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Title: **Transpositional feeding rhythm of loach *Misgurnus anguillicaudatus* from larvae to juveniles and its ontogenesis under artificial rearing conditions**

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Abstract: The diel feeding rhythm and ontogenesis during early life stage of loach *Misgurnus anguillicaudatus* were investigated under experimental conditions (light: L 06:00–18:00, D 18:00–06:00 h). Morphological and behavioral developments of loach from newly hatched to 40 days after hatching were observed. Larvae were able to prey on daphnia 3–4 days after hatching at 23 ± 0.5˚C. As the larvae grew, they showed an increasing feeding capacity and a distinct feeding rhythm. Feeding intensity and incidence for day-4 larvae were highest at 10:00 and 16:00 h. The highest levels of feeding intensity for day-12 larvae occurred at 08:00, 12:00, and 18:00 h as did feeding incidence. By day 20, when the larvae metamorphosed, the highest levels of feeding intensity occurred at 06:00, 18:00, and 24:00 h and were concurrent with the highest feeding incidence. After metamorphosis, feeding capacity had again increased considerably and, in contrast to the earlier stages before day 20, feeding intensity for day-30 juveniles peaked at 05:00 and 20:00 h, about 1–2 h after the maximum feeding incidence. The feeding rhythm of loach juveniles at day 40 was almost the same as the day-30 juveniles. The estimated maximum daily feeding rates were 43.1%, 33.4%, 19.0%, 12.8%, and 5.8% of body weight on days 4, 12, 20, 30, and 40, respectively. Thus, loach was found to have different feeding rhythms in the pre- and post-metamorphosis stages, with the highest feeding activity in daytime during the larval planktonic stage before metamorphosis, and intensely nocturnal feeding behavior during the juvenile benthic stage after metamorphosis.

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