



## The Pterosaur Database

### Cathayopterus grabau

This pterosaur is a ctenochasmid from the Lower Cretaceous Yixian Formation of Liaoning, China.

**No image**

Wang, X., and Zhou, Z., **2006**, Pterosaur assemblages of the Jehol Biota and their implication for the Early Cretaceous pterosaur radiation: *Geological Journal*, vol.41, p.405-418.

The Early Cretaceous Jehol Biota from northeast China is well known for many beautifully preserved feathered dinosaurs, early birds and angiosperms. A great number of pterosaurs have also been discovered from the same deposits in recent years, representing arguably the best pterosaur assemblage from the Lower Cretaceous. Two pterosaur assemblages are recognized from the Jehol Biota, and represent two major adaptive radiations in the Early Cretaceous. The first radiation was preserved mainly in the Yixian Formation, and shows a strong resemblance to the Upper Jurassic pterosaur radiation in the Solnhofen Limestone of Germany. The second radiation was preserved in the Jiufotang Formation, with many of its taxa much similar to those of the pterosaur assemblages from the Lower Cretaceous Santana Formation of Brazil. Recent biostratigraphic work and radiometric datings of the Yixian and Jiufotang formations have provided a reliable geochronologic framework for the Jehol pterosaur radiations. The two major radiations occurred at about 125 Ma and 120 Ma, respectively. The radiations of the Jehol pterosaurs are characterized by a remarkable taxonomic diversity, great variation in body size, significant dietary differentiation, and occupancy of diverse niches. The appearance of several biological novelties was also critical in the success of the Jehol pterosaur radiations. The adaptive radiation of the Jehol pterosaurs was obviously coupled with the competition or co-evolution with many other groups of the Jehol Biota. Among the flying animals in the Jehol Biota, pterosaurs were the major competitors for niches and food with birds. Although the Jehol pterosaurs probably fed mainly on fishes, the co-evolution between plants and pterosaurs in the Jehol Biota might also have played a significant role in the pterosaur radiations, as is the case for plants and insects, birds, mammals and dinosaurs.