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Preliminary Findings on Agricultural History of Ancient Tripolis on the Maeander (Denizli – SW Turkey) in the Roman Period

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Abstract **- The ancient city of Tripolis is located within the town of Yenicekent in Buldan district of Denizli Province in southwest Anatolia [1]. In this study, we shall demonstrate the different dimensions of archaeological landscapes using the case of Tripolis, based on both mythological and biological features of some selected plants widely used for domestication and agricultural trades. For these purposes, some seed remains found at Tripolis and some plant motifs depicted in wall paintings are studied from the agricultural perspective. Additionally, olive and grape production in Tripolis and its vicinity is explored in past and today. Large quantities of *Olea europea* L. (olive), *Vitis vinifera* L. (grape) and some grains were found at the excavation site indicating the storage of agricultural surplus. We also found many different biological figures on the walls of buildings and some other ruins excavated. The findings in the area support the view that the agricultural economy of the region depended on olives, grapes and grains.**

Keywords
Bioarchaeology, agriculture, seed samples, wall paintings, Tripolis, Turkey

INTRODUCTION

The history of agricultural efforts in the Mediterranean has been a topic of great interest for archaeologists [2-4]. There are two main reasons for this interest: First, it is important to study the evolution of agricultural techniques throughout time in order to improve current methods. Secondly, agricultural practices have played in debates regarding social evolution, the origin of social inequality and the rise of complex societies [5-6].

Olive and its trade have been one of the most important sources of income for many civilizations throughout the history in the Mediterranean basin. In the Roman Empire the olive tree was exploited widely for its edible fruit, as olives are rich in calories, essential fats (lipids), vitamins and important minerals (such as calcium) [7]. Olive oil was also used for unguents, medicaments, perfumes, for cosmetics and moisturizing oils for skin, for lubricants and as a source for energy (lamp oil) [7-8]. The olive wood could also be used for many purposes, mainly for roofing and framing of houses [9].

Tripolis is located within the town of Yenicekent in the district of Buldan in Denizli Province in southwest Anatolia. Tripolis is barely 1 km W of the location where the River Maeander after a bent and a long stretch within a canyon, flows out from the Güney Plateau and enters the valley [1]. Tripolis was founded in the Hellenistic period under the name of Apollonia. Starting with the reign of Augustus, as inferred from the autonomous coins struck here, the city was then called Tripolis. In the related period, the city of Tripolis was in the crossroads of three regions, namely Phrygia, Caria and Lydia. The first identifications and scientific remarks on Tripolis came from travellers as early as the mid-seventeenth century, however, these efforts contain only limited information on visible remains of antiquity. Denizli Museum Directorate conducted short-term excavations and archaeological surveys in 1993, 2007-2009, 2012 and now it still continues under the Directorate of Bahadır Duman of Pamukkale University [10]. Although the history of Tripolis goes back to the Hellenistic period, the archaeological materials found during the surveys conducted in the environs prove that the settlement here can be traced back to 4000 BCE [11].

The present investigation was performed on plant remains from Tripolis (Figure 1). There has been no report about archaeobotanical samples from the site so far. The main

objective of the present study was to provide further information on plant-related activities in the area, based on archaeobotanical samples.

Fig. 1. Location of the Tripolis Ancient City

MATERIAL AND METHODS

For this study, some seed remains found at Tripolis were studied in terms of agricultural perspective. For the scope of this study, we demonstrate the different dimensions of archaeological landscapes using the case of the Tripolis based on both mythological and biological features of some selected plants widely used for domestication and agricultural trades. Olive and grape production in Tripolis and its vicinity today are also explored. By this study, seed samples and plant motifs in wallpaintings in Tripolis are evaluated. Photographs were taken of all samples and depictions. Plants were identified using related references, the herbarium specimens and fresh leaves and fruits. Related works on excavation findings still continue.

RESULTS

The production of olive oil and its farming became really important business again in the Mediterranean world with the last centuries, because of the its value. Most of the remains were charred due to long time period. In our study, large quantities of *Olea europea* L. (olive), *Vitis vinifera* L. (grape) and some grains were found at the study site, indicating the storage of agricultural surplus (Figure 2-3). Olive oil production press of banded travertine and 3 m in diameter was found in excavations (Figure 4).

Fig. 2. Olive seeds

Fig. 3. Grape seeds

Fig. 4. Olive oil press

The most important of the agricultural products of the region were grapes and olives and their products wine and olive oil. The findings in the area support the view that the economy of the region depended on olives and grapes. Presses and other equipment related to olive oil production can be found in the region extensively [12-13]. We think

that, olive oil and wine production in Tripolis must have been one of the main sources of the economy in related period. Olive oil, besides being part of daily food consumption of human life, was also used in various ways such as lighting source for houses, body care and athletic preparations before competitions. Also viniculture must have held a crucial role in city's economy. Tripolis and its vicinity were certainly surrounded with vineyards. Even today, numerous grape yards can be seen around Tripolis (Figure 5).

Fig. 5. Grape yards in Yenicent

We also found many different biological figures on the building walls in the ancient city and some other ruins excavated. In particular, a total of nine different types of figures were identified, such as pomegranate (*Punica granatum*) (Figure 6), apricot (*Prunus armeniaca*), pumpkin (*Cucurbita pepo*) (Figure 7), thistle leaves (*Gundelia* sp.), parrot (*Psittacula* sp.), pigeon (*Columba* sp.), pheasant *(Phasianinae* member) and partridge (*Alectoris chukar*). We have discovered the figure of a leopard (*Panthera pardus*) on the wall of a shop that was located next to the market area [14]. In view of the archaebotanical use of these plants, it is thought that the material from Tripolis represents agricultural facilities by the Romans in Anatolia about 1700 years ago.

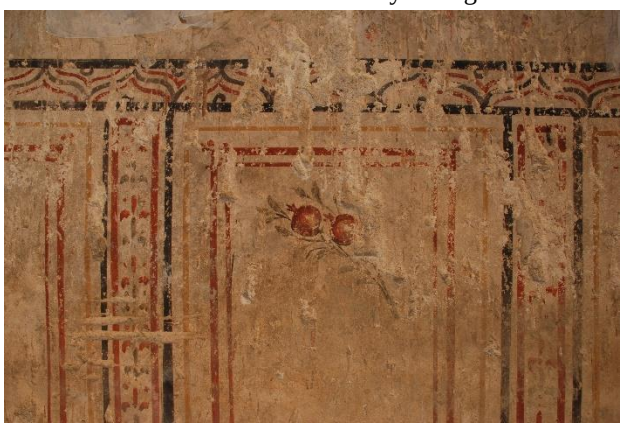

Fig. 6. Pomegranate painting on the wall

Fig. 7. Pumpkin painting on the wall

The cultures of olive and grape are important for the whole Mediterranean Area. These were frequently used in the regions where they were grown with an important place in the economy, culture and social lives of human life in the Mediterranean throughout history.

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