

BENJAMIN L. WHARTON, NOAH J. TEAFF, BRANIGAN L. MCGOWAN, MICHELLE L. RUSSELL, Dept of Natural Sciences & Mathematics, West Liberty University, West Liberty, WV, 26074, and MATTHEW J ZDILLA, Depts of Natural Sciences & Mathematics and Graduate Health Sciences, West Liberty University, West Liberty, WV, 26074 and Dept of Pathology, Anatomy, and Laboratory Medicine (PALM), West Virginia University School of Medicine, Morgantown, WV, 26506. Sexual dimorphism of the zygomatic bone.

This study assessed the posterior contour of left- and right-sided zygomatic bones, hypothesizing that female and male crania would exhibit different contours. The study analyzed lateral cranial views of 252 female and 318 zygomatic bones. The distance from the zygomaticofrontal suture to the jugale was calculated in addition to the length of the posterior border of the frontal process of the zygomatic bone to determine the degree of deviation from a straight line. The contour length between males and females did not differ ( $t=1.577(593)$ ;  $p=0.12$ ) nor did the degree of deviation from a straight line ( $t=1.808(593)$ ;  $p=0.07$ ). However, there were significant differences with regard to side ( $t=5.589(614)$ ;  $p<0.0001$  and  $t=3.742(614)$ ;  $p=0.0002$ ). Discriminant function analysis revealed no significant shape difference between sides or sexes ( $T^2=338.7$ ;  $p=0.15$  and  $T^2=244.3$ ;  $p=0.94$ , respectively). However, canonical variate analysis demonstrated statistically significant shape differences among sexes with regard to side. The results of this study reveal morphological variation in the zygomatic bone that may differentiate sex. *Research was supported by funding from the WV Research Challenge Fund [HEPC.dsr.17.06] and [HEPC.dsr.14.13].*