



Late Pleistocene (MIS5-3) environmental reconstruction from north-eastern Iberia through microvertebrate and palaeobotanical records

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The aim of this work is to analyze the environmental changes during the Late Pleistocene on the basis of a multi-approach study based on natural and archaeological deposits from NE Iberian Peninsula. The focussed area, although having a small extension (some 32.000 square kilometres), covers a large range of ecosystems and bioclimatic conditions from the Mediterranean seashore to the summit of the Pyrenean mountain ranges (up to 2000 masl). This synthetical approach includes materials from various contexts including 10 archaeological deposits and a single natural deposit. In this work, plant (pollen and charcoals) and animal (small mammals, amphibians and reptiles) records are being analysed and compared in order to present an overview of the environmental changes occurred from the MIS5 to MIS3. On the first hand, we are using the small-vertebrate records recovered from archaeological deposits. These proxies are mainly the product of pellets from birds of prey and are key ecological markers. On the second hand, palaeobotanical evidences, pollen and charcoal, have different formation processes. Charcoal remains are mostly from archaeological deposits and are due to human activities related to fire showing evidences of the local vegetation. Pollen evidences from archaeological and natural contexts are deposited through natural processes (wind, insects, etc.) and show regional scale vegetation record. Results indicate the presence of temperate elements during all these periods (especially at the seashore area), with a more important representation and extension southwards or changes in altitude from taxa with eurosiberian affinities during coldest periods. Forest coverage, plant and vertebrate distribution along the territory point out a mosaic landscape formed by open areas and forests. These landscapes have probably a more or less Mediterranean or Eurosiberian character depending on the climatic moment and their location with variations along the sequence.