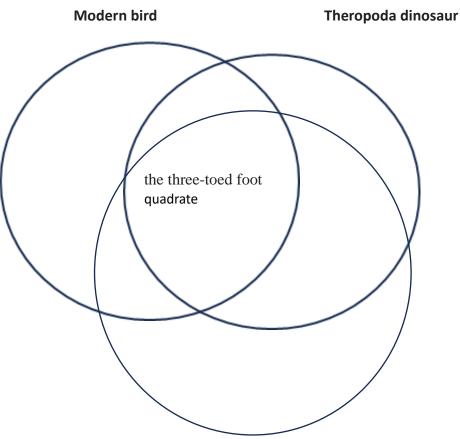
## **BIRDS AND DINOSAURS**

Birds evolved from the theropod dinosaurs, sometime around 100 million years ago, in the Cretaceous.

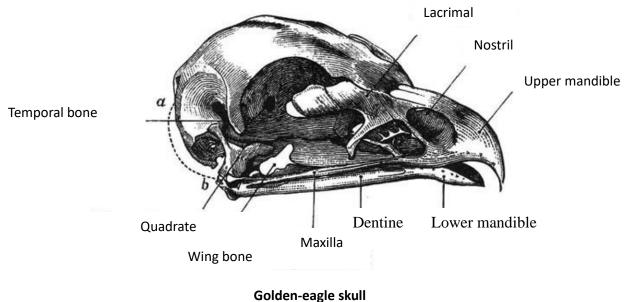
The earliest known bird-like animal is Archaeopteryx, which lived about 150 million years ago. Its body was covered with feathers and it could fly, but its beak-like jaws had sharp teeth. Its skeleton was typical of a Theropoda ancestor, as was its bony tail, which was more dinosaur-like. It was characterised by three wings with wingtips, ending in a curved claw, and a partially fused metatarsal.

These mixed features provide the basis for the hypothesis that Archaeopteryx may have been the ancestor of birds.

There are only two features that can be described that are found in Theropoda dinosaurs, Archaeopteryx bird ancestor and birds living today:



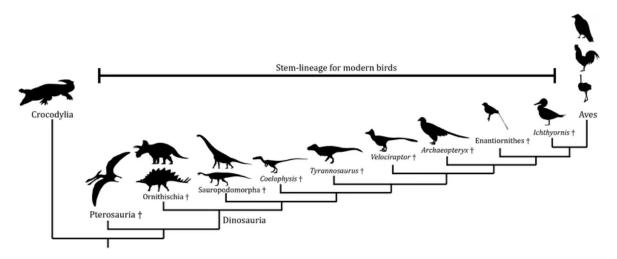
Archaeopteryx bird ancestor



Source: Magyarország madarai The jaw is connected to the skull by the **quadrate**.

The 11 fossils identified so far as Archaeopteryx were all found in the Solnhofen limestone in Germany.

Fossils of bird-like creatures have also been found in China in the Tiaojishan Formation, which were related to Archaeopteryx and may have existed at the end of the Jurassic.



## Birds and their extinct relatives

Source: https://evolution-outreach.biomedcentral.com/articles/10.1186/s12052-015-0047-2/figures/6

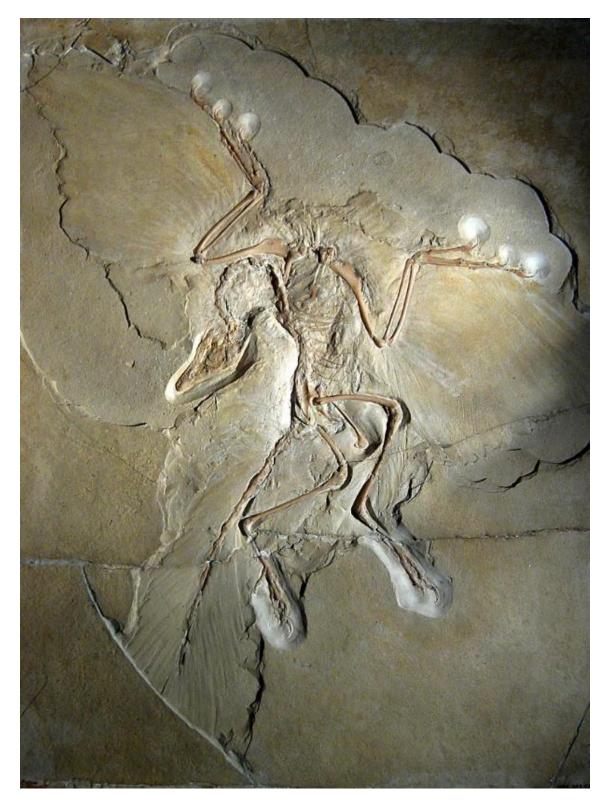


Photo: H. Raab CC BY-SA 3.0 Source:https://hu.wikipedia.org/wiki/Archaeopteryx#/media/F%C3%A1jl:Archaeopteryx\_lithographica\_(Berlin\_ specimen).jpg