Heritage Turkey volume 4 (2014) p. 28 | doi: http://dx.doi.org/10.18866/biaa2015.095 | published online: 31 October 2015

Identification of archaeobotanical remains from the West Mound of Çatalhöyük and Çamlıbel Tarlası

Elizabeth Stroud | University of Oxford

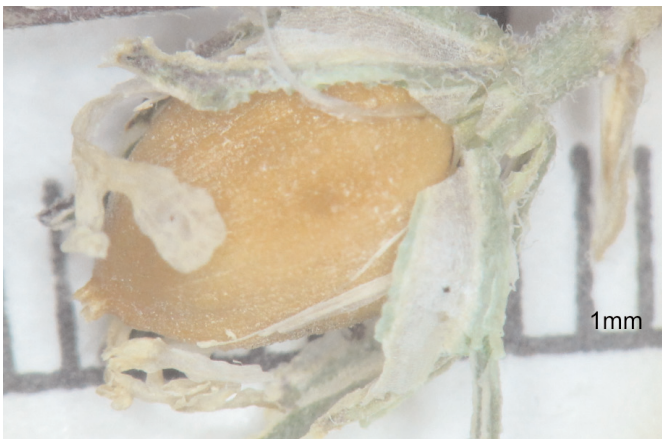
The crop husbandry techniques used during the Chalcolithic period in the Anatolian region and their implications for social organisation are not well understood. Thus I am examining two Chalcolithic sites – Çatalhöyük West and Çamlıbel Tarlası – in order to understand the nature of crop husbandry during the period and the potential information that this can shed on social and labour organisation during the Chalcolithic.

Çatalhöyük West and Çamlıbel Tarlası are situated on the Anatolian plateau; Çatalhöyük is located on the Konya plain, 60km southeast of Konya, and Çamlıbel Tarlası is sited near the Bronze Age Hittite site of Hattusha, 150km east of Ankara. Botanical samples have been assessed in order to understand the crops grown at the sites, as well as the nature of the crop husbandry practised, through ecological analysis of the weed assemblages and stable isotope analysis of crop remains. By identifying the crop weeds within the samples, inferences about crop-growing conditions can potentially be made; thus is may be established whether the crops were weeded, manured or watered. Such farming practices may have played an important role in defining the social/labour organisation within these settlements.

The key to understanding such nuanced views of crop husbandry is the identification of archaeological weed specimens as closely as possible to species. This requires examination of a comprehensive reference collection containing the flora of the local region. To help finalise the species identification of specimens from the two sites, research has been conducted at the Selçuk University Konya Herbarium and the archaeobotanical laboratory of the British Institute at Ankara. This work was funded by a British Institute at Ankara study grant.

At the Konya herbarium, with the help of Associate Professor Dr Osman Tugay, a number of taxonomic families were targeted for examination – Poaceae and Rosaceae – in particular the almonds, as well as the *Pistacia* and *Silene* genus. Preliminary research ascertained whether the herbarium sheets contained seed or fruit specimens. Once those species were determined, they were compared to photographs of the archaeological items. The low number of herbarium sheets with seeds limited the study to a number of the *Silene* species that had intact capsules. This allowed comparison to the two whole *Silene* capsules found in the Çamlıbel Tarlası material.

A number of attributes of the *Silene* capsules were noted, which could be used to distinguish between species and identify the archaeological items. The most important attribute in the case of the Çamlıbel examples is the reticulate pattern on the capsules. Such patterning is extremely uncommon within the herbarium specimens, with only one species from the 20 taxa examined having such a patterning. Specimens of *Silene dichotoma* (and sub species) showed much the same reticulate patterning as the archaeological specimens (see figures below), thus allowing the archaeological specimen to be typed as *Silene dichotoma* type.



Silene dichotoma capsule from the Konya herbarium.

Silene capsule from Çamlıbel Tarlası.

Additional research was conducted in the archaeobotanical laboratory at the British Institute at Ankara. Unfortunately, the collection does not contain specimens comparable to the almond found at Çatalhöyük West – a deep-gloved almond. Nor did the research indicate any potential method for differentiating the nuts of *Pistacia atlantica* from those of *Pistacia terebinthus*. This difficulty was due to the overlapping shapes and sizes of the nuts. Due to this, the seeds found at Çatalhöyük West will be classified as *a P.alantica/terebinthus*.

The research conducted at the Konya herbarium and the British Institute at Ankara, in conjunction with research on reference collections in the UK, will allow a more nuanced understanding of the weed flora found at both Çamlıbel Tarlası and Çatalhöyük West. Such data can be used to understand the nature of crop husbandry at these sites during the Chalcolithic.