RECONSTRUCTING ACTIVITY PATTERNS IN PREHISTORIC JOMON PEOPLE USING LONG BONE CROSS-SECTIONAL GEOMETRY

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ABSTRACT

This thesis uses long bone diaphyseal morphology to test hypotheses regarding behavior and functional adaptation among Jomon period hunter-gatherers from the Yoshigo site in Japan. Cross-sectional properties of Jomon femora taken at midshaft were compared with the femora of hunter-gatherers from the Aleutian Islands. Cross-sectional properties from the mid-distal shaft of the humerus were compared between the Jomon and hunter-gatherers from the Aleutian Islands, California, and Georgia Coast. Sexual dimorphism was additionally assessed between the groups. Results suggest that the Jomon share a similar pattern of femoral robusticity (J) and shape (I_x/I_y) as Aleut hunter-gatherers. This study also found that Jomon humeri are significantly more robust than all comparative samples, but humeral shape is similar between the groups. In terms of sexual dimorphism, Jomon males and females are similar in both femoral and humeral robusticity and shape relative to the comparative samples, with Jomon males being more robust than females. Jomon and Aleut femoral robusticity and shape is associated with similarity in terrestrial mobility and terrain. The greater robusticity in Jomon humeri reflects intensive bimanual activities including swimming, rowing, digging tubers and throwing and lifting of fishing nets. Similarity in shape, but differences in robusticity between the sexes suggests similar direction of loading practiced with varying intensity.