Scientists discover new species of flying lizard in Japan for the first time

An international research team including experts from Japan, China and Brazil has just announced the discovery of a new species of pterosaur from the Late Cretaceous period in Japan.

An international research team including experts from Japan, China and Brazil has just announced the discovery of a new species of pterosaur from the Late Cretaceous period in Japan. This is the first time a pterosaur species has been scientifically named based on its body fossil found in this country.

This new species of ancient lizard, named *Nipponopterus mifunensis* , was identified from a partial neck vertebra first discovered in the 1990s in the Mifune Group geological formation, Kumamoto Prefecture on Kyushu Island (southern Japan).

After a detailed evaluation using advanced CT scanning technology at Kumamoto University and subsequent phylogenetic analysis, the team determined that the specimen belonged to a new genus and species in the family Azhdarchidae – the family that includes the largest flying creatures in history. The fossil is now on display at the Mifune Dinosaur Museum (Kumamoto Prefecture), offering the public a rare opportunity to see Japan's ancient prehistoric creature.

Great significance for Japanese paleontology

" *This is a major step forward for Japanese paleontology*, " said Dr. Naoki Ikegami from the Mifune Dinosaur Museum. " *Until now, no pterosaur species had been formally named from skeletal specimens found in Japan. This discovery provides important information about the diversity and evolution of pterosaurs in East Asia* ."

Notably, *Nipponopterus* may have had a wingspan of around 3 to 3.5 metres and lived during the Turonian to Coniacian stages of the Late Cretaceous, making it one of the earliest known members of the evolutionary lineage of this group.

Unique anatomical features

The newly identified sixth cervical vertebra (C6) of *Nipponopterus mifunensis* reveals a series of striking features not previously seen in any species. Most striking is the presence of a prominent dorsal keel running along the back of the bone—extending not only over the epipophysis but also over the entire postexapophyseal peduncle. Other distinctive features include a long groove running along the underside (ventral sulcus), a subtriangular-shaped condyle, and unusually positioned, laterally projecting postexapophyses.

These features distinguish *Nipponopterus mifunensis* from all other known azhdarchid pterosaurs. Phylogenetic analysis places it in the subfamily Quetzalcoatlinae, which has been identified as a close relative of both the mysterious azhdarchid "Burkhant" from Mongolia and the giant *Quetzalcoatlus from North America.*

The study, published in the prestigious scientific journal *Cretaceous Research* , is the result of an international collaboration between scientists from Shihezi University (China), the Zoological Museum of the University of São Paulo (Brazil), and a team in Japan consisting of the Mifune Dinosaur Museum, Kumamoto University, and Hokkaido University. The researchers worked closely together, combining expertise in fossil analysis, imaging technology, analytical modeling, and evolutionary studies.

" *This is a wonderful example of how science transcends borders* ," said Professor Toshifumi Mukunoki from the Faculty of Advanced Science and Technology, Kumamoto University.