

newsletter

Florida Paleontological
Society, Inc.



Volume 1 No. 1

DECEMBER 1984

Florida Paleontological Society, Inc.

Volume 1

N·E·W·S·L·E·T·T·E·R

December 1984

Introducing the F.P.S. Newsletter

This is the maiden issue of your new F.P.S. NEWSLETTER to be published every other month. The concept of this publication originated as a response to several needs expressed by society members at their fall meeting October 6th. In general, those needs include diverse questions that require more frequent response than an annual meeting. News about fossil discoveries, notes about new sites, discussions of society business, and exchange of opinions about paleontological techniques and theories are some of the topics noted. The beauty of a newsletter is that it can be responsive to any needs almost as soon as they arise.

It seems appropriate as the F.P.S. enters its eighth year as a formal organization that its structure should change to suit its growing needs. The proportion of society members who attend the business meeting has shrunk even as the membership continues to grow. This means that another forum for the healthy exchange of ideas will have increasing importance if the F.P.S. is to continue to function effectively as the principal paleontological organization in Florida.

It is a happy coincidence that the PLASTER JACKET has run its course. That publication served only incidentally as a news bulletin. A few issues had news notes, and in recent years a few pages carried minutes and official news of F.P.S. But in origin and in essence, the Plaster Jacket was an informative pamphlet series produced (originally as a free publication) by the Florida State Museum. It has pretty well covered most major topics about Florida fossil vertebrates in its 17 years and 46 issues. It will now be revised and issued as a published handbook. The new, more versatile F.P.S. NEWSLETTER will supercede the Plaster Jacket and serve the changing needs of F.P.S.

The editorial staff wishes to emphasize that this newsletter is yours. We will attempt to cover topics that you wish to

see. We actively solicit your news items, announcements, want ads, and clippings. You may represent a formal club, an informal group or just yourself. Please let us hear from you. Note: deadline for contributions is the 15th day of the month preceding publication. Therefore for the February issue, you should have your news in by January 15, 1985.

S. David Webb, Editor
Susan Williams,
Managing Editor
F.P.S. c/o Florida State
Museum, University of
Florida, Gainesville,
FL 32611

The F.P.S. Managing Editor

At its annual meeting in October, the Board of Directors voted to hire Susan Williams (on an hourly basis) as managing editor of F.P.S. Having just retired from five years as managing editor of the Society of Vertebrate Paleontology, Ms. Williams began working for F.P.S. in November after the SVP office moved to Los Angeles. She is handling all correspondence and bookkeeping as well as assisting with the newsletter and the Plaster Jacket revision. She designed the new F.P.S. stationary and the newsletter cover.

Besides her F.P.S. duties, Ms. Williams works halftime as an Assistant Editor with Bruce MacFadden and David Webb in the museum. She also does freelance calligraphy, typing, editing and writing. She is president of the Graphic and Scientific Illustrators Association and a member of the Florida Public Relations Association. Her favorite past time is riding her horses.

Membership Renewal

Membership renewal notices for the calendar year 1985 are printed in this edition. As of 1 March 1985, the membership list will be pared down to include only members in good standing. Please renew your membership early and encourage a friend to join.

Steve Emslie's SummerEXCAVATION OF CAVES IN GRAND CANYON,
ARIZONA

Last summer Steve Emslie completed excavations in four caves with an additional 19 surveyed in Grand Canyon, Arizona. His investigations, supported by grants from the National Geographic Society, the Grand Canyon Natural History Association, and the Cave Research Foundation, were completed in order to (1) collect vertebrate fossils of Pleistocene age, particularly of birds, (2) investigate the paleobiology of specific avian species such as the condor, *Gymnogyps* sp., which nested in the canyon during the Pleistocene, and (3) study the taphonomic processes involved with bone accumulation in caves. He selected caves high on vertical cliffs, inaccessible to most animals except birds and small, cliff-dwelling vertebrates. The caves were accessed by vertical climbs from below, rappels from above, or traverses along cliff edges.

Fossil remains of condors were found in seven caves more than doubling the previous number of sites (six) from which this species was known in Grand Canyon. The most striking finds include a complete condor skull found on the surface of one cave and parts of five condor skeletons excavated from packrat midden in another cave. The skull was so well preserved that it retained dried tissue on the sides and an intact beak. A carbon-14 date on the tissue, using the new accelerator process at the University of Arizona, has produced a date of over 12,000 years B.P.

The remains of the condor skeletons came from a cave that also contained a large number of condor feather and eggshell fragments and numerous fragments of bones from large mammals. This evidence suggests this cave was once a nest cave for condors. The mammal bones, which include those of bison, horse, camel and mountain goat, may be food bones left by the condors. Carbon-14 dates from this cave are also late Pleistocene, 11,000-13,000 years B.P. These dates are the first series completed on a Pleistocene bird and indicate the condor became extinct in the canyon at the close of the Pleistocene and

did not exist there during the Holocene. The cause of their extinction was probably directly related to the disappearance of the large mammals that comprised the bulk of the condor's diet. These conclusions need to be considered before the canyon is used as a relocation area for living condors as part of the condor recovery program. Since condors could not survive in Grand Canyon after the close of the Pleistocene, when modern floral and faunal communities were established, it is unlikely it could survive there now unless supplemental food supplies are provided on a regular basis. (Steve Emslie)

FORTY-FOURTH ANNUAL MEETING OF THE
SOCIETY OF VERTEBRATE PALEONTOLOGY

From November 1st through November 3rd the University of California at Berkeley, hosted some 400 vertebrate paleontologists at the SVP's annual meeting. About 120 technical papers on subjects ranging from stratigraphy to paleobiology were the main focus of the meetings. For example, a paper by Bruce MacFadden and others from the Florida State Museum revised the age of the Salla Beds, including the earliest monkeys in South America, from early to late Oligocene.

Five graduate students from the University of Florida presented papers, including Diana Matthiesen on the fossil birds from Olduvai Gorge, Ann Pratt on fossil squirrels from Thomas Farm, Steve Emslie on condor extinctions, Peter Meylan on soft-shelled turtle relationships, and Richard Hulbert on stratigraphic distribution of Miocene horses.

Three dozen more topics were presented as posters and exhibits on November 2nd. Included in these was one on "Leisey Shell Pit, a major new Early Pleistocene (Irvingtonian) vertebrate fossil locality from Florida" by Gary Morgan, Richard Hulbert, David Webb and Steve Emslie of the Florida State Museum.

The business meeting featured discussions of the pending legislation concerning fossil resources on federal lands and the ongoing effort to produce a good bibliography of fossil vertebrates. The

national office was transferred to the Los Angeles County Museum of Natural History and the Society cordially thanked Susan Williams, Bruce J. MacFadden and David Webb for running the office for five years at the Florida State Museum. (David Webb)

NEW ACCESSIONS AT THE FLORIDA STATE MUSEUM

So far this year the museum has received a number of important donations from amateur paleontologists throughout the state. From April through October, museum personnel worked in cooperation with Frank Garcia, the Tampa Bay Mineral and Science Club, Leisey Shell Pit, Inc. and over 175 volunteers to excavate the fantastically rich early Pleistocene Leisey Shell Pit site near Ruskin in Hillsborough County. Even though this excavation has been completed, work on the Leisey fossils at the museum continues at a rapid pace. Literally hundreds of boxes of bones still remain to be washed, sorted, identified, labeled, catalogued, and entered into the museum's vertebrate paleontology computer file. By the time we have finished curating the Leisey site, it will include well over 10,000 fossils making it the largest Pleistocene sample in the FSM collection.

Rick Carter has donated many important fossils from the Bone Valley region this year. Some of the most notable specimens include: a large sample of bird fossils from the Fort Green and Gardinier mines (more than 200 in 1984 alone) currently under study by University of Florida graduate student Jon Becker; several teeth of primitive middle Miocene horses including a beautiful upper molar of the rare browsing horse, *Hypohippus chico* (UF 65701), previously described by Bruce MacFadden; and two mandibles of a new and extremely uncommon sea otter (UF 68000, UF 68001) currently being described by Annalisa Berta and Gary Morgan in the Journal of Paleontology.

Brian Ridgway has donated several important collections of fossils from Pinellas County particularly from the late Pliocene Times Site and Pleistocene Oldsmar Site. Most notable among Brian's finds are three teeth of the primitive three-toed horses, *Archaeohippus* (UF 65578, 65579) and *Parahippus* (UF 65577), and the partial shell of an alligator snapping turtle, all of which are the

southernmost known records in Florida.

Phil Whisler has donated a sample of early Pliocene fossils from the southern extension of the Bone Valley Region in Manatee County, including some very interesting bird bones (a flamingo leg bone and an auk wing bone), also being studied by Jon Becker. Other important accessions from Phil's collecting in the Pleistocene of southwest Florida are two mandibles of pocket gophers, *Geomys pinetis* (UF 64198-199), representing the southernmost known record of this species and currently being studied by former UF student Ken Wilkins (now professor of biology at Baylor University), and a partial glyptodont carapace and skeleton (UF 65637) being studied by glyptodont specialist Dave Gillette.

Earlene Mitchell has also donated an important sample of fossils from the southern extension of the Bone Valley Formation in Sarasota County. Bruce MacFadden is reporting several teeth of the one-toed horses, *Dinohippus mexicanus*, and *Astrohippus stocki* (UF 61453-454, 64115) from Earlene's Lockwood Meadows site in an upcoming issue of the Journal of Paleontology.

Jim Smith contributed a mandible of the middle Miocene horse *Merychippus* (UF 65551) from the Florida panhandle. Although common in Great Plains late Miocene faunas, *Merychippus* and faunas of that age are almost unknown in eastern North America. Roger Portell continues to collect and donate rare Eocene marine vertebrates from northern Florida. His recent donations include a rostrum of the billfish, *Cylin-dracanthus* (UF 68060), a partial skull of a bony fish, family Sparidae (UF 60099), and two shell fragments of sea turtles (UF 61513, 68062).

As most of you know, we deeply appreciate the generous donations of fossils we receive from amateur paleontologists and interested citizens throughout the State of Florida. We hope this column on new accessions to the FSM vertebrate paleontology collection will help give proper recognition to those people who have donated fossils of important scientific value to be preserved as part of Florida's heritage. (Gary Morgan)

PREPARATOR'S TECHNIQUES

The question of how to preserve collected specimens that have started to crack during shelf storage has been asked of me many times. Following are the latest techniques available to both professional and amateur.

All specimens should be coated with some form of consolidation chemical shortly after collection. This prevents hairline cracks from expanding which is due to sudden temperature changes or totally drying out. Fossil ivory sections are the worst for separation along the growth rings.

Whenever possible allow the specimen to dry before adding any protective coating. A dry specimen can be coated with polyvinyl butyral which is the generic trade name for Monsanto Chemicals' Butvar B-76. This chemical is mixed with acetone and applied in a very thin watery solution. The only disadvantage in the use of Butvar B-76 is the quantity of crystals that must be purchased from Monsanto Chemicals at one time - 140 pound barrels.

The small collector can use Duco Cement for coating the fragile specimens. Duco must be thinned to a watery solution with acetone and applied by brush over the entire specimen and allowed to dry.

All solutions using acetone must be applied only to dry specimens. Wet specimens or specimens with the smallest amount of moisture present will not accept the sealant solution and the consolidant will not dry clear but milky white. It must be totally removed with acetone and re-applied when the specimen has dried. This procedure can relax glue joints causing damage to the specimen.

When specimens start cracking during the drying process (true with certain river fossils), a water based glue MUST be used. A water soluble form of this glue is currently sold in department stores, construction suppliers and hardware stores under such trademarks as Elmer's Glue All, Flexbond, and Wilhold White Glue. This polyvinyl acetate material is thinned TO THE VISCOSITY OF MILK using water.

Immerse the specimen completely in the solution. Allow to soak for approximately two to three days or until air bubbles stop foaming from the specimen if it is large and porous. Remove from the solution and air dry slowly. Do not force the drying procedure by using a fan or heat. Continually observe the specimen for cracking during drying.

Polyethylene Glycol is a water-soluble wax that has been used by archaeologists for quite a number of years. Its main use to archaeologists has been the preservation of very old wood (dugout canoes or water logged artifacts). This preservation can be used in the very same manner as the white glue process. Allow the specimen to soak in the solution for several weeks and to dry slowly.

Butvar B-76 comes in white crystals that must be mixed with acetone. A common mistake made during the mixing process is to pour the acetone over the Butvar crystals. This causes the crystals to cake and the acetone cannot reach most of the crystals. Slowly pour the crystals into the acetone with continuous stirring. Continue to add crystals until the proper viscosity has been reached. It is a good idea to make the solution much thicker than needed and thin later according to your needs. A very thin solution is used as a protective coating and a thicker solution can be used as a glueing medium. Apply with a brush which can be cleaned after use with acetone. (Howard Converse, Jr.)

NOTE: The FPS Board of Directors has authorized the purchase of a drum of Butvar B-76 crystals to be packaged and sold to FPS members. Ordering information will be published in the February Newsletter.

THE IRS AND MUSEUM DONATIONS

Following are pertinent excerpts from a Wall Street Journal article (November 5, 1984). Although it is geared toward charitable donations of artwork to museums, the changes in the tax laws apply to donations to scientific museums as well. -Ed.

"Tax lawyers and investment advisors say donating art and other property that has appreciated in value is still a good way to cut your income tax. Taking a charitable deduction allows you to avoid the capital gains tax you would have to pay if you sold the item.

But the new rules and penalties make it more important than ever to know what you're doing.

Effective Jan. 1, under the 1984 tax act, a deduction for any kind of donated property - except publicly traded stock - valued at more than \$5,000 must be accompanied by a formal, detailed appraisal. It must include a description of the item, its fair market value and how that value was determined.

Appraisers will have to list their qualifications and add their signatures and Social Security numbers. The requirements are the same if several smaller gifts add up to \$5,000. (The appraisal fee is tax deductible.)

If the IRS decides an appraisal is at least 150% too high, the taxpayer must pay a flat 30% penalty along with the extra tax; penalties used to start at 10%. And to discourage appraisers from fattening up valuations, the IRS can now refuse to accept appraisals from those it deems disreputable - putting a serious crimp in their business. . ."

". . .The total effect of the new rules is hard to predict. Many of the specific regulations and definitions for such terms as "qualified appraiser" haven't been released by the IRS. An IRS spokesman says the regulations will probably be issued first as temporary rules. All the fine print can't be finalized until a period of public comment passes and any refinements are made.

In addition, it's impossible to know how strictly the provisions will be monitored and enforced. "It's possible that it will actually be easier to get away with some things," says Eugene Schorr, a tax partner with Peat, Marwick, Mitchell & Co. "The IRS may just pass over a return with the required appraisal, where before a

big-ticket gift was an immediate red flag. Maybe it will be like business lunches: As long as you've got the paperwork, they don't question it."

NEW PUBLICATION

Contributions in Quaternary Vertebrate Paleontology: A Volume in Memorial to John E. Guilday, edited by Hugh H. Genoways and Mary R. Dawson, is composed of articles by friends and colleagues of the late John E. Guilday in recognition of his contribution to our understanding of the Quaternary fauna of North America. There are 31 articles based on original research in the volume in addition to an obituary and complete bibliography of Guilday. Two articles are on fossil herpetofaunas, four deal with fossil birds, and 25 are on fossil mammals. Faunas represented are distributed from Alaska to Florida. There are reviews on such groups as *Blarina*, *Neotoma*, *Canis dirus*, *Tapirus*, and small carnivores. There are exciting new data on the dietary habits of mammoths and discussions of important early man sites such as Meadowcroft Rockshelter and Cueva Quebrada as well as uses of dogs by early man.

This book, bound in hard cover, contains 538 pages produced in an 8 1/2 by 11 inch double column format with many illustrations. Copies may be ordered for \$56.00 plus \$2.50 for postage/handling from: Publications Secretary, Carnegie Museum of Natural History, 4400 Forbes Avenue, Pittsburgh, PA 15213.

FLORIDA STATE MUSEUM SUITCASE EXHIBITS

FSM offers Suitcase Exhibits which utilize the museum's collections and scientific expertise. These portable mini-museums contain real specimens (when appropriate), durable replicas, slides, and teacher/student information. The exhibits complement classroom studies and offer opportunities for "hands-on" learning about Florida subjects. They may be used as independent exhibits in the classroom or media center. Current exhibits include Ancient Animals - Florida's Fossil History; Age of Exploration - Florida and the First Spanish Period, 1513-1763; and William Bartram

in Florida.

FPS members may wish to pass this information on to local schools or other interested parties. For further information, please contact Betty Dunckel Camp, Museum Programs Administrator, Florida State Museum, Museum Road, Gainesville, FL 32611.

SOCIETY OF PALEOLOGGERS

This society, founded in 1928, promotes the exchange of information between amateur paleobotanists, the formation of fossil wood and plant collections and the study of wood identification, paleobotany, and paleoecology. "Paleo" is derived from a Greek word which means old or ancient. "Loggers" is modern jargon which identifies those who not only cut and harvest trees but also have a reverence for the forest and a love for its lore. Membership is open to anyone with an interest in collecting and studying petrified wood, paleobotany and paleoecology. Dues are ten dollars (\$10.00) per year which includes the Society's quarterly bulletin Chips from the Woodpile. For more information, please write to Steve Edmondson, Secretary, 6202-48th Avenue E., Tacoma, WA 98443. (From Dr. Bill Stern, Chairman, UF Department of Botany)

FLORIDA FOSSIL REGULATIONS

On July 6, 1984, President Bessie Hall appointed a committee to help the Florida State Museum develop regulations to support Florida's Fossil Preservation Law that became effective on June 8, 1984. Members of the committee are Phil Whisler, Larry Martin, Don Serbousek, Ray Robinson, Jesse Robertson and Bill Hall. Most of these members plus Jim Dunbar, Don Summerfield, and Harry and Phyllis Miller attended a meeting on July 28, 1984, in which many useful concepts were developed. A preliminary draft of the regulations was distributed at the October 6th FPS meeting and an open discussion was held at the museum that afternoon. Further revisions have made since a mailing of the first draft to interested parties in November. A November draft of the regulations is printed here and further comments are solicited. (S. David Webb)

RULES OF DEPARTMENT OF EDUCATION DIVISION OF UNIVERSITIES UNIVERSITY OF FLORIDA NEW

6C1-7.541 Academic Affairs; Florida State Museum: Program of Vertebrate Paleontology.

(1) The Program of Vertebrate Paleontology, a part of the Florida State Museum, has been established by the Florida Legislature as the body in charge of carrying out the provisions of Chapter 84-316, Laws of Florida. To this end, the Director of the Florida State Museum shall appoint a curator of the Museum as the Director of the Program of Vertebrate Paleontology. Other personnel may be assigned to the Program as the Director of the Museum deems it necessary.

(2) The Director of the Program of Vertebrate Paleontology shall develop a statewide plan concerning the preservation of paleontological resources. The Director of the Program shall seek the cooperation of the Florida Paleontological Society, the Department of Natural Resources and the Department of State, as well as other state institutions, professional vertebrate paleontologists, and other individuals whose occupation may bring them in contact with paleontological sites, in locating, acquiring, and preserving the vertebrate fossil heritage of the state.

(3) Any person with an interest in Florida vertebrate fossils is qualified to apply for a field investigation permit. However, a permit shall not constitute an authorization to anyone to sell or purchase vertebrate fossils unless said fossils have been determined to be "non-essential fossils" pursuant to section (10) of this rule.

(4) The following persons must have a field investigation permit:

(a) Any person or entity buying, selling or trading vertebrate fossils found on or under state-owned or leased land, or on state-designated vertebrate paleontology sites and/or

(b) Any person or entity engaged in the systematic collection, acquisition, excavation, salvage, exhumation or restoration of vertebrate fossils found on state-owned or leased land or on state-designated vertebrate paleontology sites. "Systematic collection" is hereby characterized by one or more of the following three features:

1. volume of collections of vertebrate fossils in excess of one gallon at one site; and/or

2. use of any power-driven machinery or mechanical excavating tools of any size or hand tool greater than two (2) feet in length; and/or

3. repetitive visitation and collection at a particular site, totalling more than three (3) full days or a maximum of twenty-four (24) hours during a period of one year.

(5) To obtain a field investigation permit the applicant must:

(a) Obtain a permit application form from the Program of Vertebrate Paleontology at the address indicated in (b) below.

(b) Complete and return to the Program of Vertebrate Paleontology, Florida State Museum, University of Florida, Gainesville, Florida 32611, the application form, accompanied by a self-identification document such as a certified copy of the applicant's birth certificate, a copy of his or her driver's license or passport, and a check or money order for \$5.00 (five dollars U.S. currency) payable to the Program of Vertebrate Paleontology.

(6) Permits are ordinarily issued to individuals. No permit-holder shall assign or sublet the permit to any other entity(ies) or person(s). However, multiple-user permits and special institutional permits may be granted as follows:

(a) A multiple-user permit will be granted to an individual representing an organization or institution. Multiple individuals may collect under such a permit as long as the permit holder is present to supervise them and report on the results of their work as if it were his or her own in accordance with section (8) below.

(b) Special institutional permits may be granted to accredited permanent research institutions for long-term scientific and educational purposes.

(7) Field investigation permits are valid for one calendar year from the date of issue, unless disqualified as indicated in section (9) below.

(8) A permit-holder has the following obligations:

(a) To report any unusual, unique or rare specimen or unusually rich or extensive site to the Program of Vertebrate Paleontology as soon as possible;

(b) To maintain all vertebrate fossils collected, other than sharks' teeth, until sixty (60) days have elapsed from the date of compliance with subsection (8)(c) below.

(c) To submit to the Director of the Program of Vertebrate Paleontology or the Director's designee(s) at any convenient time, but no later than the end of the permit year, a list of vertebrate fossils or fossil lots collected

during the permit year along with appropriate locality information; or the actual collections along with appropriate locality information.

(d) To carry the permit with him/her during any field investigations for fossil vertebrates and to be prepared to present the permit and a picture identification to any law enforcement officer who may request them.

(9) Any permit holder failing to fulfill any of the obligations contained in section (8) above may have his/her permit revoked and will be ineligible for future permits for a period of up to three (3) years, or until such obligations have been fulfilled, or both. In addition, the Program of Vertebrate Paleontology may take legal action against the permit-holder in accordance with the provisions of Chapter 84-316, Laws of Florida.

(10) If within sixty (60) days of receipt of the list or the actual collection referred to in section (8)(c) above, the Program of Vertebrate Paleontology does not request the permittee to donate one or more of the vertebrate fossils to the Florida State Museum, the fossils are released to the permittee as "non-essential fossils." Such non-essential fossils may be sold or otherwise disposed of by permit-holders as they choose.

(11) A field investigation permit for vertebrate fossils shall not relieve the permit-holder of his or her responsibility to comply with other federal, state, county, and city laws, regulations or ordinances, including provisions for the archeological heritage of Florida under the Department of State, Chapter 267, Florida Statutes, and environmental laws and regulations governing soils, sediments, freshwater and marine waters.

Specific Authority: 240.227(1), 240.515, F.S. and Chapter 84-316, Laws of Florida.

Law Implemented: 120.53(1), F.S., and Chapter 84-316, Laws of Florida.

History: New _____.

 FLORIDA PALEONTOLOGICAL SOCIETY, INC.
 1985 Membership Renewal

It's time for renewal of your FPS membership for 1985. In order to remain on the FPS mailing list, please return this completed form with appropriate dues to FPS, Florida State Museum, University of Florida, Gainesville, FL 32611. Thank you.

<input type="checkbox"/>]	FULL MEMBERSHIP (18 years or over)	\$6.00
<input type="checkbox"/>]	ASSOCIATE MEMBERSHIP (under 18 years)	\$3.00
<input type="checkbox"/>]	SUBSCRIPTION MEMBER (newsletter only)	\$6.00

NAME _____ Amount Enclosed _____

ADDRESS _____

 Please make checks payable to the Florida Paleontological Society, Inc.