

THE KYUSHU-PALAU RIDGE STRUCTURE AND EVOLUTION

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The structure of the Kyushu-Palau Ridge in the area of its juncture with the Central Fault (12°N-17°N) is formed by the paragenetic association of shield volcanoes and conic volcanoes (stratovolcanoes) of two types. Shield volcanoes edifices are located solely to the north of 14°N. By chemical composition the rocks of shield volcanoes can be classified to Hawaiian-type tholeiites and their differentiates. Volcanoes-I always are localized to the east of the shield volcanoes in the studied area of the ridge. They composed by the rocks of the island arc type. Single edifices of volcanoes-II are confined to the sublatitudinal disjunctions (NE 50°-70°) crossing the structure of the ridge. But they never cross the other volcanic formations. Rocks of the alkali-basaltic assemblage were dredged at the volcanoes-II.

Morphostructure of the Ridge was formed in three stages. The first one Pre Eocene (Late Cretaceous?) is characterized by formation of the shield volcanoes under conditions of extension. It's related to the origination of the structural barrier separating West-Philippine plate from the ocean. The second one (Late Eocene-Early Oligocene) is characterized by formation under conditions of contraction of the volcanoes-I. It is related to the accomplishment of the Eocene reconstructions of the oceanic crust in the West-Philippine Basin and origination of the geographic barrier. The third period (Late Oligocene – Miocene) is characterized by origination of the volcanoes-II under conditions extension. The last formation probably reflects on the destruction stage of the Kyushu-Palau Ridge and is attended in time by the Parece-Vela Basin formation.