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Oral Presentation O3.1

**ARE NUTRIENTS ASSIMILATED IN JUVENILES OF THE BRITTLE STAR  
AMPHIPHOLIS SQUAMATA (ECHINODERMATA: OPHIUROIDEA)?**

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Many brittle stars brood their young in bursae, internal pouches that are open to the exterior at the bases of the arms (Byrne 1991). These bursae are both a site of gas exchange and serve as an opening for gamete release. In some species, the bursae are also used for brooding (Ruppert and Barnes 1994). For species that brood, eggs are released into the bursal pouch where they are fertilized. While developing, larvae may receive nutrition from the yolk stores from the egg and from another source. The ophiuroid *Amphipholis squamata*, with its small, non-yolky eggs, is thought to follow the latter example. Its eggs are on average 100  $\mu\text{m}$  in diameter (Walker and Lesser, 1989) and the juveniles grow to have a disc diameter of about 800  $\mu\text{m}$  when they exit the bursae (Fell, 1946). An egg of this species cannot provide enough direct nutrition to produce a juvenile; the developing larvae must acquire nutrients from another source. Fontaine and Chia (1968) found that the developing larvae and juveniles of *A. squamata* assimilated dissolved organic material (DOM) as small, monomeric units of glucose and amino acids. Because these organic molecules are so low in energy, it is unlikely that their presence as DOM in seawater would contribute significantly to larval nutrition. We therefore designed this study to determine if the juveniles of *A. squamata* are able to take up DOM in the form of large polysaccharides (dextran) and polypeptides (ferritin and albumin) because these molecules are more likely to provide a substantial source of nutrients for developing larvae and juveniles.