

## Comparative study of survival and growth in classical clear water and multi-trophic recirculating systems during *Pseudoplatystoma punctifer* larval rearing

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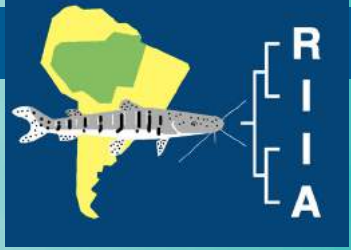
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In *Pseudoplatystoma punctifer* ex. *fasciatum*, artificial breeding relies on the adaptation of larvae to dry food (weaning) after a period of brine shrimp (*Artemia* nauplii) feeding. The main objective of the current research was the development of a breeding protocol that reduces the use of *Artemia* nauplii, the weaning period and mortality. Two rearing systems, a classic clear water recirculation system and an integrated multi-trophic aquaculture system, were used at the IIAP field station of Quistococha (Peru) to compare survival and growth of sibling larvae over a 41-days period. Larvae were fed live *Artemia* nauplii or decapsulated brine shrimp eggs (6 replicates) from 3 to 15 days post fertilization (dpf). Then, the group that showed the best performance in terms of growth and survival was weaned onto different semi-humid inert diets (3 replicates), this feeding period lasting for 8 days. Juveniles were progressively adapted to commercial dry feeds from 28 to 41 dpf. Samplings were performed at 15, 27 and 41 dpf. Total larvae numbers and individual sizes were determined from digital photographs and subsequently processed using NIH IMAGE J freeware. Mean total length (TL), calculated for each replicate at each sampling time, was analyzed using one-way ANOVA and post-hoc tests to compare differences between treatments. The results indicated that it was possible to obtain juveniles between 36 and 65 mm TL within 41 days, depending on the feeding protocol. In both systems, *Artemia* was proved to be the best feeding alternative for early larval phase. Weaning was also successfully advanced from 18 to 15 dpf. Classical clear water system performed better from 3 to 15 dpf, then both systems were comparable in terms of survival, while growth was significantly higher in classical clear water system over the 41-days rearing period.



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