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大黄鱼早期发育阶段对盐度的适应性

Salinity tolerance of *Pseudosciaena crocea* during early development

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英文关键词:[Pseudosciaena crocea](#) [early development](#) [salinity tolerance](#)

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中文摘要:

在5、10、25、40及45这5种盐度梯度下,对大黄鱼初孵仔鱼、开口仔鱼、卵黄囊消失仔鱼、油球消失仔鱼、稚鱼和30日龄幼鱼的耐盐性进行了比较研究,对不同发育时期的死亡率、半数死亡时间、平均死亡时间及72 h半致死盐度等耐盐指标进行了分析。实验结果显示,大黄鱼早期各发育阶段对盐度的适应范围为:30日龄幼鱼为5.5~41.0,卵黄囊消失仔鱼为6.8~23.3,开口仔鱼为8.2~39.4,稚鱼为9.3~26.7,初孵仔鱼为18.9~33.1。表明30日龄幼鱼具有较强的耐盐性,尤其能在较低盐度(5.5)的环境中生活,为大黄鱼的淡化养殖及白点病的淡水浴治疗提供了依据。在正常海水盐度和不投饵状态下,各发育阶段的半数死亡时间,即饥饿不可逆点为:初孵仔鱼(8.6 d) > 开口仔鱼(6.5 d) > 30日龄幼鱼(5.5 d) > 卵黄囊消失仔鱼(4.6 d) > 稚鱼(4.0 d) > 油球消失仔鱼(1.8 d)。此结果说明在仔鱼开口后应加强外源性营养的投喂,将有助于提高幼体对低盐度的耐受性及其成活率。

英文摘要:

The salinity tolerance of *Pseudosciaena crocea* during early development (newly hatched larvae, mouth opened larvae, yolk sac disappeared larvae, oil globules disappeared larvae, fry and 30 day old juvenile) was examined at salinities of 5, 10, 25, 40 and 45. The mortality, mean death time (MDT), median death time (DT₅₀), and median lethal salinity 72 h (MLS-72) were employed as indicators of salinity tolerance. The results showed that suitable salinity for 30 day old juvenile, yolk sac disappeared larvae, mouth opened larvae, fry, and newly hatched larvae ranged from 5.5 to 41.0, 6.8 to 23.3, 8.2 to 39.4, 9.3 to 26.7, 18.9 to 33.1, respectively. Therefore, the salinity tolerance of 30 day old juvenile of *P. crocea* is rather strong, especially it can tolerate low salinity of 5.5. The results lay a theoretical foundation for desalting culture and the fresh water treatment for white spot disease of *P. crocea*. In normal seawater, the median death time (the point of no return, PNR) at different developmental stages without feeding was determined as follows: newly hatched larvae (8.6 d) > mouth opened larvae (6.5 d) > 30 day old juvenile (5.5 d) > yolk sac disappeared larvae (4.6 d) > fry (4.0 d) > oil globules disappeared larvae (1.8 d). These indicate that the feeding of exogenous nutrients should be enhanced before the oil globules disappeared, was it will help to improve low salinity tolerance and survival of *P. crocea*'s larvae.

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