PURSUIT OF ZΩH — THE WEEKLY

This Week in

Paleontology

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THIS WEEK

A heavy youngster, a giant rodent and two whales

A Triassic dinosaur weighed about 400 kg while still young, two teeth reveal a 30 kg Eocene rodent in Thailand, a Peruvian whale had the most lopsided face known, and a North Sea orca hunted big prey over two million years ago.

IN THIS ISSUE

01 EARLY DINOSAURS — A young Triassic dinosaur that already weighed about 400 kg

02 MAMMAL EVOLUTION — Two teeth reveal a 30 kg rodent in Eocene Thailand

03 MARINE MAMMALS — A Miocene whale with the most lopsided face on record

04 FOSSIL PREDATORS — An orca as big as today's largest males, over two million years ago

01

EARLY DINOSAURS

A young Triassic dinosaur that already weighed about 400 kg

Sauropodomorphs, the group that later produced the long-necked giants, are known from few good Triassic skulls in southern Africa.[1,2] A University of the Witwatersrand team led by Atashni Moopen now describes Nyana rooiwalensis from South Africa's lower Elliot Formation.[1] Its holotype includes the first well-preserved, near-complete skull from that rock unit, down to the braincase, palate, hyoid and the bony rings of the eyes.[1] Mass estimates put it near 400 kg, yet its bones record at most two lines of arrested growth, so it was still young.[1]

WHY IT MATTERS

A juvenile this heavy supports the view that fast growth appeared early in the sauropodomorph line, foreshadowing the giant sauropods.[1]

CAVEAT *The mass is an estimate, and the family-tree analyses place Nyana beside either North America's Sarahsaurus or South Africa's Ngwevu.*[1]

[1] doi:10.1098/rsos.261002 · [2] phys.org

400 kg

approximate estimated body mass of the juvenile holotype

SOURCE 1

ON THE ROAD?

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02

MAMMAL EVOLUTION

Two teeth reveal a 30 kg rodent in Eocene Thailand

The best-documented giant rodents are much later South American forms.[3] A team from Thailand's Department of Mineral Resources, French institutions and McGill University describes Yakamys sirindhornae from the late Eocene Krabi Basin, about 34 million years ago.[3,4] It is known only from a lower second molar and an incisor, and it belongs to the ischyromyids, an early rodent lineage.[3,4] Seven allometric equations give masses from 21.4 to 47.3 kg, and the authors use about 30 kg as a summary.[3] That is about twice the size of other known rodents of the time.[4]

WHY IT MATTERS

It shows that one early rodent lineage had grown large by the late Eocene, well before South America's giant rodents diversified.[3]

CAVEAT *Paper online 4 Nov 2026, included because McGill's release came out 10 Nov; a mass from two teeth is a rough estimate.*[3,4]

[3] doi:10.1038/s41598-026-76711-6 · [4] eurekalert.org

~30 kg

rounded central body-mass estimate (range 21.4 to 47.3 kg across seven equations)

SOURCE 3

03

MARINE MAMMALS

A Miocene whale with the most lopsided face on record

Toothed whales have asymmetric skulls tied to their sound-making forehead organs, and pygmy sperm whales are among the most extreme.[5,6] A University of Zurich-led team describes Scaphokogia huachafo from Peru's Pisco Formation, an animal about 2.7 meters long that lived 6.3 to 5.6 million years ago.[5,6] Shape analyses rank its face as the most asymmetric known in cetaceans, possibly in mammals, with both bony nostrils on the left.[5,6] Its dense, downturned snout and a flexible neck joint point to feeding on the seabed.[5,6]

WHY IT MATTERS

It records a seafloor-feeding niche with no direct modern counterpart, which disappeared as ocean conditions changed at the end of the Miocene.[5,6]

CAVEAT *The neck-joint reconstruction draws on closely related species of the same genus, not on this skull alone.*[5]

[5] doi:10.1038/s42003-026-11074-2 · [6] news.uzh.ch

55 degrees

how far Scaphokogia could bend its head downward at the neck joint (reconstruction)

SOURCE 6

04

FOSSIL PREDATORS

An orca as big as today's largest males, over two million years ago

The only named extinct killer whale, Orcinus citoniensis from Pliocene Italy, was small (3.5 meters) and ate fish.[7] A team from the Natural History Museum Rotterdam and the University of Pisa describes five fossils from the southern North Sea: two partial skulls, a lower jaw and two atlas-axis neck complexes.[7] Comparisons with living orcas give a length of 7.2 to 7.7 m.[7] Palynological dating of one skull's sediment indicates the Gelasian, 2.6-2.1 Ma.[7] Large, deep, widely spaced tooth sockets point to a hunter of large prey.[7]

WHY IT MATTERS

It is the earliest known evidence of large-prey hunting in oceanic dolphins, long before the split of modern orca ecotypes estimated from genomes.[7]

CAVEAT *Only one of the five fossils was dated, and the length comes from regression on fragmentary remains.*[7]

[7] doi:10.7717/peerj.21890

7.2–7.7 m

estimated body length, comparable to the largest living male killer whales

SOURCE 7

WORDS THIS WEEK

Sauropodomorph
The dinosaur group that includes the giant long-necked sauropods and their smaller, earlier relatives from the Triassic and Early Jurassic.

Pachyostotic bone
Bone that is unusually thick and dense. Marine mammals often use it as ballast to stay low in the water.

Line of arrested growth
A thin ring in bone laid down when growth pauses, often once a year; counting them gives a rough minimum age.

Palynology
The study of microscopic fossils with tough organic walls, such as pollen, spores and algal cysts, often used to date sediments.

Allometric equation
A formula that predicts one body measure, such as mass, from another, such as tooth size, fitted on living animals.

Macroraptorial
Describes a predator that seizes and tears apart prey large relative to itself, rather than swallowing small items whole.

SOURCES

1. PAPER A. Moopen et al., “Nyana rooiwalensis: South Africa's earliest near-complete sauropodomorph dinosaur skull from the Late Triassic of the Eastern Cape Province,” Royal Society Open Science (11 Nov 2026). doi:10.1098/rsos.261002
2. NEWS “A newly discovered South African dinosaur was a heavyweight even as a youngster,” Phys.org (13 Nov 2026). https://phys.org/news/2026-11-newly-south-african-dinosaur-heavyweight.html
3. PAPER Y. Chaimanee et al., “A giant Eocene ischyromyid from Southeast Asia reveals the early evolution of rodent gigantism,” Scientific Reports (4 Nov 2026). doi:10.1038/s41598-026-76711-6
4. RELEASE McGill University, “Giant, prehistoric rodent fossils discovered in southern Thailand,” news release via EurekAlert (10 Nov 2026). https://www.eurekalert.org/news-releases/1150811
5. PAPER A. Benites-Palomino et al., “Extreme cranial asymmetry in extinct benthic feeding sperm whales,” Communications Biology (9 Nov 2026). doi:10.1038/s42003-026-11074-2
6. RELEASE University of Zurich, “Prehistoric whale reveals extreme skull asymmetry,” news release (9 Nov 2026). https://www.news.uzh.ch/en/articles/media/2026/Zwergpottwal.html
7. PAPER H. Bakker et al., “A large orca from the Lower Pleistocene of the Southern North Sea Basin pushes back the origin of macropredatory behavior in the oceanic dolphins (Odontoceti, Delphinidae),” PeerJ (10 Nov 2026). doi:10.7717/peerj.21890

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