

# PREHISTORIC LIFE IN THE NATIONAL PARKS

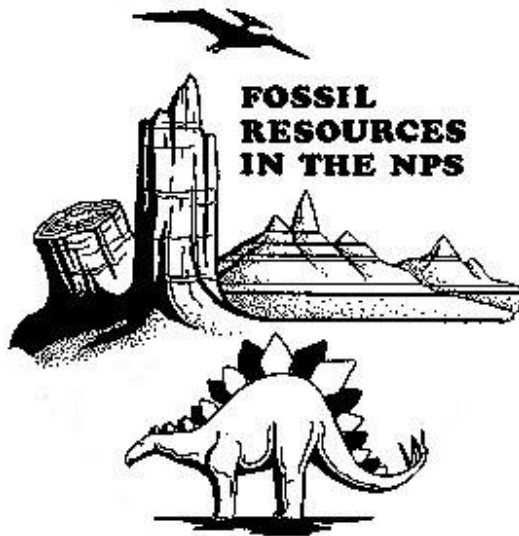
National Park Service  
U.S. Department of the Interior



## COLORING BOOK



# PREHISTORIC LIFE IN THE NATIONAL PARKS COLORING BOOK



National Park Service, Geologic Resources Division, Paleontology Program

<https://www.nps.gov/subjects/fossils/index.htm>

## DEDICATION

*This Prehistoric Life in the National Parks Coloring Book is dedicated to Georgia Hybels, a National Park Service geographer who shared her time to foster children's interests in fossils, caves and national parks.*

# PRECAMBRIAN

## “before the Cambrian”

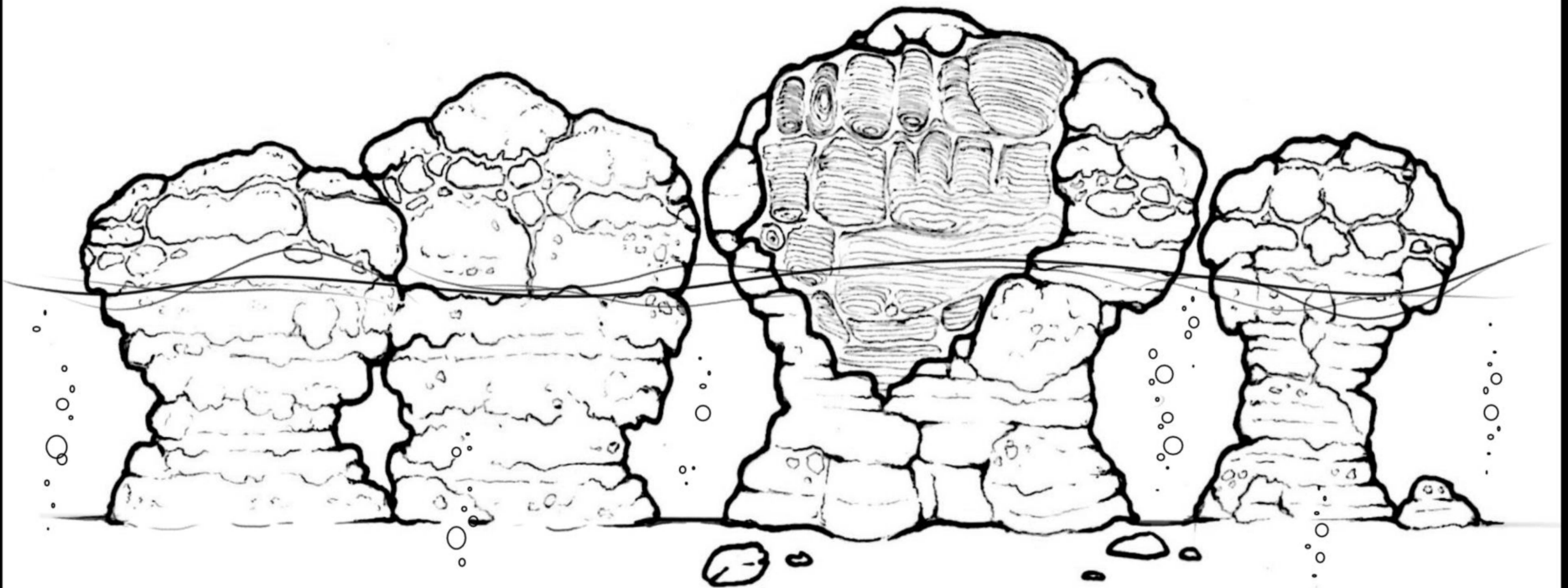
The Precambrian Eon is part of Earth’s history. It spans from approximately 4.6 billion years ago to 541 million years ago.

This section includes a Precambrian life form found in some of our national parks in the United States.

***Collenia symmetrica*** is an early fossil. It shows layers of sand trapped by tiny organisms (mostly cyanobacteria) into mounds that we call stromatolites. Stromatolites are some of the earliest and most widespread forms of early prehistoric life. Fossils of *Collenia* have been found at Glacier National Park, Montana.

*Collenia symmetrica*

Stromatolites



# PALEOZOIC ERA

## “ancient animal life”

The Paleozoic Era is part of Earth’s history that spans approximately 541 million years ago to 252 million years ago. This era began with an explosion of new life. New and different ocean animals lived during the Cambrian. Over time, plants and animals evolved to live in the oceans and on land. The Paleozoic ends after a large die off (extinction) of many early lifeforms at the end of the Permian.

This section includes some Paleozoic life which have been found in some of our national parks in the United States.

***Ehmania weedi*** is an extinct group of arthropods known as a trilobite that lived during the Cambrian. Fossils of *Ehmania* have been found at Yellowstone National Park, Wyoming.

***Pycnocrinus multibrachiatus*** is a crinoid (sea lilly) that lived during the Ordovician. Fossils of *Pycnocrinus* have been found at Mississippi National River and Recreation Area, Minnesota.

***Hughmilleria shawangunk*** is an extinct arthropod called an eurypterid from the Silurian. Fossils of *Hughmilleria* have been found at Delaware Water Gap National Recreation Area, New Jersey and Pennsylvania.

***Eleutherokomma reidfordi*** is a brachiopod (lamp shell) that lived during the Devonian. Fossils of *Eleutherokomma* have been found at Death Valley National Park, California.

# PALEOZOIC ERA

## (continued)

***Saivodus striatus*** is an early shark that lived during the Mississippian. Fossil of *Saivodus* have been found at Mammoth Cave National Park, Kentucky.

***Lepidodendron sp.*** is an early complex plant, sometimes called a scale tree. It lived during the Late Paleozoic. Fossils of *Lepidodendron* have been found at Mammoth Cave National Park, Kentucky, and New River Gorge National River, West Virginia.

***Amaradontus santuccii*** is an early shark that lived during the Mississippian. Fossils of *Amaradontus* have been found at Grand Canyon National Park, Arizona.

***Barytichisma zaphrentiforme*** is a horn coral that lived during the Pennsylvanian. Fossils of *Barytichisma* have been found at Dinosaur National Monument, Colorado and Utah.

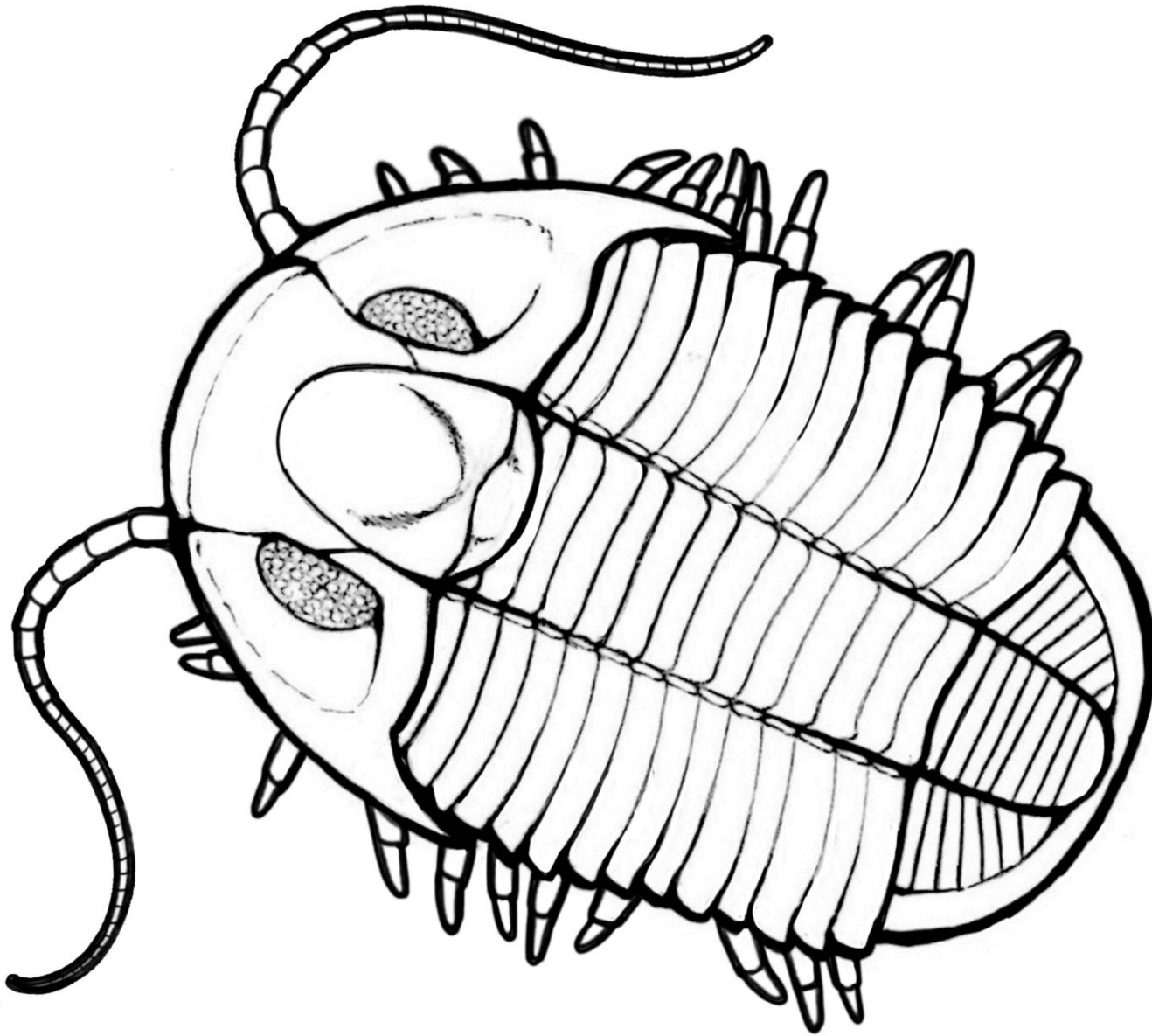
***Tupus whitei*** is an early dragonfly that lived during the Permian. Fossil remains of *Tupus* have been found at Grand Canyon National Park, Arizona.

***Supaia merriami*** is a fern-like plant that lived during the Permian. Fossils of *Supaia* have been found at Grand Canyon National Park, Arizona.

***Cooperoceras texanum*** is an ocean animal known as a nautiloid. It lived during the Permian. Fossils of *Cooperoceras* have been found at Guadalupe Mountains National Park, Texas.

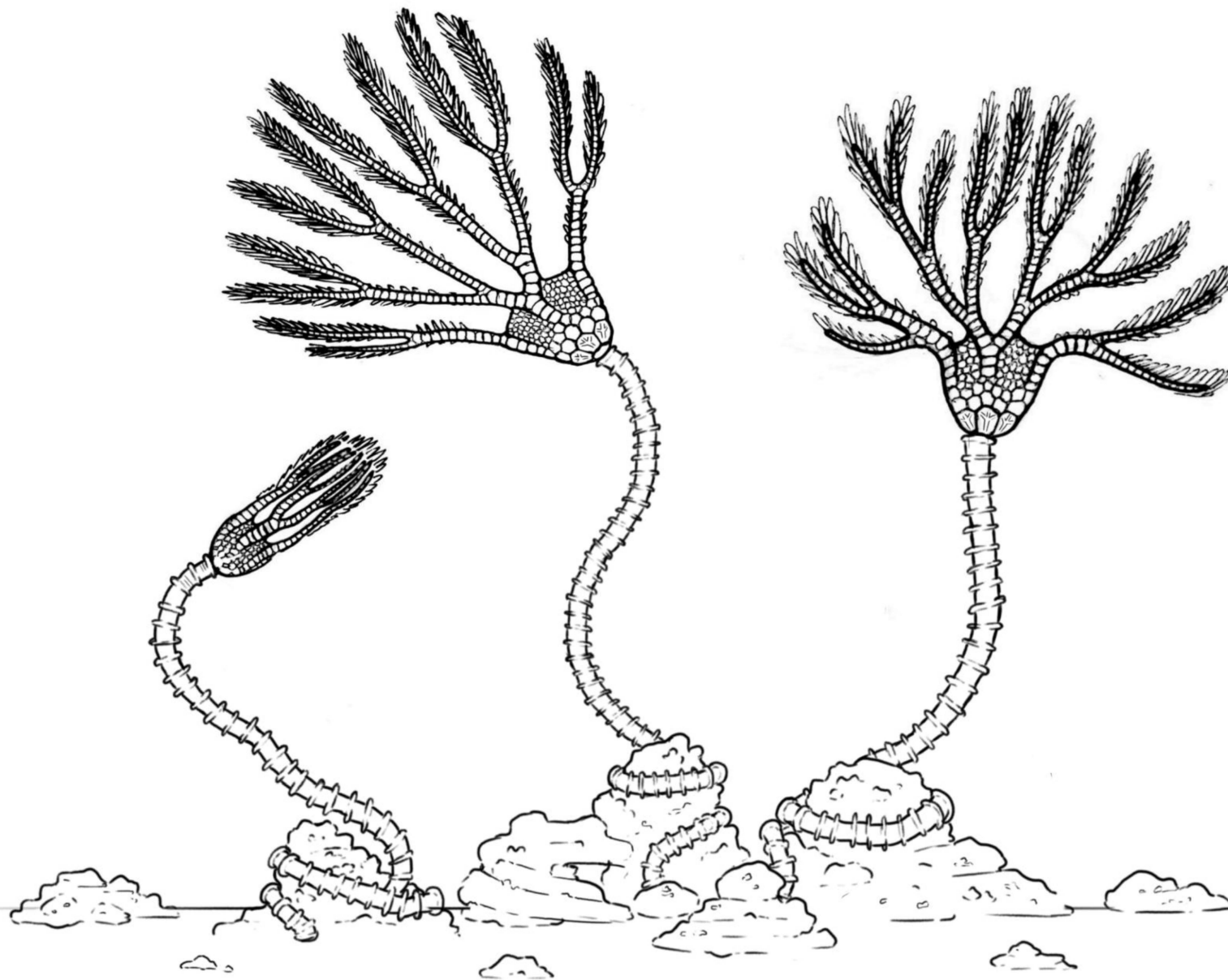
*Ehmania weedi*

Trilobite



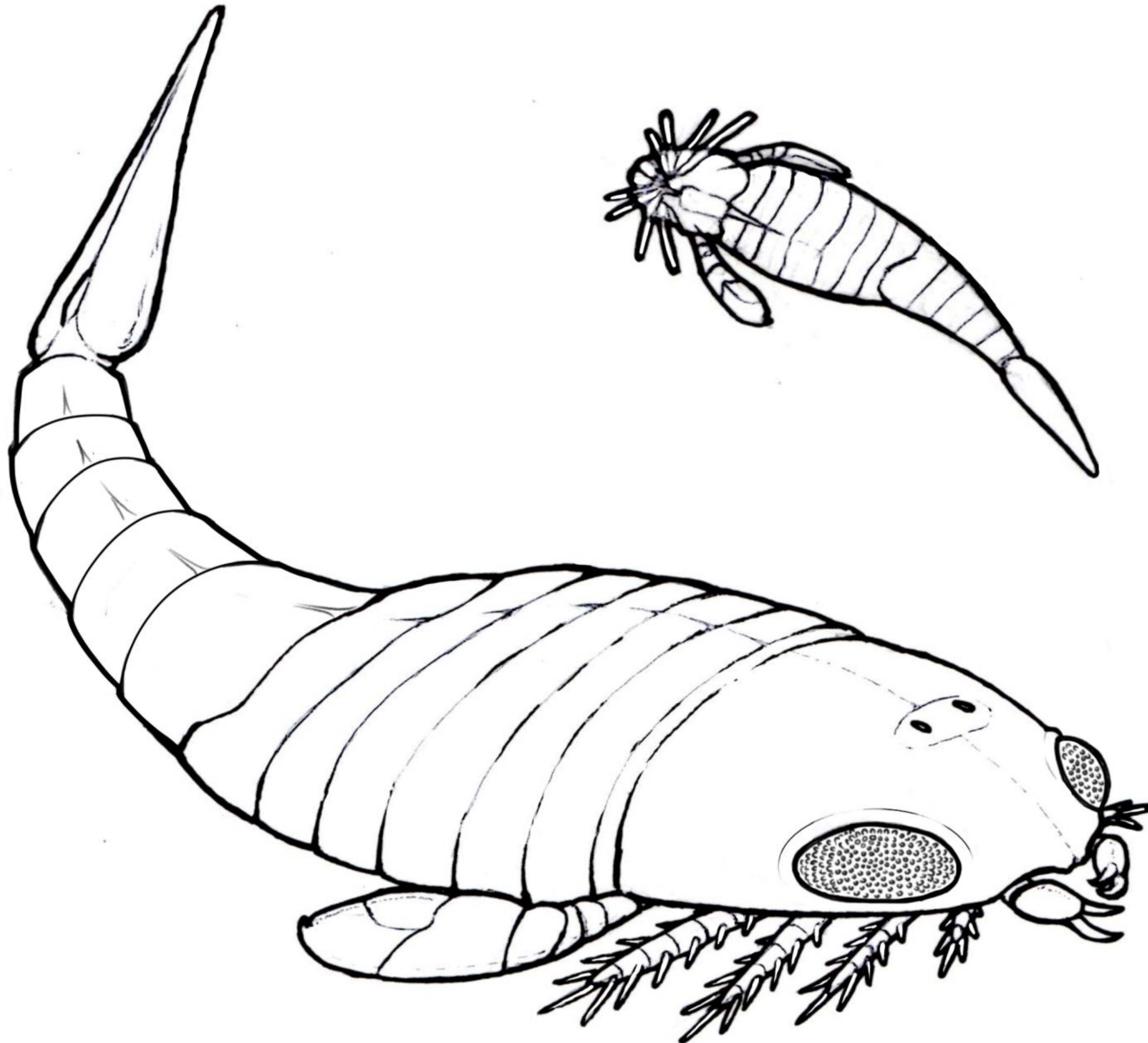
*Pycnocrinus multibrachiatus*

Crinoid



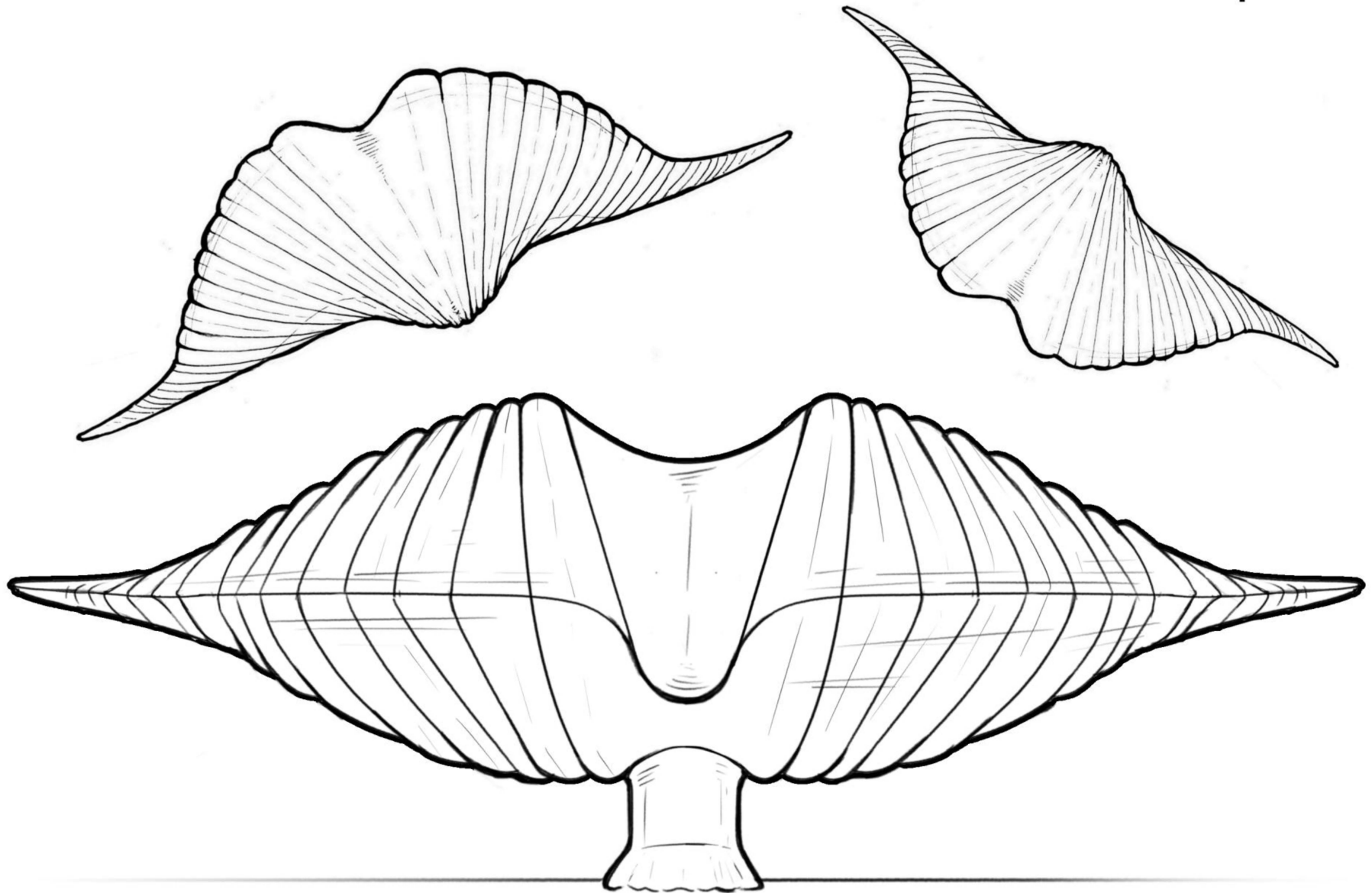
*Hughmilleria shawangunk*

Aquatic Arthropod



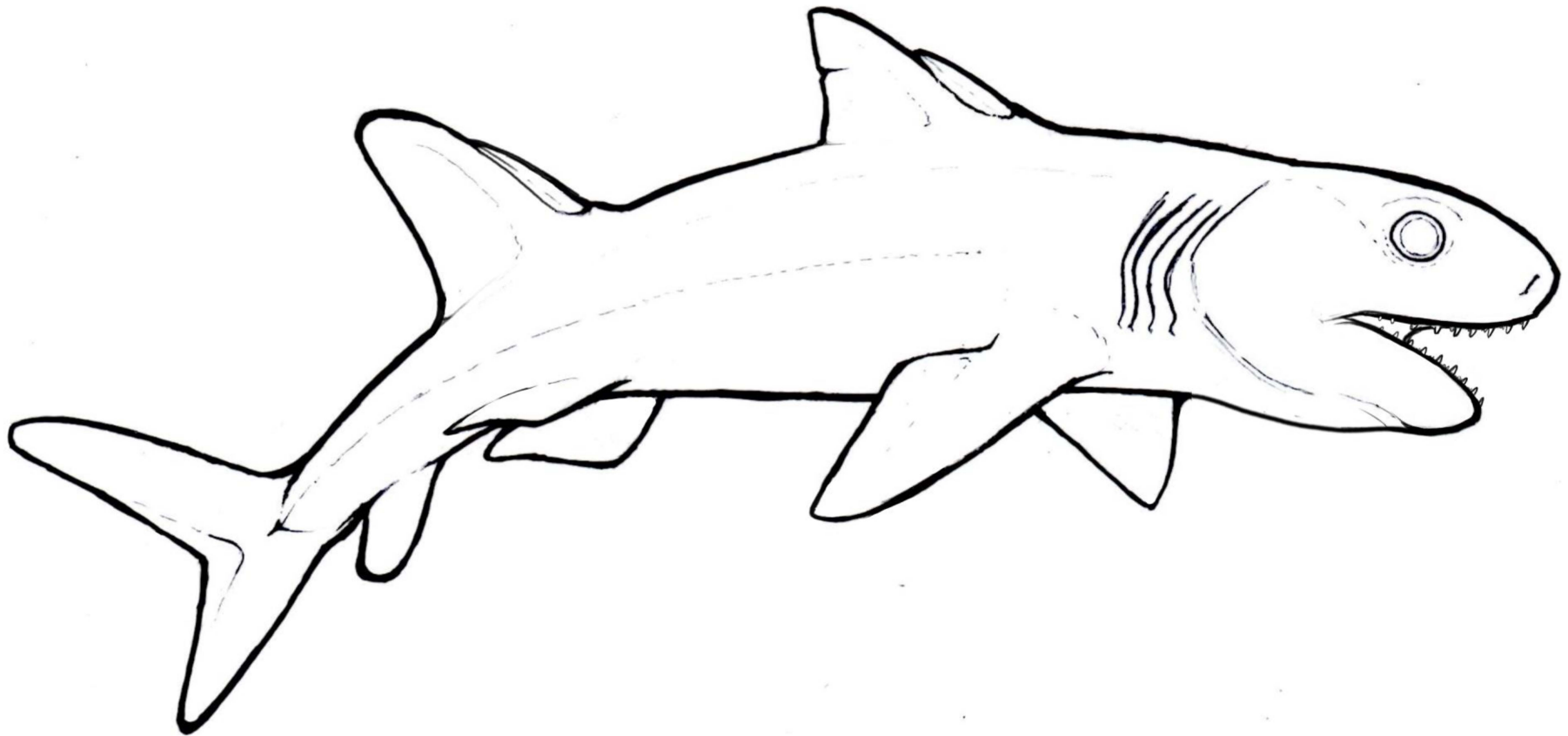
*Eleutherokomma reidfordi*

Brachiopod



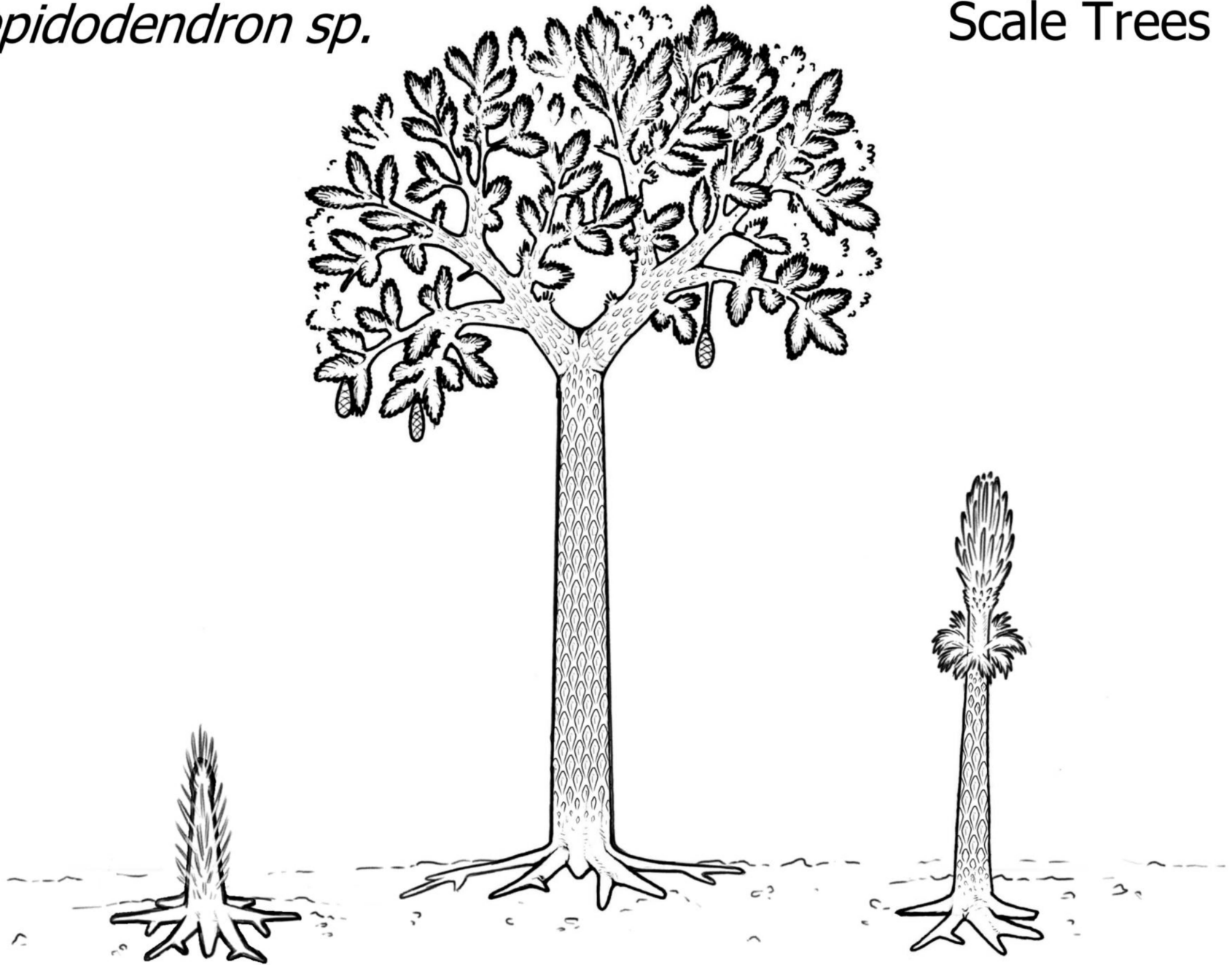
*Saivodus striatus*

Ancient Shark



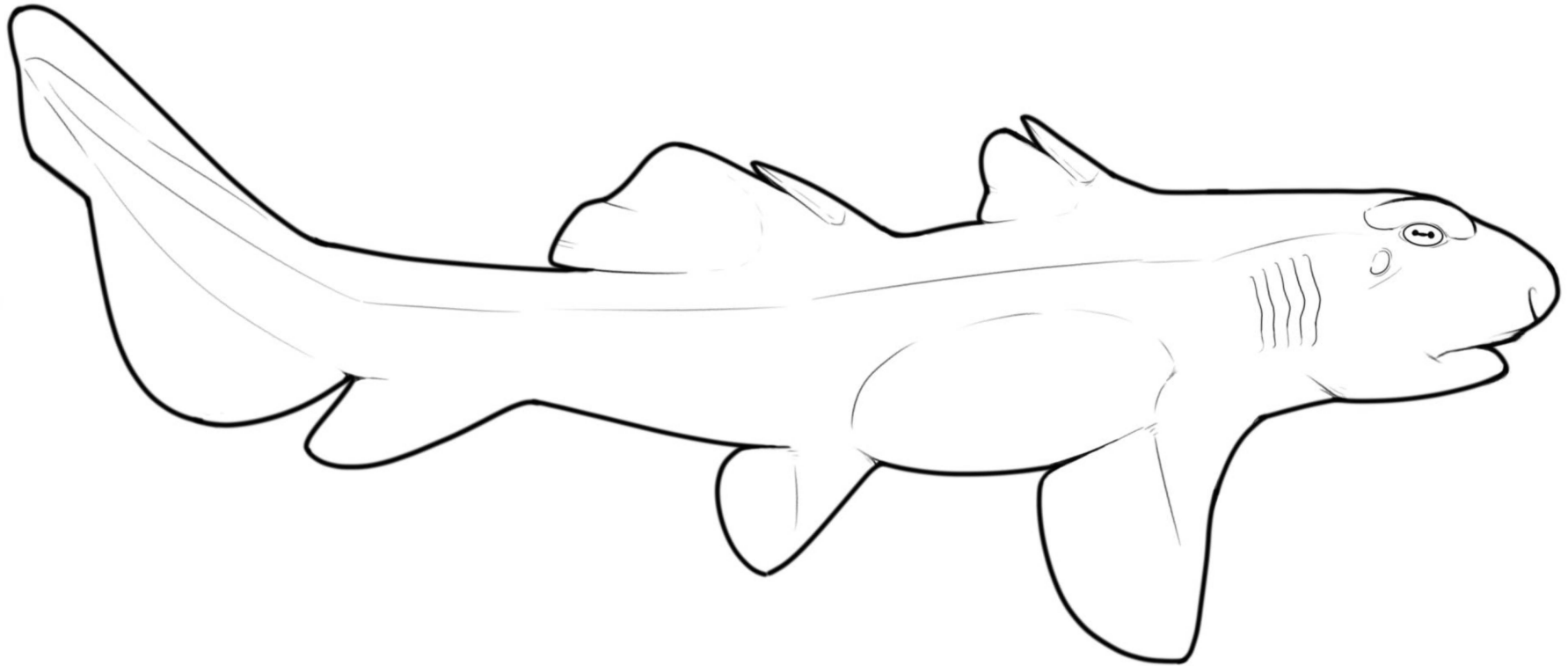
*Lepidodendron sp.*

Scale Trees



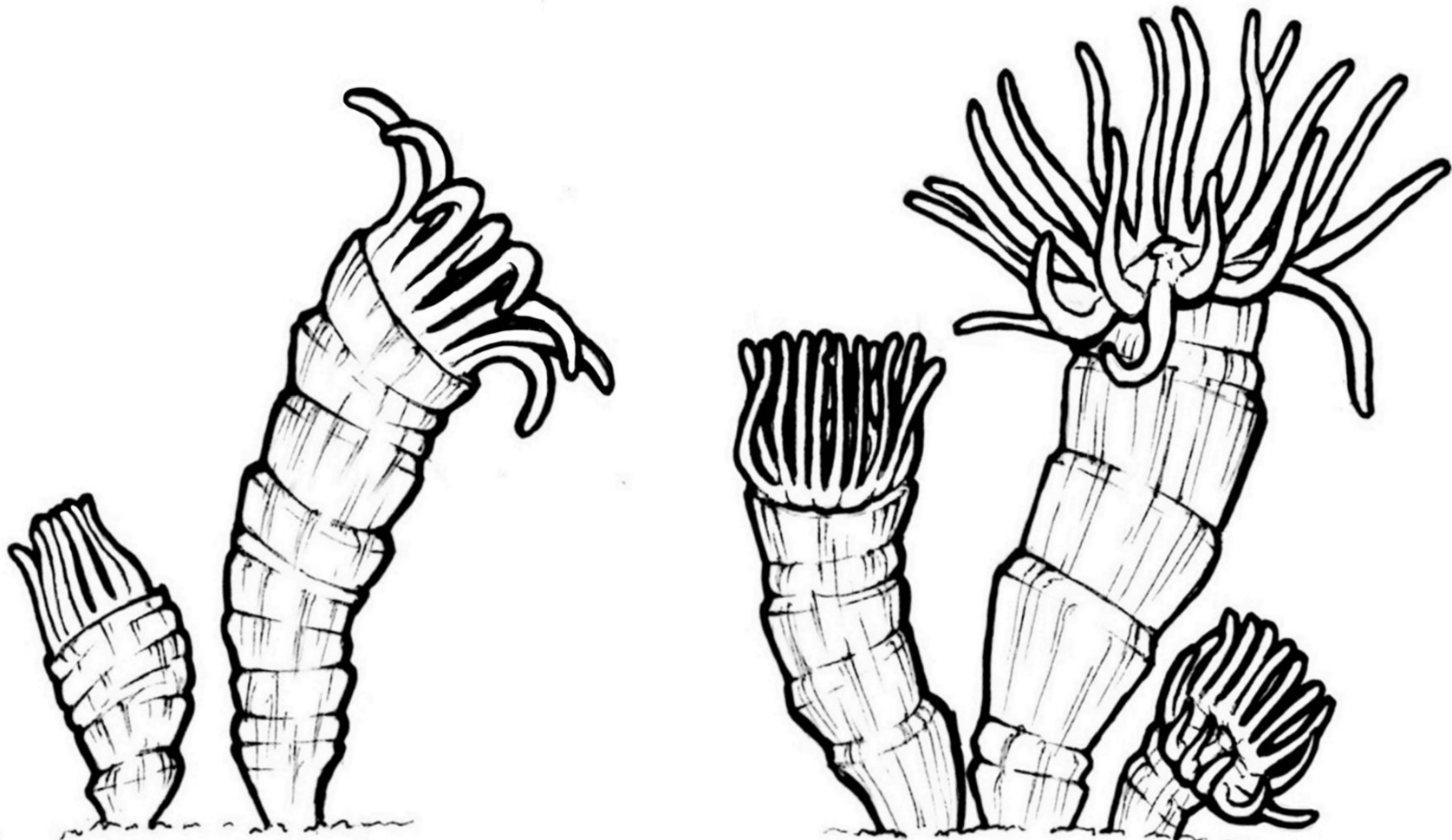
*Amaradontus santuccii*

Ancient Shark



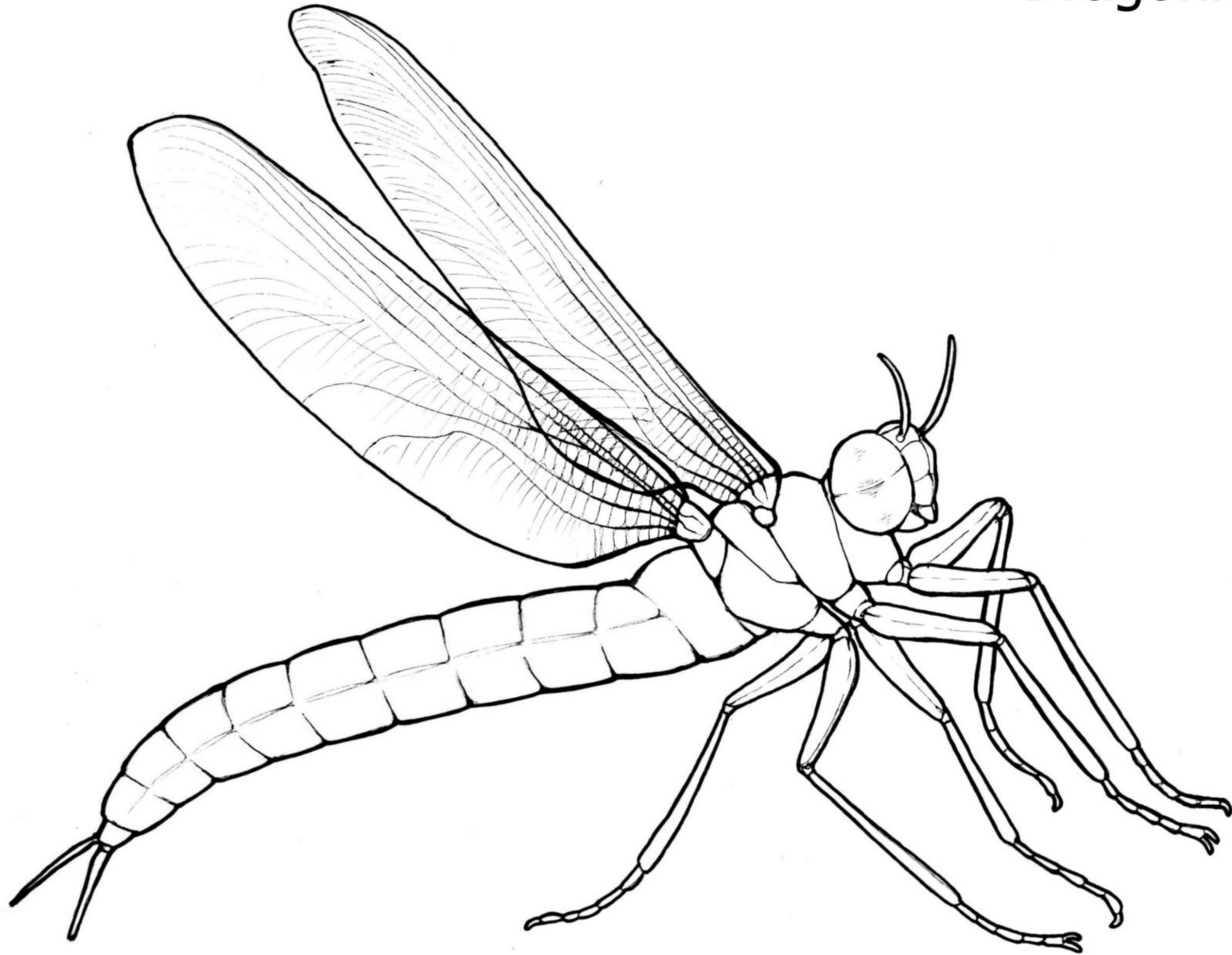
*Barytichisma zaphrentiforme*

Horn Coral



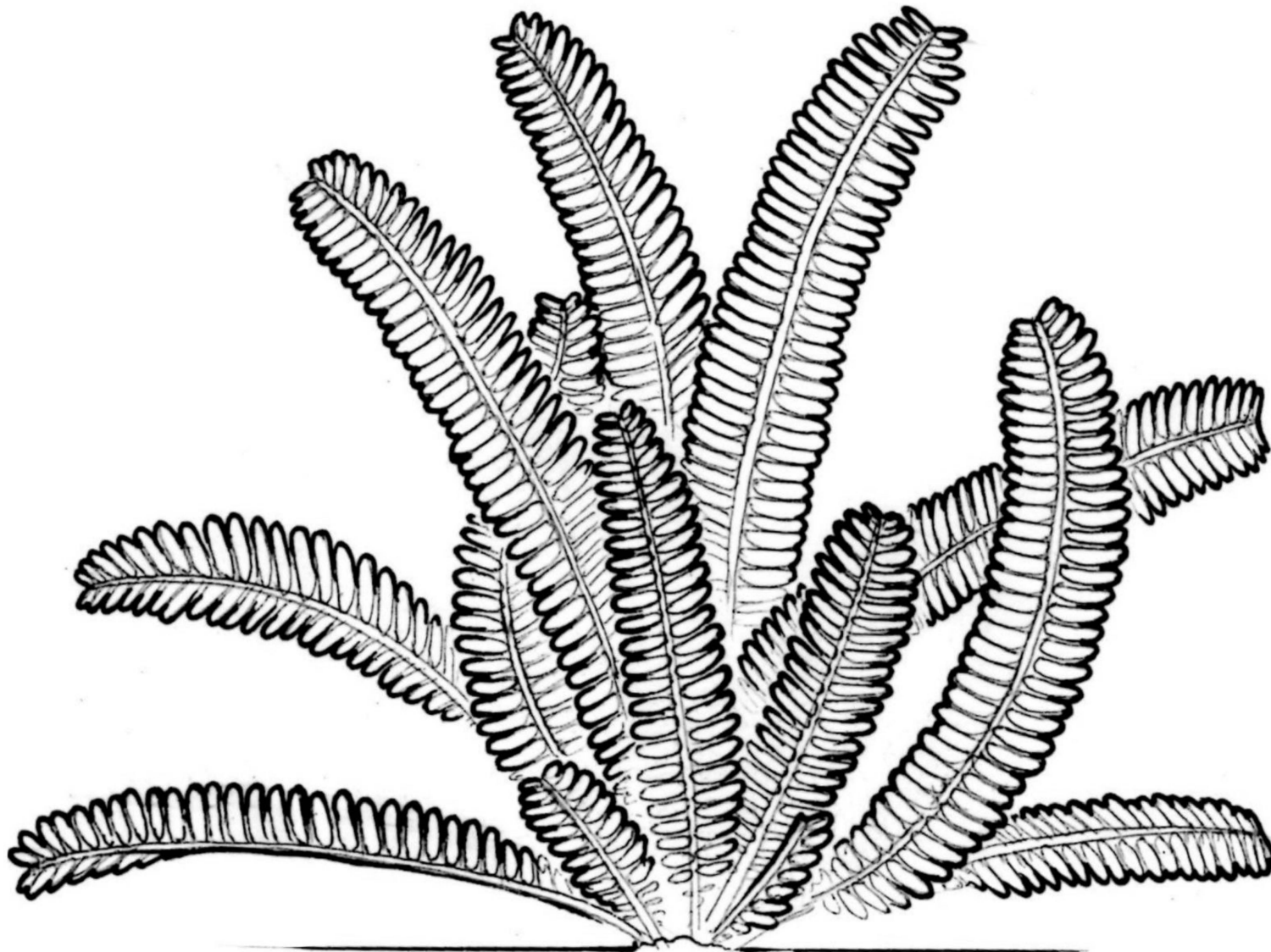
*Tupus whitei*

Dragonfly



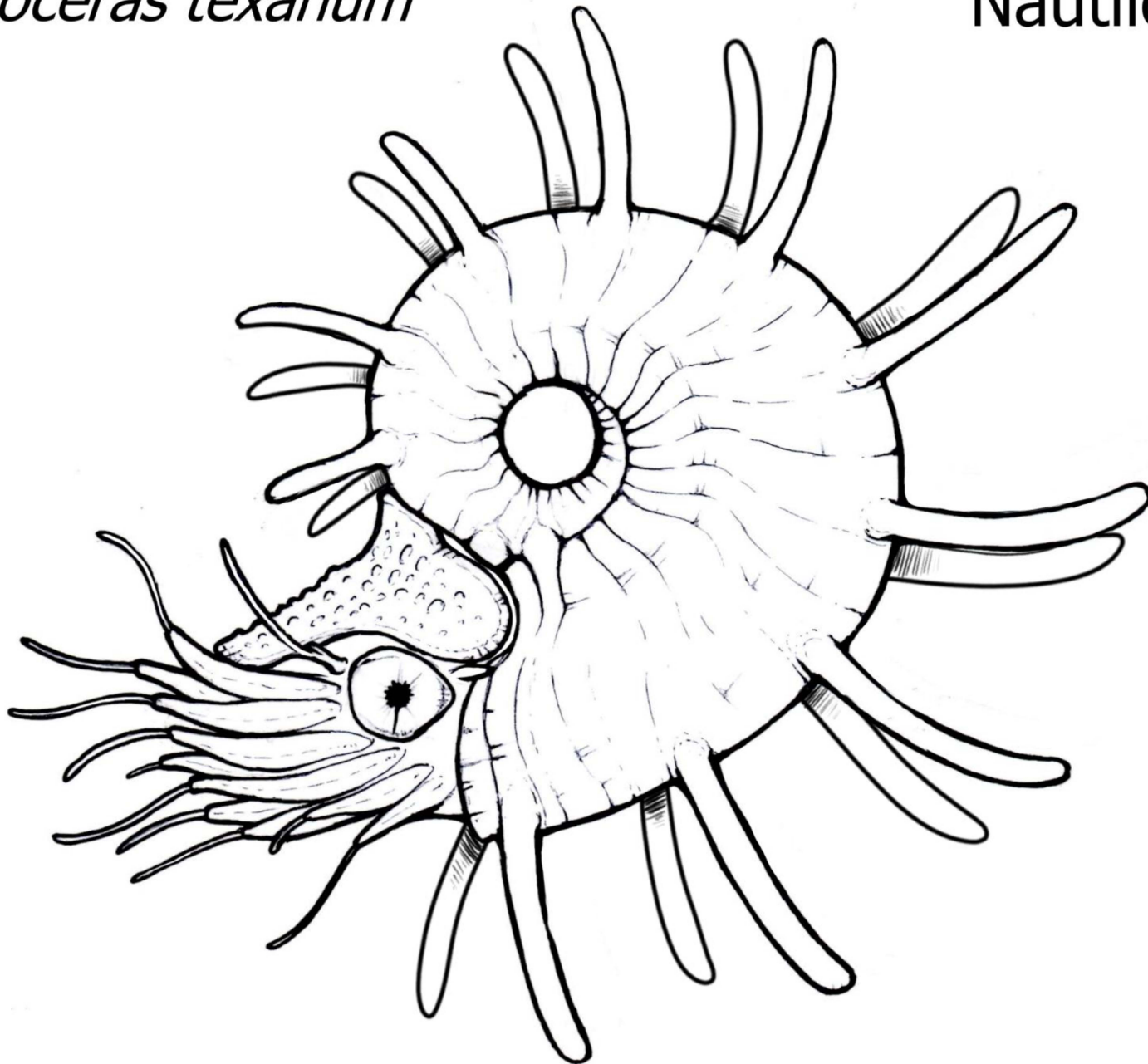
*Supaia merriami*

Fern-like Plant



*Cooperoceras texanum*

Nautiloid



# MESOZOIC ERA

## “middle animal life”

The Mesozoic Era is part of Earth’s history that spanned approximately 252 million years ago to 66 million years ago. The Mesozoic begins after the Permian extinction at the end of the Paleozoic. This period of “middle animal life” is sometimes also referred to as the “Age of Reptiles”. This is due to the many types of ocean and land reptiles, including the dinosaurs, which evolved during this time.

This section includes Mesozoic life that have been found in some of our national parks in the United States.

***Anaschisma browni*** is a large amphibian that lived during the Triassic. Fossils of *Anaschisma* have been found at Petrified Forest National Park, Arizona.

***Desmatosuchus spurensis*** is a plant-eating reptile (aetosaur) that lived during the Triassic. Fossils of *Desmatosuchus* have been found at Petrified Forest National Park, Arizona.

***Enoploclytia porteri*** is a prehistoric crayfish that lived during the Triassic. Fossils of *Enoploclytia* have been found at Petrified Forest National Park, Arizona.

***Apatosaurus louisae*** is large plant-eating sauropod dinosaur that lived during the Jurassic. Fossils of *Apatosaurus* have been discovered at Dinosaur National Monument, Colorado and Utah.

# MESOZOIC ERA

## (continued)

***Stegosaurus unguatus*** is a plant-eating dinosaur that lived during the Jurassic. The drawing shows an adult and juvenile *Stegosaurus*. This is based on fossils from the Morrison Formation at Dinosaur National Monument, Colorado and Utah.

***Cycadeoidea pulcherrima*** is an example of an extinct group of seed plants known as cycadeoids. These plants lived during the Cretaceous. A small dinosaur known as *Hypsilophodon Wielandi* is shown with the cycadeoid. Fossils of *Cycadeoidea* are known from an abolished national monument that was called Fossil Cycad National Monument, South Dakota.

***Dolichorhynchops osborni*** is a reptile that swam in the oceans. This reptile was a short-necked plesiosaur that lived during the Cretaceous. Fossils of *Dolichorhynchops* have been found at Little Bighorn Battlefield National Monument, Montana.

***Pachydiscus hazzardi*** is an ocean animal known as an ammonite. It lived during the Cretaceous. Fossils of *Pachydiscus* have been found at Katmai National Park and Preserve, Alaska.

***Quetzalcoatlus northropi*** is a flying reptile known as a pterosaur. It lived during the Cretaceous. This prehistoric creature is the largest known flying animal in Earth's history. Fossils of *Quetzalcoatlus* have been found at Big Bend National Park, Texas.

***Nanuqsaurus hoglundi*** is a large meat-eating dinosaur. It lived during the Cretaceous. Fossil footprints of *Nanuqsaurus* (or a close cousin) have been found at Denali National Park and Preserve, Alaska.

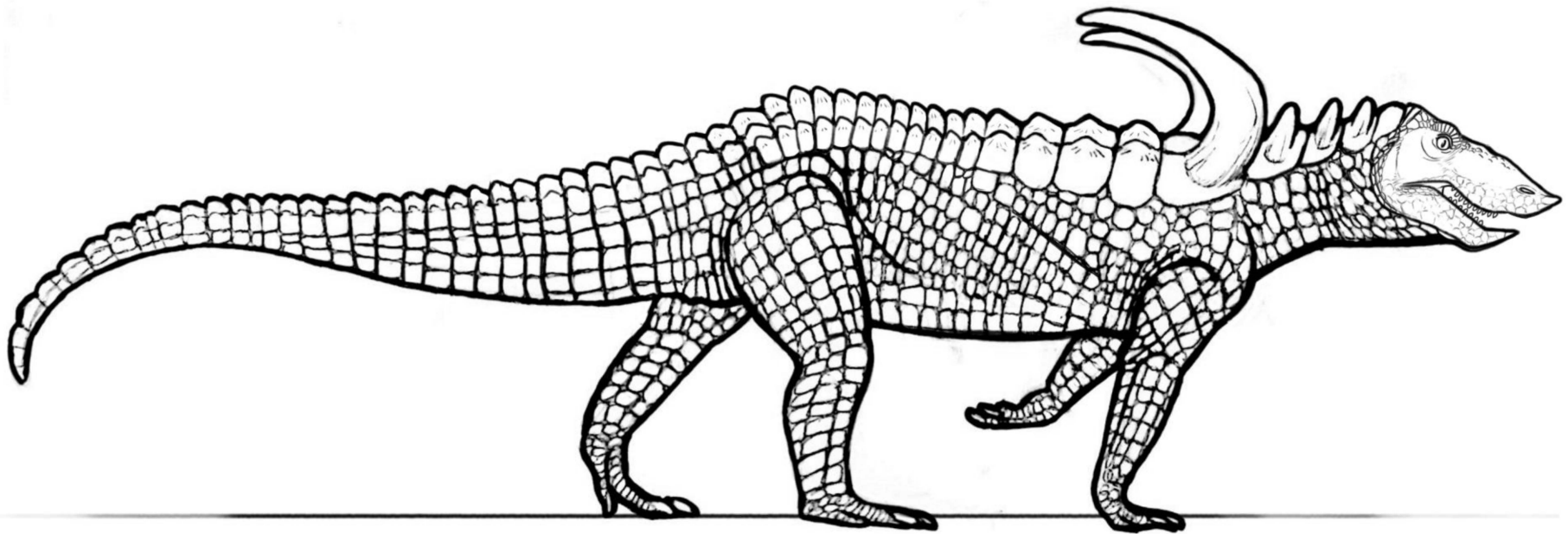
*Anaschisma browni*

Giant Amphibian



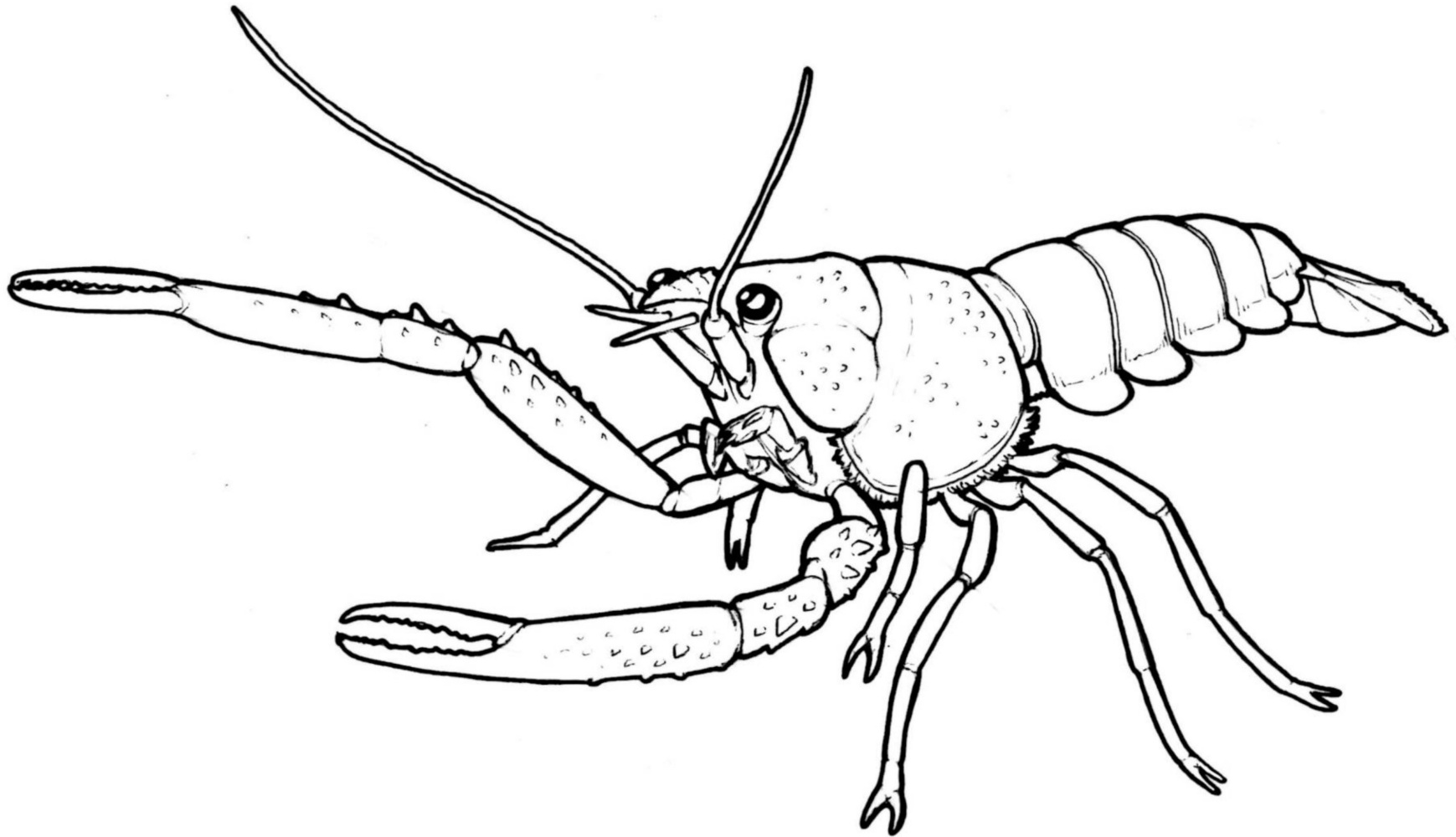
*Desmatosuchus spurensis*

Aetosaur



*Enoploclytia porteri*

Crayfish



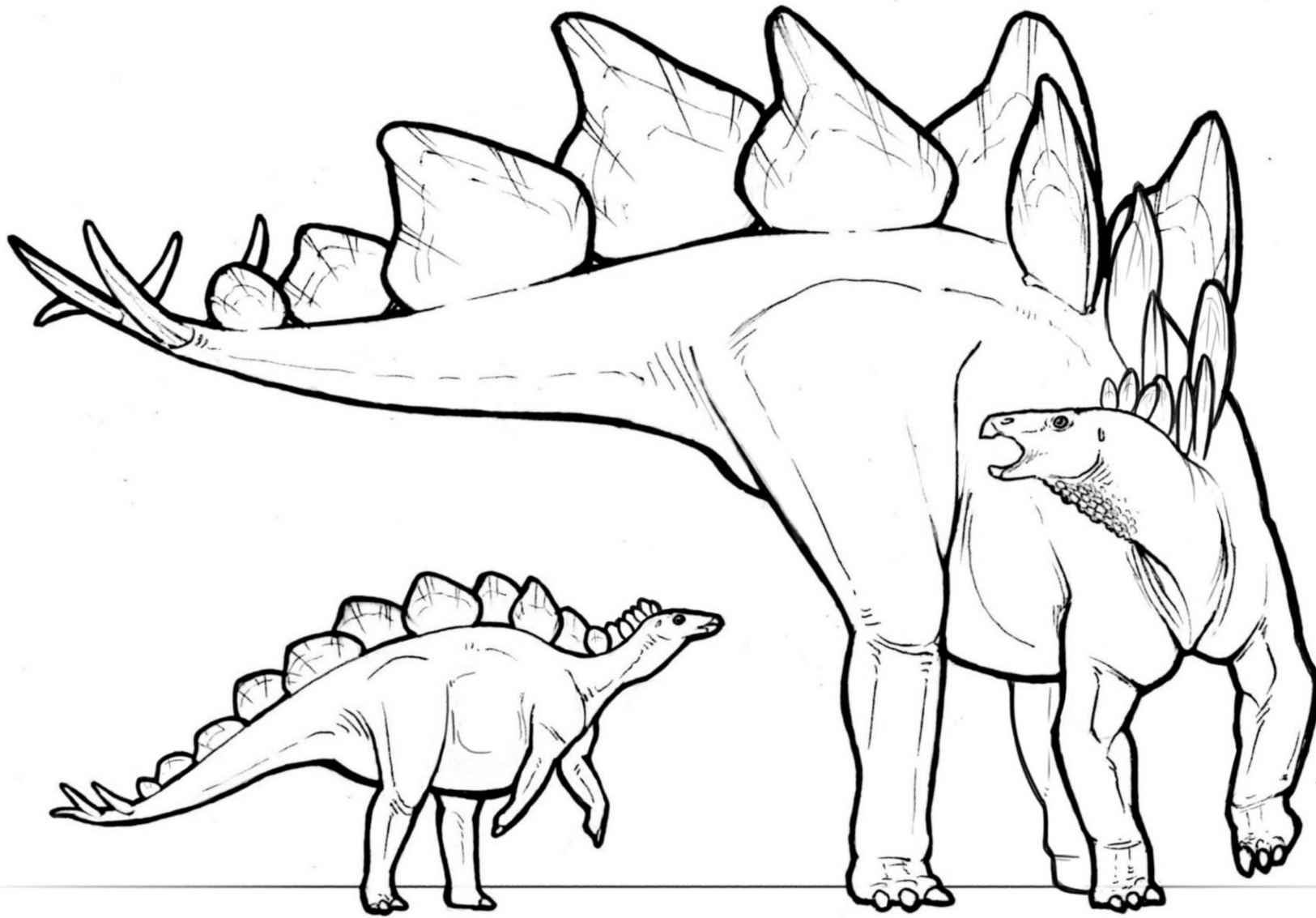
*Apatosaurus louisae*

Sauropod Dinosaur



*Stegosaurus ungulatus*

Stegosaur Dinosaur

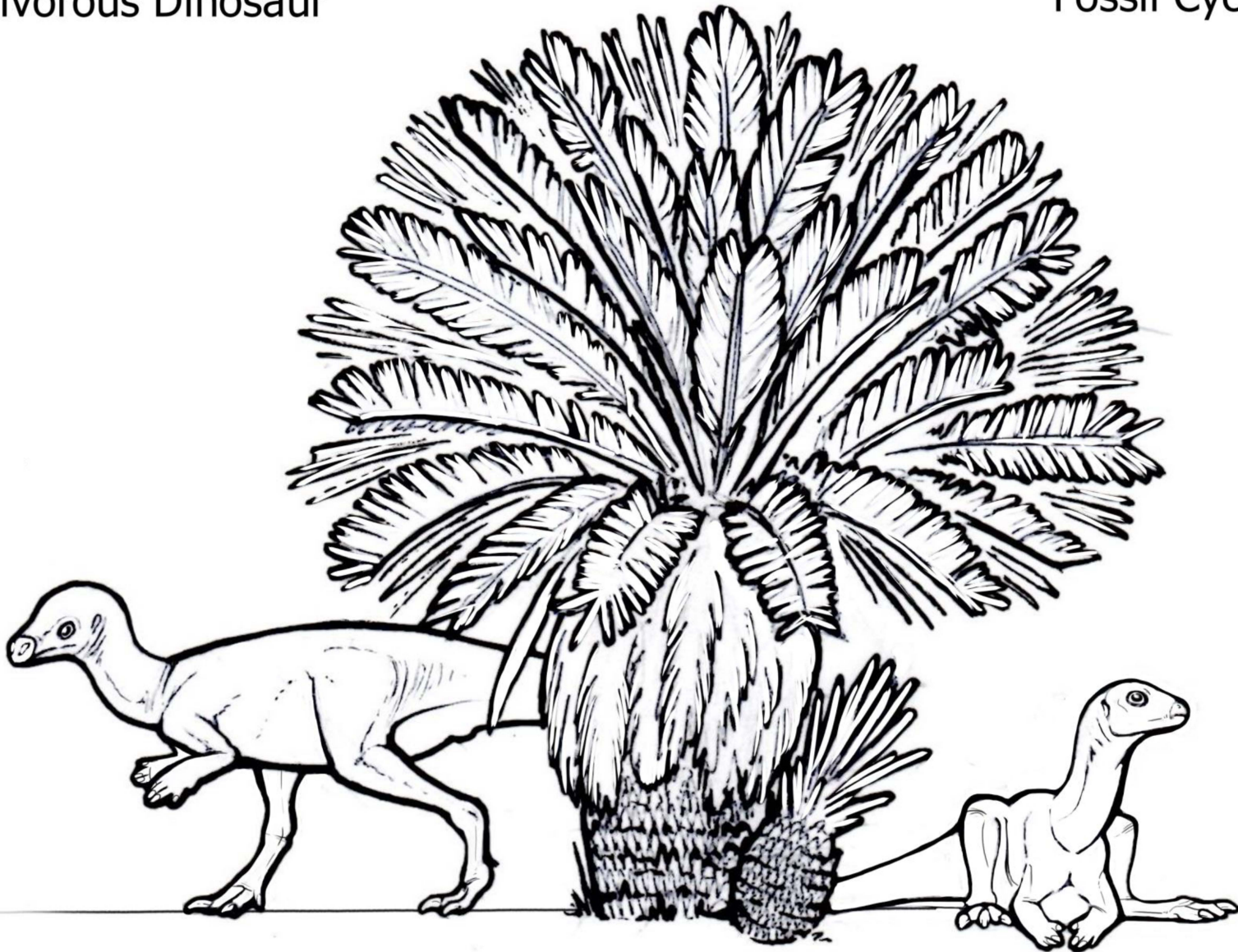


*Hypsilophodon wielandi*

Herbivorous Dinosaur

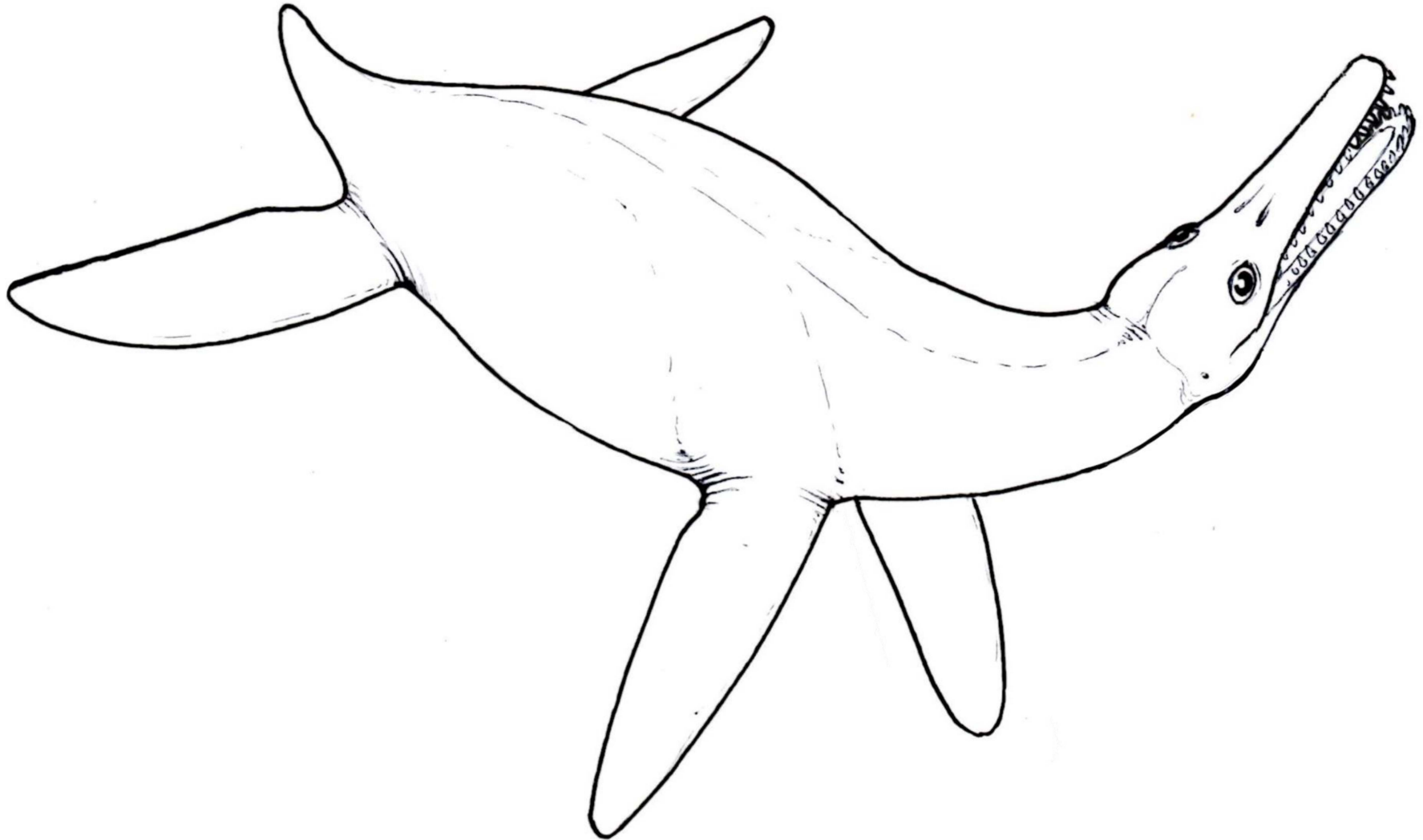
*Cycadeoidea pulcherrima*

Fossil Cycadeoid



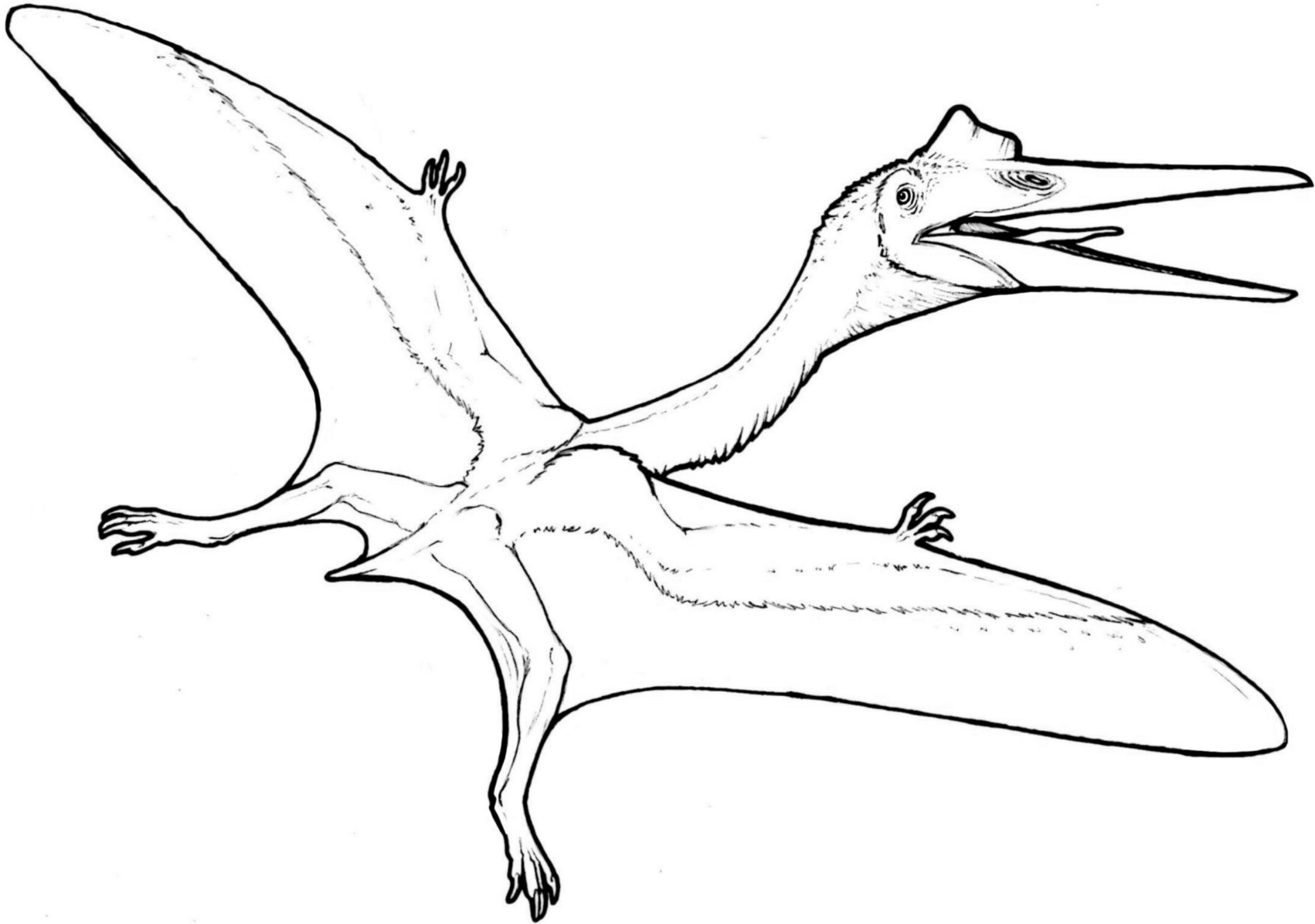
*Dolichorhynchops osborni*

Plesiosaur



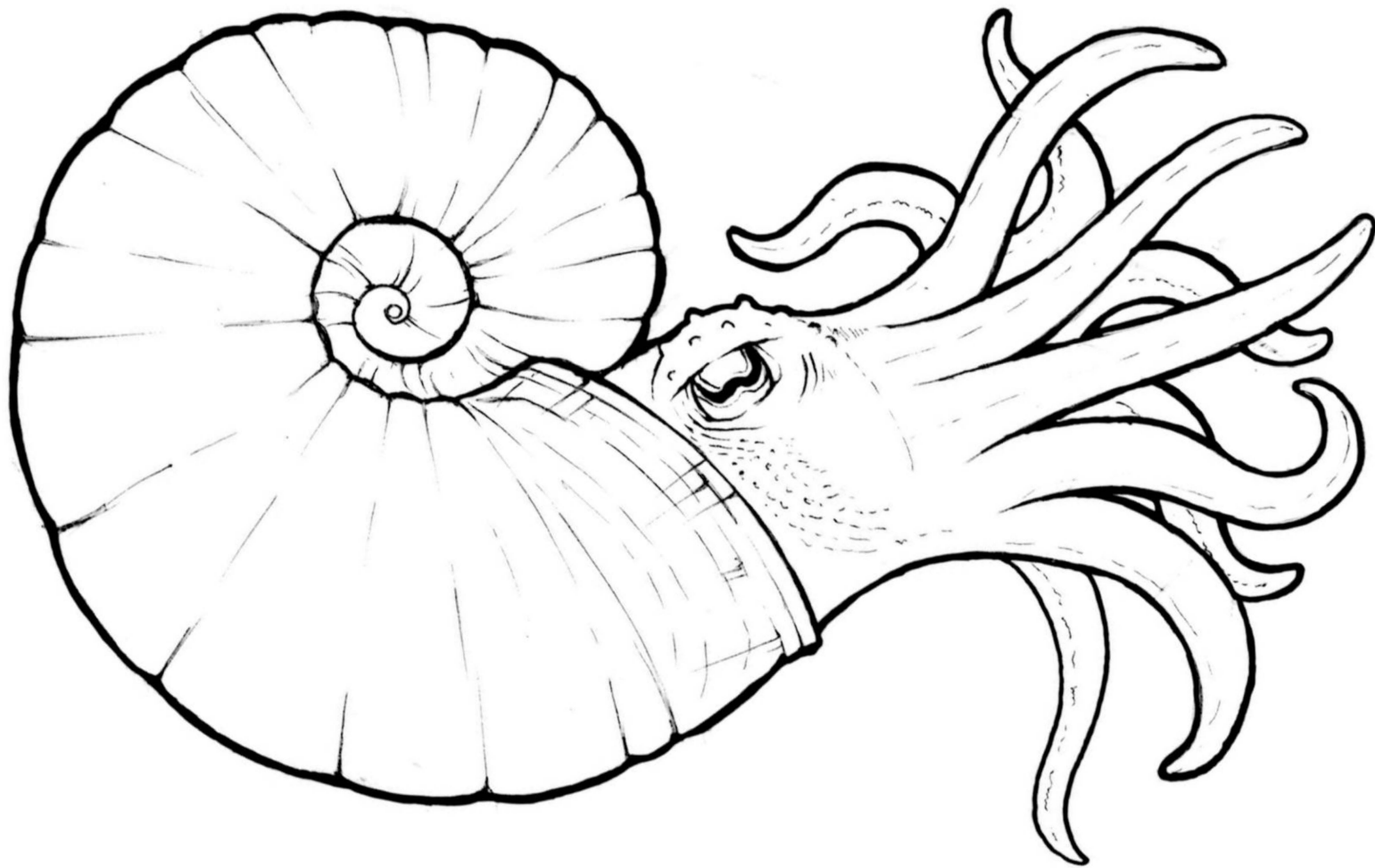
*Quetzalcoatlus northropi*

Pterosaur



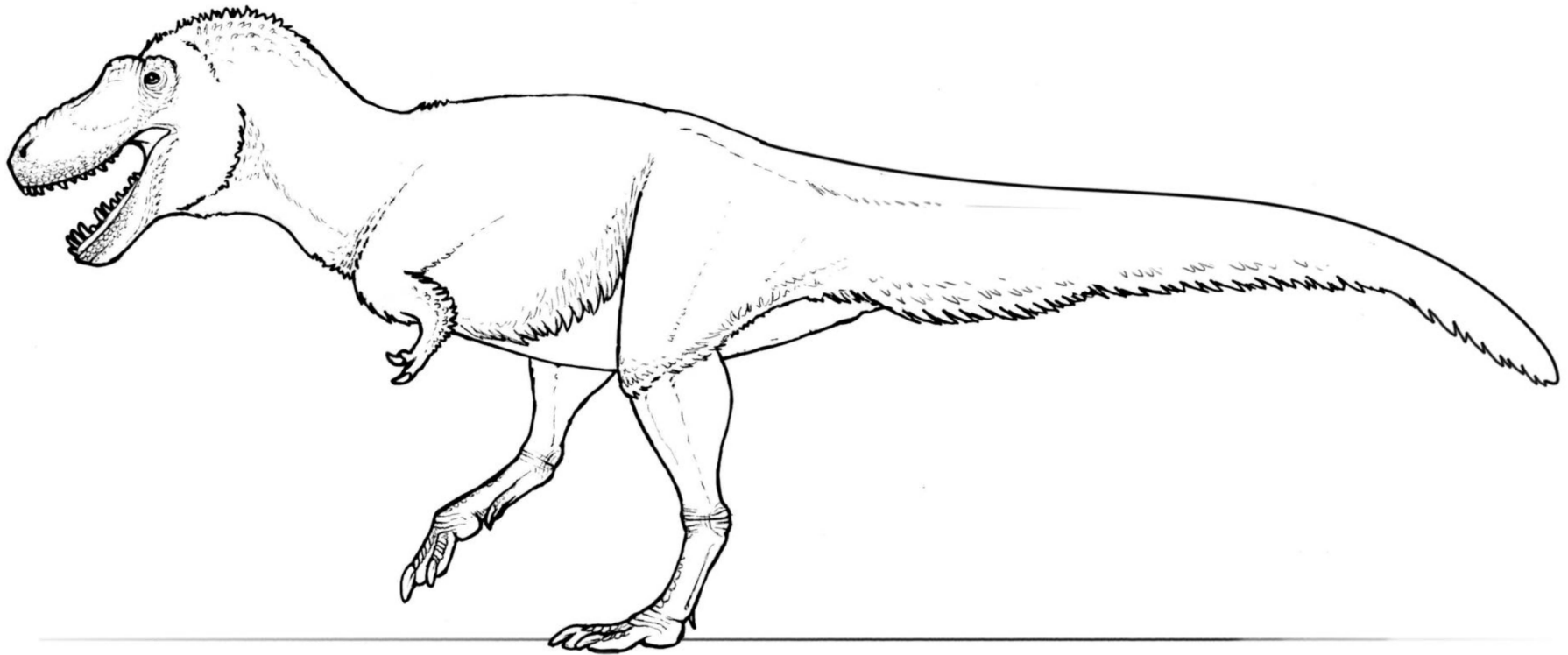
*Pachydiscus hazzardi*

Ammonite



*Nanuqsaurus hoglundi*

Theropod Dinosaur



# CENOZOIC ERA

## “recent animal life”

The Cenozoic Era is part of Earth’s history which spans from 66 million years ago to the present. The Cenozoic began after the extinction of the dinosaurs and many other lifeforms at the end of the Cretaceous. This period of “recent animal life” is sometimes also referred to as the “Age of Mammals”. This is due to the variety of mammals which evolved during this time.

This section includes some Cenozoic life which have been found in some of our national parks in the United States.

***Plesiadapis gidleyi*** is an early primate that lived during the Paleocene. Fossils of *Plesiadapis* have been found at Big Bend National Park, Texas, and Theodore Roosevelt National Park, North Dakota.

***Champsosaurus gigas*** is a crocodile-like reptile that lived during the Paleocene. Fossils of *Champsosaurus* have been found at Theodore Roosevelt National Park, North Dakota.

***Megacerops coloradensis*** is a large rhino-like mammal known as a brontothere. This animal lived during the Eocene. Fossils of *Megacerops* have been found at Badlands National Park, South Dakota, and Florissant Fossil Beds National Monument, Colorado.

***Heliobatis radians*** is a prehistoric stingray which lived in fresh-water lakes during the Eocene. Fossils of *Heliobatis* have been found in rocks within and around Fossil Butte National Monument, Wyoming.

# CENOZOIC ERA

## (continued)

***Diplomystus dentatus*** is a prehistoric herring-like fish. It lived in fresh-water lakes during the Eocene. Fossils of *Diplomystus* have been found in rocks within and around Fossil Butte National Monument, Wyoming.

***Palaeovespa florissantia*** is a prehistoric wasp. This flying insect lived during the Eocene. Fossils of *Palaeovespa* have been found in rocks within and around Florissant Fossil Beds National Monument, Colorado.

***Miniochoerus gracilis*** is a small plant-eating mammal known as an oreodont. This animal lived during the Late Eocene and Early Oligocene. Fossils of *Miniochoerus* have been found at Badlands National Park, South Dakota, and Scotts Bluff National Monument, Nebraska.

***Hypertragulus hesperius*** is a small deer-like, plant-eating mammal. This animal lived during the Oligocene. Fossils of *Hypertragulus* have been found at Badlands National Park, South Dakota, and John Day Fossil Beds National Monument, Oregon.

***Eurhinodelphis longirostris*** is a primitive long-nosed dolphin. This animal lived during the Miocene. Fossils of *Eurhinodelphis* have been found at George Washington Birthplace National Monument, Virginia.

***Daeodon hollandi*** is a large pig-like mammal known as an entelodont. This animal lived during the Miocene. Fossils of *Daeodon* have been found at Agate Fossil Beds National Monument, Nebraska.

# CENOZOIC ERA

## (continued)

***Equus simplicidens*** is an extinct species of horse known as the “Hagerman Horse”. This animal lived during the Pliocene. Fossils of *Equus simplicidens* have been found at Hagerman Fossil Beds National Monument, Idaho.

***Chesapecten jeffersonius*** is an extinct scallop that lived during the Pliocene. It is the Virginia State Fossil. Fossils of *Chesapecten jeffersonius* have been found at Colonial National Historical Park, Virginia.

***Mammuthus columbi*** is a large elephant-like mammal that lived during the Pleistocene. Fossils of *Mammuthus* are known from many national parks. The best specimens are preserved at Waco Mammoth National Monument, Texas.

***Bison latifrons*** is an extinct species of bison (buffalo) that lived during the Pleistocene. Fossils of *Bison latifrons* have been found at Lake Meredith National Recreation Area, Texas, and Tule Springs Fossil Beds National Monument, Nevada.

***Miracinonyx trumani*** is known as the American Cheetah that lived during the Pleistocene. Fossils of *Miracinonyx* have been found at Grand Canyon National Park, Arizona.

***Gymnogyps californianus*** is a large bird known as a condor. This animal lived during the Pleistocene. Fossils of *Gymnogyps* have been found in caves at Grand Canyon National Park, Arizona.

# CENOZOIC ERA

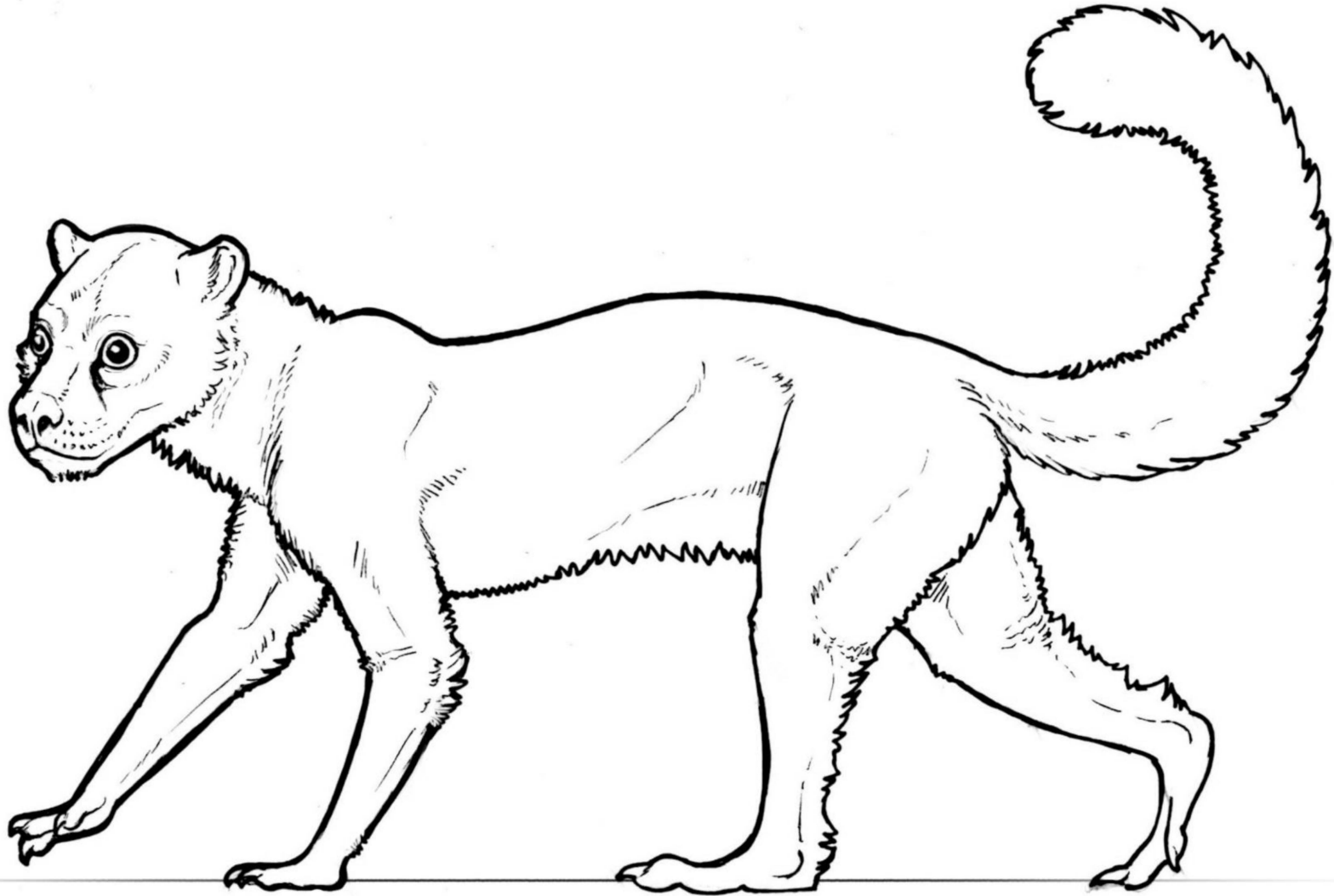
## (continued)

***Nothrotheriops shastensis*** is known as the Shasta Ground Sloth. This large animal lived during the Pleistocene. Fossils of *Nothrotheriops* have been discovered in many national parks. This list includes Carlsbad Caverns National Park, New Mexico, Grand Canyon National Park, Arizona, Guadalupe Mountains National Park, Texas, and White Sands National Park, New Mexico.

***Smilodon gracilis*** is a saber-tooth cat. This big cat lived during the Pleistocene. Fossils of *Smilodon* have been found at Tule Springs Fossil Beds National Monument, Nevada, and Valley Forge National Historical Park, Pennsylvania.

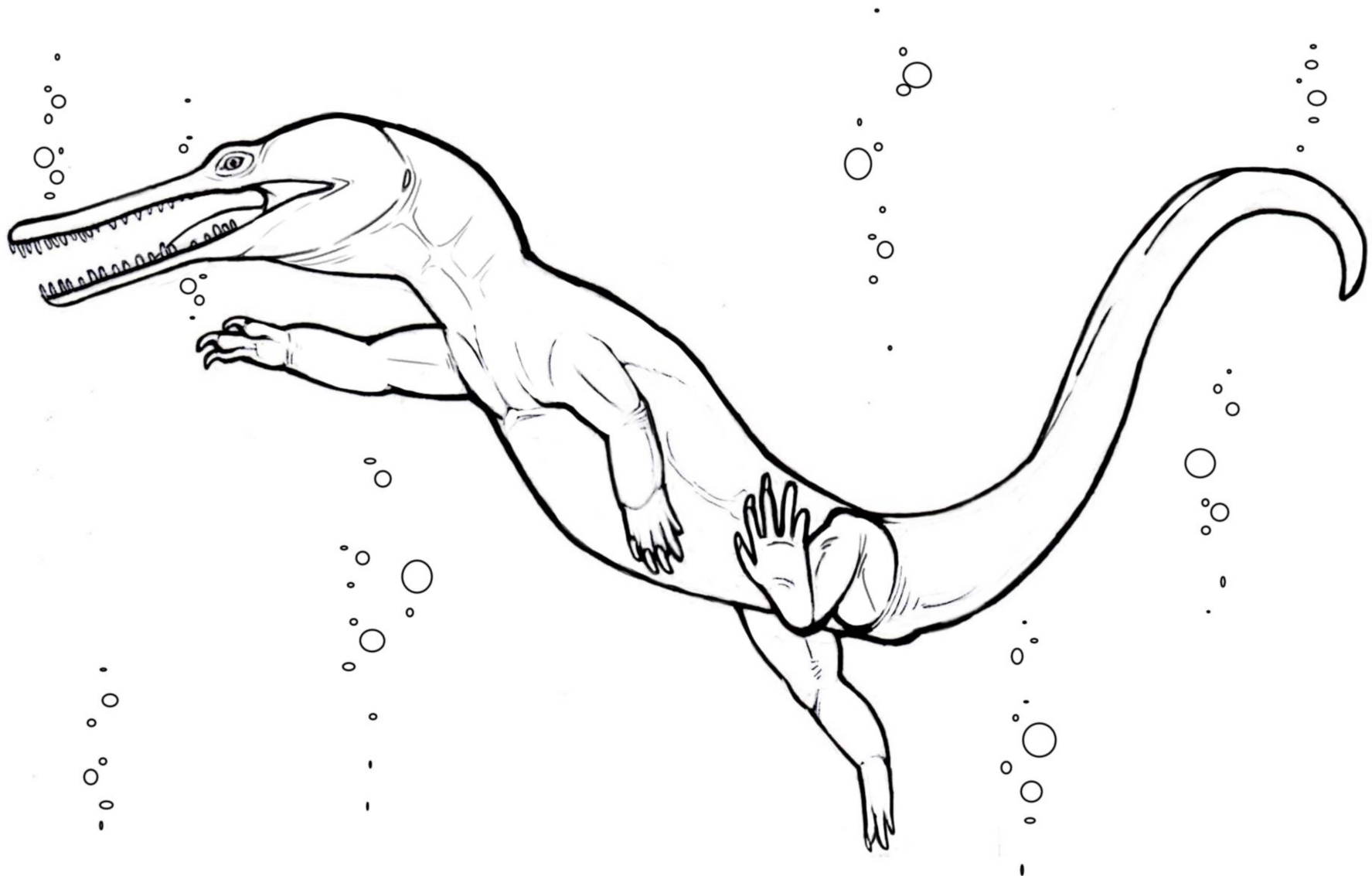
*Plesiadapis gidleyi*

Early Primate



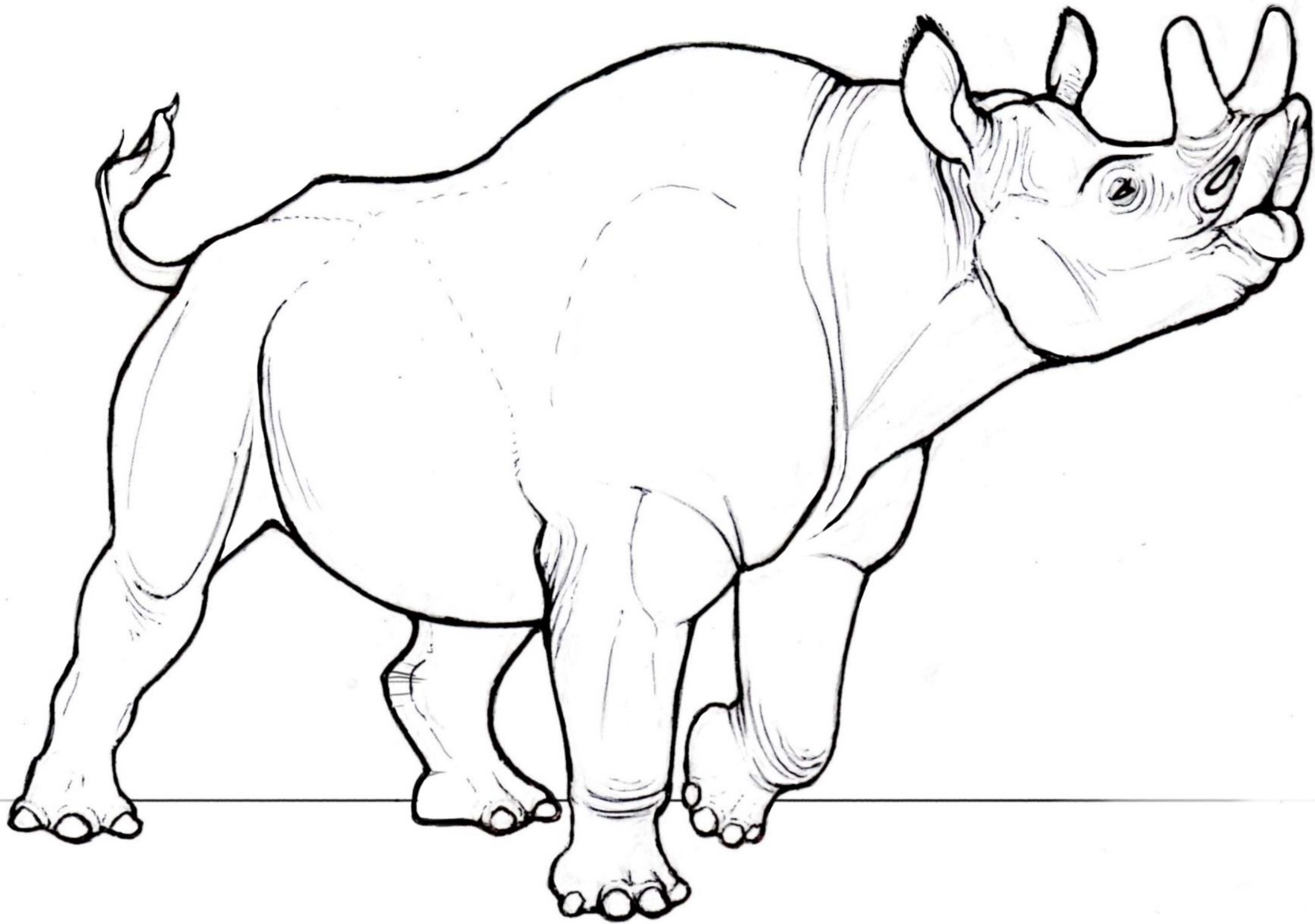
*Champsosaurus gigas*

Fresh Water Reptile



*Megacerops coloradensis*

Brontothere



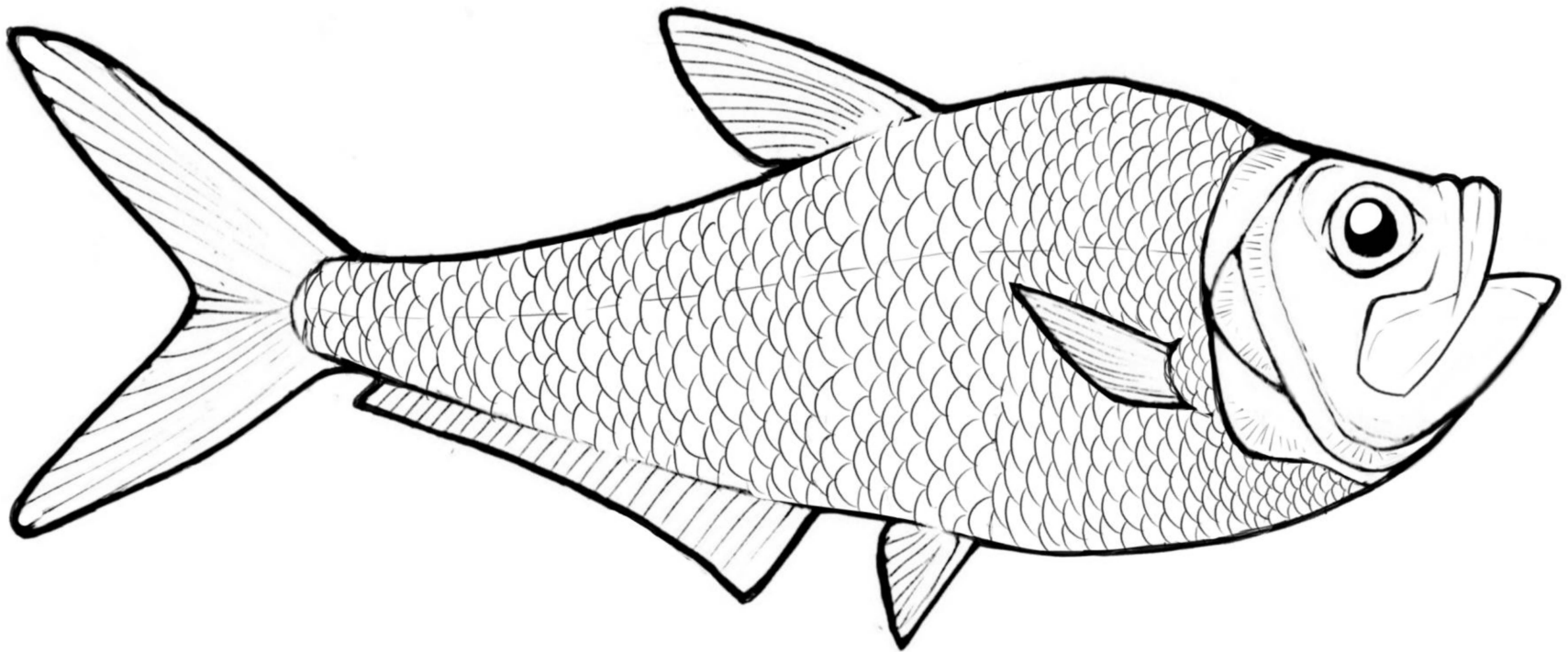
*Heliobatis radians*

Fresh Water Ray



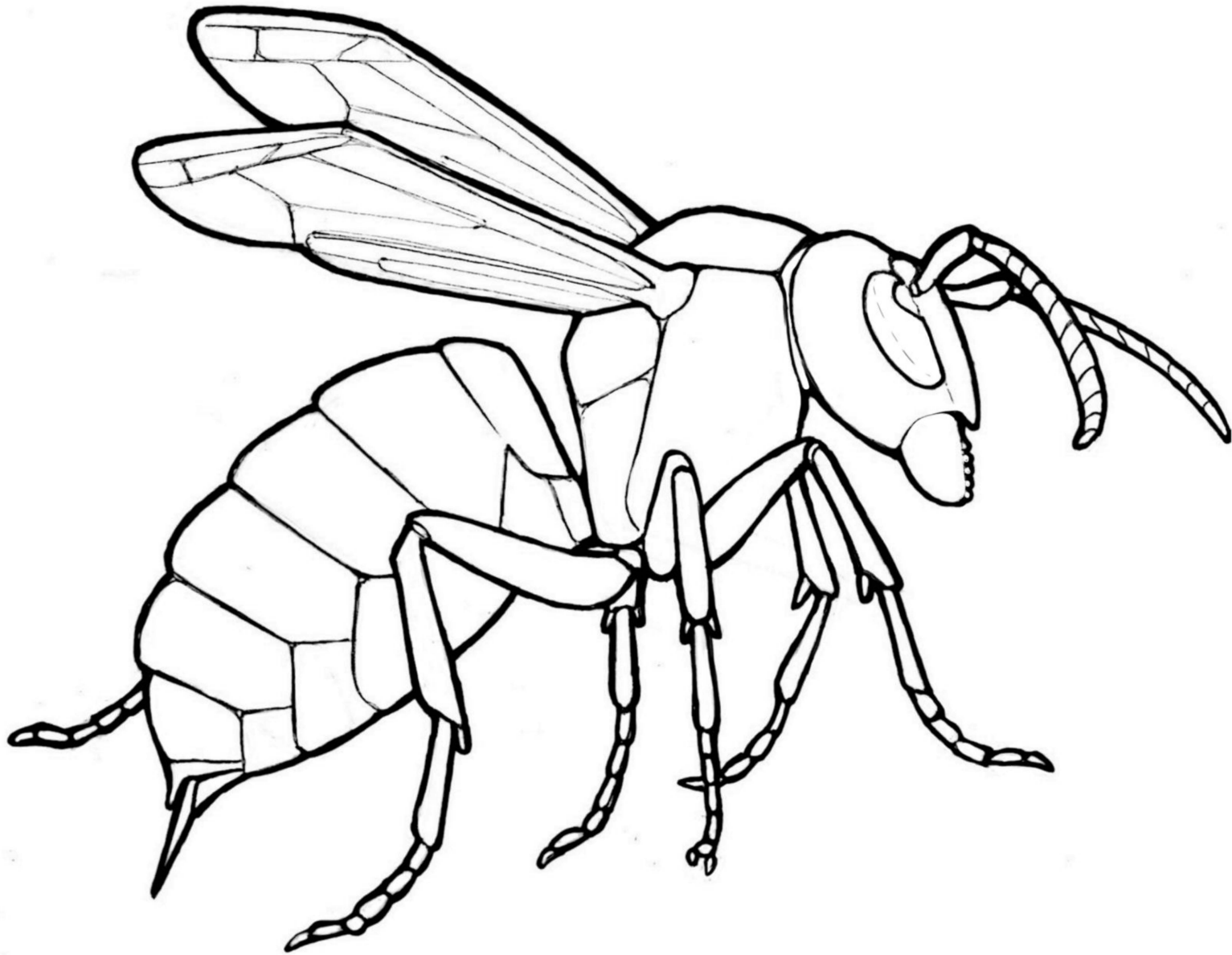
*Diplomystus dentatus*

Fresh Water Fish



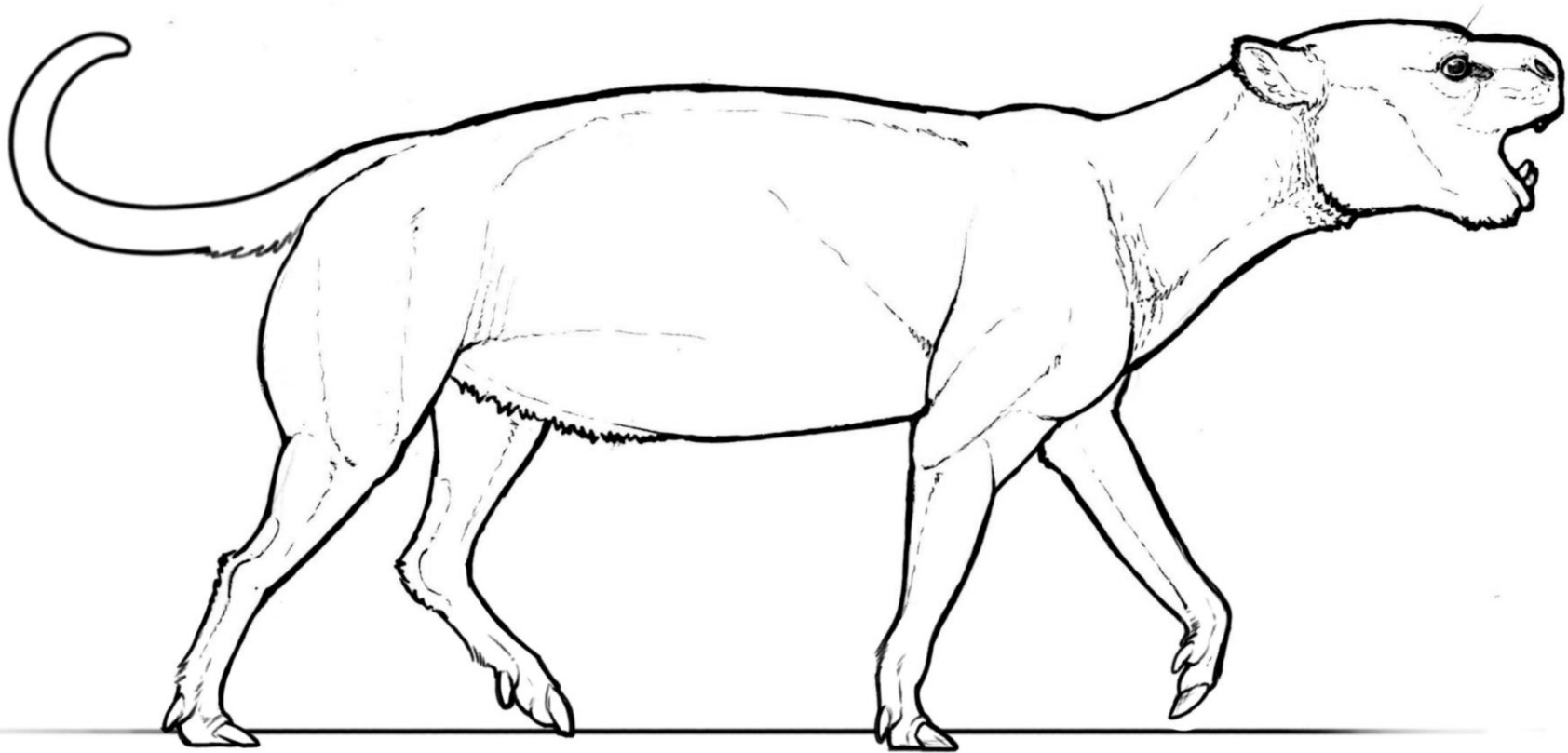
*Palaeovespa florissantia*

Ancient Wasp



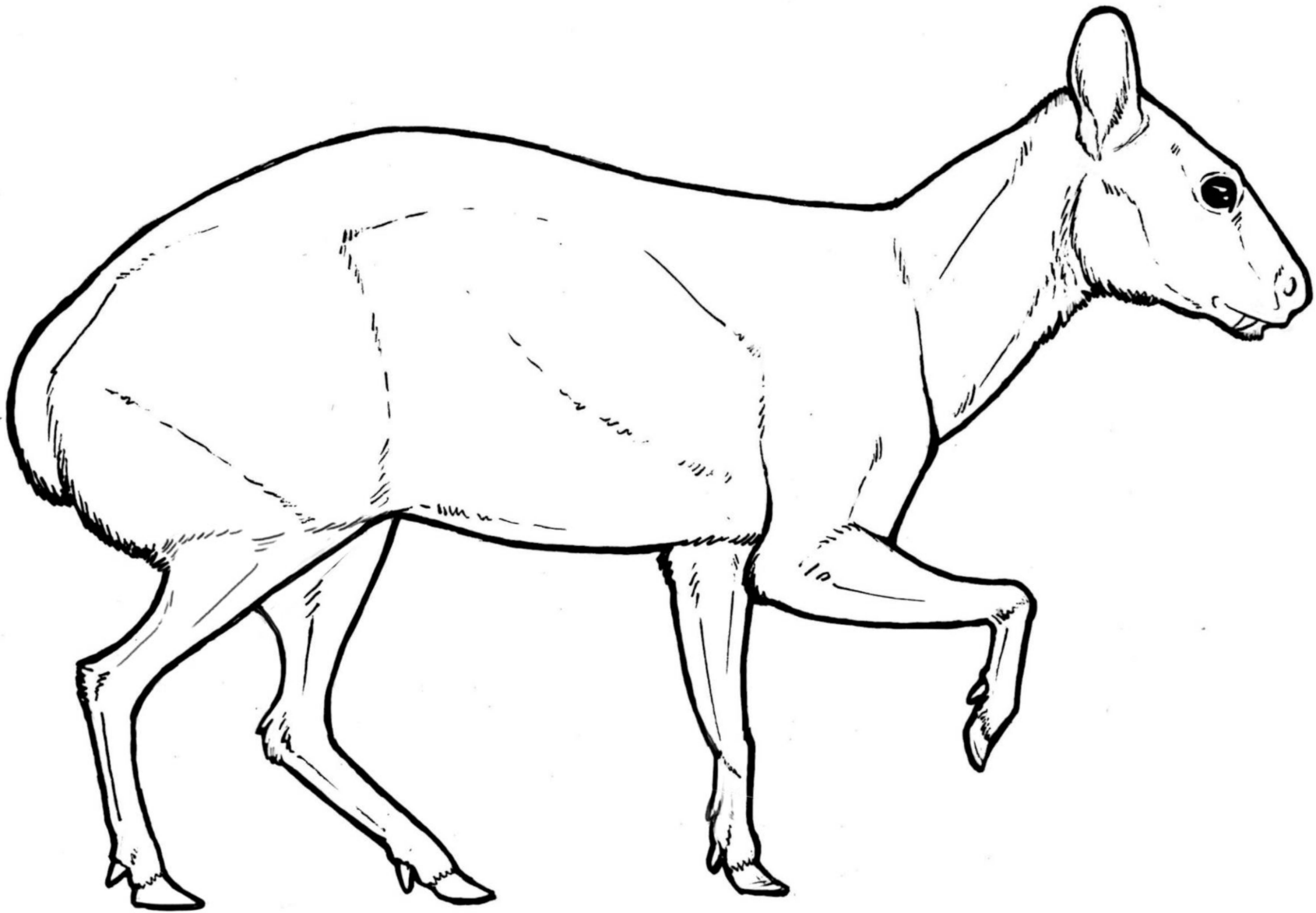
*Miniochoerus gracilis*

Oreodont



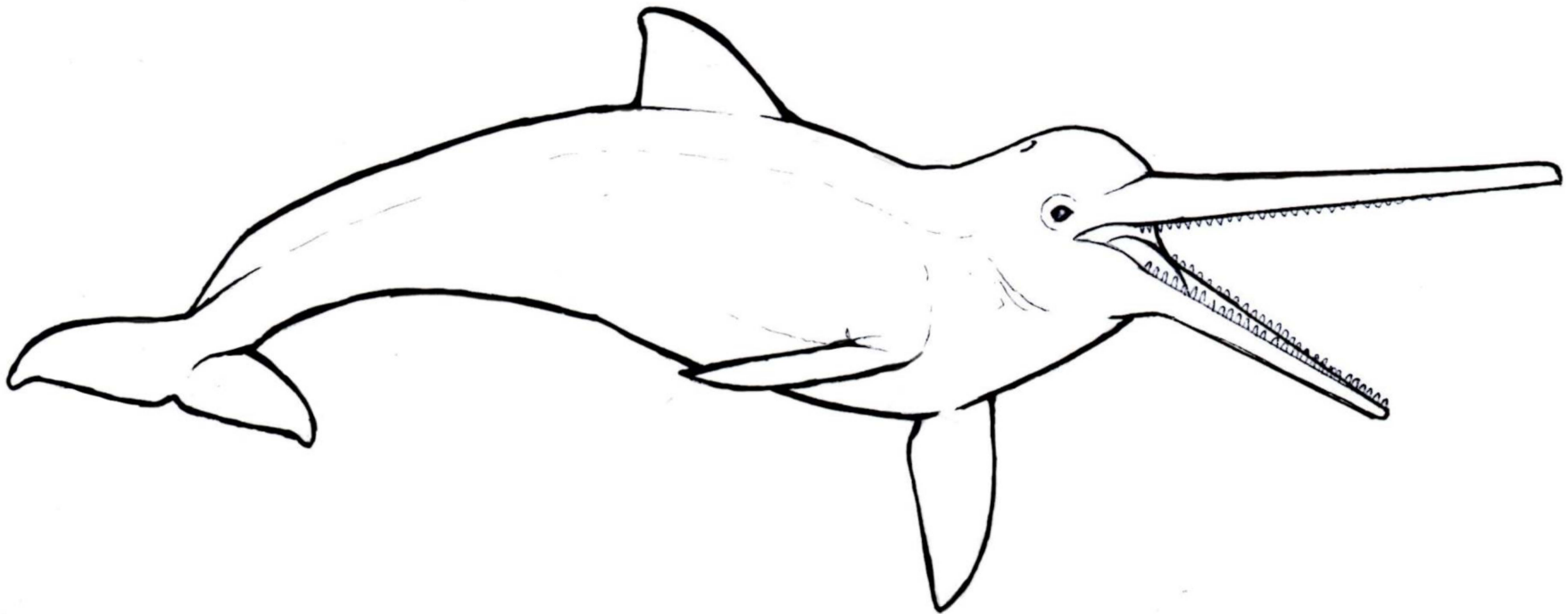
*Hypertragulus hesperius*

Ancient Deer



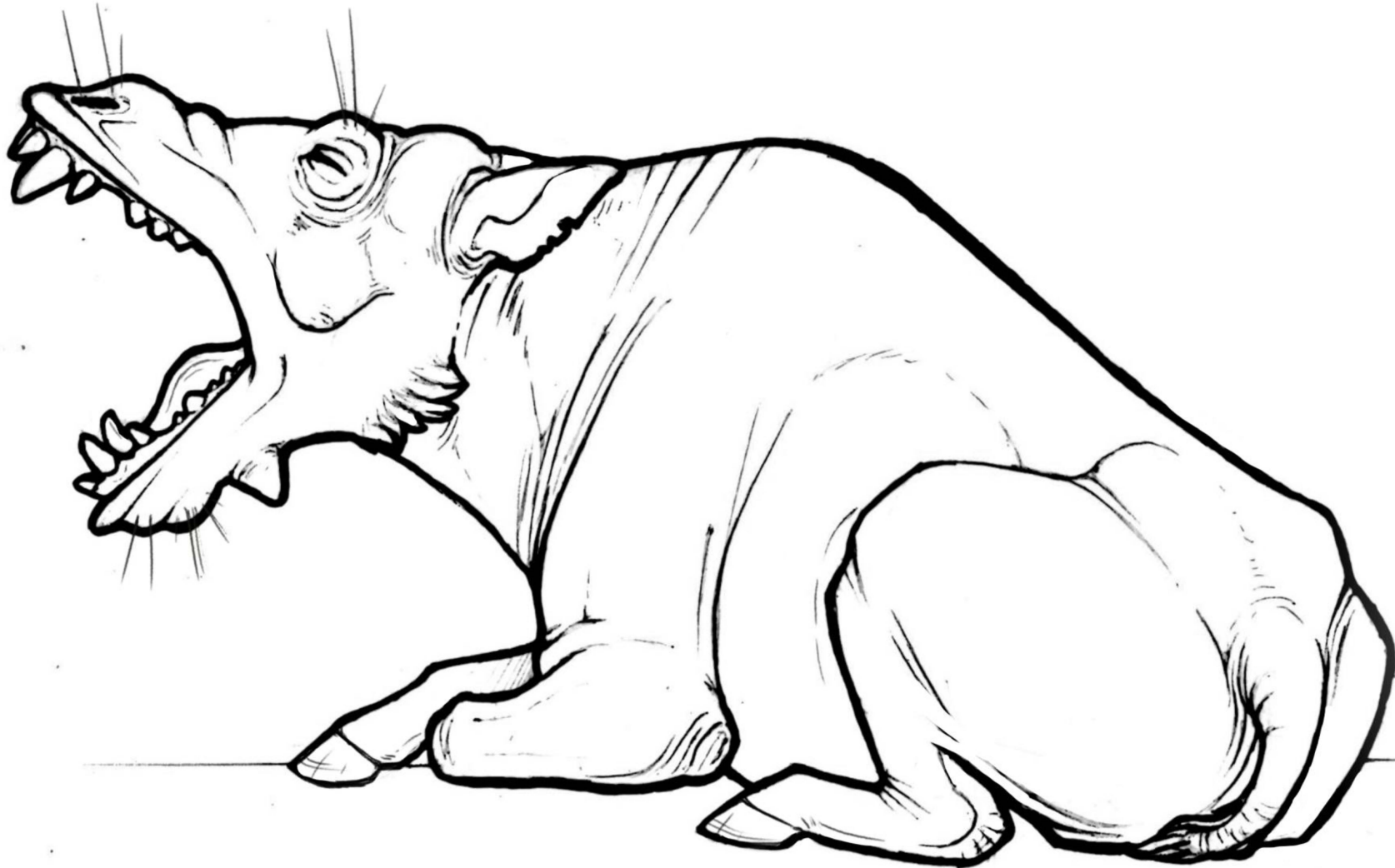
*Eurhinodelphis longirostrus*

Well-nosed Dolphin



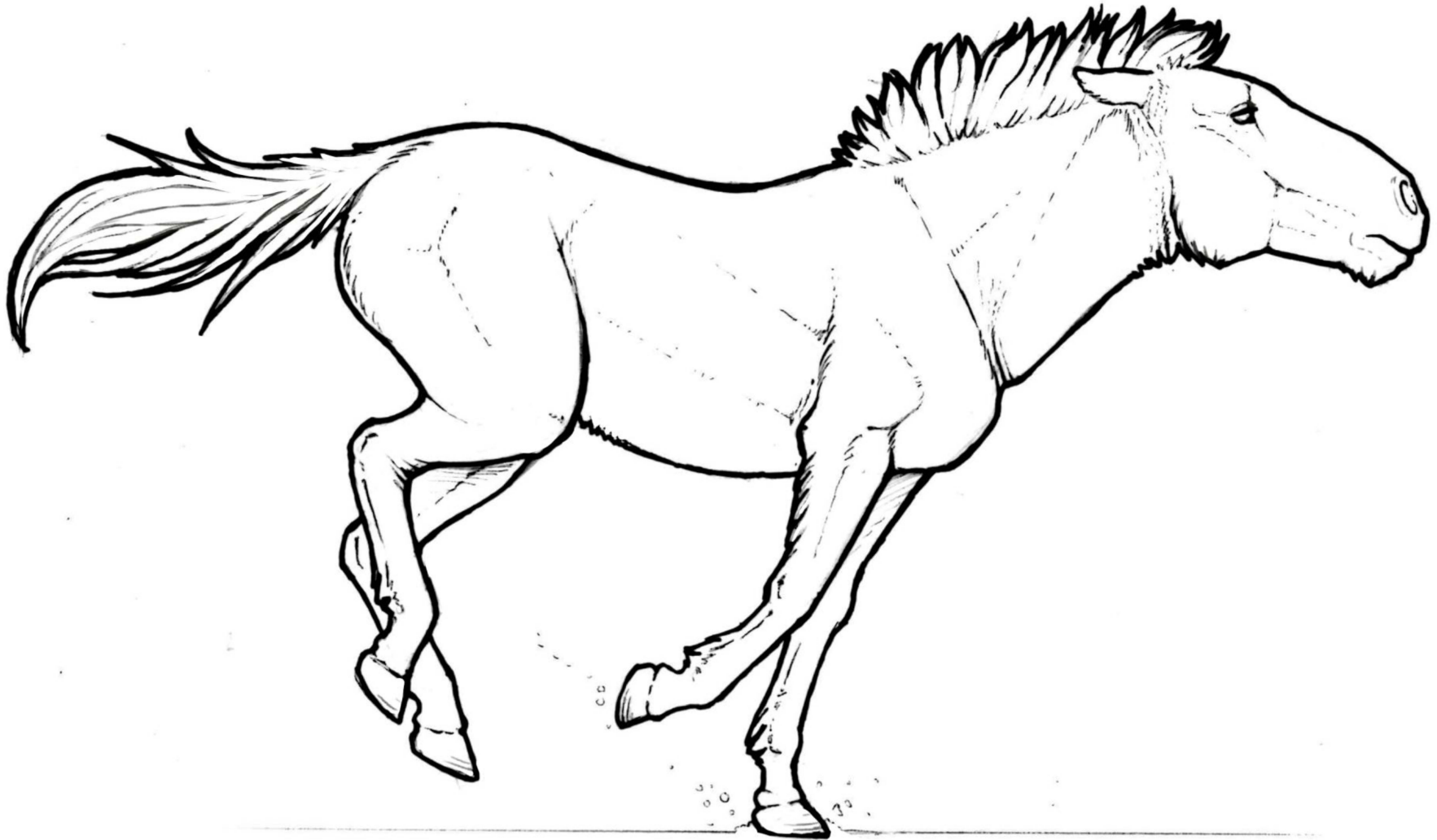
*Daeodon shoshonensis*

Entelodont



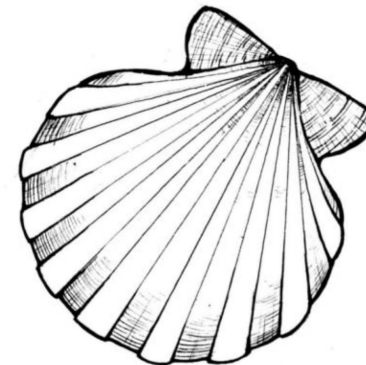
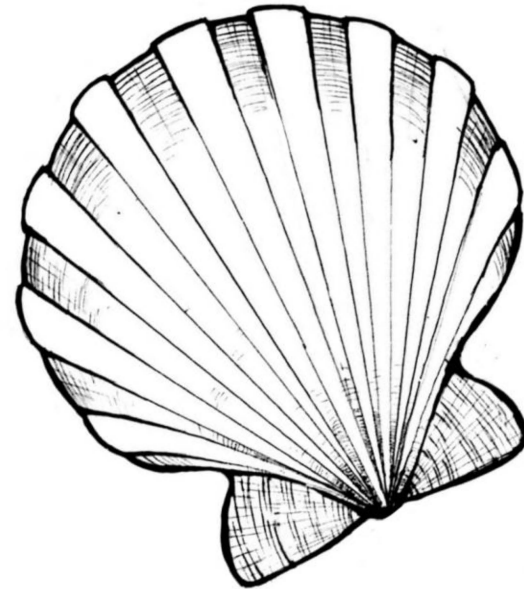
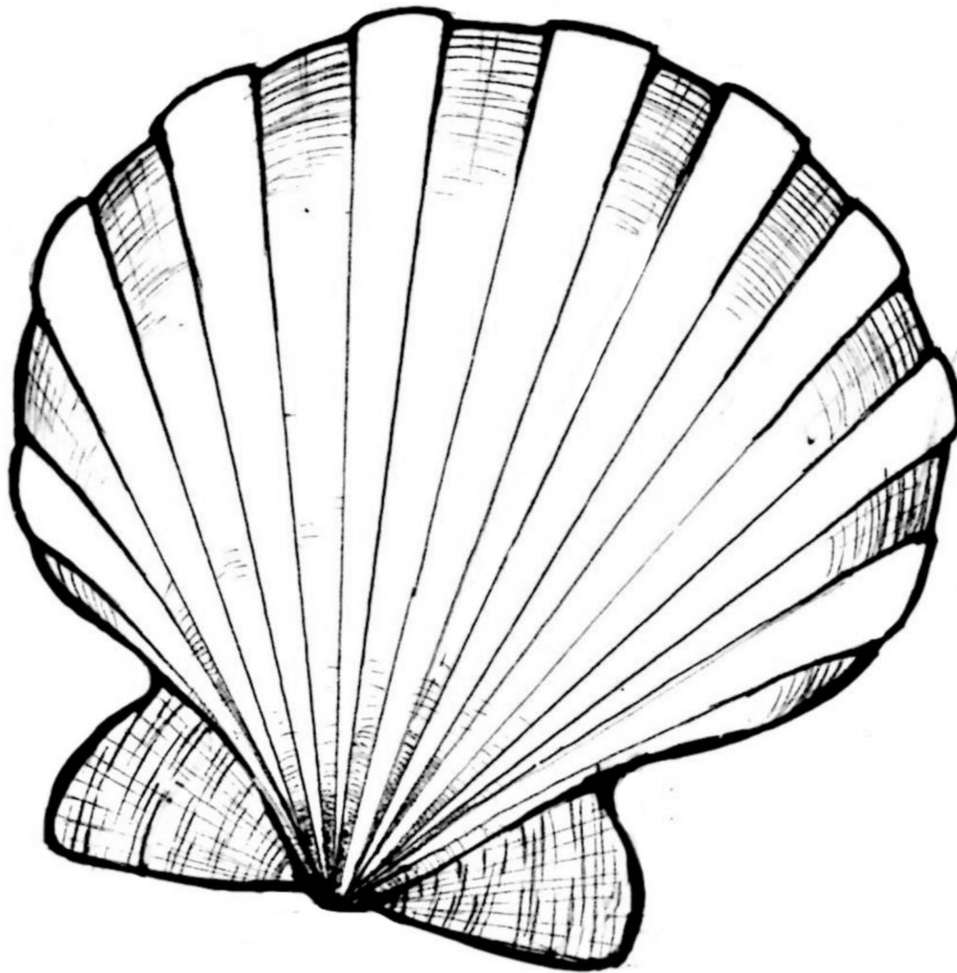
*Equus simplicidens*

Hagerman Horse



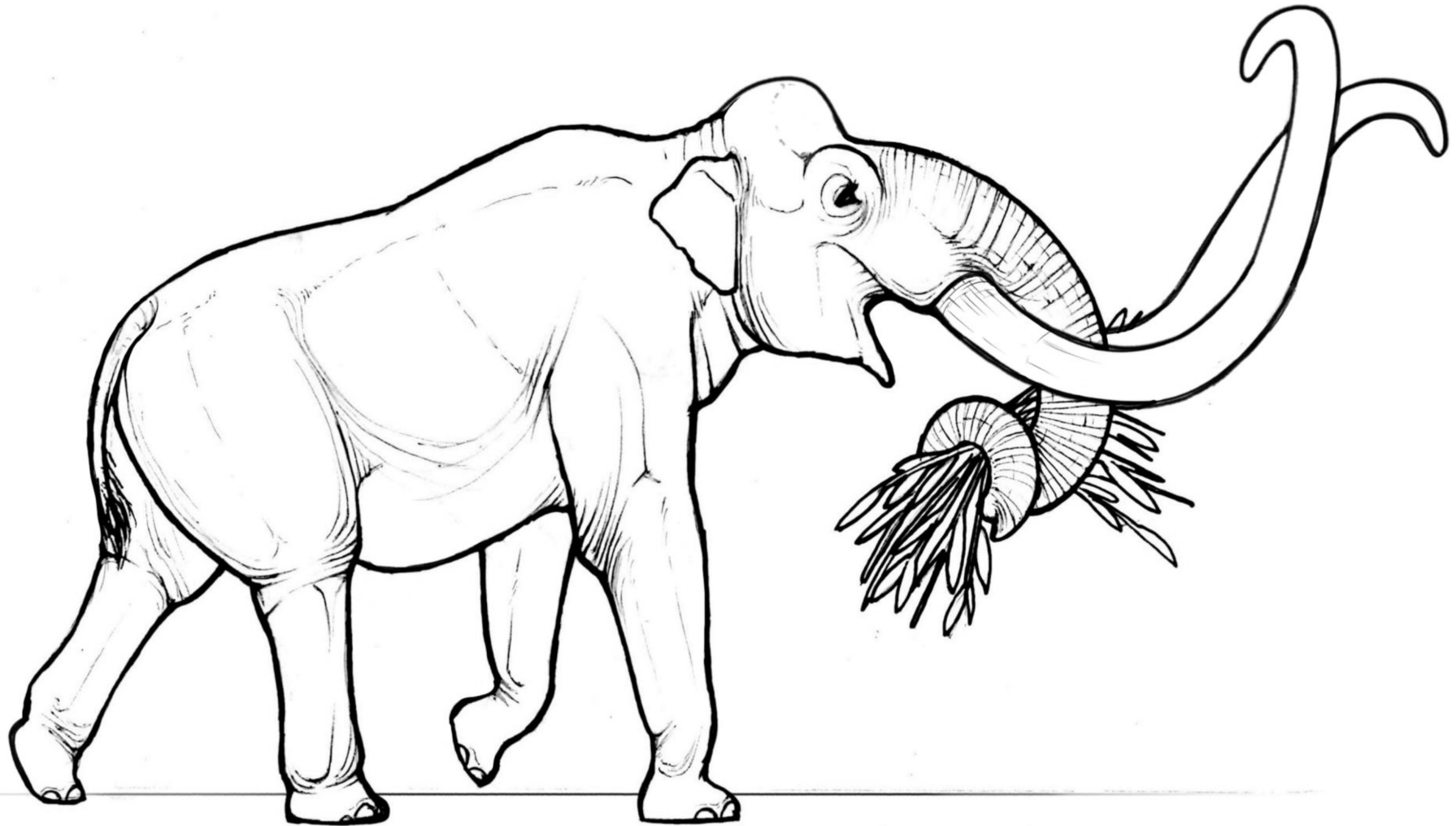
*Chesapecten jeffersonius*

Scallop



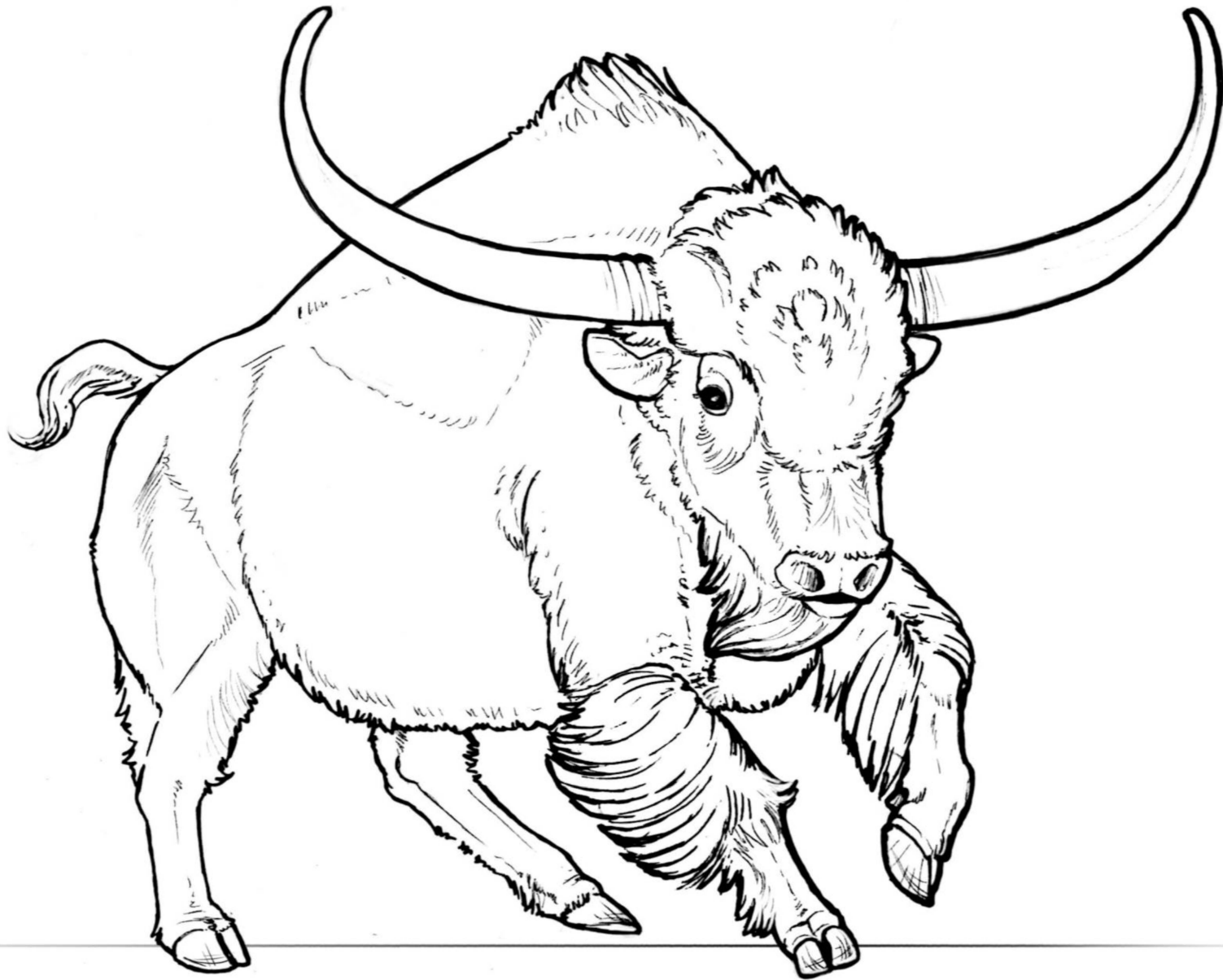
*Mammuthus columbi*

Columbian Mammoth



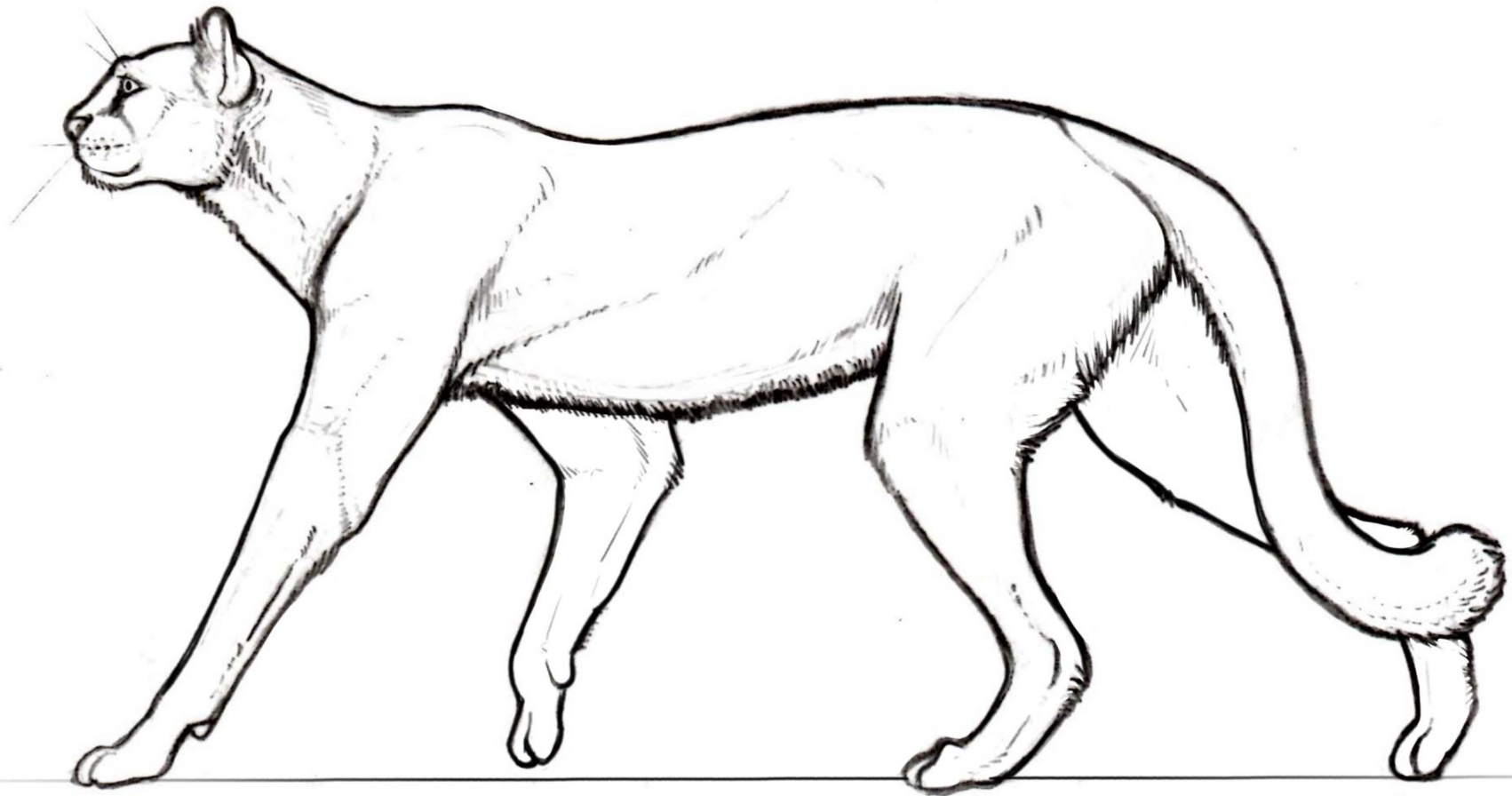
*Bison latifrons*

Long-horned Bison



*Miracinonyx trumani*

American Cheetah



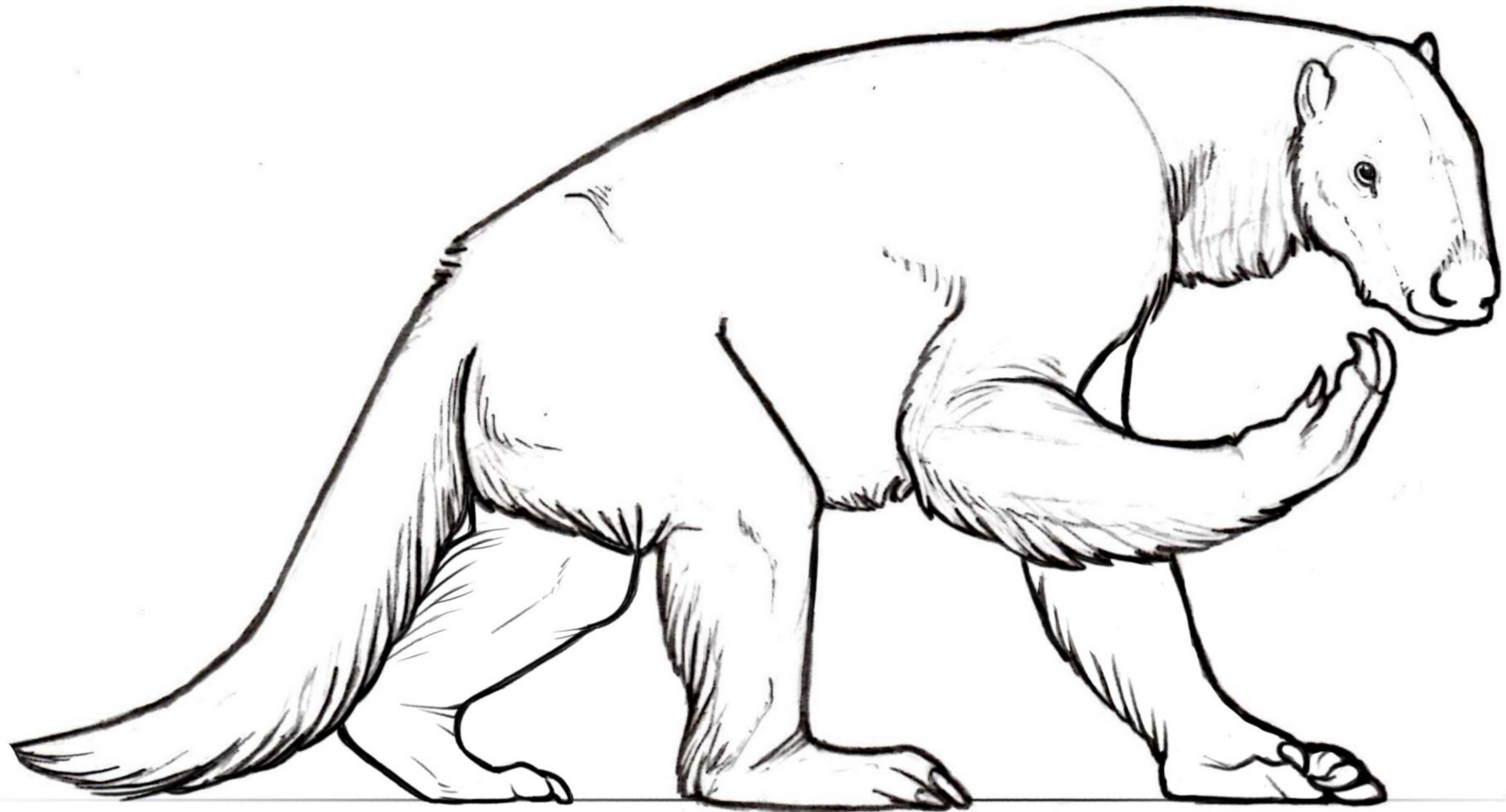
*Gymnogyps californianus*

Condor



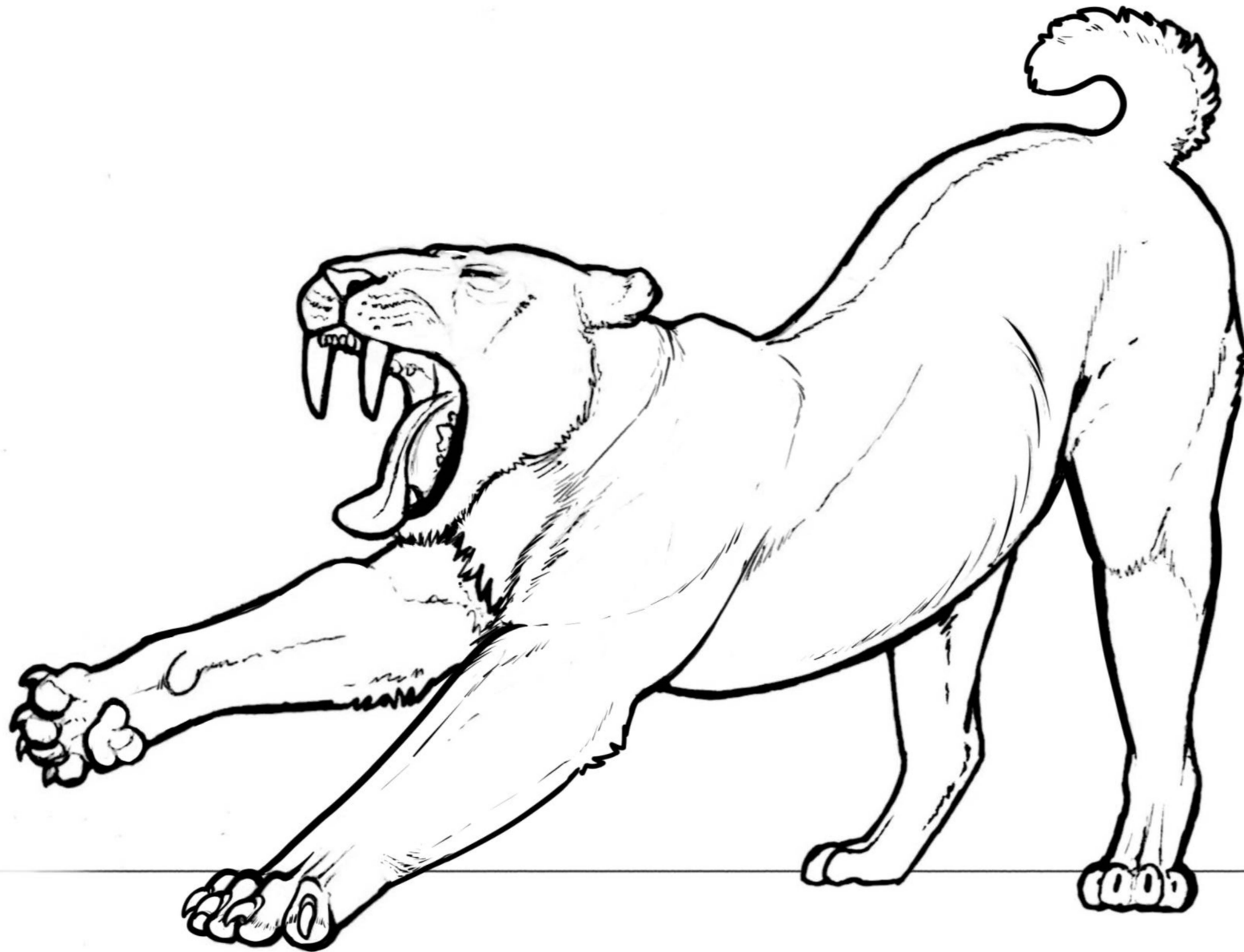
*Nothrotheriops shastensis*

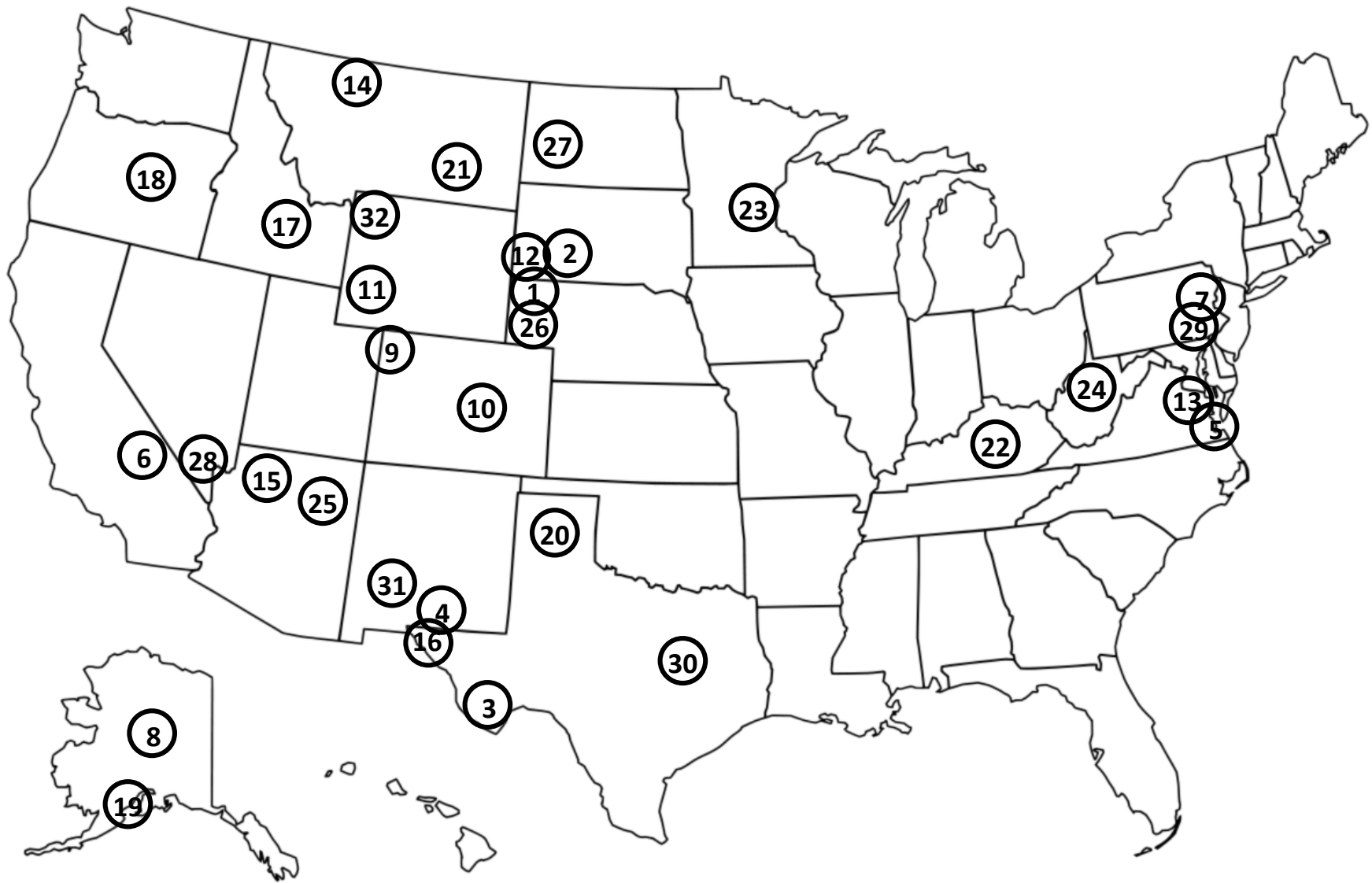
Shasta Ground Sloth



*Smilodon gracilis*

Saber-toothed Cat





- |  |  |  |
|--|--|--|
| 1. Agate Fossil Beds National Monument, NE             | 12. Fossil Cycad National Monument, SD (abolished)     | 22. Mammoth Cave National Park, KY                   |
| 2. Badlands National Park, SD                          | 13. George Washington Birthplace National Monument, VA | 23. Mississippi National River & Recreation Area, MN |
| 3. Big Bend National Park, TX                          | 14. Glacier National Park, Montana                     | 24. New River Gorge National River, WV               |
| 4. Carlsbad Caverns National Park, NM                  | 15. Grand Canyon National Park, Arizona                | 25. Petrified Forest National Park, AZ               |
| 5. Colonial National Historical Park, VA               | 16. Guadalupe Mountains National Park, TX              | 26. Scotts Bluff National Monument, NE               |
| 6. Death Valley National Park, CA                      | 17. Hagerman Fossil Beds National Monument, ID         | 27. Theodore Roosevelt National Park, ND             |
| 7. Delaware Water Gap National Recreation Area, NJ, PA | 18. John Day Fossil Beds National Monument, OR         | 28. Tule Springs Fossil Beds National Monument, NV   |
| 8. Denali National Park & Preserve, AK                 | 19. Katmai National Park & Preserve, AK                | 29. Valley Forge National Historical Park, PA        |
| 9. Dinosaur National Monument, CO, UT                  | 20. Lake Meredith National Recreation Area, TX         | 30. Waco Mammoth National Monument, TX               |
| 10. Florissant Fossil Beds National Monument, CO       | 21. Little Bighorn Battlefield National Monument, MT   | 31. White Sands National Park, NM                    |
| 11. Fossil Butte National Monument, WY                 |  | 32. Yellowstone National Park, ID, MT, WY            |

# GEOLOGIC TIME SCALE

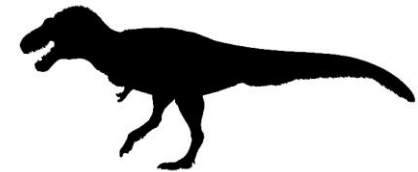
| Eon         | Era         | Period        |               | Epoch       |
|-------------|-------------|---------------|---------------|-------------|
| Phanerozoic | Cenozoic    | Quaternary    |               | Holocene    |
|             |             |               |               | Pleistocene |
|             |             | Neogene       |               | Pliocene    |
|             |             |               |               | Miocene     |
|             |             | Paleogene     |               | Oligocene   |
|             |             |               |               | Eocene      |
|             |             |               |               | Paleocene   |
|             | Mesozoic    | Cretaceous    |               |             |
|             |             | Jurassic      |               |             |
|             |             | Triassic      |               |             |
|             | Paleozoic   | Permian       |               |             |
|             |             | Carboniferous | Pennsylvanian |             |
|             |             |               | Mississippian |             |
|             |             | Devonian      |               |             |
|             |             | Silurian      |               |             |
|             |             | Ordovician    |               |             |
|             |             | Cambrian      |               |             |
|             | Precambrian | Proterozoic   |               |             |
|             |             | Archean       |               |             |
|             |             | Hadean        |               |             |

11,700 YEARS AGO



“AGE OF MAMMALS”

66 MILLION YEARS AGO



“AGE OF REPTILES”

252 MILLION YEARS AGO



“AGE OF ANCIENT ANIMAL LIFE”

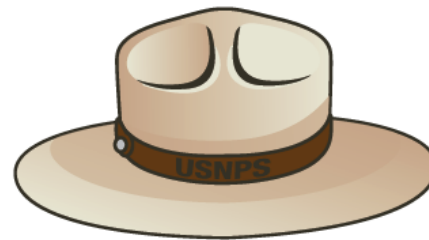
541 MILLION YEARS AGO

4.6 BILLION YEARS AGO

ORIGIN OF THE EARTH



# DO YOU WANT TO BECOME A JUNIOR PALEONTOLOGIST?




## TO LEARN MORE - VISIT

<https://www.nps.gov/subjects/fossils/junior-paleontologist.htm>

This *Prehistoric Life in the National Parks Coloring Book* is a collaborative project between the National Park Service (NPS) Paleontology Program and the American Geosciences Institute (AGI). The NPS and AGI share a vision and are committed to inspire children, of all ages, to embrace science and stewardship through their interests in dinosaurs and other prehistoric life.

This coloring book is available online at: <https://www.nps.gov/subjects/fossils/coloring-book.htm>

Content, Design, and Layout: Vincent L. Santucci, J.P. Hodnett, Justin Tweet, and Alison Mims

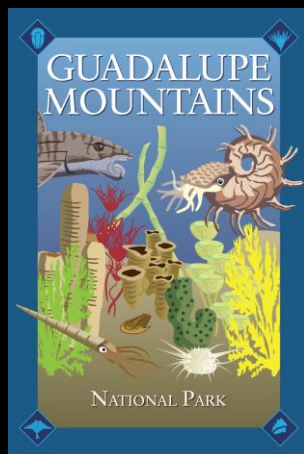
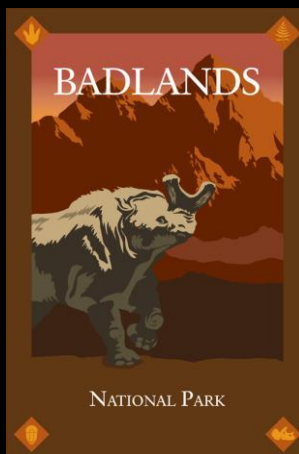
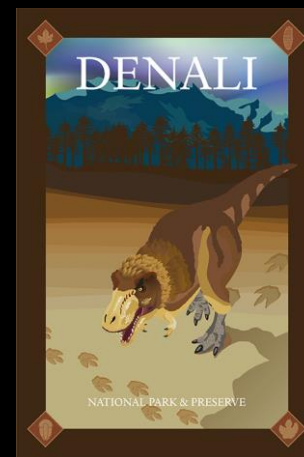
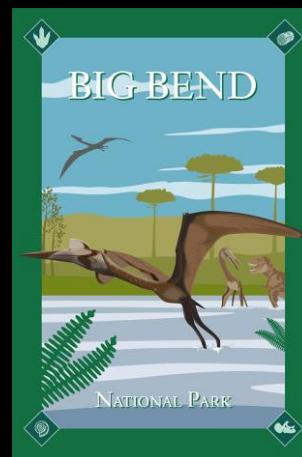
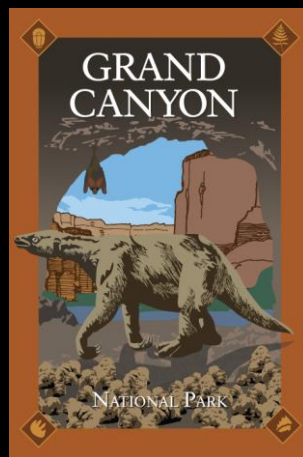
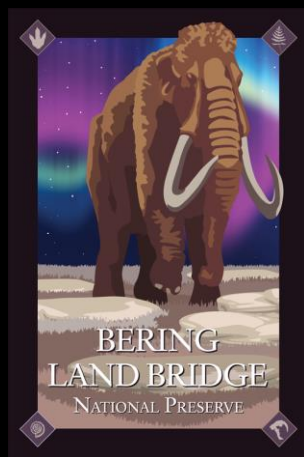
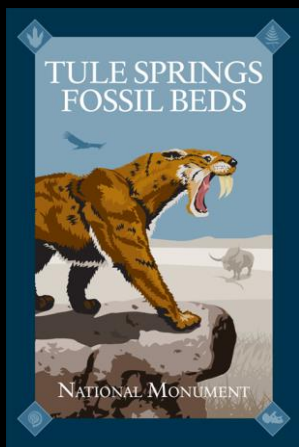
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**PREHISTORIC  
LIFE IN THE  
NATIONAL  
PARKS  
COLORING  
BOOK**

