

Paleobathymetry and Biostratigraphy of Sambipitu Formation and Its Relation with the Presence of Ichnofossil in Geoheritage Site Ngalang River Yogyakarta

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Abstract : The location of this research is a part of Geoheritage that located in Nglipar, Gunung Kidul Regency, Yogyakarta Special Region. Whereas in this location, the carbonate sandstone of Sambipitu Formation (early-middle Miocene) is well exposed along Ngalang River, also there are ichnofossil presence which causes this formation to be interesting. The determination of paleobathymetry is particularly important in determining paleoenvironment and paleogeographic. Paleobathymetry can be determined by identifying the presence of Foraminifera bentonik fossil and parasequence emerge. The methods that used in this study are spatial method of field observation with systematic sampling, descriptive method of paleontology, biostratigraphy analysis, geometrical analysis of Ichnofossil, and study literature. The result obtained that paleobathymetry of this location is bathyal zone with maximum regression known by *Bulliminoides williamsonianus* showing depth 17 fathoms at the age of N3-N5 (Oligocene-Early Miocene) and the maximum transgression is known by *Cibicides pseudoungarianus* showing depth 862 fathoms at the age of N8-N9 (Early-Middle Miocene). Where the obtained paleobathymetry supported of the presence and formed the pattern of ichnofossil that found in the study area.

Keywords : paleobathymetry, biostratigraphy, ichnofossil, Ngalang river

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