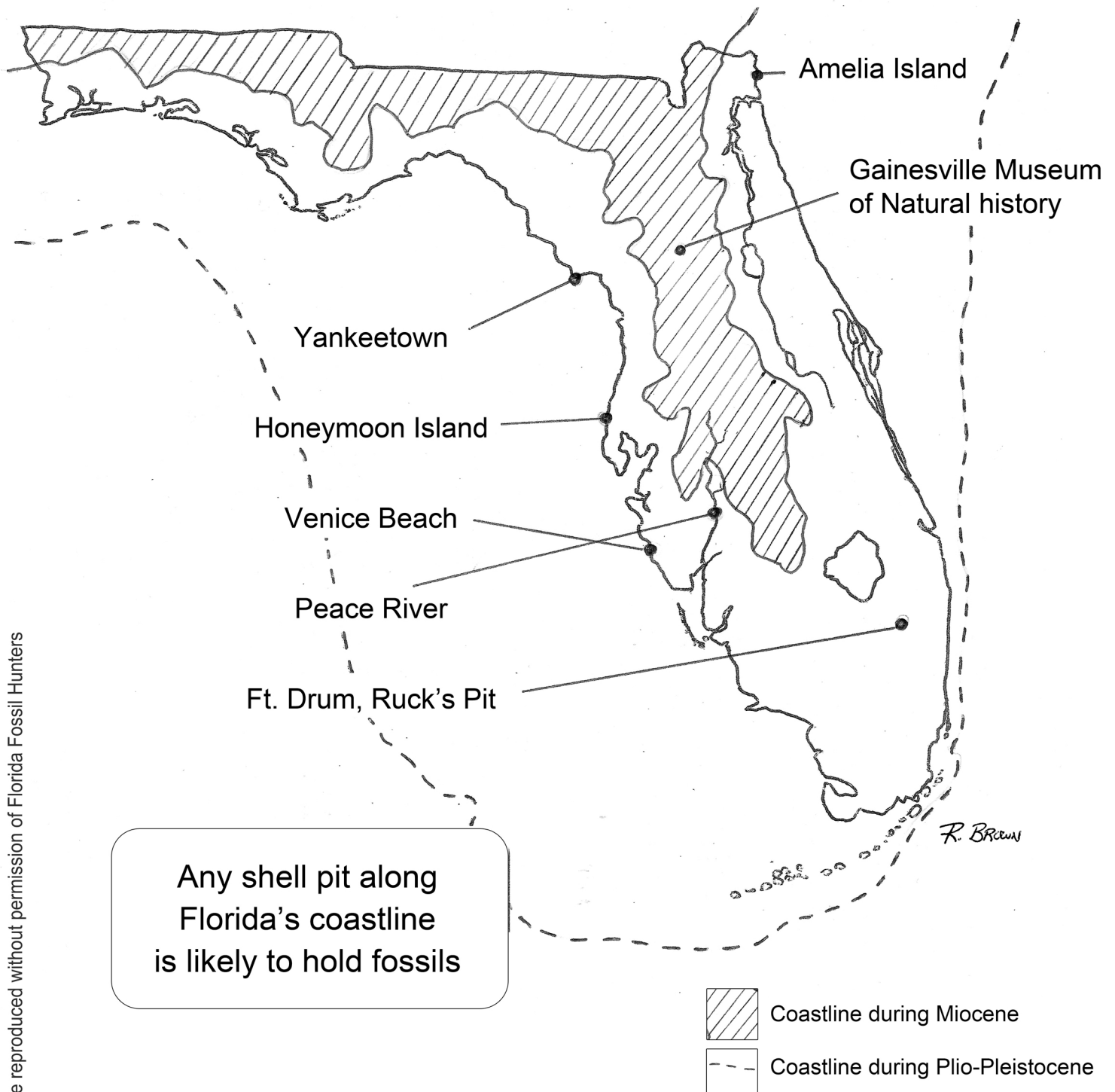


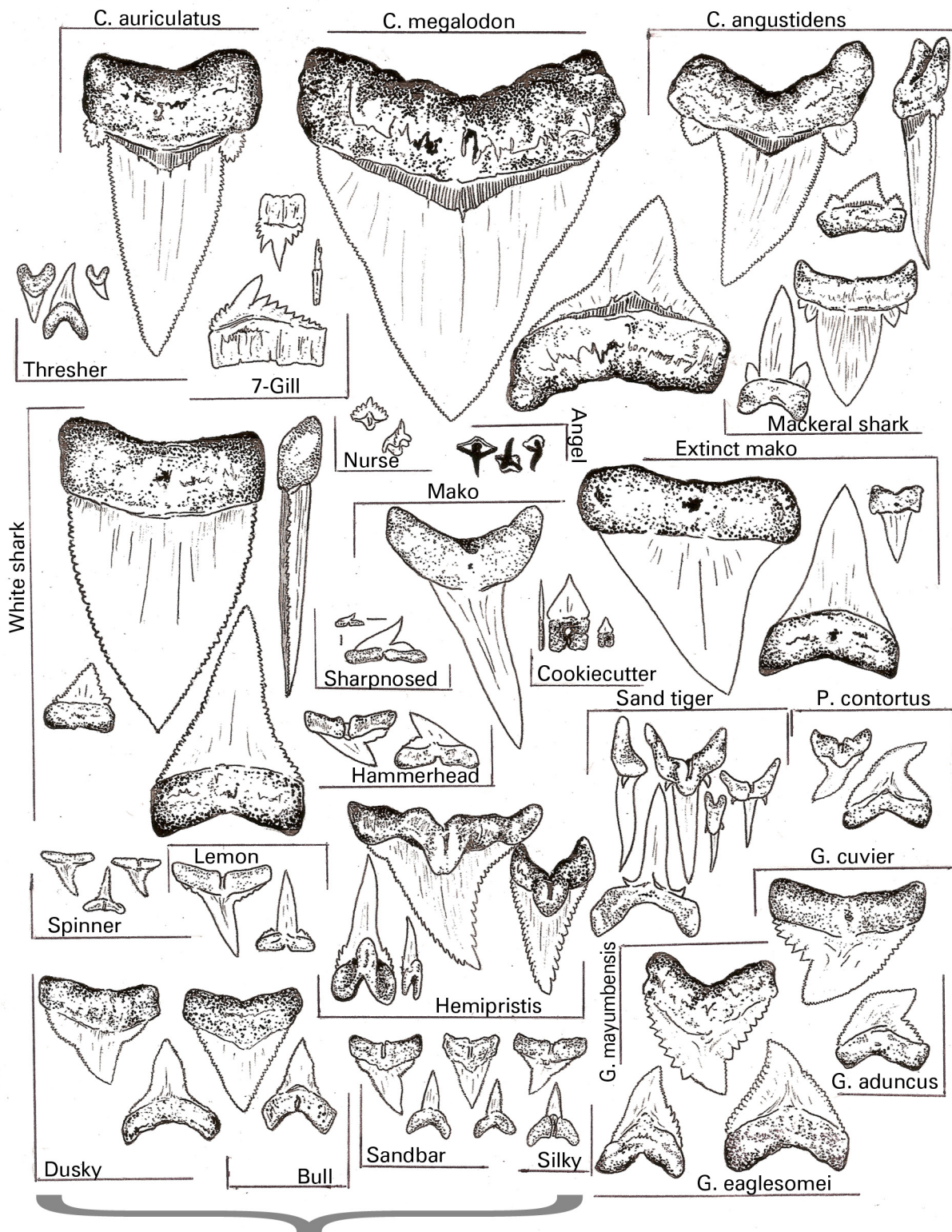
Common Fossil Haunts IN FLORIDA

For more information check the web



Florida first began to rise from the Ocean 30+ MYA

Fossil Sharks of Florida



Carcharocles megalodon
C. auriculatus
C. angustidens
 White shark, *C. carcharias*
 Mackeral shark, *Otodus obliquus*
 Extinct Mako, *Isurus hastalis*
 Mako, *Isurus desori*
 Thresher, *Ipioides latidens*
 7-Gill, *Notorynchus primigenius*
 Nurse, *G. cirratum*
 Angel, *Squatina prima*
 Cookiecutter, *I. triturator*
 Sharpnosed, *R. terraenovae*
 Hammerhead, *Sphyna mokarrane*
 Sand tiger, *C. taurus*
 Hemipristis serra
 Dusky, *C. obscurus*
 Bull, *C. leucas*
 Spinner, *C. brevipinna*
 Lemon, *Negaprion eurybathron*
 Sandbar, *C. plumbeus*
 Silky, *C. falciformis*
 Tiger, *G. cuvier*
 Tiger, *G. aduncus*
 Tiger, *G. mayumbensis*
 Tiger, *G. eaglesomei*
 Extinct tiger, *Physogalrus contortus*

Requiem sharks, Family Carcharhinae

This family of sharks has 60 species and is one of the largest family of sharks. Most have triangular, blade-like upper teeth with small serrations. Lower teeth are spike-like with broad bases. Teeth are very similar among the different species, making it difficult to identify the species in this family group.

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Tiger Sharks

Tiger shark teeth are common in the fossil marine sediments of Florida and throughout the world. Teeth from Tiger sharks are unique in their shape and similar in both upper and lower jaws. Curved back and notched with serrations, these teeth are used for cutting through prey. Teeth from 8 species of Tiger Sharks can be found in our State.



Symphseal teeth or "button" teeth, they are from the front center of the jaw.

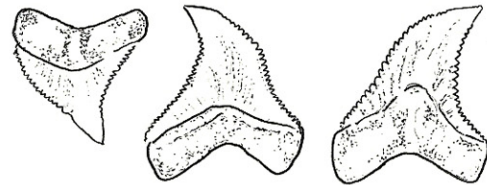


Posterior teeth, Back teeth in the jaw of the shark, progressively smaller to the back.



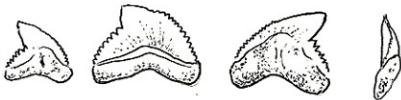
Galeocerdo latidens

Extinct Tiger shark, Eocene to Oligocene. Most teeth found to have a nearly straight mesial crown. Serrations are small. Tip has no serrations.



Galeocerdo eaglesomei

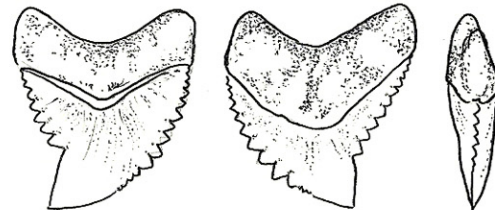
Mid-Eocene. These are extremely rare and look a lot like *Hemipristis serra*. Medium serrations to tip of crown. (Westgate 1989)



Galeocerdo articus

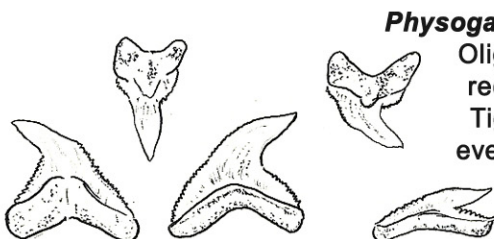
Eocene to early Oligocene. Teeth are small, slender, finely serrated. Renamed to *G. alabamensis* (Tessman 1969).

Another Tiger shark recorded in this time frame is *G. clarkensis*, but it is unclear how many species are valid.



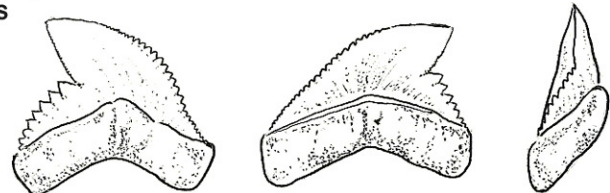
Galeocerdo mayumbensis

Mid-Miocene. Extinct Tiger shark with large, robust serrations. One of the larger Tiger sharks.



Physogaleus contortus

Oligocene to Miocene. Most recognizable of the extinct Tigers. Teeth are slender, evenly serrated, and crowns often twist to the side.

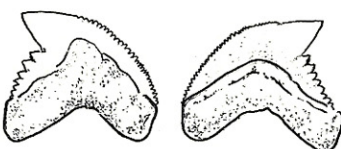


Galeocerdo aduncus

Oligocene to Miocene. Teeth are highly arched, compressed, and with complex serrations.

Galeocerdo cuvieri

Miocene to Recent. Modern Tiger shark. Serrations are coarse, small to large. Thick, robust teeth and roots. Common Tiger shark found throughout the State.

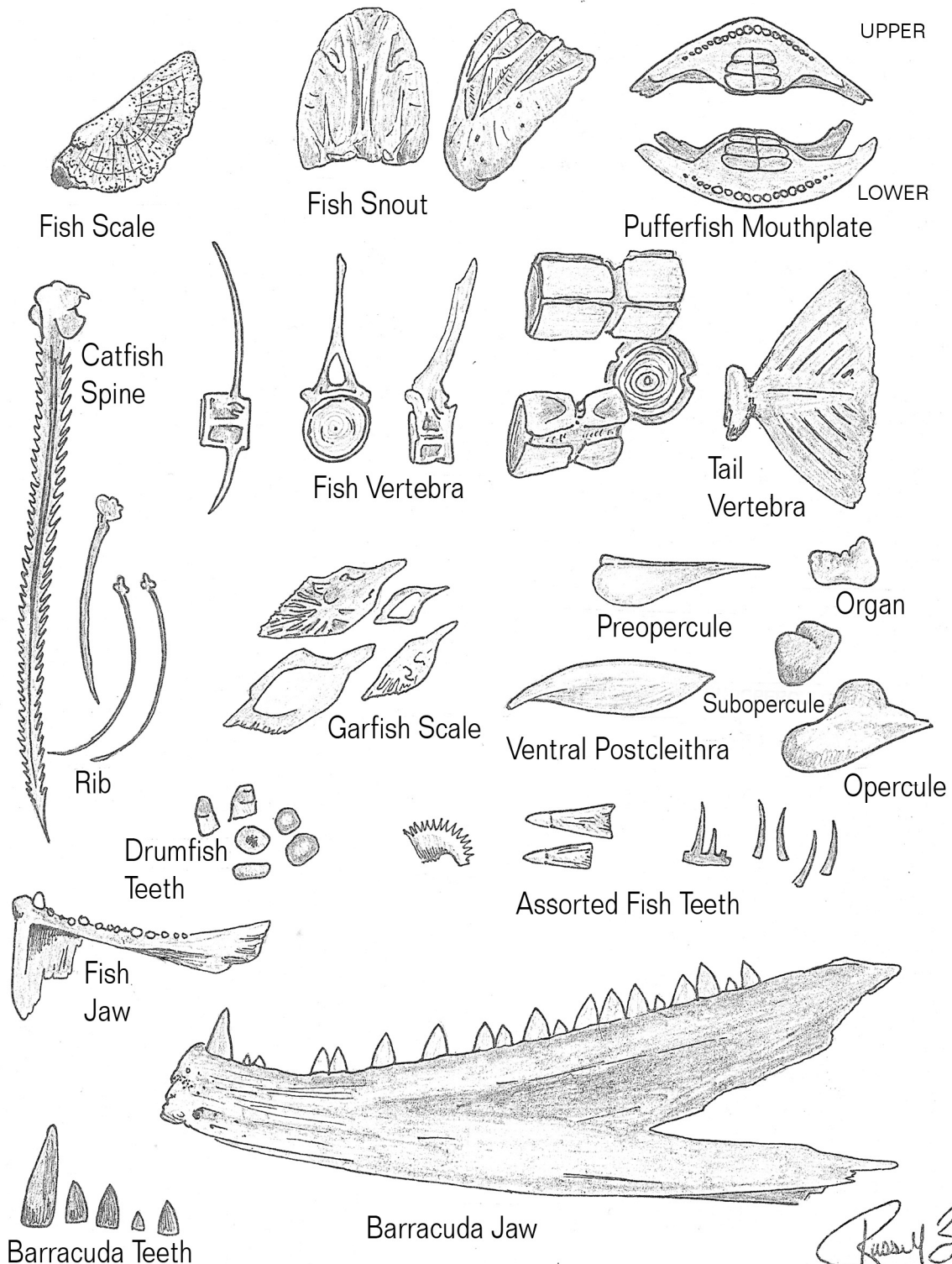


Russell Brown
2013

Florida Fossil Hunters ID Sheet

Fish: Actinopterygians / Bony Fish

Fish evolved over 400 million years ago. The ones in Florida's fossil record, which starts in the Eocene 55 million years ago, are modern species. The gar fish evolved in the Cretaceous and have changed very little since then. We find their fossilized scales. Fossil vertebrae from all types of fish are found. Some have become swollen due to the fish having to live in brackish water (mixed salt and fresh water) to which they weren't equipped to live in. Teeth and mouth plates from all types of fish are in the fossil layers, too. These fossils can give us a window into the world that Florida once was; from shallow seas to coral reefs to estuaries to rivers to lakes. One site may have many of these environments over the span of millions of years as the seas covered Florida, subsided, and rose again.



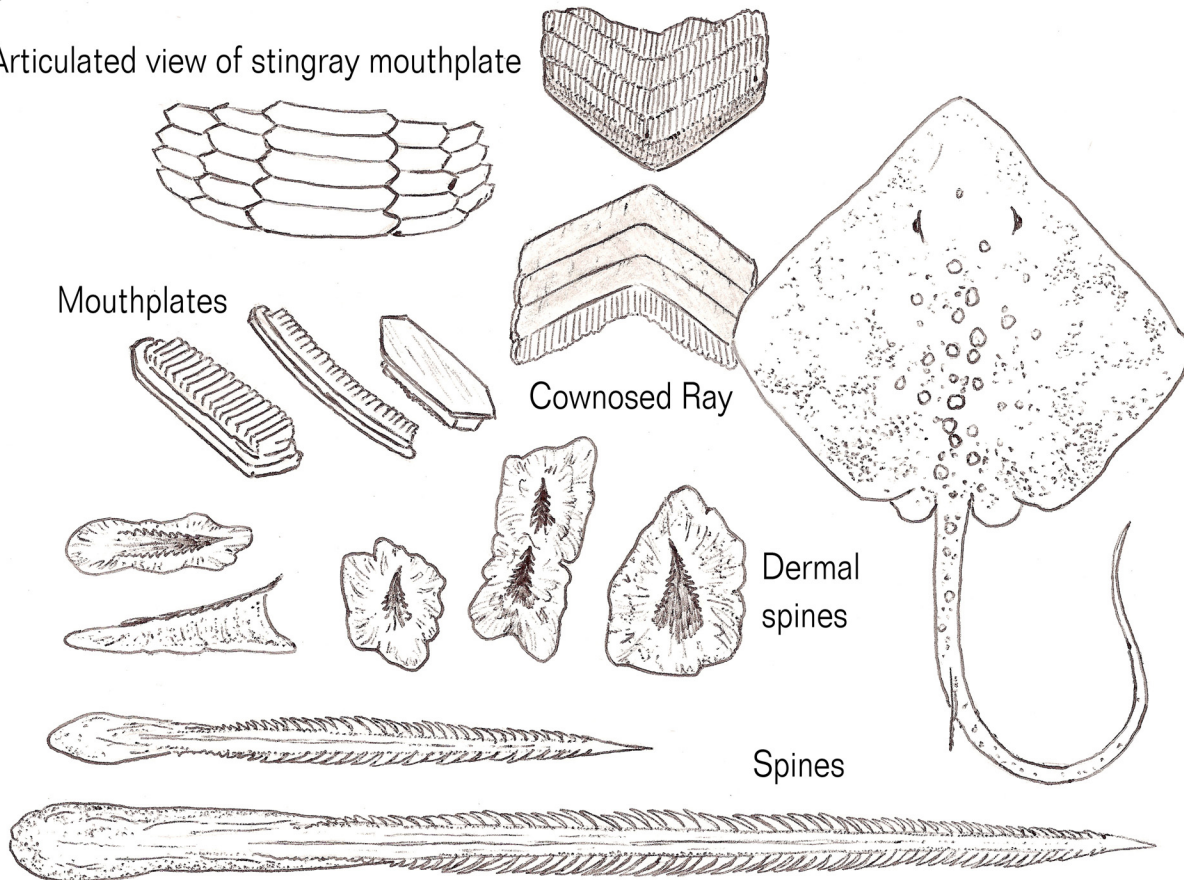
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Florida Fossil Hunters ID Sheet

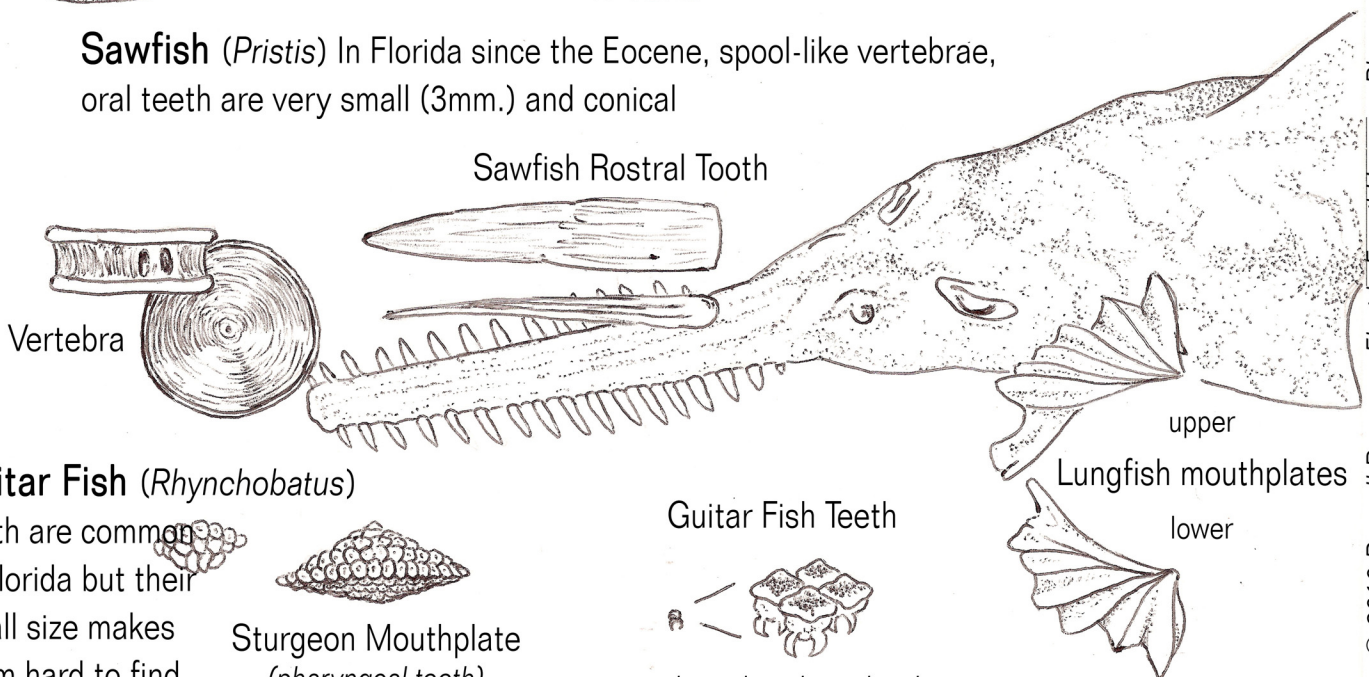
Batooids - Rays, Skates, Sawfishes

Rays are related to sharks and do not have a hard skeleton. We do find their fossilized vertebrae, enlarged dermal denticles that form spines, and pieces of mouthplates. They use these plates to crunch shrimp and crustaceans. Since they usually live along coasts and in estuaries, their fossils are quite common in Florida.

Articulated view of stingray mouthplate



Sawfish (*Pristis*) In Florida since the Eocene, spool-like vertebrae, oral teeth are very small (3mm.) and conical



Guitar Fish (*Rhynchobatus*)

Teeth are common in Florida but their small size makes them hard to find.



Guitar Fish Teeth
enlarged to show detail

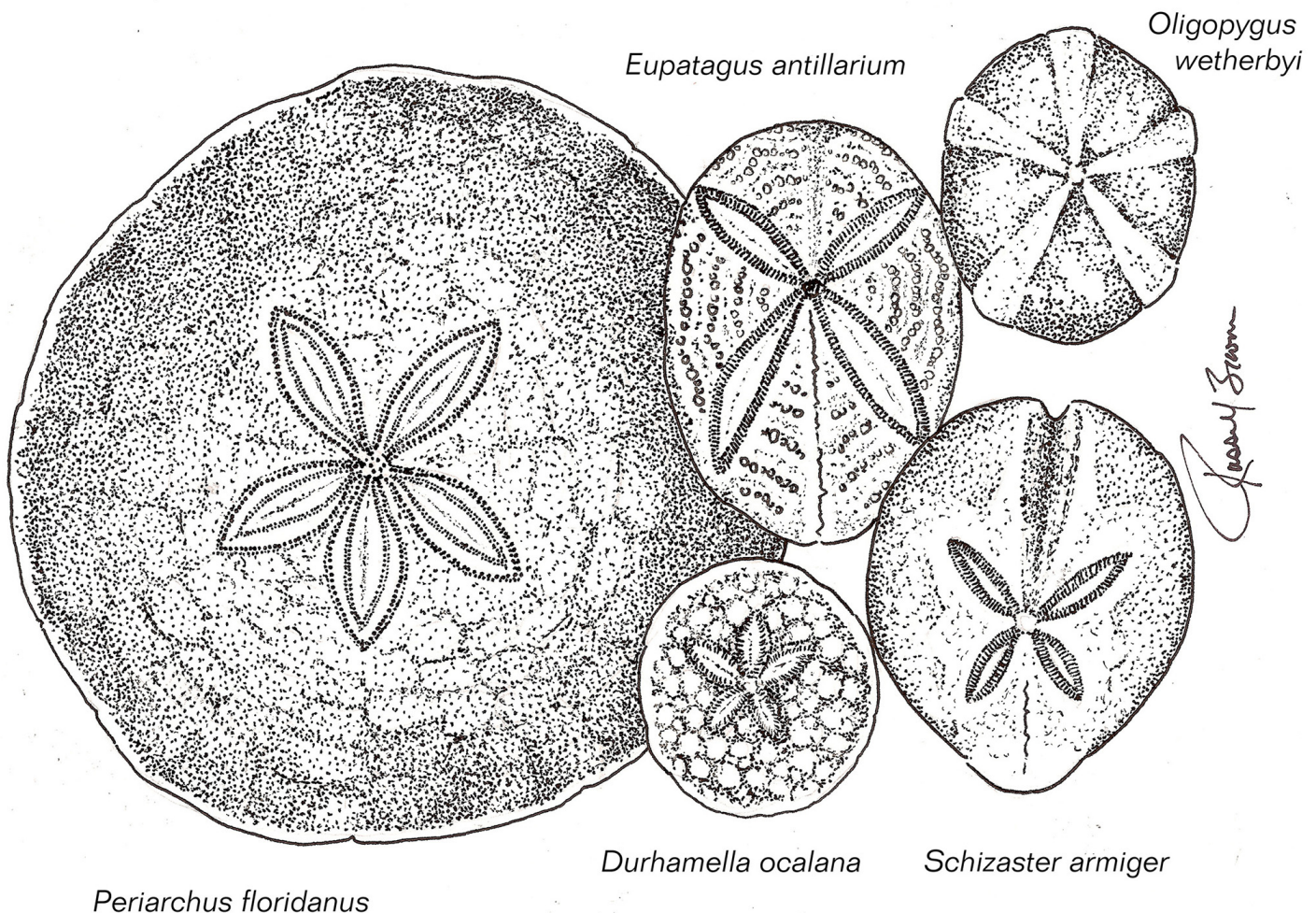
Yankeetown Echinoids

Yankeetown is located on the west coast just north of Crystal River where the Withlacoochee River empties into the Gulf of Mexico. From Orlando, take Hwy. 50 west to 98, go north on 19, turn left onto 40 till the road ends. You won't miss it. You'll need a small boat or canoe to get to several small spoil islands. The first island is only a few hundred feet from the boat ramp.

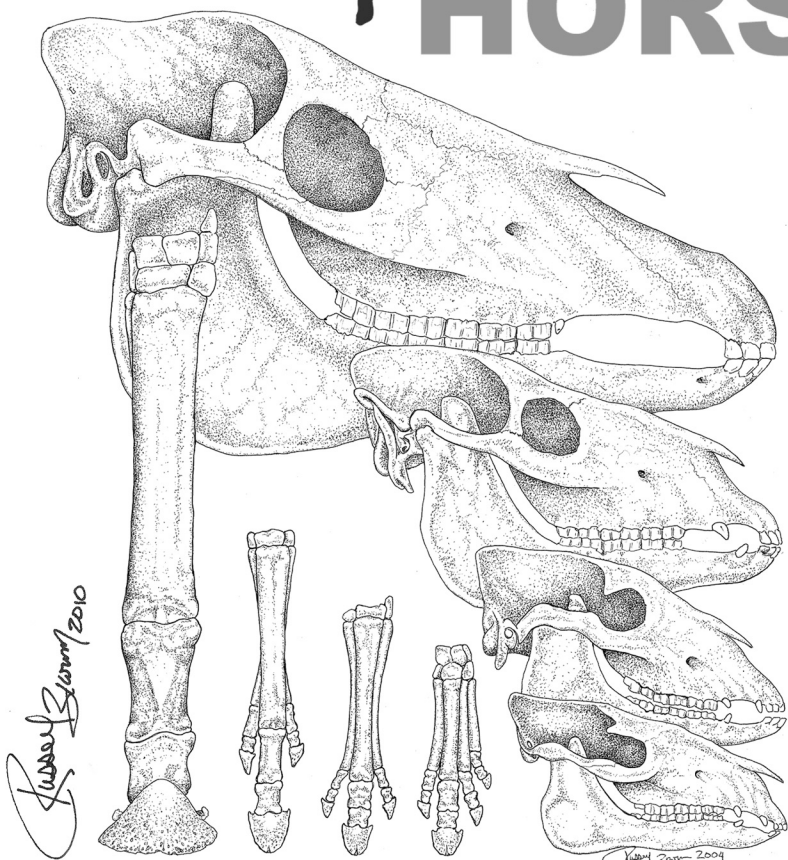
Wear old shoes. Bring a small shovel or spade and a bucket or other containers to bring back your finds. Most echinoids can be surface collected but don't be fooled because a lot are covered with algae growth or matrix or buried in the sand. Low tide will expose all the oyster bars that line the channel, also giving more echinoid hunting area.

They range from the size of a BB to about 2-1/2 inches.

The most common echinoid found here would be the *Eupatagus antillarum*. Others found are *Schizaster armiger*, *Oligopygus wetherbyi*, *Cataopys mississippiensis*, *Weisbozella cubae* and *Periarchus floridanus*.



Equidae HORSES



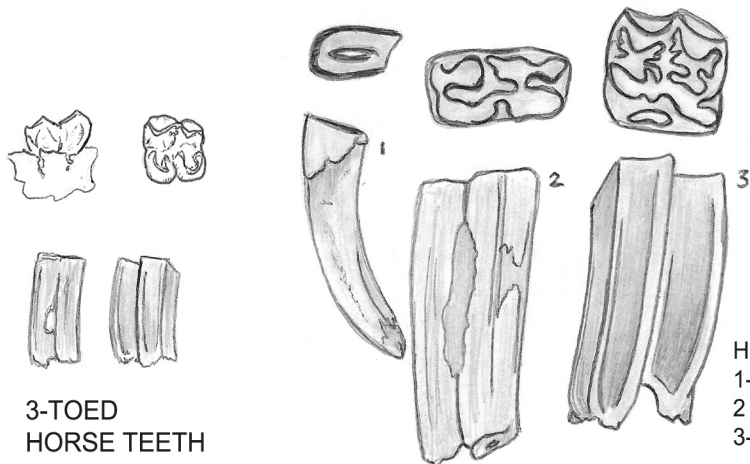
EQUUS

MERYCHIPPUS

MIOHIPPIUS

HYRACOTHERIUM

53 species from the family Equidae are found in the fossil record of Florida. In fact, horses are the most common mammal fossil found. Horses evolved mainly in North America, becoming extinct here at the same time the megabeasts died out, around 11,000 years ago. It wasn't until the Spanish conquistadors invaded the Americas, that the horses returned here. Miohippus, the oldest horse in Florida, dates from the Oligocene. The early horses were smaller. Their tooth patterns indicate that they were browsers, eating more soft plants. Over time, as forests disappeared and open grasslands dominated, their teeth adapted to eating grasses. They also evolved from 5 toes to 3 toes, and eventually to 1 toe as their limbs changed to make them speedier to avoid predators in the grasslands.

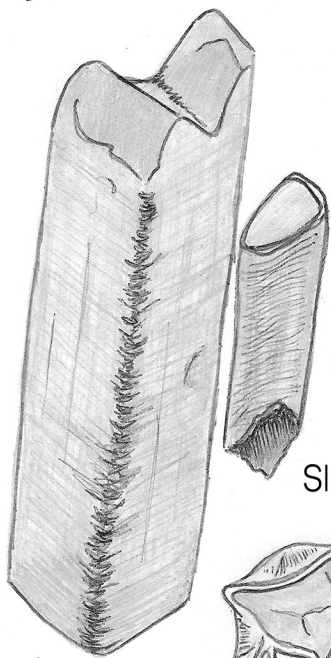


3-TOED
HORSE TEETH

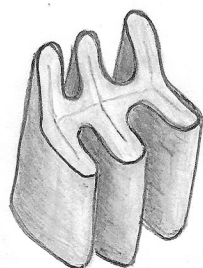
HORSE TEETH
1- INCISOR
2 LOWER MOLAR
3-UPPER MOLAR

Miohippus sp.
Anchitherium clarencei
Hypohippus chico
Hypohippus affinis
Archaeohippus n.sp.
Archaeohippus blackbergi
Parahippus sp.
"Parahippus" leonensis
"Merychippus" gunteri
"Merychippus" primus
Acritohippus isonesus
Merychippus brevidontus
Merychippus californicus
"Merychippus" goorisi
Pseudhipparion n.sp.
Pseudhipparion curtivallum
Pseudhipparion skinneri
Pseudhipparion simpsoni
Neohipparion trampasense
Neohipparion eurystyle
Hipparion tehonense
Nannippus n.sp.
Nannippus westoni
Nannippus morgani
Nannippus aztecus
Nannippus peninsulatus
Cormohipparion quinni
Cormohipparion occidentale
Cormohipparion ingenuum
Cormohipparion plicatile
Cormohipparion emsliei
Protohippus perditus
Protohippus supremus
Protohippus gidleyi
Calippus n.spp.
Calippus proplacidus
Calippus placidus
Calippus elachistus
Calippus martini
Calippus cerasinus
Calippus hondurensis
Calippus maccartyi
Pliohippus mirabilis
Pliohippus pernix
Astrohippus stockii
Dinohippus leidyianus
"Dinohippus" mexicanus
Equus simplicidens
Equus (Hemionus) n.sp.
Equus "leidyi"
Equus (Amerhippus) fraternus
Equus alaskae group
Equus laurentius group

Mammals



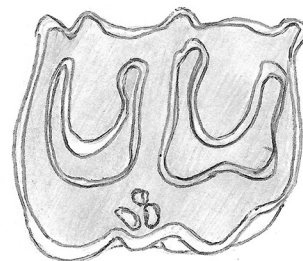
Giant Ground Sloth molar



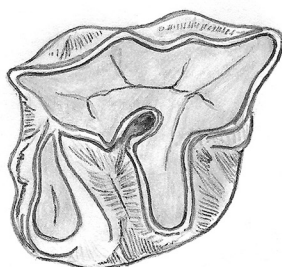
Glyptodont molar



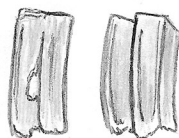
Bison molar side view



Bison molar top view



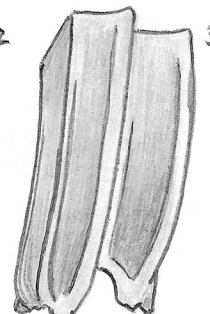
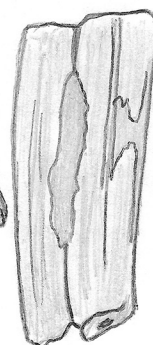
Rhino molar top view



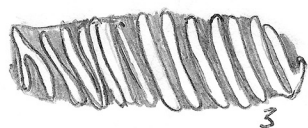
3-Toed Horse teeth



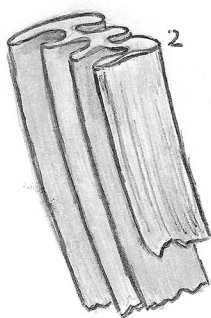
top view



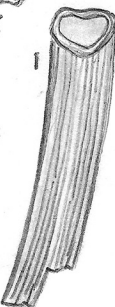
Horse teeth: 1-incisor, teeth 2-lower molar, 3-upper molar



3



2

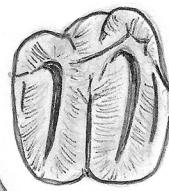


1

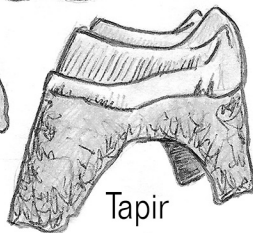
Capybara: 1-incisor
2-molar, 3-top view molar



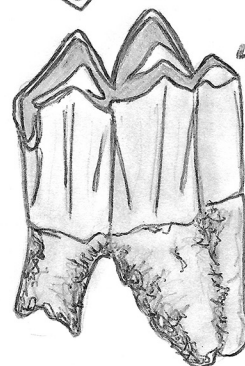
Tapir incisor



Tapir molar

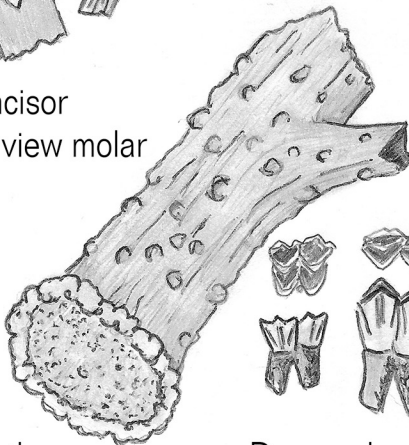


2

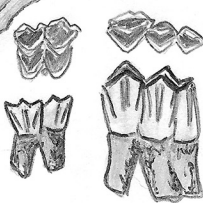


4

Camel teeth: 1-incisor, 2-canine, 3 & 4-molars



Deer antler



Deer molars

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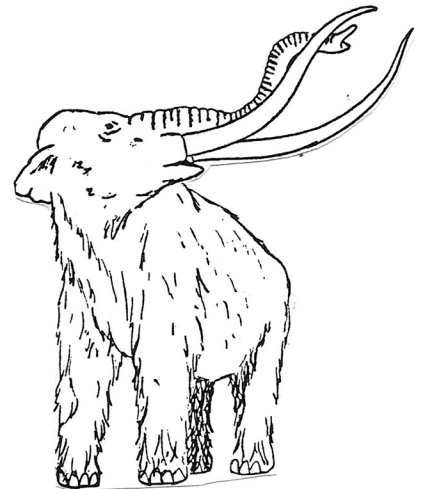
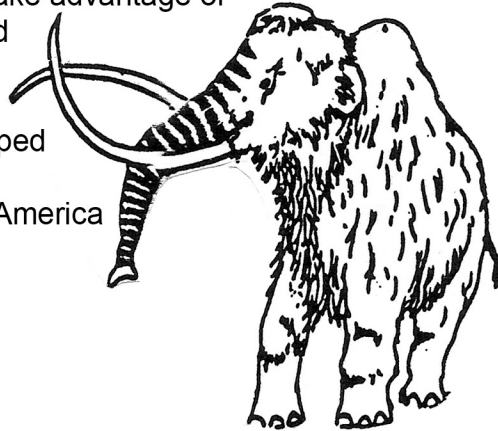
Mammoth or Mastodon

WHAT IS THE DIFFERENCE

Proboscideans - Mastodons and Mammoths

Proboscideans originated in North Africa and spread from there. Their tusks are actually elongated incisors. The Mastodons arrived in North America 13 million years ago. They were browsers, feeding on the leaves, twigs and bark that were plentiful in the forests that covered North America at that time. As the climate changed, grasslands began to emerge.

The Mammoths evolved to take advantage of this food source. Their plated teeth enabled them to chew on the abrasive grass more efficiently than the cone-shaped teeth of the Mastodons. The mammoths arrived in North America around 2 million years ago.



MAMMOTH

Mammuthus

10 - 12 feet

6 - 8 tons

grazer

tundra, grasslands

MASTODON

Mammut

8 - 10 feet

4 - 6 tons

browser

forest, woodlands

Height/shoulder

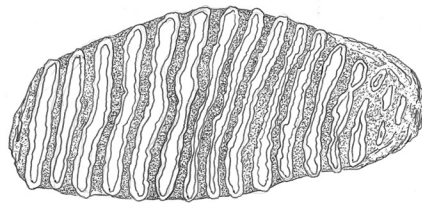
Weight

Foraging type

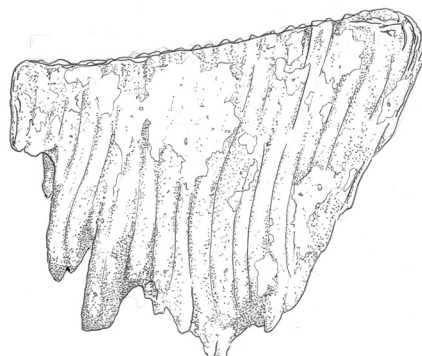
Habitats

Teeth

third molar
(side view)



(top view)



crown

root

plate

cone

