

Studia breviora

First palynological evidence of the Ladinian Age of the Preslav Formation in Northwest Bulgaria

The rocks of the Preslav Formation (Вапцарова et al., 1972) have been found throughout North Bulgaria. These authors recognized the sequence by the presence of dolomites and evaporites — anhydrites and rock salt.

Describing the Formation in Northwest Bulgaria, Чемберски, Вапцарова (1979) have noted certain small differences in its characteristics there as compared to the type area. They concern the lower part of the Formation consisting of dolomitized argillites. These argillites, about 20 m thick, were defined as Pisarovo Member of the Preslav Formation. The upper part of the Formation is a dolomite-anhydrite sequence lacking the rock salt found in Northeast Bulgaria. The Preslav Formation thickness in the Lom Depression is very small — 43 m, compared to the 2000 m in the type area.

So far, the age of the Preslav Formation deposits has been referred to the Karnian. The finds of the bivalvian species *Oxytoma zitteli* (Teller) have been interpreted as indicating either Karnian (Калинко, 1976) or Norian (Чемберски, Вапцарова, 1979). Conodonts found in the overlying beds of the Formation (Будуров, Стефанов, 1974) and foraminifers from its underlying beds (Трифенова, 1978) showed that the Preslav Formation is more likely of Karnian Age.

The palynological studies in well sections of this Formation during the last several years provided new evidence concerning its age. Palynomorphs were found in the Pisarovo Member greyblack argillite in the R-4 Bårdarski Geran well section, interval 3302,5-3308 m (at 3 levels). Palynomorphs were also recovered from the very clayey dark-grey dolomites and dolomitic limestones in the upper parts of the Formation at the R-1 Orjahovo well section, interval 3524,5-3528,8 m (6 levels), and at R-8 Bårdarski Geran, interval 3324-3324,5 (2 levels).

All these well sections have shown the presence of one and the same palynozone, the *Duplicisporites granulatus* — *Echinisporites iliacooides* Concurrent-range-zone (Петрунова-Олова, 1990), which occurs in the upper part of the Longobardian Substage of the Ladinian Stage. In addition to the index species, the palynozone is also characterized by the presence of *Eucommiidites microgranulatus* Scheuring, 1970, *Enzonalasporites* cf. *vogens* Leschik, 1956, *Triadispora plicata* Klaus, 1964, *Protodiploxypinus* spp., and other species.

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