

Sexual Maturity and Macronutrient Contents in Diopatra sp. (Onuphidae, Polychaeta) Maintained at Different Salinity Levels

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Abstract	<p>Diopatra sp. (Onuphidae, Polychaeta) is an economically important polychaete species commonly used as a fishing bait by local anglers in Cilacap, Central Java Province. Some biological aspects of this local species, however, have not been studied yet. The aim of this research was to see the effect of salinity levels on the sexual maturity and the macronutrient contents of the animals. Diopatra specimens in the present study were collected from the intertidal mangrove habitats of Jeruklegi Village, Cilacap, in sexually immature condition. The worms were then transported to the laboratory and were maintained in containers with four different salinity levels, i.e. 10, 15, 20 and 25 ppt over the next two months. The sexual maturity of the animals were observed based on the presence or absence of coelomic gametes. Proximate analysis was performed to determine macronutrient contents of the animals. The effect of salinity levels on the animals' sexual maturity and macronutrient contents was analyzed using one-way ANOVA. The results showed that salinity levels did not significantly affect the sexual maturity level of Diopatra worms ($p > 0.05$). Similarly, they did not affect the protein and fat contents, but impacted the carbohydrate content of the animals ($p < 0.05$). The protein and the fat contents in Diopatra sp., i.e. 41% and 6%, respectively, met the amount required to be used as shrimp broodstock and fish feeds. While the species has the potential for use in local aquaculture, the annual reproductive cycle as well as the identity of the species, however, require further research.</p>
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