

ANIMAL ARMOR

The Evolution of Armor in Dinosaurs and Prehistoric Animals



gastondesign.com

“Discover a multitude of different life forms all using similar strategies for survival. ”

Animal Armor

Protection versus predation is a continuing competition that has driven evolution for millions of years. From fishes and insects to reptiles and mammals, defensive necessity has resulted in the evolution of armor in almost all groups of animals. Over time they developed armor patterns ranging from simple defensive plates to highly ornate spiny displays. Armor evolution has resulted in some of the most beautiful and bizarre forms in the animal kingdom.

The exhibit Animal Armor brings together a fascinating, eclectic mix of creatures all bound by their similar use of armor. The exhibit offers an exciting tour through the last 500 million years of armor evolution. The rise of armor in the animal kingdom is illustrated by dozens of pieces, including fantastic casts from recent dinosaur discoveries, giant insect sculptures, and bizarre ice age mammals. From primitive ocean dwellers to armor adaptation by ancient humans, Animal Armor brings the evolutionary story of armor full circle.

Themes

- Invertebrates: The Earliest Armored Animals - approximately 500 square feet
- Armored Fish: The First Armored Vertebrates - approximately 500 square feet
- Turtles and Tortoises: Evolution of Armor and Defensive Strategies - approximately 500 square feet
- The Rise of Armor on Land: Animals of the Permian and Triassic - approximately 350 square feet
- Crocodylian Armor: - approximately 3,000 square feet
- Dinosaurs: Ankylosaurs, Prehistoric Panzers of the Mesozoic - approximately 3,000 square feet
- Mammals with Shells: Glyptodonts, Armadillos, and their Kin - approximately 800 square feet
- Animal Fortresses: Defensive Strategies of Ancient and Modern Animals - approximately 350 square feet
- Human Armor: Human Adaptation of Animal Armor - approximately 350 square feet

Specifications

- 2,000-10,000 sq. ft.
- 10 foot minimum ceiling height recommended
- 3 month minimum rental

Pricing & duration

- Affordable rates beginning at \$35k for 2,000 sqf and \$175k for 10,000 sqf. transportation included. The standard exhibit lease is 3 months. Longer or shorter periods can be arranged according to the requirements of the exhibition venue. Detailed lease fees available on request.

To be provided by the hosting venue

- Lights, and barriers.
- Single-phase electrical supply.
- Translation of text and production of text panels and graphics if necessary.
- Equipment required for access, installation and dismantling.
- Skilled support staff to assist with installation and dismantling.
- Storage facilities for transport crates.
- Promotion and publicity.
- Staffing during exhibition run.

INVERTEBRATES

Invertebrates were the first organisms to develop armor. The number of invertebrates with shells and exoskeletons exploded around 540 million years ago, resulting in some of the strangest known life forms. Featured are a wide range of both aquatic and terrestrial animals, from the past to the present. Included are large ammonites, giant sea scorpion models, and modern day insect specimens.



Sculpture by Lorenzo Possenti



Featured Artist, Andrey Atuchin

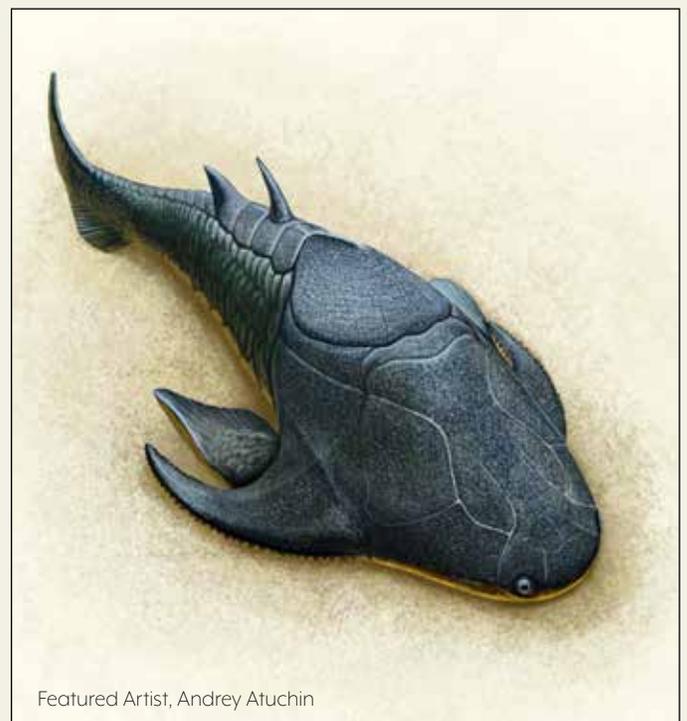


Sculpture by Lorenzo Possenti



FISHES

Fishes were the first vertebrates to evolve armor over 380 million years ago. Most armor in early fishes tends to be simple, “box-like” dermal armor or epidermal armor (scales) as in most modern fishes. In addition to modern fish specimens, the exhibit features an excellent collection of ancient armored fish replicas and interactives that are rarely seen in museums.

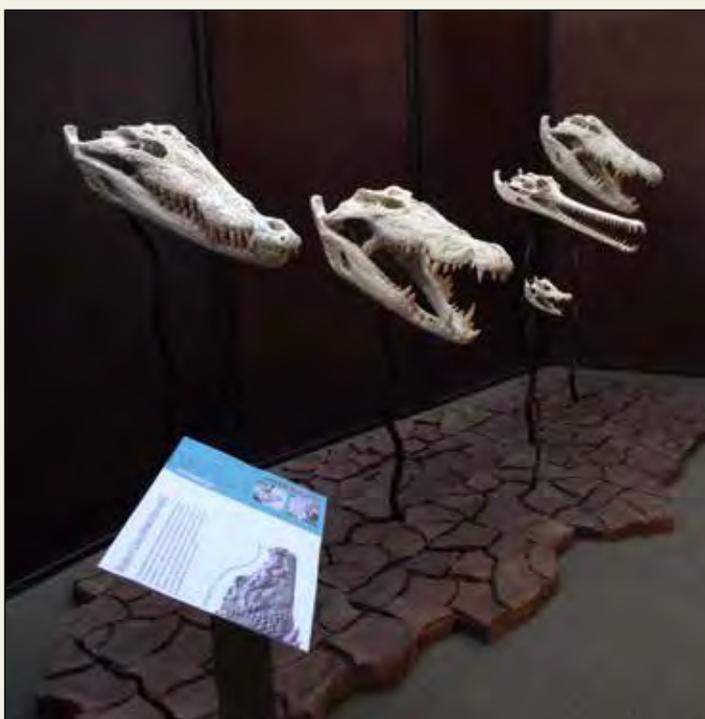


Featured Artist, Andrey Atuchin



Turtles, Crocodiles And The Rise Of Armor On Land

Reptiles were some of the first armored terrestrial vertebrates. Many of these animals have remained basically unchanged for millions of years as evidenced by modern lizards, turtles, and crocodilians.

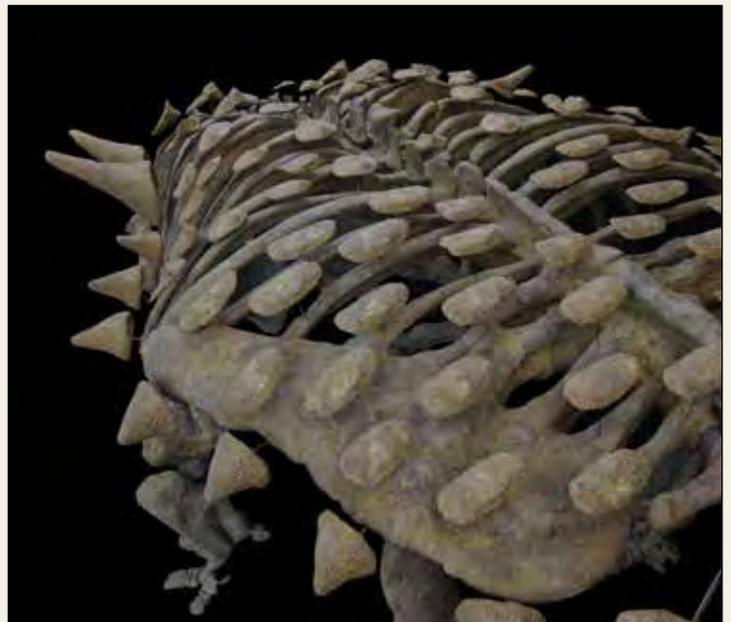


The exhibit features a full scale skeletal replica of the giant crocodilian Deinosuchus. This massive animal is 30 feet in length and possesses a skull almost 6 feet long. Visitors can also view a giant fossil tortoise, skeletons of extinct armored reptiles, and the skull of the “super croc” Sarcosuchus.

DINOSAURS

ANKYLOSAURS

Ankylosaurs represent the apex of armor evolution in dinosaurs. Most of these beasts were completely covered in armor. Equipped with everything from large spines and plates, to underbodies covered in osteoderms, these multi-ton behemoths could reach lengths of almost 30 feet.





DINOSAURS

ANKYLOSAURS

Featured are the largest collection of ankylosaur skull and skeletal casts ever assembled, ranging from juveniles to adults. The exhibit has an amazing diversity of these bizarre animals, their relatives, and the apex predators that they faced.





MAMMALS

While not immediately recognized as armored animals, mammals display some of the most unique and bizarre forms of armor in nature. Creatures such as glyptodonts and armadillos have armor that functions identically to armor in turtles. These giants sacrificed mobility and relied on armor for their defensive protection.



Animal Armor features three giant glyptodont skeleton replicas with and without armor, as well as examples of different glyptodont tail clubs. Additionally featured are modern armadillo skeletons, a giant ice age armadillo skeleton, and Smilodon, one of apex predators of the ice age.



HUMAN ARMOR

Early warriors and hunters sought to capture the awe-inspiring power of animals for use against their own kind. Humans have imitated animals throughout history. Lessons about defense could be taken from even the smallest creatures such as turtles and beetles. The exhibit features an eclectic mix of human armor and helmets. Visitors are invited to compare human uses of armor with those of the animal kingdom.



Specimen & Item List

for 10,000 square feet

Invertebrates

- 1 Giant isopod - Bathynomus gigantius
- 1 Giant eurypterid sculpture - Pentecopterus
- 1 Fossil invertebrate display, 15 specimens
- 1 Ocean invertebrate display, 35 specimens
- 1 Insect display, 35 specimens
- 2 Giant beetle sculptures

Fishes

- 1 Bothriolepis fish display, 3 specimens
- 1 Bothriolepis life sculpture
- 1 Dunkleosteus skull cast
- 1 Giant gar fish panel cast
- 1 Ancient armored fish display, 4 specimens
- 1 Modern armored fish display, 4 specimens

Reptiles & Amphibians

- 1 Deinonychus full skeleton cast
- 1 Modern American alligator skeleton
- 6 Crocodylian skull casts
- 1 Sarcosuchus skull cast
- 1 Gavialsuchus skull cast
- 1 Jurassic crocodile skeleton cast
- 1 Phytosaur skull cast
- 1 Sarcosuchus sculpture
- 2 Cretaceous turtle skeleton casts
- 1 Giant Pleistocene tortoise skeleton cast
- 2 Modern sulcata tortoise skeletons
- 1 Juvenile sea turtle life cast
- 1 Modern turtle/tortoise display, 4 specimens
- 1 Scutosaurus skeleton cast
- 1 Scutosaurus 3-D sculpture
- 1 Parringtonia skeleton cast
- 1 Parringtonia life sculpture
- Scelidosaurus skeleton cast

Dinosaurs Ankylosaurs & Armored Dinosaurs

- 1 Peloroplites full skeleton cast
- 1 Gastonia adult & 1 Gastonia juvenile skeleton casts with 2 Utahraptor skeleton casts
- 1 Ankylosaur skeleton with 2 Tyrannosaur skeleton casts
- 1 Ankylosaur skull display, 7 specimen casts
- 3 Ankylosaur life sculpture heads
- 2 Ankylosaur tail club casts
- 2 Ankylosaur life sculpture approximately 1:8 scale
- 1 Scutellosaurus skeleton cast

Dinosaurs Ceratopsians (Optional)

Mammals

- 1 Mymoorapelta skeleton cast
- 1 Scelidosaurus skeleton cast
- 1 Diabloceratops skull cast
- 1 Kosmoceratops skull cast
- 1 Nasutoceratops skull cast
- 1 Coahuilaceratops skull cast
- 1 Juvenile Utahceratops full skeleton cast
- 1 Ceratopsian/ Rhino Beetle display
- 1 Glyptodont skeleton - Glyptodont clavipes with 1 Smilodon skeleton cast
- 1 Glyptodont skeleton - Panocthus cast
- 1 Glyptodont skeleton - Panocthus internal skeleton only cast
- 2 Armadillo displays/mammal displays, 8 specimens
- 1 Modern 3 banded armadillo skeleton
- 1 Giant ice age armadillo skeleton - Holmesina cast
- 2 Glyptodont tail clubs - Doedicurus casts

Human Armor

Interactives

Featured Artists

- 2 Helmet displays - 8 helmet replicas
- 1 Crocodile armor suit replica (Roman Period, Egypt)
- 1 Mechanical Dunkleosteus skull
- 1 Mechanical pill bug
- Andrey Atuchin
- Sandra Budd
- Josh Cotton
- Mark Hallet
- Masato Hattori
- Douglas Henderson
- Andre De kesel
- Konstantin Korobov
- Victor Leshik
- Raul Martin
- Lukas Panzarin
- Lorenzo Possenti
- Peter Schouten
- Gary Staab
- Nobu Tamura
- Dennis Wilson
- Elisa Uribe
- Armor biology and structure display

Miscellaneous



Joshua Franzos



Digital Illustration by Andrey Atuchin



Sculpture by Lorenzo Possenti



Joshua Franzos



ABOUT GDI

In 1989, Robert Gaston discovered the dinosaur *Gastonia*. The dinosaur's genus was named in his honor. This discovery led to the creation of Gaston Design Incorporated (GDI) in 1996 and was the inspiration for the exhibit *Animal Armor*. Over the last 25 years, GDI has reconstructed many newly discovered dinosaur skeletons for leading paleontological institutions.

SERVICES

Gaston Design Inc (GDI) specializes in the restoration, molding, and casting of fossil skeletons, as well as gift shop lines of smaller paleontological replicas (teeth, claws, skulls, etc.). In addition to cast replicas, Gaston Design offers museum services such as skeleton mounting, exhibit design and construction, and traveling exhibits.



MUSEUMS

Gaston Design Inc's skeletons and casts are on display, or in the collections and gift shops of many museums world-wide. Some of these include the following;

- Denver Museum of Nature and Science
- Utah Museum of Natural History
- The Smithsonian Institution
- The Carnegie Museum of Natural History
- The National Museum of Science, Tokyo, Japan
- The Field Museum, Chicago, IL
- Royal Ontario Museum, Ontario, Canada
- Museo Del Desierto, Saltillo, Coahuila, Mexico
- American Museum of Natural History



CONTACT

Website
gastondesign.com

Email us
gastondesigninc@gmail.com

Phone
970.858.4785

Located in
Fruita, Colorado U.S.A



@gastondesigninc

