

Researchers find a 'fearsome dragon' that soared over outback Queensland

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Tim Richards with the skull of an anhanguerian pterosaur. Credit: Tim Richards

Australia's largest flying reptile has been uncovered, a pterosaur with an estimated seven-meter wingspan that soared like a dragon above the ancient, vast inland sea once covering much of outback Queensland.

University of Queensland Ph.D. candidate Tim Richards, from the Dinosaur Lab in UQ's School of Biological Sciences, led a research team that analyzed a fossil of the creature's jaw, discovered on Wanamara Country, near Richmond in North West Queensland.

"It's the closest thing we have to a real life dragon," Mr Richards said.

"The new pterosaur, which we named *Thapunngaka shawi*, would have been a fearsome beast, with a spear-like mouth and a wingspan around seven meters.

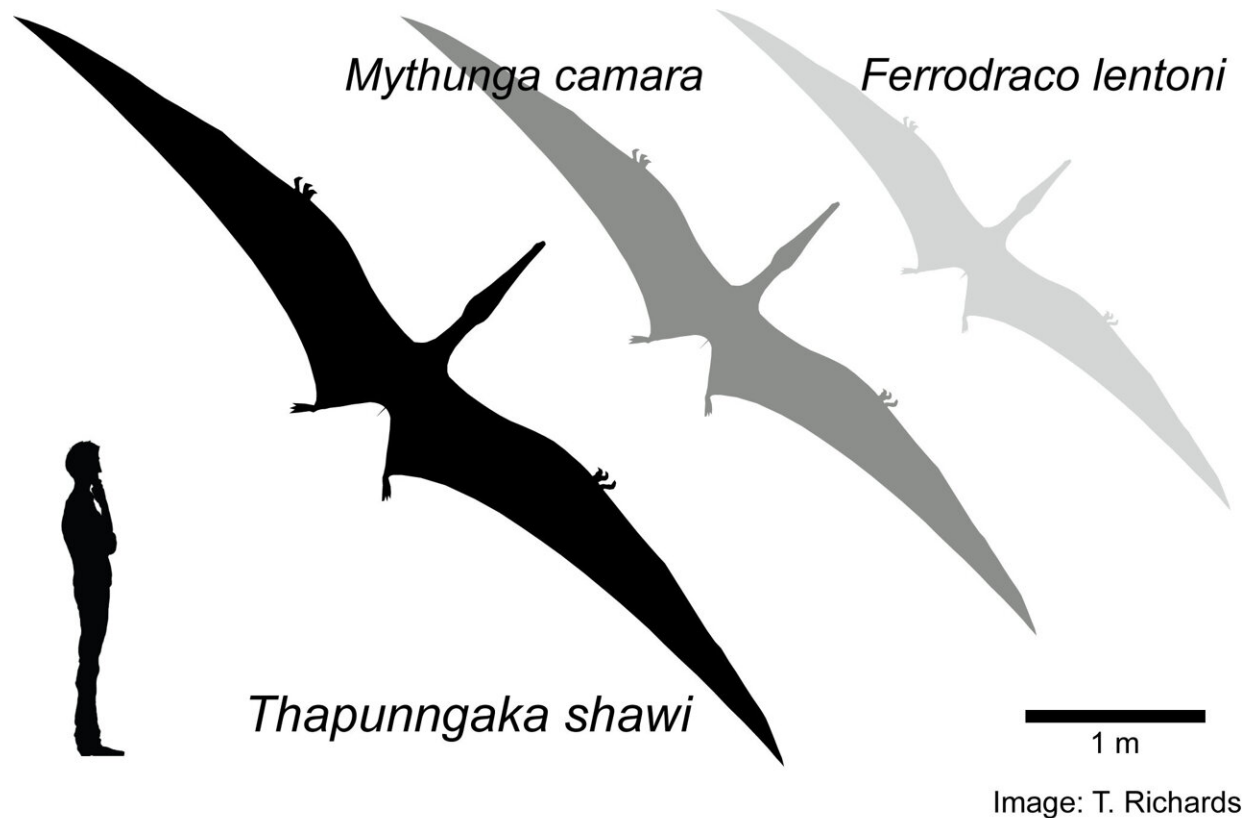
"It was essentially just a skull with a [long neck](#), bolted on a pair of long wings.

"This thing would have been quite savage.

"It would have cast a great shadow over some quivering little dinosaur that wouldn't have heard it until it was too late."

Mr Richards said the skull alone would have been just over one meter long, containing around 40 teeth, perfectly suited to grasping the many fishes known to inhabit Queensland's no-longer-existent Eromanga Sea.

"It's tempting to think it may have swooped like a magpie during [mating season](#), making your local magpie swoop look pretty trivial—no amount of zip ties would have saved you.



Hypothetical outlines of Australian pterosaurs showing relative wingspan sizes. 1.8 m human for scale. Credit: Tim Richards.

"Though, to be clear, it was nothing like a bird, or even a bat—Pterosaurs were a successful and diverse group of reptiles—the very first back-boned animals to take a stab at powered flight."

The new species belonged to a group of pterosaurs known as anhanguerians, which inhabited every continent during the latter part of the Age of Dinosaurs.

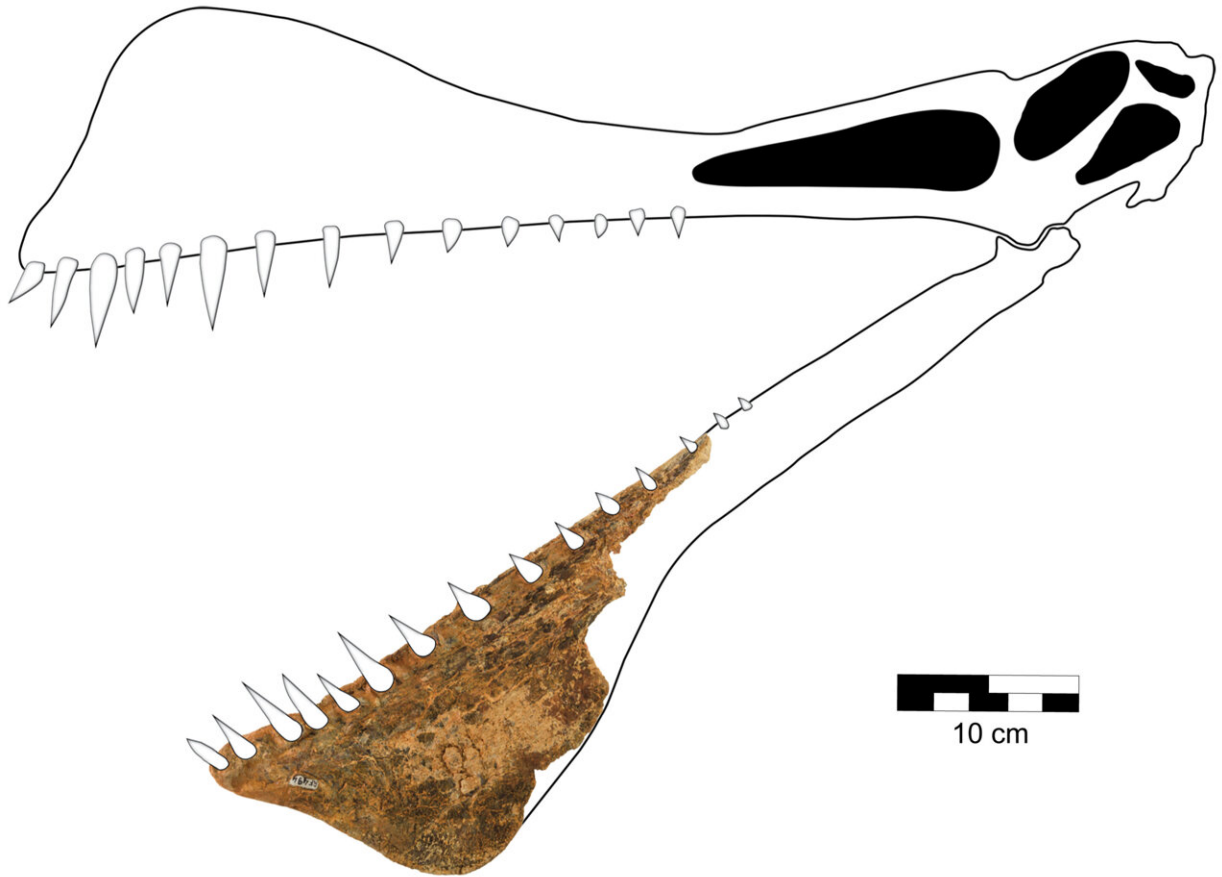
Being perfectly adapted to powered flight, [pterosaurs](#) had thin-walled and relatively hollow bones.

Given these adaptations their fossilized remains are rare and often poorly preserved.

"It's quite amazing fossils of these animals exist at all," Mr Richards said.

"By world standards, the Australian pterosaur record is poor, but the discovery of *Thapunngaka* contributes greatly to our understanding of Australian pterosaur diversity."

It is only the third species of anhanguerian pterosaur known from Australia, with all three species hailing from western Queensland.



Reconstruction of the skull of *Thapunngaka shawi* (KKF494). From Richards et al. (2021). Credit: Tim Richards

Dr. Steve Salisbury, co-author on the paper and Mr Richard's Ph.D. supervisor, said what was particularly striking about this new species of anhanguerian was the massive size of the bony crest on its [lower jaw](#), which it presumably had on the upper jaw as well.

"These crests probably played a role in the flight dynamics of these creatures, and hopefully future research will deliver more definitive answers," Dr. Salisbury said.

The fossil was found in a quarry just northwest of Richmond in June 2011 by Len Shaw, a local fossicker who has been 'scratching around' in the area for decades.

The name of the [new species](#) honors the First Nations peoples of the Richmond area where the fossil was found, incorporating words from the now-extinct language of the Wanamara Nation.

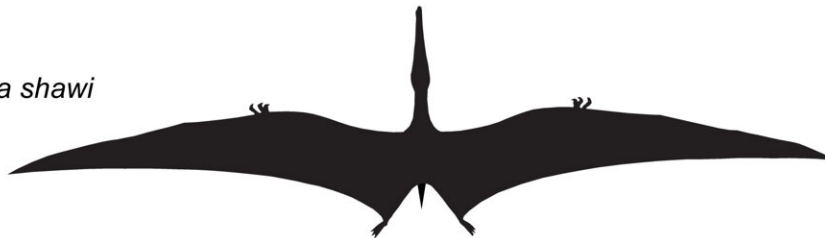
"The genus name, *Thapunngaka*, incorporates thapun [ta-boon] and ngaka [nga-ga], the Wanamara words for 'spear' and 'mouth', respectively," Dr. Salisbury said.

"The species name, *shawi*, honors the fossil's discoverer Len Shaw, so the name means 'Shaw's spear mouth'."

Wedge-tailed Eagle
2.5 m wingspan



Thapunngaka shawi
7 m wingspan



Hang glider
10 m wingspan



Image credit: Timothy Richards

Hypothetical outline of *Thapunngaka shawi* with a 7 m wingspan, alongside a wedge-tailed eagle (2.5 m wingspan) and a hang-glider (10 m 'wingspan'). Credit: Tim Richards

The fossil of *Thapunngaka shawi* is on display at [Kronosaurus Korner](#) in Richmond.

The research has been published in the *Journal of Vertebrate Paleontology*.

More information: Timothy M. Richards et al, A new species of crested pterosaur (Pterodactyloidea, Anhangueridae) from the Lower Cretaceous (upper Albian) of Richmond, North West Queensland, Australia, *Journal of Vertebrate Paleontology* (2021). [DOI: 10.1080/02724634.2021.1946068](#)

Provided by University of Queensland

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