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Development of digestive enzyme activity in larvae of spotted sand bass *Paralabrax maculatofasciatus*. 1. Biochemical analysis

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Spotted sand bass *Paralabrax maculatofasciatus* is a potential aquaculture species in Northwest Mexico. In the last few years it has been possible to close its life cycle and to develop larviculture technology at on pilot scale using live food, however survival values are low (11%) and improvements in growth and survival requires the study of the morpho-physiological development during the initial ontogeny. In this research digestive activity of several enzymes were evaluated in larvae, from hatching to 30 days after hatching (dah), and in live prey (rotifers and *Artemia*), by use of biochemical and electrophoretic techniques. This paper, is the first of two parts, and covers only the biochemical analysis. All digestive enzyme activities were detected from mouth opening; however the, maximum activities varied among different digestive enzymes. For alkaline protease and trypsin the maximum activities were detected from 12 to 18 dah. Acid protease activity was observed from day 12 onwards. The other digestive enzymes appear between days 4 and 18 after hatching, with marked fluctuations. These activities indicate the beginning of the juvenile stage and the maturation of the digestive system, in agreement with changes that occur during morpho-physiological development and food changes from rotifers to *Artemia*. All enzymatic activities were detected in rotifers and *Artemia*, and their contribution to enhancement the digestion capacity of the larvae appears to be low, but cannot be minimised. We concluded that the enzymatic equipment of *P. maculatofasciatus* larvae is similar to that of other marine fish species, that it becomes complete between days 12 and 18 after hatching, and that it is totally efficient up to 25 dah

Palabras clave: a-amylase, Cabrilla arenera, ontogenia, amilasa, fosfatasas, proteasas, lipasa

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