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What is Influencing Juvenile Volume and Weight?

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Poster Presentation P25

WHAT IS INFLUENCING JUVENILE VOLUME AND WEIGHT?

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Intuition predicts the more nutrients available during development, the larger the offspring. Larger amounts of ingested nutrients should increase juvenile size above that if lesser amounts of nutrients were consumed. The freshwater snail, *Physa* sp., is hermaphroditic and lays its encapsulated eggs in a mass of jelly-like material. The capsular fluid contains all of the available nutrients for the developing snail. We tested the hypothesis that a larger capsule would produce a larger juvenile because more nutrients are available to the developing embryo. Egg masses were collected and individual egg capsules were placed into separate wells for developmental observation. Length and width of each capsule and hatched juvenile were measured. After hatching the juveniles were frozen and then dried to a constant weight. Surprisingly, we found no relation between capsule volume and juvenile size. Instead, there was an inverse relation between capsule volume and juvenile volume per capsule volume. In essence, the relationship indicated that the proportion of capsular volume represented in juvenile size decreases with increasing capsule size. Two possible explanatory hypotheses are that snail embryos are metabolically inefficient, or that capsular size does not reflect available nutrients.