Palynology of Late Quaternary sediments of piston-core KL-139 from Sabah Trough, East Malaysia

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Five palynological assemblage zones were delineated; Zone SB-5 (1300-1100 cm), Zone SB-4 (1100-950 cm), Zone SB-3 (950-300 cm), Zone SB-2 (300-59 cm), and Zone SB-1 (59-0 cm).

Zone SB-5 represents a glacial period in the late Pleistocene. The climate was cold and dry, which led to the expansion of montane vegetation. Lowland cover contracted as precipitation was reduced. Sea level was low which led to the reduction of mangrove vegetation.

A sea level high represented in SB-4 zone, caused the mangrove cover to expand. The climate was warm and wet. Montane vegetation was reduced while lowland vegetation expanded. This zone probably represent an interglacial or interstadial period.

Zone SB-3 represents a subsequent extensive sea level fall during the last worldwide Pleistocene glacial period. The cooler and possibly drier climate caused montane forest to expand to lower altitudes. Expansion of lowland vegetation at the end of this period indicates climatic amelioration. Fern spore percentages increase are mainly associated with high fluvial activity.

A rapid sea level rise at the onset of Zone SB-2 could represent the Pleistocene-Holocene boundary. The mangrove cover expanded, lowland vegetation was established, and montane vegetation retreated to its present altitudinal range.

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