

# CHARACTERISTICS OF SUMMER GENERATION OF ADRIATIC MYSID *HEMIMYSIS LAMORNAE* (COUCH, 1856) FROM THE AQUARIUM POPULATION, EVALUATION FOR AQUACULTURE APPLICATION

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## Abstract

A population of Marine mysid *Hemimysis lamornae* from aquarium pools was statistically analysed, and was found to consist of 41% males (TL 4,44668±0,489 mm), 28% females (TL 4,5727±0,5425 mm) and 31% juvenile individuals (TL 2,2103±0,7364 mm). Average egg count were 4,166±6,06 eggs/female. Larger females carried more eggs and young than smaller females.

**Keywords:** Mysidacea, *Hemimysis*, population, fecundity, aquaculture

## Introduction

New live food sources for aquaculture are sought for every day (1, 2), which can have a great influence for development of aquaculture of several, mainly invertebrate species. Aside from *Brachionus plicatilis* and *Artemia salina*, several mysid species are evaluated and used as live food in larval production of marine cephalopods (3, 4), and other species are being evaluated as potential candidates for aquaculture use (5, 6). These results represent preliminary data on the potential of *Hemimysis lamornae* as a valuable live food organism.

## Materials and methods

The samples of *Hemimysis lamornae* populations were collected from the Dubrovnik aquarium concrete pools during October and November, 2002, using a circular frame plankton net (500 µm mesh size) towed through the mysid cloud. The animals were preserved in 5% buffered seawater formaldehyde prior to measurements. The specimens were measured under binocular microscope utilizing a ocular micrometer with a printer. Total length (TL) was measured as the distance between the tip of rostrum, between the eyestalks and the posterior end of the telson, including the spine on it. Along with the TL measure the sex composition and the egg-count/fecundity were also recorded and analyzed at this point. The juveniles have not been further analyzed and systematized beyond determining the lack of maturity characteristics such as the penises and pouch in the males and females respectively.

## Results

The length (TL)-frequency distribution on the cumulative histogram (Fig.1) shows two different cohorts within this population, one that consists of juvenile animals (2,210391±0,736434mm, N=93), and other that consists of mature males (4,446668±0,489045, N=123) and females (4,57278±0,542526, N=84). The distribution of TL in the male and female group differed only by frequency, and otherwise showed no statistical difference (ANOVA, p<0,05). The sex/maturity composition of *H. lamornae* population as percentages was 0,41:0,28:0,31 (males:females:juveniles). Brood size, i.e. the number of larvae in the marsupium showed a positive correlation with total length of females (TL) (Fig. 2), which indicates that larger females produced larger broods.

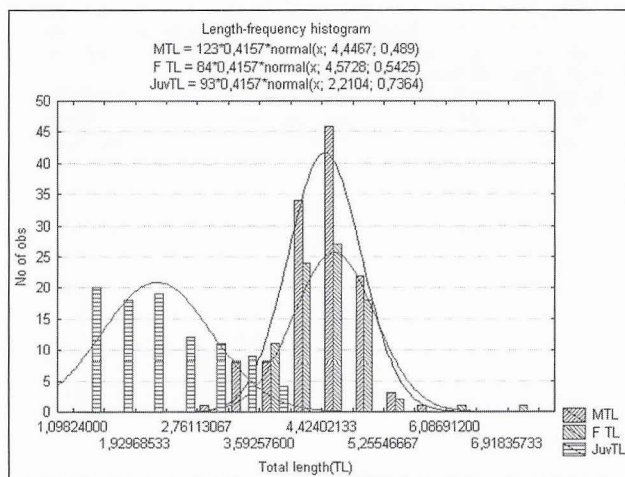


Fig. 1. Length-frequency distribution of *H. lamornae* population.

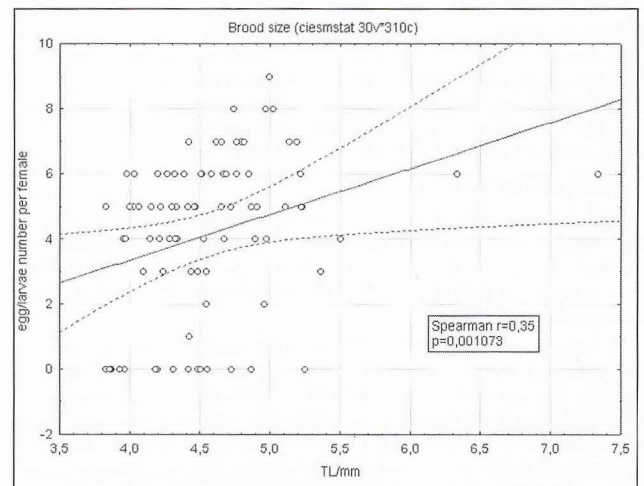


Fig. 2. Female TL/brood size regression plot.

## Discussion

Some basic data are given on the summer population of marine mysid *Hemimysis lamornae*. Length-frequency distribution within the whole group of animals divided by sex and maturity criteria showed bimodal distribution, with two groups, one of young animals, and the other of adult males and females. The animals reached maturity at approximately 3,0-3,5 mm (Fig. 1).

The results of the brood size analysis corroborate the hypothesis on positive correlation with the female size (Fig. 2) (7), which is correct for our single stage sample, but changes with different season (8), and remains to be determined for *H. lamornae* by sampling throughout the year.

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