

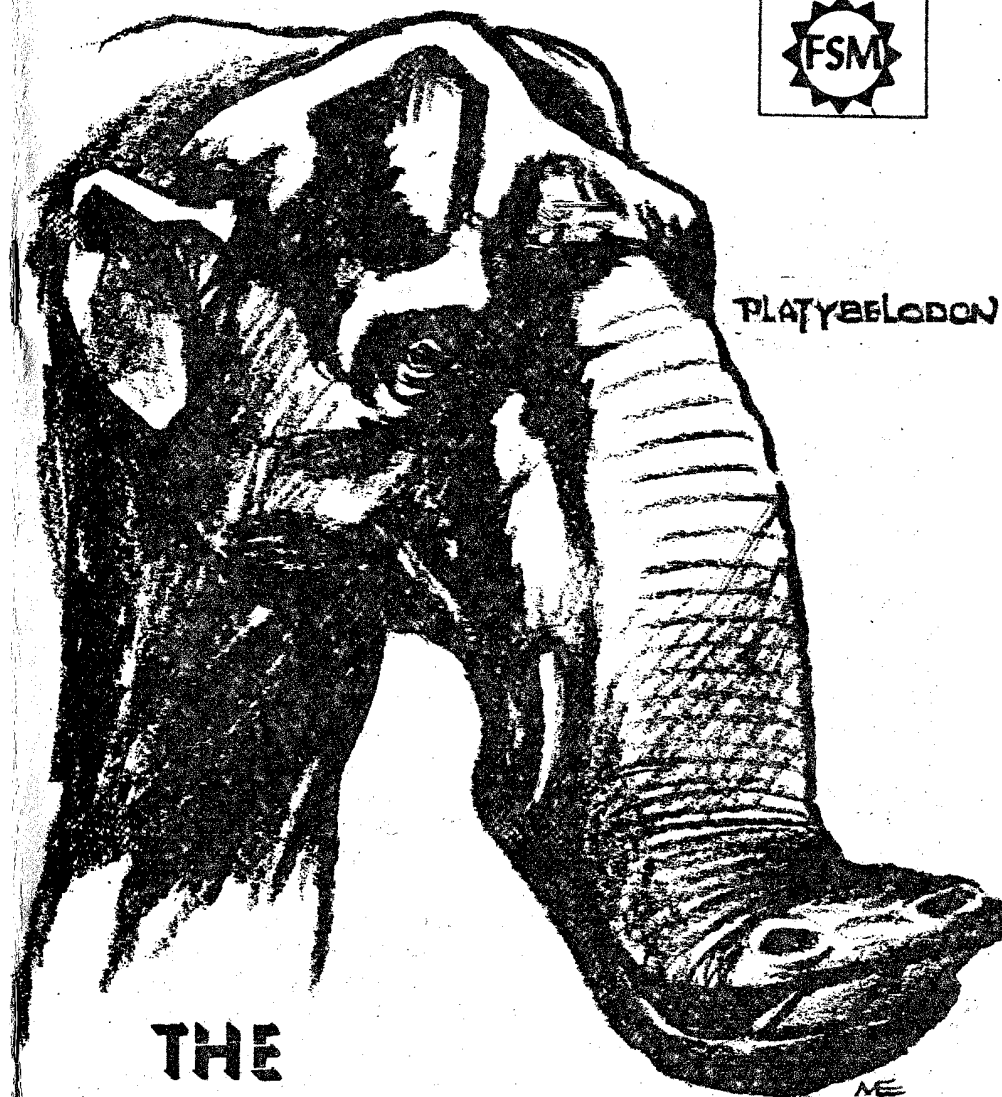
No. 18



The PLASTER JACKET is a newsletter. Questions, announcements, and other communications are solicited from all readers. Information of general interest will be included in future issues.

It is our intent to produce this series at the rate of six issues per year. We hope to add as many genuinely interested paleontologists as possible to our mailing list. If you are interested, please send your name and address to the PLASTER JACKET. These issues are distributed free of charge to all interested people.

This public document was promulgated at an annual cost of \$2500 or \$.17 per copy to circulate authoritative material on Florida paleontology and to foster communication among enthusiasts of this subject.



PLATYBLODON

THE PLASTER JACKET

THE FLORIDA STATE MUSEUM

THE PLASTER JACKET
Florida State Museum
University of Florida
Gainesville FL 32601

NEWS NOTES

As we promised in our last "News Notes" (Plaster Jacket, No. 10), we are starting our seventh year by once again devoting an entire issue to tidbits of general interest. We will also introduce you to new staff members and bring you up to date on the research and activities of the old-timers.

As most of you probably know, we have been in our new building for about two years. All of us are very appreciative of the more adequate storage space for the various collections and the pleasant surroundings in which we can carry on our work. Our first permanent exhibit, a replica of a typical Florida cave, is scheduled to open October 28. It will provide an example of the animal and plant life to be found in caves and typifies a stable environment. For any who missed the open house of our dedication weekend last year, October 28 and 29 will also give you an opportunity to visit the research areas of the Museum. Be sure to mark your calendar and attend the cave opening -- it will certainly be well worth your time.

You will note that although some of our new staff are paleo-inclined, they are not necessarily working with vertebrates. We are hoping to add new dimensions to the Plaster Jacket in the future by running articles written by these people, perhaps following them up with papers of the same interests in terms of Recent times. If you would like to hear about any specific areas we have not covered in the past, we would welcome suggestions. Perhaps our readers will think of general interest topics we have not already included in our schedule, so do not hesitate to send in your ideas.

Dr. Walter Auffenberg, Chairman, Department of Natural Sciences and Curator in Herpetology at the Florida State Museum and Professor of Zoology at the University of Florida, Gainesville.

Dr. Auffenberg, a regular contributor to the Plaster Jacket, will soon publish in the Florida State Museum Bulletin (Biological Sciences Series) a monograph, CHECKLIST OF FOSSIL LAND TORTOISES (TESTUDINIDAE). This monograph is the culmination of 10 years' work and should be invaluable to anyone interested in the study of these creatures. Another paper by Dr. Auffenberg, THE TORTOISE GENUS GOPHERUS: PART I: OSTEOLOGY OF THE RECENT SPECIES, will appear in the same series tentatively in 1973 and will be the first of several dealing with this genus from the Miocene to Recent times.

Dr. Auffenberg is continuing his work with fossil and Recent land tortoises and as most of you are familiar with this aspect of his research, we take this opportunity to tell you about some of his other fascinating activities:

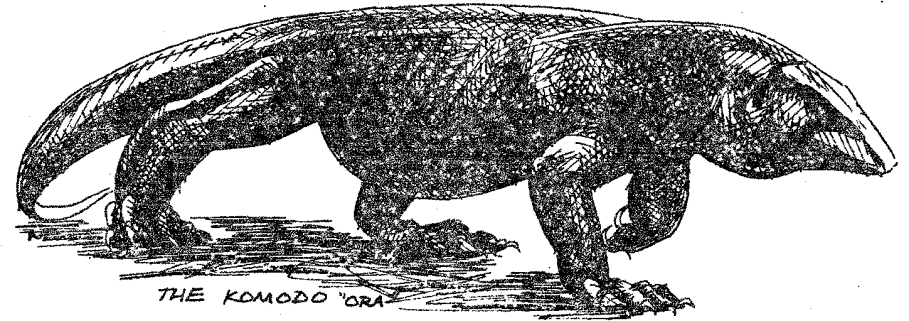
Before assuming the chairmanship in the Department of Natural Sciences at the Museum, Dr. Auffenberg was for many years associated with the Biological Sciences Curriculum Study, Incorporated (BSCS) in Boulder, Colorado. BSCS is dedicated to the improvement of biological science education throughout the world. Textbooks published as a result of their efforts are now being used in 65 countries and half the high schools in the United States.

In 1967 Dr. Auffenberg accepted an invitation to participate in a writing conference in Madurai, India. At that time he wrote the ecology chapter in a text now being used in Indian schools. Dr. Auffenberg has recently received word this text won an International award.

Dr. Auffenberg was again invited to participate in a writing conference taking place in Boulder during June-August this year. It was a national project, funded by a large grant given to BSCS from the U.S. Office of Education. The grant charged BSCS with the responsibility of developing a science program (called "Me Now") for the educationally mentally retarded children, 12-14 years of age. The work was begun in the summer of 1971 by producing a text emphasizing the environment that was then used in several test areas throughout the U.S. and revised this last summer. Dr. Auffenberg participated as one of a group of about 15 writers chosen from all over the U.S. for the second phase. His small team of three writers were responsible for developing a one-half year unit, "Populations and Societies." This unit emphasizes the effect of the world's increasing human populations on the individual and available resources, as well as the individual's role in population control and resource conservation. The text will be tested in selected areas this year, and needed revisions will be made next summer.

The "Me Now" program was just one of several being developed during the summer. These included a new program for junior high school, one for high school, revision of an advanced course for high school biology, and a small adaptation team from Malaysia. Of the 130 invitees to Boulder this summer, approximately 100 were high school teachers attending a teacher training institute. The members of the various writing teams at BSCS also took part in the activities of the institute by helping to prepare and instruct the teachers in the use of the textbooks for this year's school term.

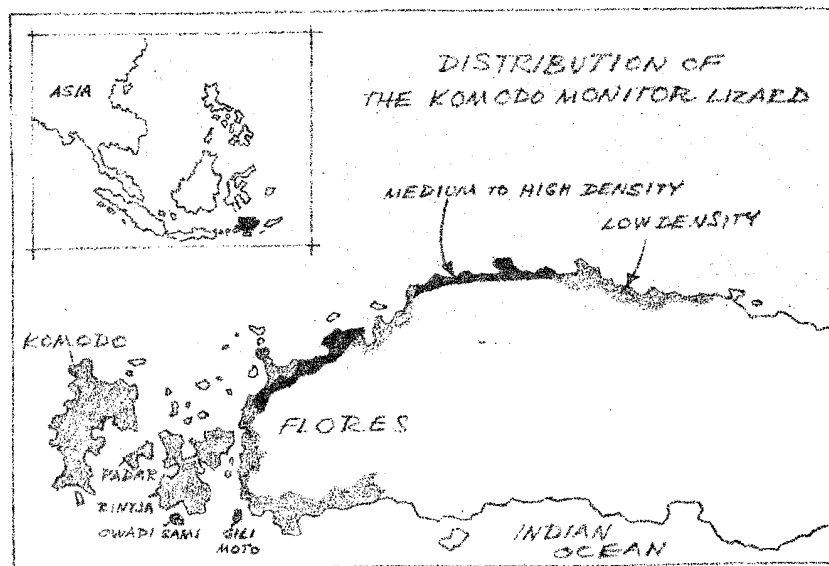
During the academic year 1969-1970 Dr. Auffenberg and his family went to Indonesia on a grant from the New York Zoological Society to study the habitat, feeding, courtship behavior, etc. of a giant lizard, Varanus komodoensis (Fig. 1). The purpose of this study was ultimately to make management recommendations because the lizard was thought to be threatened



with extinction. The lizard, or monitor ("ora", as it is called by the natives) attains lengths of 8-10 feet and sometimes weighs as much as 200 lbs.

While in Indonesia the Auffenbergs lived on the small island of Komodo, 20 miles long by 12 miles wide (Fig. 2). They had essentially to live off the land, with a boat bringing supplies, such as rice, once a month.

Dr. Auffenberg has participated in a TV film for "Animal World", filmed during his year on Komodo. He returned to Komodo in September to make another film; this one to be shown in the near future on "Wild Kingdom." He is currently in the process of producing a book about this fascinating creature. Plans are also being formulated for another book about that area of the world at some time in the future.



Dr. Pierce Brodkorb, Professor of Zoology, University of Florida, Gainesville.

Dr. Brodkorb is interested in the evolution of birds. He has studied Florida avifaunas of Miocene to subrecent age, and he has reported on material ranging back to the Mesozoic era from other areas. Among the material which he is currently studying is a large collection of bird bones discovered by the Leakeys at Olduvai Gorge, Tanzania, East Africa.

Four of the projected five volumes of his CATALOGUE OF FOSSIL BIRDS, a standard reference work of world-wide scope, have been published by the Florida State Museum in the BULLETIN OF THE BIOLOGICAL SCIENCES SERIES.

In addition to his research, Dr. Brodkorb teaches evolution, ornithology, and zoogeography.

Howard H. Converse, Jr. Museum Technician Supervisor, Department of Natural Sciences, Florida State Museum, University of Florida, Gainesville.

Many of you will remember from the last "News Notes" that Mr. Converse has done some rather extensive collecting from the Kissimmee River. The Museum is happy to have him aboard -- he has already been an asset in our vertebrate paleontology division, especially in the field work. He is now in Komodo as field assistant with Dr. Auffenberg.

Several fossil collecting expeditions have been made this past year by Dr. S. David Webb and Howard Converse to the Bone Valley area near Bartow, Florida. Each trip was quite rewarding in that valuable specimens were discovered, helping fill the gap of knowledge in the paleontology of Florida.

One of the unique spots visited in the phosphate region was the Kincaid Sinkhole, of very recent origin, having "opened" in 1965. Dr. Webb, Mr. Converse, and Bill Oldacre, an expert caving man, scaled its steep walls to collect sample specimens for a further study of the geology of that region. To their disappointment they found no vertebrate fossils. The limestone in the walls held only invertebrate shells that helped date the limestone.

Some of the major finds of the year from the Bone Valley area included a molar tooth from a Paleomastodon sp.; part of a skeleton of an early rhino, Aphelops sp.; and many other individual teeth from large cats, dog-like animals, and peccaries.

When the weather became more favorable and the rivers began to clear, Dr. Webb, Mr. Converse, and several volunteers began working a Pliocene site on the Withlacoochee River. This has been Dr. Webb's

favorite because it has the most complete record of a small deer-like animal (family Tragulidae, genus Pseudoceras) to be found in the New World, and closely resembles a modern-day animal found in Asia and Africa -- the chevrotain.

After two months of diving in this exceptionally clear river, numerous skeletal parts of the Pseudoceras were brought to the surface along with a couple of partial skulls. The first mandible section showing the large canines was also discovered. One of the most exciting discoveries dug out of the clay river floor was a spoon section of the lower mandible of a Pliocene proboscidean, Platybelodon sp. This mandible spoon section formed a scoop used in swampy areas to dig roots for food.

Permission was granted this spring for the Florida State Museum to do some excavation work on the bottom of the fabulous, clear, spring-fed Itchetucknee River in the newly formed Itchetucknee State Park. Howard Converse, David Dorman, and several volunteers began fanning away sediments in an area that has produced some very good finds. After a couple days of diving, the material that had been brought to the surface consisted of deer, peccary, turtle, snake, rodent, and bear.

Future plans in the Museum's vertebrate paleontology division will consist of a reconnaissance of several of the northern Florida rivers. This reconnaissance will be searching for new and possibly more exciting paleontological discoveries.

Dr. Edward S. Deevey, Jr. Graduate Research Curator, Florida State Museum, Professor of Zoology, University of Florida, Gainesville.

The Museum is very fortunate in the addition of Dr. Deevey to the Natural Sciences staff. He is an internationally known scientist and has published extensively

in the areas of pollen stratigraphy, limnology (study of fresh water conditions), paleolimnology, biogeography, biochemistry, and general ecology.

Dr. Deevey's latest research is a preliminary study of the "Historical Ecology of the Maya Area," sponsored by an NSF grant, in which he is assisted by two other FSM staff members, Dr. Habib Yezdani, Research Associate, and Hague Vaughan, graduate student in Zoology. By study of the material collected they hope to: 1) further knowledge of the historical ecology of the area, and 2) interest others in a broad program of tropical ecosystem analysis.

Dr. Deevey feels that understanding of the "experiment" in the Mayan use of tropical forest is very important. With the rapid growth of the world's population and no foreseeable way to reduce its demands, we must find ways of using our renewable resources. Support of dense populations in man's immediate future is expected to come from the world's still largely untapped tropical resources.

Dr. Thomas H. Patton. Associate Curator in Vertebrate Paleontology, Florida State Museum, Assistant Professor of Geology, and Assistant Professor of Zoology, University of Florida, Gainesville.

Dr. Patton is continuing his rather extensive work on artiodactyls in collaboration with Beryl Taylor of the American Museum of Natural History. Dr. Patton went to New York this summer to continue writing a monograph on these animals, which should be ready for publication in the near future.

In addition, Dr. Patton has also kept busy with graduate courses in vertebrate paleontology.

Dr. Graig Shaak. Assistant Curator in Invertebrate Paleontology, Florida State Museum and Assistant Professor of Zoology, University of Florida, Gainesville

The Museum is pleased to have Dr. Shaak join our staff in this newly created position. His research has been concerned with the application of modern community ecology concepts to the fossil record. As the ecologists are trying to reach conclusions about the communities now living around us, this method of analysis allows him to understand what ecological processes were happening millions of years ago. In particular, what Dr. Shaak has recently studied are Pennsylvanian fossils, primarily mollusks and ostracods, found in shallow, benthic Pennsylvanian communities at the edge of what was then the sea. This work enabled him to document a cyclical sequence, the change of the actual shoreline, and the succession of organisms through time with respect to changing water depth. This study was the subject of his doctoral dissertation, presented at the University of Pittsburgh, Pennsylvania.

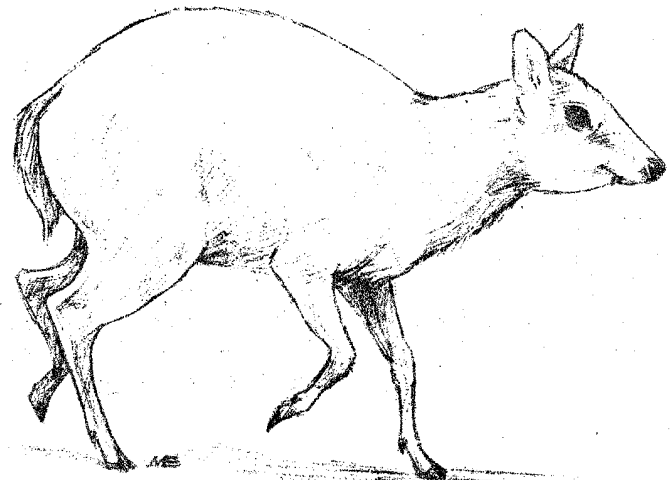
Dr. Shaak now hopes to try this technique on the much younger Cenozoic communities found in Florida. His research program will blend very nicely with the Museum's already well-established programs in vertebrate paleontology and zooarchaeology and the relatively new ones now underway in paleoecology under Dr. Edward S. Deevey, Jr., Graduate Research Curator.

The Plaster Jacket will also benefit from the arrival of Dr. Shaak. In the near future he will enable us to add a new dimension to this publication through the inclusion of short papers on the invertebrates.

Dr. S. David Webb. Associate Curator in Vertebrate Paleontology, Florida State Museum and Associate Professor of Zoology, University of Florida, Gainesville.

Dr. Webb has recently left on a University of Florida Faculty Development Grant for a year in Europe. Through a grant from the National Science Foundation and a Guggenheim Fellowship, he will study Old World fossil tragulids (Fig. 3) housed in a number of European museums.

There are currently two hypotheses regarding the origin of ruminants (even-toed, hoofed, cud-chewing mammals). First, A. Milne-Edwards and Vladimir Kowalevsky hold that the Gelocidae (extinct forebears of the living tragulids) gave rise to the ruminants. Secondly, W. D. Matthew, Walter Granger, and E. H. Colbert suggest that early ungulates, such as Archaeomeryx and Hypertragulidae, are the ancestors of all later ruminants. Dr. Webb's European trip will be focused on the Old World origins of Tragulidae and their relationships to Gelocidae and other Old World selenodonts.



A TRAGULID

For several years Dr. Webb has been making preliminary descriptive surveys of the collections at the American Museum of Natural History and the Florida State Museum, and has now established a sufficient basis for broader comparisons of Old and New World material. Much of the Florida State Museum fauna has been collected by Dr. Webb and other museum personnel at a site known as the Withlacoochee 4A. Upon his return to the United States next year, Dr. Webb expects to obtain much additional material of significance for the Florida State Museum collection and the finalizing of his study.

Dr. Webb is editing a book on the Pleistocene of Florida, which will be ready for distribution by the University of Florida Press in the near future.

Dr. R. Dale Guthrie. Associate Curator in Vertebrate Paleontology, Florida State Museum, Gainesville.

With the departure of David Webb for Europe, Dr. Guthrie, who is on leave from the University of Alaska where he is professor of zoology, has joined the Museum's staff for one year. His research to date has focused on the mammalian fauna of Alaska. While in Florida Dr. Guthrie hopes to pursue problems relating to comparisons of mammalian paleo-community structures between the high arctic and south temperate regions. He will also work with Dr. Thomas H. Patton on their mutual interests in the evolution and "paleofunction" of horns. In the near future Dr. Guthrie will also be contributing to the Plaster Jacket.

Dr. Elizabeth S. Wing. Assistant Curator in Zooarchaeology, Florida State Museum and Assistant Professor of Anthropology, University of Florida, Gainesville.

This past July the Zooarchaeology Department cooperated once again in an interdisciplinary research program directed by Dr. Stuart Scott, Anthropology Department, University of New York at Buffalo. The area of study is in the Marismas Nacionales of Sinaloa and Nayarita, Mexico. This is a large estuary on the Pacific coast just south of the Sea of Cortez, and the objective is to study both the environmental and cultural history of this area. Our interest in this project is to investigate the animal resources available in this estuary, and those used by man both in the past and at present. Dr. Wing and Rochelle Marrinan, a Tulane graduate student studying in Zooarchaeology this summer, spent a couple weeks gathering data and specimens for this project.

THANKS

The Vertebrate Paleontology Division of the Museum would like to extend thanks to the following people for assistance and donation of some very excellent specimens to the collection:

- to H. W. Smith for the donation of many remarkable and unusual specimens.
- to Gordon Hubbell for many specimens.
- to C. D. McLaughlin for an upper molar of an extinct species of horse.
- to Bruce Bon Fleur for the scute of a glyptodont.
- to Jan Jennings for the donation of a beautifully preserved whale skull, probably Pilot whale.

- to John Waldrop and Norm Tessman for the experienced help in excavating the Bone Valley site.
- to Frank Garcia for antilocaprid horns.
- to Harold F. Schollian for the serranids (sea bass) from the Green Valley Quarry, Marianna, Florida.
- to Isaac Jacobsohn and J. Brian Alker for mammoth patellas and other Pleistocene bones.
- to Melvin McClean for the right mandible of Procyon (raccoon) and the left mandible of a seal from North Palmetto Mine.
- to R. W. Narramore for bird tarsometatarsus, a left maxilla with three teeth (P³ and M²⁻³) of Mylohyus, and one tooth (DP⁴) of Cuvieroneus from Port Charlotte.
- to Prince E. Jinright for skulls of Megalonyx and Tapirus from the Aucilla River.
- to John Waldrop for approximately 40,000 fossil bones consisting of fish, reptiles, and mammals. Among them several rare items of special interest are: (1) two Pliocene beaver jaws; (2) a nearly perfect mandible of a Pliocene Gomphotherium; (3) four Pliocene carnivore mandibles; (4) five horns and 12 teeth of Pliocene Antilocapridae; and (5) about 50 cheek teeth of Pliocene Equidae.
- to Joe Larned and Ben Waller who continue to give us their most able assistance and support.

As we hope to include issues such as this more frequently in the future, may we also take this opportunity to remind you that we welcome all communication from our readers and others, and shall do our very best to be of service in any way possible.

Our mailing list has continued to expand tremendously, and perhaps some of you have moved recently or are no longer interested in receiving the Plaster Jacket. For purposes of updating our mailing list you will find at the back of this issue a post card. We will be greatly appreciative if you will take the time to fill it out -- please be sure to include your address whether old, new, or same -- and return it to us.