



《中国科学引文数据库》(CSCD核心库)来源期刊
中文核心期刊
中国科技核心期刊
RCCSE中国核心学术期刊

ISSN 2095-1388
CN 21-1575/S
CODEN DHDXAW

大连海洋大学 学报

JOURNAL OF DALIAN OCEAN UNIVERSITY



2022 2

第37卷 Vol.37

第2期 No.2

2022年4月

ISSN 2095-1388



9 772095 138227

04>

目 次

· 专家约稿 ·

硬骨鱼类特有免疫球蛋白 IgT 的研究进展	张永安 (183)
-----------------------	-----------

· 研究论文 ·

红望天眼金鱼皮肤变色机制的转录组学分析	李荣妮, 王赛赛, 田仲, 孙砚胜, 张博, 张欣 (191)
马氏珠母贝 <i>Nry2</i> 基因的克隆及其在不同免疫刺激和营养条件下的表达变化	蔡彩霞, 廖永山, 杨创业, 郑哲, 邓岳文, 王庆恒 (202)
刺参 3 个盐度相关 microRNA 及预测靶基因的表达模式分析	王研, 高思祺, 匡倩瑶, 刘怡宁, 田焱 (212)
哈维氏弧菌感染对红鳍东方鲀 <i>IL-6</i> 基因 DNA 甲基化的影响	王晨诗, 黄馨笛, 崔晓玉, 倪萍, 叶仕根, 王华, 高东旭, 雷威 (221)
耐盐高效好氧反硝化菌 <i>Halomonas</i> sp. HRL-11 的分离鉴定及反硝化性能	马洪婧, 刘鹰, 慕欣廷, 苏鑫, 宋婧, 吴英海, 韩蕊 (227)
盐地碱蓬叶片可培养细菌的分离及促生菌筛选鉴定	石佳, 徐爽, 王博, 谢晓晨, 李晨, 方蕾 (235)
海水酸化和铁离子对中肋骨条藻光化学活性的影响	张达娟, 毕相东, 张树林, 戴伟, 王雪莹 (244)
纳木错裸鲤染色体组的构成及倍性分析	山谷, 郭文轩, 李信, 周子昱, 马可馨, 肖世俊, 周贺, 刘海平 (251)
“莱州红” 菲律宾蛤仔家系建立及生长性状遗传参数估计	梁腾, 李金龙, 马斌, 车宗豪, 王海生, 罗星红, 金燕, 赵侠, 丁鉴锋, 霍忠明, 滕军, 毛东亮, 翟介明, 闫喜武 (258)
虾青素对褶皱臂尾轮虫种群增长的影响及其富集效果	刘辉, 孙娜, 姜玉声, 许祥, 王澳林, 张乃达, 张冰倩 (268)
载铁活性炭对水中低浓度磷酸盐的吸附去除效果	王诗慧, 刘鹰, 李双, 刘恒明, 谷晶, 杨国军, 王钧儒, 王华 (276)
褐藻聚糖硫酸酯降解酶菌 <i>Sinomicrobium</i> sp. Fuc19 的产酶优化及其降解产物化学组成	国晶晶, 刘诗萌, 韩梓琪, 宋悦凡, 刘舒, 周慧, 汪秋宽 (285)
铜藻褐藻聚糖硫酸酯的分离纯化、结构组成及保肝护肝作用	卓丹琪, 张雪楠, 李雨晴, 刘诗萌, 任丹丹, 何云海, 汪秋宽 (295)
基于自注意力机制和 CNN-LSTM 深度学习的对虾投饵量预测模型	何津民, 张丽珍 (304)
融合 SKNet 与 YOLOv5 深度学习的养殖鱼群检测	赵梦, 于红, 李海清, 胥婧雯, 程思奇, 谷立帅, 张鹏, 韦思学, 郑国伟 (312)
离心式滩涂贝类播苗装置设计与试验	黄伟, 李秀辰, 母刚, 张国琛, 白永安, 张寒冰 (320)
江底隧道地铁运营期水下噪声及其对水生生物的影响	钱金玉, 蔺丹清, 邢彬彬, 龚德华, 郭建磊, 刘英泰, 李子铭, 殷雷明 (329)
基于 OpenFOAM 的桩基透空堤结构尺度对透射系数的影响	夏曦, 张可新, 桂劲松 (338)

· 综述 ·

鸟喙尖头蚤的生态分布和培养利用研究进展	周雪妮, 赵文, 尹东鹏 (345)
人工鱼礁建礁材料研究应用进展	张年华, 田涛, 沈璐, 杨军, 吴忠鑫, 刘敏, 高东奎, 尹增强 (352)

Journal of Dalian Ocean University

Volume 37 Number 2 Apr. 2022

Contents

• Expert contributions •

- Research progress on the teleost specific immunoglobulin T: a review
..... ZHANG Yongan (183)

• Articles •

- Comparative transcriptome analysis of body color change in red celestial goldfish *Carassius auratus*
..... LI Rongni, WANG Saisai, TIAN Zhong, SUN Yansheng, ZHANG Bo, ZHANG Xin (191)
- Cloning and expression analysis of *Nrf2* gene in pearl oyster *Pinctada fucata martensii* exposed to different immune stimulation and nutritional conditions
..... CAI Caixia, LIAO Yongshan, YANG Chuangye, ZHENG Zhe, DENG Yuewen, WANG Qingheng (202)
- Analysis of expression patterns of three salinity-related microRNAs and predicted target genes in sea cucumber
..... WANG Yan, GAO Siqi, KUANG Qian Yao, LIU Yining, TIAN Yi (212)
- Effects of pathogen *Vibrio harveyi* infection on DNA methylation of *IL-6* gene in tiger puffer *Takifugu rubripes*
..... WANG Chenshi, HUANG Xindi, CUI Xiaoyu, NI Ping, YE Shigen, WANG Hua, GAO Dongxu, LEI Wei (221)
- Isolation, identification and denitrification performance of a salt-tolerant and efficient aerobic denitrifier *Halomonas* sp. HRL-11
..... MA Hongjing, LIU Ying, MU Xinting, SU Xin, SONG Jing, WU Yinghai, HAN Rui (227)
- Isolating culturable endophytic bacteria from sea grass *Suaeda salsa* leaves and screening the potential plant growth promoting bacterium
..... SHI Jia, XU Shuang, WANG Bo, XIE Xiaochen, LI Chen, FANG Lei (235)
- Effects of ocean acidification and Fe ion on photochemical activity of alga *Skeletonema costatum*
..... ZHANG Dajuan, BI Xiangdong, ZHANG Shulin, DAI Wei, WANG Xueying (244)
- Chromosome composition and ploidy analysis of endemic *Gymnocypris namensis*
..... SHAN Gu, GUO Wenxuan, LI Xin, ZHOU Ziyu, MA Kexin, XIAO Shijun, ZHOU He, LIU Haiping (251)
- Family establishment and estimation of genetic parameters of growth traits of “Laizhou red” strain in Manila clam *Ruditapes philippinarum*
..... LIANG Teng, LI Jinlong, MA Bin, CHE Zonghao, WANG Haisheng, LUO Xinghong, JIN Yan, ZHAO Xia, DING Jianfeng, HUO Zhongming, TENG Jun, MAO Dongliang, ZHAI Jieming, YAN Xiwu (258)
- Effects of dietary astaxanthin on population growth of rotifer *Brachionus plicatilis* and astaxanthin accumulation efficiency
..... LIU Hui, SUN Na, JIANG Yusheng, XU Xiang, WANG Aolin, ZHANG Naida, ZHANG Bingqian (268)
- Effects of iron-loaded activated carbon on adsorption and removal of low concentration phosphate in water
..... WANG Shihui, LIU Ying, LI Shuang, LIU Hengming, GU Jing, YANG Guojun, WANG Junru, WANG Hua (276)
- Production optimization of fucoidan degrading enzyme stain *Sinomicrobium* sp. Fuc19 and the chemical composition of its hydrolyzed products
..... GUO Jingjing, LIU Shimeng, HAN Ziqi, SONG Yuefan, LIU Shu, ZHOU Hui, WANG Qiukuan (285)
- Purification, structural characteristics and hepatoprotective effects of fucoidan from seaweed *Sargassum horneri*
..... ZHUO Danqi, ZHANG Xuenan, LI Yuqing, LIU Shimeng, REN Dandan, HE Yunhai, WANG Qiukuan (295)
- Prediction model of shrimp feeding amount based on self-attention mechanism and CNN-LSTM deep learning
..... HE Jinmin, ZHANG Lizhen (304)
- Detection of fish stocks by fused with SKNet and YOLOv5 deep learning
..... ZHAO Meng, YU Hong, LI Haiqing, XU Jingwen, CHENG Siqi, GU Lishuai, ZHANG Peng, WEI Sixue, ZHENG Guowei (312)
- Design and test of a centrifugal shellfish seeding device for tidal flat aquaculture
..... HUANG Wei, LI Xiuchen, MU Gang, ZHANG Guochen, BAI Yongan, ZHANG Hanbing (320)
- Potential impact of noise from underwater tunnel during metros operation on aquatic organisms
... QIAN Jinyu, LIN Danqing, XING Binbin, GONG Dehua, GUO Jianlei, LIU Yingtai, LI Ziming, YIN Leiming (329)
- Influence on transmission coefficient of pile-foundation penetrated breakwater structural scale based on OpenFOAM
..... XIA Xi, ZHANG Kexin, GUI jinsong (338)

• Roundup •

- Research progress of ecological distribution and cultivation utilization in cladoceran *Penilia avirostris*: a review
..... ZHOU Xueni, ZHAO Wen, YIN Dongpeng (345)
- Research and application progress of artificial reef construction materials: a review
... ZHANG Nianhua, TIAN Tao, SHEN Lu, YANG Jun, WU Zhongxin, LIU Min, GAO Dongkui, YIN Zengqiang (352)