

FIRST-MILLENNIUM CE PLANT AND ANIMAL EXCHANGE VIA ARCHAEOBOTANY IN COLLABORATION WITH OTHER DISCIPLINES: A MULTI-SCALAR VIEW FROM THE NEGEV HIGHLANDS

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This paper presents three test-cases in which archaeobotanical data deriving from trash middens of 1st-millennium CE Negev Highland sites were integrated with other sources of evidence to track individual and large-scale movement of plants and animals. Although based on the same archaeological contexts, these studies span different temporal and geographic ranges, from millennial-scale Eurasian crop diffusion to micro-regional grazing patterns of individual sheep and goats. First, qualitative changes in crop baskets attest to long-term diffusion, pushing back to Umayyad times introduction of aubergine (an east Asian domesticate) in the Levant, and supporting the Islamic Green Revolution thesis. Yet the plant remains suggest an even greater role for Roman agricultural diffusion, which appears to be a peak period of post-Neolithic, pre-modern crop diffusion in southwest Asia. Second, quantitative changes in key crops attest to the rise and fall of commercial viticulture in the Negev Highlands, centered on the mid-6th century CE, in tandem with ceramic evidence for changing involvement in Mediterranean trade. These results exemplify a globalizing ancient economy's vulnerability to external shocks like plague and climate change. Finally, a multi-proxy archaeobotanical study analyzed seed/fruit remains, phytoliths and pollen within individual sheep/goat dung pellets to identify grazing season and range. This has potentially profound implications for future research on agropastoral regimes, including aspects of seasonality and mobility. Methodologically, these studies exemplify integration of archaeobotanical evidence with textual, ceramic, and geoarchaeological data, respectively. Together, they offer a more holistic, multi-dimensional view of human-plant interaction from the vantage point of a particular microregion, with relevance to much broader scale movements of plants and animals across the Mediterranean and beyond.

Keywords

Mediterranean exchange, plant and animal mobility, archaeobotany, multi-proxy method, Negev Highland, Late Antiquity

Note/comment

This presentation is based on my published and unpublished PhD research, particularly the three studies referenced below which will serve as test-cases for a bird's eye view of Negev Highland plant and animal mobility and exchange based on archaeobotany in collaboration with other disciplines.

(1) Fuks et al. In prep. "Islamic Green Revolution (IGR) or Roman Agricultural Diffusion (RAD)? Archaeobotanical evidence for local foodways and global crop diffusion from the Late Antique Negev Highlands".

(2) Fuks et al. 2020, "The rise and fall of viticulture in the Negev Highlands during Late Antiquity: An economic reconstruction from quantitative archaeobotanical and ceramic data", *PNAS*, 117 (33).

(3) Fuks, D. and Dunseth, Z. 2021, "Dung in the dumps: what we can learn from multi-proxy archaeobotanical study of herbivore dung pellets", *Vegetation History and Archaeobotany*, 30.