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The Uptake of Dissolved Molecules by the Freshwater Rotifer, *Asplanchna Priodonta*

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Oral Presentation O1.2

**THE UPTAKE OF DISSOLVED MOLECULES BY THE
FRESHWATER ROTIFER, *ASPLANCHNA PRIODONTA***

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DOM (dissolved organic matter) is an abundant potential source of nutrition for aquatic invertebrates, however, its nutritional significance is not well documented. Rotifers are water aquatic metazoans which utilize a ciliated corona for food acquisition. The carnivorous freshwater rotifer, *Asplanchna priodonta*, was exposed to labeled proteins and polysaccharides at substrate concentrations of $\leq 1\text{mg/mL}$ for 1-18 hours. Initially, the labels were observed within the stomach lumen and gastric epithelium. With extended exposure, the intensity of the label increased and was detected within the body cavity. These results suggest that the gastric cavity is continually exposed to freshwater and DOM present may be absorbed. This is consistent with previous studies describing digestion as initially extracellular and subsequently intracellular within endocytotic vesicles. The presence of labeled compounds within stomach cells and the body cavity of *A. priodonta* demonstrates this species's ability to digest and assimilate DOM as a possible source of nutrition.