D-31: An efficient method to extract and clean tubificid worms as a live food source in aquaria

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The cosmopolitan tubificid worms (Annelida, Oligochaeta, Tubificidae) that thrive in organically polluted water, have been utilized extensively by aquaculturists as a growth and a spawning enhancing food. However, they are considered an unsuitable fish food by some as they are suspected of transferring debris and pathogenic organisms such as harmful bacteria and fungi, into fish culture facilities resulting in anoxia, turbid water and diseases. Hence a new extracting and cleaning method to reduce these problems was attempted.

Worms (500g) were collected with debris from an organically polluted stream and were washed in tap water several times. They were then transferred to doubling serial dilutions ranging from 12.5-100% of various solutions including milk (20g milk powder in 200ml of water) in separate containers. Water was used as a control. These solutions were added in minimal volumes to cover the worms only. A plastic mesh was placed on each solution surface and the worms which climbed onto these were collected. They were then washed well in water and were kept in aerated water for a day prior to feeding them to fish.

Extractions were most effective at highest concentrations of milk. Extraction times were least for milk with a mean value of 5.34 h (SD 0.27) and most for water with a mean value of 14.11 h (SD 1.28). No debris was observed with the worms that were extracted using milk. The fish fed with these worms were devoid of any diseases but 25% (4/20) of the fish in the control group died from fin rot.

Extraction using milk curbed the introduction of debris carried by poorly cleaned tubificid worms. Hence, this method provides a quick and easy way to provide nourishing live food for the growth and reproduction of freshwater fishes. (This method may also find application in tubificid worm population studies)