Part II
Permian: Triassic Magmatic Activity

The Permian – Triassic is a special period in the history of geological development in Asian continent and Vietnam, especially. WIDe magmatic activities in a number of tectonic settings at this stage including the Siberian trap, Emeishan large igneous province (LIP), basalt and picrite in northern Vietnam and other LIPs are thought to relate to mantle super-plumes resIDed under the Asian lithosphere (Dobresov 2005). This stage was characterized by anomalous heat flows evIDenced by picritic magmatism, high T-P metamorphism, significant interaction between mantle, mantle lithosphere and crust, and the occurrence of platinoID, gold, rare metal and rare earth deposits elsewhere in the region (Izokh et al. 2005).

Within the Indochina block and composite terrain in northern Vietnam – south China in the Permian – Triassic, as described in Chap. 1, magmas of various origins are wIDely spread. Permian – Triassic orogenic pluton – volcanic associations were recognized in the east and southeast of Indochina Block, while in the southwest of north Vietnam – south China composite terrain intraplate pluton- volcanic and plutonic formations are commonly encountered (Hoa 2005, 2007, 2008). Intraplate magmatic associations are developed in rift-origin structures such as Song Da – Tu Le rift in the northwest and Song Hien in the northeast as well as in other areas in conjunction with rifting domains such as Song Hien – Lo Gam and Phu Ngu. Distribution scheme of the Permian – Triassic magmatic formations are shown in Fig. 1. Petrology, geochemistry and isotope geochemistry of these magmas showed that they are related to different mantle lithosphere sources. Permian – Triassic intraplate magmas described in the following sessions are Song Da, Tu Le, Song Hien and Lo Gam.

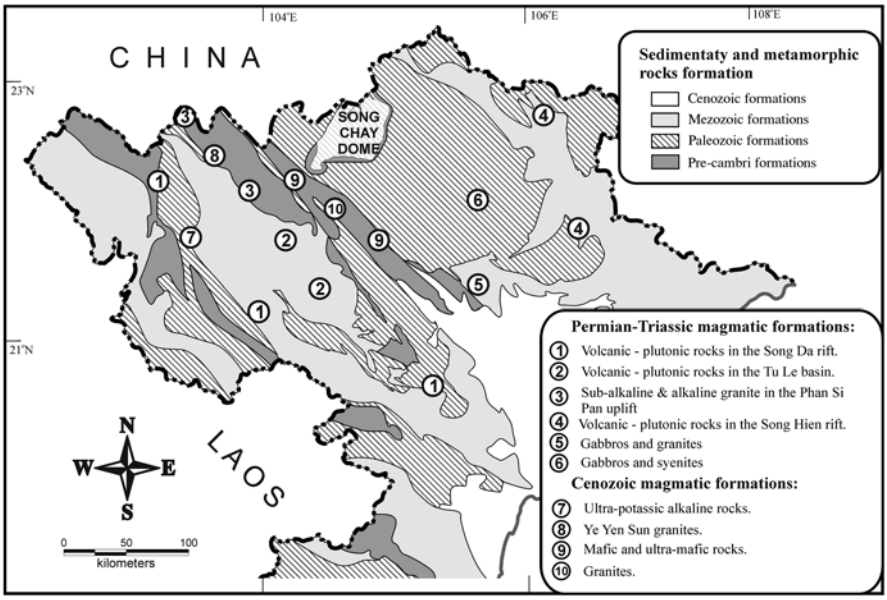

Fig. 1 Distribution scheme of intraplate magmas on a simplified geological background