POLLY WANT A SPONGE? : FIELD EXAMINATION OF SPONGIVORY BY CARIBBEAN PARROTFISHES IN REEF AND MANGROVE HABITATS. *Memoirs of the Queensland Museum 44: 160. 1999*:- Caribbean sponge species such as *Xestospongia muta* frequently display linear grazing scars that appear to have been made by parrotfishes, yet there are few scientific reports of parrotfish spongivory. We used a video camera to monitor 40 specimens of *X. muta* for a minimum of 0.5 hr/sponge to determine the frequency of parrotfish bites on this species. Ten hours of taping captured 45 bites on normally coloured sponges, and 527 bites on four bleached sponges. Also, the guts from parrotfishes collected in mangrove and reef habitats were digested in nitric acid and analysed for spicule content. Parrotfishes collected in the mangroves (*Sparisoma aurofrenatum*, *Scarus croicensis*, and *Sc. taeniopterus*) had a significantly greater mass of spicules in their guts than did parrotfishes collected on the reef (*Sp. aurofrenatum*, *Sp. viride*, *Sp. chrysopterum*, *Sc. vetula*, *Sc. coelestinus*, and *Sc. taeniopterus*). Up to 148mg of spicules were present in the guts of mangrove parrotfishes. The spicules of *Geodia gibberosa*, a sponge that is common in the mangroves but rare in exposed locations on the reef, were abundant in the gut samples. Our results suggest that some sponge species are palatable not only to specialist predators such as sea turtles and angelfishes, but also to species that are not usually recognised as sponge predators. ❐ *Porifera, spongivory, parrotfishes, Xestospongia muta, Geodia gibberosa, Sparisoma spp., Scarus spp., spicules, ecology, predation.*

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DEVELOPMENT OF *HALISARCA DUJARDINI* JOHNSTON 1842 (PORIFERA, CERACTINOMORPHA: HALISARCIDA) FROM EGG TO FREE LARVA. *Memoirs of the Queensland Museum 44: 160. 1999*:- Embryonic development in the sexual viviparous sponge *Halisarca dujardini* from the White Sea (Arctic) shallow water was studied. Complete, equal, asynchronal cleavage is characterised with variability of analogous developmental stages and the lack of the strictly determined clevage spindles position. The cytoplasm is filled with numerous yolky granules with heterogenic contents. At the 16-24 cell-stage a small cavity is formed. Blastomeres and the embryo polarity are not expressed. Large nuclei containing pronucleolar bodies are situated at the central parts of the cells. From the 16-24 cell- stage, true nucleolus formation starts. The polarisation of blastomeres is expressed by the distal movement of nuclei and changes in cell form. Cleavage furrow planes obtain the similar radial pattern forming roundish coeloblastula 130-170µm in diameter with the small cavity restricted with long wedge-shaped cells.

The internal layer of the larva is formed at the 100-130 cell-stage owing to the individual cells' apolar migration out of the blastula walls. At the same time flagella are formed on the cells' apical surfaces, yolk granules being concentrated basally. Internal cells proliferate actively, differentiating into nucleolated amoebocytes, granular cells and collencytes.

The larvae are is disphaerula it consists of two flagellated sphaerae external and internal. The disphaerula is completely covered with flagella.

Flagellated cells are less numerous at the posterior pole. Flagellated epithelial cells are wedge-shaped. At their apical parts they contain a drop-like nucleus with nucleolus and a flagellum embedded into a pocket-like cytoplasmic invagination. The basal 2/3 of the cell volume is filled with numerous yolk granules. Flagellated cells are connected at their apical end by outgrowths of the plasma membrane embedded into similar invaginations of the neighbouring membrane. Posterior flagellated cells are trapeziform or rectangular, and contain numerous yolk granules. The nuclei are roundish, with large nucleoli. The internal sphaera is formed by invagination of lateral cells. These sphaera are formed by a layer of cylindrical cells that have flagella inside the cavity. Their piriform nuclei contain nucleoli, and there are yolk granules in the cytoplasm. There are no specialized cell contacts between blastomeres and larval cells. The spiral symbiotic bacteria are present in the central part of the larva and in intercellular spaces. Some peculiarities of *H. dujardini* embryogenesis are unique among Ceractinomorpha and are a matter of principle for comparative embryological studies of Porifera. They are: 1) total equal asynchronic cleavage; 2) equal, apolar coeloblastula with a small cavity; 3) unexpressed polarity of blastomeres; 4) subsequent of the same type radial cleavage leading to the cell polarisation and coeloblastula formation; 5) formation of an internal cell mass in the embryos by multipolar cell ingression at the 100-130 cell-stage; 6) development of special larva disphaerula; 7) formation of internal sphaera by invagination. All the features mentioned can serve as additional arguments for separation of the Halisarcida as an order (Bergquist, 1996). ❐ *Porifera, Halisarca dujardini, embryology, cleavage, larva, cells, ultrastructure.*

Literature cited.

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