

Abstract #: 2850

RECONSTRUCTING BRONZE AGE AGRO-PASTORAL PRACTICE IN THE MESOPOTAMIAN-ZAGROS FOOTHILLS: PHYTOLITH AND FTIR ANALYSIS OF DUNG-RICH SEDIMENTS FROM KHANI MASI (IRAQ)

Elise Laugier¹, Dan Cabanes²

¹ *Dartmouth College (USA)*

² *Rutgers University*

The Zagros foothills have one of the longest histories of agro-pastoral practice globally, beginning in the Epipaleolithic. While the domestication process and Neolithic subsistence in this region have recently received much archaeological science research, the subsequent Mesopotamian Bronze Ages (late 4th–2nd millennium BCE) remain principally assessed with traditional excavation and textual evidence. As texts are often related to state-level institutional affairs in distant regions, our knowledge of local, day-to-day agro-pastoral management strategies remains conjectural. Phytolith analysis is a particularly productive method for assessing agro-pastoral practice in regions with poor macrobotanical preservation. While this approach has not been widely applied in Mesopotamia (Iraq), it has the potential to shed light on the production systems supporting its Bronze Age cities, states, and empires.

In this study we use phytoliths, dung spherulites, and Fourier Transform Infrared (FTIR) spectroscopy to identify and examine dung-rich sediments from Khani Masi, an 8 hectare mid-second millennium BCE Kassite site located in the Kurdish Region of Iraq. Our aim was to investigate (1) the range of local pastoral management strategies, (2) the degree of integration between agricultural and pastoral practice, and (3) the presence of signals related to the local ecology, seasonality, and environmental change and continuity.

Phytolith analysis reveals that sheep/goats were primarily free grazed on wild grasses. The dominance of wild grass inflorescences, a potentially strong seasonality indicator, may suggest transhumant pastoralism. However, further evidence, including occasional foddering with cereal chaff, a diverse range of crop types, and significant accumulations of burnt dung within the site, collectively suggests a closely linked local agro-pastoral subsistence economy. This study provides much-needed empirical botanical data as well as productive insights for future application of phytolith studies in the Mesopotamian region, and sheds new light on agro-pastoral practice in the Zagros foothills during Kassite imperial rule.

Keywords

Phytoliths, FTIR, Mesopotamia, Agropastoralism, Bronze Age

Note/comment