Gondvanian relicts in the processes of the Caucasus collisional orogen continental crust formation

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The Caucasus orogen was formed during the closure of to-, Paleo- and Meso- Tethys oceans and in the result of tectonic-thermal events caused by the above processes. Currently it represents the complex collisional orogenic segment connecting the Mediterranean and Iran-Himalayan Tethyan orogenic belts, and is located between the Arabian plate and East Europe platform, and has still been experiencing convergence. In our opinion, its northern border runs along ophiolite zone of the Greater Caucasus foothills, which is an eastern continuation of the Trans-European suture zone [1], and the northern border-along the Zagros suture zone.Modern research shows that a large part of the Caucasus orogen continental crust is constructed by terranes formed after the destruction of the Gondvana southern edge, which moving towards north accreted to the Baltic continent and today are separated from each other by ophiolitic suture zones or powerful tectonic faults [2]. According to our opinion, Gondvanian relicts in the Caucasus orogen (from north to south) are represented by the pre-Variscan formations of: the Caucasus foundation and Dzirula, Khrami, Loki, Akhumi and Aspikchay massifs. Despite the multiple tectonic, metamorphic and thermal processing of the terranes (Variscan, Cimmerian and Alpine), which are coded by their polymetamorphism and recycling granitoid magmatism, they have still preserved Gondvanian relicts, which are considered as pre-Variscan "crystalline basement" [3]. The complex geological, paleontological, petrological, paleomagnetic and isotope (E_{Nd} and I_{Sr} parameters; rocks dating by Sm-Nd, Rb-Sr, Ar_{40}-Ar_{39} and U-Pb methods) data of these relicts, carried out by us, allowed to restore the history of Gondvana relicts. According to all data they are organically involved in the processes of formation of the Caucasus orogen. They have created vertically and horizontally accretion skeleton, which partial conversion (metamorphism, ultrametamorphism, recycling), cornerstone of the Caucasus orogen continental crust was formed, at the southern edge of the East European platform.

[1] Raumer et al. (2003) *Tectonophyis* **365**, 7-25. [2] Okrostsvaridze & Thormay (2014) *Episodes* **36**, #.1. [3] Gamkrelidze & Shengelia (2005) *Scien. World*, 458 p.