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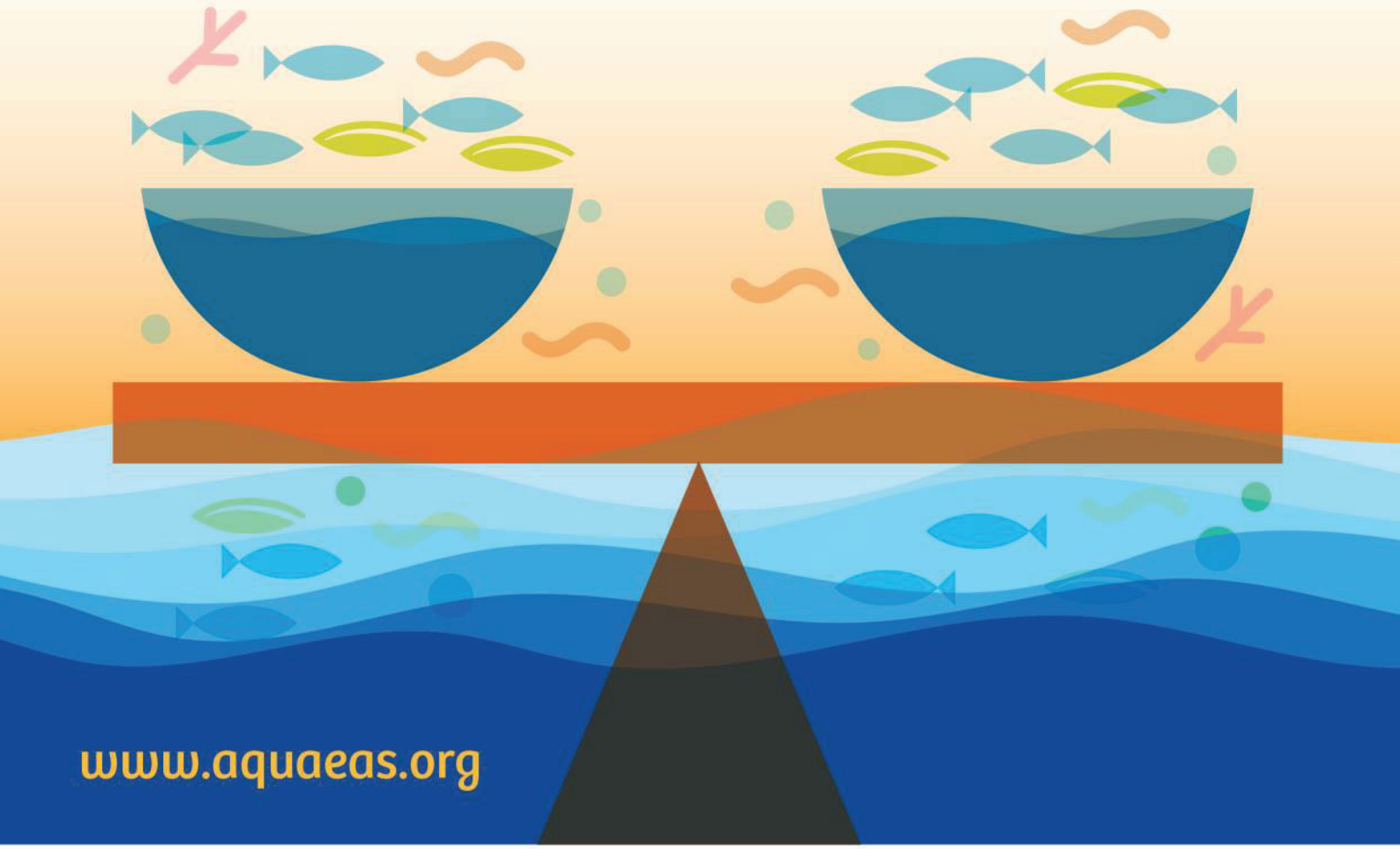

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ABSTRACTS

ESTABLISHMENT OF ADEQUATE TAURINE LEVELS FOR THE WEANING OF THE GREATER AMBERJACK (*Seriola dumerili*)

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Introduction

The greater amberjack (*Seriola dumerili*) is a marine fish with great consumer acceptance than can reach up to 2 kg in 18 months. However, seriola's culture still face a series of bottlenecks that difficult a further expansion of this species aquaculture. Among them, the larval rearing phase faces great difficulties due to the limited bibliography of culture conditions and nutritional requirements, which produces a low quality of the juveniles, and therefore a limited market availability.

Taurine is an essential nutrient for larval development and growth, mainly in carnivorous marine fish such as the greater amberjack (Djellata et al., 2022). However, there are no available data on dietary taurine supplementation during the weaning period of this species.

Materials and methods

Four granulated microdiets containing 0.24 to 4.24 % of taurine levels were evaluated in 30 days post-hatching (dph) greater amberjack larvae until 44 dph. For that, 2700 larvae of 30 dph were handly distributed in twelve experimental tanks of 200 L volume in an open flow sea water system. During the first days the larvae were co-fed with enriched *Artemia* sp. metanaupli to be gradually weaned, and from day 39 until the end of the trial the larvae received only the microdiets. Each diet was offered in triplicate tanks from 8:00 am to 19:00 pm, and at 44 dph, survival, growth, the histology of liver and gut, the expression of growth and stress-related genes, and the incidence of skeletal anomalies were evaluated.

Results

There were no significant differences in survival because the administration of the different diets, however, regarding growth performance, the larvae fed 1.24% of taurine presented higher final weight and length, as well as higher total and daily weight gain.

Regarding the histological results, the level of vacuolization in liver was directly proportional to the level of taurine supplementation, with the highest levels reported for the larvae fed taurine at 4.24%. There were observed some intestinal lesions along the intestine without differences between treatments, however with the highest percentage of incidence (around 13%) in the larvae fed taurine at 4.24%.

Additionally, the larvae fed with 1.24 % taurine level had a higher expression of growth and stress-related genes (gh, igf-ii, crh and trh) at 44 dph.

The evaluation of skeletal anomalies revealed that treatment of taurine at 4.24 % also produced a higher incidence of total skeletal anomalies, followed by the treatment with the lowest taurine supplementation. The main anomalies founded were alterations in the vertebra of the pre-hemal and hemal regions, as compression or fusions of the vertebral bodies or kyphosis.

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