flysch successions of this unit. There is also more uncertainties in palaeobathymetric estimations for the Magura Basin.

For the Tithonian to Early Cretaceous (Silesian unit) rapid subsidence is recorded (coeval with relatively high sedimentation rates), followed by decreasing subsidence as well as decreasing sedimentation rates during upper part of the Early Cretaceous. Since the Turonian–Coniacian until Maastrichtian–Paleocene an uplift of several hundreds metres over the Skole, Subsilesian, Silesian, Dukla and Fore-Dukla sub-basins is recorded. This effect observed on tectonic subsidence curves is a result of shallowing of sedimentary environment, which was not compensated by sedimentation. The uplift is associated with increasing rate of deposition (~50–100 m/My), which, due to very high sea level at this time, allows to suggest tectonic nature of the source areas uplift. For the Magura Basin the Late Cretaceous uplift is uncertain. During the Paleocene subsidence was re-established (in Magura Basins increased in rate) and lasted until the Middle–Late Eocene; deposition rates decreased for this time span. Since the Late Eocene rapid uplift of a big magnitude (~2000 m?) started, which lasted until Early Oligocene. The uplift is recorded by drastic sedimentary environment shallowing, not compensated by limited sedimentation. There is some discrepancy in the beginning and end of this event, suggesting migration of the uplift process to the north and north–east in time (on the scale of single My). The uplift was followed by minor subsidence, being the last tectonic event in the basin, accompanied by drastically increasing deposition rates, which reached approx. 200–300 m/My for Late Oligocene–Early Miocene (max. ~800 m/My).

The Oligo–Miocene alkaline basalt volcanism in Bulgaria

Peter Marchev¹, Orlando Vaselli² & Hilary Downes³

¹Institute of Geology, Bulgarian Academy of Sciences, G. Bontchev, 1113 Sofia, Bulgaria
²Department of Earth Sciences, G. La Pira 4, 50121 Florence, Italy
³Department of Geology, Birkbeck College, London University, Malet Street, London, WC1E 6BT, UK

The Oligo–Miocene alkaline volcanism in Bulgaria is characterised by the presence of a ca. 250 km N–S volcanic alignment which cuts all four tectonic units that occur in Bulgaria: Moesian Platform (North Bulgaria), Balkan and Srednogorie Zones (Central Bulgaria) and Rhodope Massif (South Bulgaria). The alkaline basalt volcanism in the Moesian Platform is mainly represented by monogenetic volcanoes and/or extrusions while in the other tectonic units they occur as laccoliths, necks or small-scale dyke swarms. K/Ar age data are still scanty to produce a general picture of the alkaline volcanism in Bulgaria although the dykes located in the Rhodope Massif are 26–28 Ma old while those in Central and Northern Bulgaria are 4–6 Ma younger (24–19 Ma). Most of the Bulgarian alkaline basalts contain ultramafic and crustal xenoliths. In terms of classification, rocks in North and Central Bulgaria are olivine- and clinopyroxene-porphyric rocks belonging to the basanite–alkali basalt-tra-

chybasalt series whereas those of the Rhodope Massif are of basanite-lamprophyre (camptonite) composition. Trace and Rare Earth element abundances are typical of those of intra-plate alkaline volcanics with typical troughs at K and Rb in the Northern and Central Bulgaria whereas the Rhodope Massif basalts show flat patterns from Ba to La when they are normalised to C1-chondrite. Most Central Bulgarian basalts show relatively low Nb/La and Ce/Pb ratios suggesting that the primary magma was modified chemically by assimilation of lower and upper crustal material. These data are in good agreement with Sr, Nd, and Pb isotopes. Thus, the northernmost and southernmost alkaline rocks display a depleted character with low Sr and high Nd isotopic ratios while those from central Bulgaria have relatively higher Sr and lower Nd isotopic ratios. Slight differences in the isotopic Pb composition between the northern and central and southern rocks have also been observed. In summary, the Bulgarian Alkaline Basalt Volcanic Field is related to a magma derived from an asthenospheric mantle source which closely resembles the LVC and component A of the European Alkaline Basalts. Small amount of crustal contamination can be invoked for the central volcanics.

Tectonic evolution of the Central Carpathian Paleogene Basin and epigenetic PTS conditions recorded by mesoscale structures and fluid inclusions in mineral veins (Levočské Vrchy Mts and surroundings)

František Marko¹ & Vratislav Hurai²

¹Department of Geology and Paleontology, Faculty of Natural Sciences, Comenius University, Mlynská dolina, 842 15 Bratislava, Slovakia
²Geological Survey of Slovak Republic, Mlynská dolina 1, 817 04 Bratislava, Slovakia

The Central Carpathian Paleogene Basin (CCPB) was formed after the Middle–Upper Cretaceous thrusting and folding of Central Western Carpathians (interides) and covers tectonically already consolidated Mesozoic units. The basin occupies the northermmost part of the Central