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Human environment and climate during the Middle Pleistocene in southern Italy (Boiano basin, Molise)

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Palaeobotanical investigations undertaken on early prehistoric sites of Western Europe, as Pont-de-Lavaud (France, ca 1.2 - 1 Ma) and Ca' Belvedere di Monte Poggiolo (Italy, ca 1.2 - 0.8 Ma), indicate that hominins have settled in different types of environments. During the "Mid-Pleistocene Transition (MPT)", at about 1 to 0.6 Ma, the transition from 41-ka to 100-ka dominant climatic oscillations occurring within a long-term cooling trend is associated with an aridity crisis and strongly modified the structure of environments.
Since the MPT, the specific climate and environment evolution of the southern Italy provided propitious conditions for a long-term human occupation even during glacial times and the density of prehistoric sites could probably be explained by the amount of sustainable environments. The human strategy of occupation of a territory probably was motivated by availabilities of resources for subsistence in the local ecosystems. Sites such as La Pineta (ca 600 ka), Notarchirico (ca 600 ka), San Nicola di Monteroduni (ca 400 ka) or Ceprano (ca 350 ka) testify to the preferential occupation of the valleys of the central and southern Apennines during this period. In this area, the Boiano basin (Molise, Italy) recorded a lacustrine and fluvio-palustrine sedimentation, with basal deposits older than 440 ka deduced from tephrochronology. Pollen analyse of the Boiano sequence aims to describe the evolution of vegetation and climates between OIS 13 and 9, at regional and micro-regional scales. The characteristics of the Boiano basin are enlightened within the progressive reduction of the deciduous forest diversity along the Middle Pleistocene. The main palaeoecological information consists of an important persistence of edaphic humidity during the glacial phases. The peculiar conditions recorded in the region could have constituted a refuge for arboreal flora during the Middle Pleistocene and provided subsistence resources to the animal and human communities.