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PLANKTON BIOSTRATIGRAPHY OF THE PYAWBWE FORMATION, MINBU AND KAMA TOWNSHIPS

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ABSTRACT

Present research is emphasized on the nannoplankton biostratigraphic zones of the Pyawbwe Formation and nannopaleontological evidence for the lower stratigraphic boundary of this Formation. Therefore, two different areas were chosen to be carried out for the nannopaleontological study, such as, study area "A" in the Minbu Township, Magway Division, in which type locality of the Formation (Pyawbwe village) and well-exposed section (Mann chaung section) are located, and study area "B" in the Kama Township, Magway Division from which similar mudstone are exposed extensively. The study area "A" is bounded by the North Latitude (20°00′ and 20°05′) and East Longitudes (94°35′ and 94°40′) and study area "B" is bounded by the North Latitudes (19°00′ and 19°03′) and East longitudes (94° 57′ and 95° 07′), respectively.

The Pyawbwe Formation is included in the well-known Pegu Group and stratigraphically underlain by the Okhmintaung Formation (Late Oligocene) and overlain by the Kyaukkok Formation (late Early Miocene). In the Kama area, the Okhmintaung Formation change gradually upward into the Pyawbwe Formation without obvious faunal as well as sedimentological break .In the Minbu area, paleontological and sedimentological evidences for the stratigraphic break representing a marine regression and transgression were observed.

Generally, the lithostratigraphy of the Pyawbwe Formation can be recognized with three lithofacies association, namely, mudstone lithofacies, mudstone with intercalated sandstone lithofacies and mudstone-sandstone interbedded lithofacies. From the calcareous mudstone of the formation, a total of (218) samples were collected systematically, (113) samples from Minbu area and (105) samples from Kama area, respectively.

Sample processing and taxonomic identification were carried out in both Nannopaleontological Laboratory, Myanmar Oil and Gas Enterprise (M.O.G.E.), Htaukkyant and Department of Geology, University of Yangon. From the collected samples the following nannofossils were identified, *Helicosphaera truempyi, Helicosphaera compacta, Helicosphaera euphratis ,Helicosphaera intermedia , Helicosphaera recta, Helicosphaera obliqua, Helicosphaera ampliaperta Helicosphaera rhomba, Discoaster druggii Discoaster deflandrei , Discoaster*

variabilis , *Discoaster exilis, Discoaster signus, Sphenolithus belemnos, Sphenolithus conicus, Sphenolithus delphix, Sphenolithus dissimilis, Sphenolithus heteromorphus, Sphenolithus moriformis, Cyclicargolithus abisectus, Cyclicargolithus floridanus, Coccolithus pelagicus* , *Cronocyclus nitescen Triquetrorhabdulus carinatus etc.* These nannofossils assemblages indicate the stratigraphic range of the Pyawbwe Formation from NN1 to NN4, Early Miocene, Aquitanian and Burdigalian stages.

The recognized nannoplankton biostratigraphic zones in the Kama area indicate successive nature representing no paleontological break and the sedimentological break have not been observed. In the Minbu area, a sedimentological break was observed which is represented by part of NP 25 and NN1. This obvious evidence suggests a marine regression at the end of Oligocene which was followed by a marine transgression in the Minbu area. However, the Oligocene shallow marine might be prevailed continuously from Late Oligocene into Early Miocene in the Kama area.

Based on the lithology and occurrence of normal marine foraminifers and nannoplankton, the paleodepositional environment of the formation can be considered as normal marine environment. Presence of calcareous benthic and arenaceous foraminifers together with nannoplankton and planktic foraminifers indicate a shallow shelf nearshore or inner shelf environment.In addition, the occurrence of the members of the family Braarudosphaeraceae are completely strong indicators of nearshore conditions (Siesser,1993) As a conclusion, the Pyawbwe Formation exposed in the Uyin area exhibit intertidal and sub-tidal environment whereas the formation exposed in the Kama area is characterized by sub-tidal environment.

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