Abstract of Doctoral Dissertation

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EVOLUTION, DIVERSITY, AND DISPARITY OF ORNITHOMIMOSAURS (DINOSAURIA: THEROPODA) FROM THE UPPER CRETACEOUS OF MONGOLIA

(モンゴルの白亜系から発見されているオルニトミモサウルス類（恐竜類：獣脚類）の進化、多様性、異質性)

Ornithomimids, a derived clade of Ornithomimosauria, are one of the major clades of coelurosaurian dinosaurs and fossils of ornithomimid members are richly discovered in the Cretaceous sediments of eastern Asia, specifically in the Gobi Desert of Mongolia. In this work, four ornithomimosaur specimens, from the early Late Cretaceous to the late Late Cretaceous of Mongolia, are newly described in detail. They include a multitaxic bonebed of two potential new ornithomimosaurs from the Bayanshiree Formation (Cenomanian- Turonian), the holotype of *Aepyornithomimus tugrikinensis* gen. et sp. nov. from the Djadokhta Formation (Campanian), and a complete articulated ornithomimid skeleton from the Nemegt Formation (late Campanian-early Maastrichtian) and are potential to assign new genera and species basis on their disparities of the anatomical morphology within Ornithomimidae. The ornithomimosaur specimens discovered from the Baishin Tsav locality were collected in a single multitaxic bonebed with a different ontogenetic stage of at least five individuals. Whether the individuals of this bonebed were a same kin strategy social behaviour is unlikely because of representing two different ornithomimosaurs. However, it suggests that is possible a small pack (<10 individuals) of multispecific ornithomimid herd was travelling together in some preferable places, such as a food resource, reproductive, and so on.

Aepyornithomimus tugrikinensis gen. et sp. nov. was discovered from the Upper Cretaceous Djadokhta Formation (Campanian) of Mongolia. The phylogenetic position of a new taxon is placed a member of the derived ornithomimosaurs. Hence, a new taxon is recovered a missing cap of evolution of the Late Cretaceous Mongolian ornithomimosaurs from the Djadokhta Formation, as well as the first ornithomimid record from eolian influenced environment, in which is indicative of their capability to adapt to arid environments.

The Upper Cretaceous Nemegt Formation of Mongolia is rich in well-preserved dinosaurs and Ornithomimosauria is one of the most common taxa in the formation. A complete articulated skeleton of ornithomimosaur specimen was recovered from the Upper Cretaceous Nemegt Formation of Bügiin Tsav locality, Mongolia. The morphological features and the phylogenetic analysis of this specimen represent as the definitive new ornithomimid and the fourth ornithomimosaur from the Nemegt Formation of the Gobi Desert, demonstrating extension of ornithomimosaur diversification in Late Cretaceous in Asia. In addition, the structures of manual elements among Nemegt ornithomimosaurs reveals their remarkable diversity. The results of numerical analyses show that a large diversity of manual morphology may be related to large variety of palaeoecological niches were prevailed in the Nemegt ecosystem.