PANCARDI 2001

II.
ABSTRACTS

Orogenic Tertiary magmatism on the Macedonian Dinarides: a Review

B. BOEV[1] & Y. YANEV[2]

[1]Faculty of Mining and Geolog, Štip
University Sts. Cyril and Methodius Skopje, Macedonia

[2]Geological Institute, Bulgarian Acad. of Sci.,
Acad. G. Bončev str., bl. 24, Sofia 1113, Bulgaria

Widespread Tertiary magmatism of orogenic signature developed on the Macedonian part of the Dinarides, essentially in the Serbo-Macedonian massif and in the Vardar zone (KARAMATA et al., 1992). Orogenic magmatic rocks (predominantly volcanic) are presented in 5 areas (from east to west): the Osogovo-Besna Kobila, Kratovo-Zletovo, Bučim-Borov Dol, Dojran and Kožuf. The age of the volcanic occurrences decreases in the same direction: from Priabonian-Early Oligocene (32.56–29.47 Ma) in the first area, Early Oligocene (from 33.5±0.5–0.6 to 29±2 Ma)-Miocene (16 Ma) in Kratovo-Zletovo, Early-Late Oligocene in Bučim-Borov Dol (from 29.0±3.0 to 24.7±2.0 Ma) to Late Miocene-Late Pliocene (from 6.5±0.2 to 1.8±0.1 Ma) in Kožuf.

The Osogovo-Besna Kobila area contains only acid volcanics (trachydacites to dacites), mainly as subvolcanic to hypabyssal dykes. They have collision-related characteristics with high Rb content. Latites, andesites to dacites and their pyroclastites (mainly ignimbrites) predominate in the Kratovo-Zletovo area (STOJANOV & SERAFIMOVSKI, 1990), but one monzonite pluton (30,5±0,5 Ma) also is found. Only the rocks of the shoshonite series (from latites to trachyrhyolites) are presented in Bučim-Borov Dol area. The latites and trachytes form necks, lava flows and subvolcanic bodies. Dojran area contains some small trachyte and rhyolites domes and dykes. The Kožuf area (BOEV et al., 1997) contains only one volcanic massif, composed of lavas and various types of pyroclastic rocks (mainly debris and pyroclastic flow). The volcanic rocks form two series: shoshonitic (high-Mg shoshonites, latites, high-Ti latites to trachytes, trachydacites) and andesitic (low-K andesites and high-Fe rhyolites). This area seems to be the most complex of the Macedonian Tertiary magmatic areas.

Magmatic rocks of the Kratovo-Zletovo, Bučim-Borov Dol and Kožuf areas have subduction-related volcanic arc signature with very low Nb content. Probably they are related to Late Tertiary Aegean subduction. The subduction process in the Miocene and Pliocene moved to the south and southwest probably due to the extension in the North Aegean region causing migration of volcanic activity in Macedonia in the same direction - from Kratovo- Zletovo to Kožuf area.

Important ore fields are located in all magmatic areas (except for Dojran area): mineralizations of Pb-Zn in Osogovo-Besna Kobila and in Kratovo-Zletovo, of Cu in Bučim-Borov Dol and of Au-Sb-As-Tl-Pb-Zn in Kožuf.

References

BOEV, B., JANKOVIC, S. & SERAFIMOVSKI, T. (1997): Magmatism and Tertiary Mineralization of the Kozuf Metallogenetic District, the Republic of Macedonia with Particular Reference to the Alshar deposit (in Macedonian and English). Special Issue, 5. Stip, Ed. Faculty of Mining and Geology, 262 pp.

KARAMATA, S., STOJANOV, R., SERAFIMOVSKI, T., BOEV, B. & ALEKSANDROV, M. (1992): Tertiary magmatism in the Dinarides and the Serbo-Macedonian massif (in Macedonian with an English abstract). Geologica Maced., 6 (2), 127–186.

STOJANOV, R. & SERAFIMOVSKI, T. (1990): The volcanism in the Zletovo-Kratovo volcanic area. XII Congress of Geologists in Yugoslavia, Ohrid, 405-424 (in Macedonian).