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MEETING ABSTRACT OP

Morphometric analysis of carbonised olive endocarps indicates long-term morphological continuity of the Throumbolia cultivar

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Abstract: This study investigates the potential of image-based digital morphometrics for the identification of carbonised archaeological olive endocarps (*Olea europaea* L.) and its contribution to the characterization of olive genetic resources. A subset of well-preserved archaeological stones was selected based on outline integrity and preservation of apex–base morphology (Blazakis et al., 2017, 2024). Quantitative morphometric descriptors of size, symmetry, curvature and overall geometry were extracted using the OliveID platform and compared with a reference dataset of Greek and international olive cultivars grown under uniform agronomic conditions. Results indicate that, despite carbonisation, archaeological endocarps retain morphologically informative geometric traits, enabling reliable contour extraction and comparative morphometric evaluation with modern olive cultivar material. The morphometric approach suggests relationships between archaeological samples and specific morphotypes within contemporary cultivar diversity, highlighting digital phenotyping's potential as a tool linking archaeobotanical and agronomic material. The study contributes to understanding the morphological stability of traditional olive cultivars and underlines the importance of integrating quantitative morphometric tools into the conservation and evaluation of horticultural genetic resources.

Keywords: Olive genetic resources, morphometrics, archaeobotany, landraces, cultivar identification

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