

P1

Study on the Rearing and Feeding Effect on the Newly Hatched Larvae
of a Freshwater Prawn, *Macrobrachium rosenbergii*(De Man)
Reared in the Laboratory Conditions.

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The genus *Macrobrachium* (Decapoda, Palaemonidae) is distributed in tropical Asia and on South Pacific islands, attains the largest size among the group, 30 cm or occasionally 40 cm in body length.

This study dealt with a daily survival of zoea larvae and metamorphosed rate in *Macrobrachium rosenbergii* (De Man), from the newly hatched larvae up to the postlarvae, reared within a recirculation system under the laboratory conditions at 27.6~28.8°C, 6.71~6.95‰ CL. and pH8.0~8.2, fed on *Artemia salina* nauplius (Francisco's production)

According to this investigation, the zoea larvae were metamorphosed into the first postlarvae in 30 days-rearing from hatching, and the metamorphosed rate to the postlarvae in 50 days-rearing was about 44%, while the maximal mortality through all zoea larvae periods was about 33% of all and it was occurred within 4-5 days rearing after hatching. While authors looked into, also, a feeding effect on zoea larvae rearing and metamorphosed rate to postlarvae at different foods (e. g. Feeding on rotifer, cattle liver powder and *Artemia* nauplius kept within a recirculation systematic aquarium, and "Green water" media aquarium kept with *Chlorella* sp. only without feeding and "Green water" media aquarium with feeding on *Artemia* nauplius) in the laboratory conditions at 27.0~28.8°C, 6.74~7.28‰Cl. and pH8.0~8.2. According to this trial, *Artemia* nauplius was more effective as food to rear zoea larvae into postlarvae metamorphosed and its metamorphosed rate to the first postlarvae was 49% in the case which was kept within a recirculation system method.

Key words: *Macrobrachium rosenbergii*, Postlarvae, Metamorphosed, Green water

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Screening of Chemosensitizer Candidates using Natural Extracts

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P-glycoprotein (P-gp) is a very important drug transporter, which plays an important role in drug disposition and represents an additional mechanism for the development of multidrug resistance. Flavonoids, a major class of natural compounds widely present in foods and herbal products, have been shown to be P-gp inhibitors. The objective of the present study was to identify new chemosensitizer candidates through the screening of various herbal extracts. The inhibitory effects of herbal extracts on P-gp activity were assessed by measuring accumulation of calcein AM using P-gp overexpressed L-MDR1 cells. *Curcuma longa* showed the most potent inhibition on P-gp function. The inhibitory potential of P-gp was in the order: *Curcuma longa* > *Curcuma aromatica* > *Ageratum conyzoides* > *Zanthoxylum planispinum* > *Zedoariae rhizome* > *Rakta chandan* > *Dalbergia odorifera* > *Caesalpinia Sappan* > *Aloe ferox*. To identify individual constituents with inhibitory activity, the herbal extracts were analyzed by LC/MS/MS. Several flavonoids such as curcumin, a well-known P-gp inhibitor, were identified through mass spectral library search. These in vitro data indicate that herbal extracts contain constituents that can potentially inhibit the activities of P-gp and suggest that these herbal extracts should be examined for potential chemosensitizer in vivo.

Key words: Natural extracts, flavonoids, chemosensitizer, P-gp