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PREFACE

The Cretaceous non-marine deposits are very widely distributed in Asian Continent, where such interesting fossils like "feathered" dinosaurs and early angiosperms were discovered. Because the Inner Side of the Japanese Islands was the eastern part of the Asian Continent before the Japan Sea was formed in the middle Cenozoic, the non-marine Cretaceous is also distributed along the Japan Sea side. Cretaceous floras and non-marine molluscan faunas, found from the Inner Side of Central Japan, have attracted much attention to correlate the marine and non-marine strata in Asia, because the well-dated marine sediments are widely distributed in the Japanese Islands. They have been used for discussing the Cretaceous paleobiogeography of Asia as well. Furthermore, recent discoveries of Early Cretaceous terrestrial and freshwater vertebrate faunas including dinosaurs from the Middle Jurassic–Early Cretaceous Tetori Group, distributed in the Inner Side of Central Japan, reveal the potential significance of these faunas to reconstruct the Early Cretaceous terrestrial ecosystem.

The International Symposium entitled "*Fauna and Flora of the Tetori Group and correlation with the Cretaceous sequences in Far-East Asia*" which was sponsored by the joint auspices of the Palaeontological Society of Japan and IGCP 434 *Land–Ocean Interactions of Carbon Cycle and Bio-diversity Change During the Cretaceous in Asia* was convened at the 2002 Annual Meeting of the Palaeontological Society of Japan (June 21, 2002, Fukui Prefectural Dinosaur Museum). At the symposium, the fourteen contributions were presented to report and discuss the recent results of stratigraphy, correlation, faunas and floras of the Circum-Japan Sea four countries (China, Korea, Russia and Japan).

Eleven articles and two extended abstracts from the symposium are presented in this Proceedings issue of the *Memoir of the Fukui Prefectural Dinosaur Museum*. The first seven papers address recent advances in the studies of the Tetori Group. FUJITA summarizes the stratigraphy of the Tetori Group, especially paying attention to the occurrence of marine fossils from the Itoshiro Subgroup (middle part of the Tetori Group), comparison of non-marine molluscan faunas with the Outer Zone of Southwest Japan, and numerical data, and discusses the age and correlation of vertebrate-bearing horizons in the Tetori Group. He suggested that vertebrate-bearing horizons of the Tetori Group are Hauterivian, Late Barremian and possibly Aptian–Albian in age. Two extended abstracts by HIRAYAMA et al. and AZUMA provide the summaries of the terrestrial and freshwater vertebrate fossils from the Kuwajima Formation of the Itoshiro Subgroup and the Kitadani Formation of the Akaiwa Subgroup (upper part of the Tetori Group), respectively. YABE et al. review the study of the Tetori-type and Mixed-type floras, and recognize the distinct change in floristic composition and physiognomy within the Tetori Flora. Warmer and dryer trends during Early Cretaceous (probably Hauterivian to Barremian) in East Asia are suggested. KOMATSU et al. describe a new genus of non-marine bivalve, based on the comparison with Chinese specimens, and report the occurrence of a charophyte with systematic description, both from the Itoshiro Subgroup. Charophyte is useful for correlation of non-marine strata. This report clearly shows the potential for establishing the correlation of the sequences between China and Japan. HIROOKA et al. report the results of paleomagnetic study of the Tetori Group in the Toyama (= Jinzu) Region. They correlate between the sequences of this region and the standard sequences of the Fukui–Ishikawa (= Hakusan) Region based on the comparison of their paleolatitude data. This result provides the additional data to the controversies about the correlation of the sequence of the Tetori Group in this region, where dinosaur fossils were found. The utility of anisotropy of the magnetic susceptibility to paleocurrent analysis, and the differential rotation within the Tetori Basin after the deposition of the Tetori Group are also discussed. OTOH et al. discriminate two groups of shear zones in the Hida Marginal Belt, which is the basement of the Tetori Group in some parts of their distribution, and propose that the tectonic inversion from dextral to sinistral shearing occurred during the time of deposition of the Tetori Group. This model is valuable in the studies of the Tetori Group.

Comparison between the sequences of neighboring countries and the Tetori Group is the theme for the second part of the proceedings. The dinosaur faunas in Korea and China are also presented here for the comparison with that of the Tetori Group. KIRILLOVA and KIRIYANOVA describe the Upper Mesozoic stratigraphic sequences of the southeastern Russia, coeval with the Tetori Group, and their faunas and floras in detail. In addition, they compare the Late Jurassic–Early Cretaceous flora from the southeastern Russia with the Tetori Flora and discuss the division of paleofloristic provinces based on the brief review of the identification of the selected taxa. CHANG and PARK summarize the Cretaceous stratigraphy of Korea and propose the inter-regional correlation of the Upper Jurassic to Lower Cretaceous strata in East Asia from the viewpoint of the unconformity-bounded unit. Application of the concept of the unconformity-bounded unit to the Tetori Group challenges the Japanese stratigrapher's present opinion about the stratigraphy of the Tetori Group. Debate on this topic will provide further contribution to the correlation of the non-marine sequences, such as the Tetori Group (Japan), the Kyongsang (= Gyoeongsang) Supergroup (Korea) and the Jehol Group (Northeast China), all of which are important dinosaur-bearing strata in East Asia. LEE reviews Early Cretaceous dinosaur

bones and eggs found from the Gyoeongsang Supergroup in South Korea. Especially recent findings of dinosaur eggs and nests are presented in detail. DONG summarizes the result of recent dinosaur excavations and the studies of Chinese dinosaur materials. The discoveries of “feathered” dinosaurs and birds from the Jehol Group are focused on.

In the final two papers, a basic study and critical reviews of stratigraphic tools are presented for the future prospect. KOZAI and ISHIDA survey the Cretaceous stratigraphy and faunal contents of Central and East Shikoku, Outer Zones of Southwest Japan, in detail and identify four non-marine molluscan faunas, which define two mutually exclusive faunal groups. They further suggested that two faunal groups were formed in different salinity conditions of the adjoining areas. It is worth to note that several freshwater mollusks, which were known from the Tetori Group, are found. Faunal contents and the age of each non-marine fauna may provide a clue to the correlation of the Lower Cretaceous sequences of the Outer and Inner zones of Southwest Japan and Korea. HASEGAWA critically reviews the recent studies of carbon-isotope stratigraphy and discusses its application for the non-marine clastic sequences. He indicates that both the inter-regional correlation and regional paleoenviromental reconstruction will be improved by the recent innovations on analytical techniques and equipments. We hope this proceedings will contribute to the future development of the study of Cretaceous environments of Asia.

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