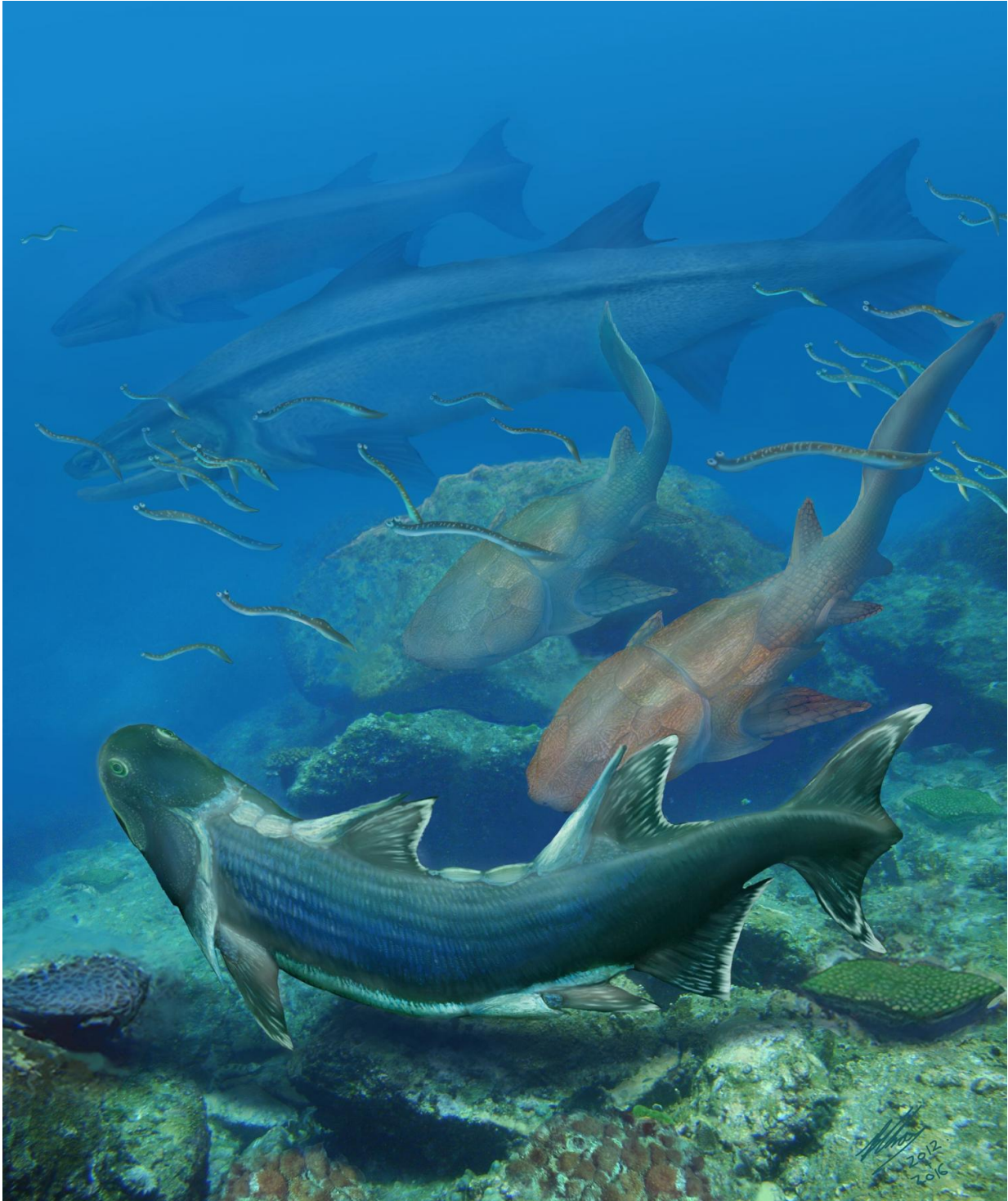


Ancient southern China fish may have evolved prior to the 'Age of Fish'

March 8 2017



Life restoration of *Sparalepis tingi* (foreground) and other fauna from the Kuantu Formation. Credit: Brian Choo

An ancient fish species with unusual scales and teeth from the Kuantu Formation in southern China may have evolved prior to the "Age of Fish", according to a study published March 8, 2017 in the open-access journal *PLOS ONE* by Brian Choo from Flinders University, Australia, and colleagues at the Institute of Vertebrate Paleontology and Paleoanthropology, China.

The Devonian Period (419.2 - 358.9 million years ago) is popularly called the "Age of Fishes" because of the apparent increase in the abundance and variety of jawed fishes when compared with the preceding Silurian Period (443.7 - 419.2 million years ago). Until recently, the Silurian fossil record of jawed vertebrates has been based on highly fragmentary remains, limiting our understanding of their early evolution. Recent discoveries from the Kuantu Formation of Yunnan, southwestern China, have dramatically enhanced our knowledge, with several superbly preserved fish species described in recent years. The fish-bearing sediments of the Kuantu Formation have been dated to the latter part of the Silurian, about 423 million years ago.

Now, Choo and colleagues have described a new genus and species of Kuantu fish, *Sparalepis tingi*, which represents only the second Silurian bony [fish](#) based on more than isolated fragments. This new form, along with its contemporary *Guiyu* and the slightly more recent *Psarolepis*, possesses spine-bearing pectoral and pelvic girdles, features once thought to be restricted to the armored placoderm fishes. *Sparalepis* and its kin may represent an early radiation of stem-sarcopterygians, ancient cousins of modern lungfish, coelacanths and tetrapods.

But *Sparalepis* also has an unusual scale morphology which distinguishes it from its cousins. The scales are particularly tall, thick and narrow, with the ones at the front having interlocking mechanisms on both the outer and inner surfaces. The closely packed squamation resembles a wall of shields, giving rise to the genus name of *Sparalepis*, a mixture of ancient

Persian and Greek meaning "shield scale".

Sparalepis adds to an ever-growing list of bizarre ancient fishes from the Silurian and earliest Devonian of Yunnan, suggesting that this region may have been an early center of diversification for the jawed vertebrates. The "Age of Fishes" appears to have arrived early during the Silurian of southern China.

More information: Choo B, Zhu M, Qu Q, Yu X, Jia L, Zhao W (2017) A new osteichthyan from the late Silurian of Yunnan, China. *PLoS ONE* 12(3): e0170929. [DOI: 10.1371/journal.pone.0170929](https://doi.org/10.1371/journal.pone.0170929)

Provided by Public Library of Science

Citation: Ancient southern China fish may have evolved prior to the 'Age of Fish' (2017, March 8) retrieved 20 April 2024 from <https://phys.org/news/2017-03-ancient-southern-china-fish-evolved.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.