

# Oddness of Australian creatures goes way back

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*Tasmaniolimulus patersoni* fossil. Credit: R Bicknell

Australian creatures like the echidna and the koala are celebrated for their oddness. The fossil record shows that this oddity reaches far back into prehistory, as illustrated in the form of a fossil horseshoe crab found

in Tasmania that has been renamed by UNE paleontologist Dr. Russell Bicknell.

"The specimen from the Upper Permian Jackey Shale records a moment in time when Australian organisms were diverging towards the weirdness we see today in animals like the platypus," Dr. Bicknell said.

"It has large backward-pointing spines that are unknown to all related horseshoe [crabs](#), and was much smaller than the [species](#) we have today. It's possible that the spines were an adaptation to the one-way flows of freshwater, which was probably where this species lived."

The specimen, owned by the University of Tasmania, was assigned to the genus *Paleolimulus* in 1989—a category that Dr. Bicknell described as "sort of a taxonomic waste-basket for specimens that don't quite fit elsewhere".

His re-assessment confirmed that it didn't belong in that genus, and so he bestowed the fossil with a new name, *Tasmaniolimulus patersoni*, and placed it in the taxonomic Family that references Australia: *Austrolimulidae*.

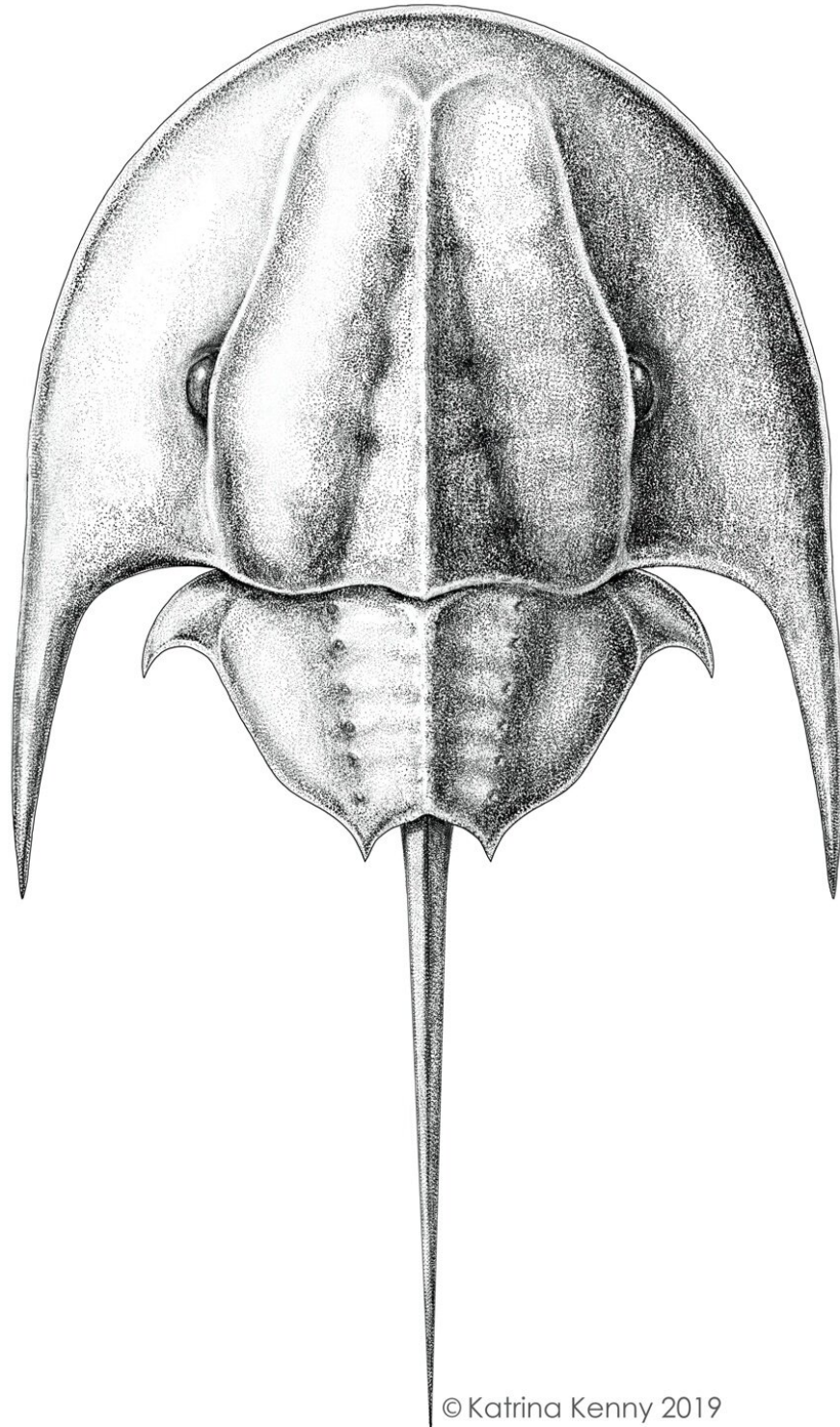
*Tasmaniolimulus* acknowledges the fossil's location and *patersoni* pays homage to Professor John Paterson, Dr. Bicknell's supervisor during his doctorate.





Tasmaniolimulus patersoni fossil. Credit: R Bicknell





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Artist's impression of *Tasmaniolimulus patersoni*. Credit: Katrina Kenny

"John is a spectacular Australian paleontologist who has contributed a wealth of knowledge about our prehistory of invertebrates, and who supported me during my doctorate, pushing me to be the best I could be in science".

It is the third fossil horseshoe crab named by Dr. Bicknell. The first he named *Sloveniolimulus rudkini*, after a fellow horseshoe crab researcher, Dave Rudkin and the second he named *Pickettia* after one of Australia's other premier palaeontologists, John Pickett.

Australia's unusual fauna are likely a result of long geographic isolation, during which species took their own evolutionary paths as they occupied the ecological niches available to them.

Dr. Bicknell regards *Tasmaniolimulus patersoni* as another example of this Australian exceptionalism—except that the species existed right at the outset of the region's divergence from other norms.

**More information:** Russell D.C. Bicknell. Xiphosurid from the Upper Permian of Tasmania confirms Palaeozoic origin of Austrolimulidae, *Palaeontologia Electronica* (2019). [DOI: 10.26879/1005](https://doi.org/10.26879/1005)

Provided by University of New England

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