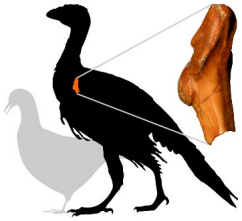
Fossil birds are extremely rare finds. Because most bird bones are so fragile and lightweight, preservation over millions of years is unlikely. Findings are usually isolated bones or even fragments; nearly complete skeletons have seldom been found except under the most exceptional conditions. However, even fragments provide valuable scientific information.

One such example is the bone of an enantiornithine bird from the 75 million year old Kaiparowits Formation of Utah, described in a new paper by Webb student Priyanka Patel and Alf Museum curator Andrew Farke.

The extinct enantiornithines, or “opposite birds,” are so named because the configuration of their shoulder girdle is quite different from that of modern birds. Specimens from the Cretaceous period (145 to 65 million years ago) have been found in North America, South America, Asia, Europe, Australia, and Madagascar. These birds varied from sparrow- to turkey-sized. Almost all enantiornithines had teeth; however, the sizes and shapes of known skulls indicate diverse diets ranging from crustaceans to tree sap.

The new Alf Museum specimen is a coracoid, a relatively small, dense bone in the shoulder that connects the sternum (breastbone) and scapula (shoulder blade) in birds. This coracoid was discovered in 2005 by an expedition from the Alf Museum and The Webb Schools, searching for fossils in Grand Staircase-Escalante National Monument in southern Utah. The rocks there, belonging to the Kaiparowits Formation, are around 75 million years old and are best known for their spectacular dinosaur skeletons. The Alf Museum bird specimen, although only a single bone, shows all of the distinct features of an enantiornithine and was confidently identified by comparison with more complete fossils from elsewhere. Significantly, it is the first bird from the Kaiparowits Formation to be described in the peer-reviewed scientific literature.



The fossil came from an individual weighing around 5 kg (11 pounds), roughly the size of a small wild turkey and similar in size to other large enantiornithines found in North America, South America, and Europe. Although other enantiornithine specimens have been collected elsewhere in North America, this is the first enantiornithine coracoid found in Utah. It is an important addition to our knowledge of the Kaiparowits Formation and also provides valuable information about variation in enantiornithine birds.

This specimen was investigated by Webb student Priyanka Patel ’12, under the guidance of Augustyn Family Curator of Paleontology Dr. Andrew Farke. Fieldwork in Grand Staircase-Escalante National Monument was conducted under permit from the Bureau of Land Management (Permit S-03-005). The formal publication appears in the journal *Cretaceous Research*
.

Citation: Farke, A. A., and P. P. Patel. 2012. An enantiornithine bird from the Campanian Kaiparowits Formation of Utah, USA. Cretaceous Research 37:227–230. doi: 10.1016/j.cretres.2012.04.002 [**link to official version (subscription required)**] [**link to unformatted pre-print (no subscription required)**
]

Supplementary Data: Hosted on Figshare [**link**]

Figure Credits: Silhouette from phylopic.org (by Steven Traver) , modified from original by Pavel Riha .
Licensed under Creative Commons Attribution-Share Alike 3.0 Unported license.
The images shows the Alf Museum enantiornithine coracoid, with its position in the bird as well as the animal's approximate size next to a modern pigeon