

长江中游草鱼天然种群的生化遗传结构及变异*

吴力钊, 王祖熊

中国科学院水生生物研究所, 武汉430072

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摘要 采用淀粉或聚丙烯酰胺凝胶电泳方法分析了长江中游武汉江段草鱼天然种群 (n=81) 中10种同工酶约28个基因座位的遗传变异型。该种群的多态座位比例为16.7%, 平均杂合度为0.0739。而Utter和Folmar (1978) 曾报道美国的, 个草鱼人工繁殖种群的多态座位比例及平均杂合度分别为16.7% 和0.021。比较结果表明, 近交很可能是导致草鱼人工繁殖种群中遗传多样性降低的主要原因。我们认为生产上采用数量大、来源广的亲鱼进行人工繁殖, 并定期用天然种群更换或补充繁殖用亲鱼很可能是保持或增加鱼类人工繁殖种群遗传多样性的一种有效手段。

关键词 [同工酶座位, 电泳, 遗传多样性, 天然种群, 草鱼](#)

分类号

Biochemical Genetic Structure and Variation in A Natural Population of Grass Carp from the Middle Reaches of the Yangtze River*

Wu Lizhao Wang Zuxiong

Institute of Hydrobiology, Academia Sinica, Wuhan 430072

Abstract

Institute of Hydrobiology, Academia Sinica, Wuhan 430072 Using starch or polyacrylamide gel electrophoresis to estimate the amount of genetic variation of 10 isozymes encoded by 28 presumptive loci approximately in a natural population of grass carp (*Ctenopharyngodon idellus*) from the middle reaches of the Yangtze River, we found the mean proportion of polymorphic loci and the average heterozygosity of the population were 16.7% and 0.0739, respectively. These values are much higher than those of 5 hatchery stocks of grass carp estimated by Utter and Folmar (1978). These results indicate that inbreeding is tightly associated with the reduction of genetic variability in hatchery population of grass carp. We proposed, therefore, using adequate numbers of spawner obtained from various localities in artificial propagation and inoculating genetic materials from natural populations periodically are probably an effective measure to maintain or to increase the genetic variability in an artificially propagated fish stock.

Key words [Isozymic loci](#) [Electrophoresis](#) [Genetic variability](#) [Natural population](#) [Grass carp](#)

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