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PLIOCENE-QUATERNARY EVOLUTION IN THE CONTACT AREA BETWEEN BRAROV DEPRESSION AND THE SURROUNDING MOUNTAINS (ROMANIA)

ABSTRACT: CIOACA A. & DINU M., *Pliocene-Quaternary evolution in the contact area between Brarov Depression and the surrounding mountains (Romania)*. (IT ISSN 0391-9838, 2002).

Brarov Depression is the largest intramountainous depression in the Romanian Carpathians. Its surface-area of 2,004 km² represents 10.8% of the Eastern Carpathians and 0.84% of Romania. Being situated in the inner Bend of the Carpathian Arch, the Depression appears as a discontinuity between the southern summits of the Eastern Carpathians and the eastern summits of the Southern Carpathians.

Its formation is traceable to the Carpathian geosyncline, in the wake of collapse in the Dacian followed by subsidence associated with sedimentation, a continuous process up to the Quaternary when lacustrine accumulation became dominant.

The margins of the Depression show several types of morphological contact with the surrounding mountains, the result of a distinctively different Pliocene/Quaternary evolution. In the south, there is the large northern escarpment of the Piatra Craiului, Bucegi, Postavaru and Piatra Mare massifs, sliding down into the milder slopes of the Clabucetele Intorsurii.

Lots of piedmonts gradually sliding into the plain, and very much fragmented, recall the amplitude of recent crustal movements in these places with mountain upliftings by over +2 mm/year on the one hand, and sinkings of -4mm/year at the Olt/Râul Negru junction, on the other.

These continuous movements, developing in opposite direction, went on throughout the Upper Pliocene/Quaternary interval, generating escarpments festooned only by short, yet very deep valleys, a major supply source of materials for the piedmonts extending at the base of the escarpment which, in this way, acquired appreciable dimensions.

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Eastwards and northwards, at the contact with the Brețcu, Nemira, Bodoc and Baraolt mountains, movements had lower amplitudes, which accounts for the different aspect of the contact area sloping stepwise towards the depressionary plain. Although the system of pre-Hercinian horsts and grabens has not been recently reactivated, yet the northern margin acquired a sinuous outline through the penetration of depressionary gulfs.

On the western side, the Perrani Mts overlie the basement horst of the Zarnesti – Hoghiz – Ocland gravimetric axis, a zone of medium uplifts (+1.0 - +1.5 mm/year) adjoining a relatively balanced depressionary area (0 mm/year). So, the boundary of the Depression is formed from the narrow glacia of the Perrani Mts, extending gulf-like inside them in front of the Vladeni Pass.

The Pliocene-Quaternary evolution of the piedmonts and the glacia gave rise to a combination of genetic types of morphological contact that had contributed to the compartmentation of Brarov Depression.

The best developed piedmonts occur on the southern and south-western margin, outstanding being Sohodol, Râsnov, Brarov and Sacele.

On the northern margin are Turia, Dalnic, and Câmpul Frumos; on the eastern margin is Ojdula and Poian. On the western margin, the morphological contact is marked by some narrow glacia: Tohan, Vulcan, Codlea, Crizbav, Maierus, Apata, Ormenis and Augustin.

KEY WORDS: Morphoevolution, Contact area, Brarov Depression, Romania.

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