Effects of sieving on palynological records in Tertiary marine sediment

AZMI MOHD YAKZAN

Petronas Research & Scientific Services Sdn. Bhd.
Lot 1026 PKNS Industrial Area
54200 Hulu Kelang, Selangor

In routine palynological preparation, samples are macerated with strong reagents and undergo several physical treatments to concentrate the organic matter. One of the physical treatments of sample involves the sieving process using mesh ranging in size from 5 μ to 150 μ. The residue retained from the sieving process is either discarded or preserved for microscopic analysis. Sieving using 5 μ mesh size resulted in about 90% lost in *Rhizophora* pollen, 98% lost in Myrtaceidites and a total loss of *Pandanus* pollen. *Rhizophora* pollen, a brackish water taxa, shows a direct relationship with sea level changes, being represented in higher proportion during highstand phases and vice versa, is important for sequence evaluation and intrabasinal correlation. Myrtaceidites show an increase in abundance and are used to demarcate a stratigraphic datum in the Lower Miocene. *Pandanus* pollen are produced by riparian vegetation commonly found along rivers, beyond the limit of brackish tidal influence. They are particularly useful for correlating stratigraphic sections where deposition occurs principally on the upper delta/coastal plain environment. These pollen types, if loss through sieving resulted in loss of important information. On the contrary, the sieving exercise resulted in over representation of the large size palynomorphs. The data obtained therefore necessitates careful evaluation in the light of the processing methods. The conclusion reached is that, no sieving technique in the palynological preparation method, though a time consuming exercise because the whole spectrum of the organic matter need to be studied, produced more accurate palynological datasets to work with.

Warta Geologi (Newsletter of the Geological Society of Malaysia), Vol. 22, No. 2, March-April 1996