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Seasonal changes in abundance of four *Acartia* species (Copepoda, Calanoida) in the coastal waters of Peninsular Malaysia; relationship with monsoon transition

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Abstract

The seasonal variation of *Acartia* copepods from the waters of Peninsular Malaysia was studied via monthly observations at 2 fixed stations on the west coast (Pulau Pinang and Port Dickson) and 2 fixed stations on the east coast (Kijal and Penyabong) from October 2012 to March 2014. In situ temperatures recorded during this period were relatively constant (mean $29.6 \pm 0.7^\circ\text{C}$) at all stations. Salinity measurements were also fairly constant (mean 30.3 ± 1.1 PSU) for all stations during this study except at Penyabong where the salinity during the northeast (NE) monsoon season was significantly lower ($p < 0.05$) (mean 23.2 ± 7.9 PSU) than during the southwest (SW) monsoon season. Concentration of chlorophyll *a* at Pulau Pinang during the SW monsoon period was significantly higher ($p < 0.05$) (mean 14.6 ± 5.4 $\mu\text{g/L}$) than during the NE monsoon period. Four species of *Acartia* were identified at

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