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Structural correlation of the southern Transcaucasus (Georgia)-eastern Pontides (Turkey)

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Eastern Pontides and Transcaucasus belong to the same geological belt, representing active margin of the Eurasian fragments. According to paleotectonic-paleogeographic reconstructions based on the regional-geological, paleomagnetic, paleobiogeographical and petrological data, Eastern Pontides as well the major part of the Transcaucasus, situated to the north of the North Anatolian- Lesser Caucasian ophiolitic suture, comprise island arc, forearc and back arc-intraarc basins.

The Southern Transcaucasus-Eastern Pontian segment of the belt consists of two structural units. These are Bayburt-Karabakh unit in the north characterized by Paleozoic granite-metamorphic basement and unconformably overlying Carboniferous-Permian molasse. Paleozoic granites reveal calc-alkaline tendencies and plot within the field of continental granophyres. In addition, the Artvin-Bolnisi unit is represented by arc association during Jurassic-Cretaccous, whereas the Bayburt Karabakh unit is represented by forearc association, which is characterized by intensively folded and imbricated structures. Elemental variations for Jurassic-Cretaceous volcanics of the region display clear northern polarity.

The Adjara-Trialeti-Eastern Black Sea and the Talish-South Caspian troughs are interarc basins, separating the Southern Transcaucasus-Eastern Pontian arc from the Northern Transcaucasus arc, related directly to the opening of the Black Sea. But, it is necessary to emphasize that the Black Sea evolved during long time span and was formed as a result of successive events along backarc rifting within the Paleozoic, Mesozoic and Cenozoic times.