

霞ヶ浦における国外外来種オオタナゴ *Acheilognathus macropterus* の繁殖生態と生活史

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Tomiji Hagiwara. 2011. Reproductive ecology and life cycle of the invasive alien bitterling *Acheilognathus macropterus* (Cyprinidae, Acheilognathinae) in Lake Kasumigaura, Japan. *Japan. J. Ichthyol.*, 58(1): 41–48.

Abstract To evaluate the impact of an invasive alien bitterling on resident native bitterling, the reproductive ecology and life cycle of former, *Acheilognathus macropterus*, was investigated in Lake Kasumigaura, Japan, to which it was introduced around the year 2000. *A. macropterus* spawned between mid-April and mid-July, three-age classes, with peak ranges of 55–60, 75–80 and 95–100 mm standard length (SL), being observed in April 2007. Adult *A. macropterus* increased in SL from February to April and from September to October. During the spawning period, the ovipositor of females was more than 80 mm in length. The number of eggs in females with ripe eggs accounted for more than 40% of their ovarian weight, being positively correlated with SL. Testis weight in March to May was also positively correlated with SL. The spawning periods of *A. macropterus* overlapped with that of the native bitterling, *A. tabira erythropterus*, *A. melanogaster* and *Tanakia lanceolata*, suggesting that the increase and spread of *A. macropterus* in Lake Kasumigaura may result in competition among bitterling species for host mussels during breeding.

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