# Geoarchaeology of the ancient city of Utica (Tunisia) and evolution of the palaeoenvironment of the Medjerda delta

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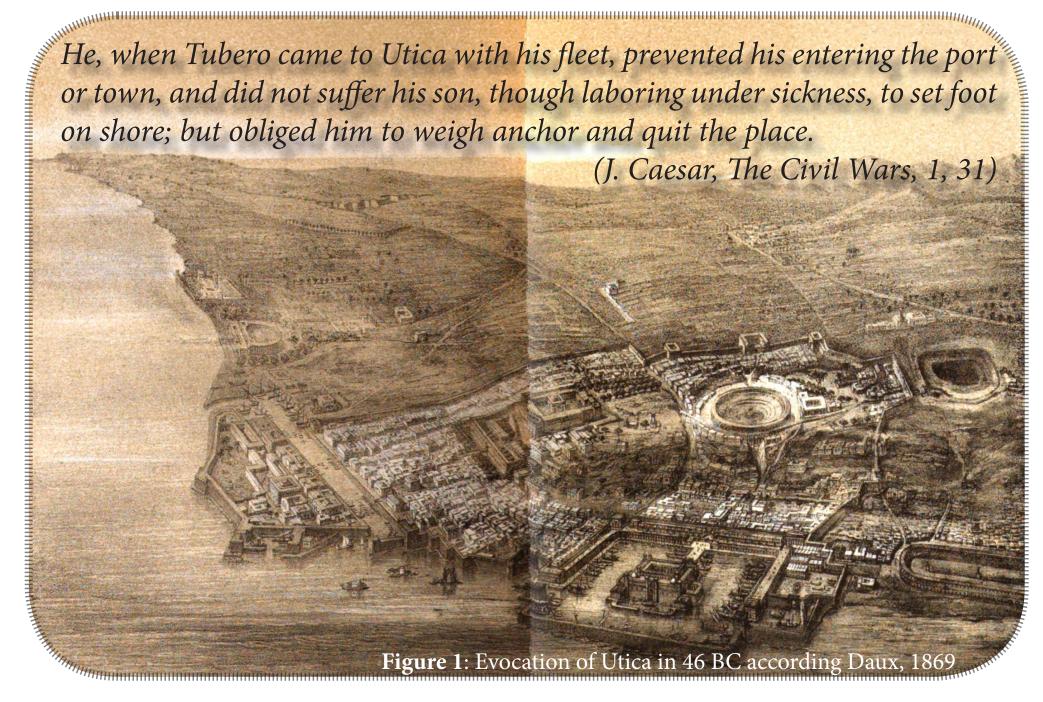


#### 1. INTRODUCTION

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Interdisciplinary project, starting from an archaeological problem...

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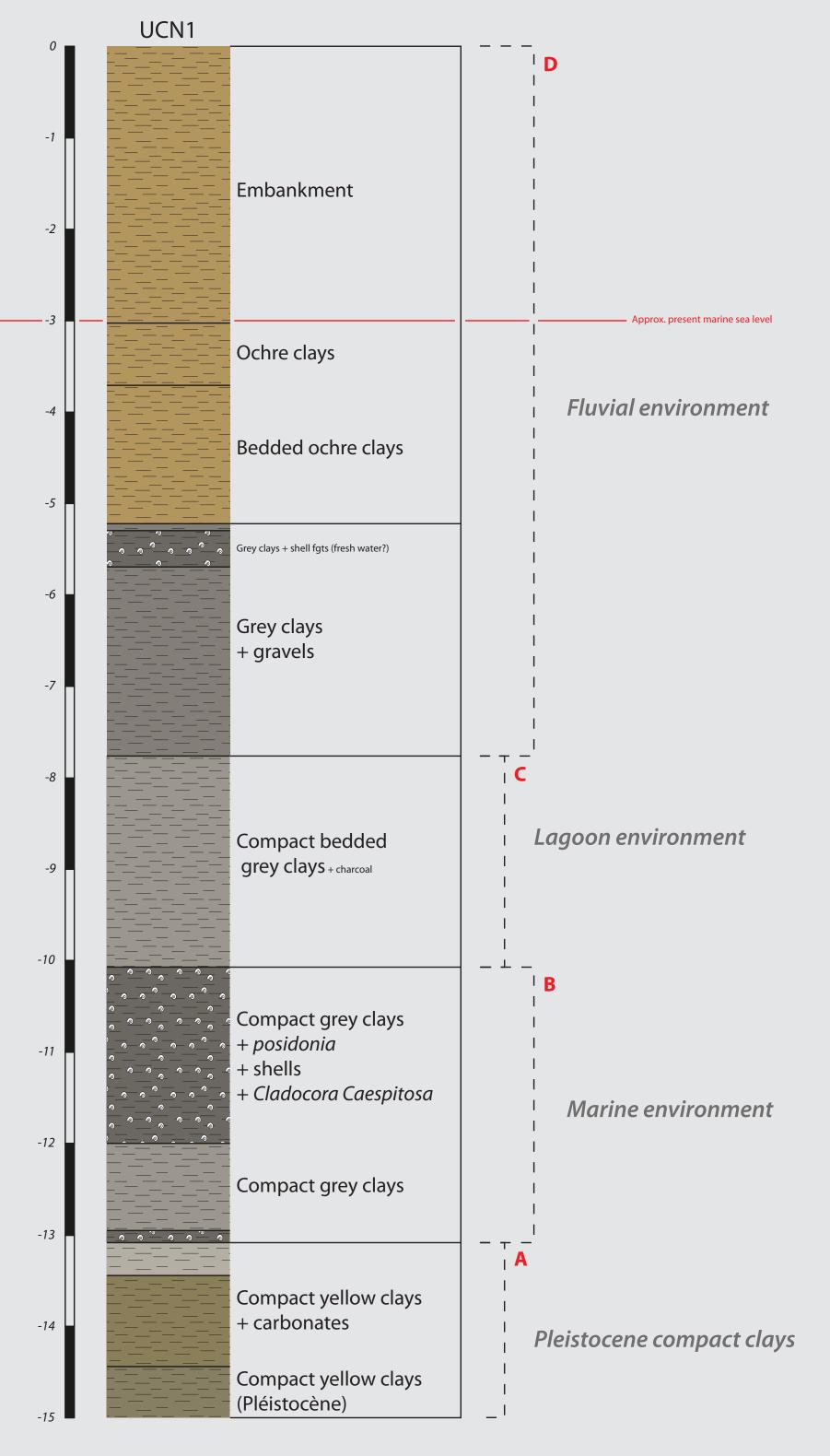
- ► Utica was a maritime and port city (ancient authors) but:
- today, the ancient city is located on a promontory in the heart of the Medjerda delta, 12 km inland;
- the location of the Phoenician and Roman port infrastructures remains unknown.

### 4. RESULTS

#### Core UCN1 («Utique Compartiment Nord»)

Where? In a marshy area, North of the «North compartment» of the delta.

Why? To determine if this area could have been a marine bay during the occupation of the site. This bay could be a potential location for harbour infrastructures (quay, mole, ...) prior to clogging of the bay by the sediments carried by the wadi.



- **So?** ► This area was effectively **covered by the sea (Unit B)** at any given time, which will be determined by the next radiocarbon dating.
- ► Then, the sediments carried by the Medjerda gradually clog the bay (lagoonal and then fluvial environment).

Sea inlet and/or marine bay? The size of the area covered by the sea during Antiquity has to be precised with two other points planned for the next coring campaign.

## 2. AIMS

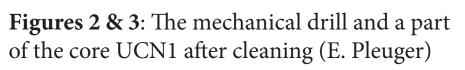
Reconstruction of the Medjerda delta landscape changes during the Holocene and of the **ancient coastline** 

► hypothesis on the location of the **Utica harbour infrastructures** 

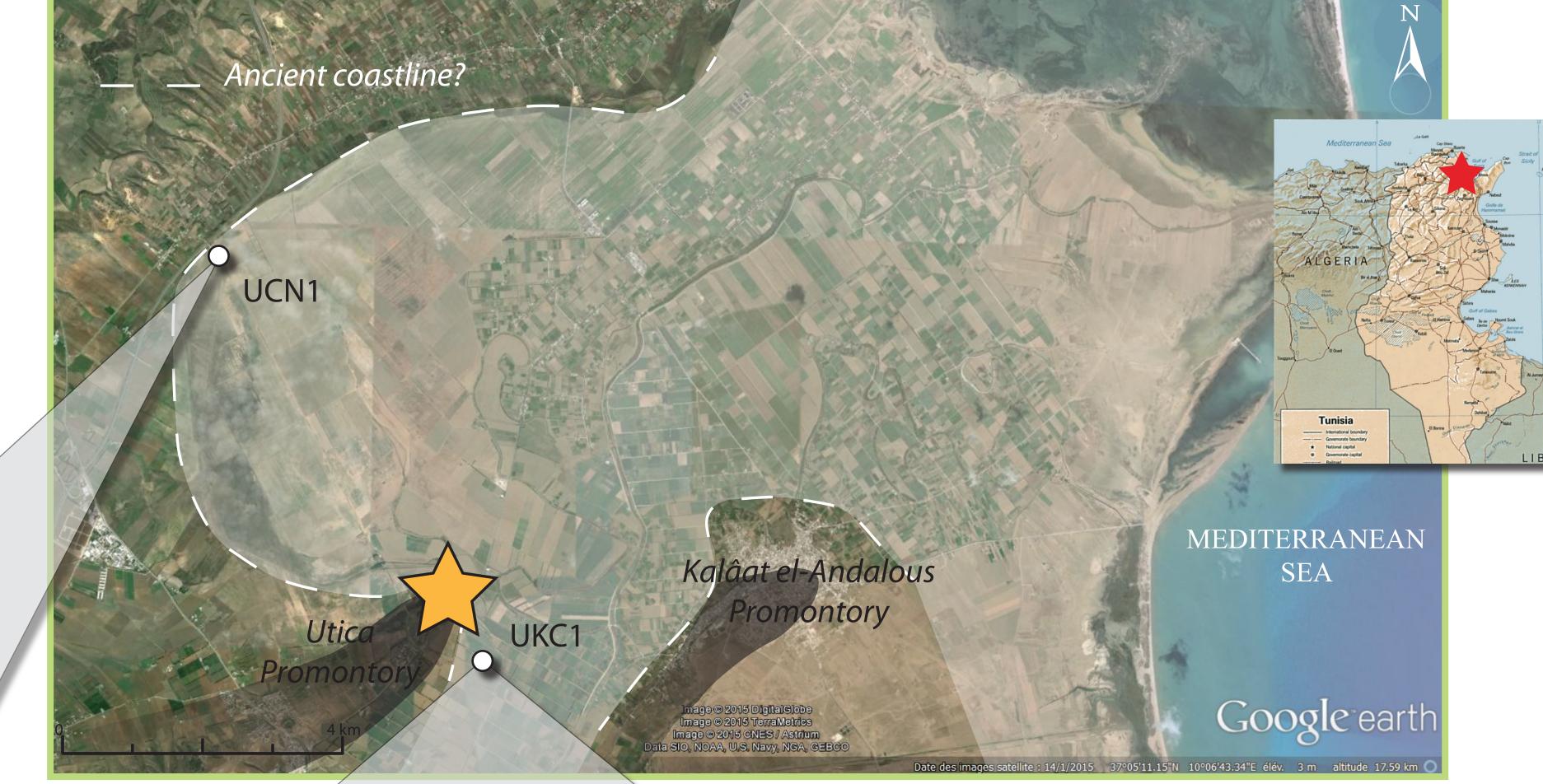
#### 3. MATERIAL & METHODS

- In the field: mechanical extraction of cores (15-20 m deep) to reach the early Holocene. Two of these cores are particularly developed in this poster.
- In the laboratory: particle size analysis and quartz morphoscopy, sedimentological and biological analysis, mineralogical and geochemical approaches, radiocarbon dating.







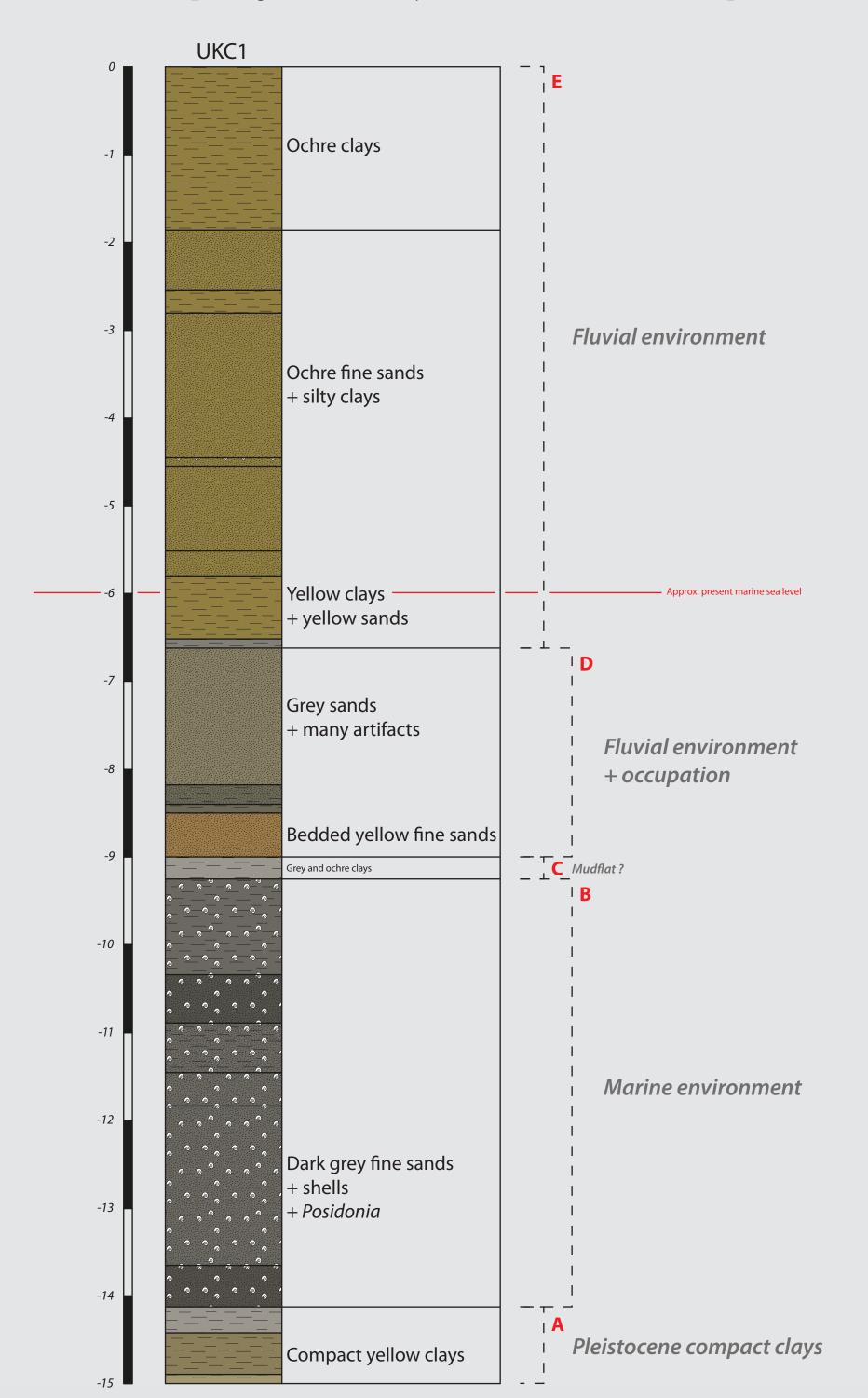


**Figure 4**: Location map of the Medjerda delta and the coring area; evocation of the ancient coastline (from Google earth; DAO E. Pleuger)

# Core **UKC1** («Utique-Kalâat Corridor»)

**Where?** South of the archaeological remains of Utica, in the corridor formed by the Utica and the Kalâat el-Andalous promontories, outside of the maximal extension of the ancient city (A. Lézine).

**Why?** To test the possibility of the presence of the sea at this point, and to understand the passage of the Medjerda into the «North compartment».



- So? ► This point was also covered by the sea (Unit B).
- ► Then the coastline recedes gradually following the sedimentary deposits of the wadi.
- ► The many artifacts found in the sediments of the Unit D attest the occupation of this area.

This «corridor» area, materialised by the promontories of Utica and Kalâat el-Andalous, was invaded by the sea at a given time.

# 5. PERSPECTIVES

- Dating of the marine units in the two cores:
  - \* to establish the chronological framework of the retreat of the coastline;
- \* to understand the passage of the Medjerda into the «North compartment» by the corridor Utica-Kalâat.
- ► Is this marine presence contemporary or older than the occupation of the city of Utica?
- Laboratory analyses for palaeoenvironmental reconstruction
- Next coring campaign:
  - \* in the «North compartment» to evaluate the maximum extent of the marine bay
  - \* in the «corridor» to know if the Kalâat el-Andalous promontory was an island during Phoenician times

# 6. REFERENCES

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