

Author's Accepted Manuscript

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PII: S1751-6161(17)30244-8
DOI: <http://dx.doi.org/10.1016/j.jmbbm.2017.06.007>
Reference: JMBBM2366

To appear in: *Journal of the Mechanical Behavior of Biomedical Materials*

Received date: 25 April 2017
Revised date: 4 June 2017
Accepted date: 6 June 2017

Cite this article as: Chris Broeckhoven, Anton du Plessis and Cang Hui
Functional trade-off between strength and thermal capacity of dermal armor
insights from girdled lizards, *Journal of the Mechanical Behavior of Biomedical
Materials*, <http://dx.doi.org/10.1016/j.jmbbm.2017.06.007>

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Functional trade-off between strength and thermal capacity of dermal armor: insights from girdled lizards

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ABSTRACT:

The presence of dermal armor is often unambiguously considered the result of an evolutionary predator-prey arms-race. Recent studies focusing predominantly on osteoderms – mineralized elements embedded in the dermis layer of various extant and extinct vertebrates – have instead proposed that dermal armor might exhibit additional functionalities besides protection. Multiple divergent functionalities could impose conflicting demands on a phenotype, yet, functional trade-offs in dermal armor have rarely been investigated. Here, we use high-resolution micro-computed tomography and voxel-based simulations to test for a trade-off between the strength

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