Microfloristic assemblages from the vicinity of Slovenské Ďarmoty

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Sediments containing sporomorphs come partly from the former clay pit near the road from Slovenské Ďarmoty to Iliašov, and partly from the outcrop under the Biely Hill above Slovenské Ďarmoty village.

The sediments from the former clay pit have been related to the Opatová beds – lithostratigraphic unit (VASS et al., 1983), which was originally named the terminal Egerian layers (VASS et al., 1979).

Pollenspectrum, obtained from the sediment of the former clay pit, has been conversely extremely rich and well diversified. Species of *Pinuspollenites* genus have noticed an absolute dominance, which is marked out by an extremely high pollen production – *P. latisaccatus, P. cedroides, P. haploxylon* type, *P. sylvestris* type. The portion of *Abiespollenites – Cedripites – Piceapollis - Tsugaepollenites* association, which represents a mountain vegetation type is interesting. These taxons have a great spread distance and from the climatic point of view they are characterized as the arctotertiary elements. The mentioned taxons preferred the temperate climatic conditions. Paleotropical elements of geoflora predominantly from the P2 group are significantly represented here, which according to MAI (1981,1991) corresponds to the subtropical climate representatives. They are particularly the representatives of *Schizaceae* family, mainly *Leiotriletes maxoides maxoides, L. adriensis, L. maxoides minoris, Polypodiaceae* family – especially *Verrucatisporites alienus, V. favus* and the pollen related probably to Palmae *Monocolpopollenites* sp. Among the thermophilous conifers species of *Podocarpidites* genus - *Podocarpidites* cf. *nageiaformis, Podocarpidites libellus* have been commonly present.

The Eggenburgian shallow water transgressive sediments from the Biely Hill south slope area have been named the Ďarmoty beds. In the Ipeľská valley they have been preserved only in the denudation relicts in the south part of the valley, in the vicinity of Slovenské Ďarmoty (VASS et al. 1983). The Ďarmoty beds contain a poor fauna, which do not make possible uncompromising biostratigraphic correlation (Seneš, 1952 b). Their age is supported only by the superposition relationship evidence.

In the palynological slides from the Biely Hill sample, only rare bisaccate pollen *Pinuspollenites* occurred. They have been considerably mechanically broken, but the sporomorphs exine has been corroded also under the oxidation influence.

On the detailed pollenanalytical study of the sediments from two neighboring localities - Biely Hill and the former clay pit near Slovenské Ďarmoty a noticeable difference has been found in the pollenspectra.

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New data to reconstruction of Late Albian–Early Cenomanian palaeogeography of the Magura basin (a part of the Outer Carpathian basin)

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The authors have proposed the reconstruction of palaeogeography for the Magura subbasin (a part of the Outer Carpathian basin) during the Late Albian–Early Cenomanian. The early sedimentation history of this area is poorly documented, because the Magura Nappe was almost completely uprooted from its substratum during the overthrust movements, mostly along the ductile Upper Cretaceous rocks. In this reason, the Lower Cretaceous deposits are very scarce and uncomplete. Exposures with Lower Cretaceous deposits in this nappe have been described from the southern Moravia (e.g., Švabenicka *et al.*, 1997) and from a few localities of Poland.

most tectonic-facies zone of the Magura Nappe (Birkenmajer, 1986). Albian and Cenomanian? rocks include argillaceous, marly, siliceous, bituminous, black or dark-green shales with pyrite, siderite and ferruginous dolomite concretions (Wronine Fm.), and radiolaria cherts (Hulina Fm.).

In the Krynica Subunit, the oldest (Cenomanian) deposits (green spotty shales) have been described from the Obidowa IG-1 borehole (Cieszkowski & Sikora, 1976).

The oldest deposits of the Grybów Subunit and the Koninki thrust-slice are represented by dark and green spotty shales with manganesiferous concretions (?Albian–Cenomanian), and dark shales with siliceous sandstones and benthonites (?Albian–Cenomanian) (e.g., Burtan *et al.*, 1976). Assemblage of small foraminifers, described from the green spotted shales at Koninki village, consisted of exclusively agglutinated taxa, corresponded to the *Plectorecurvoides alternans* Zone (late Albian–middle Cenomanian) (Oszczypko *et al.*, submitted to print).

During micropalaeontological studies of the Campanian-Eocene deposits of the Rača subunit (Beskid Wyspowy Mts area) the assemblages of redeposited Late Albian and Cenomanian assemblages have been found.

Thin chert layer (silicified mudstone), which occurs within the Campanian Kanina beds (Półrzeczki section; Łososina valley), includes well-preserved rich assemblage of planktic and benthic (calcareous and agglutinated) foraminifera. The assemblage belongs to the *Planomalina buxtorfi-Rotalipora appenninica* Zone, corresponding to Vraconian. In the author's opinion the microfauna was redeposited in a clay clast from the shallower part of the basin, which represented the pelagic type of environment. Hieroglyphs from this mudstone layer show west and southwest direction of transport, probaly from the margin of the Silesian cordillera or from other submarine plateau.

The lower Palaeocene deposits of the studied sections at the Beskid Wyspowy Mts, included to the Ropianka beds, contain single redeposited Cenomanian planktic foraminifers (e.g, *Rotalipora cushmani*, *Praeglobotruncana gibba*, *P. delrioensis*). They could be indicator of pelagic sedimentation, but on the southern margin of the Magura basin (transport direction from SEE).

Taking into account all published data from the Magura Unit and the present results of palaeontological studies of the Late Albian and Cenomanian redeposited foraminifera, the reconstruction of palaeogeography during the Late Albian–Early Cenomanian is presented.

The Magura basin was restricted to the south by the Czorsztyn submerged ridge, where the calcareous oozes, partly silicified have been deposited, under neritic and upper bathyal depths (e.g., Birkenmajer, 1977; Birkenmajer & Gasiński, 1992; Vialov *et al.*, 1988).

On the lower slope of the Czorsztyn ridge, non-calcareous, mostly siliceous black and dark shales with siliceous mudstones (partly radiolarites) have been dominant deposits. Their sedimentation took place under deep-water conditions, near CCD. To the east (Bile Karpaty subunit), these deposits were replaced by carbonate flysch with black and grey-green claystones, whitish marls and limestones (upper part of Hluk Fm.), sedimented below the CCD (Švabenicka *et al.*, 1997). The deepest part of the Magura subbasin was probably occupied by pelagic, green shales and spotty shales, deposited also below the CCD.

To the north, the Magura subbasin was restricted by the Silesian cordillera. Its southern slopes were covered by calcareous pelagic oozes, which were sedimented under lower neritic-upper bathyal depths. On the lower slope of cordillera, black-grey, calcareous, thin- to medium-bedded turbidites were deposited (Gault Flysch; Švabenicka *et al.*, 1997).

In the eastern part of the Magura basin – Poiana Botizeii section (East Carpathians, Romania) – there are lack of the Aptian-Lower Cenomanian deposits (Bombita *et al.*, 1992).

Detailed description of the redeposited foraminiferal assemblages, their palaeoecological interpretation and detailed interpretation of palaeogeography of the Magura subbasin was presented by the authors in other paper (Bąk & Oszczypko, submitted to print).

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