

Cretaceous Nonmarine Trace Fossils from the Hasandong and Jinju Formations of Namhae Area, Kyongsangnamdo, Korea

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From the Cretaceous Hasandong and Jinju formations of the Namhae area, relatively diverse and abundant ichnofaunas including *Beaconites antarcticus*, *B. coronus*, *Chondrites* type A, C. type B, *Circulichnis montanus*, *Cochlichnus anguineus*, *Helminthoidichnites tenuis*, *Helminthopsis abeli*, *H. hieroglyphica*, *Laevicyclus* ichnosp., *Palaeophycus tubularis*, *Planolites annularis*, *P. beverleyensis*, *P. montanus*, *Skolithos magnus*, *S. verticalis*, *S. ichnosp.*, *Spirodesmos kyongsangensis* ichnosp. nov., *Taenidium barretti*, *Thalassinoides paradoxicus*, *T. suevicus*, *Tigillites dufrenoyi*, *Torrowangea rosei*, branching trace fossil, omithopod tracks, rhizoliths, sauropod tracks, and scribbling trace fossil are recognized.

The faunas are divided into the *Tigillites* and *Beaconites* associations. The *Tigillites* association is preserved in the tabular laminated sandstone facies and typified by relatively high diversity of trace fossils and dwelling structures. Domichnia such as *Skolithos* and *Tigillites* in the association represents high-energy condition and it differs from the *Scoyenia* ichnofacies representing low diversity and dominance of meniscate burrows and the *Mermia* ichnofacies which is characterized by the dominance of horizontal to subhorizontal grazing and feeding traces and absence of dwelling traces. The *Beaconites* association is characterized by low diversity of trace fossils and meniscate burrows. The association nearly corresponds to the *Scoyenia* ichnofacies and suggests low-energy floodplain environment and low-energy marginal lake setting.