

Abstract Submitted
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Femoral bone strength and running speeds in emus (*Dromaius novaehollandiae*) SCOTT LEE, University of Toledo — Large, flightless birds provide the best extant model for the study of the locomotion abilities of extinct, bipedal dinosaurs. The ability of the femur to resist bending stresses is determined by its midlength cross-sectional geometry, its length and the elastic properties of the mineral part of the bone. The animal's athletic ability, determined by a "bone strength index," is limited by this femoral bending strength in relation to the loads on the femur. As part of a comprehensive study of the cursorial potential of extinct dinosaurs, we report measurements of femoral bone strength index in emus (*Dromaius novaehollandiae*) and relate this to the running speeds of these animals.

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