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RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

Title: Diets, Physiology, Biochemistry and Digestive Tract Development of Freshwater Fish Larvae

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Date: 08 August 2017 Publication Number: AquaFish Research Report 08-A22

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Abstract: Live preys' availability to larval fish is determined on the basis of suitable size, frequently described as gape width/prey size proportion (Dabrowski and Bardeg, 1984). In some cases, larval freshwater fish, like the 4-5 mm total length yellow perch (Kolkovski and Dabrowski, 1998), eat prey smaller than 50-100 μm in width, whereas in the case of the first feeding larval walking catfish (*Clarias*), the largest size of *Artemia nauplii* offered, 205-295 μm (4% of fish body length), increased the growth, but compromised survival in comparison to ungraded size nauplii. Nauplii graded into two categories – below 59 μm and 59-183 μm , mesh size net – even when fed in excess, resulted in much lower fish size and survival was 14-28% in comparison to 67% in fish fed with unsieved *Artemia* (Petkam and Moodie, 2001). Therefore, it is important to readjust the feed particle size (live or inert) to the optimum acceptable size of larval fish. [Note: this is the first paragraph of the introduction]

This introductory section was excerpted from the original chapter, which was published in J.E.P Cyrino; D.P. Bureau, B.G. Kapoor (Editors), 2008. *Feeding and Digestive Functions of Fishes*. Science Publishers, Enfield, N.H. pp. 227-279.

AQUAFISH RESEARCH REPORTS are published as occasional papers by the Management Entity, AquaFish Innovation Lab, Oregon State University, Corvallis, Oregon 97331-1643 USA. The AquaFish Innovation Lab is supported by the US Agency for International Development under Grant No. EPP-A-00-06-00012-00. See the website at <aquafishcrsp.oregonstate.edu>.