

This is the second issue of a projected series concerning the fossil vertebrate animals of Florida. The purpose of these newsletters is to foster communication among the growing number of enthusiasts of this subject.

The first issue, on Cenozoic Sharks of Florida, was written by Mr. Norman Tessman and issued on the 9th of September, 1966. Mr. Tessman is a graduate student in Geology and Research Assistant at the Florida State Museum.

The author of this issue, Dr. Elizabeth Wing, is Assistant Curator of Zooarcheology at the Florida State Museum in Gainesville. She is author of numerous articles on the morphology, systematics and distribution of vertebrates. Her principal research concerns vertebrates from archeological sites in the New World.

Each number in this series is devoted to some important topic or topics related to vertebrate paleontology. In addition, it is to serve as a forum for announcements and news notes regarding activities in this field. Questions and communications are solicited from all subscribers. Information of general interest will be included in future issues of the PLASTER JACKET.

It is our intent to produce this series at the rate of about one issue per quarter 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. The price of this series is a real interest in the subject matter.

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FOSSIL SKATES AND RAYS OF FLORIDA
Elizabeth Wing

Florida's many fresh, brackish and salt water habitats make it a fisherman's paradise today. There is every reason to believe that in prehistoric Florida the fish fauna was equally rich in numbers and diversity. Unfortunately, however, the study of fossil fishes has been much neglected. Intensive investigation of available material of this group will undoubtedly reveal a much more varied fauna than we know at present.

Identification of fossil fishes presents several problems. Within certain groups, species cannot be distinguished on the basis of fragmentary skeletal parts alone. A particular degree of difference may distinguish only between species in one group but between genera in another group. Fishes grow throughout life and differences between species are often masked by differences between growth stages. In spite of these difficulties, many fish species can be identified from fossil remains.

There are two major groups of modern fishes, the *Chondrichthyes*, or cartilaginous fishes, and the *Osteichthyes*, or bony fishes. The cartilaginous fishes are characterized by the presence of cartilage instead of bone. They include two major orders: the sharks, which were treated in the first issue of the PLASTER JACKET, and the skates and rays, which are discussed below. The bony fishes will be treated in a future issue.

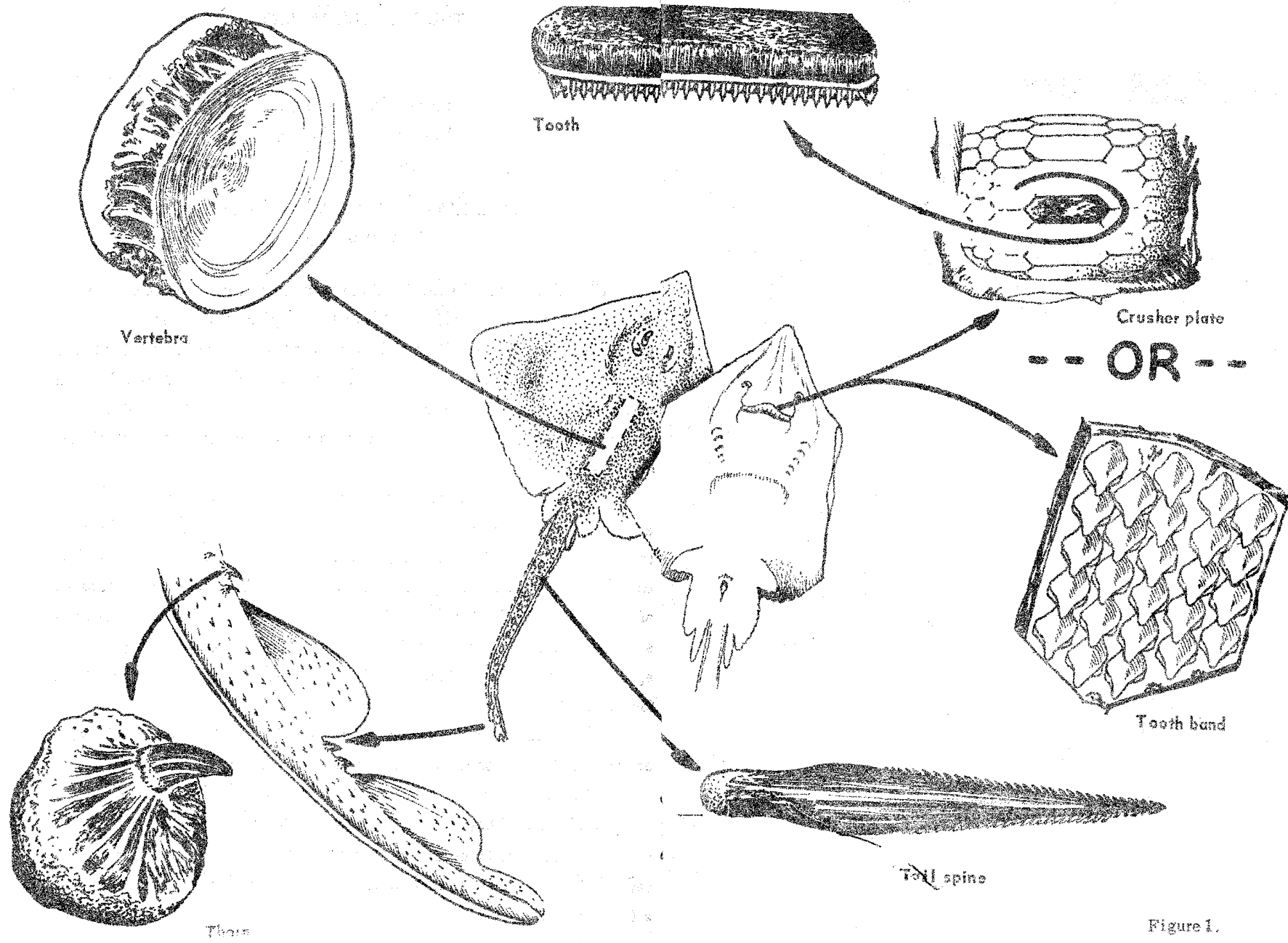


Figure 1.



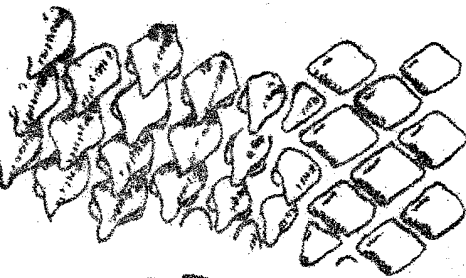
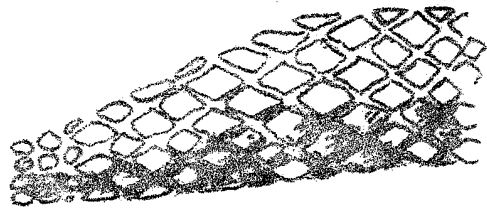
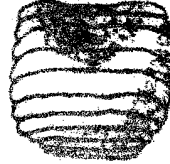

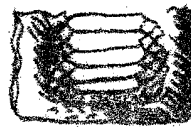
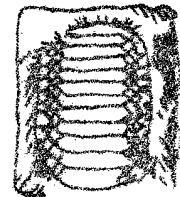
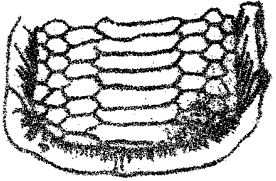
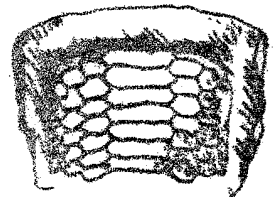

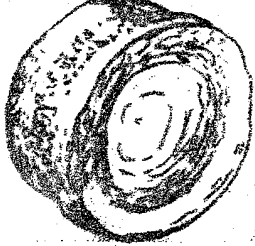
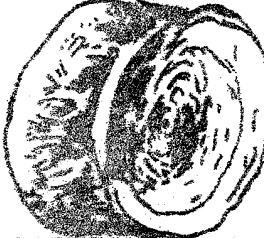

	<u>Pristis</u> Sawfish	<u>Raja</u> Skate	<u>Dasyatis</u> Sting Ray	<u>Aetobatus</u> Duck-billed Ray	<u>Myliobatis</u> Eagle Ray	<u>Rhinoptera</u> Cow-nosed Ray
Saw Tooth		none	none	none	none	none
Dentition		 OR -- 		 	 	 
Thorn	none			none	none	none
Vertebra						
Tail Spine	none	none				

Figure 2

CLASS : CHONDRICHTHYES - cartilaginous fishes.
 ORDER : RAJIFORMES - sawfish, guitarfish, skates and rays.
 FAMILY : PRISTIDAE - sawfishes.
 RECENT FLORIDA SPECIES :

Pristis pectinatus Latham - smalltooth sawfish.
Pristis perotteti Muller and Henle - largetooth sawfish.
 Recorded only from southern Florida.

HABITAT : Marine, shore.
 DISCUSSION : All living sawfishes belong in the genus *Pristis* and although several fossil genera have been described, the fossil vertebrae and sawteeth found in Florida probably belong to this genus.

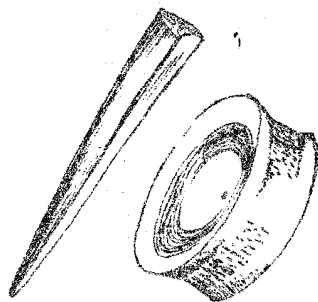


Figure 3. *Pristis*.

FAMILY : RAJIDAE - skates.
 RECENT FLORIDA SPECIES :

Raja ackleyi Garman - ocellated skate.
Raja eglanteria Sasc - clearnose skate.
Raja garmani Whitley - resette skate.
Raja lentiginosa Bigelow and Schroeder - freckled skate.
Raja texanus Chandler - roundel skate.

HABITAT: Marine, benthic.
 DISCUSSION : The above are the skates found most commonly in the shallow waters around Florida. The skate "thorns," which are actually placoid scales, found occasionally in fossil deposits of Florida, are probably referable to the genus *Raja*.



FAMILY : DASYATIDAE - stingrays.
 RECENT FLORIDA SPECIES :

Dasyatis americana Hildebrand and Schroeder - southern stingray.
Dasyatis sabina (LeSueur) - Atlantic stingray.
Dasyatis sayi (LeSueur) - bluntnose stingray.

HABITAT : Marine, shore.
 DISCUSSION : All stingrays have both spines and thorns. While these elements vary both specifically and with age within a species, they do not lend themselves readily to specific separations. Nevertheless a few species can be distinguished by the shape of a cross section through the middle of the spine.

FAMILY : MYLIOBATIDAE - eagle rays.
 RECENT FLORIDA SPECIES :

Aetobatus narinari (Euphrasen) - spotted eagle ray, duck-billed ray.
Myliobatis freminvillei LeSueur - bullnose ray.
Myliobatis goodei Garman - southern eagle ray.
Rhinoptera bonasus (Mitchill) - cownose ray.

HABITAT : Marine, shore.
 DISCUSSION : These three genera may be distinguished by their teeth; *Aetobatus* has a curved tooth band in the lower jaw and a single row in the upper; *Myliobatis* has seven tooth rows with the center row the widest; *Rhinoptera* has 11 to 13 tooth rows in large individuals, 7 to 8 in smaller ones, with the three median rows wider than the lateral ones. An entire tooth band must be present to distinguish between the last two genera. See Figure 2.