**Teacher’s Guide**

Prepared by Thomas Thurman

**Slide 1**

Georgia’s Fossils

A 500 million Year Record

* Pictured is the reconstruction of *Georgiacetus* (The Georgia-whale) by Mary Parrish at the Smithsonian, it was created for the 12/Sept/2008 cover of the Journal of Vertebrate Paleontology. (We’ll see more on *Georgiacetus* on Slide 24)
* This slide show was originally created in 2018 for a 06/June presentation to teachers at GA SW RESA

**Slide 2**

It’s All About Exploring Georgia

* Amateur field scientists Thomas Thurman (author) and Hank Josey in the Bridgeboro Limestone of Mitchell County during a “dig” by Paleontology Association of Georgia. I dig is an organized opportunity to collect specimens.
* As we’ll see later, this quarry helped researchers discover & map an acinet current when once crossed South Georgia.

**Slide 3**

Georgia’s Most Historic Fossil

* Historically Georgia’s most important fossils are found at Shell Bluff along the Savannah River. This is recorded by a historical marker in Waynesboro, near the South Carolina border.
* Though not recorded here, Hernando DeSoto’s expedition *possibly* visited this area in 1540, they would have been led to Shell Bluff by the Native Americans of Georgia’s Mississippian Culture; the civilization which built Georgia’s mounds and mastered corn farming.
* The same fossil bed can be seen at Griffin’s Landing

**Slide 4**

The Giant Oyster *Crassostrea gigantissima*

* The father & son team, John (father) and William Bartram visited Shell Bluff in 1765 during their research journey through the South. They made the first scientific observations of these fossils; this stands as some of the earliest paleontological observations in the USA.
* In his 1778 work *Epochs of Nature* Georges Buffon (The Father of Natural History) established paleontology as a valid science by relating fossils to Earth distant past. His actual theory was wrong, but it triggered research into paleo-climates.
* Timothy Abbott Conrad; investigated American paleontology and natural history, devoting himself to the study of the shells of the Tertiary and Cretaceous formations, and to existing species of mollusks. He contributed many articles to the American Journal of Science and the Journal of the Philadelphia Academy of Science catalogue of the Royal Society of England. He explored and reported on much of Georgia’s geology & paleontology.
* Sir Charles Lyell; the Father of Modern Geology, friend, mentor and advisor to Charles Darwin. Author of *Principles in Geology* (first published in 1830) which Darwin studied during his *HMS* *Beagle* journey. Darwin & Lyell met upon Darwin’s return to England. Lyell visited the USA twice and travelled Georgia in 1842. He spent three days along the Savannah River collecting and studying the beds of these oysters.
* Additionally… Lardner Vanuxem, an American geologist who he became the chair of chemistry and mineralogy in Columbia College in South Carolina studied these fossils. From 1827 to 1828, he studied the geological features of the states of New York, Ohio, Kentucky, Tennessee, Georgia and Virginia, under the auspices of the state of New York. At the time of his death in 1848 Professor Vanuxem's private collection of mineral and geological specimens was considered "the largest, best arranged, and most valuable private collection in the country."

**Slide 5:**

*Crassostrea gigantissima*

* This species is extinct.
* ​The genus *Crassostrea* still exist, some of its modern members are an important food source (see *Crassostrea gigas*).
* As a member of the order Ostreoida it is a true oyster.
* Pearl oysters are not true oysters.
* The genus tends to live in the inter-tidal zone (also known as the littoral zone) which means they’re exposed during low tide living at the coastline. They do well in waters with a low nutrient supply.

 **Slide 6:**

Discoveries Continue Even Among Amateurs

* During an amateur research project mapping the sediments in Oaky Woods amateur paleontologists Hank Josey & Thomas Thurman discovered these wonderfully preserved Cylcostomata bryozoan colonies; two different species.
* It’s suspected that they lived just before the Eocene/Oligocene extinction event 33.9 million years ago.
* The Eocene/Oligocene extinction was a glacial event. After tens of millions of years of a hothouse Earth, there was a sudden and natural glacial event. This event triggered a global extinction event.

**Slide 7:**

Bridgeboro Limestone Dig, Paleontology Association of Georgia

* The Paleontology Association of Georgia is an alliance of professional and amateur researchers working together towards both expanding the science and public knowledge of paleontology.
* Search Paleontology Association of Georgia
* Membership runs 35.00 yearly and includes digs.

**Slide 8:**

Georgia Fossil Map by County

* Assembled by Thomas Thurman
* This map was created to help teachers identify if any fossils occur in their county and what age they might be.
* The Wilkes County find were alluvial deposits, not a cave find.
	+ “Alluvial deposits” means transported by water
		- Freshwater; stream, river, creek…
		- Not marine.

**Slide 9:**

Sea Level Change A Global History

* The left chart covers 100 million years
* The right chart covers 10 million years
* The zeros at the top of the charts represents modern sea levels
* A very clear illustration of Earth’s restless climate
* By 1.76 million years ago other members of our genus (not our species) was making stone tools.
* Our own species is unquestionably present 200,000 years ago.
	+ Maybe as early as 500,000 years ago.
	+ This is still a matter of active scientific debate.

**Slide 10:**

Georgia’s Oldest Fossils

* Note; Archaeocyathids are now considered Georgia’s oldest at 513 million years.
* Recently David Schwimmer (Columbus State Uni.) and Bill Montante (Tellus Science Museum) have shown a trilobite nest in NW Georgia which suggest trilobites linger at the nest after hatching.

**Slide 11:**

Georgia’s Pennsylvanian Plant Fossils

* The Pennsylvanian Period spans from 318 to 299 million years ago
* Much of the world’s coal was produced during the Pennsylvanian
* Coal is formed by compressed plant fossils.
* This period is the most plant life prolific in the history of life on Earth.
* The Pennsylvanian plants created coal in thick, undisturbed beds because plant and wood eating organism, either microscopic or larger, had not yet emerged to consume the wood. There were no mammals, birds, bees, wasps, bark beetles, wood-boring beetles, bark lice, termites or ants…

**Slide 12:**

Hypsognathus

* Drill core samples are when researchers use a hollow drill bit, a pipe, to drilled deep into the earth, core samples to 23,000 ft deep have been cut.
* Core samples are used heavily in mineral & oil exploration.

**Slide 13:**

Plate Tectonics & Georgia

* What’s interesting is that the Dunbarton Basin was formed when the terrific forces of continental drift (plate tectonics) tried, long ago, to slowly rip Georgia in half along her North/South axis. To rip Pangaea itself in half.
* Today, in Africa’s rift valleys, you can see the same processes in action.
* At different points in our state’s long history, some areas were crushed by continental drift while others were stretched like taffy.
* Today there is a volcanic seam along the length of the Atlantic Ocean floor which forms the Mid-Atlantic Ridge, the longest mountain chain in the world.
* At the base of this ridge magma from Earth’s mantle rises through the Earth’s crust to the sea floor. Deep beneath the Atlantic’s waves it erupts as lava, providing new crustal material as it slowly pushes the continental plates apart.
* Today, the sea floor is spreading at about 2.5 centimeters (.98 inches a year)
* The Mid-Atlantic Ridge created the Atlantic and began the slow process of splitting Pangaea. The splitting began with a rift, a seam, where rising forces were pushing the plates apart.
* The volcanoes beneath Tifton rose as birth pains for the Atlantic.

**Slide 14:**

Pterosaurs flew over Georgia 83 million years ago.

* Flying reptiles are rare everywhere but were unknown in Georgia until May 1985 when this unique discovery was reported.
* Two separate fossils were found. Bother were phalange (finger) bones.
* It is believed both bones came from the same individual.

**Slide 15:**

* *Exogyra ponderosa* oyster fossils from a creek bed in Stewart County, Georgia; about 17 miles from Columbus.
* ​​Long extinct, 78 million year old oyster fossils which had lived in a tropical marine environment, salt water, 153 miles from the nearest *modern* coastline.
* These lived while dinosaurs roamed Georgia.
* Usually found in dense beds with ample individuals, often articulated.
* The species is well documented in the geological literature since at least 1911.
* *Exogyra ponderosa* lived while while the Earth was much warmer and sea levels were high. Beaches stood on or north of the modern Fall Line. The Chattahoochee River drained into the tropical sea bringing rich nutrients.

**Slide 16:**

The Goblin Shark

* Species; *Scapanorhynchus texanus*
* The goblin shark tooth is by far the most common Cretaceous fossil in Georgia.
* These sharks lived about 78 million years ago while dinosaurs walked our state.
* In modern species the jaws can shoot forward, for most of the length of this snout, when biting. We assume this applies to Cretaceous animals as well.
* Modern goblin sharks, a separate but closely related species, are typically about ten feet long and hunt in deep water coastlines.
* Our shallow water species went extinct with the dinosaurs 65 million years ago but its deep water cousin survived.

**Slide 17:**

*Megalocoelacanthus dobiei*

* because of the large size of the remains specimens housed in a collection went misidentified until a large mass of fossils from a single individual was confirmed as a new species of bony fish & was named *Megalocoelacanthus dobiei*
* The Coelacanth fish family is famous as a “living fossil” thought to have gone extinct with the dinosaurs until a live specimen (of another species) was caught in 1938. Several additional specimens have since been caught and these fish have been filmed live in their habitat, YouTube has video clips.

**Slide 18:**

**The mosasaur Tylosaurus hunted Georgia’s lost sea 78 million years ago.**

* Scientists at Columbus State University have also identified fossils of at least two families of successful ocean-going predatory reptiles from sediments in Georgia and Alabama; these are mosasaurs and plesiosaurs.
* Mosasaurs and plesiosaurs were not dinosaurs. Dinosaurs are defined as land animals whose legs are vertically beneath them, not splayed to the sides like a lizard’s or an alligator’s.
* Mosasaurs had large heads, short necks and long tails.
* Plesiosaurs had small heads, very long necks and short tails; they swam by flapping their four large flippers and “flying” through the water.
* Mosasaurs are related to lizards and snakes, closely related to modern monitor lizards. The mosasaur *Tylosaurus* was a large animal, specimens have been recovered which exceeded 45 feet in length. Mosasaurs in general are known from both deeper water environments and shallow coastal waters.

**Slide 19:**

*Deinosuchus;*The Terrible Crocodile

* Populations are known from both the east and west coast of the Western Interior Seaway.
	+ The western specimens tended to be larger but populations seem to have been lower, fewer specimens are found.
	+ Fossils found on the eastern coast of the Western Interior Seaway tend to be smaller individuals, but populations are higher and Georgia produces the greatest number of fossils.
	+ The current opinion is that these animals inhabited brackish waters in bays.
* Dr. David Schwimmer is extensively published on this genus and you can find some of his research and references on the Wikipedia entry of *Deinosuchus*.
	+ He also published a book on the subject entitled: “*King of the Crocodylians: The Paleobiology of Deinosuchus.”*
* Individuals have been recovered from the Chattahoochee River Valley which possessed skulls estimated to a meter long, this would likely produce a living animal of about 8 meters or 26 feet.
	+ Schwimmer inspected a skull from Texas which produced a head of about 1.3 meters (4.3ft) and calculated a potential body length of 9.8 meters or more than 32 feet.

**Slide 20;**

*Appalachiosaurus montgomeriensis*

* *Appalachiosaurus montgomeriensis*is a member of the tyrannosaur family and has been confirmed in both Georgia and Alabama.
* In 1982 an amazingly complete juvenile was discovered and eventually recovered in Alabama.
	+ At first it was believed to be an *Albertosaurus*, but problems remained with this identification and by 2005 the specimen had been reconsidered and identified as a juvenile specimen of a new species of the tyrannosaur group and named; *Appalachiosaurus montgomeriensis*.
* Isolated fossils recovered from Hannahatchee Creek, and other Southeastern locations, were re-assigned as additional *Appalachiosaurus* individuals.

**Slide 21;**

78 Million Years Ago Ostrich-Like dinosaurs hunted Georgia

* Also occurring in Georgia’s fossil record are the ostrich dinosaurs, or members of the Ornithomimisaur infraorder of theropods, walking on their hind legs.
	+ They are referred to as ostrich dinosaurs simply because their layout is so similar to the large modern bird.
* The primitive ostrich dinosaurs had teeth, but those more advanced animals occurring in Georgia likely had beaks like birds.
	+ They were probably feathered.
	+ They typically had small heads with large eyes, long bodies, long necks, long hind legs and long forelimbs with highly developed claws.
* These were fast, agile runners and formidable predators. Some researchers believe that these were among the fastest of all dinosaurs.
* There were species which grew up to thirty feet long and fifteen feet high. Several were in the eight to fifteen foot range and would have stood about seven feet high.

**Slide 22;**

Duck Billed Dinosaurs in West Georgia

* Hadrosaurs also walked in Georgia, these are the herbivore duck-billed dinosaurs*.*
* Leg and foot bones from hadrosaurs are frequently found but not enough material from any single individual has yet been recovered in Georgia to allow species identification.
* Among the most common of dinosaurs, hadrosaurs were a diverse group with elephant sized species and several house sized species.
* They are believed to have been herding animals and were probably common in Georgia 77 million years ago.

**Slide 23;**

The Suwannee Current, Gulf Trough, ​& the Bridgeboro Limestone

* There’s a large canyon beneath the fields of Southwest Georgia, stretching from Bainbridge to Statesboro like a great healed wound.
* The canyon, known as the Gulf Trough, was cut by the extinct Suwannee Current.
* Dr. Burt Carter at Georgia Southwestern in Americus was instrumental in building our understanding of this feature.
* By studying Georgia's Bridgeboro Limestone quarries Burt Carter and J. P. Manker found clues to how the Suwannee Current impacted Georgia's Coastal Plain. How the Suwannee Current linked the Western Interior Seaway, the Caribbean and the Atlantic.
	+ Wherever they found flattened, blade-like masses of rhodolith colonies, they could assume weak to absent currents far from the Suwannee Current’s core.
	+ Wherever they found rhodoliths as clustered globes they could assume a strong current, near the canyon, near the Suwannee Current’s core.
	+ When they found an area where the clustered globes abruptly ended, then they had found the edge of the canyon carved by the Suwannee Current.
* The current crossed the Florida panhandle, entered Georgia at Grady, Thomas and Brooks Counties rose northwards towards the Fall Line and then turned eastward towards the coastline, crossing just north of Statesboro.
	+ When sea levels were low and the deep canyon was exposed most of Georgia’s rivers flowed through the canyon, further eroding it.
	+ Researchers have speculated that the large canyon river probably formed lakes and falls in the canyon floor creating isolated habitats.

**Slide 24;**

*Georgiacetus vogtlensis,* The Georgia Whale

* The name literally means; The Georgia Whale from Plant Vogtle
* Discovered in 1983 the Georgia whale was shown to be the most advanced of the proto-whales, or whales with developed legs.
* Of the three individuals found, one was about 75% complete
	+ The second animal was represented by a single forward vertebra.
	+ The third animal was represented by three forward vertebrae, portions of at least four ribs, and the partial crown of a single tooth.
* These whales lived almost exactly 40 million years ago.
* No leg material was found, the legs were possibly carried off by predators after death.
* The center-lower picture is of its hip, which was unattached to the spine but still possessed well developed sockets where the legs attached.
	+ This suggests well developed legs
* The Georgia whale lacked flukes, but flukes are seen in the Basilosaurid whale just 2 million years later.
	+ The basilosaurid whales led to modern whales
* *Georgiacetus* and the basilosaurids share skull and tooth layout, they are closely related.
* While the Georgia whale likely did not lead to all modern whales it is an important fossil in understanding the evolution of whales.

**Slide 25;**

The family of basilosaurids are the first whale to possess flukes.

* While the hindquarters are very different, the skulls are almost identical.
* Note that the basilosaurids (including Durodon) have tiny (vestigial) rear legs.
	+ They also have tiny hips
	+ The hips aren’t attached to the spine but they’re free-floating like *Georgiacetus.*
	+ But where Georgiacetus swam with well-developed legs
	+ The basilosaurids swam with a fluke.
* Notice both basilosaurids and Durodon have very simplified buttons on the end of their tail. Modern, fluke bearing whales have the very same arrangement.
* If you search “dolphin skeleton” you’ll see many images showing the simplified buttons on modern dolphins, all other modern whales, toothed & baleen, are the same.
	+ Notice most images of a dolphin skeleton lack a hip bone.
	+ The best reconstructions show the hips as free floating well below the spine of the dolphin.
	+ All modern whales possess the atrophied hip.
	+ An internet search will even show the rare dolphin with rear flippers.

**Slide 26;**

Oaky Woods Wildlife Management Area

* Amateurs can contribute directly to science.
	+ The author, Thomas Thurman (imaged top right of this frame) discovered extensive, highly fossiliferous exposures which were previously unknown to science.
	+ This was in Central Georgia’s Houston County
	+ In the popular & well hunted Oaky Woods Wildlife Management Area.
	+ These exposures were simply missed in surveys and field research of the 1970s through the 1990s.
	+ As the discoverer, Thurman stands as an author in the research papers being prepared.
* Do what you can where you are with what you have.
	+ (Adapted from Theodore Roosevelt)
	+ Become “the expert” of your back yard.
	+ That’s what brings researchers to your home.

**Slide 27;**

Brontothere

* In 2005 Dennis Parmley and David J. Cicimurri reported a single brontothere tooth from sediments in Gordon, Georgia, Wilkinson County.
* Soon after this was reported, Bobby Strange found another such tooth in an abandoned kaolin mine.
* Brontotheres looked like large rhinos but with a V-shaped horn.
* They were herbivores thought to prefer plant with high moisture content.
* The went extinct 34 million years ago during the first glacial event the Earth has seen after more than 25-plus million years a hot-house Earth.
* It is thought that the water rich plants Brontotheres depended on died out during glacial droughts.

**Slide 28;**

Terminator pigs; the entelodonts

* In 1969 Dr. Michael Voorhies, who at the time was a paleontology professor with the University of Georgia received what was thought was a worn manatee tooth from Twigg’s County, Georgia. The tooth had been collected by amateur Bill Christy.
* In 1982 researchers Daryl P. Domining, Gary S. Morgan and Clayton E. Ray from the Smithsonian Institute were studying early manatee (Order: Sirenia) fossils. The researchers requested an opportunity to review Voorhies tooth. Upon studying the specimen, they explained that they believed this to be a deeply worn entelodont (terminator pig) tooth from a mature, even aged animal. Not a manatee fossil at all.
* Upon review, Dr. Voorhies agreed with the entelodont identification. His early mistake is very understandable as this was the very first entelodont fossil Georgia had ever produced. The find was completely unexpected.
* A recent email from Dr. Gary S. Morgan who participated in the 1982 Smithsonian siren research confirmed this story. Dr. Morgan reported that later field research by University of Georgia scientists recovered additional entelodont fossils.
* This confirmed the presence of a population of entelodonts in Georgia 35 million years ago.

**Slide 29;**

*C. megalodon*

* *C. megalodon* is now *O. megalodon*
* When you’re the most popular shark tooth, you risk frequent reassignment.
* *Carcharodon megalodon* has been reassigned as *Otodus megalodon.*
* Recent research has led paleontologist to agree, generally, that the ancestry of the giant *megalodon* should be assigned to *Otodus*.
* This was a giant predator.
	+ *Size estimates for an adult megalodon have ranged from 10.5 meters (34ft) to 25 meters (82ft); the truth is somewhere within that range. It certainly seems reasonable that 50ft or 60 ft megalodons existed*

**Slide 30;**

*Scaldicetus*; the killer sperm whale

* *Scaldicetus*is a genus of Miocene toothed whale and a member of the sperm whale family. It is often referred to as a killer sperm whale.
* The typical *Scaldicetus* whale fossil is a somewhat fat, banana-shaped tooth several inches long. It is known from the North American east and west coast as well as Europe and Japan. Specimens of *Scaldicetus* teeth from the Southeastern USA can usually be found online for purchase.

**Slide 31;**

Georgia’s Rhinos

* In 1998 Hulbert and Pratt identified a Rhinocerotid in Georgia’s coastal sediments; this is the family of rhinoceroses which emerged in the Eocene and developed into animals ranging from dog sized to the largest terrestrial animals ever to walk the Earth (see genus; *Paraceratherium)*.
* Hulbert & Pratt could not identify which species the fossil belong to; but *Teleoceras* is well known from Florida and very likely occurred in Georgia too.

**Slide 32;**

Terror birds & Three-Toed Horses

* Another successful invader from South America was the terror birds (family; Phorusrhacidae). The largest of these, *Titanis walleri*, is the only species known to occur in North America and has been found in both Texas and Florida.
	+ In life, *T. walleri* stood more than 8 feet tall and weighed about 330 pounds. It was a runner and research has suggested speeds of 40 miles per hour might have been possible.
	+ Though unreported in Georgia, it certainly had to occur in South Georgia at some time to travel from Texas to Florida.
* In 1998 Hulbert and Pratt also recovered horse fossils from the extinct *Hipparion* genus during their coastal Georgia research.
* The *Hipparion* genus was a smallish, three toed horse that emerged during the Miocene and endured through the Pleistocene. It is known from Asia, Europe, Africa and North America. North American ranges are known from Florida to California and into Canada. It had three toes per foot but the two outer toes did not reach the ground and like modern horses this genus walked on a single toe.

**Slide 33;**

The modern gray whale, *Eschrichtius robusts*

* *Eschrichtius robustus,* also swam in Georgia’s sea. A baleen whale, the modern gray whale emerges into the fossil record during the Pleistocene.
* Gray whale eat crustaceans which they scoop up from the bottom.
	+ Many researchers consider this type of feeding the primitive origin of all baleen whales.
	+ Averaging 52 feet in length it no longer occurs in the Atlantic but is only known from the northern Pacific.
	+ Whalers called it the devil fish for its tendency to fight ferociously.

**Slide 34;**

The Pleistocene saw several ground sloths in Georgia

* The giant ground sloth; *Eremotherium laurillardi* was one of Georgia’s true ice age giants. Believed to be capable of walking either on all four or hind legs, this was a ground sloth which fed on trees. *Eremotherium* which might have reached 21 feet, taller than most houses and twice the height of a modern elephant.
* Beyond its great size there is no evidence to suggest that this was a slow-moving animal.
* *Eremotherium* is known from Coastal Georgia. It went extinct about 10,000 years ago with most of the other megafauna of the ice ages.

**Slide 35;**

The Giant Bison

* The giant bison; *Bison latifrons* is well represented in Georgia’s fossil record.
* This was a large animal standing 8.5 feet at the shoulders; maybe 20% larger than the modern bison (*Bison bison*).
* In life horn spreads are to seven feet.
* Georgia College in Milledgeville has a complete skull with restored horns.
* It was closely related to modern bison and would have looked very much the same except for the larger size and more prominent horns.
* The modern *Bison bison* has a horn spread of about 2 feet.
* Numerous vertebrae for *Bison latifrons* were recovered near Brunswick as well as ribs, leg bones and other material.
* Up to six individuals are represented.

**Slide 36:**

Columbian Mammoths

* The same location which produced the giant bison find also yielded Columbian mammoth (*Mammuthus columbi)* remains.
* The story for *Mammuthus columbi* begins here in Georgia.
	+ The Columbian mammoth was originally described from a partial tooth collected at the Watkins Quarry in Brunswick, Georgia.
	+ This tooth was discovered by Hamilton Cooper during the construction of the Brunswick Canal in 1838 to 1839.
	+ It was passed along to the famous British “Father of Modern Geology” Sir Charles Lyell during his only trip to Georgia in 1846.
	+ Lyell passed the tooth to Hugh Flaconer who established it as the type specimen for *Mammuthus columbi*.
* The Columbian Mammoth was one of the largest elephants to have ever lived and stood up to 13 feet tall at the shoulder, about 10.7 feet long, and weighing in around 11 tons.
* The spiraled tusks typically ran 6.5 feet long though the longest recorded tusks are 16 feet long.
* Columbian mammoth finds from Brunswick include a juvenile partial jaw, adult tooth plates and tusk fragments, vertebrae, ribs, long bones and others.
* These are clearly the remains of multiple animals.
* Remains from at least one female and calf were also recovered.
* The Columbian mammoth found extinction about 11,500 years ago.

**Slide 37:**

At 17,000 years ago we have both the Columbian Mammoth and the Clovis People, in Georgia

* Our species; *Homo sapiens sapiens* (showing our genus, species and sub-species), emerged and radiated out of Africa about 200,000 years ago.
* By 50,000 years ago our ancestors show fully modern behavior.
* The last glacial maximum occurred about 20,000 years ago, humans were possibly present in North America.
* Ocmulgee National Park (Indian Mounds) in Macon, Georgia states that their site has seen continuous human habitation for 17,000 years; that is the figure given on their website. (This figure is debated.)
	+ Ocmulgee National Monument is part of the the National Park Service of the U.S. Department of the Interior.
* With humans in Georgia at 17,000 years ago and mammoths not finding extinction until 11,500 years ago, the two very likely walked Georgia at the same time.
	+ Elsewhere there is evidence in the USA of humans hunting mammoths.

**Slide 38;**

From trilobites, through dinosaurs, the origins of whales, and on to mammoths…. Georgia’s fossil record is deep, rich, and diverse.

* GeorgiasFossils.com is on facebook.
* Georgia’s Fossils Group is a public facebook group where new discoveries are, from time to time, announced.
* The Paleontology Association of Georgia is an alliance of Georgia’s amateur and professionals working not only towards educating the public but encouraging public participation in the earth sciences