

The **PLASTER JACKET** is a newsletter about fossil vertebrate animals of Florida. Its purpose is to circulate authoritative material on vertebrate paleontology and to foster communication among the growing number of enthusiasts of this subject.

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 about 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 pamphlets are distributed free of charge to all interested people.

THE PLASTER JACKET
Florida State Museum
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- FLORIDA STATE MUSEUM
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WHAT IS A PLASTER JACKET ?

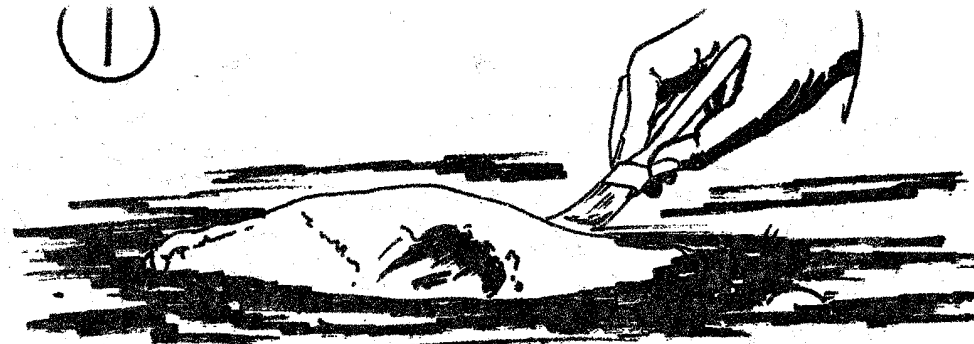
WALTER AUFFENBERG

Readers have asked why we chose **THE PLASTER JACKET** as the title for our paleontological pamphlet series. One of the most useful and widely used techniques of the professional paleontologist, the jacket he makes of plaster of paris to safeguard his find in the field symbolizes the painstaking care and diligence he uses to preserve material from the moment he discovers it.

Most vertebrate fossils in Florida are found as isolated bones, teeth, or scales. Complete skeletons are extremely rare, and in many deposits even complete bones are rather unusual. Fossils found in riverbeds, on beaches, or along the spoil-banks of canals or quarries are often just fragments of formerly complete specimens that have been scattered by currents or the dragline bucket.

When one is lucky enough to find a specimen that has not been disturbed, a major problem is to keep it intact for removal in its enclosing matrix for laboratory cleaning. Even undisturbed fossils are often found cracked and broken into tens or even hundreds of pieces. Reconstruction is much simpler if all the pieces can be kept solidly in place until the specimen is ready for restoration in the laboratory. This is where the plaster jacket proves its worth.

Assume you have found a fossil so fragile it will fall apart if you try to pick it up. The paleontologist will first protect it with a plaster jacket as described in the following pages. A small jacket can be applied in 2 or 3 hours; a large one may take several days. Regardless of the time it takes, **THE PLASTER JACKET** is an indispensable "tool of the trade."



First, all sediment is carefully removed from the top of the fossil. This is usually done with knives and brushes.



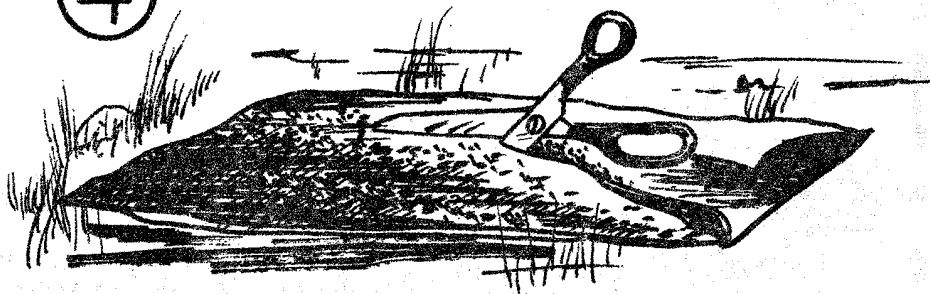
Remove sediment from sides until sure of extent of fossil. Do not remove more than necessary.

3



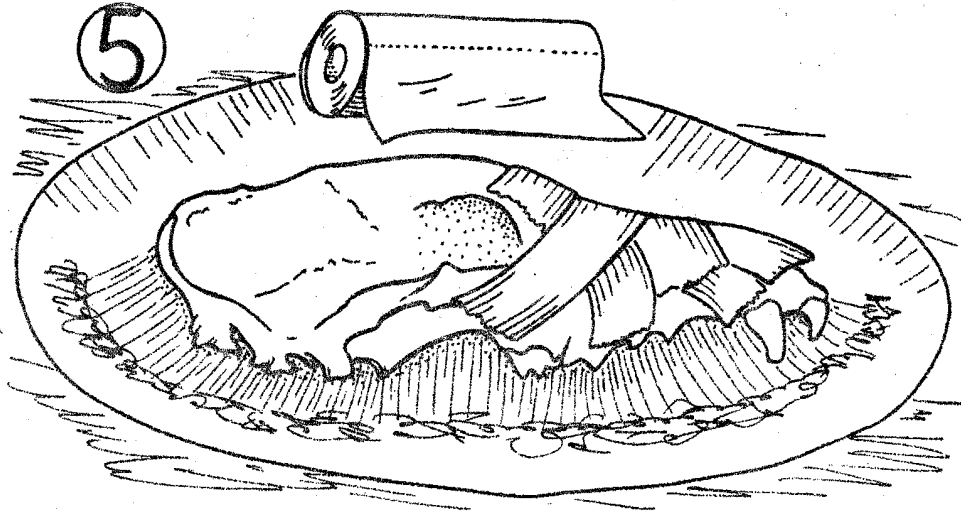
When the outer edges of the specimen are determined dig a trench one foot wide around the fossil. Depth will depend upon the size of the specimen. It is better to make it too deep than too shallow.

4



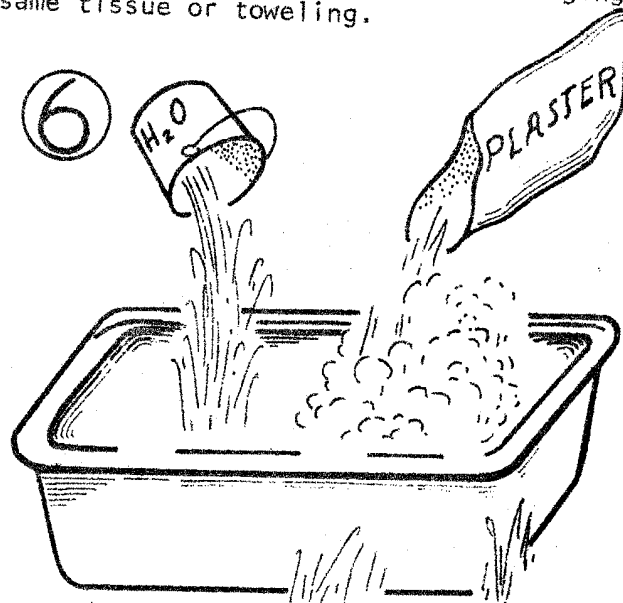
You now need strips of burlap about 3 inches wide. These may be cut from burlap sacks before going into the field. For a specimen about 2 ft. X 2 ft. you will need strips from at least two sacks. For smaller specimens less than 1 ft. X 1 ft., strips of cheesecloth or wide roller bandage may be used.

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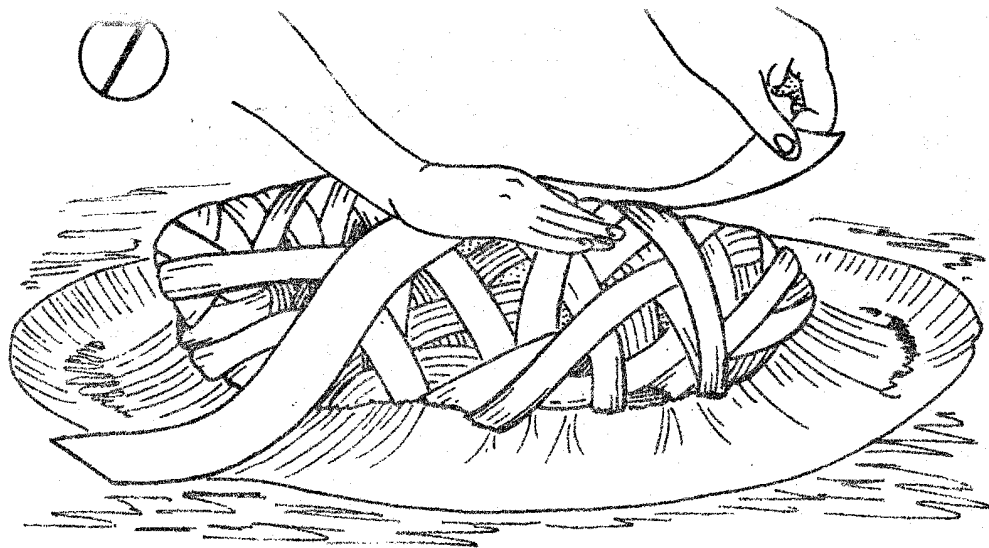


Cover all exposed parts of the fossil with approximately 1/4 inch of wet toilet tissue or paper toweling, taking care to fill all large holes and overhanging areas with the same tissue or toweling.

6

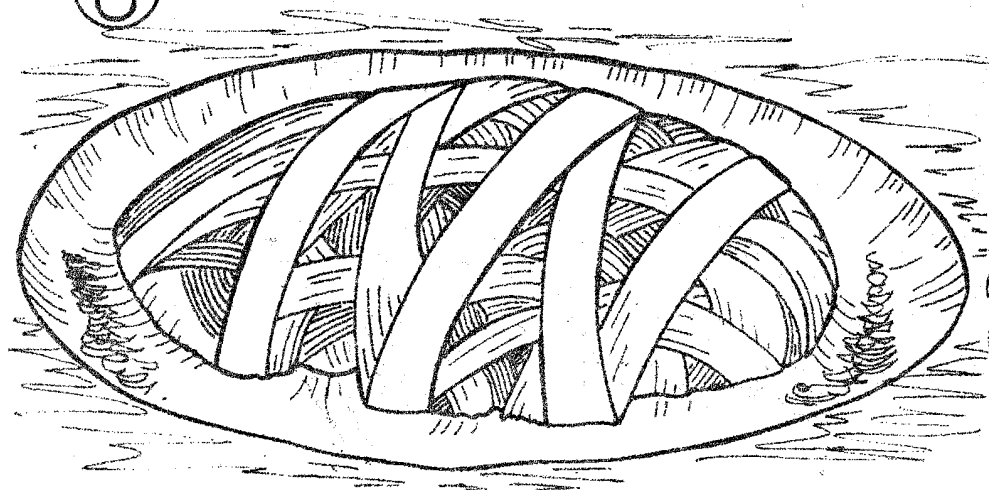


Add a quantity of plaster of paris to a plastic dishpan first. Then add water slowly and stir until the mixture is about as thick as a pancake batter. Mix several strips of burlap into the mixture, making sure the

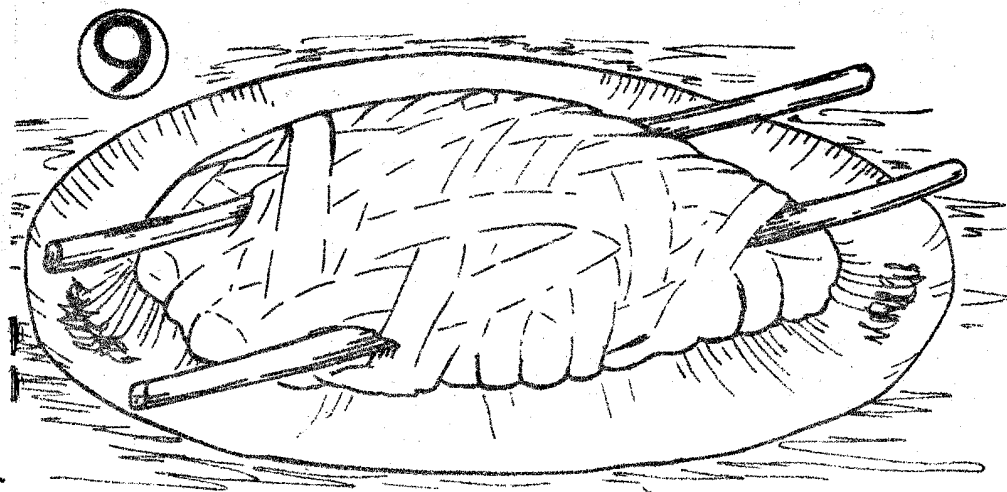


Lay a strip of plastered cloth back and forth across the top of the tissue-covered fossil to the inner edge of the trench.

8

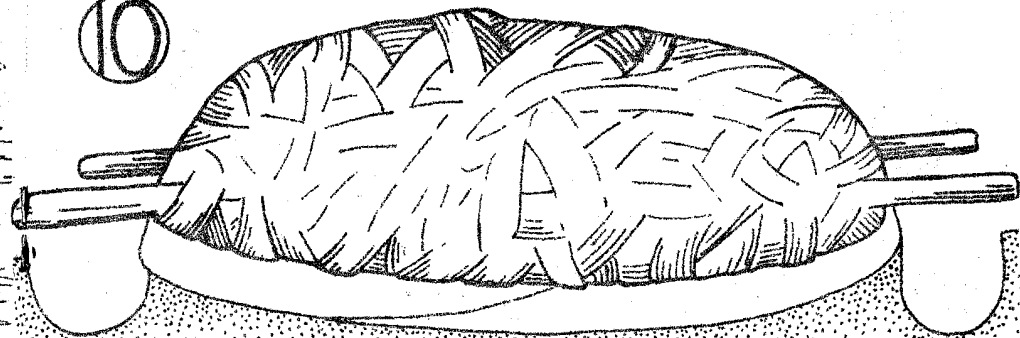


Repeat with additional strips laid in other directions until the entire fossil and pedestal top are covered with at least 1/4 inch of plaster and cloth (up to 1 inch thick for large jackets over 4 ft. in one

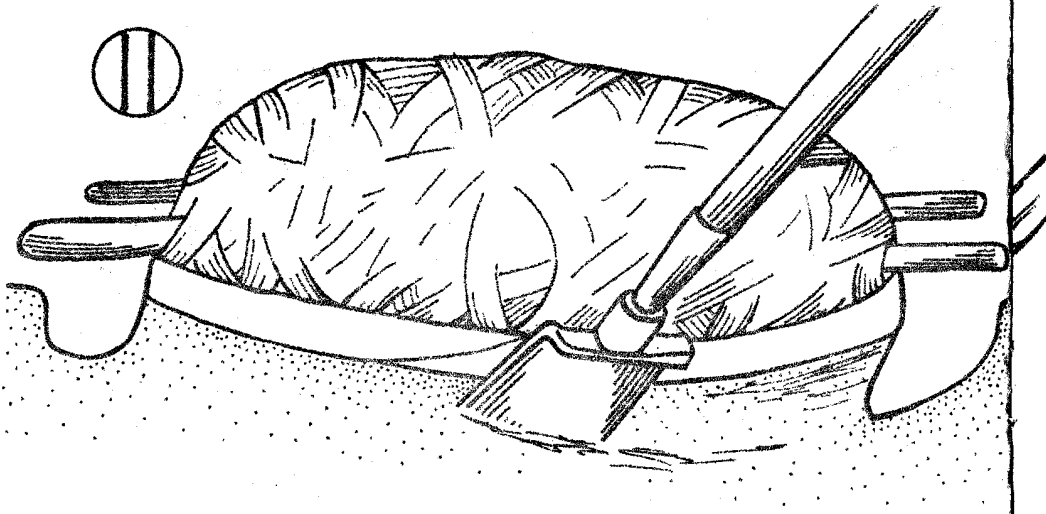


Large jackets may be strengthened with strong pieces of wood, hardware cloth or steel rods held in place with plastered strips. (These often make handling easier and safer.) Now smear a plaster mixture about 1/8 inch over the entire top.

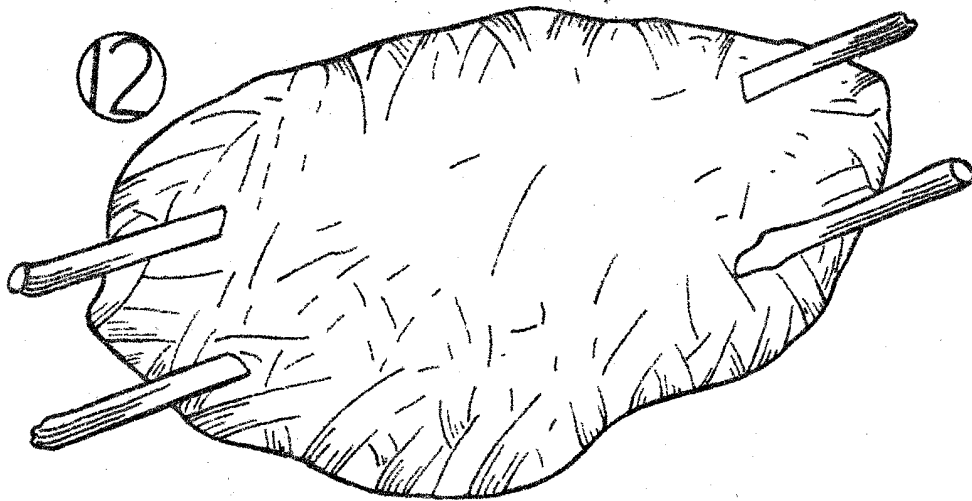
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Wrap several plastered strips tightly around the sides of the pedestal, making sure to tie them in securely with the top covering. The strips should extend down the pedestal beyond the anticipated bottom of the fossil. Smear on plaster as in No. 9.

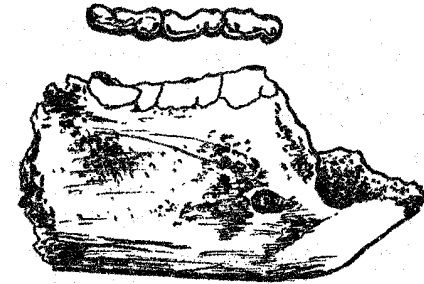


With a spade or shovel cut off pedestal below bottom of jacket.



Turn fossil over carefully and plaster the underside as you did the top (not necessary if the fossil is to be cleaned immediately). A small jacket can be prepared in about 2 hours; a large one may take several days. When the plaster dries write what it contains and the locality plainly on the surface with a felt pen.

RECONNAISSANCE IN CENTRAL AMERICA



During most of the Tertiary Period, North and South America were separated by an ocean barrier across what is now Central America. The land animals on the two continents evolved independently for over 50 million years so that in the Late Tertiary, when North and South America were reunited, an extensive interchange of radically different northern and southern types began. Large-scale shifts in distributional patterns occurred and with the appearance of new competition, particularly in South America, major extinctions resulted.

Although this event is clear in outline, its timing and the precise patterns of faunal interchange and extermination are poorly understood. Almost nothing is known of the faunal history of Central America during the Late Tertiary, yet it was the crux of the great faunal interchange.

Dr. David Webb of the Florida State Museum recently made a reconnaissance of potentially interesting parts of Guatemala and Honduras in search of Late Tertiary fossil vertebrates. After driving 4,000 miles by jeep, flying as many by helicopter and bush plane, and riding what seemed like as many on burros, he reports some promising leads. In central Honduras Pliocene sediments contain a fauna that is exclusively North American in its affinities and closely resembles certain faunas in Florida. However, younger sediments (probably Early Pleistocene) in the same area contain a fauna that is a mixture of South and North American types. The figure above illustrates a jaw of a strange South American ungulate (a toxodont) found in these deposits along with more familiar horses and mastodons. This work will be continued as soon as funds can be obtained.



BRIEF HISTORY OF THE MUSEUM

The Florida State Museum was established by an act of the State Legislature in 1917. It operates as a department of the University of Florida and is charged with the broad programs of research, publication, collecting, storage, public service, and instruction that are the normal functions of a natural history museum.

Throughout its early years under the directorship of T. H. Van Hyning, the museum occupied part of a building on campus; in 1937 it was moved to its present location in downtown Gainesville in the Seagle Building. From 1917 until Van Hyning's retirement in 1946, it was almost a one-man operation -- but nevertheless its growth was steady.

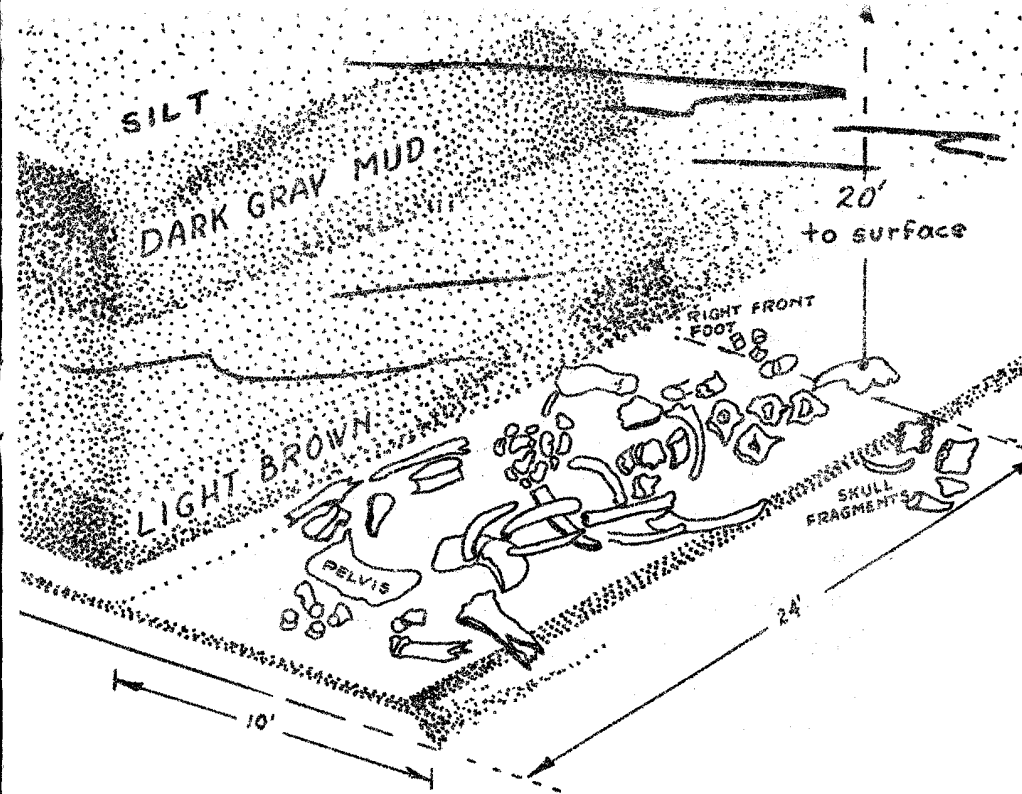
During this period natural history and systematic studies by staff and students in the Department of Zoology were accumulating collections of fishes, reptiles, amphibians, birds, and mammals.

After Van Hyning's retirement the museum became dormant but the teaching staffs in zoology and anthropology continued to collect research specimens. In 1951 the university began again to provide funds to revitalize the museum under the direction of Arnold B. Grobman. At this time the collections of the Department of Zoology were joined with those of the museum.

The Seagle Building, approximately one mile east of the university campus, provides most of the space now occupied by the museum. Part of the first floor and nearly all the second floor is used for exhibits and is open to the public. The Department of Natural Sciences' collections of vertebrate paleontology and herpetology occupy a part of the basement.

The vertebrate paleontological collection is especially strong in fossils from the late Cenozoic deposits of Florida, the Bahama Islands, Jamaica, and the Lesser Antilles. This collection is first in the country in size and importance from its geographic area, even though it was initiated only twelve years ago. It contains large numbers of unique specimens, many large series of unusual species, as well as a number of types. The collection of Late Cenozoic and Quarternary reptiles is one of the best in the country.

All space now available to the museum is expected to be filled within several years. However, plans are now well under way for a new museum building on campus.



UNDERWATER DISCOVERY

Robert R. Allen of the Florida State Museum and Ben I. Waller of Ocala, Florida recently excavated about half of a mammoth skeleton from the bed of Silver River. The site of the excavation was some 2 miles downstream from Silver Springs, Florida.

The deposit was discovered by Waller and Bill Franklin in 1964 but it was not feasible to begin the excavation until May, 1966. Waller and Allen, along with Jack McEarchern, Roy Carpenter, and Al Audleman did the underwater work. The activity was underwritten by Silver Springs, Incorporated.

Inasmuch as this specimen was located under a moving stream it is remarkable that it was very well associated, although many of the bones were broken. Apparently this is the first associated mammoth skeleton located in an underwater site in Florida.

About twenty cubic yards of mud and sand have been removed in an effort to recover the entire skeleton. However, the problem of overburden has halted work for the time being.