

KELLY BUZZARD, Independent Researcher, Marlinton, WV, 24954. When Measurement and Meaning Diverge: Revisiting Platymeria and Platycnemia.

Across scientific disciplines, measurement persists despite gradual divergence between what is quantified and what is inferred, allowing interpretive assumptions to solidify into accepted meaning. Platymeria and platycnemia offer an instructive example of this process within osteological practice. Originally developed as indices of femoral and tibial shaft geometry, they continue to be cited and applied despite growing uncertainty about what their ratio values represent. While the measurements capture repeatable geometric variation, the biological, behavioral, and functional interpretations attached to them have been inherited rather than critically evaluated. As a result, the indices are treated as either implicitly meaningful or increasingly irrelevant, rather than as measurements whose interpretive limits warrant closer examination.

This study examines these indices as methodological tools rather than explanatory endpoints. Through a focused review of literature, the analysis traces how interpretive assumptions became embedded. Attention is given to points at which measurement, classification, and inference became closely aligned without explicit examination, allowing interpretive meaning to extend beyond empirical evidence. The analysis demonstrates that indices remain valid and informative measures of morphological and skeletal geometry, but their scientific value depends on clearly separating measurement from interpretation, thereby emphasizing construct validity and interpretive clarity. The results clarify how existing measurements can be more appropriately evaluated and applied, an approach that reaffirms the value of careful measurement and encourages renewed attention to what existing metrics capture, supporting more precise and defensible inference in future research.