ICHNOLOGICAL REASSESSMENT OF THE CRETACEOUS DAKOTA GROUP DEPOSITIONAL ENVIRONMENTS IN CAÑON CITY, COLORADO

Adam Jackson
Department of Geology, The University of Kansas, Lawrence, Kansas
adam.jackson@ku.edu

Abstract

The Dakota Group of Colorado has been well studied sedimentologically, but not ichnologically. This project will assess the original physicochemical parameters of these deposits. The Dakota Group in Cañon City, Colorado, provides vertical, lateral, and broad bedding plane exposures, and is divided into the Lytle, Plainview, Glencairn, and Muddy formations. The Lytle, a fluvial trough cross-bedded sandstone, has rare *Skolithos* and Rhizoliths. The Plainview was deposited in fluvial, subtidal paralic settings, recording the initial flooding of the Western Interior Seaway in this area where a marine connection is marked by the appearance of *Teredolites*. The upper Plainview transitions from subtidal to upper shoreface deposits grading from a proximal to distal *Skolithos* ichnofacies are highly bioturbated with *Ophiomorpha*. The Glencairn is composed of five upward coarsening parasequences. Shales contain *Helminthopsis* and *Chondrities* and are consistent with Nereites ichnofacies, while the middle muddy sandstones containing *Thalassinoides* and *Teichichnus* is a Cruziana ichnofacies. The upper portion of each parasequence grades into highly bioturbated *Skolithos* ichnofacies. The Muddy Formation, is composed here of the Lower Channel Sandstone and Upper Transitional members. The Lower Channel Sandstone is a progradational sequence from Cruziana to Skolithos ichnofacies topped by fluvial-shoreface deposits with wood debris containing *Paleoscotylus*. The Upper Transitional Member contains lower sandstones consistent with previous Cruziana ichnofacies beds and upper shales which are a Zoophycos ichnofacies consisting mostly of *Rhizocorallium* and *Zoophycos*. Interpreted depositional environments and their and stacking patterns will be used to identify changes in sea level, sediment supply or other physicochemical parameters.

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