

Effects of three industrial effluents on embryos of lefteye flounder *Paralichthys olivaceus*

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Abstract: Dyeing, electroplating and pesticide effluents are common industrial effluents, liable to enter inshore sea areas. The study was carried out in laboratory on the effects of dyeing effluent (with aniline 20 mg/L and phenic acid 24 mg/L), electroplating effluent (with Zn^{2+} 1 970 mg/L, Cu^{2+} 9 mg/L and Pb^{2+} 7.5 mg/L), pesticide effluent (main toxicants are monocrotophos and dimethyl phosphorous) and their intermixture (at volume ratio 1:1:1) on embryos of lefteye flounder, *Paralichthys olivaceus*. The results indicated that the lowest volume percentages of dyeing, electroplating, pesticide effluents and their intermixture, which have significant effect on hatch and development of *P. olivaceus* embryos, were 0.5%, 0.15%, 0.25% and 0.25%, respectively; and the incipient LC_{50} (volume percentage) of dyeing, electroplating, pesticide effluents and their intermixture were 3.38% (2.29% - 3.87%), 0.81% (0.71% - 0.92%), 1.57% (1.37% - 1.82%) and 1.48% (1.24% - 1.76%). Based on the incipient LC_{50} values, the toxicity sequence of the three industry effluents was in the order of electroplating effluent > pesticide effluent > dyeing effluent.

Key words: industrial effluent; *Paralichthys olivaceus*; embryos; toxicity effect

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散鳞镜鲤(♀)与团头鲂(♂)亚种间杂交获高成活率杂交后代

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A high survival rate of hybrid F_1 was got from *Cyprinu carpio* L. mirror (♀) × *Megalobrama amblycephala* (♂)

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散鳞镜鲤(*Cyprinu carpio* L. mirror)和团头鲂(*Megalobrama amblycephala*)分属鲤科中的不同亚科,这两个亚科之间的杂交至今未见报道。本实验以29尾3龄散鳞镜鲤(♀,体长34.0-36.5 cm,体重3.0-3.8 kg)与33尾3龄团头鲂(♂,体长28.0-33.6 cm,体重1.4-1.6 kg)进行人工催情与干法授精。2次实验共获得受精卵2020万粒,受精率平均为84.2%,孵出鱼苗1700余万尾。取子一代与亲本各15尾进行26项形态学指标测定与比较,其中,有20项指数为负值,6项为正值;在负值中有14项指数偏向母本,有6项指数完全偏向母本;在正值中,有4项指数偏向父本,2项指数完全偏向父本,表现出偏母遗传的特性。根据其形态学性状遗传表现,既有来自母本的遗传性状,又有来自父本的遗传性状,初步判定本实验所得子一代为杂交种 F_1 ,但该种的染色体倍数尚需进一步的染色体核型分析及DNA含量测定。

关键词: 散鳞镜鲤; 团头鲂; 杂交

Key words: *Cyprinu carpio* L. mirror; *Megalobrama amblycephala*; hybridization

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