



Impact of Palaemon Varians Dietary Strain on Aquaculture Development

Georgy Aseev*

Department of Zoology, Tomsk State University, Tomsk, Russia

DESCRIPTION

A desirable choice for caridean shrimp farming is the Atlantic ditch shrimp, *Palaemon varians* Leach. To boost the productivity of this organism and take advantage of possible mechanisms linked to compensatory growth, the impacts of nutritional stress, especially terms of different food quality and feeding frequencies, must be further clarified. In line with this, growth rate and metamorphosis duration Fatty acid profiles of *P. varians* larvae and Post-Larvae (PL) subjected to various dietary stress scenarios were assessed. Overall, larvae and PL used the calories of high quality and unrestricted diet to moult till the next stage rather than increase their biomass or FA contents after going through nutritional stress. *P. varians* exhibits compensation growth far beyond life stage that suffered feeding restriction, therefore repeated fasting and feeding may be a useful technique to increase production, at least till the juvenile stage.

Marine coastal aquaculture is the cultivation of crustaceans, primarily Whiteleg shrimp, in tropical and subtropical regions. In light of the predicted situations of climate change, which include the rise in ocean temperature and ocean warming, extreme as well as frequent climatic events, changes in system productivity, and changes in ocean circulation, all of which have the potential to have a negative impact on coastal aquaculture production, it is especially alarming that the production of crustaceans is dependent on a single species of prawn. Therefore, it is crucial to diversify marine prawn farming, especially in terms of species and geographical areas of production.

The Atlantic ditch shrimp, *Palaemon varians* Leach, is a widespread brackish and estuary species found along the northern Atlantic coasts. It is eurythermal and exhibits a shortened life cycle with at least four instar larvae. *P. varians* is a desirable option for prawn aquaculture in moderate Atlantic coastline zones due to these characteristics, as well as its commercial importance in some EU markets, simplicity of upkeep, and production in captivity. *P. varians*' potential for aquaculture is yet supported (or disputed) by thorough information on the animal growth rate, time to achieve market size, and availability for formulated food that has not yet been published in scientific literature.

It is important to note that *P. varians* lays eggs that are somewhat big compared to those of its congeners, and that the larvae show both primary and secondary lecithotrophy in addition to planktotrophy. The higher fat content of the yolk during hatching, which enables the survival and development of earliest larval stages even in the absence or insufficient quality of foreign food, is probably related to this trophic flexibility. These characteristics are unquestionably important for large-scale aquaculture industry because prawn feeding expenses must be thoroughly taken into account. Moreover, adjusting feeding schedules to promote growth and survival is essential to show the significant potential of *P. varians* for aquaculture production.

Correspondence to: Georgy Aseev, Department of Zoology, Tomsk State University, Tomsk, Russia, E-mail: aseevgeorgy@gmail.com

Received: 27-Feb-2023, Manuscript No. JARD-23-20384; **Editor assigned:** 02-Mar-2023, Pre QC No. JARD-23-20384 (PQ); **Reviewed:** 17-Mar-2023, QC No JARD-23-20384; **Revised:** 22-Mar-2023, Manuscript No. JARD-23-20384 (R); **Published:** 29-Mar-2023, DOI:10.35248/2155-9546.23.14.740

Citation: Aseev G (2023) Impact of Palaemon Varians Dietary Strain on Aquaculture Development. J Aquac Res Dev.14:740.

Copyright: © 2023 Aseev G. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.