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Long-term dynamics of a remarkable Corsican wetland (Bagliettu peatland, 206 m a.s.l.)

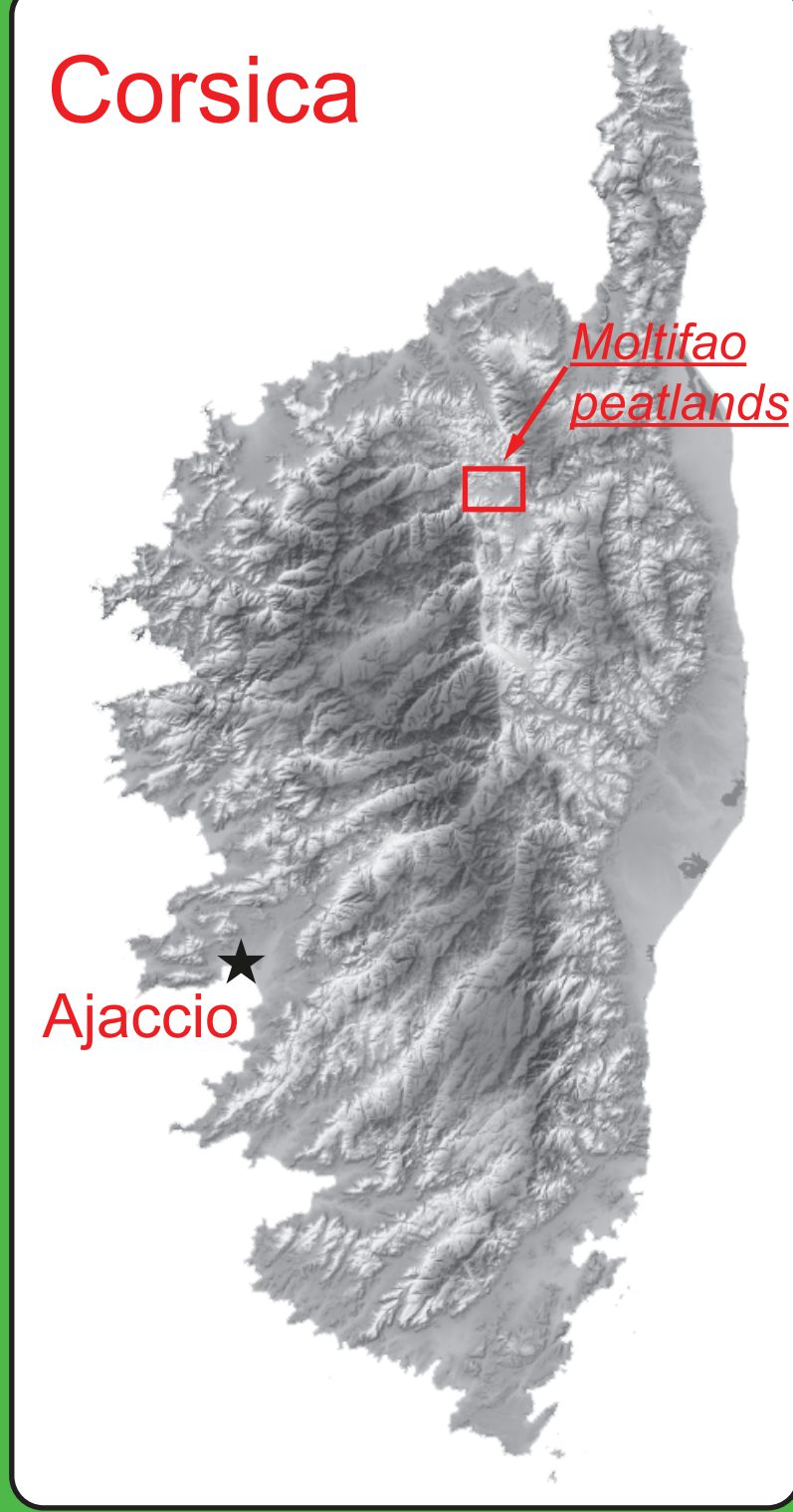
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INTRODUCTION

At the end of the Ascu valley, Bagliettu (206 m a.s.l.) and Valdu (240 m a.s.l.) peatlands present remarkable habitats of patrimonial interest for Corsica: vegetation and insects from rivulets which comprise rare and endemic species are concentrated in a small area (35 ha).

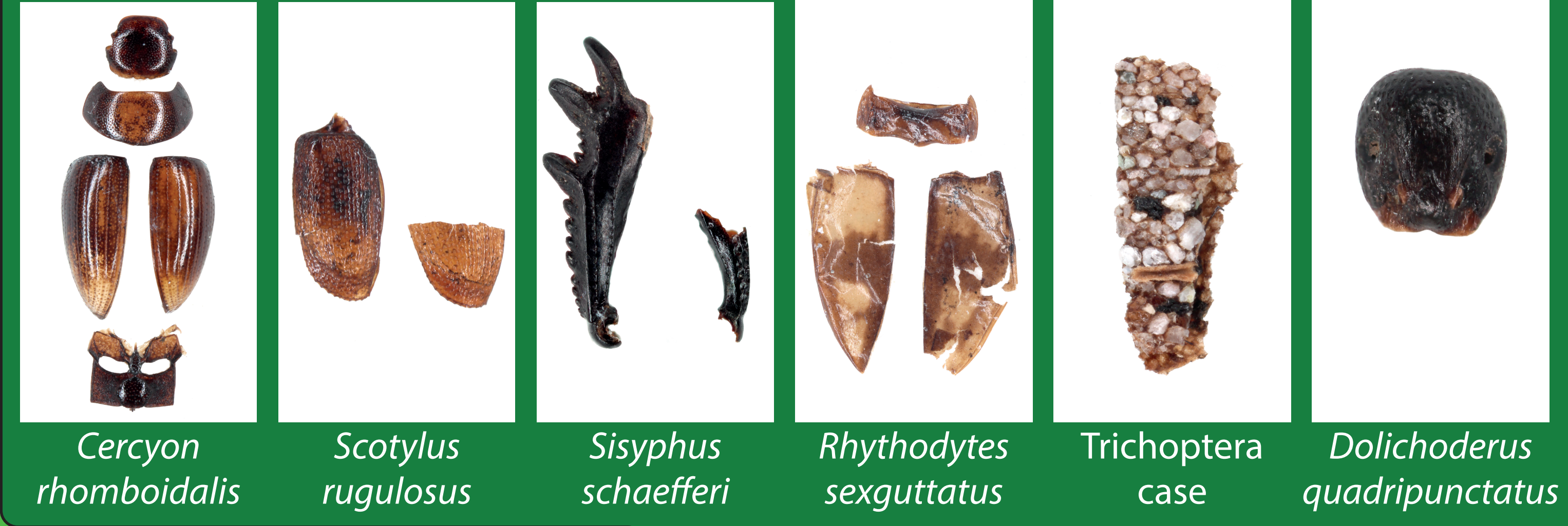
Sediments from Bagliettu offer a rare occasion to:

- 1). reconstruct the dynamics of a unique low-elevation peatland during the last 3700 cal. BP,
- 2). characterise past anthropic activities and their impacts on the ecosystems.



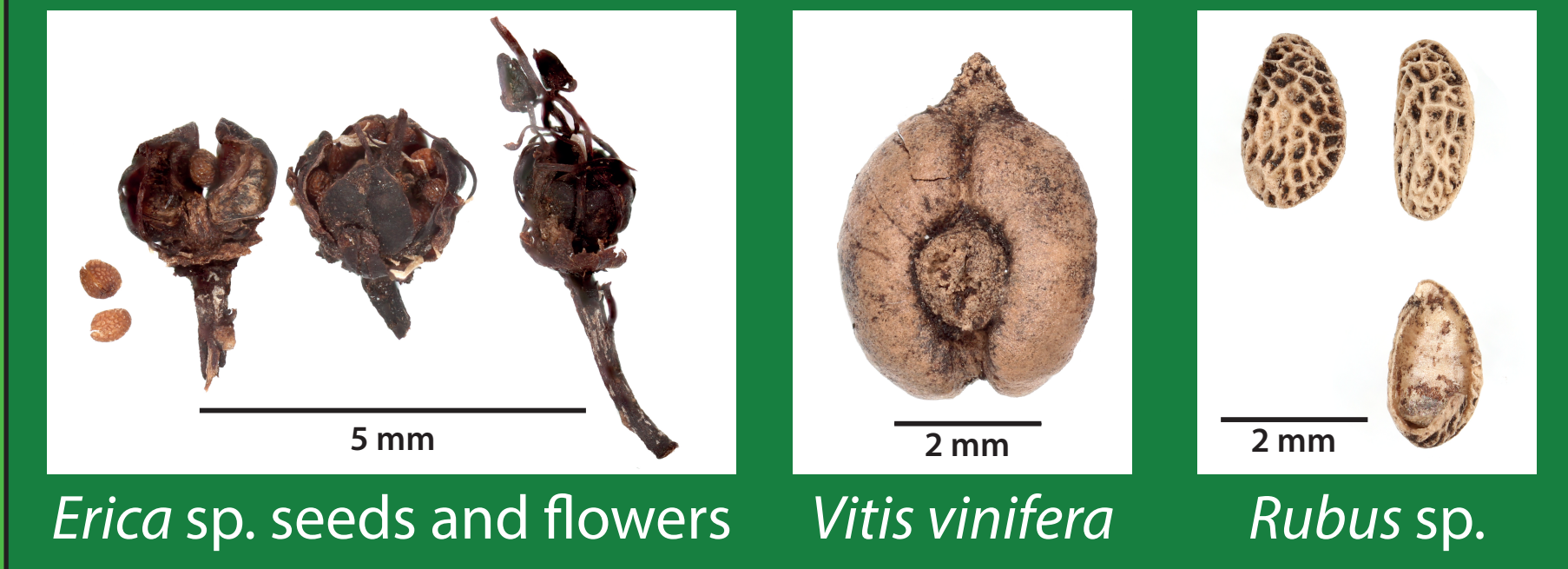
LARGE AMOUNT OF DATA

Fossil Insects: 4121 fragments belonging to 193 taxa (171 Coleoptera)
 -narrow ecological niches
 -respond quickly to environmental changes

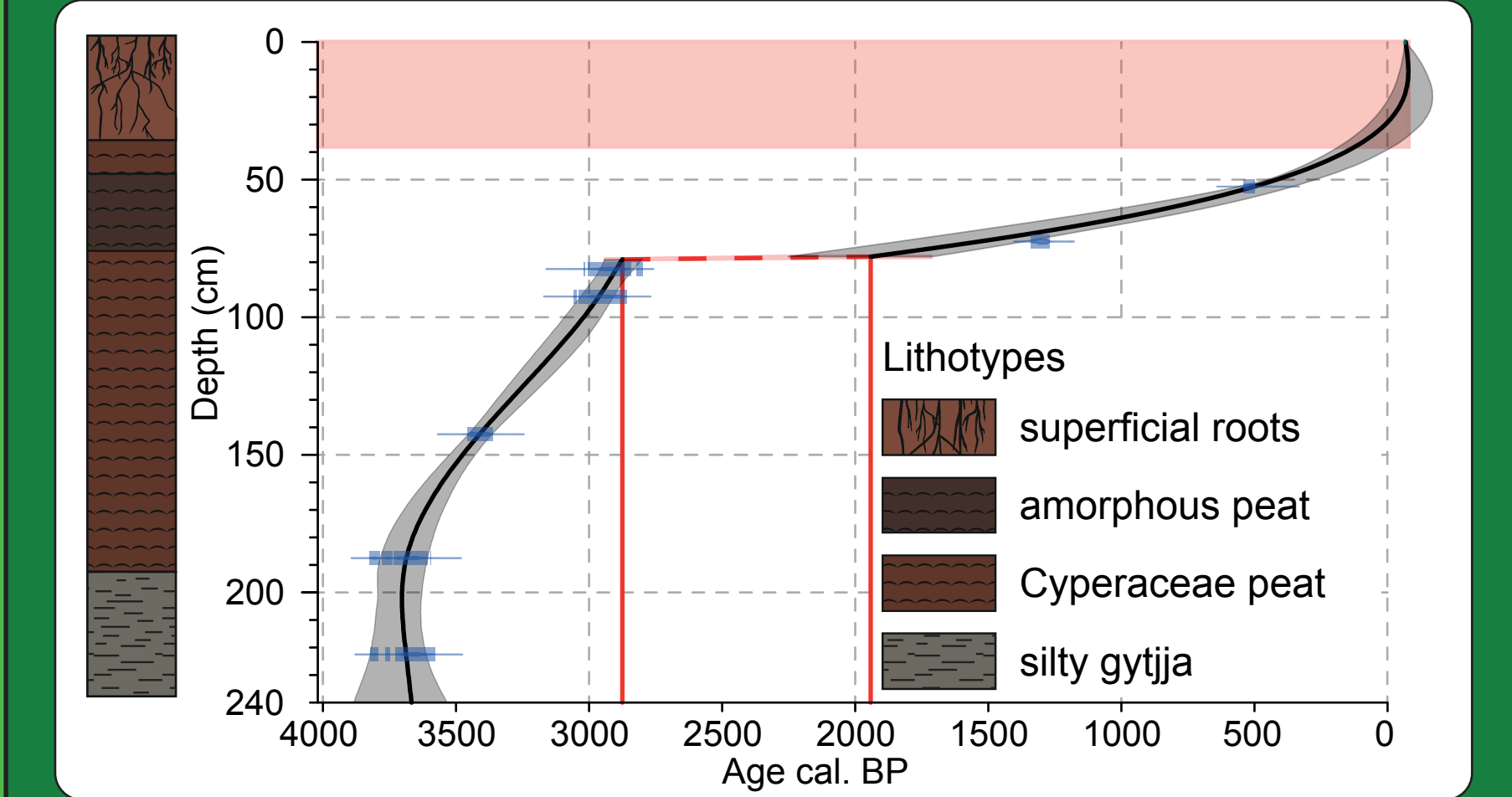


Seed remains: 4194 remains of 28 plants

-reconstruct the local vegetation history

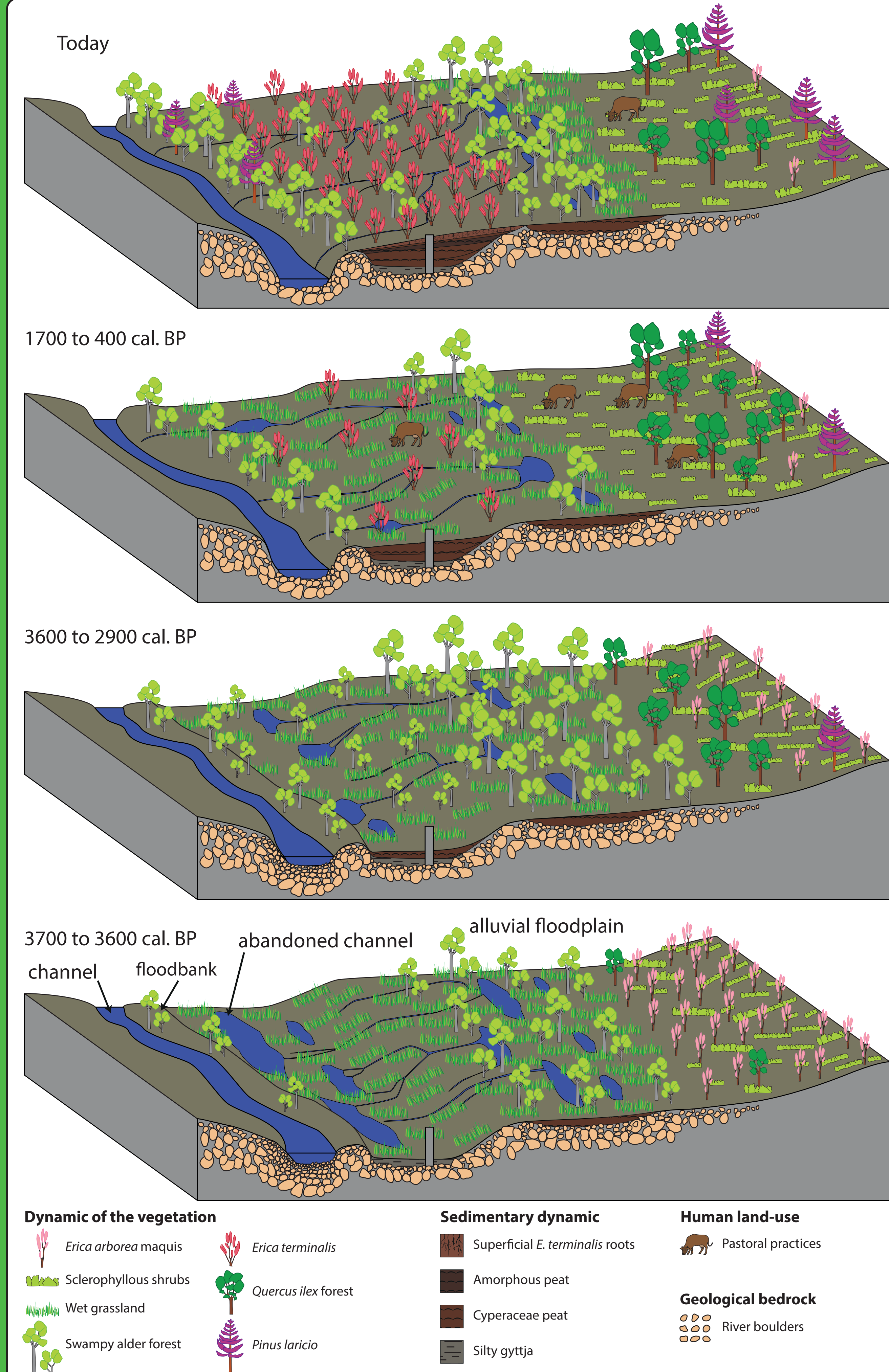
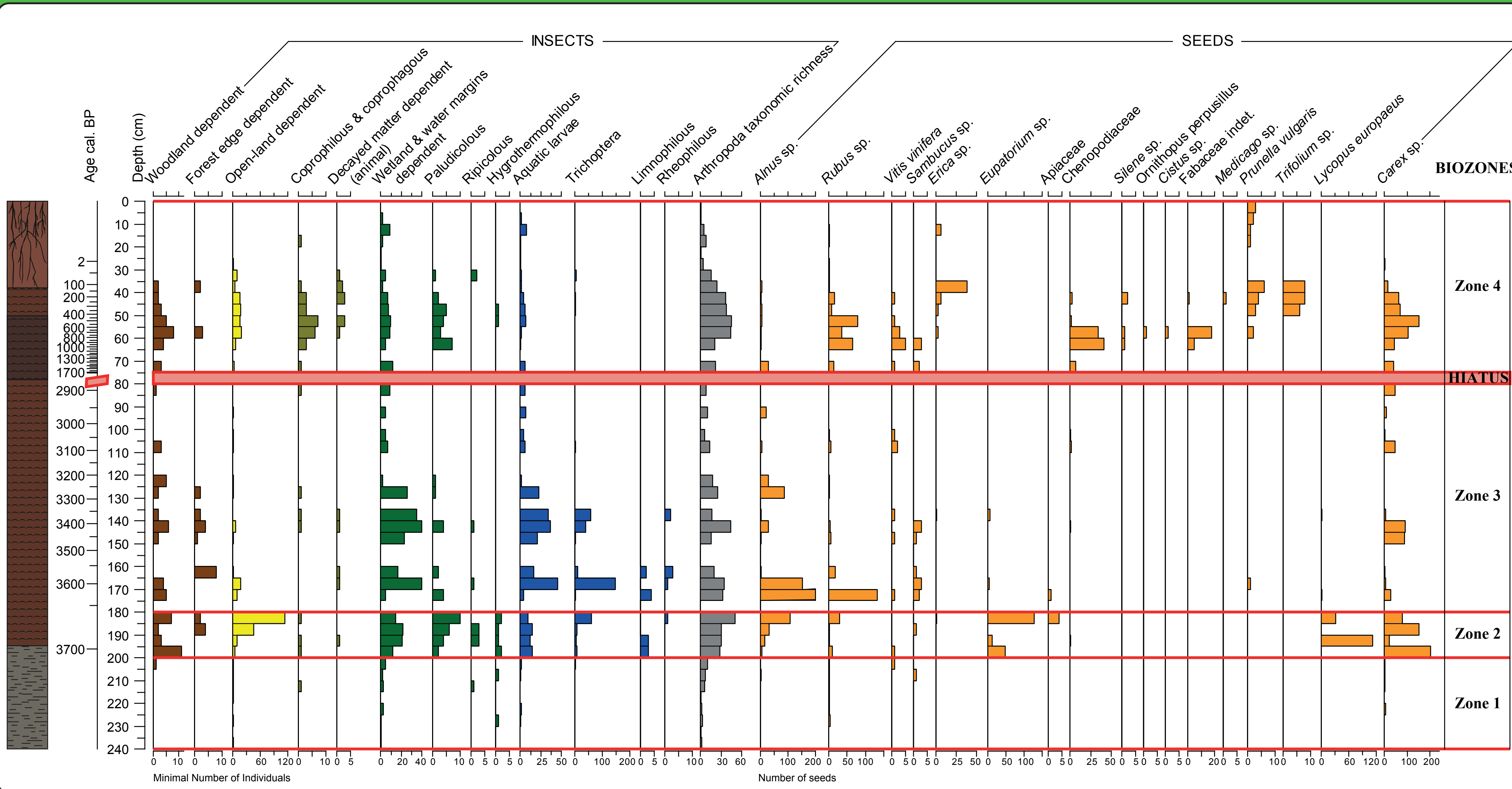


Chronological framework: 7 AMS ¹⁴C



Palynological framework

-comparison with previous pollen data from Bagliettu peatland (Reille, 1997)



RESULTS

->Zone-1: from 240 to 200 cm (ca. before 3700 cal. BP)

Scarcity of insect and seed remains in the assemblages may be due to a rapid deposition of silty gyttja sediments in a side-arm of the Ascu river.

->Zone-2: from 200 to 180 cm (ca. 3700 to 3650 cal. BP)

Rheophilous/ripicolous and limnophilous/paludicolous taxa present in the same assemblages indicate the proximity of a stream but also a lentic environment. Saproxylous (lobed-leaved tree dependent) and open-land insects suggest that an open, marshy environment was established in a disconnected side-arm close to the Ascu river, with scattered trees in the riverine vegetation.

->Zone-3: from 180 to 80 cm (ca. 3650 to 2900 cal. BP)

Rheophilous taxa and Trichoptera testify to the proximity of the river and possibly flood events. From ca. 3300 cal. BP, their decline suggests that the active Ascu river was embanked. Seeds of *Alnus*, *Rubus*, *Vitis* and saproxylous insects attest to the rapid colonisation of the Ascu margins by the riparian forest.

->Zone-4: from 75 to 0 cm (ca. 1700 cal. BP to the present)

Significant amounts of open-land, coprophilous insects and herbaceous seeds indicate that pastoralism was intensified in the Ascu valley. The expansion of *Erica terminalis* recorded by seeds since ca. 800 cal. years could be a consequence of the vegetation opening. This event marks an unprecedented change in the Bagliettu peatland history.

CONCLUSION

This study allows us to propose a scenario for the palaeoenvironmental history of a unique wetland of Corsica:

- a side-arm of the Ascu hydrographic system probably evolved from an abandoned side-arm to marshes and swampy riparian forest while the active river was embanked
- human activities induced a return to herbaceous wet habitats

Insect fossils represent a valuable tool to reconstruct past hydrological changes and impacts of human activities in fragile ecosystems such as Bagliettu.

Reille M., 1997. Analyse pollinique de tourbières de Valdu et Bagliettu, commune de Moltifao, Haute Corse. Rapport scientifique (Document interne/ Programme LIFE/ Office de l'Environnement de la Corse)

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