Oxygen isotopic studies of a species of *Pitar* (*Hyphantosoma*) from Quilon Beds, Kerala, southwest India: Inferences on seasonality during the Miocene

PRASANNA K[1],VIVESH VIR KAPUR[1]

[1]Birbal Sahni Institute of Palaeosciences, 53, University Road, Lucknow 226007, India

Carbonaceous shales of the Quilon Beds are well exposed in the Pozhikkara cliff section, Kerala, southwest India, These sediments are known to yield microfaunal assemblage that comprises of fishes (dental remains, otoliths), foraminifers, ostracods, and molluscs suggestive of a Lower Miocene (Burdigalian) age and a shallow marine palaeodepositional environment (Rao et al. 1975; Mehrotra 1982; Reuter et al. 2010 and references therein). In the present study, the carbonaeous shales of the Quilon beds were collected and processed to retreive the overall microfaunal component. Further, an oxygen isotope analysis of the growth bands of a bivalve *Pitar* (*Hyphantosoma*) *simonnei* (Dey, 1961) was conducted to help reconstruct the seasonal temperature and water discharge. Our results on the oxygen isotope analysis suggest a strong seasonal variation in the oxygen isotope within the growth bands further pointing to an influence of the Indian Summer Monsoon during the Burdigalian .

1) Dey, A.K. 1961, Memoirs of the Geological Survey of India, Palaeontologia, Indica, New Series 36, 1–117.
2) Mehrotra, D. K (1982); Jour. Geol. Soc. India; 23, 408 410.
3) Rao, K. P. and Ramanujam, C.G.K (1975); Current Science; 44, (20), 730 732.
4) Reuter et al (2010); Lethaia 10.111 l/j.1502-3931.2010.00226.x