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Remarks on the composition of the conglomerates olistolithes within Badenian Salt Breccia from Bădila, Buzău Valley

Dumitru Frunzescu, Aura Cehlarof, Gheorghe Brănoiu

Petroleum-Gas University of Ploieşti, Bd. Bucureşti 39, 100680, Ploieşti,
e-mail: dfrunzescu@yahoo.com, acehlarov@yahoo.fr, gbranoiu@yahoo.com

Abstract

Mineralogical-petrographical analysis of conglomerate clastes from Badenian Salt Breccia from Bădila (Buzău Valley), integrated within general sedimentological-stratigraphical realm of Badenian Salt Breccia from Carpathian Foredeep allow for some genetical remarks and basin evolution remarks.

Key words: *conglomerates olistolithes, genetical remarks, basin evolution, Badenian Salt Breccia, Buzău Valley*

Introduction

In a stratigraphical structure the southern area of the Eastern Carpathians contains units belonging to external Dacides, internal and external Moldavides and to the internal folded side of the Carpathian Foredeep.

The external Dacides and the Moldavides contain several tectonic units successively drifted from the inside (west) to the outside (east): the Ceahlău nappe, the Teleajen nappe, the Macla nappe, the Audia nappe, the Tarcău nappe, the Vrancea nappe, together with the Subcarpathian nappe, with inferior and medium deposits of Miocene in facies of molasse. The foredeep was reduced (Săndulescu et al., 1981) to neosarmatian-pliocene deposits belonging to a folded internal side named *The Area of the Diapiric Folds* and to a non-folded external side which is exterior to the folded structures over the depressional platform.

Each unit corresponds to an area of sediments with its facies, which vary within the region of the stratigraphical subdivisions. By giving a detailed account of the lithostratigraphy Mio-Pliocene from the Tarcău nappe and its exterior we will find:

- bituminous and flysch formations, lower Oligocene-Miocene (with an external lithofacies, bituminous with Kliwa sandstones, in which we find *Formation of Topilele* (Ştefănescu et al., 1993), *Formation of Podu Morii* (Teisseyre, 1911), *Formation of Buştenari* (Ştefănescu et al., 1993), *Formation of Starchiojd* (Popescu, 2002), and an internal lithofacies, of the Fusaru-Pucioasa type, in which we find *Formation of Vineţişu* (Grigoraş, 1955), *Formation of Starchiojd*);
- evaporite formations, lower Miocene, in which we find *Formation of Sărata* (Ştefănescu, 1978) = *lower gypsum* (Mrazec, 1914), *Formation of Cornu* s.s. (Mrazec, 1907);

- formations of the lower Miocene molasse, in which we find the *Brebu Conglomerates* (Mrazec, 1914, fide Grujinschi, 1971), *Formation of Doftana* (Săndulescu et al., 1995);
- formations of the middle Miocene molasse in which we find the *Câmpiniţa Formation* (Crihan, 1999), the *Cosmina Breccia* (Popescu, 1951), *Telega Formation* (Crihan, 1999), *Formation of Valea Neagoşului* (Papaianopol, 1992), *Formation of Valea Vizuinei* (Munteanu, 1998), *Formation of Şipoţelu* (Andreescu, 1972), *Formation of Râmnic* (Andreescu, 1972), *Formation of Valea Ciomegii* (Andreescu, 1972);
- upper Miocene-Pliocene formations.

The geological-stratigraphical settings

The subject of this work is represented by the conglomerate olistolithes (fig. 1, 2) in the Cosmina Breccia (Popescu, 1951) (Salt Breccia) from Bădila – Buzău Valley.

Cosmina Breccia = the horizon of the salt breccia with salt (Popescu, 1951; Olteanu, 1951) = *Evaporite formations* represents the entity between Câmpiniţa formation („the horizon of the tuffs with globigerina") (Popescu, 1951) in the bed layer and Telega formation („shale with radiolarians" and „Spirialis marls") in the cover layer.

Fig. 1. Conglomerate olistolithe in the Cosmina Breccia (Salt Breccia) from Bădila – Buzău Valley.

Fig. 2. A relative small conglomerate olistolithe in the Cosmina Breccia from Buzău river bed.

In the same situation, but placed between the Teleajen Valley and the Bălăneasa valley, there is registered the „Pietraru Breccia" (Olteanu, 1951) mainly represented by clastes from the platform source area and not from the Carpathian one. Being of the Serravalian or Wielician age, it presents a monotonous lithology in which a dark coloured matrix of clay, silt or fine sand contains elements that vary in a grain size and petrographical analysis. The monotony is broken by evaporitic sequences or thin intercalations of marls or clays.

In the Area of the Diapiric Folds this formation has a reduced development in narrow anticline areas, like the anticline Lapoş-Bădila from Buzău Valley at the confluence with Salt Valley.

On the Buzău Valley, at Bădila (at the confluence of Buzău river with Salt Valley), in the lutitic matrix, marly-clayey, blackish and grey-bluish, impregnated with a black, residual, bitumen substance, or with hydrotroilite, there appears as a novelty the presence of some blocks of Mesozoic limestones or big blocks of conglomerates of the Miocene type, which arouse interest regarding the origin, age, and the origin of the sedimentary deposit, respectively.

The first strict reference to the blocks of limestone was made by Filipescu in 1933, who estimated that the whole mass of limestone had to be about 10.000m^3, he ranked them in the saliferous formation and did the first petrographical and palaeonthological study, also assigning them the Tithonic age.

Vasile Dragoş (1970) gives details about the claste-rudites from the breccia, presenting a detailed mineralogical-petrographical study on this matter.

The clarification of the conglomerates issue sends us to an extension in time and space of this type of deposits, considered as having a great prevalence in the area of the Carpathian foredeep, having been studied ever since 1902 by Mrazec; Athanasiu (1916); Popescu-Voiteşti, Grozescu, Preda (1916); and later Filipescu (1938); Băncilă (1939); Popescu (1951); Olteanu (1951, 1958); Alexandrescu and Georgescu (1962); Săndulescu (1962); Mirăuţă and Mirăuţă (1964); Dimian and Dimian (1964); Rosa (1965); Mirăuţă (1969); Mărunţeanu (1982) and others.

There appear several recurrences of conglomerates in formations of the types Oligocene-Miocene, lower Miocene, middle Miocene and upper Miocene, often associated with sliding deposits of the breccia type which precedes or follows the evaporite sequences.

The presence in large amounts of the exotic elements of green schists from Dobrudja, especially in the conglomerates from the exterior of the Carpathian foredeep, and, moreover, the great variety of clastes, led to numerous hypotheses regarding the origin of the reframed material.

The first mentions about the presence of „conglomerates with green schists" in „the saliferous formation", belong to Paul and Tietze (1879).

In the Carpathian foredeep there were outlined lines of conglomerates in which the structure of the material suggests an internal, Carpathian source area, (the conglomerates of Corlate, Arşiţa Lungă, Bălţăteşti, Agapia, Râşca, Suha Mare, Măgura Tazlău, Solonţ, Grizeşti, Putna) (Mrazec and Teisseyre, 1901; taken over by Reinhard, 1910), an intermediary source area (Cumanum Cordiliera) (Murgeanu, 1937) and an external, extracarpathian source area, (Conglomerates of Pietricica, Pleşu, Ţolicea, Bîrseşti), connected to the assyntic cordiliera of green schists which spreaded from Dobrudja to the northern Sudet Mountains, at the outer side of the flysch (Zuber, 1902). According to Andorina Rosa (1965), the source area is given by the Paleozoic deposits and older ones, which were found in the drillings from the Moldavian Platform, the Predobrudjan Depression – the northern area, or the Central Massive in Dobrudja.

The facies structure, the internal and external textures, the existing rhythms, the stratonomy, and the variation of the grain seed analysis, led to the belief that there exist some mechanisms of depositing in regressive conditions or transgressive, by other authors, with the detection of some depositing mechanisms of alluvial fan, in the areas Pleşu, Pietricica, with the repeated tipping of the source areas. The extension of the deposits was connected to the taking over by the streams and the drawing on the slope by land sliding, developed up to the stage of turbidites.

Known as having stratigraphical width of 150-200m and a discordant and transgressive contact over the subjacent formations, the salt breccia is generally described as having a matrix of fine granofacies, lutitic-siltic, represented by clays and marls of the grey-bluish-blackish type, or yellowish sometimes, often siltic, with fine micas clastes, or even arenitic, with a smell of bitumen and weak, plastic, in a wet state. It generally has a disorganized structofacies, here and there with series of parallel bedding given by marls with lamina of microcrystalline gypsum and alternations of clays and marls. The component elements a petrographically heterogeneous, with the prevalence of fine and medium ruditic granofacies, with a low sorting, the morphofacies being dominated by contour elements of the subangular to subrounded type.

The salt breccia from Bădila is part of the Lapoş-Bădila-Pietraru anticline in the Area of the Diapiric Folds from the internal folded side of the Carpathian foredeep at the southern curvature of Eastern Carpathians.

At Bădila, on the Salt Valley, there also appear small salt massives of impure salt, about 1.5-2m, and the presence of springs and saline efflorescence prove the formation deep in the land of some salt massives (Frunzescu, Branoiu, 2004).

The breccia in Bădila is outcropped in the Buzău Valley, by the Ciuta inn, about 200m upstream from the confluence with Salt Valley, on a strip of land of about 300m between Salt Hill and the points „Surducu Mic" and „Surducu Mare". The globular cartographical shape starts from the northern extremity of the Salt Valley expanding to the south up to the head of the lower terrace and in the major and minor bed of Buzău River, up to the water side of Buzău's right side. Above the terrace and in the southern third part of the mentioned river, the outcrop of the breccia is partially covered with sedimentary material produced by deluge and landslides. The Salt Hill, variating about 50-60m in level from the lower terrace of Buzău river, points out a depressional relief of exokarst on salt and clays, and the breccia presents a marly, blackish-grey-bluish matrix, in which there are claste-rudites that vary granulometrically and petrographically: blocks of sandstones of the Kliwa type, sandstones with convolute structures, schists clays dysodile-shaped, rare green elements, numerous Sarmatian limestones, oolites, meotiane sandstones. The Mesozoic limestones are rare. The size of the clastes ranges from 0.05-0.1m to 1-2m in diameter. Towards the base there are salt water springs and even a sulphur water spring.

Between the Salt Hill and the point Surducu Mic from downstream, the reduced relief, raised at 25m high above the railway line, filled with arable land and orchards, points out depressions resembling dolines of 3-4m to 25-30m in diameter and the depth of 2-3m (the depressions are partially due to the local salt exploitations, covered with sedimentary material produced by deluge).

From Surducu Mic downstream, in the base of the terrace, the salt breccia outcrops and there are two instances of massive, black, soily, crystallized salt. The matrix of the breccia is black, sandy, friable and, as elements, it contains sintering, sideritical limestones, of the Oligo-Miocene type, convolute sandstones, foliated marls of the Pucioasa type, sandstones with stream structures, and the green elements are rare.

Unprecedented is the presence of some blocks of a few cubic meters, made up of several layers of conglomerates straightened out or having an 80º inclination towards north-west. At the point Surducu Mare, in the major water bed of Buzău river, the conglomerate banks resemble vertical rocks, oriented north-south, being 25m long, 12m wide and 18m high, having volumes of 5000-6000m^3. They are connected with the blocks from Surducu Mic showing a dislocation line.

The blocks of Jurassic and Cretaceous limestones were described by Filipescu in 1938, being extremely varied as petrographical structure. The fossil forms determined macroscopically and in thin sections and also the petrographical study led to the specifications of the age of these limestones and to the identification of the following types of facies, from which the blocks come: coraligen, coralgal, of reef slope, lagoon with algae, neritic with *Saccocoma*, basin type with radiolarians.

Vasile Dragoş (1970) presents a detailed mineralogical-petrographical study of the clastes from the breccia pointing out the presence of several types of rocks: blastic-arenitical, green schists, from quartz grain-blasts with undulatory extinction, with chlorite and muscovite, and with rare detrital crystals, broken, of albite; grain-blasts dolomite with feric oxides on the fissures; blasto-siltical, fine quartzite, from the series of the green schists; opalite (menilite) of opal pigmented with organic substance and hydrotroilite; green, quartz-like schists with chlorite, calcite, feldspars; quartzitic conglomerate with chlorite, with a blastic-arenitic-ruditic structure and a schist texture. The reworked elements consist of grains and fragments of quartz with fissures filled with calcite; fragments of feldspars; sericitous schists; pre-existing greso-conglomerates, calcareous-quartzitic sandstones; quartz arenites with cement of overgrowth; rare grains of potassic feldspars; grains of preexisting, crystallized limestones of carbonates; rarely there appear reworked fragments of quartz and schists, crinoides slates, quartzites resulted from the overgrowth cementation of the arenitic grains, gritstones; fragments of green schists in a mass of calcareous cement of recrystallization, with grains of pyrite; marly-limestones with hydrotroilite pigment, with organic and pyrite structure.

The detailed study of the conglomerate blocks points out the presence of some submetrical rates of cobles with an inclination of the long axis of about 20º from the stratification; the maximum dimension of the clastes reaches 0.5m, the average being 0.1m, the usually flat clastes (10% isometric) being rounded up to subangular, with the proportion of dimensions *a*/*b*/*c* = 0.1m/0.07m/0.04m, with a weak up to very weak sorting. The matrix appears as being gresous-microconglomeratical, with a carbonatic-clayey cement.

Mineralogical-petrographical investigations

The mineralogical-petrographical analysis made by dr.eng. Cehlarov Aura on the samples take from olistotithes conglomerates points out carbonatic petrofacies (calcitic or dolomitic from Malm, Tithonic or Cretaceous superior), epiclastic, silicolithic, volcanoclastic or metaclastic. There were described several types of rocks presented bellow and the annexed microphotographs.

***Sample no. 2* – Petrofacies:** carbonatic. **Lithofacies:** calcitic. **Microlithofacies:** Malm. **Diagnosis:** Intrapelsparite (fig. 3) with *Nodosaria* sp., skeletical fragments of echinoderms, shells detached from ostracodes and accidentally, zoospores of planctonic algae *Globochaete* sp. Accidentally, authigenous quartz.

***Sample no. 12* – Petrofacies**: carbonatic. **Lithofacies:** calcitic. **Microlithofacies:** Tithonic. **Diagnosis**: Algolitic pelmicrosparite (fig. 4). Calcareous algae having the internal structure partially dimmed, *Salpingoporella* sp. Due to crystallization, rare foraminiferas.

***Sample no. 13* – Petrofacies**: carbonatic. **Lithofacies:** calcitic. **Microlithofacies:** Cretaceous superior (Turonian, Senonian). **Diagnosis**: Micrite (fig. 5) with pelagic foraminifera (*Hedbergella* sp., *Globotruncana* sp.).

***Sample no. 14* – Petrofacies**: carbonatic. **Lithofacies:** calcitic. **Diagnosis**: Pelmicrite (fig. 6) with stylolitic micro-textures. Recent breaches with calcite of circulation intersect the stylolitic lines.

***Sample no. 1* – Petrofacies**: carbonatic. **Lithofacies:** dolomitic. **Diagnosis**: Dolosparite (fig. 7) – association of idiotopical, isometrical crystals, of dolomites, with overgrowth areas, clear, with a beach of calcedony.

***Sample no. 17* – Petrofacies**: carbonatic. **Lithofacies:** dolomitic. **Diagnosis**: Dolomicrosparite (fig. 8) – association of clear crystals, hipidiotopical and xenotopical of dolomite, inequigranular. Authigenous components: idiomorph quartz.

Sample no. 15 – **Petrofacies**: carbonatic. **Lithofacies:** dolomitic. **Diagnosis**: Dolomite (fig. 9) with relict islands of micrite (micritic limestones incompletely dolomitized).

***Sample no. 5* – Petrofacies**: epiclastic. **Diagnosis**: Conglomerate elements (fig. 10) of dolomite, quartz and green schists with arenitic-calcitic binding material.

***Sample no. 3* – Petrofacies**: epiclastic. **Diagnosis**: Microbreccia (fig. 11) with epimetamorphic elements of the green schists.

Sample no. 10 – **Petrofacies**: epiclastic. **Diagnosis**: Quartzose sandstone (improperly named ortoquartzit) predominant quartz some granules present overgrowths, in optical continuity, others show undulatory extinction (fig. 12).

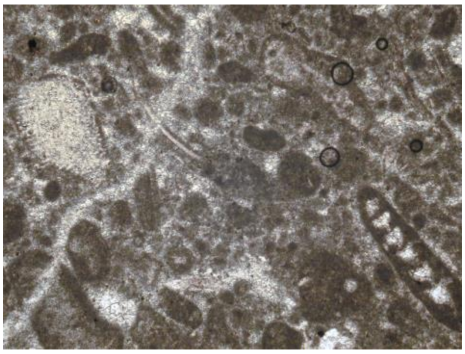

Fig. 3. Microphotograph.
Intrapelsparite. N(II), x10.

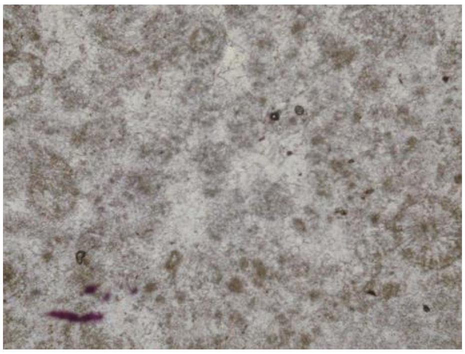

Fig. 4. Microphotograph.
Algolitic pelmicrosparite. N(II), x10.

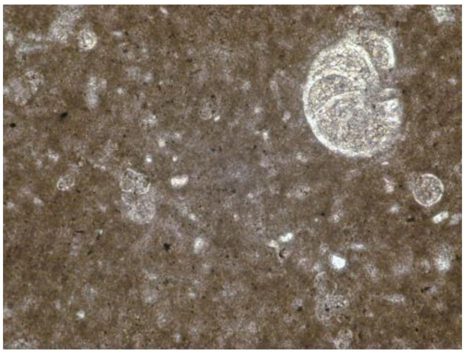

Fig. 5. Microphotograph. Micrite with pelagic foraminifera. N(II), x25.

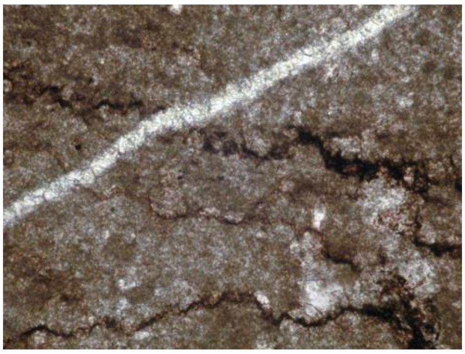

Fig. 6. Microphotograph. Pelmicrite with stylolitic microtextures. N(II),x70.

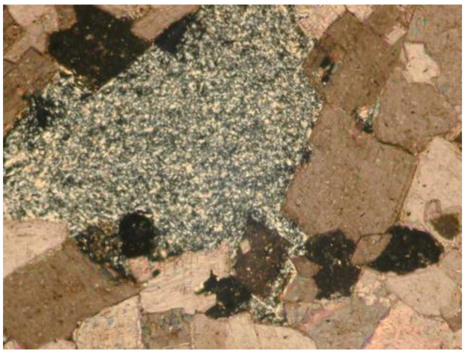

Fig. 7. Microphotograph. Dolosparite (association of idiotopical crystals of dolomites, with a beach of calcedony). N(+) x10.

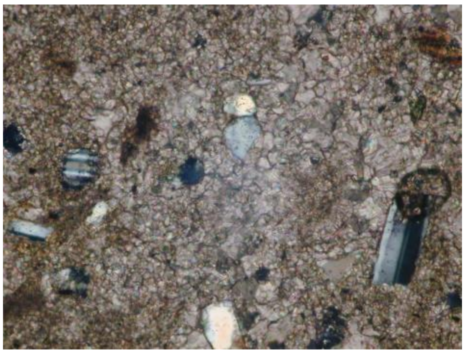

Fig. 8. Microphotograph. Dolomicrosparite with quartz and plagioclase feldspar. N(+) x10.

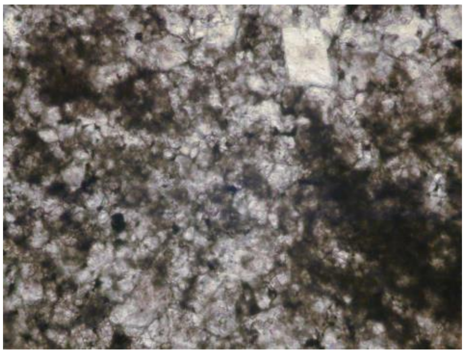

Fig. 9. Microphotograph. Dolomite with relict islands of micritic calcite. N(II), x10.

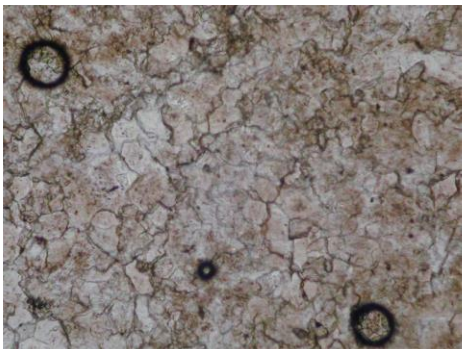

Fig. 10. Microphotograph. Conglomerate fragment (dolosparite). N(II), x25.

Sample no. 18 **– Petrofacies**: epiclastic. **Diagnosis**: Lithic sandstone (= subgraywacke) (fig. 13). Lithoclastes, granoclastes, primary matrix of sericite and chlorite (an aspect of pellicle and pores) and secondary cement, calcite (aspect of pores).

Sample no. 22 **– Petrofacies**: epiclastic. **Diagnosis**: Lythic sandstone (subgraywacke) (fig. 14) – lithoclastes and granoclastes. Secondary, cement with pores' characteristic and made of iron hydroxides resulted on the basis of the mafic elements.

Sample no. 23 **– Petrofacies**: epiclastic. **Diagnosis**: Calcitic sandstone with a cortex of iron hydroxides (fig. 15).

Sample no. 16 **– Petrofacies**: epiclastic. **Diagnosis**: Fine carbonatic sandstone (siltite), with fissures of iron hydroxides (fig. 16).

Fig. 11. Microphotograph. Microbreccia with elements of the green schists and regenerated quartz. N(+), x10.

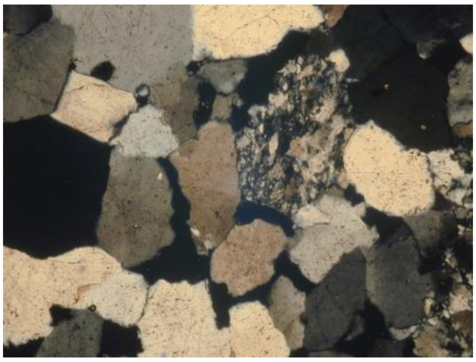

Fig. 12. Microphotograph. Quartzose sandstone with quartz presenting overgrowths. N(+), x10

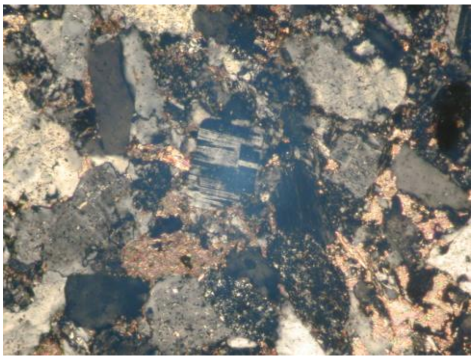

Fig. 13. Microphotograph. Lithic sandstone (subgraywacke). N(+), x25

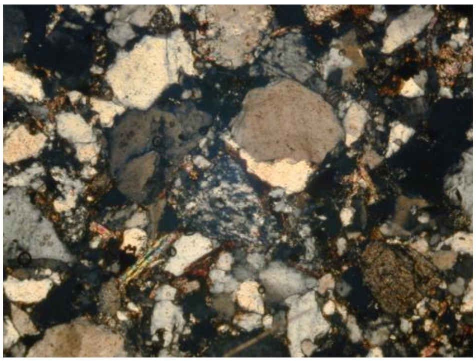

Fig. 14. Microphotograph. Lithic sandstone (subgraywacke). N(+), x25

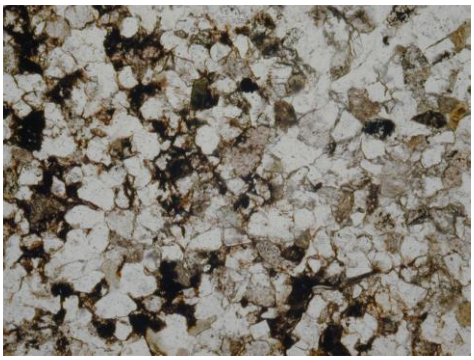

Fig. 15. Microphotograph. Calcitic sandstone with cortex of iron hydroxides. N(II), x10.

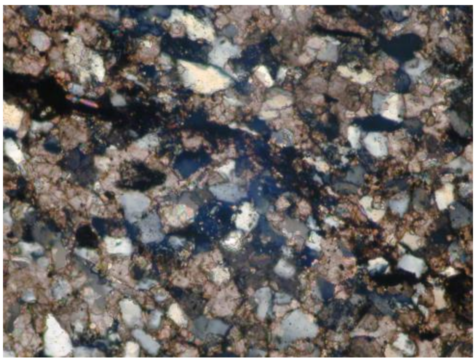

Fig. 16. Microphotograph. Carbonatic siltite with fissures of iron hydroxides. N(II), x25.

***Sample no. 4* – Petrofacies**: epiclastic. **Diagnosis**: Argillite with porphyroblastes of dolomite (clayey shales) (fig. 17).

***Sample no. 21* – Petrofacies**: silicolithic. **Diagnosis**: Siliceous accident (silex) crossed by quartz fissures, with the „dents des chien” structure and bordered by „cotton rock” (the patina of the silex) (fig. 18).

***Sample no. 19* – Petrofacies**: volcanoclastic. **Diagnosis**: Vitroclastic tuff of acid composition (volcanoclastic material) (fig. 19).

***Sample no. 7* – Petrofacies**: volcanoclastic. **Diagnosis**: Tuffite (sedimentary deposit, volcanogenic) (fig. 20).

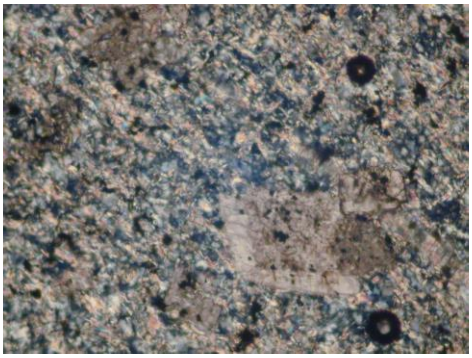

Fig. 17. Microphotograph. Argillite with porphyroblastes of dolomite. N(+), x25.

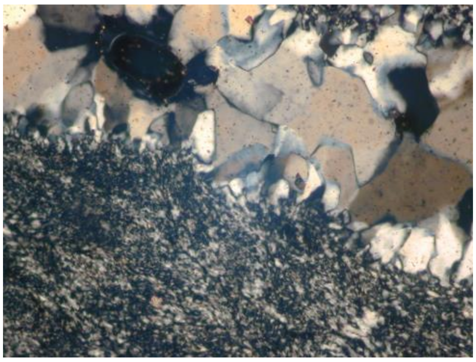

Fig. 18. Microphotograph. Siliceous accident crossed by quartz fissures. N(+), x25.

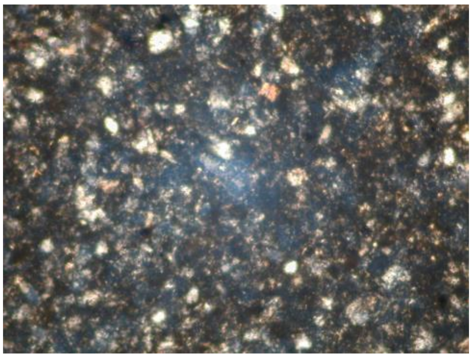

Fig. 19. Microphotograph. Vitroclastic tuff of acid composition. N(+), x25.

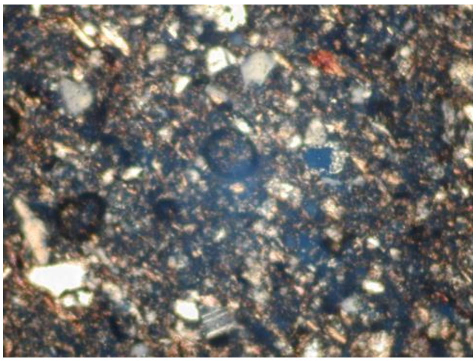

Fig. 20. Microphotograph. Tuffite. N(+), x25.

***Sample no. 8* – Petrofacies**: Epimetamorphic. **Diagnosis**: Metaquarzite (quartzite with muscovite) (fig. 21).

***Sample no. 9* – Petrofacies**: Epimetamorphic. **Diagnosis**: Quartzitic-micaceous schist (fig. 22).

***Sample no. 10* – Petrofacies**: Epimetamorphic. **Diagnosis**: Quartzitic-micaceous schist, microfolded (fig. 23).

***Sample no. 20* – Petrofacies**: Mesometamorphic. **Diagnosis**: Amphibolite with quartzo-feldsparic metasomatose (fig. 24).

Fig. 21. Microphotograph. Metaquarzite (quartzite with muscovite). N(+), x25.

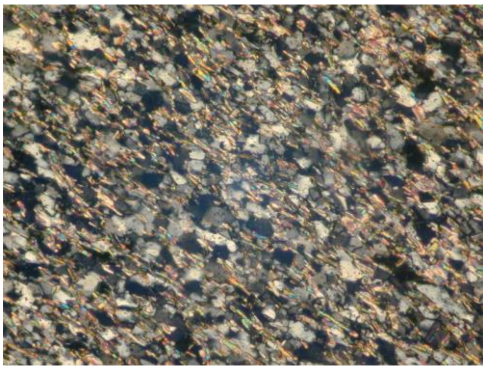

Fig. 22. Microphotograph. Epimetamorphic rock (quartzitic-micaceous schists) from the series of the green schists. N(+), x25.

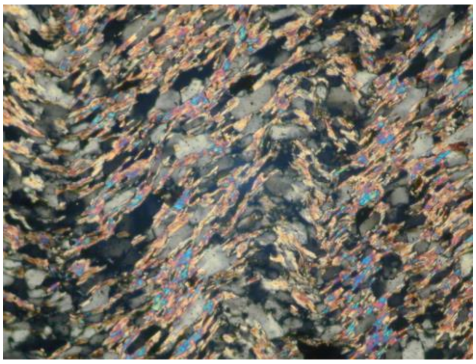

Fig. 23. Microphotograph. Epimetamorphic rock microfolded. N(+), x25.

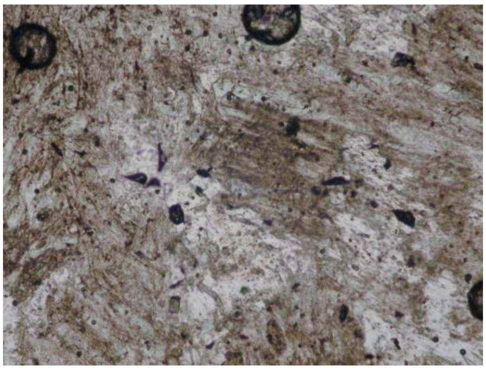

Fig. 24. Microphotograph. Amphibolite with quartzo-feldsparic metasomatose. N(II), x25.

Conclusions

On the basis of the calcareous blocks structure one can infer their origin in the ambient of Moesian Platform, in which, towards the end of the Jurassic, there appeared an eastern domain, with small depths, of the carbonated platform type, and a central-western domain, with big depths, in which there functioned a barrier reef made up of hydrozoans, corals, algae and organisms of the type mentioned in the blocks. On the border, towards the domain of the basin, there were micritic limestones with *Calpionelle*.

The evolution from the initial ambient to the blocks fallen in the foredeep domain could be explained by the remobilisation through tangent movements of the base in the internal part of the sedimentary area from the Carpathian curvature, when, in the internal part, there appear cordiliere and holes/pits, and in the external part there appear thresholds and horsts. Towards the end of the Paleogene, the subsidence advancing to the exterior, correlated with a fragile tectonics, determines the placement of molasse over the relief of the platform. There appear thresholds and horsts with a sedimentary cover (differing as structure and age), available for erosion and belonging to the source areas. Such an active threshold is supposed to have existed on the alignment Monteoru-Ruşavăţu, this being in control of the sedimentary processes on the border.

The spreading area of this perimeter could be included in the emerged area of the Moesian Platform in Paleozoic superior and Triassic-Jurassic inferior, the Jurassic superior being marked by transgression.

During the emerging period, the paleogeographical aspect would have allowed eroding up to the substrat of green schists. From an alignment bordering the salt breccia, marked out by islands of limestones of the Jurassic superior type, which corresponds to the horst Monteoru-Ruşavăţu could have detached the exotic blocks of the mentioned limestones (by successive revivals of a material separated from the initial land body and slided by mechanisms of the type *debris-flow*, *creep*, the generators, in the incipient stages of the sliding sediment, of the smoothing and transformation of some sides in these blocks.

The deep active fault at the Miocene level could function as ways of diapiric rising of salt. The totality of clastorudites points out the setting of the spreading area at the limit between the platform domain and the basin domain from the Tithonic Sea. The genetical interpretation of the conglomerate blocks is more difficult. From the whole material under observation there results a balance of 71.45% of the sedimentary rocks (according to the frequency there exist carbonatic petrofacies and then epiclastic and silicolithic); 19% metamorphic, exotic rocks; 9.55% volcanoclastic petrofacies.

The petrographical structure of the conglomerated turned into blocks at breccia from Bădila, ranks them as burdigalian conglomerates, resembling those described on the external alignment of the internal foredeep area, like those from Pleşu, Pietricica or Bîrseşti Peaks, in which there exist a prevalence of carbonatic facies and facies of green schists (with a subordinated growth of the Carpathian elements) and some of them made up deposits of alluvial cones of regional extension, accumulated after repeated reframing, controlled by more recent tectonics, in a favorable geomorphological context, with transportation from the Dobrudjan cordiliera. The diagnosed petrofacies argue for the Dobrudjan source area.

(They clearly differ from the Conglomerates of Brebu, whose different structure and of a great petrographical variety, show an accumulation through repeated reshufflings from the central-Carpathian source area)

Connected to the conditions of forced regression which followed the transgression from the beginning of the Badenian (with the accumulation of tuffs and marls with globigerines and of the limestones with *Lithothamnium)*, correlated with the tectonic modification of the slope profiles, there were installed processes of drastic erosion with the accumulation of some massive tract deposits of a reduced sea level.

In the deposits of the bottom basin cones, of the slope cones or of the reduced sea level prisms, there were accumulated evaporitic and terrigenous-evaporitic substances of the nearby coasts, initially preserved in basins of long resident brine, and successively covered by the products of ever deeper stages of erosion on the coasts (with the afferent chains of islands) and the adjacent offshores. There appear specific, chaotic deposits, in which the terrigenous-evaporitic products, apparently stratified with “silence”, alternate with deep erosion manifestations, tectonically controlled by the evolution of bordering horst faults, with a deposit of fine terrigenous fraction but also involving, through sliding processes, the clastorudites and blocks.

The evaporitical cumulations, subjected to the salinity modifications of the ambient, generated breccia of dissolution collapse, with the readjustment in false stratification planes of the initial material, and the apparition of a seeming stratification, interrupted by the presence of some blocks with chaotic composition arrangement and an entirely heterogeneous granulometry.

The confusion of interpretation can be increased by the coexistence in the same areal of two regressive phases belonging to the type of the low level tract, afferent to the salt formation in inferior Burdigalian and medium Badenian, respectively, and to a lower extent, to the distorsions caused by the salt diapirism.

The presence in the area of the salt breccia, on the depressional relief which is specific to the dissolving phenomena, of some clastes of badenian tuffs, sarmatian limestones, or meotian deposits, is subsequent and untypical for the structure of the salt breccia.

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Consideraţii asupra compoziţiei olistolitelor de conglomerate din formaţiunea breciei sării badeniană de la Bădila, Valea Buzăului

Rezumat

Analiza mineralogo-petrografică a clastelor din olistolitele de conglomerate din formaţiunea breciei sării badeniană de la Bădila (Valea Buzăului) integrată cadrului general sedimentologic-stratigrafic al breciei sării badeniene din Avanfosa Carpatică permite efectuarea unor consideraţii genetice şi de evoluţie de bazin.