

BECCALUVA L.\*, OHNENSTETTER D.\*\*, OHNENSTETTER M.\*\*, PAUPY A.\*\* - *Petrology and original tectonic setting of Vourinos ophiolite (Greece).*

The Vourinos ophiolite is composed of tectonized harzburgites, a cyclic sequence of peridotitic cumulates, a pyroxenitic transition zone and a cumulate serie of norite gabbros, diorites and plagiogranites.

At the top of the ophiolite, dikes, sills, massive flows and pillow lavas occur whose composition vary from basalt to rhyolite with a predominance of basaltic andesites. In the extrusive rocks the very-low content of high field strength elements is the most striking feature:  $\text{TiO}_2$  0.19-1.01,  $\text{P}_2\text{O}_5$  0.01-0.06, Zr 16-58 ppm, Nb  $\leq$  4 ppm.

Major and trace element repartition, their evolution, the abundance of intermediate rocks, the crystallization order of liquidus phases, the presence of primary orthopyroxene, amphibole and quartz preclude the formation of Vourinos ophiolite at an oceanic diverging plate margin. In the opposite these features, which are found in island-arc tholeiite series, imply that these ophiolites may have been formed in a subduction environment at intracceanic converging plate margins.

A generation of parental magmas by partial melting of strongly depleted mantle sources, water-enriched by fluids from the subduction zone, could account for the petrological characteristics of the complex.

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BECCALUVA L.\*, MACCIOTTA G.\*, SAVELLI C.\*\*, SERRI G.\*\*\*, ZEDA O.\* - *Petrology and K/Ar ages of volcanic rocks dredged in the Philippine sea (Mariana, Yap, Palau Trenches and Parece Vela Basin).*

Volcanic rocks dredged from both sides of the Mariana, Yap and Palau trenches show different petrogenetic affinities related to different mantle sources and original tectonic settings. From the Pacific side of the trenches either ocean-floor tholeiites, generated at diverging plate margin, or ocean-island tholeiites and alkalibasalts, related to off-ridge volcanism, have been recovered. On the other hand dredge hauls from Yap and Palau near-sore trench walls yielded volcanic rocks respectively belonging to island-arc tholeiite and calcalkalic series. From near-shore slope of Mariana trench, in addition to island-arc magmatic products, a basalt, possibly generated during incipient inter-arc spreading, was also found. The constant presence in the inner trench walls of island-arc derived products can be attributed to a progressive consumption, by subduction, of faulted blocks from the leading edge of the overriding island-arc plate. From a general reconstruction of the volcanic events in the area it appears that the inception of inter-arc spreading for the Parece Vela and Mariana trough took place after the magmatic activity ceased in the respective remnant arcs, and by far before a new island-arc volcanism started ocean ward. Such a diachronous process seems to be a general rule in the evolution of Izu-Mariana arc and perhaps also in that of many intraoceanic island arc - interarc basin systems.

(Il lavoro originale verrà stampato su «SEATAR», volume edito dall'American Geophysical Union).

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