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Variable Absorption of Dissolved Organic Material by Pilidium Larvae

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Poster Presentation P5

**VARIABLE ABSORPTION OF DISSOLVED ORGANIC MATERIAL
BY PILIDIUM LARVAE**

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Many marine nemerteans develop through a free-swimming stage called a pilidium larva. Pilidia are known to feed on suspended single-celled algae and bacteria. Pilidia may use dissolved organic materials (DOM) in seawater as an additional source of nutrition. We investigated DOM absorption by pilidium larvae collected from two geographical regions. Larvae collected from the western Atlantic Ocean showed no detectable absorption of the protein ferritin (1 mg / mL) from seawater (≤ 10 h, 25°C). In contrast, when larvae of Antarctic nemertean *Parborlasia corrugatus* were exposed to the polysaccharide iron dextran (1 mg / mL) for ≤ 26 h (0°C) the label was detected in the cells of the digestive system. This pattern of absorption is explained by seawater flow into the digestive system. For tropical larvae, data do not support DOM as a potential nutrient source; while for polar larvae, it seems that DOM could serve as an augmenting resource.