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## Developmental Consequences of Egg Capsule Attributes among Sibling and Nonsibling Egg Capsules of the Freshwater Snail *Lymnaea Columella*

Kristin Keller, '02  
*Illinois Wesleyan University*

William Jaeckle, Faculty Advisor  
*Illinois Wesleyan University*

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Poster Presentation P33

**DEVELOPMENTAL CONSEQUENCES OF EGG CAPSULE ATTRIBUTES  
AMONG SIBLING AND NONSIBLING EGG CAPSULES OF THE  
FRESHWATER SNAIL *LYMNAEA COLUMELLA***

Kristin Keller and William Jaeckle\*

Department of Anthropology, Illinois Wesleyan University

Among invertebrate species, female reproductive energy can be divided two ways, the production of many small eggs each with small amounts of energy or a few large eggs each with large amounts of energy (McEdward, 1988; Baur, 1994; Baur & Baur, 1997). It has also been demonstrated that variation in egg size and energy content among species leads to variation in juvenile fitness, as measured by juvenile survivorship (McEdward, 1988). No studies, however, examine the possible developmental consequences of egg size variation among sibling and nonsibling eggs of conspecific adult individuals. In our project, we examined newly-laid egg capsules from the freshwater snail *Lymnaea columella* (from single and different egg masses) for differences in “egg” attributes (e.g., total capsule volume, egg volume, and intracapsular fluid volume) and developmental characters (e.g., time to hatching from the capsule and juvenile size (shell length)). Our results show that while there was no significant difference in egg capsule volume or intracapsular fluid volume, there was a significant difference in egg volume among seven different egg masses. Differences were also detected in both development rate and juvenile size among four different egg masses. Juvenile size was positively correlated with capsule volume, egg volume, and intracapsular fluid volume, indicating that initial “egg” attributes have a positive effect on juvenile characteristics. The rate of development (time to hatching) was inversely correlated with egg size, which means that larger eggs develop faster than smaller eggs and therefore hatch sooner. Overall, our results show there are developmental consequences of egg size variation, both among and within egg masses of the snail *L. columella*.