Thalassocnus:
Geol204; 0105, 2025

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What is a Thalassocnus?

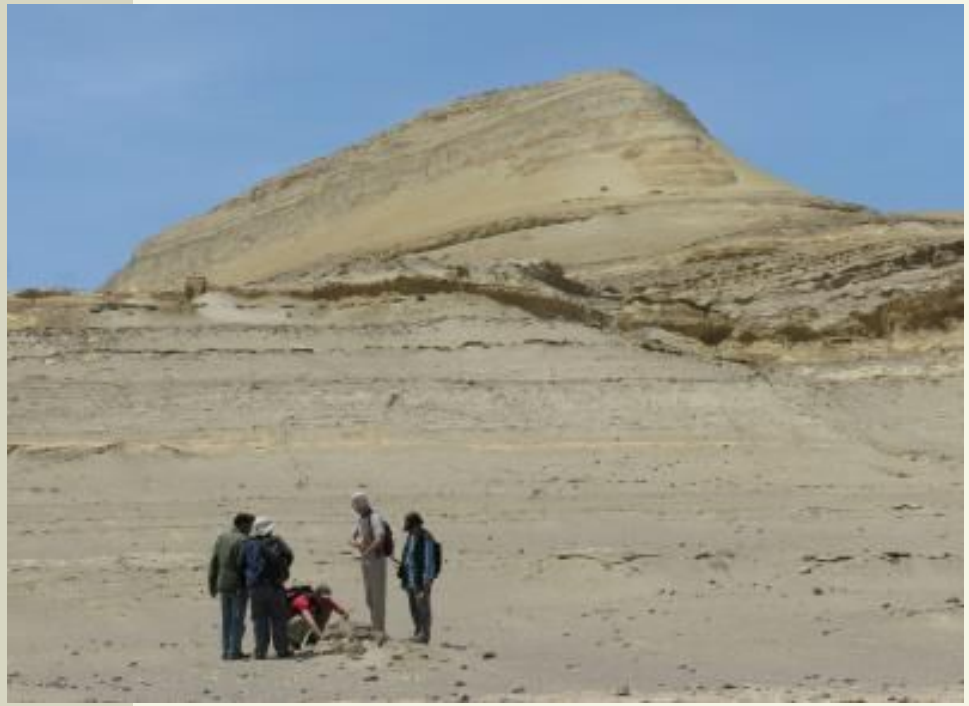
The only known aquatic sloth! Existed starting in the Late Miocene and went extinct at the end of the Pliocene. Got progressively more aquatic.

5 Species:

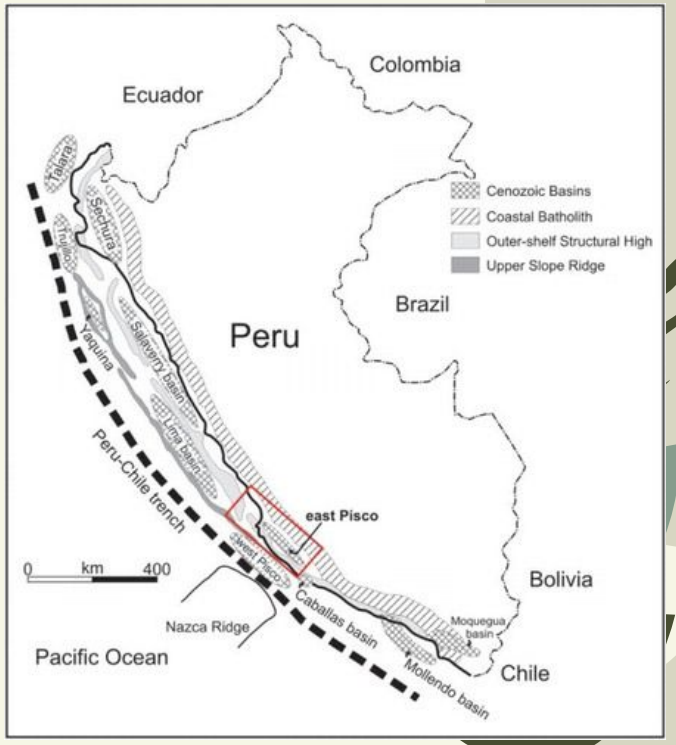
- ***T. antiquus*** (7 to 8 Ma, first taxon found in Aguada de Lomas Horizon)
- ***T. natans*** (≈ 6 Ma, first taxon found in the Montemar Horizon)
- ***T. littoralis*** (≈ 5 Ma, first taxon found in the Sud-Sacaco Horizon)
- ***T. carolomartini*** (between 3 and 4 Ma, first taxon found in Sacaco Horizon)
- ***T. yuacensis*** (3 to 1.5 Ma, first taxon found in Yuaca Horizon)

Photo illustration by Roman Uchytel/Science Photo Library
https://hakaimagazine.com/news/sloths-in-the-water/

All these horizons are from the Pisco Formation, an important Lagerstätten in Peru!

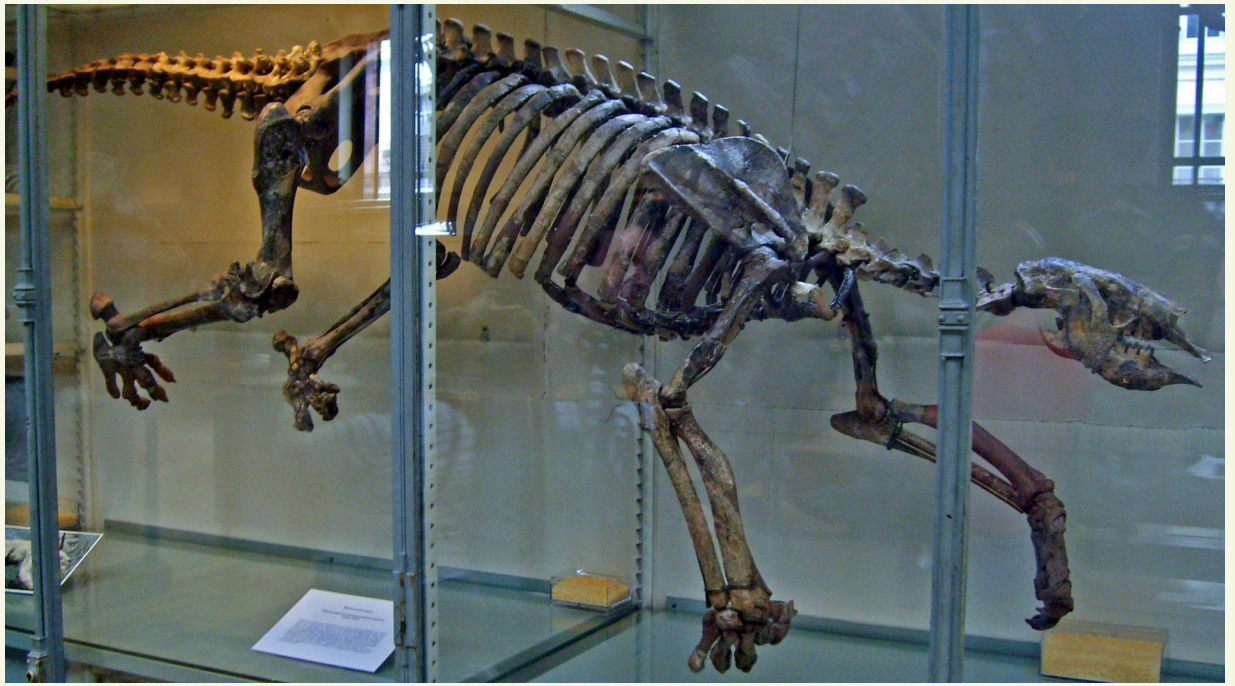


(Left) The examination of fossil cetacean remains in the locality of Ullujaya, Pisco Basin, Peru. (G. Bianucci)



(Right)Figure 1. Sketch map of the major sedimentary basins of coastal Peru and Outer Shelf Ridge and Upper Slope Ridge, redrawn and modified from CitationTravis, Gonzales, and Pardo (1976) and CitationThornburg and Kulm (1981).

The most complete fossil we have is 8.37 feet long from snout to tail



Thalassocnus natans skeleton, Muséum national d'histoire naturelle, Paris.
https://en.wikipedia.org/wiki/Thalassocnus#/media/File:Thalassocnus.jpg

Skull Morphology

01 | Nostrils

- Longer snout (*T. carolomartini* and *T. yuacensis* may have had a short trunk like an elephant!)
- Nostrils moved to the top of the nose

02 | Teeth

- High crowned
- Function moved from cutting food to grinding food over time

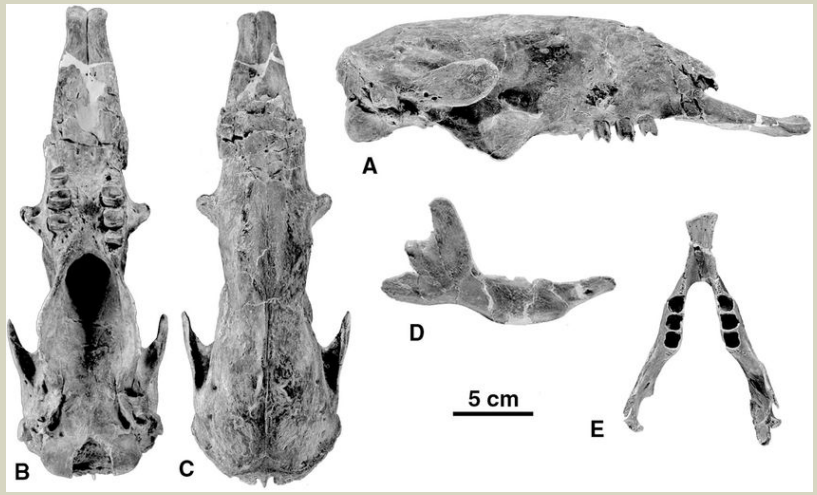


Fig. 6, Skull and mandible of Thalassocnus littoralis, sp. (Muizon, 2002)

Fossil - Thalassocnus skull, Museum of Natural History, Karlsruhe (Ghedoghedo)

Vertebrae Morphology

01 | Head Alignment

- Stiffer and more fused backbone, allowed head to align with their back

02 | Tails

- Strong muscles indicate that the tail was used for swimming and balance

03 | Spine

- Stable spine, likely for digging

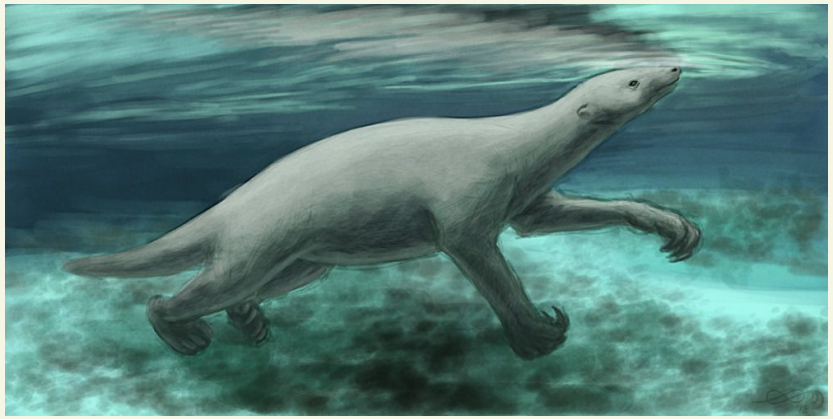


Illustration from Nix Draws Stuff
https://alphynix.tumblr.com/post/43718210794/have-a-sea-sloth-south-america-was-an-isolated

Illustration from Consejo Nacional de Investigaciones Científicas y Técnicas
https://www.conicet.gov.ar/first-fossils-of-an-aquatic-sloth-found-in-continental-environment-in-argentina/

Limb Morphology

01 | Arms and Hands

- Depressions on shoulder blade, elbows, and wrists indicate strong arm muscles
- Short arms for digging, useful for ripping up seagrass

02 | Legs and Feet

- Over time, decreased width of the legs shows an increased reliance on buoyancy -> more time spent in water
- Over time, distribution of weight through the feet more greatly benefitted paddling and walking on the seafloor

Illustration by Joschua Knuppe
https://www.reddit.com/r/interestingasfuck/comments/kd22n1/thalassocnus_was_a_genus_of_semiaquatic_sloth/

Image from Prehistoric Fauna Studio
https://uchytel.com/Thalassocnus

Feeding Behaviors

Early

- General Grazers
- Ate plants from shallow water
- Chewed up and down

Later

- Traveled into deeper waters to feed
- Chewed side to side

EVEN Later

- Fed entirely on the seafloor
- Specialist feeders of seagrass

Overall

- Most likely became aquatic due to lack of terrestrial food.
- Claws and lips used to rip up seagrass.

Illustration from Fossil Wiki
https://fossil.fandom.com/wiki/Thalassocnus

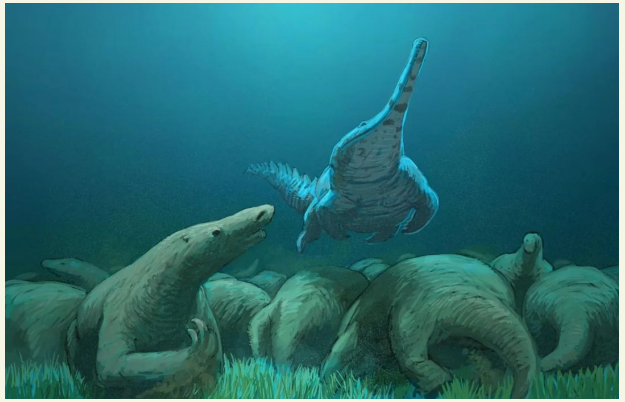
Sexual Dimorphism

Differences in:

- Skull size
- Teeth shape
- Snout size
- T. littoralis, T. carolomartini

Habitat

- Thalassocnus are aquatic animals, so obviously they lived near water!
- They lived in coastal deserts
- Many fossils have been found in Peru and Chile
- Scientists were excavating fossils in Peru and found many aquatic sloth fossils
- They determined the fossils were from around 2.5 Ma



Art by Joschua Knuppe showing a group of grazing Thalassocnus being passed over by a crocodile
https://www.reddit.com/r/Naturewasmetal/comments/z72qj1/piscogavialis_passes_over_a_group_of_grazing/

Image illustrated to show life as a Thalassocnus
https://www.reddit.com/r/Naturewasmetal/comments/xjounv/the_semi_aquatic_sloth_thalassocnus_being/

Extinction.

- When their food source (seagrass) went extinct, they followed.
- Seagrass went extinct due to cooling caused by the Central American Seaway.
- Also directly affected them, not adapted to cooler temperatures.

Image from Science Photo Gallery
https://sciencephotogallery.com/featured/thalassocnus-aquatic-sloth-mark-p-wittonscience-photo-library.html

Thank You!

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