



## Illinois Wesleyan University Digital Commons @ IWU

---

John Wesley Powell Student Research  
Conference

2008, 19th Annual JWP Conference

---

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: <http://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.

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

This Event is brought to you for free and open access by The Ames Library, the Andrew W. Mellon Center for Curricular and Faculty Development, the Office of the Provost and the Office of the President. It has been accepted for inclusion in Digital Commons @ IWU by the 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.