



Illinois Wesleyan University
Digital Commons @ IWU

John Wesley Powell Student Research
Conference

2001, 12th Annual JWP Conference

Apr 21st, 2:00 PM - 3:00 PM

What is a Myzostomid and Who Cares Anyway?

Kimberly Branson
Illinois Wesleyan University

Elizabeth Balser, Faculty Advisor
Illinois Wesleyan University

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

Branson, Kimberly and Balser, Faculty Advisor, Elizabeth, "What is a Myzostomid and Who Cares Anyway?" (2001). *John Wesley Powell Student Research Conference*. 15.
<https://digitalcommons.iwu.edu/jwprc/2001/posters2/15>

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.

©Copyright is owned by the author of this document.

Poster Presentation 2

WHAT IS A MYZOSTOMID AND WHO CARES ANYWAY?

Kimberly Branson and Elizabeth Balser*

Department of Biology, Illinois Wesleyan University

Myzostomids are a group of marine worms symbiotic with crinoids (relatives of sea stars) that have historically been included in the phylum Annelida, which also contains other marine worms, earthworms, and leeches. Recent work by Eeckhaut *et al.* (2000), however, suggests that these worms are not evolutionarily closely related to annelids. This hypothesis is based primarily on the dissimilarity of myzostomids genetic sequences to those of annelid species. Further, Eeckhaut (1997) excludes myzostomids from the Annelida because he believes that they lack a distinct cell-lined internal body cavity called a coelom—a defining characteristic of annelids. In contrast, a review of the classical literature on the morphology and development of myzostomids shows that these animals have a body cavity associated with the gonad that is lined by cells and that develops similarity to coelomic cavities in annelids. The work presented here reexamines the morphology of myzostomids with the intention of confirming the presence or absence of a coelom. Sections were taken from a myzostomid worm that had been prepared using standard methods (Balser and Ruppert, 1993) for light and electron microscopy. Morphological evidence of the presence of a coelomic cavity includes the presence of a cell layer lining a fluid-filled body cavity. This cellular lining consists of epithelial cells possessing an anterior hair-like projection called a cilium, cellular junctions interconnecting adjacent cells, and a connective tissue layer on which the cell rest. Photographic evidence will be presented to answer the question about the presence or absence of a coelom in myzostomids and relationship between myzostomids and annelids will be reevaluated.