

David Alexander Lukaszek: Morphology of the Cervical, Thoracic, Lumbar Vertebrae, and Crania Base in Relation to Primate Speciation: Possible Indicators in Determining Evolutionary Phylogeny (Summary)

Morphological variations of the cranial base, cervical, thoracic, and lumbar vertebrae are studied by physical anthropologists, anatomists, primatologists, and the medical field. Previously documented research has shown multiple overlapping of morphological characteristics among human and nonhuman primate species. These blended morphological characteristics, though unique in themselves and with few exceptions, do not provide the ability to either classify the level of vertebral elements, segments, or determine spinal curvature. Additionally, the relationship between the cranial base and spinal curvature among human and nonhuman primate species has not been fully established. These issues have consequences in determining vertebral number sequence and species identification.

This PhD dissertation research is designed to explore the relationship among vertebral variables and cranial base. Besides traditional or common measurements, this research will also consider new or untested variables that may add to understanding the interaction among vertebral and cranial base morphology. The proposed morphological interaction may indicate vertebral sequence, segmentation, spinal curvature and speciation.