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摘要:

本文实事求是地介绍了道虎沟生物群的组成及相关地层的岩性,并根据长尾型嘴口龙类(Rhamphorhynchoidea)翼龙与短尾型翼手龙类(Pterodactyloidea)翼龙同期共生的特点,确信道虎沟生物群的地质时代为晚侏罗世。此外,本文还研究了道虎沟生物群中翼龙身上发育的皮肤衍生物,初步认为它们是原始羽毛(protofeathers),至少是与羽毛同源的(feather-homologous),这对于了解羽毛(广义)的演化历史和早期的形态结构将具有十分重要的意义。

关键词: [晚侏罗世](#) [道虎沟生物群](#) [翼龙](#) [原始羽毛](#) [内蒙古](#)

Discovery of Two Kinds of Protofeathered Pterosaurs in the Mesozoic Daohugou Biota in the Ningcheng Region and Its Stratigraphic and Biologic Significances [Download Fulltext](#)

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Abstract:

In the vicinity of Daohugou village of the Ningcheng region, Inner Mongolia is exposed a series of Mesozoic lacustrine strata intercalated with a set of acidic volcanic rocks, from the upper part of which were found very rich, well-preserved fossils, such as insects, conchostracans, bivalves, gastropods and plants, and from the lower part salamanders. In regard to the age of the Daohugou biota, Chinese paleontologists have two main opinions. Someone thought that the Mesozoic strata near Daohugou village can be correlated to the Yixian Formation of the Early Cretaceous and the fossils from the Daohugou area can be grouped into the Jehol biota. The others thought that the strata in the Daohugou area can be correlated to the Haifanggou Formation and the Daohugou biota should be of Middle Jurassic. In May of 2000, some pterosaurs were found from the Daohugou area, respectively belonging to the long-tailed Rhamphorhynchoidea and short-tailed Pterodactyloidea. The cooccurrence of both long-tailed and short-tailed pterosaurs indicates that the Daohugou biota is certainly of the Late Jurassic. In addition, the pterosaurs of Rhamphorhynchoidea and Pterodactyloidea from the Daohugou area are covered with filamentous structures over their entire bodies, which are considered to be protofeathers or, at least, feather-homologous. It implies that not only theropods and birds have feathers (sense lato), but also some reptilian groups such as pterosaurs can develop feathers, or protofeathers, or feather-homologous structures. The discovery of feathered pterosaurs provides important evidence that the origin of feathers is unrelated to the origin of flight.

Keywords: [Late Jurassic](#) [Daohugou biota](#) [Pterosaurs](#) [Protofeathers](#) [Inner Mongolia](#)

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