

Foraminiferal assemblages in Miocene carbonates of Indonesia

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Neogene carbonates in Indonesia are characterised by different depositional environments. We studied localities outcropping on Mangkalahat Peninsula, Kutai Basin, and Java, that were deposited in a time interval from Early (Te5) to Middle Miocene (Tf2). In order to reconstruct depositional environments and obtain biostratigraphic information, larger benthic foraminifera (LBF) assemblages were analysed from these three locations. The northernmost, and stratigraphically oldest, from the studied carbonates are exposed on Mangkalahat Peninsula. They were formed in shallow-water environment on carbonate platform. Stratigraphically important LBF indicate Early to Middle Miocene age (Te5-Tf1). Towards the south, in the Kutai Basin, isolated patch reefs occur within siliciclastic sediments, developed in mixed carbonate-siliciclastic depositional systems. In general, LBF assemblage is indicative of low-light conditions typical for mesophotic reefs. Based on LBF late Early to Middle Miocene age (Tf1-Tf2) can be suggested. The southernmost carbonate exposures are located on Central Java, in the Bulu Limestone member. The LBF assemblage composition indicate environmental conditions typical for continental shelf edge. Middle Miocene (Tf2) can be inferred for these limestones based on LBF.

Here we present an overview of Indonesian Early to Middle Miocene LBF assemblages in a range of depositional environments. We will assess the interplay between stratigraphical and environmental control on LBF assemblages.