

THE ARCHAEOBOTANICAL RESEARCH FOR THE RECONSTRUCTION OF THE CULTURAL LANDSCAPE OF THE BRADANO VALLEY AND METAPONTINE AREA (SOUTHERN ITALY)

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The territory along the Bradano river (Basilicata region, southern Italy; **Fig. 1**) is rich in archaeological sites belonging to different chronological phases and contexts (Hellenistic, Roman and Medieval period). This area is a good example of the continuous and long-time **interaction between humans and environment** that is at the base of the shaping of **cultural landscapes** in the Mediterranean basin (Mercuri and Sadori 2013).

In order to investigate environmental transformations that occurred under cultural pressure of the different people (Oenotrians, Greeks, Romans) who occupied this vast territory, archaeobotanical research has been carried out on samples collected from archaeological contexts, mainly farmhouses, places of worship and fortified settlements (Mercuri *et al.* 2010; Florenzano 2013; **Fig. 2**).

Pollen and seeds/fruits were collected from 8 archaeological sites while charcoals or wood remains have not been found.



Fig. 1 . Location map of the Basilicata region, including the Bradano Valley and Metapontine area. The archaeological sites 1-4 have been studied in collaboration with the University of Basilicata. The sites 5-8 belong to the *chora* (agricultural territory) of the Greek colony of Metaponto.

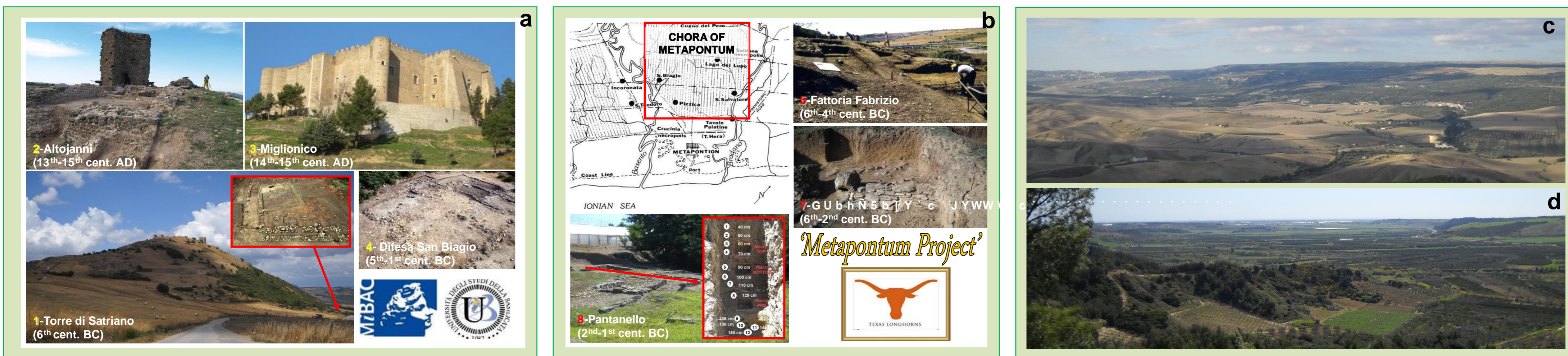


Fig. 2 . The archaeological sites studied in the Bradano Valley (a) and in the Metapontine plain (b), and their respective current landscape (c, d). The Bradano Valley (c) features a Mediterranean macchia along with a fairly xeric environment. The Metapontine area (d) is characterized by an intensive agricultural activity.

The **low carpological assemblage** found in samples collected from enclosed spaces gave only evidence of weeds and ruderals, and also some contamination from recent contexts was found. Contrarily, pollen was successfully extracted from archaeological layers and therefore the **palynological investigations** were suitable to obtain plant landscape reconstructions of this area. A set of 121 pollen samples were taken from structures and layers of exposed sequences opened within the archaeological contexts. Pollen spectra describe a territory covered by open areas, with arid grasslands, scanty woodlands and presence of local wet environments. Clear signs of plant exploitation and cultivation, breeding and settlements were present in the sites (**Fig. 3**).

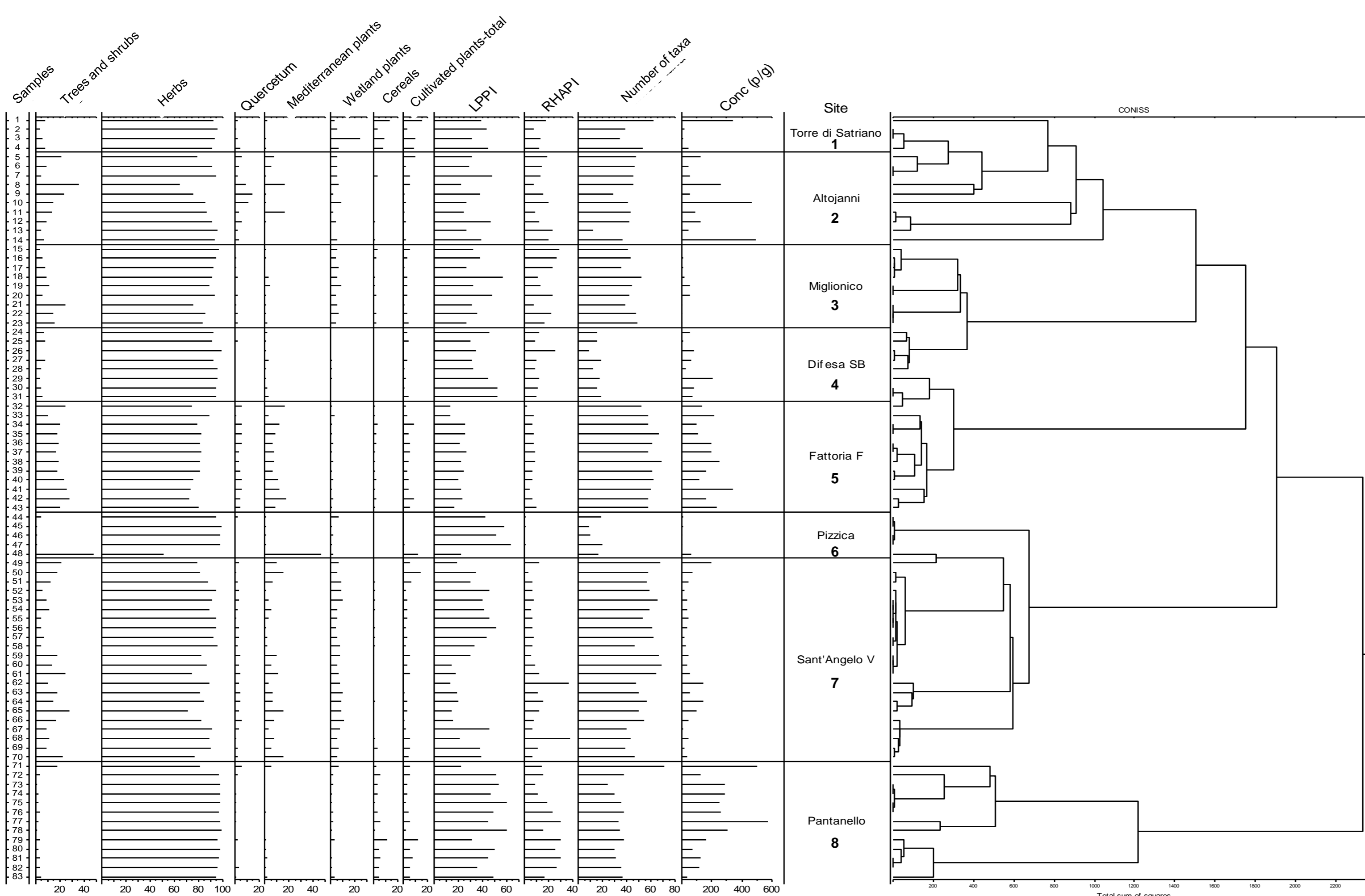


Fig. 3 . Percentage pollen diagram and cluster analysis of 83 samples from the 8 studied sites. The plot excludes the samples from fillings and the ones without pollen. LPP1: Local Pastoral Pollen Indicators. RHAPI: Regional Human Activities Pollen Indicators (sensu Mazier 2007).

The Oenotrian indigenous settlements were located in the hilly area along the Bradano river, and their economy was mainly based on grazing / breeding, and partly on cultivation of trees (olives) and cereal fields. Agricultural activity seems to have been more intensive in the estuary areas that was occupied by farmhouses of the Greek colonial system. Pollen spectra of Roman and Medieval sites delineate an open plant landscape with deciduous forest along fringe areas (**Fig. 4**). High percentages of Poaceae and Cichorieae, together with coprophilous fungal spores (**Fig. 5**), strongly suggest that **pastoral activities** were commonly performed and still represented the major economy (Florenzano 2013).

Altogether, data suggest that this territory has been **intensively exploited** in the past, and human activities have produced the fairly xeric environment that has characterized this area until today. Therefore the current landscape may be truly considered the result of the intense exploitation that had occurred in the past.

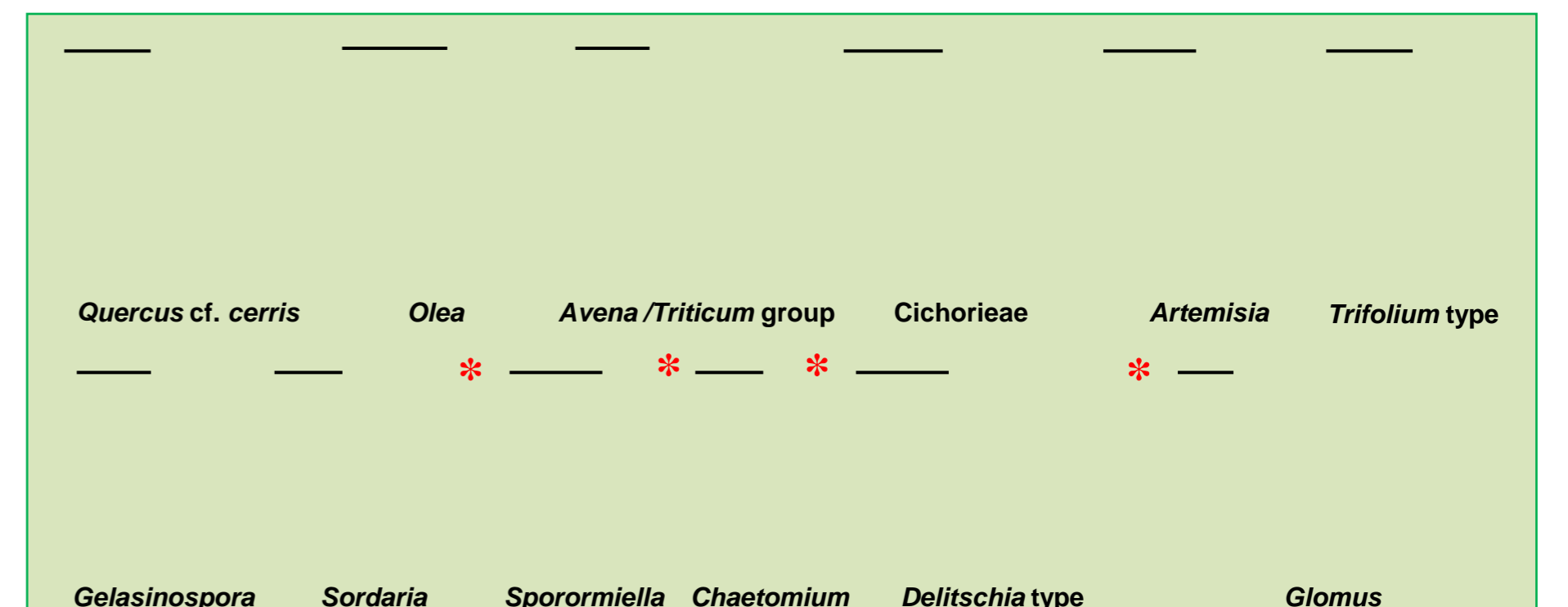


Fig. 5 . Pollen and NPPs from the analyzed archaeological samples. * = spores of coprophilous fungi. Scale bar: 10 µm.

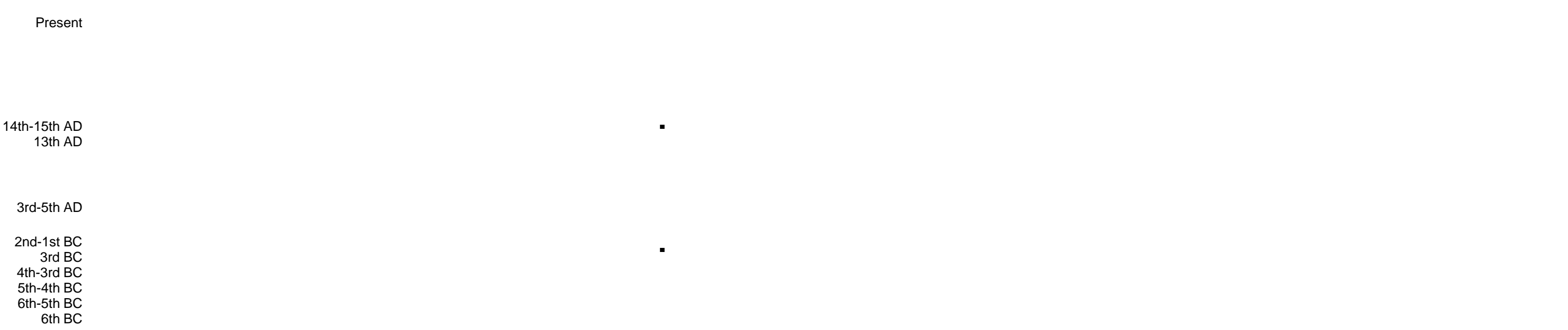


Fig. 4 . Percentage pollen diagram of 83 samples grouped according to their chronology.

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