Diel Feeding Patterns of Angelwing Clam *Pholas (Monothyra) orientalis* (Gmelin,1790)

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Abstract of thesis entitled

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Filtration rate of *Pholas orientalis* measured using the indirect suspension deletion method and monitored by direct algal cell counts. Phytoplankton *Isochrysis galbana* was used as food at an algal cell concentration of 2.5 x 10^5 cells ml $^{-1}$. Biological rhythms have been demonstrated in all animals and plants except bacteria. They control rhythmic patterns in behavior and physiology of a living organism. Biological rhythms, or oscillations, have a "period" that is measured from one arbitrary point or phase of the rhythm to the next occurrence of that phase. They are best demonstrated in a 24 h cycle or circadian cycle.

There is a widely varying feeding activity in the 24h cycle of *P. orientalis* observed at a constant temperature of 27^0C and hydrogen ion concentration of $35^0/_{00}$. Like any other bivalves, *P. orientalis* has defined feeding periods equivalent to food uptake at 2400h-0300h. Such observation could be supported by a previous study by Corda stating that optimal feeding was obtained at total darkness. Periods of digestion occur shortly after the periods of feeding.

P. orientalis when actively feeding were observed to have extended siphons, larger valve openings, and an inclination of 45 °. One primary external stimulus that affected filtration rate was the amount of light present.

Biorhythms provide temporal information, such as the time of day or season of the year, which facilitates adaptation of the organism to internal or external environments.