



Apr 12th, 2:35 PM - 3:35 PM

## The Uptake of Dissolved Organic Matter by Juvenile *Nematostella Vectensis*

Jessie Yesensky  
*Illinois Wesleyan University*

Allison Hebron  
*Illinois Wesleyan University*

Will Jaeckle, Faculty Advisor  
*Illinois Wesleyan University*

Follow this and additional works at: <https://digitalcommons.iwu.edu/jwprc>

---

Yesensky, Jessie; Hebron, Allison; and Jaeckle, Faculty Advisor, Will, "The Uptake of Dissolved Organic Matter by Juvenile *Nematostella Vectensis*" (2008). *John Wesley Powell Student Research Conference*. 12.

<https://digitalcommons.iwu.edu/jwprc/2008/posters2/12>

This Event is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact [digitalcommons@iwu.edu](mailto:digitalcommons@iwu.edu).

©Copyright is owned by the author of this document.

Poster Presentation P20

**THE UPTAKE OF DISSOLVED ORGANIC MATTER BY JUVENILE  
*NEMATOSTELLA VECTENSIS***

Jessie Yesensky, Allison Hebron and Will Jaeckle\*  
Biology Department, Illinois Wesleyan University

Among marine invertebrates, nutrients can be acquired by consumption of particulate forms of food and through the absorption of organic molecules in seawater. We evaluated the ability of juvenile sea anemones (*Nematostella vectensis*) to take up dissolved organic matter (DOM) from seawater. As a cnidarian, the starlet sea anemone is diploblastic, composed of an endoderm, ectoderm, and an intervening mesoglea. Previous research has examined the uptake of DOM by the ectoderm and endoderm by anemone planula larvae. To investigate the mechanisms of DOM uptake, individuals were exposed to fluorescently labeled protein and a polysaccharide (2 mg/mL) for seven hours. Using fluorescence microscopy, we monitored the distribution of fluorescent labels with increasing exposure times. Vesicles containing protein, polysaccharide or both were found only in the endoderm. The distribution of vesicles containing the fluorescent molecules suggests the uptake of larger molecular weight proteins and polysaccharides was non-specific pinocytosis rather than receptor-mediated endocytosis.