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The Effects of Incubation Temperature on Development Time and Juvenile Size in the Freshwater Snail *Physa* sp.

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Poster Presentation P32

THE EFFECTS OF INCUBATION TEMPERATURE ON DEVELOPMENT TIME AND JUVENILE SIZE IN THE FRESHWATER SNAIL *PHYSA* SP.

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In 2002 we discovered that eggs of the snail *Physa* sp., when incubated at 20 °C, produced larger juveniles than eggs incubated at 25 °C. This study is a continuation of this earlier effort. *Physa* sp. eggs are laid in masses, with many egg capsules surrounded by a gelatinous material. Collected masses were each divided into four equal parts. Two sections were separated into individual capsules. The other two sections were kept in a mass form. One mass section and one group of individual capsules both were incubated at 20 and 25 °C. All individuals in each experiment were at least half siblings. Capsules were incubated with 12:12 hour light cycles and checked twice daily for hatching. Eggs incubated at 25°C took a significantly less time (average = 82 h) to hatch than those incubated at 20°C (average = 152 h). Incubation at the higher temperature resulted in significantly smaller juveniles (shell lengths) than the individuals produced from sibling capsules incubated at 20°C. Despite a significant difference in shell length among juveniles incubated at different temperatures, there was no significant difference in dry organic weight (biomass) of the individuals. These results indicate that shell length is not an accurate predictor of snail size (biomass) and shell growth and biomass growth are not equally affected by temperature. We propose that rate of biomass growth decreases with decreased temperature, but shell growth rate remains the same, or slows to a lesser degree. Thus, the processes involved in biomass growth are more temperature sensitive than those for shell growth.