

水产—研究报告

中间球海胆放流群体和养殖群体的遗传学比较

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摘要:

本研究利用微卫星技术,对中间球海胆(*Strongylocentrotus intermedius*)的放流群体与养殖群体进行了遗传学比较。共用7对微卫星引物,分别对每个群体所有个体进行了扩增分析。[结果]每对引物分别扩增出了1-5个等位基因。所有引物在养殖群体中共扩增出22个等位基因,而在放流群体中扩增出了17个等位基因。所得数据经Popgene32软件分析,结果表明,两个群体Nei指数,Shannon氏指数,多态位点比例等遗传学指标没有显著差异,说明本研究所涉及的中间球海胆养殖群体与放流群体之间尚未产生明显的遗传分化。6个等位基因在养殖群体中出现,而在放流群体中缺失,1个等位基因在放流群体中出现,而在养殖群体中缺失。说明养殖群体与放流群体之间仍存在着一定的遗传结构差异。以上研究结果表明,该放流群体尚未达到对中间球海胆进行种质资源保护的最初目的。该研究结果对中间球海胆养殖、增殖放流状况进行了初步的遗传学评价,为海胆养殖、增殖途径及策略的选择奠定了理论基础。

关键词: 遗传学

Genetic analysis of released and artificial cultured *Strongylocentrotus intermedius*

Abstract:

Genetic analysis of released and artificial cultured urchins, *Strongylocentrotus intermedius*, were conducted with microsatellite technology in this research. [Methods]Seven pairs of primers were amplified in all individuals of each urchin population. Results showed that 1 to 5 alleles had been amplified in each of detected loci. In total, 22 alleles were detected in cultured population, while 17 of them in released population. Genetic indicators calculated by Popgene32 software showed that there were no significant differences between these two populations in the Nei's index, the Shannon's index and the proportion of Polymorphic loci, which indicates that there are no significant genetic differentiations between released and artificial cultured population. There are six alleles were detected in cultured population but not in released ones, while 1 allele were found in released population but not in cultured ones. Both results indicates that there are still some allele variations existed between cultured and released urchin populations. Results from this research shows that the releasing program is failed to improve germplasm resources of *S. intermedius*. This research have found the genetic structure of cultured and released urchin populations, which can be a basis of theories and strategies of artificial culture and releasing for enhancement in *S. intermedius*.

Keywords: genetics

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