

## A new symmetrodont mammal from the Early Cretaceous Jehol Biota of Ningcheng Basin, Inner Mongolia, Northeast China

Honggang Zhang, Chang-Fu Zhou, and Zhe-Xi Luo


*Acta Palaeontologica Polonica* 69 (2), 2024: 315-327 doi:<https://doi.org/10.4202/app.01154.2024>

Recently, a dinosaur assemblage with three-dimensional preservation of the Early Cretaceous Jehol Biota has been discovered in the Ningcheng Basin, Inner Mongolia, China. Of the vertebrate fossils, a new spalacotherioid “symmetro-dont” mammal is described here as *Ningchengodon foxi* gen. et sp. nov. The specimen is an incomplete right dentary characterized by a lower dental formula of  $i3/c1/p3/m5$ , with molar cusps in acute-triangulation. Cusps e and f embraced cusp d of the preceding molar forming a molar interlocking, reported here for the first time for acute-angled spalacotherioids. Phylogenetically, the new taxon is placed in the clade of Spalacotherioidea, and clustered at the base of the paraphyletic zhangheotheriids although its relationship is not further resolved with other zhangheotheriids. Additionally, the ultimate premolar replacement is simultaneous with the m5 eruption as in *Origolestes lii* and *Zhangheotherium quinquecuspidens*. This discovery enriches the biodiversity of spalacotherioids, and further highlights the complexity of the Zhangheotheriidae in evolution.

**Key words:** Symmetrodonta, Spalacotherioidea, Zhangheotheriidae, *Ningchengodon foxi* gen. et sp. nov., Jehol Biota, Cretaceous, Ningcheng Basin.

Honggang Zhang [[13700017969@126.com](mailto:13700017969@126.com)]; ORCID: <https://orcid.org/0009-0008-2587-0770> ], College of Earth Science and Engineering, Shandong University of Science & Technology, Qingdao 266590, China; Paleontological Institute, Shenyang Normal University, Shenyang 110034, China; Paleontological Museum of Liaoning, Shenyang 110034, China. Chang-Fu Zhou [[zhoucf528@sdust.edu.cn](mailto:zhoucf528@sdust.edu.cn)]; ORCID: <https://orcid.org/0000-0002-3744-7573> ] (corresponding author), College of Earth Science and Engineering, Shandong University of Science & Technology, Qingdao 266590, China. Zhe-Xi Luo [[zxluo@uchicago.edu](mailto:zxluo@uchicago.edu)]; ORCID: <https://orcid.org/0000-0003-2170-8879> ] (corresponding author), Department of Organismal Biology and Anatomy, The University of Chicago, Chicago, IL 60637, USA.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see [creativecommons.org](https://creativecommons.org)), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

 [Full text \(1,566.2 kB\)](#) |

 [Supplementary file \(136.1 kB\)](#)