

INFERRING THE TAPHONOMY OF CHARRED OLIVE STONES BY COMPARING THE ANATOMY OF FRACTURE SURFACES UNDER DIFFERENT BURNING REGIMES

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Abundant charred and broken olive stones excavated from Bronze Age layers at Tell Tweini (ancient Gibala) raised the question whether the olives were processed for oil by methods which could imply breakage, or just broken during charring and/or post-depositionally. Laboratory charring experiments were conducted on recent fresh, dried and salted olives under several burning conditions with variations in temperature, duration and oxygenation, resembling domestic fires. Anatomical comparisons based on SEM pictures were made to evaluate the difference between fracture surfaces of the stones when these were generated prior and after charring. Pre- versus post-charring fractures appear to be reasonably distinctive when considering changes in surface patterns, including cell shape and cell size. We also compared the experimental material to the archaeological olive stones in order to interpret the fractures, so whether they were ancient or recent. In addition, indications on how to recognise carbonised olive seeds are observed and described. These data can be used in subsequent studies to categorize and interpret processed and charred *Olea* remains more precisely.

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