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植物保护科学

条华蜗牛（Cathaica fasciola）翻身习性的研究*

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摘要：

【研究目的】研究条华蜗牛翻身习性，并研究蜗牛体重、环境温度、光照强度、饥饿和取食等因素对翻身时间的影响作用。【方法】将蜗牛身体倒置后，用秒表记录蜗牛身体从倒置至恢复原状的翻身时间长短来比较不同因素对翻身时间的影响。【结果】翻身时间随体重、光照强度和饥饿时间增加而增加，而随温度和取食时间增加而减少。体重与翻身时间呈极显著正相关（P<0.0001）。三体重组（I、III、V）翻身时间在30～40℃和取食48h分别极显著短于相应10℃和12h的（P<0.01）。在最低强度的白炽灯光（37.8LX）下翻身时间都极显著短于最高光强（4310LX）的，相同光照强度不同光质对翻身时间也有一定影响。饥饿72h后翻身时间都极显著长于12h的。【结论】条华蜗牛身体倒置恢复原状的时间可受多个因素的影响，除受到自身体重的影响外，还受到如光照、温度、是否取食等多个外界因素的影响。

关键词： 条华蜗牛;翻身时间;体重 温度;光照;饥饿;取食

The Study of Body-Turning Behavior of Cathaica fasciola

Abstract:

【OBJECTIVE】In order to study the behavior of body-turning in Cathaica fasciola, the effects of snail body weight, environmental temperature, illumination intensity, feeding and starvation on the duration of body-turning were studied. 【METHOD】After the snails were put upside down, the durations for the snails to resume the original posture were recorded with a stopwatch, and the effects of different factors on the duration of body-turning were compared.【RESULTS】The body-turning time increased with the snail body weight, the illumination intensity and starvation time, but decreased with the environmental temperature and the feeding time. The snail body weight correlated highly positively with the duration of body-turning (P<0.0001). The body-turning durations of three groups(group I、III、V) under 30-40℃ and feed for 48h were highly significantly shorter than those under 10℃ and feed for 12h, respectively (P<0.01). The body-turning durations of three groups under the lowest illumination intensity (37.8LX) from electric incandescent lamp were highly significantly longer than those under the highest illumination intensity (4310LX) (P<0.01). Under the same illumination intensity, the illumination from daylight lamp and electric incandescent lamp had some different effects on the body-turning durations. After being starved for 72h, the body-turning durations were highly significantly longer than those for 12h. 【CONCLUSION】The durations of Cathaica fasciola to resume the original posture after being put upside down were affected by many factors. Besides the snail's body weight, other exoteric factors such as environmental temperature, illumination intensity, feeding and starvation also affected the body-turning durations.

Keywords: Cathaica fasciola;duration of body-turning;body weight;temperature;illumination intensity;feeding;starvation

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