

文章摘要

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2-苯氧乙醇和丁香酚对许氏平鲷幼鱼麻醉效果的实验研究

Effects of 2-Phenoxyethanol and Clove Oil as Anaesthetics to *Sebastes schlegeli* Juvenile

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英文关键词: [Sebastes schlegeli](#) [2-Phenoxyethanol](#) [Clove oil](#) [Anaesthetics](#)

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中文摘要:

研究了2-苯氧乙醇、丁香酚麻醉2个规格许氏平鲷幼鱼的效果。幼鱼呼吸频率随麻醉剂浓度的上升而下降显著($P < 0.001$), 在高浓度液(2-苯氧乙醇: 500、600、800 $\mu\text{L/L}$; 丁香酚: 60、80 $\mu\text{L/L}$)中可在短时间内降低为0(休克), 在中浓度液(2-苯氧乙醇: 400 $\mu\text{L/L}$; 丁香酚: 30、40 $\mu\text{L/L}$)中存在不同程度下降, 而低浓度液(2-苯氧乙醇: 200、300 $\mu\text{L/L}$; 丁香酚: 10、20 $\mu\text{L/L}$)对呼吸频率总体影响较小。同等浓度麻醉剂对小规格幼鱼呼吸频率的影响($P < 0.01$)高于大规格幼鱼。2-苯氧乙醇中大规格幼鱼的入麻、休克和复苏时间均长于小规格幼鱼($P < 0.05$)。大规格幼鱼对麻醉剂的耐受能力强于小规格幼鱼; 复苏能力方面, 丁香酚麻醉的大规格幼鱼复苏迟于小规格幼鱼, 但2-苯氧乙醇麻醉的大、小规格幼鱼复苏时间无差异。综合考虑入麻、休克、复苏时间和死亡率, 认为使用2-苯氧乙醇、丁香酚麻醉许氏平鲷幼鱼的理想浓度分别为300 $\mu\text{L/L}$ 、20 $\mu\text{L/L}$ 。

英文摘要:

Schlegel's rockfish (*Sebastes schlegeli*), distributed in the western North Pacific, is an important offshore cage-culture fish species in the Yellow Sea and Bo-hai Sea of China. Schlegel's rockfish juvenile (TL=55.2mm, 99.0mm, short in SJ and LJ, respectively) were exposed to seawater containing different concentrations of 2-Phenoxyethanol from 200mg/L to 800mg/L, clove oil from 10mg/L to 80mg/L. The respiratory rates and anaesthetic effect of 2-Phenoxyethanol and clove oil were studied. Normally, the respiratory rate of SJ (22.8/10s) was higher than LJ (19.7/10s). The respiratory rate descended remarkably ($P < 0.001$) as the anaesthetic concentration ascended: it would be descended to 0 in short time (shock stage) in high concentration (2-Phenoxyethanol: 500, 600, 800 $\mu\text{L/L}$; clove oil: 60, 80 $\mu\text{L/L}$), descended in different levles in middle concentration (2-Phenoxyethanol: 400 $\mu\text{L/L}$; clove oil: 30, 40 $\mu\text{L/L}$), and it has affected mildly in low concentration (2-Phenoxyethanol: 200, 300 $\mu\text{L/L}$; clove oil: 10, 20 $\mu\text{L/L}$). The effects on respiratory rate of SJ were more remarkable than of LJ in the same concentrations ($P < 0.01$). The anaesthetic time, shock time and recovery time of LJ were longer than SJ in 2-Phenoxyethanol. The anti-anaesthetic ability of LJ was stronger than SJ. In recovery ability, the LJ recovered later than SJ in clove oil seawater, but there was not the similar phenomenon been seen in 2-Phenoxyethanol. By thought of anaesthetic time, shock time, recovery time and

mortality, the optimum concentrations of 2-Phenoxyethanol and clove oil were 300 μ L/L, 20 μ L/L for use.

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