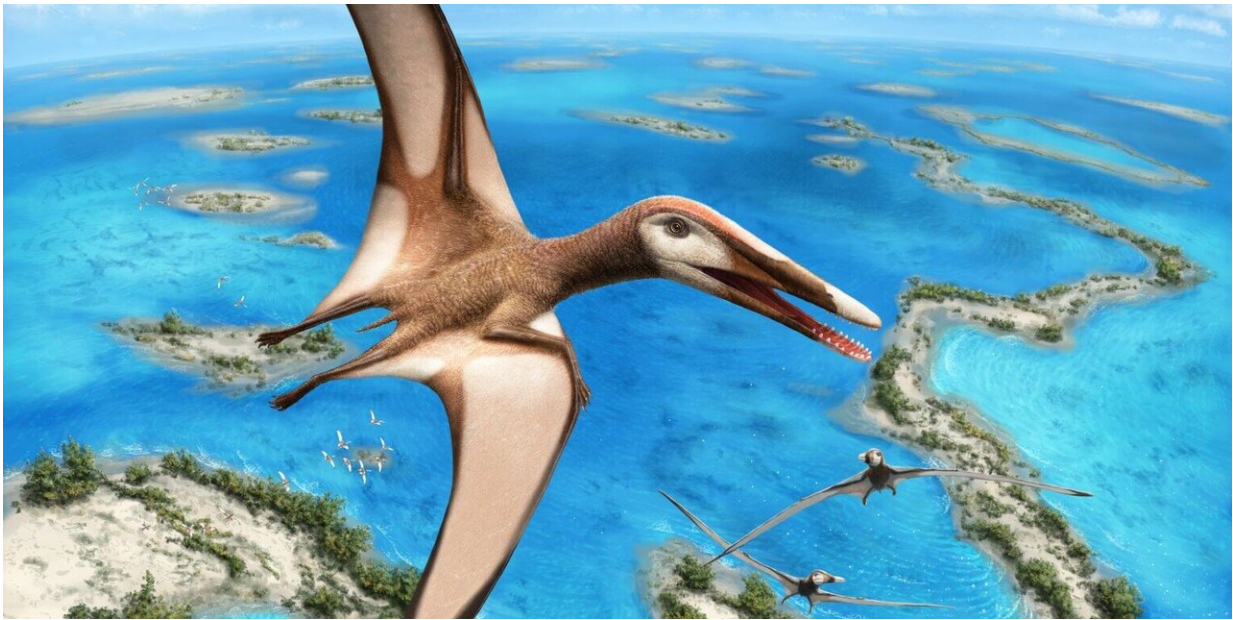


95-million-year-old fossil reveals new group of pterosaurs

December 2 2019, by Katie Willis



New research is shedding light on how and where ancient flying reptiles called pterosaurs lived. Credit: Julius Csotonyi

Ancient flying reptiles known as pterosaurs were much more diverse than originally thought, according to a new study by an international group of paleontologists.

The research—conducted by scientists at the University of Alberta and the Museu Nacional in Rio de Janeiro, Brazil—reveals an ancient and

extremely well-preserved pterosaur specimen originally discovered in a private limestone quarry in Lebanon more than 15 years ago.

"The diversity of these ancient animals was much greater than we could ever have guessed at, and is likely orders of magnitude more diverse than we will ever be able to discover from the fossil record," said U of A paleontologist Michael Caldwell, who was a co-author on the study.

Results also suggest that this particular type of pterosaur likely fed on crustaceans, flying on long, narrow wings and catching its prey at the surface of shallow waters, as do modern seabirds like the albatross and frigatebird.

"Pterosaur specimens, the first vertebrates to achieve powered flight, are still quite rare in the African continent," said Alexander Kellner of the Museu Nacional and professor at the Federal University of Rio de Janeiro. "Here we describe the best preserved material of this group of flying reptiles known from this continent so far, shedding new and much-needed light on the evolutionary history of these creatures."

The newly identified pterosaur lived 95 million years ago in the middle of what is now called the Tethys Seaway—a vast expanse of shallow marine waters filled with reefs and lagoons, separating Europe from Africa and stretching all the way to Southeast Asia. The researchers found that the [pterosaurs](#) living in the Tethys Seaway are related to those from China.

"This means that this Lebanese pterodactyloid was part of a radiation of flying reptiles living in and around and across the ancient Tethys Seaway, from China to a great reef system in what is today Lebanon," explained Caldwell.

The specimen is now housed in the Mineralogy Museum at Saint Joseph

University in Beirut, and a cast of the specimen resides at the U of A.

The research was conducted with Kellner and Roy Nohra of Saint Joseph University, and in collaboration with the ICP Catalan Institute of Palaeontology Miquel Crusafont in Barcelona, Spain, and Expo Haqel in Haqel, Lebanon.

The study, "First Complete Pterosaur From the Afro-Arabian Continent: Insight Into Pterodactyloid Diversity," is published in *Scientific Reports*.

More information: Alexander W. A. Kellner et al. First complete pterosaur from the Afro-Arabian continent: insight into pterodactyloid diversity, *Scientific Reports* (2019). [DOI: 10.1038/s41598-019-54042-z](https://doi.org/10.1038/s41598-019-54042-z)

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