

**Ingestion rate of *Charybdis feriatus* zoea on *Brachionus*
and *Artemia* nauplii**

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Abstract of Thesis

A study was conducted to determine if presence of *Brachionus* will affect ingestion of *Charybdis feriatus* larvae on the *Artemia* and to find out the rate of ingestion with increasing density of *Artemia*.

The experiment was conducted using 10-ml capacity vials filled with 6 ml of seawater (26-30 ppt). Increasing densities of *Artemia* were prepared (0.5, 2.5, 5.0, 10.0, and 20 ind/ml). In one set-up, *Brachionus* (15 ind/ml) was added. In another set, *Brachionus* was absent. Another set-up for *Artemia* with and without *Brachionus* was prepared but without *Charybdis feriatus* larvae which served as the control. There were five replicates per treatment. The amount of food prey (*Brachionus* and *Artemia*) ingested is determined after 24 hours of feeding on the first day of every zoeal stage (Z1, Z2, Z3, Z4, and Z5). The number of prey ingested by the crab larvae was then calculated. The prey organisms left in containers were then examined under the microscope for missing body parts.

The results showed a trend of increasing ingestion rate with increasing *Artemia* density. This is observed both in treatments with and without *Brachionus*. The ingestion rate of *C. feriatus* larvae on the rotifer *Brachionus plicatilis* showed no trend. However, in zoea 1, there was a trend of increasing ingestion on *Brachionus* as the feeding density increases. And in zoea 5, it was seen that there is decreasing ingestion on *Brachionus* as the feeding density increases. There is a trend of increasing ingestion rate on *Artemia* nauplii as the *Charybdis feriatus* larvae grow from zoea 1 to zoea 5. There is also a trend of increasing number of observed *Artemia* with missing body parts as the *Charybdis feriatus* larvae grow from zoea 1 to number of zoea 5. In addition, there is an increasing number of observed *Artemia* nauplii with body parts partially ingested as feeding density increases. The presence or absence of *Brachionus* shows no significant effect on the ingestion on *Artemia* at low feeding densities (0.5, 2.5, 5 and 10 ind/ml) in all zoeal stages. However, at high feeding densities (20 ind/ml) the ingestion on *Artemia* is significantly different as seen is zoeal stage 1, 3 and 4.