

Paleosedimentological significance of echinoderms with emphasize on Miocene echinoids

A. H. Rahiminejad^{1*} and H. Zand-Moghadam²

1- Assist. Prof., Dept., of Ecology, Institute of Science and High Technology and Environmental Sciences, Graduate University of Advanced Technology, Kerman

2- Assoc. Prof., Dept., of Geology, Faculty of Earth Sciences, Shahid Bahonar University of Kerman

** mrrahiminejad7@gmail.com*

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Abstract

This represents paleoenvironmental significance of echinoderms with emphasize on Miocene echinoids. Clypeasteroids, are one of the most typical echinoids which are very useful in interpretation of Oligocene and Miocene marine paleoenvironmental conditions. Based on different functional morphologies of clypeasteroid tests, sedimentary fabric (clusters, density and orientation of tests to the bedding surface) of echinoids in deposits (carbonates, sandstones and conglomerates) and taphonomic evidences on clypeasteroid tests, the following details can be evaluated: 1- type of substrates, 2- water energy and hydrodynamic conditions, 3- transportation and reworking, 4- events such as tempestites and winnowing, 5- availability and diversity of different nutrient sources and sedimentary grains and 6- sediment loading after final deposition of sediments and during diagenesis.

Keywords: *Echinoid, Clypeasteroid, Paleontology, Sedimentology, Paleoenvironment*