

Allostratigraphy of the Paleozoic basins on Bulgaria

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In the Paleozoic of Bulgaria nine important interruptions in the sedimentation are to be observed: about the end of the Ordovician, prior to the Upper Devonian, prior to Upper Tournaisian, during the Upper Visean, prior to the Upper Carboniferous, between the Westphalian and Stephanian, at the beginning and during the Rotliegend, and prior to the Upper Permian. Furthermore, six local intraformational discontinuities are well-known in the Devonian in Northern Bulgaria. There is also a level of extraclastic limestones in the Middle Devonian of SW Bulgaria and there are four regional interruptions in the continental Upper Carboniferous north of Sofia, two in the paralic Upper Visean and three in the continental Upper Carboniferous sections of South Dobrudgea. These interruptions are different with respect to the morphology and dept of erosion, the relationship between the facies of the sediments lying over and below the discontinuity (e.g. concordance or discordance) and the thicknesses and composition (including sorting, maturity etc.) of the deposits, lying under and over the surface of washout.

An allostratigraphic approach, emphasizing the recognition of bounding discontinuities (i.e. stratigraphic gaps, erosional and marine flooding surfaces), together with facies, thicknesses and other specificities, is utilized to subdivide the Paleozoic succession on Bulgaria in two different basins.

Two types of succession (over the Early Paleozoic Balkan terrane and Moesian terrane respectively) can be identified and record changes in the relative influence of allocyclic controls such as basin tectonics, sediment supply and (at the end of the Ordovician) glacio-eustatic sea level change. Together, sedimentological and allostratigraphic data show, that the Balkan and Moesian terranes has a different development up to the Upper Carboniferous, but uniform evolution regarding the sedimentary interruptions in the Late Paleozoic. The most important unconformities have occurred during the growth of the island arc and during the stages of collision between the Balkan and Moesian terranes prior to the Upper Carboniferous.