



Biostratigraphic synthesis of a Middle Eocene Limestone, Northern Kohat Basin, Himalayan Fold and Thrust Belt, Northern Pakistan

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The Kohat Formation from the Shekhan Nala, Kohat Basin, northern Pakistan has been measured and closely sampled to undertake detailed stratigraphical and micropalaeontological studies to determine the age and environmental style of the formation. The formation is well exposed in the Kohat Plateau, which is located in the upper Indus Basin of the Northern Pakistan.

The Kohat Basin can be divided into two parts on the basis of its structural and depositional systems. The northern part of the basin represents imbricate structures and normal marine shallow shelf environments of deposition. Whereas, the southern part of the basin represents normal marine to restricted lagoonal environment during the Eocene period.

The Kohat Formation is almost composed of larger benthic foraminifera belonging to the genera Nummulites, Assilina and Alveolina. The forams are age diagnostic and Some excellent age diagnostic larger foraminiferal species of Nummulitids, Assilinids and Alveolinids have been found namely *Nummulites mamillatus*, *N. atacicus*, *N. globosa*, *N. subirregularis*, *Operculina patalensis*, *Operculina sp.*, *Assilina expansens*, *A. granulosa*, *A. spinosa*, *A. subspinosa*, *A. laminosa*, *A. dandotica*, *A. sp.*, *Discocyclina dispansa*, *Dictyoconoides sp.*, *Alveolina elliptica* and *Alveolina stercumeris*. On the basis of this faunal assemblage a late early Eocene to early Middle Eocene age of the formation has been confirmed.

Bioclastic wackestone, packstone and grainstone microfacies have been identified.

The bioclasts are mainly larger forams. On the basis of observed fauna and lithologic assemblage it has been established that the formation was deposited under shallow marine environments representing both inner neritic facies and bank bed facies.