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The Palaeotethyan Sutures in Southeast Asia

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The continental core of Southeast Asia comprises three principal continental terranes: South China, Indochina/East Malaya, and Shan-Thai. Some of these terranes are composite. However the composite nature is not well established or is the focus of arguments, so that the correlation of sutures, age of collision and amalgamation of continental blocks are still a controversial issue. This paper presents the distribution of continental blocks and fragments, and the principal sutures of Southeast Asia, based on the field studies, geological maps of the Asian countries, the Landsat satellite image, and a large number of literature.

South China Block is composite and three principal component terranes are recognized: the Yangtze Platform, Cathaysia and Zheming. These terranes extend over the south into northern Vietnam and Laos across the Red River Fault. The Qinfang-Hanoi Zone (Qinfang Terrane by Yao et al., 2004) is a differential zone composed of the remnants of the branch of Palaeotethys between the Yangtze and Cathaysia blocks. The Song Ma Suture Zone is regarded as the extension of the zone. The boundary between the South China and Indochina/East Malaya blocks is the Ailao Shan Suture in Yunnan and the Rao Nai Suture in Vietnam.

Indochina/East Malaya is a stable continental block with a Proterozoic besement, and the Simao Block is regarded as an extension of this block. The Truong Son Zone in Vietnam is a former branch of the Palaeotethys between the South China and Indochuna/East Malaya blocks. This zone is embedding the Phu Hoat Microcontiment and volcanic islands. The point is the issue of belonging of the Sukhothai Zone of volcanic arc. Here it is recognized as a microcontinent rifted from Gondwanaland in Devonian time. So that the Nan-Uttaradit-Sa Kaeo-Chanthaburi Suture Zone and the Changning-Shuangjiang-Chiang Rai Fault are recognized as a remnant of main Palaeotethys-ocean.

The Shan-Thai is an elongated continental block with Proterozoic basement. It rifted from Gondwanaland in the late Early Permian resulting in the opening of the Mesotethys and amalgamated with the Sukhothai Zone to the Indochina/East Malaya Block in the Late Triassic. The Inthanon Zone (Ueno, 1999) is regarded as the foreland thrust belt between the Shan-Thai craton and the Sukhothai volcanic zone.

Keywords: South China; Indochina/East Malaya; Shan-Thai; Palaeothethys; Nan-Uttaradit-Sa Kaeo-Chanthaburi Suture; Truong Son Zone.

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