

LITHOSTRATIGRAPHIC CORRELATION TABLE  
OF THE OLIGOCENE-MIOCENE FORMATIONS  
OF THE MARGINAL FOLDS AND SUBCARPATHIAN NAPPES  
(EAST CARPATHIANS)

MIRCEA SĂNDULESCU

Faculty of Geology and Geophysics, Bd. N. Bălcescu no. 1, Bucharest, Romania

**Abstract.** General lithostratigraphic and chronostratigraphic correlation of the Oligocene, Lower Miocene and Middle Miocene for the most external nappes of the Eastern Carpathians namely the Marginal Folds Nappe and the Subcarpathian Nappe are proposed.

*Key words:* East Carpathians, Marginal Folds, Subcarpathians, Oligocene, Miocene.

**Résumé.** On propose une corrélation lithostratigraphique et chronostratigraphique des formations oligocènes, miocènes inférieures et miocènes supérieures des nappes les plus externes des Carpates Orientales, à savoir la Nappe des Plis Marginaux et la Nappe Subcarpatique.

*Mots-clés:* Carpates Orientales, Plis Marginaux, Subcarpathes, Oligocène, Miocène.

The Marginal Folds and the Subcarpathian nappes are the most external units of the folded East Carpathians. The Marginal Folds Nappe crops out in several half-windows and windows within the Tarcău Nappe outcropping area. It was also drilled in several zones, tectonically covered by the Tarcău Nappe (inward and between the half-windows). The Subcarpathian Nappe, external in respect to the Marginal Folds, crops out along the whole Eastern Subcarpathians since Bucovina in north until north-eastern Wallachia in south (**Fig. 1**).

From the lithofacial point of view some general features seem to be important:

– The Oligocene-Lower Miocene formations older as the Lower Evaporitic Formation are developed in a bituminous (dysodilic) lithofacies with turbiditic sequences. The arenitic component of these turbidites are mainly quartz grains and “Green Schists” grains or pebbles. The whole arenitic material is supplied from the Carpathian Foreland. At three levels (“lower”, “upper”, “terminal”) develops important lithological correlation levels: the menillites (diagenetic silicified diatomites).

– The Lower Evaporitic Formation is mainly represented by the Lower Salt Formation. In few places only gypsums are developed.

– The Upper Evaporitic Formation is represented in the Moldavian Subcarpathians exclusively by gypsums. In the north-eastern Wallachian Subcarpathians it is represented by the Upper Salt Formation.

– Above the Lower Evaporitic Formation develops molassic formations (Pietricica, Măgurești, Hârja, Tescani and Vișoara) and schlier formations (“Grey Formation with gypsum”). The arenitic material is supplied by the Foreland.

– The Slănic Tuf is a dacitic cineritic level. It is an equivalent of the Dej Tuf of the Transylvanian Basin. Within the Răchitașu Sandstone are interlayered several levels of Slănic Tuf. The Langhian age of

the Slănic Tuf was precised by a rich Langhian calcareous microfauna determinated in the inlayered "Globigerina Marls".

– The Clenciu Limestone is a shallow-water organogenic limestone with a rich konkian macrofauna.

The main discordances which may be defined in the Oligocene-Miocene successions of the Marginal Folds and Subcarpathian nappes are situated:

- on the top of the Lower Evaporitic Formation,
- at the bottom of the Clenciu Limestone and
- at the bottom of the Viișoara Formation.

From the structural-lithofacial point of view the main specific features of the Marginal Folds and Subcarpathian nappes are:

- the most pregnant lithofacial differentiation between the two unis is the Burdigalian time when, above the Lower Evaporitic Formation develop three different lithostratigraphic formations (Hârja Fm. / Măgurești Fm. / Pietricica Cgl + lower Tescani Form.;
- the tectonic covering of the Marginal Folds Nappe by the Tarcău Nappe, occurred after the Lower Badenian, has determinated the absence of the more younger formations (Upp. Badenian and Volhynian, within the Marginal Folds.

#### REFERENCES

- Dumitrescu, I. (1958), *Etude géologique de la région comprise entre l'Oituz et la Coza*. Annu. Com. Géol., XXIV–XXV, p. 133–162, București.
- Mirăuță, O. (1969), *Stratigraphy and structure of the Sub-Carpathian Miocene in the Moinești-Tazlău Area*. D.S. Inst. Geol., LIV/3, p. 173–211, București.
- Săndulescu, M., Micu, M. (1989), *Oligocene Paleogeography of the East Carpathians*. The Oligoc. from Transyl. Bas., p.79–86, Cluj-Napoca.
- Săndulescu, M., Popescu, Gh., Marinescu, Fl. (1980), *La Badénien à l'extérieur des Carpathes Orientales*. Chronstrat. und Neostrat., Miozen M<sub>4</sub> Badenien, VI, p. 102–104, VEDA, Bratislava.
- Săndulescu, M., Mărunțeanu, M., Popescu, Gh., (1985), *Lower–Middle Miocene Formations in the Folded Area of the East Carpathians*. Rom. Journ. Strat., t. 76, supl., 5, 32 p., 13 fig., 1 tab., IGR, București.

Received: 30.09.2009

Tableau de corrélation lithostratigraphique des formations Oligocènes- Miocènes de la Nappes des Plis Marginaux et de celle Subcarpatique

<i>Marginal Folds</i>	<i>S u b c a r p a t h i a n</i>		<i>N a p p e</i>
<i>Nappe</i>	<i>Măgurești – Perchiu Subunit</i>		<i>Pietricica Subunit</i>
	Viișoara Formation (Volhynian)		
	=====		
	Clenciu Limestone (Konkian)		
	=====		
	Brătești Formation (Kossovian) < Haloș Formation (Koss.)		
	-----		
	Upper Evaporitic Formation = Upp. Salt Fm (Late Langhian)		
	-----		
	Slănic Tuf (Langhian)	<	Răchitașu Sdst. (Langhian)
-----			
“Gray	Pârgărești Subformation		
Formation	.....		
	Valea Carelor Subformation		
	..... Stufu Gyps. + Limy Shales.....		
With Gypsums”	Albele Subformation	<	Tescani
(Lower Langh.-	.....	<	
Up. Burdigalian)	Perchiu Gypsum Subformation	<	
		<	Formation
-----			
Hârja	Măgurești	<	-----
Formation (Burdigalian)	Formation (Burdigalian)	<	Pietricica Cgl. (Burd.)
=====			
Lower Evaporitic Formation = Lw. Salt Fm. (Burdigalian)			
-----			
“Terminal” Menilites			
-----			
Goru-Mișina Formation (Lower Burdigalian)			
-----			
U p p e r M e n i l i t e s			
-----			
U p p e r D i s o d i l i c S h a l e s ( O l i g o c e n e / M i o c e n e )			
-----			
K l i w a S a n d s t o n e ( C h a t t i a n )			
-----			
L o w e r D i s o d i l i c S h a l e s ( R u p e l i a n )			
-----			
L o w e r M e n i l i t e s w i t h “ B r o w n ” M a r l s ( L o w e r			
-----			
A r d e s i a n S h a l e s / F i e r ă s t r ă u S d s t. R u p e l i a n )			
=====			
	=====	discontinuity	-----
		formations boundary	.....
		subformation boundary	

