

Investigating the Palaeolithic Landscapes and Archaeology of the Jizan Region, Southwestern Saudi Arabia

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1. Introduction

The archaeology of the Arabian Peninsula is pivotal to understanding Pleistocene hominin dispersals from Africa, with growing evidence for a Southern Route out of Africa, through the Bab al Mandab Straits into Arabia (e.g. Beyin 2006; Petraglia and Alsharekh 2003). Despite recent key developments in our knowledge of the hominin occupation of the Arabian Peninsula (Armitage *et al.* 2011; Delagnes *et al.* 2012; Petraglia *et al.* 2011; Rose *et al.* 2011), our understanding of the timing of dispersals of hominin populations into Arabia, and the factors controlling and facilitating these dispersals remains unclear.

Survey in Jizan region, Saudi Arabia (Fig. 1), is being undertaken by the DISPERSE project to examine the role of landscape factors, e.g. water or raw material availability and topographic features, in the dispersal of hominin populations (Bailey *et al.* 2012). Yet, as part of the survey, the taphonomic impact of landscape evolution during and after Palaeolithic occupation on the observed archaeological record must be considered. Classification of landforms, and their potential for site preservation and visibility, will be used to drive the survey strategies employed in each area, as well as informing the future interpretation of site distributions.

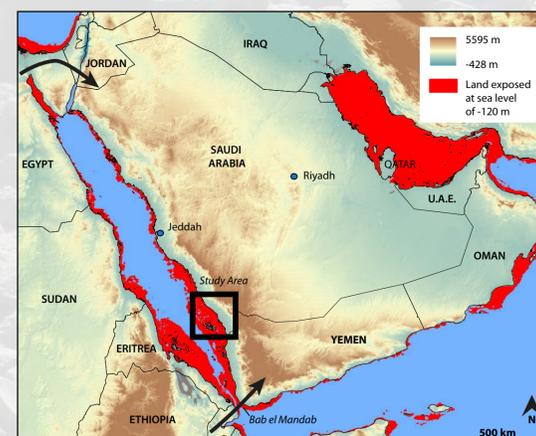


Figure 1: Map of Arabian Peninsula showing study area and potential dispersal routes out of Africa. Land exposed during periods of low sea level (fully glacial conditions) are also shown.

2. Preliminary Landscape Classification

Classifications were assigned visually in ArcMap10 by comparison of satellite imagery (LandSat ETM+ Geocover 2000 mosaics, GoogleEarth) and elevation data (CGIAR-CSI SRTM, ASTER GDEM v2) with field observations made in 2012.

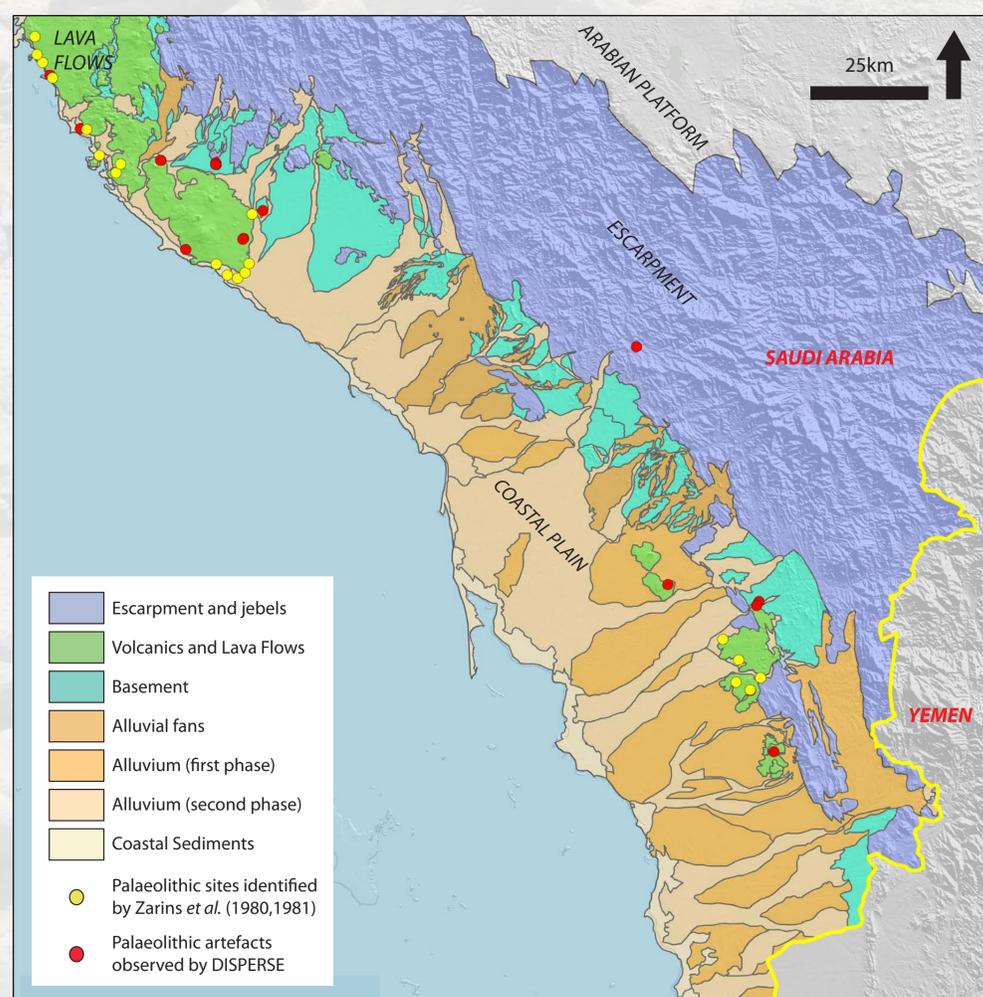


Figure 2: Map of study area showing preliminary landform classifications and their relationship to known Palaeolithic sites (Zarins *et al.* 1980, 1981), and locations where Palaeolithic artefacts were observed during reconnaissance in 2012.

Alluvial, fluvial and aeolian sedimentation dominates the coastal plain, with low potential for surface Palaeolithic finds, but high potential for deep stratigraphic sequences accessible through wadi cuts and quarries (Fig. 3).

At the base of the escarpment, **basement rocks with thin sediment cover** possess high potential for surface finds. These are overlain in places by alluvial fans, the erosion of which may provide access to stratigraphic sequences containing archaeology (Fig. 4).

The **lava flows**, potential foci for Palaeolithic activity due to the presence of raw material, have little sediment cover and high potential for surface finds (Fig. 5), and may also preserve stratigraphy under the flows themselves.

The highly eroded, steep slopes of the **escarpment and other jebels** possess low potential for archaeological preservation, but stratigraphy may be preserved in enclosed valleys.



Figure 3: Stratigraphy in quarry, lower coastal plain.



Figure 4: Raw material outcrop in area of exposed basement rock associated with multi-period lithics.



Figure 5: Surface of volcanic jebel covered with Palaeolithic artefacts.

3. Future Directions

The initial landscape classifications, derived through remote sensing data and field observations, will be used to guide the survey strategies employed during fieldwork in February-March 2013. During this work, the archaeological potential of a range of these landforms will be investigated in order to test the interpretations of artefact visibility outlined above. Ultimately, this data will allow the new and known Palaeolithic sites to be integrated within a model of evolving landscapes throughout Jizan region. Such integration will allow the reconstruction of landscapes of hominin occupation in Pleistocene Arabia, and the assessment of the potential factors that influenced the dispersal of early hominin populations.

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