

## The Late Pliocene and Quaternary palaeoenvironmental evolution of the Italian Alps: an updated overview

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The southern border of the Alps and the Po plain foreland are rich of sedimentary archives documenting the main steps of the palaeoenvironmental and biotic evolution of the Alps during the last 3 Ma. We present here summary results of recent stratigraphic investigation (see contributions in Donegana & Ravazzi eds., 2006) focused on long lacustrine successions from the Lombardy and Piedmont Alps (Lefte, Fornaci di Ranica, Pianico-Sèllere, Re in Val Vigezzo Basins) and on the subsurface stratigraphy of the Po plain foredeep (Padanian basin). Furthermore, we acknowledge the new palaeoenvironmental and geochronological data obtained from piedmont glacial amphitheatres at the southern Alpine foothills, i.e. the Tagliamento and Garda glacial systems, as well as from deposits preserved in rock shelters along the south-eastern Prealps.

By comparing the above mentioned sites and after checking their geochronological and biostratigraphic position, we trace an overall picture of the history of vegetation through the last 3 Ma. The records of the Late Pliocene (Gelasian) and of the early Middle Pleistocene (i.e. from 0.8 to 0.4 Ma) are still very fragmentary and unsatisfactory to enable a distinction of the single interglacial phases. Multidisciplinary palaeoecological work including pollen, plant macroremains, large mammals and molluscs is available on several fluvial and lacustrine successions of Plio-Pleistocene age (Cervo River, Lefte, Pianico-Sèllere). The study of the pollen content of sediment adhering to fossil mammal bones allowed a direct comparison of the palaeozoological and palaeobotanical information. The Late Pleistocene is stratigraphically documented either by long pollen records (Azzano Decimo), by loess to glacial sequences (Val Sorda) and by archives preserved in rock shelters (Fumane, Riparo Tagliente). For the Last Glacial Maximum (e.g. 19 to 30 ka cal BP) a palaeoenvironmental map of northern Italy is available (Antonioli & Vai, 2004).

## REFERENCES

Antonioli, F. & Vai, G. 2004: Litho-paleoenvironmental maps of Italy during the Last Two Climatic Extremes. Explanatory Notes. 32<sup>nd</sup> International Geological Congress, Firenze.

Donegana, M. & Ravazzi, C. eds., 2006: The Quaternary of the Italian Alps. Field Trip Guide. INQUA-SEQS meeting "The Quaternary Stratigraphy and Evolution of the Alpine Region in the European and Global Framework". Milano. 144 pp.