALER PROFESSIONAL POSITION</li> <li>PRIMARY AREAS OF INTEREST:</li> </ol>	NEXTERNA	
VERTEBRATE     INVERTEBRATE       PLEISTOCENE	BOTANY	
4. LIST ANY PREFERRED TYPES (Horses, Sloths, Echinoids	etc.)-	
5. LIST ANY PUBLISHED WORKS ON PALEONTOLOGICAL S	PUNDED 1918 SUBJECTS.	
6. DO YOU BUY		

- \_\_\_\_\_ TRADE \_\_\_\_\_ FIND \_\_\_\_\_ FOSSILS?
- 7. LIST ANY SKILLS OR ABILITIES THAT MAY BE OF USE TO THE SOCIETY'S PROJECTS (RESTORATION, PREPARATION. COMPUTER USE. GRAPHICS SKILLS, SPEAKING, PHOTOGRAPHY, PUBLIC RELATIONS, WRITING, FUND RAISING ETC.)

8. LIST ANY UNUSUAL SPECIMENS FOUND, CIRCUMSTANCES UNDER WHICH THEY WERE LOCATED AND THEIR DISPOSITION. PLEASE USE AN ADDITIONAL SHEET IF REQUIRED! THANK YOU!

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