LITHOFACIES AND POLLEN ASSEMBLAGE IN LAKE SYSTEM DEPOSITS: PLIOCENE, CENTRAL ITALY.

1PONTINI, M. R. and 2BASILICI, G.1Department of Heart Sciences, University of Perugia, Perugia, Italy; 2 Institute of Geosciences, State University of Campinas - UNICAMP, Campinas, Brazil.

In Pliocene lacustrine deposits of an intramountain basin of the central Italy (Tiberino Basin), we took samples for palynologicas analysis as function of different lithofacies. The aims were: a) recognize what kind of depositional and/or pedogenetic factors controlled the distribution of pollen assemblage; b) indicate what kind of facies are mostly representative of the regional distribution of flora.From a 140 m thick succession of a muddy alluvial fan, localized at margin of lake system, we recognized: a) clayey sandy silt, low energy sheet flood deposits, b) silty clays, immature paleosols. The pollen assemblage of sheet flood deposits is characterized by local plants, coming from the restricted catchtment area of the fan. The paleosols are characterized by local vegetation of the soil.Other palynological samples came from a monotonous succession of laminated, bluish gray, marly silty clays, up to 80 m thick.

They deposited on offshore lake bottom. In the marly silty clays the palynological assemblage is very abbundant and diversified. Taphonomical aspects show the palynomorphs resulting from fluvial and wind transport from the entire catchment area of the lake (5000 km2). The monotonous offshore facies ensures the clastic input was not different along the examined stratigraphic succession, therefore the observed palynological assemblage variations (indicating a warm-temperate climate alterned with colder and drier climate) could be interpreted as regional variations of vegetal association, linked to climatic factors. Therefore better lithofacies for paleoclimatic and/or biostratigraphical studies is the offshore lake facies association.