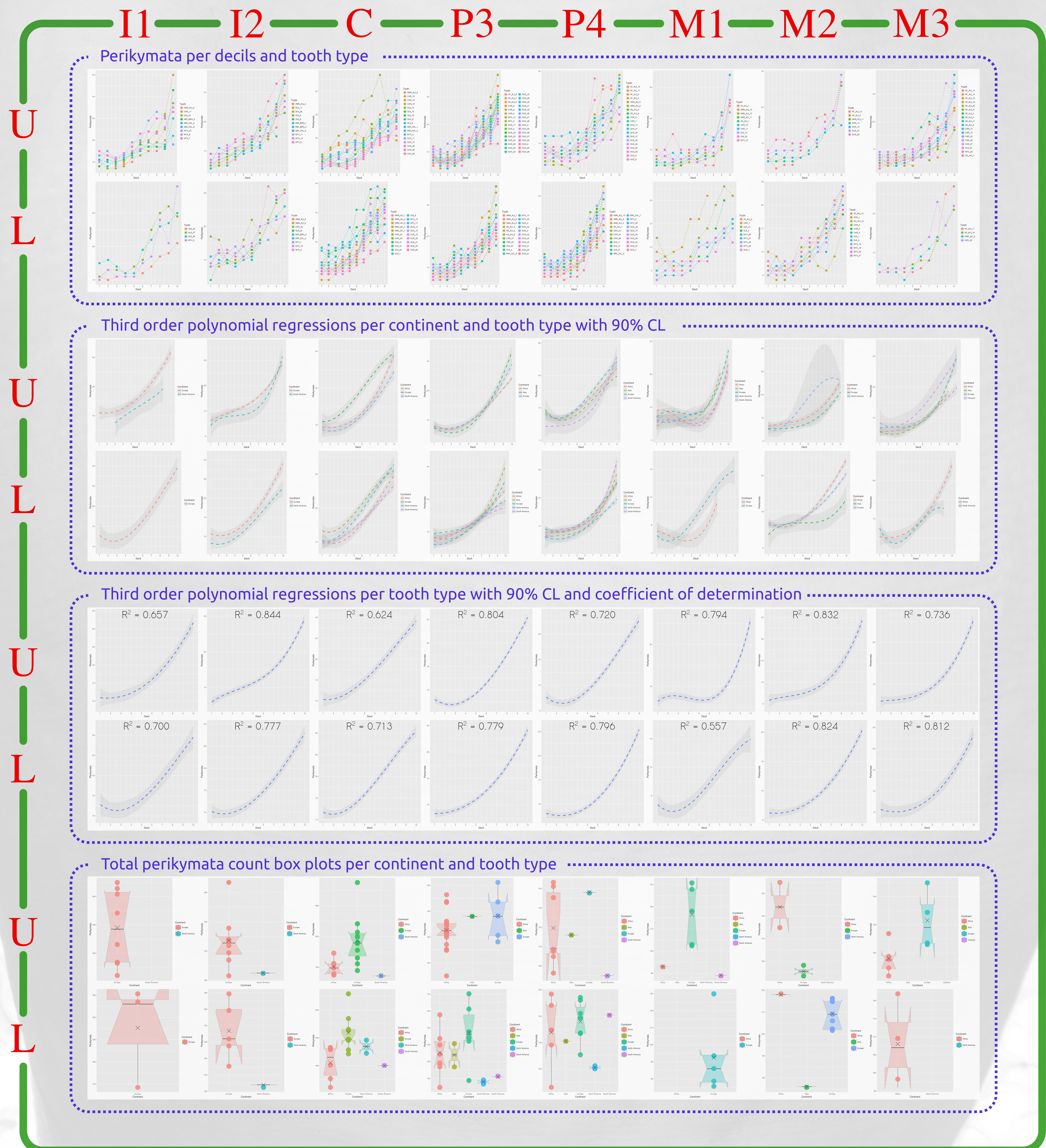


Perikymata counts and the enamel growth-pattern in a geographically diverse sample of *Homo sapiens*

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Introduction. Knowing the total number of perikymata on the crown of a tooth is valuable when estimating enamel formation times [1]. Studies on enamel formation times and perikymata counts have often been carried out on relatively limited geographical modern human samples [2]. However, they have identified not only differences in the total number of perikymata between modern humans and Neandertals, but also it shows distinct patterns of enamel growth between populations [3]. Widening our knowledge of modern human variability of the total number of perikymata and the pattern of growth in crown height is clearly important.

Materials and methods. A broad sample of modern human unworn teeth were studied (n=228). They derive from either archaeological sites of the Iberian Peninsula or current modern human populations from Africa, Europe, South America, North America and Asia. In all cases environmental scanning electron microscopy (ESEM) was employed to obtain images of the surface of the teeth.



Discussion. We show that the total number of perikymata is remarkably variable among and between all the modern human populations studied. However, the growth-pattern across all geographic samples displays a common tendency. The first two deciles of the crown height contain a relatively low number of perikymata compared to the last deciles, where the density is relatively high. Clearly, third order regression equations represent a good statistical model to assess enamel extension rates in all tooth types.

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