

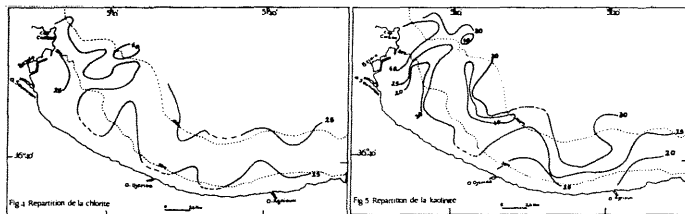
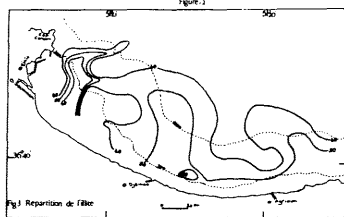
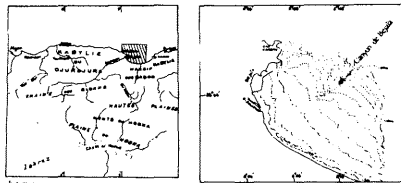
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Le golfe de Bejaia constitue une large échancrure du littoral entre le cap Carbon et le massif d'El Aouana. Le plateau continental est peu étendu. Il est entaillé par un canyon très étroit qui remonte jusqu'aux fonds de 30 mètres au droit de l'Oued SOUMMAM. Le matériel détrititque livré à la mer par ce tributaire est estimé à 4.10^6 t/an (LECLAIRE, 1972). Il a été établi un apport solide en suspension en transit à l'embouchure de l'ordre de $0,3.10^6$ t/an (PAUC et BENSALAMA, 1988). Ce matériel est composé pour moitié de minéraux argileux (PAUC et al., 1988).

Notre étude a porté sur la détermination et la répartition des teneurs relatives des minéraux argileux majeurs : illite, chlorite et kaolinite, dans les sédiments superficiels du golfe. L'illite est le minéral dominant. Sa répartition décrit des concentrations élevées devant les oueds Djemaa, Agrioun et Soummam. Devant ce dernier, une zonation se fait dans l'axe du canyon et on note une diminution des teneurs d'amont en aval : de plus de 60% à moins de 40%.

Les teneurs moyennes en chlorite sont comprises entre 25 et 30 % et se répartissent sur l'ensemble du plateau entier -20 et -100 mètres de fond. Au-delà de la bordure du précontinent, les concentrations sont voisines de 20 % sauf au droit de la Soummam où l'on note une distribution inverse de celle de l'illite. Les plus fortes concentrations en chlorite sont confinées en aval du canyon (40 %).

La kaolinite occupe sensiblement les mêmes aires que la chlorite, mais elle est mieux exprimée dans les profondeurs intermédiaires du plateau continental. Il est à noter que les plus faibles valeurs sont situées à l'embouchure des oueds Djemaa, Agrioun et Soummam.



Conclusion

La dispersion des particules détritiques en mer s'accompagne d'une sédimentation différentielle. Le canyon de Bejaia joue le rôle d'émissaire dans l'acheminement des sédiments fins vers les grands fonds. Le flux d'eau douce issu de l'Oued Soummam se fait en direction du canyon. Ceci est souligné par la distribution de l'illite (CHAMLEY, 1971). Chlorite et kaolinite occupent un domaine bathymétrique où l'effet de l'hydrodynamisme côtier permet leur dépôt. On note des concentrations élevées de ces minéraux devant le port de Bejaia qui est une zone abritée des houles et des vents d'ouest à nord-ouest les plus fréquents.

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Salt bearing formations of Lower and Middle Miocene age are widely distributed deposits within the molasses of late - to post - tectonic structural basins of the Carpathian region of the eastern Central Paratethys : The Carpathian Foredeep, the Transylvanian-, Transcarpathian and South-Slovakian Basins. In compliance with the generally accepted paradigm of sedimentology, oceanology, physical geology e.t.c. salinar formations are of evaporitic origin, i.e. formed under hot (warm), semiarid climatic conditions, where evaporation (E) exceeds precipitation (P) and inflow (I) : $E > P + I$.

However, palaeobotanic, both macro- and microfloral, as well as results of paleozoological, especially of terrestrial great mammals studies point to a warm or even hot but humid, periodically even wet climate during the whole Lower to Middle Miocene time of the Central Paratethys. These data are inconsistent with the evaporative halogenetic model which require a substantial deficit in the water budget due to evaporation.

Also, the geological setting, the lithology and mineralogical-geochemical composition of the Miocene salt formations of the Carpathian region are in many respect quite unusual : (i) they occupy the basal parts of individual macrocycles of molasse deposits; (ii) they occur progressively in respect to the marginal zones of particular molasse basins; (iii) they pass laterally into late syndiastrophic flyschoidal or flysch deposits of the final miogeoclinal troughs; (iv) they pass laterally into or are immediately covered by brown coal deposits; (v) they commonly exhibit features of redeposited sediments, i.e. of olistostromic, olistolithic and turbiditic deposits; (vi) they show exact temporal coincidence with pulses and phases of strong tectomechanic activity within the adjoining Neo-Alpine Carpathian fold - and thrust belt; (vii) they are lithologically mostly composed of zubers with clay to halite ratio between 9 to 6 (halite saturation index : 0.1 to 0.4); (viii) halitites possess abnormal high Ba and Sr concentrations and a strongly variable Br-index; (ix) potash-salts occur accidental, not infrequently in basal parts within the vertical sections of individual salt formations, e.t.c.

Based on these and other inconsistencies it is stated that the salt formations discussed are not of evaporitic origin. Paleoclimatic reconstructions based on the presence of salts in the geological section alone are in the case cited a classical circulus in demonstrando.

To explain the origin of Miocene salt formations of the eastern Central Paratethys region, a new halogenetic model was formulated. The model proposed stress the first order, active role of the orogenic factor for the origin of the salt formations discussed. They were the result of precipitation and deposition of salt minerals from highly concentrated residual connate brines (formation fluids) expelled from the compacting and consolidating underthrust sediments and folded and thrust flysch masses of the accretionary prism due to the increase of the overburden pressure and lateral compression (Liszowski, 1989).

There is only one point which is difficult to explain within the framework of the proposed model : the presence of potash salts and their accidental and even in the basal parts within the vertical succession of salts deposited. To explain this it is assumed that a part of the fluids expelled where of descendent origin, i.e. formed as the result of dissolution of an older salt formation of true evaporitic origin. Then the concentration of the expelled brines could attained more than 600 g/dcm^3 , resulting in rapid, extensive subaqueous precipitation of potash salts. Looking for the source-rocks of this old evaporite formation, the author (Liszowski, 1989) has drawn attention that the Late Eocene to Early Oligocene Menilite Formation of the eastern part of the West-Carpathian and of the East-Carpathian Flysch belt exhibit many characteristics of a basal anoxic member of a complete evaporite sequence. The occurrence of gypsum intercalations and layers, globigerina oozes, pelocarbonates, silicites and quartz crystals, diatomites and quartz grains with eolian surface textures may been interpreted as additional particulars in support of the last hypothesis.

Thus the acceptance of the evaporative halogenetic model as universal theory or paradigm may be premature.

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