## The ‘missing link’ between dinosaurs and birds, e.g. *Archaeopteryx*

Study the articles and information and write a short report in which you explain why *Archaeopteryx* is considered to bethe ‘missing link’ between dinosaurs and birds. Also provide a bibliography for your report.

## New species of missing link between dinos and birds

*Posted by*[***Eleanor Imster***](https://earthsky.org/team/eleanorimster)*in****EARTH****|****October 29, 2018***

Known as “the missing link” between dinosaurs and birds, Archaeopteryx lived in the [Late Jurassic](https://en.wikipedia.org/wiki/Late_Jurassic) around 150 million years ago. Now, an international team of scientists has identified a new species of Archaeopteryx that they say is closer to modern birds in evolutionary terms and distinctive and different enough to be described as a new species – Archaeopteryx albersdoerferi.

[Archaeopteryx](https://en.wikipedia.org/wiki/Archaeopteryx) lived in what is now southern Germany during a time when Europe was an archipelago of islands in a warm, shallow tropical sea. It was about the size of a [magpie](https://en.wikipedia.org/wiki/Eurasian_magpie#Description), with the largest individuals possibly attaining the size of a raven.

Archaeopteryx was first described as the “missing link” between reptiles and birds in 1861. Only 12 fossil specimens have ever been found.

Adapted from: <https://earthsky.org/earth/new-species-archaeopteryx-missing-link-dinosaurs-birds>

Retrieved on 11 May 2019

# Archaeopteryx: Definition, Facts & Characteristics

*Archaeopteryx lithographica*, first found in a specimen from southern Germany, is a coelurosaurid. It's about 150 million years old, placing it in the late Jurassic era. *Archaeopteryx* is considered to be the first bird. But there are many things about *Archaeopteryx* that you would not recognize in a modern bird.

First and foremost, *Archaeopteryx* had teeth, rather than a beak. It also had a flat **sternum** (breastbone). Most modern birds have a keeled breastbone, which allows them to attach powerful flight muscles. *Archaeopteryx* also had little claws on the end of its wings that would allow it to grasp prey.

However, *Archaeopteryx* had wings, feathers, and a wishbone much like modern birds. It does look very much like a bird!

Adapted from:<https://study.com/academy/lesson/arhcaeopteryx-definition-facts-characteristics.html>

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# Life History of *Archaeopteryx* *lithographica*

[**David Bartfai and Gunit Kang**](http://tolweb.org/treehouses/?treehouse_id=5136#AboutThisPage)

#### Anatomy & Physiology

Archaeopteryx exhibits both reptilian and bird like characteristics.  Similar to reptilians, Archaeopteryx had a complete set of teeth. Unlike all living birds, Archaeopteryx had a flat sternum, a long, bony tail, and three claws on the wing, believed to be used in grasping its prey or maybe trees. However, it also had characteristics of a modern bird, which included feathers, wings, and reduced fingers

###### Avian Features

**Feathers:**  Feathers are generally a defining structure when looking at modern birds. Archaeopteryx appears to have possessed well developed flight feathers, which are asymmetrical and contain a large amount of curvature as well as three distinct vanes.  In some aspects however, the feathers of Archaeopteryx appear to be slightly more primitive than extant bird capable of flight with slightly less apparent asymmetry.

**Limbs:**The hallux, or first toe, in Archaeopteryx appears to be flexible, a trait not seen in remains of dinosaurs.

###### Flight

The structure of feathers of the wings and tail appear to entail the ability of the animal to generate lift, although the extent to which it was able to do this is still a topic of debate.

Adapted from: <http://tolweb.org/treehouses>

Retrieved on 11May 2019