

## **Adaptive changes in growth and morphological composition of aestivating giant African land snails, *Archachatina marginata* and *Achatina achatina***

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### **ABSTRACT**

The experiment investigated the changes in liveweight and body composition at 0 (control), 2, 4 and 6 weeks of aestivation using 40 snails. The experiment was conducted in a completely randomized design laid out in a species x weeks factorial arrangement. The results showed that though both species had identical initial liveweights, the overall average weight after 6 weeks of aestivation was significantly higher ( $P < 0.05$ ) for *A. marginata* ( $138.31 \pm 5.47\text{g}$ ) than for *A. achatina* ( $118.81 \pm 6.61\text{g}$ ). In both species, liveweight declined significantly ( $P < 0.001$ ) with weeks of aestivation to 88.7, 83.1 and 52.4% of initial liveweight for *A. marginata* and 82.1, 62.8 and 35.0% for *A. achatina* during 2, 4 and 6 weeks respectively. There were declines in shell weight ( $P < 0.05$ ), soft body weight ( $P < 0.05$ ), dry weight ( $P < 0.01$ ), haemolymph ( $P < 0.01$ ) and body moisture ( $P < 0.001$ ) for both species over the 6 weeks of aestivation. The species effect was more pronounced in *A. achatina* than in *A. marginata*.

### **Keywords:**

Adaptation, aestivation, growth, body, composition, giant African land snails