DISTRIBUTION OF MODERN NANNOFOSSILS ACROSS THE SABAH MARGIN AND ITS APPLICATION IN ENVIRONMENTAL INTERPRETATION OF A LATE QUATERNARY SECTION

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Calcareous nannofossils were analysed from 22 surface sediments across the Sabah continental margin and 28 samples from core KL 139 of Late Quaternary section. The analyses were done quantitatively by using light microscope. The nannofacies were determined analytically by using the triangular co-ordinate diagram of dominant coccolith component.

The modern nannofossil assemblage is dominated by two coccolith species: *Emiliania huxleyi* and *Gephyrocapsa oceanica* and one non-coccolith species: *Florisphaera profunda*. *E. huxleyi* and *F. profunda* are pelagic species, increasing in their abundance in proportion to water depth, whereas *G. oceanica* exhibits its preference for neritic environment shown by reducing abundance with depth.

Three nannofossil assemblages or nannofacies have been identified from surface sediment; *E. huxleyi* (EH), *G. oceanica* (GO) and *E. huxleyi* - *G. oceanica* (EH-GO). Each nannofacies shows different proportion of species and were dominated, in respective order by *E. huxleyi*, *G. oceanica* and the combination of both species. These nannofacies belts are distributed parallel to the mainland of Sabah. Nannofacies GO occupied the shelf and the proximal area of the continental slope. This is followed by nannofacies EH-GO at the distal part of the continental slope and nannofacies EH in the abyssal environment.

The same technique has been applied to a Late Quaternary section, core KL 139 which was retrieved from the Sabah trough. The length of the core is 1300 cm and composed mainly of Upper Pleistocene to Recent sediments. The zonation scheme of Gartner (1977) has been adopted in the bichronology of the core. Two nannofossil zones were identified; *E. huxleyi* and *E. huxleyi* Acme zones. These zones are equivalent to NN 21 zone of Martini (1971).

The core section can be subdivided into five nannofacies intervals assigned as nannofacies I-V. Nannofacies I (0-150 cm) is the interval for nannofacies EH-GO, nannofacies II (150-500 cm) composed of interlaminated EH-GO and GO facies, nannofacies III (500-800 cm) is characterised by nannofacies EH, nannofacies IV (800-1250 cm) is the interval for nannofacies EH and nannofacies V (1250-1300 cm) is characterised by nannofacies GO.

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