

MESOZOIC TERRANES OF JAPAN IN RELATION TO THE TECTONIC HISTORY OF EAST ASIA

Shinjiro MIZUTANI

*Department of Earth Sciences, Nagoya University
Nagoya 464-01, Nagoya, JAPAN*

Stratigraphic studies of the Jurassic accretion complex in the Japanese Islands composed of Carboniferous to Permian limestone associated with greenstone, Triassic bedded chert, Jurassic siliceous shale and clastic rocks have recently carried out by utilizing radiolarian fossils (Mizutani et al., 1981; Mizutani and Yao, 1991; Wakita, 1988), and it is revealed that the islands comprise a collage of disrupted terranes. International co-operative works (Mizutani et al, 1990; Kojima, 1989; Kojima et al., 1991), indicate that lithological and biostratigraphically similar terranes are distributed in Northeast China (Nadanhada terrane) and Sikhote Alin of the USSR (Khabarovsk terrane). Prior to opening of the Sea of Japan, the Japanese Islands were in immediate contact with the Asian continent where the Nadanhada and Khabarovsk terranes are now exposed. The Mino terrane in central Japan originally formed a big terrane together with these terranes (Mizutani, 1987).

Paleomagnetic data suggest some of the rock bodies originally magnetized in a lower latitudinal region. Seamounts carrying calcareous deposits on their top were formed during the Carboniferous to Permian at an equatorial region, and they are accreted to a sedimentary complex at a continental margin (Yamazaki and Okamura, 1989; Okamura, 1991). A petrological research of coarse clastic materials (Hattori, 1989) in the Mino terrane shows that they were derived from a continental region, supposedly from the Southeast China region. Accretion and ensuing dispersion took place there from the middle Jurassic to earliest Cretaceous time. The original large terrane was transpressed, fragmented and separated into smaller ones which were transported along the continental margin up to the Sikhote-Alin region.

One of the important problem to be solved is the provenance of the coarse clastic materials in the Mino terrane. In search for the motherland of them, mineralogical and petrological examination have been performed.

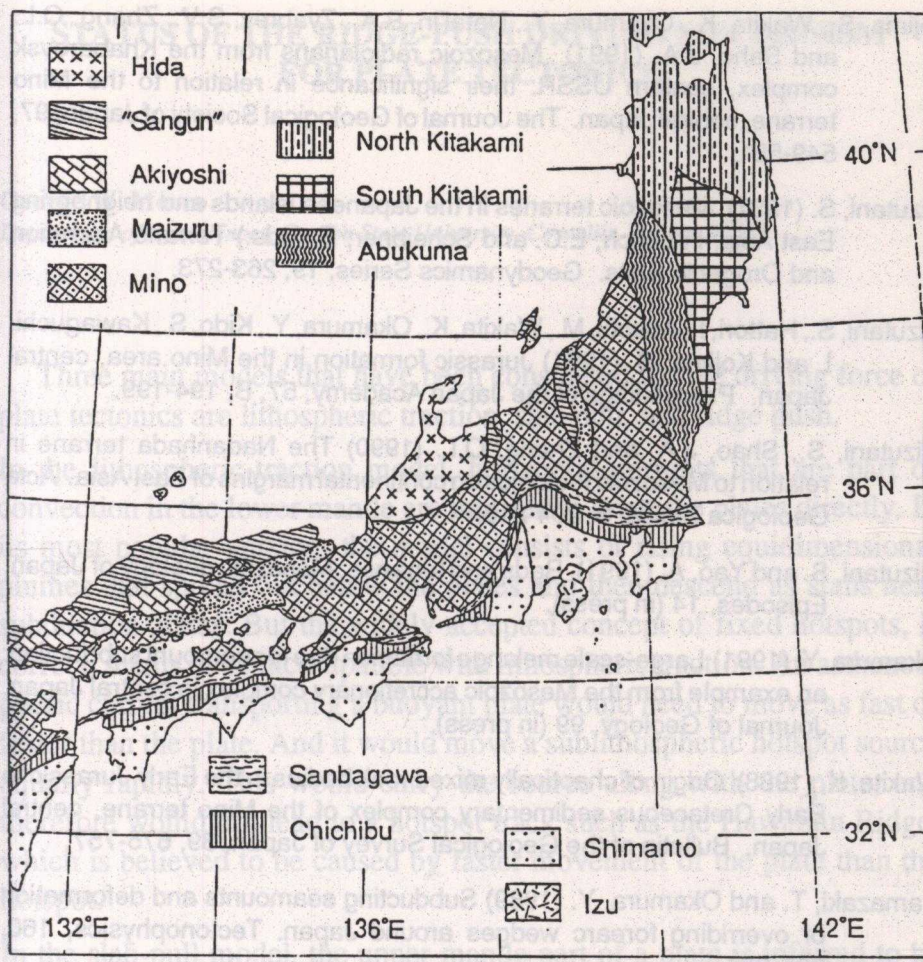


Figure: Tectonostratigraphic Terranes of the Japanese Islands
 (Mizutani and Yao, 1991).

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One of the important problems to be solved in the study of the Mesozoic accretionary complex in northern China is the origin of the chaotic clastic materials in the Mino terrane. In search for the northern and Japan regions, paleogeography, paleogeology, and mineralogical and petrological research has been performed.