

# Exploring the long-term anthropisation of the Cantabrian Mountains since later prehistory in Babia, León (NW Iberia)

Higher mountains rising above the horizon generally conjure up ideas concerning wilderness and marginality. Indeed, uplands are still considered some of the last 'natural landscapes' in Europe, where anthropogenic transformations arrived later and more superficially than in the lowlands. However, recent archaeological investigations carried out in some European mountain ranges emphasise that alpine and subalpine grasslands in the shadow of the highest peaks are actually the result of long-term interactions between societies and the environment. In 2017, a pilot project started in the Cantabrian Mountains (north-west Iberia) aiming to identify past anthropogenic pressure on high-mountain areas and to assess the historical processes related to anthropisation in different chronological periods.

There is a void in the regional archaeological knowledge available for upland areas in north-west Iberia. Following the successful outcome of investigations in other European mountainous areas, a research project has been designed to produce new archaeological data from upland areas in Babia (León, Spain). We aim to build up new narratives based on archaeological evidence that will complement current interpretations, which are predominantly based on palaeoenvironmental datasets from natural deposits. Overall, we intend to examine the diachronic anthropisation of upland landscapes since later prehistory, recognising the human agency behind these processes. This perspective will allow us to understand the social and cultural contexts in which interactions between societies and the environment were established. The results from 2017 and 2018 fieldwork in Babia are promising, having identified more than 100

sites related to seasonal activities between 1600 and 2000 m a.s.l. and ranging from the Early Bronze Age to the 20th century. The long-term impact of herding activities in the social construction of upland cultural landscapes might constitute the most relevant process in the exploitation of these areas throughout history.

The archaeological potential of the study area was initially assessed using aerial imagery and airborne LiDAR datasets. Anthropogenic features were identified and digitised using a GIS package in order to establish preliminary targets for later research stages. Many elements of potential archaeological interest were found: drystone pastoralist structures were easily visible in the grasslands using aerial imagery, while some possible prehistoric burial mounds and trenches from the Spanish Civil War (1936–1939) were identified by looking at Digital Elevation Models (DEM) obtained from airborne LiDAR data.

The study area was divided into nine polygons, within which we conducted archaeological surveys at the sites we had identified. We described their characteristics and their relationship with surrounding elements of the landscape (pasture areas, paths, streams, mountain passes, nearby sites). We also covered more extensive areas looking for previously undetected structures through remote sensing and produced site plans. The resulting inventory guided the selection of the locations for further investigation through geophysics and excavation. Field-walking was conducted where visibility allowed, particularly where the surface was exposed by erosion processes, to establish potential dating and functions for the structures we observed.

Once all the survey polygons had been explored, some locations were selected for small-scale gradiometer survey using a hand-held *Bartington Dual Grad 601*. We targeted sites showing diverse typologies and location patterns where seasonal pastoralist occupations from different periods had been recognised. Magnetic contrasts in local limestone



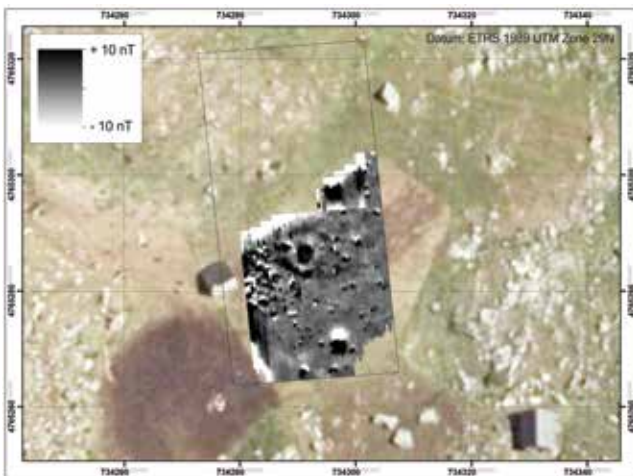
Sources: Esri, USGS, NOAA

Location of the study area (white square) in the Cantabrian Mountains





Pastoralism still shapes upland landscapes in Babia, as large transhumant flocks of sheep still come every summer from hundreds of kilometres away (a). All structures found during field surveys are documented with GPS (b). Geophysical surveys were conducted to identify buried structures (c), while some sites were explored with test-pits, here La Malvosa de La Cervata (d)



Processed gradiometer data from the summer farm of Las Verdes, at 1600 m a.s.l., near Torre de Babia. A potential round shepherd's hut (unnoticeable on the surface) lies just a few meters away from a cabin currently used by transhumant shepherds and other disused drystone enclosures

geology were sometimes sufficient for detecting buried archaeological features, resulting in the identification of some stone structures shown as negative anomalies. However, the results were often challenging to interpret due to a low-contrast environment, the ephemeral nature of the occupation and the small size of surveyable areas in the uplands. The sites with possible buried limestone structures all showed signs of being long-term occupation foci, with upstanding features from several periods and signs of re-occupation and re-use. We also tested large-scale magnetic

susceptibility survey at one location using a Bartington MS2 with D field loop, but results were complicated to interpret due to the co-presence of archaeological sites and modern-day summer farms, which produce thick layers of animal dung over large areas.

Archaeological excavations constituted the last research stage, aiming to assess the chronology and function for a sample of the explored sites. We have excavated 14 small test pits so far, including drystone huts, animal pens, caves and rock shelters. This resulted in the identification of seasonal pastoralist sites ranging from the Early Bronze Age to the 20th century. Further investigations, including new test pits, open-area excavations and more extensive palaeoenvironmental and radiocarbon sampling, will hopefully reveal chronological patterning in site locations or typologies. These data will provide archaeological narratives concerning the adaptation of human groups to upland environs during different periods.

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