

Abstract Submitted
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Evolutionary trends in the humeral bone strength of theropod dinosaurs. SCOTT LEE, ZACHARY RICHARDS, University of Toledo — The strength of the humerus bone is evaluated for 28 different theropod dinosaurs. These results are used to examine evolutionary trends in humeral bone strength for Tyrannosauroida, Allosauroida, and Ornithomimosauroida dinosaurs. Humeral bone strength is also examined for carnivorous, piscivorous, omnivorous and herbivorous theropod dinosaurs. In general, the largest carnivorous theropod dinosaurs had the strongest humera while the herbivorous dinosaurs had the weakest humera. Based on these results, a determination of the humeral section modulus is sufficient to predict if a theropod dinosaur was herbivorous. This would be useful for newly discovered species for which no cranial elements are recovered. The possible uses of the forelimbs of *Tyrannosaurus rex* are also discussed.

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