

Larval Culture Technique of the Japanese Giant Spider Crab *Macrocheira kaempferi*

○Kazutoshi Okamoto¹

1. Shizuoka Prefectural Research Institute of Fishery

The Japanese giant spider crab *Macrocheira kaempferi* is the largest crustacean in the world and one of the most important species for exhibition. The development of this crab culture and resource management for sustainable fisheries is our prime focus in ensuring the continuity of this crab availability. In order to produce many juvenile crabs artificially, it is necessary to study the optimum conditions for larval rearing. There are 1 prezoal stage, 2 zoeal stages and 1 megalopa stage.

The influence of temperature on the survival and growth of larvae of the crab was investigated in the laboratory. *Artemia* nauplii were given as prey. Survival temperature ranges for zoea and megalopa were 12 to 23 °C and 11 to 18 °C, respectively. The duration of each stage increased exponentially at lower temperature. Molting interval was longest for megalopa, followed in order by the 2nd zoea and 1st zoea in that order. The optimum rearing temperature for all the larval stages was 15 to 18 °C. The duration of the planktonic larval stage could range from one to three months.

Larvae of the crab were reared from hatching to the first crab stage in the combination of several conditions, e. g. rearing water, food, bottom substrate, water temperature. The highest survival rate as obtained in a group in which filtered seawater with antibiotics was used, *Artemia* nauplii were given, coral sand was placed in the rearing container after megalopa stage, and water temperature was maintained at 18 °C during the first zoeal stage and at 15 °C after the second zoeal stage. In this group, the best survival to the megalopa and first crab stages were 90 % and 67.5 %, respectively. The number of bacteria should be maintained lower than 10⁴ CFU/mL to rear the larvae.