Mechanics of limb bone loading during terrestrial locomotion in river cooter turtles (*Pseudemys concinna*)

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The authors would like to correct two errors published in *J. Exp. Biol.* **211**, 1187-1202.

First, in three places in the article, the reported value of yield stress in torsion for the femur of *Pseudemys concinna* was too high by a factor of 2. This error occurred in Table 5, in the second paragraph of the Results section entitled 'Mechanical properties and safety factor calculations' (p. 1196) and in the first paragraph of the Discussion section entitled 'Femoral safety factors in turtles: mechanical basis and implications for the evolution of limb bone design' (p. 1199). The correct value is 39.1±3.3 MPa, which is 35% lower than values for bovine and human bone (Currey, 2002), rather than 40% higher as reported (p. 1196 and p. 1199). All calculations of *in vivo* bending and shear stress and of safety factors in bending were unaffected by this error, but the mean safety factor to yield in shear reported in the Summary (p. 1187), Table 5 and the text on p. 1196 and p. 1199 should be corrected from 6.3 to 3.1, and the worst-case estimate of safety factor to yield in shear reported in the text on p. 1196 should be corrected from 3.1 to 1.6. A corrected Table 5 is presented below.

Table 5. Mechanical properties and safety factors for femora and tibiae of *P. concinna*

		Bending			Torsion	
Bone	*N*	Yield stress (MPa)	Safety factor mean	*N*	Yield stress (MPa)	Safety factor mean
Femur	3	305.9±66.3	13.9	3	39.1±3.3	3.1
Tibia	4	143.4±22.1	6.5*	–	–	–

*Tibial safety factor calculated from tibia yield stress and average peak locomotor stresses of the femur.
Yield stress values are means ± s.e.m.

Although mean femoral safety factors for shear in the turtle *P. concinna* are now moderately lower than those previously reported for lizards and crocodilians [4.9 and 5.4, respectively (Blob and Biewener, 1999)], rather than the moderately higher value (6.3) originally reported, values for all three of these ectothermic lineages are still higher than those for the humerus of flying pigeons [1.9 (Biewener and Dial, 1995)]. These comparisons continue to suggest, as originally noted, greater protection against torsional limb bone failure in quadrupedal reptiles than in other lineages where torsion is prominent. Moreover, they further emphasize the significance of torsion as a femoral loading regime in turtles and the impact of variation in bone mechanical properties on skeletal functional capacity, as originally proposed.

Second, in the PDF and print versions of the article, the reference cited on p. 1191 as (Stein, 2003) also contained errors and should be amended to Stein (2005) as follows:

Stein, P. S. (2005). Neuronal control of turtle hindlimb motor rhythms. *J. Comp. Physiol. A* **191**, 213-229.

In the full-text online version of this article, the reference has been corrected to allow linking to Medline.

The authors apologize for these errors but assure readers that, with the clarifications noted above, the results and conclusions of the original paper remain unchanged.

REFERENCES

Biewener, A. A. and Dial, K. P. (1995). *In vivo* strain in the humerus of pigeons (*Columba livia*) during flight. *J. Morph.* **225,** 61-75.
Blob, R. W. and Biewener, A. A. (1999). *In vivo* locomotor strain in the hindlimb bones of *Alligator mississippiensis* and *Iguana iguana*: implications for the evolution of limb bone safety factor and non-sprawling limb posture. *J. Exp. Biol.* **202,** 1023-1046.
Currey, J. D. (2002). *Bones. Structure And Mechanics*. Princeton, NJ: Princeton University Press.