Emergence and fragility of a remarkable Corsican wetland: the contribution of palaeoecology

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Abstract

In the Ascu valley, Bagliettu and Valdu peatlands present remarkable habitats of patrimonial interest unique for Corsica: vegetation and insects of rivulets which comprise rare and endemic species are concentrated in a reduced area (35 ha). Focusing on Bagliettu peatland, insect fossils and palaeobotanical remains provide an original picture of biodiversity changes and unveil the main factors driving the dynamics of this wetland over a large time scale.
Between *ca.* 3750 and 3100 cal BP, our results show a rapid downcutting of the Ascu River: the turn-over of insect assemblages from running water species to paludicolous species supports the hypothesis of the entrenchment of the river away from the peatland. Thereafter, pollen record suggests that a stable *Alnus* forest was locally settled, degrading the preservation of fossil beetles until *ca.* 1550 cal BP. Open-ground/coprophagous beetles, herbaceous seeds and cereals pollen were recorded together with stenotop insects of oak forest from *ca.* 1200 to 350 cal BP. This suggests that agro-pastoral activities during the Pisa and Genoa occupations have induced a high level of biodiversity by maintaining spatial heterogeneity and have limited shrub encroachment.
Finally, a recent spreading of the riparian forest is observed since the last decades. This process was engaged 400 years ago, with the decrease in farming in the valley and the expansion of *Erica terminalis*. This long-term retrospective approach provides a unique opportunity for decision-makers to manage such a fragile wetland by taking into account the legacy of the past.

Keywords: Fossil insect, palaeobotanical remain, palaeoenvironment, wetland, Corsica

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