

Evolution of the biologically modern bird: evidence from the Jehol Biota

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3rd October 2023 (Tuesday)

16:00 (local time in Warsaw)

Online webinar on [zoom](#)

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Short abstract: Crown birds (Neornithes) are the most modified group of reptiles, such that their dinosaurian ancestry remained controversial until the discovery of feathered maniraptoran theropods at the end of the last century. The earliest birds were very different from modern birds with regards to skeletal anatomy, physiology, flight capabilities, reproductive behavior, molt patterns, and much more. The homoplastic evolution of modern bird biology during the Mesozoic culminating in the derived clade Neornithes likely underpins both the survival of this clade through the end Cretaceous mass extinction and its subsequent Cenozoic radiation. Our knowledge of the evolution of modern avian biology is primarily revealed through the exceptional preservation of fossil birds from the Lower Cretaceous Jehol Lagerstätten in northeastern China. Fossils recording early ontogenetic stages, ingested remains, and extremely rare soft tissues help to elucidate the appearance of modern avian anatomy, development, and physiology.