

## 海水中总有机碳(TOC)对牙鲆铜、铅、镉吸收的影响

Effects of total organic carbon in the seawater on the accumulation of copper, lead and cadmium in the tissues of *Paralichthys olivaceus*

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英文关键词: total organic carbon(TOC); *Paralichthys olivaceus*; heavy metal; accumulation

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中文摘要:

该文研究了海水中Cu、Pb、Cd浓度分别为0.5 mg/L时, 总有机碳(TOC)浓度、种类对牙鲆(*Paralichthys olivaceus*)内脏、肌肉、鳃组织Cu、Pb、Cd蓄积的影响。结果表明: 当海水TOC种类相同时, 随TOC浓度升高, 牙鲆内脏、肌肉、鳃组织Cu、Pb、Cd蓄积量均明显下降; 当海水TOC浓度相同时, 孔石莼分泌物比牙鲆分泌物更能降低牙鲆各组织Cu、Pb、Cd蓄积量。研究表明: 孔石莼、牙鲆分泌物均能降低Cu、Pb、Cd的生物有效性; TOC浓度、种类变化对牙鲆各组织Cu、Pb、Cd蓄积分配均无影响, 重金属含量大小顺序均为: 内脏>鳃>肌肉。内脏团、肌肉中3种重金属蓄积量大小顺序为Cu>Pb>Cd; 鳃中3种重金属蓄积量顺序为Pb>Cu>Cd。

英文摘要:

Effects of species and concentration of total organic carbon(TOC) in the seawater on the accumulation of copper, lead and cadmium in visceral mass, muscle and gills of *Paralichthys olivaceus* when the copper, lead and cadmium concentrations were maintained at 0.5 mg/L, respectively were studied. It was demonstrated that when the species was same, the copper accumulation reduced significantly with the increase of TOC's concentration; when the concentration of TOC was same, *Ulva pertusa* excretion could reduce the copper accumulation more than *Paralichthys olivaceus*. It was demonstrated that all the excretions of *Ulva pertusa* and *Paralichthys olivaceus* complexed with copper, lead and cadmium, respectively were not well available for fish uptake; the species and concentration of TOC in the seawater could not affect the accumulation order in the tissues of *Paralichthys olivaceus*, the accumulation order of heavy metals in the fish tissues was visceral mass>gills>muscle. The accumulation order of three heavy metals in the tissues of visceral mass and muscle was Cu>Pb>Cd; The accumulation order of three heavy metals in the tissues of gills was Pb>Cu>Cd.

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