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### XII EAVP Meeting – Torino 24-28 June 2014 – Abstract Book

# THE DENTITION OF MEGALOSAURID THEROPODS, WITH A PROPOSED TERMINOLOGY ON THEROPOD TEETH

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Typically theropod teeth are described incomprehensively, yet these relatively abundant vertebrate fossil remains are not only constantly reported in the literature but also enclose extensive anatomical and taxonomical information. Often, important characters on the crown and ornamentation are omitted and in many instances authors do not include the description of theropod dentition altogether. The paucity of information makes identification of isolated teeth difficult, and taxonomic assignments uncertain. Therefore, we here propose a standardization of the anatomical and morphometric terms for each tooth anatomical sub-units, as well as a modus operandi on how to describe isolated teeth comprehensively.

This lack of information has been particularly striking in basal theropod clades, and ziphodont dinosaurs with superficially similar dentition. Therefore, we provide a detailed description of the dentition of Megalosauridae, and a comparison to and distinction from morphologically convergent teeth of all major theropod clades. Megalosaurid dinosaurs are characterized by a mesial carina facing mesiolabially in most mesial teeth, centrally positioned carinae on both most mesial and lateral crowns, a mesial carina terminating above the cervix, and short to well-developed interdenticular sulci between distal denticles. A discriminant analysis performed on a dataset of numerical data collected in the teeth of 62 theropod taxa reveals that megalosaurid teeth are hardly distinguishable from other theropod clades with ziphodont dentition. As a corollary, this study highlights the importance of detailing anatomical descriptions and providing additional morphometric data on teeth with the purpose of helping to identify isolated theropod teeth in the future.

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