

PALYNOLOGICAL AGE REVISION OF THE NEOGENE SOMA COAL BASIN

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The Neogene coal field in the surroundings of Soma (Western Anatolia) has been studied from stratigraphical viewpoint by several investigators. However, the rock unit classification and age assignment of Nebert have found a widespread acceptance. He distinguished two formations separated by an unconformity: the lower Soma and upper Denis formations. Using the lithostratigraphy and related designations of Nebert, it is recently recognized that k_1 and k_2 coal seams are Middle Miocene (early Serravalian) in age, on the bases of sporomorphs and fossil plants.

The present palynological study supports the above age assignment and, on the other hand, introduces a younger Middle Miocene (middle Serravalian) age for the stratigraphically higher k_3 coal seam (or P_1 unit of Nebert). Contrary to earlier views that the unconformity separates Middle and Upper Miocene, or Pliocene and Upper Miocene, it appears that the Soma formation and the lower part of the Denis formation are of Middle Miocene age.

Relevant coals were formed in peats of *Taxodium* and Cupressaceae boggy forest and in the swamps of flood - plains covered by *Ainus*, *Carya*, *Platanus-Salix*, Juglandaceae and *Pterocarya*. The swamps were immediately surrounded by a mixed forest of *Quercus* and *Castanea*, and Conifer forest of *Pinus*, respectively, of low and high topographic setting. It seems that a relatively cooler climatic condition prevailed during the accumulation of k_3 if compared with the hot and moist environments of the older seams (k_1 and k_2).

PRELIMINARY REPORT ON THE SUSPENDED SEDIMENT LOAD DISTRIBUTION AND QUALITY IN THE RIVER STRYMON-LAKE KERKINI HYDROSYSTEM

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The river Strymon drains the SW part of Bulgaria and discharge into the artificial lake Kerkini (dam) in the Serres basin. Considerable amounts of suspended sediment load are carried by the river flow and deposited into the lake every year, thus shortening the lifetime of this well known wetland.

Samples from the suspended sediment load of the river channel (G1), of the river

mouth (G2) and of distant areas of the lake Kerkini (G3) were examined, by the use of Scanning Electron Microscope (SEM) and Energy Dispersive Spectroscopy (EDS). Special care was given to the sampling and preparation procedures, so as to have truly representative conditions of the suspension.

The most significant results of this work were the following:

— The concentration of the suspended sediment load, which is high in the river channel (110 mg/l), drops considerably in front of the river mouth (20 mg/l) and attains low values (7 mg/l) in distant areas of the lake Kerkini.

— The material is purely clastic in the river channel (G1), is mixing up with cell diatoms in the river mouth (G2) and is purely biogenic, in distant areas of the lake Kerkini (G3).

— The suspended sediment load carried by the river Strymon is desposited in front of the river mouth (Kerkini delta) due to flocculation procedures. The suspended sediment load of the lake Kerkini is mainly of biogenic origin. Thus the water of Kerkini leaves the dam, almost free of clastic sediments.

— The results of qualitative chemical analysis by EDS showed that the clastic sediments consist mainly of aluminum-silicon minerals, both in the clay minerals and the micas (G1 and G2). The biogenic sediments consist mainly of silicon with traces of calcium (G3).

Further research is carried out (Programme 2343) in the river Strymon-lake Kerkini hydrosystem, by our working group, in order to clarify transport and sedimentation procedures.

SEDIMENTOLOGICAL STUDY OF SURFACE SEDIMENTS FROM ITHAKI BAY

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Surface sediments from Ithaki Bay have been studied in terms of their sedimentological features. Their mineralogical study with X-ray diffractometer techniques showed the presence of calcite, Mg-calcite, aragonite, dolomite, quartz, feldspars, apatite, illite and chlorite.

On the basis of grain size analysis and the granulometric statistical parameters, the lithological character of the sediments was determined. Sands and silty sands are the two main sediment types prevailing in the Bay. In the Vathi Bay the sediments are generally finer than in the Aetos Bay.