Terrane rafting enhanced by contemporaneous climatic amelioration as a mechanism of biogeographical vicariance: Permian marine biogeography of SE Asia.

G.R. SHI

Laporan (Report)

Dr. G.H. Shi of the School of Aquatic Science and Natural Resources Management, Deakin University, Melbourne, Australia, gave the above talk at the Department of Geology, Universiti Kebangsaan Malaysia Bangi, at 10.00 am on 18 July 1997.

Abstrak (Abstract)

Permian marine sequences and invertebrate faunas are widely distributed in all mainland terranes of SE Asia. A review of the spatial and temporal distributions of all major Permian marine invertebrate groups in this region, reinforced by the results of recent Permian stage-by-stage statistical analyses of western Pacific brachiopods, reveals that three biotic provinces were present in SE Asia during the Permian. The Cathaysian Province occupied the Simao, Indo-China and East Malaya blocks throughout the Permian. The Sibumasu Province of the Shan-Thai terrane (*s.s.*), Tengchong and Baoshan blocks developed in Late Sakmarian and continued to exist until, probably, the end of Midian when the same blocks joined the Cathaysian Province. Throughout this period, the Sibumasu Province carried a transitional fauna, which showed a progressively stronger affinity to the Cathaysian Province in the north and increasingly weaker affinity to the Gondwanan provinces (Westralian and Austrazean) in the south. From Asselian to Early Sakmarian, the Shan-Thai terrane, Tengchong and Baoshan blocks belonged to the short-lived Indoralian Province, which then also included Australia, India, the Himalayan and Lhasa terranes.

The marked change of marine provinciality of the Shan-Thai terrane (*s.s.*), Tengchong and Baoshan blocks cannot be explained by the tectonic vicariance (rift-drift) model alone, nor can it be accounted for solely by migration of climatic zones. An interplay of both of these factors during the Permian is considered to be the most likely cause responsible for this marked change of marine provinciality of these blocks.

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