

THE STUDY OF GURA ȘOIMULUI FORMATION FROM DURAS SYNCLINE (THE EASTERN CARPATHIANS)

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Key words: Duras Syncline, flysch, Miocen, Gura Șoimului Formation.

Studiul Formațiunii de Gura Șoimului din sinclinalul Duras (Carpații Orientali). Formațiunea de Gura Șoimului a fost descrisă în literatura geologică de către Stoica (1953) definind depozitele cu aspect de "Miocen" care succedau menilitele superioare și disodilele terminale Oligocene. Stratotipul acestei formațiuni a fost stabilit pe Valea Tazlăului la confluența acestuia cu pârâul Șoim. Această formațiune apare în fereastra Cracău – Dumesnic și-n toate semifereștrele pânzei de Vrancea.

Punctul de studiu al acestei lucrări îl constituie deschiderea de pe pârâul Nechit la conflența cu pârâul Duras. Depozitele caracteristice Formațiunii de Gura Șoimului formează aici un sinclinal numit de noi Duras. Acesta reprezintă prelungirea nordică a sinclinalului Geamăna de pe Valea Tazlăului.

Limita inferioară a Formațiunii de Gura Șoimului care apare în sinclinalul Duras este dată de disodilele terminale oligocene. Limita superioară este greu de precizat, deoarece nu există un reper în acest sens în teren. Sedimentarea de tip fliș este evidentă însă nu sunt prezente toate unitățile litostratigrafice ale formațiunii din zona stratotipului.

The formation of Gura Șoimului was separated in the geological literature by Stoica (1953), defining the deposits with a "Miocen" aspect which followed the superior menilites and the terminal dysodiles. This stratotype was established on Tazlău valley at its confluence with the stream Șoim. Hios formation is known in the tectonic window Cracău – Dumesnic, and in the all half-windows of the Vrancea Nappe, Dumitrescu (1952) named it Goru – Mișina formation.

The main preoccupation of those who studied this formation was to establish its age, which, on the basis of foraminifera and of limestone nannoplancton was assigned to inferior Miocen, more exactly to Burdigalian Inferior. Beside the biostratigraphic aspects, the lithostratigraphic ones have also been analysed, explanation in this problem being given by Ionesi, Bogatu (1986). The autors reveal the character of rythmic marls – sandstone flysch of the Gura Șoimului Formation, where intersperse rudaceous deposits with a lenticular development or which substitute the flysch rocks and where appear, accidentally, olistoliths of oligocene rocks.

Specific for this formation is its presence only within the Vrancea Nappe, lacking in the Tarcău Nappe (Ionesi, Grasu, Popescu, 1994), where it follows the superior menilites and the terminal dysodiles which are considered reference ponts in defining the inferior limit of the formation. The superior limit may be defined with certainty only is given by the breccia of salt (Mirăuță, 1967; Mutihac, Ionesi, 1974).

The point of study is the object of this paper is represented by the opening offered by Nechit stream at is confluence with the stream Duras. The syncline which appears opened here is named by us Duras (fig. 1) syncline and it represents the northern prolongation of Geamăna syncline (Ionesi, Bogatu, 1986; Ionesi et al., 1994).

Before the presentation of the characteristics from this area of Gura Șoimului Formation we'll give a short description of the beneath formation, specific to oligocene (fig. 2). These deposits are opened in the right slope of Nechit stream where appears the superior dysodiles which present interferences of Kliwa sandstone with thicknesses up to 0,25 m. Next appear opened on 0,5 m the superior menilites, which are compact, dark, friable and atypical thing influenced by their reduced thickness of only 0,5 m. On top of these we have the terminal dysodiles grey – dark opened on 5 m and which close the sedimentation at the Oligocene level.

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In a continuity of sedimentation appears Gura Șoimului Formation, disposed in a synclinal the total opening of which is estimated at 45 – 50 m (fig. 1, 2). The description will be done on 22 – 25 m of the western flank which are permanently open.

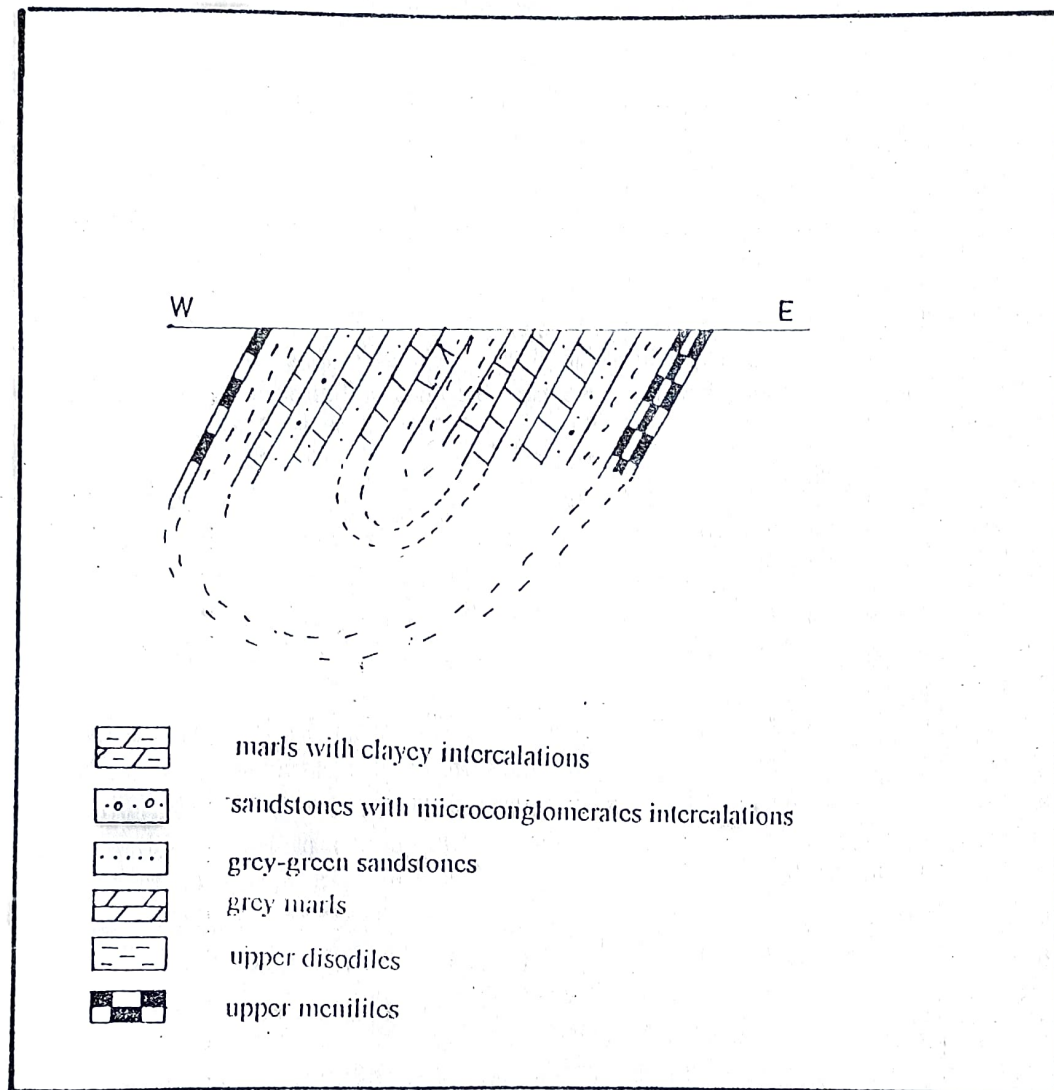


Fig. 1 Geological section – Duras Syncline
Scale 1 : 1 000

The passing from the bitumolitic sedimentation to the arenithic one seems to be done through an interval with grey – brown clay disposed in centimetric layers, folded and situated above the terminal dysodiles. This type of clay is continued on another 6,5 m but it appears in alternance with sandstones which are disposed in levels from 7 – 8 cm to 20 cm. The apparition of the sandstone proves better the modification of the sedimentation medium. The sandstones are greenish, some of them diaclased mostly of quartz, presenting a curbicortical structure and marks of insteps. The clay levels get characteristics of marls as these become more compact and less friable.

The marls level which dominates on the last meters of the description made above is continued on another 2 m with the mention that there appear the compact levels but also subcentimetric levels which give to the marls a dysodilic aspect. In the same time the sandstone

levels which appear are more rough and we notice a domination of the limestone cement as compared to the previous levels.

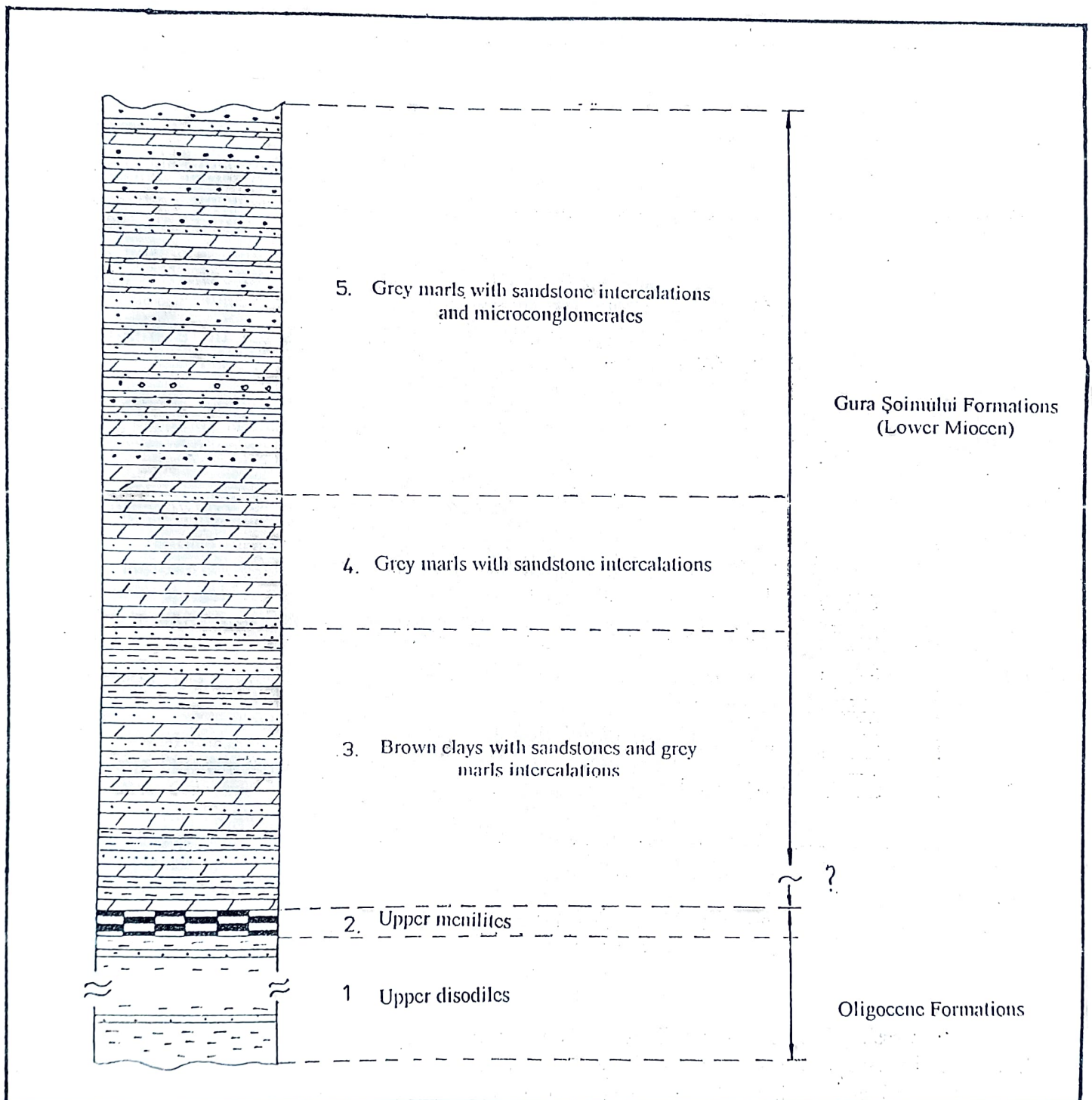


Fig. 2 Lithostratigraphic column of the Gura Șoimului Formation
Duras Syncline (Scale 1 : 200)

The grey marls typical to the Gura Șoimului Formation dominate on the interval that lasts up to the axis of the syncline (16 – 18 m) but are disturbed by the sandstone levels, microconglomerates or the bentonites. The sandstone levels are represented by grey greenish sandstones which sometimes become sandy, with uniform sorting and with thicknesses up to 30

cm. The microconglomerated sequences are represented by paraconglomerates with pails of green rocks the dimension of which does not go over 5 cm. A particularity is the presence of a bentonitic interference of 7 cm which appears caught between the marls level. This complex succession of marls, sandstones, paraconglomerates proves us the flysch character of the sedimentation in this formation.

The closing of the sedimentation at this marls level doesn't make possible the defining of the superior limit, with the covering formations, fact that way lead us to the only conclusion that these have been removed by processes of erosion.

From this description we can draw the following conclusions:

- by the lithostratigraphic position it occupies and by the characteristics shown, we consider that the levels presented belong to Gura Șoimului Formation;
- the inferior limit of Gura Șoimului Formation is obvious, being given by the terminal dysodiles;
- more data concerning the superior limit can not be given because there is no reference point to be taken into consideration to demonstrate this fact;
- the flysch type sedimentation of the formation is obvious but there aren't present all the lithographic units that appear in the stratotype area.

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