



Holocene paleosols and environmental changes in the high Appennine: the mount Cusna slopes (Emilia Romagna, Northern Italy).

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The mount Cusna (2120 m a.s.l.) is the highest peak of the northern Appennine and it is included in the area of the Appennino Tosco-Emiliano National Park (Northern Italy). From the climatic point of view, the study area shows a mean annual temperature of about 5°C to 7.5°C and a mean annual precipitation of about 1000 mm to 2000 mm; the snow is present higher than 1000 m a.s.l. from November to April. The timberline is located at about 1600 m to 1700 m a.s.l. and separate the beech (*Fagus sylvatica*) range from the heather family (*Ericaceae*) and mat-grass (*Nardus stricta*) range. Palaeobotanical studies point out that, during the Holocene, the timberline changed height, in particular gained altitude in the Hypsithermic. Soils recorded these kind of environmental changes, in form of pedological features detectable on the field, but above all by means of special techniques as, for instance, micromorphology. Several profiles have been described and sampled on the different geomorphological units identified in the study area, both above and below the present-day timberline: special attention was devoted to relict features (i.e. paleosurfaces) identified on the mount Cusna slopes. Field description, routine and micromorphological analyses allow: (a) the characterization of the main pedological processes acting in the study area; (b) the identification of buried brown paleosols, often associated to Mesolithic sites, covered by slope (colluvial) deposits and attesting the past rise of the timberline; (c) the identification of relict features in the present-day soils.