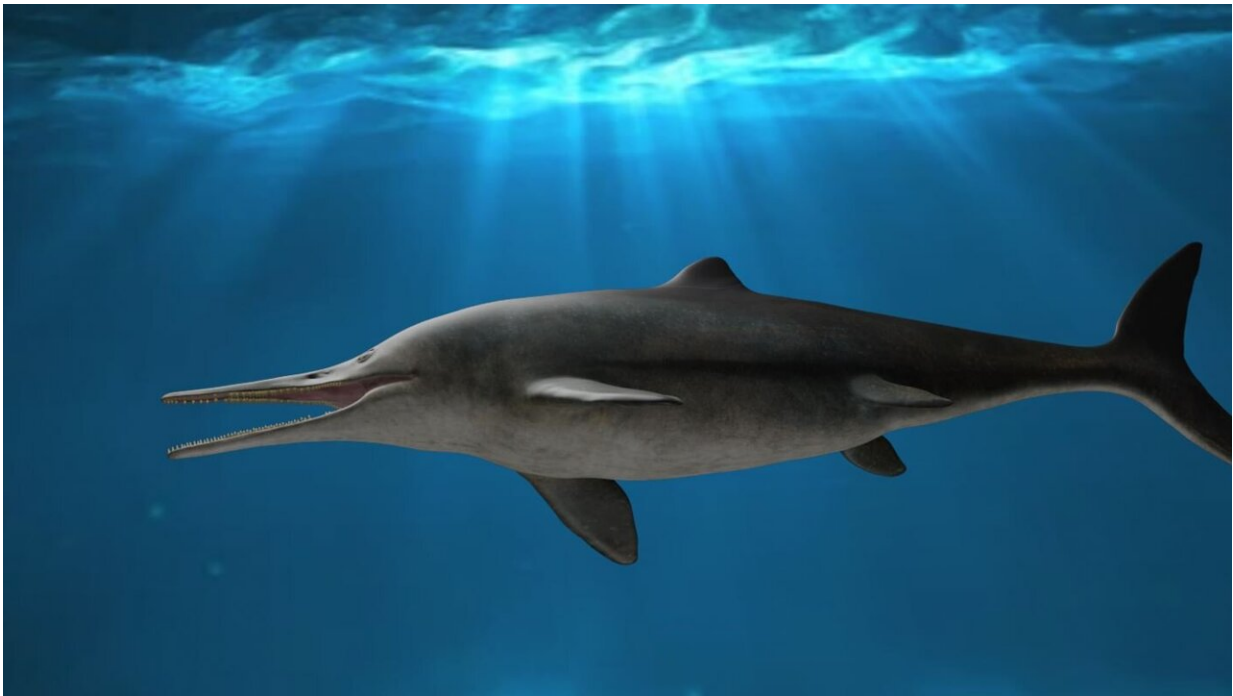


Extinct swordfish-shaped marine reptile discovered

November 29 2021



Life reconstructions of *Kyhytysuka sachicarum* from the Early Cretaceous of Colombia. Credit: Dirley Cortés

A team of international researchers from Canada, Colombia, and Germany has discovered a new marine reptile. The specimen, a stunningly preserved meter-long skull, is one of the last surviving ichthyosaurs—ancient animals that look eerily like living swordfish.

"This animal evolved a unique dentition that allowed it to eat large prey," says Hans Larsson, Director of the Redpath Museum at McGill University. "Whereas other ichthyosaurs had small, equally sized teeth for feeding on small prey, this new species modified its tooth sizes and spacing to build an arsenal of teeth for dispatching large prey, like big fishes and other marine reptiles."

"We decided to name it *Kyhytysuka*, which translates to 'the one that cuts with something sharp' in an [indigenous language](#) from the region in central Colombia where the fossil was found, to honor the ancient Muisca culture that existed there for millennia," says Dirley Cortés, a graduate student under the supervision of Hans Larsson and Carlos Jaramillo of the Smithsonian Tropical Research Institute.

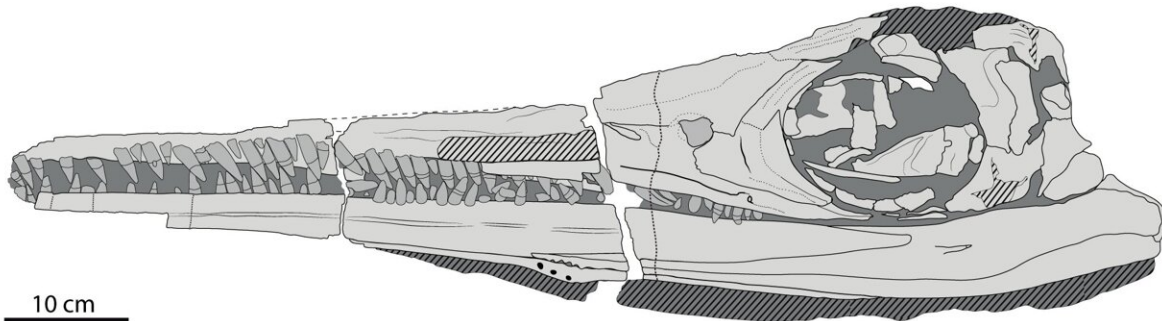
The big picture of [ichthyosaur](#) evolution is clarified with this new species, the researchers say. "We compared this animal to other Jurassic and Cretaceous ichthyosaurs and were able to define a new type of ichthyosaurs," says Erin Maxwell of the State Natural History Museum of Stuttgart (a former [graduate student](#) of Hans Larsson's lab at McGill). "This shakes up the evolutionary tree of ichthyosaurs and lets us test new ideas of how they evolved."

According to the researchers, this species comes from an important transitional time during the Early Cretaceous period. At this time, the Earth was coming out of a relatively cool period, had rising sea levels, and the supercontinent Pangaea was splitting into northern and southern landmasses. There was also a global extinction event at the end of the Jurassic that changed marine and [terrestrial ecosystems](#). "Many classic Jurassic marine ecosystems of deep-water feeding ichthyosaurs, short-necked plesiosaurs, and marine-adapted crocodiles were succeeded by new lineages of long-necked plesiosaurs, sea turtles, large marine lizards called mosasaurs, and now this monster ichthyosaur" says Dirley Cortés.



Life reconstructions of *Kyhytysuka sachicarum* from the Early Cretaceous of Colombia. Credit: Dirley Cortés

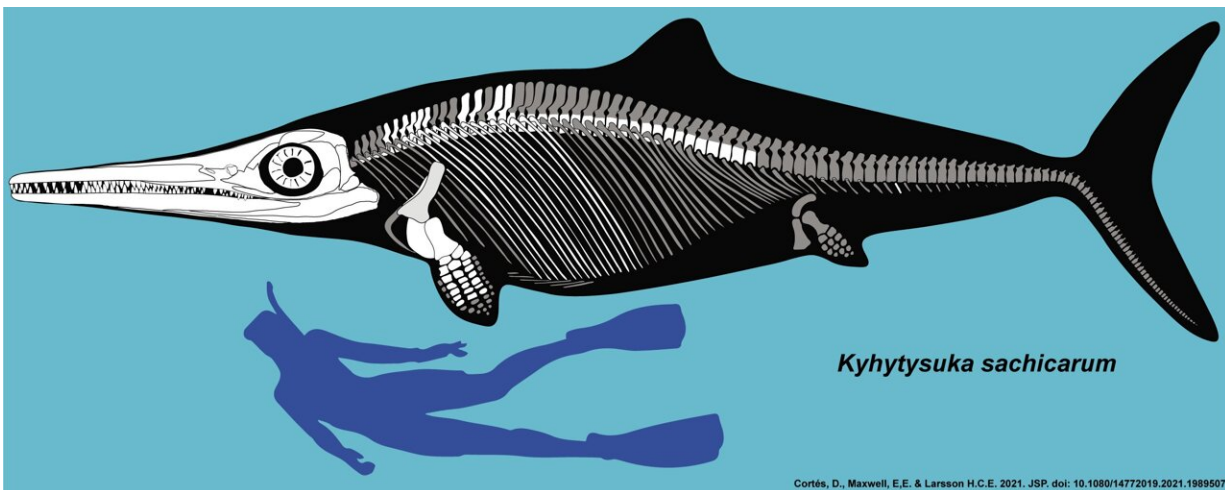
Kyhytysuka sachicarum



10 cm

Cortés, D., Maxwell, E.E. & Larsson H.C.E. 2021. JSP. doi: 10.1080/14772019.2021.1989507

Photo and anatomical interpretation of the skull of *Kyhytysuka sachicarum*.
Credit: Dirley Cortés



Kyhytysuka sachicarum

Cortés, D., Maxwell, E.E. & Larsson H.C.E. 2021. JSP. doi: 10.1080/14772019.2021.1989507

Skeleton of *Kykytysuka* compared to a human for scale. Known bones are in white. Credit: Dirley Cortés



Life reconstructions of *Kyhytysuka sachicarum* from the Early Cretaceous of Colombia. Credit: Dirley Cortés

"We are discovering many [new species](#) in the rocks this new ichthyosaur comes from. We are testing the idea that this region and time in Colombia was an ancient biodiversity hotspot and are using the fossils to better understand the evolution of marine ecosystems during this transitional time," she adds. As next steps the researchers are continuing to explore the wealth of new fossils housed in the Centro de Investigaciones Paleontológicas of Villa de Leyva in Colombia. "This is where I grew up," says Cortés, "and it is so rewarding to get to do research here too."

More information: Dirley Cortés et al, Re-appearance of hypercarnivore ichthyosaurs in the Cretaceous with differentiated dentition: revision of 'Platypterygius' sachicarum (Reptilia: Ichthyosauria, Ophthalmosauridae) from Colombia, *Journal of Systematic Palaeontology* (2021). [DOI: 10.1080/14772019.2021.1989507](https://doi.org/10.1080/14772019.2021.1989507)

Provided by McGill University

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