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Assimilation of Dissolved Organic Matter By Nauplius Larvae of / Artemia / SP.

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Poster Presentation P61

ASSIMILATION OF DISSOLVED ORGANIC MATTER BY NAUPLIUS LARVAE OF /ARTEMIA/ SP.

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Artemia sp. is an aquatic crustacean commonly known as Brine Shrimp or Sea Monkey. Each generation begins when females lay cysts containing developmentally arrested embryos. Their free-living life cycle begins when embryos are activated and hatch as nauplius larvae. Nauplius larvae have three appendage pairs that are used for locomotion and collection of particulate foods. Owing to the presence of a cuticle, they are considered incapable of assimilating dissolved organic material (DOM) from seawater. We exposed nauplii to a fluorescently labeled protein (0.5 mg/mL) in seawater and evaluated the distribution of the label using fluorescence microscopy. The label initially appeared only in the digestive system. With continued exposure, fluorescence was seen throughout the larval body suggesting that materials were distributed into the blood vascular system. Nauplii of Artemia pass seawater through their digestive system and are capable of assimilating DOM and their diet consists of both particulate and dissolved foods.