

## 二〇二二年 第四十六卷 总目次

鲤 <i>gip</i> 克隆、序列分析及其基因表达的调节 .....	杨国坤, 等 (1): 1
促卵泡激素对牙鲆尾部神经内分泌系统活动的影响 .....	江鹏鑫, 等 (1): 10
长丰鲢生长性状相关微卫星标记的初步筛选 .....	吴新燕, 等 (1): 20
虎龙杂交斑养殖群体遗传多样性与遗传结构的微卫星分析 .....	梁业松, 等 (1): 31
二倍体泥鳅与大鳞副泥鳅及杂交 F <sub>1</sub> 精子结构与活力 .....	李 猛, 等 (1): 41
渤海莱州湾硬骨鱼类早期资源群落结构及演变 .....	卞晓东, 等 (1): 51
嗜水气单胞菌 <i>ompA</i> 、 <i>flaA</i> 基因重组干酪乳杆菌对鲤生长及免疫效果分析 .....	赵林辉, 等 (1): 73
石斑鱼虹彩病毒病发生风险评估模型的建立和验证 .....	刘泽天, 等 (1): 85
壳寡糖改善珍珠龙胆石斑鱼非特异性免疫能力的机制 .....	陈嘉俊, 等 (1): 95
黑斑蛙蝌蚪出血病病原菌的分离鉴定及药物敏感性 .....	钟为铭, 等 (1): 107
半滑舌鳎源哈维氏弧菌分泌蛋白 HutZ 的功能鉴定及免疫原性 .....	尚玉曼, 等 (1): 116
金属蛋白酶组织抑制剂在皱纹盘鲍抗弧菌免疫中的作用 .....	张明辉, 等 (1): 126
有效微生物菌群 (EM) 对蟹鲈混养模式下养殖水体菌群结构的影响 .....	李士恒, 等 (1): 136
草鱼全基因组微卫星特征分析与亲子鉴定 .....	黄纬杰, 等 (2): 161
黄颡鱼 STAT3 乙酰化位点验证及其与 SIRT6 去乙酰化酶的关系 .....	郑 华, 等 (2): 173
基于 16S <i>rRNA</i> 序列探讨我国海鲢科鱼类分子系统进化关系 .....	陈 铭, 等 (2): 183
贝莱斯芽孢杆菌 LF01 基因组序列分析及其代谢产物的生防作用 .....	张德锋, 等 (2): 196
基于两段式模型研究口虾蛄体长-体质量关系及估算初次性成熟体长 .....	徐海龙, 等 (2): 207
气候变化对黄海中南部斑鰶产卵场适宜性的影响 .....	张云雷, 等 (2): 215
饲料中胆碱对大口黑鲈幼鱼生长性能、体成分和血清抗氧化机能的影响 .....	周 越, 等 (2): 224
仿刺参幼参对亮氨酸最适需求量的研究 .....	刘财礼, 等 (2): 238
草鱼呼肠孤病毒 II 型自然发病与人工注射感染草鱼的病理症状和病毒分布研究 .....	杨 玲, 等 (2): 250
VP35 蛋白对 II 型草鱼呼肠孤病毒增殖的影响 .....	姜 霖, 等 (2): 261
QseB 在嗜水气单胞菌响应去甲肾上腺素中的作用 .....	秦 婷, 等 (2): 270
草鱼 miR-23a 在嗜水气单胞菌感染过程中的调控机制 .....	包天杰, 等 (2): 280
不同乳酸菌对发酵草鱼品质的影响 .....	许惠雅, 等 (2): 289

- 以双拖渔船为例分析浙江省海洋捕捞渔船捕捞区域差异 ..... 刘 勇, 等 (2): 298
- 不同电学参数和流速下的拦鱼电栅对草鱼幼鱼的拦导效率 ..... 石迅雷, 等 (2): 310
- 2020 年秋季南极布兰斯菲尔德海峡南极磷虾集群时空分布 ..... 董思宋, 等 (3): 337
- 2019 年秋季南设得兰群岛南极磷虾集群时空分布特征 ..... 李 帅, 等 (3): 349
- 基于变点分析的南极半岛南极磷虾资源分布空间格局尺度效应 ..... 刘 慧, 等 (3): 359
- 基于空间自相关模型的南极半岛北部水域南极磷虾渔场时空演变特征 ..... 赵国庆, 等 (3): 368
- 海冰与风场对布兰斯菲尔德海峡磷虾渔场作业适宜性的影响 ..... 朱宇航, 等 (3): 379
- 基于物种分布集成模型的布兰斯菲尔德海峡南极磷虾栖息地研究 ..... 陈洵子, 等 (3): 390
- 南极布兰斯菲尔德海峡磷虾渔场夏秋季汤氏纽鳃樽食物组成及其影响因素研究 ..... 廖丹枫, 等 (3): 402
- 南极磷虾粉替代鱼粉对黄颡鱼生长、免疫及肌肉品质的影响 ..... 谢 凯, 等 (3): 410
- 南极磷虾粉加工过程中虾青素的含量、结构及抗氧化性 ..... 欧阳杰, 等 (3): 420
- 常温酶解法测定基于南极磷虾中虾青素酯的方法研究 ..... 高 岩, 等 (3): 430
- 南极磷虾油中磷脂型脂肪酸的测定方法优化及应用 ..... 王诗淼, 等 (3): 439
- 南极磷虾主要过敏原的分离纯化及性质研究 ..... 林 娜, 等 (3): 445
- 南极磷虾油的分级制备及其品质分析 ..... 刘芸杭, 等 (3): 457
- $\beta$ -环糊精稳定南极磷虾油 Pickering 乳液的制备及其稳定性的研究 ..... 朱 凯, 等 (3): 466
- 可溶性南极磷虾蛋白-芦丁复合物的制备及抗氧化性能分析 ..... 李玉锋, 等 (3): 475
- 标准化船载加工模式中南极磷虾脱壳加工的虾水配比关键技术 ..... 倪 锦, 等 (3): 486
- 南极磷虾桁杆拖网网型结构与作业性能之间的关系 ..... 冯 超, 等 (3): 494
- 南极磷虾渔船船速对科学探鱼仪有效探测深度的影响 ..... 王新良, 等 (3): 505
- 由南极海洋保护区与南极磷虾渔业论非政府组织在南极治理中的角色与作用 ..... 韦想云, 等 (3): 513
- 半滑舌鳎 *Inc-XR\_003049606.1* 及其靶基因 *pmelb* 在无眼侧皮肤黑化过程中的表达 ..... 胡元日, 等 (4): 529
- 三角帆蚌 *kinase X* 基因的克隆及功能初探 ..... 崔晓羽, 等 (4): 537
- 漏湖鱼类群落时空分布及其与环境因子的关系 ..... 李经纬, 等 (4): 546
- 黄海南部近岸水域棘头梅童鱼仔稚鱼的分布和漂移趋势 ..... 邹明汐, 等 (4): 557
- 海洋环境变化对北太平洋柔鱼个体生长的影响 ..... 王 岩, 等 (4): 569
- 基于微卫星标记评估凡纳滨对虾收获体长、体质量以及抗 WSSV 性状的遗传参数 ..... 孙 坤, 等 (4): 583
- 一株虹鳟嗜冷黄杆菌 CH06 的基因组进化及毒力相关基因分析 ..... 陈福广, 等 (4): 594

基于束缚的胁迫调控对潜水捕捞虾夷扇贝活品贮运稳定性的影响 .....	李亚烜, 等 (4) : 605
东海岱衢族大黄鱼资源变动的的原因探析及重建策略 .....	俞存根, 等 (4) : 616
试论黄河三角洲生态农牧化高质量发展的策略与途径 .....	袁秀堂, 等 (4) : 626
尼罗罗非鱼鼠李糖凝集素 (RBL-1) 在非特异性细胞防御病原菌感染中的功能 .....	木亮亮, 等 (5) : 730
鳃肤孢虫新种的分离和鉴定 .....	张 波, 等 (5) : 741
草鱼 <i>CD8<math>\alpha</math></i> 、 <i>CD207</i> 基因重组真核表达质粒的构建与表达分析 .....	田 丁, 等 (5) : 750
赤点石斑鱼 Toll 样受体 (TLRs) 基因家族的鉴定、进化与表达 .....	陈桂森, 等 (5) : 760
刺激隐核虫钙调蛋白基因的分子鉴定 .....	倪 炜, 等 (5) : 774
草鱼 C5a、C5aR 和 FII 多克隆抗体的制备与表达特性 .....	苏 杭, 等 (5) : 785
嗜水气单胞菌刺激下鲤血清质子转运载体 15a2 ( <i>Slc15a2</i> ) 的表达分析 .....	姜 洲, 等 (5) : 797
大黄鱼肿瘤抑制因子 <i>cylindromatosis (LcCYLD)</i> 的序列与免疫反应特征及其功能 .....	张 萌, 等 (5) : 805
凡纳滨对虾丝氨酸蛋白酶同源物基因 ( <i>Lv-SPH</i> ) 的克隆及免疫应答特征 .....	尹丝雨, 等 (5) : 815
大口黑鲈鲁氏耶尔森氏菌的分离鉴定、主要毒力基因及致病性研究 .....	王巧煌, 等 (5) : 825
乌鳢诺卡氏菌病致病菌的分离、鉴定及组织病理学观察 .....	滕 建, 等 (5) : 836
维生素 C 碳点对水产养殖主要病原菌的抗菌性能及其生物相容性 .....	何 稳, 等 (5) : 848
枯草芽孢杆菌对氨基胁迫下半滑舌鳎非特异性免疫酶活性、血液生化指标及相关基因表达量的影响 .....	张晶晶, 等 (5) : 857
2 株溶藻弧菌烈性噬菌体的分离鉴定及其生物学特性 .....	乔 欢, 等 (5) : 870
鲍疱疹病毒原位 LAMP 检测方法的建立与初步应用 .....	谷 莉, 等 (5) : 885
刀鲚基因家族鉴定及扩张与收缩 .....	张金鹏, 等 (6) : 897
黄条鲷幼鱼胃排空特征、消化酶活性及摄食调控基因表达 .....	李明月, 等 (6) : 906
红螯光壳螯虾响应长期水体盐度胁迫的基因和代谢通路 .....	刘树彬, 等 (6) : 917
缢蛏过氧化氢酶基因的克隆及其功能 .....	乔晓静, 等 (6) : 931
GABA 受体拮抗剂荷包牡丹碱和 CGP52432 对厚壳贻贝幼虫附着变态的影响 .....	王林雨, 等 (6) : 942
基于人工神经网络的日本海舍氏贝乌贼角质颞色素沉积特性分析 .....	朱文斌, 等 (6) : 950
马鞍列岛东部海域小黄鱼时空分布特征 .....	汪振华, 等 (6) : 959
南沙群岛重点岛礁潟湖微型浮游动物的群落结构与摄食 .....	赵常升, 等 (6) : 973
黄岛近海岸贝类养殖区细菌群落结构多样性及与环境因子响应 .....	马景雪, 等 (6) : 984
大陈洋产卵场保护区鱼类群落结构特征及其与环境因子的关系 .....	芮 银, 等 (6) : 995

- 山东近海渔业物种多样性与环境因子的关系 ..... 徐茂真, 等 (6): 1008
- 基于环境 DNA 的岩原鲤检测及生物量评估 ..... 闫卉果, 等 (6): 1018
- 长牡蛎和福建牡蛎个体生长模型的构建及比较 ..... 姜妮妮, 等 (6): 1027
- 文蛤动态能量收支模型构建、验证与应用 ..... 张 虎, 等 (6): 1036
- 胆汁酸对齐口裂腹鱼幼鱼脂肪沉积、脂肪代谢酶活性及相关基因表达的影响 ..... 向 泉, 等 (6): 1045
- 高植物蛋白饲料中添加蛋白酶对克氏原螯虾生长、免疫力及消化力的影响 ..... 杨文秀, 等 (6): 1053
- 大口黑鲈蛙病毒分子流行病学及组织病理分析 ..... 杨展展, 等 (6): 1063
- 热应激对大菱鲆心肌损伤及细胞凋亡的影响 ..... 郭晓丽, 等 (6): 1074
- 洪湖碘泡虫在发病和隐性感染异育银鲫组织器官中的分布 ..... 杨 坤, 等 (6): 1085
- 凡纳滨对虾血细胞图像流式检测与病原感染分析 ..... 李 荣, 等 (6): 1094
- 大黄鱼肌原纤维结合型丝氨酸蛋白酶的克隆、表达及性质 ..... 刘海燕, 等 (7): 1154
- 养殖褐牙鲈的极限品质及锁鲜调控 ..... 周 进, 等 (7): 1167
- 比较基因组学分析鱼源荧光假单胞菌的致病和适应性 ..... 刘静聪, 等 (7): 1178
- 不同干燥方式对卵形鲳鲹鱼片风味的影响 ..... 吴燕燕, 等 (7): 1188
- 酵母接种发酵对鳙鱼肉气味的影响 ..... 周惠敏, 等 (7): 1201
- 电解水预处理对冷藏大黄鱼品质变化的影响 ..... 黄 莉, 等 (7): 1210
- 池塘养殖和大湖养殖对“华海 1 号”团头鲂鱼肉品质的影响 ..... 李温蓉, 等 (7): 1220
- 拉曼光谱检测脆肉草鱼肌肉脆度 ..... 杨 灵, 等 (7): 1235
- 海产品与淡水产品中重金属的差异性及其风险评价 ..... 齐自元, 等 (7): 1246
- 我国三省稻田养殖克氏原螯虾肌肉中 24 种微量元素含量及健康风险评价 ..... 黄晓丽, 等 (7): 1257
- 甲壳类水产品主要过敏原原肌球蛋白胶体金免疫层析快速检测方法的建立及应用 ..... 高红艳, 等 (7): 1269
- 竹叶抗氧化物浸泡-乳清分离蛋白涂膜对冷藏富硒虹鳟蛋白质理化性质的影响 ..... 陈俊杰, 等 (7): 1282
- 睡眠剥夺对小鼠氧化应激的影响及鳕寡肽 SEP-3 的干预作用 ..... 易 冲, 等 (7): 1293
- 基因组选择技术在半滑舌鳎“鲷优 1 号”新品种培育中的应用研究 ..... 卢 昇, 等 (8): 1305
- 大黄鱼肌纤维性状的全基因组关联分析 ..... 何 蹇, 等 (8): 1313
- 四带小鲃的长鳍表型及其转录组分析 ..... 杨继辉, 等 (8): 1324
- 多鳞四指马鲛 5 个地理群体的形态差异 ..... 章翊涵, 等 (8): 1334
- 厄尔尼诺事件对西北太平洋柔鱼种群动态的影响 ..... 隋 芯, 等 (8): 1345

基于高精度声学图像的海洋牧场海床类型识别 .....	徐晓甫, 等 (8): 1357
基于卷积神经网络的养殖鱼类品种识别模型 .....	蔡卫明, 等 (8): 1369
长江下游苏通江段刀鲚产卵场的初步研究 .....	薛向平, 等 (8): 1377
低温对四川华鳊卵巢发育的影响及调控 .....	刘楠楠, 等 (8): 1389
野生和养殖曼氏无针乌贼亲体形态、生化组分及其胚胎发育的比较 .....	朱岚倩, 等 (8): 1403
饲料中添加不同水草粉对克氏原螯虾生长、消化酶、抗氧化酶活性及色泽的影响 .....	张亚文, 等 (8): 1414
不同工艺提取鳀蛋白质原料对黄颡鱼生长性能和生理健康的影响 .....	吕 斌, 等 (8): 1427
脆肉尼罗罗非鱼与普通尼罗罗非鱼肌肉理化与营养特性的比较 .....	谢 曦, 等 (8): 1439
野生、池塘及工厂化养殖马口鱼肌肉营养成分的比较 .....	邱德林, 等 (8): 1449
青蛤不同壳色个体间的生长及营养差异 .....	魏 敏, 等 (8): 1458
坛紫菜优良品系的品质分析 .....	卢玉典, 等 (8): 1466
黄连素对高脂诱导的斑马鱼肝脏细胞脂质代谢的影响 .....	刘 瑾, 等 (8): 1473
草鱼 II 型干扰素的单克隆抗体制备与鉴定 .....	朱晓真, 等 (8): 1487
中国鲎血蓝蛋白提纯及其纯化物的液相色谱串联质谱分析 .....	赵忠浩, 等 (8): 1499
3 种黄颡鱼 <i>SOCSs</i> 基因分子特性及致病菌胁迫下的表达模式 .....	孙亦如, 等 (9): 1537
脊尾白虾 <i>Strawberry Notch1</i> 基因的克隆及免疫功能 .....	陈 昊, 等 (9): 1553
织锦巴非蛤不同颜色斧足的转录组 .....	曾庆民, 等 (9): 1562
冬季低水温鳊短期饥饿和摄食的生理状态比较 .....	徐杭忠, 等 (9): 1572
养殖密度对西伯利亚杂交鲟幼鱼生长、抗氧化酶活性和相关基因表达的影响 .....	赵大显, 等 (9): 1582
以嘉陵江为例构建并分析有毒鱼类风险评估体系 .....	张富斌, 等 (9): 1593
罗非鱼-鱼腥草共生系统中鱼菜不同配比对池塘水质及细菌群落结构的影响 .....	可小丽, 等 (9): 1604
糖蜜添加对凡纳滨对虾养殖水体菌群结构的影响 .....	何润端, 等 (9): 1620
罗氏沼虾性成熟前后形态性状对体质量的通径分析 .....	邢钱钱, 等 (9): 1632
应用响应曲面法优化萱藻丝状体扩增条件 .....	王玉萌, 等 (9): 1646
常用渔药及水体 pH 对生物炭填料系统硝化作用和微生物群落结构的影响 .....	江昊飞, 等 (9): 1656
一株松鼠葡萄球菌 JS-1 对鲫的致病性及其灭活疫苗保护作用 .....	马 爽, 等 (9): 1669
齐口裂腹鱼 <i>Hsp60</i> cDNA 克隆及其在无乳链球菌感染中的 mRNA 表达 .....	陈德芳, 等 (9): 1680
壳寡糖对虎龙斑的生长、免疫及肠道菌群的影响 .....	施 斐, 等 (9): 1689

- 5 种海水养殖石首鱼类肠道菌群多样性的比较 ..... 林能锋, 等 (9): 1701
- 筏式养殖虾夷扇贝“褐色沉积症”形成原因初步研究 ..... 于佐安, 等 (9): 1713
- 莆田近海孔烂病海带微生物群落结构及其与环境因子的关系 ..... 冯 磊, 等 (9): 1721
- 池塘循环水槽养殖模式下斑点叉尾鲷肌肉特征挥发性风味成分 ..... 刘崇万, 等 (9): 1732
- 农业农村部 2022 年审定通过的水产新品种 ..... (9): 1757
- 动植物蛋白对日本沼虾生长、肌肉组成、抗氧化、TOR 信号通路及食欲调节相关基因表达的影响 ... 郑金仙, 等 (10): 1801
- 发酵豆粕、肉骨粉及其混合物替代鱼粉对大口黑鲈生长、血清生化指标和肠道组织学的影响 ... 卞宇豪, 等 (10): 1813
- 饲料中添加酶解鸡浆对大口黑鲈肝脏抗氧化能力、肠道物理屏障和肠道菌群的影响 ..... 冯转东, 等 (10): 1824
- 饲料添加 L-精氨酸或 N-氨甲酰谷氨酸对杂交鳢肠道黏膜形态和肠道菌群的影响 ..... 李培佳, 等 (10): 1836
- 低鱼粉饲料中添加羟基蛋氨酸硒对凡纳滨对虾生长性能、抗氧化能力和抗亚硝酸盐胁迫的影响 ... 李 静, 等 (10): 1848
- 不同投喂频率下草鱼对 5 种非粮蛋白源利用效率的比较 ..... 夏世森, 等 (10): 1860
- 日粮中裂殖壶藻渣对多鳞白甲鱼生长、脂代谢及健康的影响 ..... 肖芬芬, 等 (10): 1872
- 饲料中添加复合植物提取物对大口黑鲈生长性能、血清生化指标和肝脏、肠道健康的影响 ..... 王梦华, 等 (10): 1892
- 饲料中添加柠檬黄对鲫肝、肠组织结构、抗氧化指标及肠道菌群的影响 ..... 辛晴晴, 等 (10): 1902
- 月桂酸单甘油酯对凡纳滨对虾生长、肌肉氨基酸、非特异性免疫及肠道菌群的影响 ..... 韦宏杰, 等 (10): 1912
- 饲料糖脂比对吉富罗非鱼生长、生理生化指标、肠道菌群组成及抗病力的影响 ..... 宁丽军, 等 (10): 1927
- 棉子糖对刺参幼参生长、生理指标及糖代谢的影响 ..... 郭 鹏, 等 (10): 1940
- 饲料磷水平对吉富罗非鱼肠道磷和脂肪酸转运及甘油三酯沉积的影响 ..... 刘香元, 等 (10): 1950
- 磷对生长期草鱼肌肉理化参数、游离氨基酸、呈味核苷酸和游离脂肪酸组成的影响 ..... 胡 凯, 等 (10): 1957
- 荚膜甲基球菌蛋白替代鱼粉对珍珠龙胆石斑鱼生长性能、血清生化指标和肠道健康的影响 ..... 梁伟兴, 等 (10): 1969
- 灭活植物乳杆菌及其代谢物对草鱼生长性能和肠道健康的影响 ..... 田 娟, 等 (10): 1980
- 越冬期间投喂不同饵料对中华绒螯蟹扣蟹存活、营养组成、消化及免疫力的影响 ..... 肖昌伦, 等 (10): 1992
- 中华绒螯蟹外骨骼矿化期肝胰腺脂代谢与钙离子的相关性 ..... 戚常乐, 等 (10): 2007
- 黄带拟鲮线粒体基因组测序及鲮科鱼类系统发育分析 ..... 王开杰, 等 (11): 2017
- 团头鲂 *IL-12* 表达及功能的初步研究 ..... 武佳琪, 等 (11): 2028
- 尼罗罗非鱼白细胞介素 21 基因 (*OnIL-21*) 及其受体基因 (*OnIL-21R*) 克隆及表达分析 ..... 李 兰, 等 (11): 2038
- 草鱼 IFN $\alpha$  和 IFN $\delta$  重组蛋白表达、纯化及单克隆抗体制备 ..... 王梓璇, 等 (11): 2053
- 坛紫菜响应高光胁迫的分子机制 ..... 张 宝, 等 (11): 2066

- 基于内壳生长纹的秋季东印度洋鸢乌贼生长特性 ..... 郭有俊, 等 (11): 2076
- 通过小型探鱼无人船探测大型围网养殖区大黄鱼的分布特性 ..... 田玉先, 等 (11): 2084
- 皱纹盘鲍稚鲍对海水酸化与溴氰菊酯复合胁迫的响应 ..... 邓钦有, 等 (11): 2097
- 珠三角地区养殖及野生淡水鱼类的甲基汞积累现状 ..... 朱云钢, 等 (11): 2107
- 稻虾共生模式对水稻结实期根系分泌物及微生物的影响 ..... 陶先法, 等 (11): 2122
- 脂多糖对细菌生物被膜形成及厚壳贻贝幼虫变态的影响 ..... 吴静娴, 等 (11): 2134
- 盐碱水和海水养殖条件下的拟穴青蟹生长和营养成分比较分析 ..... 方 伟, 等 (11): 2143
- 不同碳水化合物水平对大口黑鲈鳃组织结构、抗氧化能力和免疫能力的影响 ..... 赵柳兰, 等 (11): 2158
- 饲料中添加雨生红球藻对黄颡鱼生长、抗氧化酶活性、免疫应答及氨氮耐受的影响 ..... 樊玉文, 等 (11): 2168
- 田螺科四种螺的肌肉主要营养成分 ..... 罗 辉, 等 (11): 2177
- 大鲵皮肤溃疡死亡相关的微生物区系 ..... 许峻旗, 等 (11): 2186
- 大黄鱼冷藏过程肌肉蛋白质生化特性与新鲜度的相关性 ..... 张建友, 等 (11): 2196
- TG 酶催化过程中鲢肌原纤维蛋白凝胶性能的变化 ..... 冯 倩, 等 (11): 2208
- 聚酮单丝材料的渔用适配性 ..... 孙 斌, 等 (11): 2218
- 青鱼线粒体 *ND4L* 的 SNP 筛选及在两种体色群体中的分布 ..... 毛思琦, 等 (12): 2257
- 马氏珠母贝 *IGF2BP1* 基因的鉴定及对矿化相关基因表达的影响 ..... 熊盼盼, 等 (12): 2265
- 基于线粒体 *COII* 和 *ND4* 基因序列的塔里木裂腹鱼群体遗传多样性分析 ..... 任永丽, 等 (12): 2274
- foxl3* 重组质粒过表达与 17 $\alpha$ -甲基睾酮 (MT) 投喂对斜带石斑鱼性腺发育的影响 ..... 张春丽, 等 (12): 2286
- 不同育性长牡蛎性腺发育过程中糖原和脂质的组织化学研究 ..... 王 朔, 等 (12): 2297
- 南极半岛海域南极磷虾资源时空分布格局及尺度研究 ..... 刘 慧, 等 (12): 2306
- 赤道海域茎柔鱼栖息地月间分布及与环境因子的关联 ..... 余 为, 等 (12): 2315
- 应用 STAR 模型研究海州湾小黄鱼春季资源量的时空分布 ..... 赵 伟, 等 (12): 2330
- 基于 PCA-GAM 的阿拉伯海鸢乌贼资源量空间分布预测模型研究 ..... 范秀梅, 等 (12): 2340
- 基于微卫星标记的钱塘江上游黄尾鲴增殖放流效果及其潜在遗传风险评估 ..... 郭爱环, 等 (12): 2349
- 采样设计对估计矛尾虾虎鱼体长-体质量关系参数 *b* 的影响 ..... 程 文, 等 (12): 2357
- 规模化透水性人工鱼礁阻流效应的数值模拟 ..... 杨 伟, 等 (12): 2366
- 拌饲投喂钙黄绿素对中华倒刺鲃幼鱼不同组织抗氧化酶活性和脂质过氧化的影响 ..... 汪政希, 等 (12): 2383
- 初探母源免疫处理草鱼母本及其子代 5 种免疫因子含量的周年变化规律 ..... 刘 益, 等 (12): 2396

卵黄抗体对凡纳滨对虾生长、免疫及抗  $Vp_{AHPND}$  感染的影响 ..... 王仁宝, 等 (12): 2409

厚壳贻贝不同组织中的微生物群落结构 ..... 何治江, 等 (12): 2421

皱纹盘鲍脯氨酰内肽酶的分离纯化及性质 ..... 陈守峰, 等 (12): 2432

基于比色型适配体传感器高灵敏快速检测磷脂酰丝氨酸 ..... 王 赛, 等 (12): 2443

利用大口黑鲈加工上海熏鱼的工艺及风味特点 ..... 周 瑜, 等 (12): 2452

综述

我国淡水贝类种质资源现状与保护利用 ..... 白志毅, 等 (1): 149

鱼类疱疹病毒研究进展概述 ..... 赵 哲, 等 (2): 322

基因编辑技术在贝类中的应用进展与展望 ..... 于 红, 等 (4): 636

雌雄同体鱼类性别分化及性转变研究进展 ..... 赵会宏, 等 (4): 644

中国鲑形目鱼类核型研究进展 ..... 朱传坤, 等 (4): 657

大黄鱼种质资源保护与利用现状及建议 ..... 徐 鹏, 等 (4): 674

中国大鲵种质资源保护与利用研究进展 ..... 蒋万胜, 等 (4): 683

中国深蓝渔业发展现状与未来愿景 ..... 刘永新, 等 (4): 706

十足目虹彩病毒 1 的研究进展 ..... 绳秀珍, 等 (5): 721

17 $\beta$ -HSDs 的种类和功能概述及其在贝类中的研究进展 ..... 曾 臻, 等 (6): 1104

鱼类黏膜层微生物研究进展 ..... 张艳敏, 等 (6): 1117

海参在加工过程中的组分与食品结构变化 ..... 常耀光, 等 (7): 1129

鱼贝类肌肉品质变化与能量代谢关联 ..... 殷中专, 等 (7): 1143

渔业资源增殖评估研究进展与展望 ..... 张崇良, 等 (8): 1509

渔光互补生态经济特征及其发展方向 ..... 张家华, 等 (8): 1525

藤壶幼虫附着的分子机理研究进展: 转录组和蛋白质组 ..... 黄敬亮, 等 (9): 1743

水产动物营养与免疫研究进展 ..... 刘 波, 等 (10): 1761

凡纳滨对虾营养生理和高效环保饲料研究进展 ..... 牛 津, 等 (10): 1776

海上风电场对鱼类福利的影响研究进展 ..... 黄六一, 等 (11): 2226

鱼皮明胶在食品加工业中的应用 ..... 张 婷, 等 (11): 2241

硬骨鱼类黄色素细胞的研究进展 ..... 田 雪, 等 (12): 2467

# JOURNAL OF FISHERIES OF CHINA

## Vol.46, 2022

### CONTENTS

- Cloning and sequence analysis of common carp (*Cyprinus carpio*) *gip* and the regulation of its mRNA expression  
 ..... YANG Guokun, *et al.* (1) : 1
- Follicle-stimulating hormone modulation of caudal neurosecretory system activity in the olive flounder (*Paralichthys olivaceus*)  
 ..... JIANG Pengxin, *et al.* (1) : 10
- Preliminary screening of microsatellite DNA markers associated with growth traits in Changfeng silver carp (*Hypophthalmichthys molitrix*)  
 ..... WU Xinyan, *et al.* (1) : 20
- Genetic diversity and genetic structure analysis of aquaculture groups of hybrid grouper [*Epinephelus fuscoguttatus* (♀) × *E. lanceolatus* (♂)] using microsatellite markers  
 ..... LIANG Yesong, *et al.* (1) : 31
- Structure and vitality of sperm of diploid *M. anguillicaudatus*, *P. dabryanus* and their hybrid F<sub>1</sub>  
 ..... LI Meng, *et al.* (1) : 41
- Early life resources assemblage structure and succession to the marine Osteichthyes in the Laizhou Bay of Bohai Sea  
 ..... BIAN Xiaodong, *et al.* (1) : 51
- Effects of recombinant *Lactobacillus casei* from *Aeromonas hydrophila ompA* and *flaA* genes on the growth and immunity in common carp (*Cyprinus carpio*)  
 ..... ZHAO Linhui, *et al.* (1) : 73
- Mechanism of oligochitosan improving non-specific immunity of *Epinephelus fuscoguttatus* (♀) × *E. lanceolatus* (♂)  
 ..... LIU Zetian, *et al.* (1) : 85
- Mechanism of oligochitosan improving non-specific immunity of *Epinephelus fuscoguttatus* (♀) × *E. lanceolatus* (♂)  
 ..... CHEN Jiajun, *et al.* (1) : 95
- Isolation, identification and drug sensitivity of the pathogen causing hemorrhagic disease of *Rana nigromaculata* tadpole  
 ..... ZHONG Weiming, *et al.* (1) : 107
- Function and immunogenicity of the secretory protein HutZ of *Vibrio harveyi* from *Cynoglossus semilaevis*  
 ..... SHANG Yuman, *et al.* (1) : 116
- Role of tissue inhibitor of metalloproteinase in the anti-*Vibrio* immunity of *Haliotis discus hannai*  
 ..... ZHANG Minghui, *et al.* (1) : 126
- Effect of effective microorganisms (EM) on aquatic bacterial community structure in polyculture mode of *Eriocheir sinensis* and *Micropterus salmoides*  
 ..... LI Shiheng, *et al.* (1) : 136
- Analysis of microsatellite in the entire grass carp (*Ctenopharyngodon idella*) genome and the application in parentage identification  
 ..... HUANG Weijie, *et al.* (2) : 161
- Validation of STAT3 acetylation site and its relationship with SIRT6 deacetylase in *Pelteobagrus fulvidraco*  
 ..... ZHENG Hua, *et al.* (2) : 173

- Molecular phylogenetic relationship of Muraenidae species in China Sea based on 16S *rRNA* gene sequences  
..... CHEN Ming, *et al.* (2) : 183
- Genomic analysis of *Bacillus velezensis* LF01 strain and the biocontrol effect of its secondary metabolites  
..... ZHANG Defeng, *et al.* (2) : 196
- Establishing length-weight relationship and predicting size at first maturity of *Oratosquilla oratoria* based on polyphasic model  
..... XU Hailong, *et al.* (2) : 207
- Impacts of climate changes on the habitat suitability of spawning ground for *Konosirus punctatus* in the central and southern Yellow Sea  
..... ZHANG Yunlei, *et al.* (2) : 215
- Effect of dietary choline level on growth performance, body composition and serum antioxidant activity of juvenile largemouth bass (*Micropterus salmoides*)  
..... ZHOU Yue, *et al.* (2) : 224
- Optimum dietary leucine requirement of juvenile sea cucumber *Apostichopus japonicus*  
..... LIU Caili, *et al.* (2) : 238
- Studies on pathological symptoms and virus distribution in natural and artificial injection infection *Ctenopharyngodon idella* with grass carp reovirus type II  
..... YANG Ling, *et al.* (2) : 250
- Effect of VP35 protein on the proliferation of type II grass carp (*Ctenopharyngodon idella*) reovirus  
..... JIANG Lin, *et al.* (2) : 261
- QseB regulates *in vitro* and *in vivo* virulence of *Aeromonas hydrophila* in response to norepinephrine  
..... QIN Ting, *et al.* (2) : 270
- Regulation mechanism of miR-23a in *Ctenopharyngodon idella* during *Aeromonas hydrophila* infection  
..... BAO Tianjie, *et al.* (2) : 280
- Effects of different lactic acid bacteria on the quality of fermented grass carp (*Ctenopharyngodon idella*)  
..... XU Huiya, *et al.* (2) : 289
- Preliminary analysis on regional differences of fishing habits of marine fishing vessels in Zhejiang Province: taking double trawlers as an example  
..... LIU Yong, *et al.* (2) : 298
- Blocking efficiency of electrified barrier for guiding juvenile grass carp (*Ctenopharyngodon idella*) by pulsed direct current with different electric parameters at different flow velocities  
..... SHI Xunlei, *et al.* (2) : 310
- Temporal and spatial distribution of Antarctic krill (*Euphausia superba*) swarms in the Bransfield Strait, Antarctic in autumn 2020  
..... DONG Sisong, *et al.* (3) : 337
- Temporal and spatial distribution characteristics of Antarctic krill (*Euphausia superba*) aggregations in South Shetland Islands in autumn and winter of 2019  
..... LI Shuai, *et al.* (3) : 349
- Scale effect of spatial pattern for Antarctic krill (*Euphausia superba*) distribution around Antarctic Peninsula based on changepoint analysis  
..... LIU Hui, *et al.* (3) : 359
- Spatio-temporal evolution characteristics of Antarctic krill (*Euphausia superba*) fishing ground in the northern waters of Antarctic Peninsula based on spatial autocorrelation model  
..... ZHAO Guoqing, *et al.* (3) : 368
- Impact of sea ice and wind field on the suitability of conventional krill fishing operation in the Bransfield Strait, Antarctica  
..... ZHU Yuhang, *et al.* (3) : 379

Habitat of Antarctic krill ( <i>Euphausia superba</i> ) in the Bransfield Strait based on ensembled species distribution model .....	CHEN Xunzi, <i>et al.</i> (3) : 390
Factors influencing food composition of salp ( <i>Salpa thompsoni</i> ) in krill fishing ground of the Bransfield Strait, Antarctica .....	LIAO Danfeng, <i>et al.</i> (3) : 402
Effects of replacement of fish meal by Antarctic krill meal on growth performance, immune indexes and muscle quality of <i>Pelteobagrus fulvidraco</i> .....	XIE Kai, <i>et al.</i> (3) : 410
Astaxanthin content, structure and antioxidant activity in the processing of Antarctic krill ( <i>Euphausia superba</i> ) meal .....	OUYANG Jie, <i>et al.</i> (3) : 420
A method for the determination of astaxanthin ester in Antarctic krill ( <i>Euphausia superba</i> ) by enzymatic hydrolysis at room temperature .....	GAO Yan, <i>et al.</i> (3) : 430
Optimization and application of the method for determination of the fatty acid content in phospholipid from krill oil .....	WANG Shimiao, <i>et al.</i> (3) : 439
Isolation, purification and properties of Antarctic krill ( <i>Euphausia superba</i> ) major allergens .....	LIN Na, <i>et al.</i> (3) : 445
Fractional preparation of Antarctic krill oil and its quality analysis .....	LIU Yunhang, <i>et al.</i> (3) : 457
Preparation of Antarctic krill Pickering emulsion stabilized by $\beta$ -cyclodextrin and its stability .....	ZHU Kai, <i>et al.</i> (3) : 466
Preparation and antioxidant properties of soluble Antarctic krill protein-rutin complexes .....	LI Yufeng, <i>et al.</i> (3) : 475
Key technology of the proportioning process of <i>Euphausia superba</i> and seawater in <i>Euphausia superba</i> deshelling processing in a standardized shipborne processing mode .....	NI Jin, <i>et al.</i> (3) : 486
Effect analysis of gear structure and sinker on the performance of Antarctic krill beam trawl .....	FENG Chao, <i>et al.</i> (3) : 494
Effect of vessel speed on the effective range detection limit of scientific echo sounder onboard an Antarctic krill ( <i>Euphausia superba</i> ) fishing vessel .....	WANG Xinliang, <i>et al.</i> (3) : 505
On the role and function of non-governmental organizations in Antarctic governance from the perspectives of Antarctic marine protected areas and Antarctic krill fishery .....	WEI Xiangyun, <i>et al.</i> (3) : 513
Expression analysis of LNC-XR_003049606-1 and its target gene <i>pmelb</i> in blind side skin melanization in <i>Cynoglossus semilaevis</i> .....	HU Yuanri, <i>et al.</i> (4) : 529
Preliminary study on cloning and the functions of <i>kinase X</i> gene in <i>Hyriopsis cumingii</i> .....	CUI Xiaoyu, <i>et al.</i> (4) : 537
Spatial and temporal distribution of fish assemblages and its relationship with environmental factors in Lake Gehu .....	LI Jingwei, <i>et al.</i> (4) : 546
Distribution and drift trend of <i>Collichthys lucidus</i> larvae and juveniles in the coastal waters of the southern Yellow Sea .....	ZOU Mingxi, <i>et al.</i> (4) : 557
Effects of marine environment variation on the growth of neon flying squid ( <i>Ommastrephes bartramii</i> ) in the north Pacific Ocean .....	WANG Yan, <i>et al.</i> (4) : 569

- Evaluation of genetic parameters of body length, body weight and WSSV resistance of *Litopenaeus vannamei* based on microsatellite markers ..... SUN Kun, *et al.* (4) : 583
- Genomic evolution and virulence-associated genes of the *Flavobacterium psychrophilum* CH06 isolated from *Oncorhynchus mykiss* ..... CHEN Fuguang, *et al.* (4) : 594
- Effects of tied-up relaying stress reduction on storage stability of live dived *Patinopecten yessoensis* ..... LI Yaxuan, *et al.* (4) : 605
- Cause analysis of resources change and reconstruction strategy of *Larimichthys crocea* Daiqu group in the East China Sea ..... YU Cungen, *et al.* (4) : 616
- On the strategies and approaches of high-quality development of coastal ecological farm and ranch in the Yellow River Delta ..... YUAN Xiutang, *et al.* (4) : 626
- Functional characterization of RBL-1 from Nile tilapia (*Oreochromis niloticus*) in non-specific cell defense against pathogen infection ..... MU Liangliang, *et al.* (5) : 730
- Isolation and identification of *Dermocystidium sinipercae* sp. n. .... ZHANG Bo, *et al.* (5) : 741
- Construction and expression analysis of recombinant eukaryotic expression plasmids of *CD8 $\alpha$*  and *CD207* genes in *Ctenopharyngodon idella* ..... TIAN Ding, *et al.* (5) : 750
- Identification, evolution and expression pattern of Toll-like receptor gene family in *Epinephelus akaara* ..... CHEN Guisen, *et al.* (5) : 760
- Molecular identification of a calmodulin gene from *Cryptocaryon irritans* ..... NI Wei, *et al.* (5) : 774
- Preparation and expression characteristics of polyclonal antibodies against C5a, C5aR and F II in grass carp (*Ctenopharyngodon idella*) ..... SU Hang, *et al.* (5) : 785
- Expression analysis of serum Slc15a2 in common carp (*Cyprinus carpio*) stimulated by *Aeromonas hydrophila* ..... JIANG Zhou, *et al.* (5) : 797
- Molecular structure, immune response characterizations and function of cylindromatosis in large yellow croaker (*Larimichthys crocea*) ..... ZHANG Meng, *et al.* (5) : 805
- Molecular cloning and characterization of a novel serine protease homologues (*Lv-SPH*) in immune response from *Litopenaeus vannamei* ..... YIN Siyu, *et al.* (5) : 815
- Isolation, identification, major virulence genes and pathogenicity of *Yersinia ruckeri* from *Micropterus salmoides* ..... WANG Qiaohuang, *et al.* (5) : 825
- Isolation, identification, and histopathological observation of pathogen causing nocardiosis in *Channa argus* ..... TENG Jian, *et al.* (5) : 836
- Antibacterial activity of vitamin C-based carbon dots against main pathogenic bacteria in aquaculture and its biocompatibility ..... HE Wen, *et al.* (5) : 848
- Effects of *Bacillus subtilis* on nonspecific immune enzyme activity, blood biochemical indexes and related gene expression of *Cynoglossus semilaevis* under ammonia nitrogen stress ..... ZHANG Jingjing, *et al.* (5) : 857

Isolation, identification and biological properties of two lytic phages against <i>Vibrio alginolyticus</i> .....	QIAO Huan, <i>et al.</i> (5) : 870
Establishment and application of <i>in situ</i> LAMP for detection of <i>Haliotid herpesvirus 1</i> (HaHV-1) .....	GU Li, <i>et al.</i> (5) : 885
Identification and analysis of gene families expansion and contraction in <i>Coilia nasus</i> .....	ZHANG Jinpeng, <i>et al.</i> (6) : 897
Gastric evacuation characteristics, digestive enzyme activity and appetite-related genes expression in juvenile yellowtail kingfish ( <i>Seriola aureovittata</i> ) .....	LI Mingyue, <i>et al.</i> (6) : 906
Analysis of genes and metabolic pathways in response to long-term salinity stress in red crayfish ( <i>Cherax quadricarinatus</i> ) .....	LIU Shubin, <i>et al.</i> (6) : 917
Characterization of a <i>catalase</i> gene from razor clam ( <i>Sinonovacula constricta</i> ) .....	QIAO Xiaojing, <i>et al.</i> (6) : 931
Effects of GABA receptor antagonists bicuculline and CGP52432 on larval settlement and metamorphosis of the mussel ( <i>Mytilus coruscus</i> ) .....	WANG Linyu, <i>et al.</i> (6) : 942
Analysis of pigmentation characteristics on beak of <i>Berryteuthis magister shevtsovi</i> in the Japan Sea based on artificial neural networks .....	ZHU Wenbin, <i>et al.</i> (6) : 950
Spatial and temporal distribution of small yellow croaker ( <i>Larimichthys polyactis</i> ) in Eastern Ma'an Archipelago .....	WANG Zhenhua, <i>et al.</i> (6) : 959
Community structure and grazing of microzooplankton in the key islands and reefs of Nansha Islands .....	ZHAO Changsheng, <i>et al.</i> (6) : 973
Bacterial community structure diversity and environmental factors in the coastal shellfish culture area of Huangdao .....	MA Jingxue, <i>et al.</i> (6) : 984
Characteristics of fish community structure and its relationship with environmental factors in Dachenyang spawning ground reserve .....	RUI Yin, <i>et al.</i> (6) : 995
Relationship between species diversity and environmental factors in the fishery community of Shandong coastal waters .....	XU Maozhen, <i>et al.</i> (6) : 1008
Detection and biomass assessment of <i>Procypris rabaudi</i> based on environmental DNA .....	YAN Huiguo, <i>et al.</i> (6) : 1018
Construction and comparison of individual growth models of Pacific oyster ( <i>Crassostrea gigas</i> ) and Fujian oyster ( <i>C. angulata</i> ) .....	JIANG Weiwei, <i>et al.</i> (6) : 1027
Construction, validation and application of dynamic energy budget model for benthic bivalve clam ( <i>Meretrix meretrix</i> ) .....	ZHANG Hu, <i>et al.</i> (6) : 1036
Effects of dietary bile acid on lipid deposition, lipid metabolism enzyme activities and related gene expression to juvenile <i>Schizothorax prenanti</i> .....	XIANG Xiao, <i>et al.</i> (6) : 1045
Effects of dietary protease supplementation in high-plant-protein diets on the growth, immunity and digestion of red swamp crayfish ( <i>Procambarus clarkii</i> ) .....	YANG Wenxiu, <i>et al.</i> (6) : 1053

- Molecular epidemiology and histopathological analysis of largemouth bass ranavirus  
..... YANG Zhanzhan, *et al.* (6) : 1063
- Effects of thermal stress on turbot (*Scophthalmus maximus*) myocardial injury and apoptosis  
..... GUO Xiaoli, *et al.* (6) : 1074
- Tissue tropism of *Myxobolus honghuensis* in diseased and asymptomatic gibel carp (*Carassius auratus gibelio*)  
..... YANG Kun, *et al.* (6) : 1085
- Imaging flow cytometry measurement and pathogens infection analysis of *Litopenaeus vannamei* hemocytes  
..... LI Rong, *et al.* (6) : 1094
- Molecular cloning, expression and characterization of myofibril-bound serine proteinase from yellow croaker  
(*Larimichthys crocea*) ..... LIU Haiyan, *et al.* (7) : 1154
- Upper limit of quality and freshness control of the culture *Paralichthys olivaceus* ..... ZHOU Jin, *et al.* (7) : 1167
- Comparative genomics revealed spoilage characteristics and adaptability of *Pseudomonas fluorescens* isolated from fish  
..... LIU Jingcong, *et al.* (7) : 1178
- Effects of different drying methods on the flavor of *Trachinotus ovatus* fillets ..... WU Yanyan, *et al.* (7) : 1188
- Effects of yeast inoculation and fermentation on the odor of *Hypophthalmichthys nobilis* ..... ZHOU Huimin, *et al.* (7) : 1201
- Effects of electrolyzed water pretreatment on quality changes of large yellow croaker (*Larimichthys crocea*)  
during chilled storage ..... HUANG Li, *et al.* (7) : 1210
- Effects of pond culture and lake culture on fish quality of *Megalobrama amblycephala* "Huahai No.1"  
..... LI Wenrong, *et al.* (7) : 1220
- Muscle crispness of crispy grass carp (*Ctenopharyngodon idella*) based on Raman spectroscopy  
..... YANG Ling, *et al.* (7) : 1235
- Differences and risk assessment of heavy metals in seafood and freshwater products ..... QI Ziyuan, *et al.* (7) : 1246
- Levels of 24 trace elements and health risk assessment in rice-crayfish (*Procambarus clarkii*) muscle in three  
provinces of China ..... HUANG Xiaoli, *et al.* (7) : 1257
- Establishment and application of colloidal gold immunochromatographic method for rapid detection of major allergen  
tropomyosin in crustacean aquatic products ..... GAO Hongyan, *et al.* (7) : 1269
- Effects of bamboo leaf antioxidant soaking combined with whey protein isolate coating on physicochemical properties of  
protein from Se-rich rainbow trout (*Oncorhynchus mykiss*) during cold storage  
..... CHEN Junjie, *et al.* (7) : 1282
- Effects of sleep deprivation on oxidative stress in mice and intervention of oligopeptide SEP-3 from skipjack  
(*Katsuwonus pelamis*) ..... YI Chong, *et al.* (7) : 1293
- Application of genomic selection in the breeding of new variety of Chinese tongue sole (*Cynoglossus semilaevis*) "Tayou No.1"  
..... LU Sheng, *et al.* (8) : 1305

Genome-wide association study of muscle fiber related traits in large yellow croaker ( <i>Larimichthys crocea</i> )	HE Qian, <i>et al.</i> (8) : 1313
Phenotypic and transcriptomic analysis of long fins of tiger barb ( <i>Puntius tetrazona</i> )	YANG Jihui, <i>et al.</i> (8) : 1324
Morphological differences of five <i>Eleutheronema rhadinum</i> geographical stocks	ZHANG Yihan, <i>et al.</i> (8) : 1334
Impacts of the <i>El Niño</i> event on the population dynamics of <i>Ommastrephes bartramii</i> in the Northwest Pacific Ocean	SUI Xin, <i>et al.</i> (8) : 1345
Research on seabed classification of marine ranching based on high-precision acoustic images	XU Xiaofu, <i>et al.</i> (8) : 1357
Recognition model of farmed fish species based on convolutional neural network	CAI Weiming, <i>et al.</i> (8) : 1369
Preliminary study of <i>Coilia nasus</i> spawning grounds at Sutong section in the lower reaches of the Yangtze River	XUE Xiangping, <i>et al.</i> (8) : 1377
Effects of low temperature on the ovarian development of <i>Sinibrama taeniatus</i>	LIU Nannan, <i>et al.</i> (8) : 1389
Comparison between the wild and hatchery-reared <i>Sepiella japonica</i> in morphology, biochemical composition and embryonic development	ZHU Lanqian, <i>et al.</i> (8) : 1403
Effects of dietary supplementation with different aquatic weed meals on the growth performance, digestive enzyme and antioxidant enzyme activities, and coloration of <i>Procambarus clarkii</i>	ZHANG Yawen, <i>et al.</i> (8) : 1414
Effects of protein ingredients obtained from Japanese anchovy by different processing technologies on yellow catfish growth performance and physiological health ( <i>Pelteobagrus fulvidraco</i> )	LÜ Bin, <i>et al.</i> (8) : 1427
Comparative analysis of physicochemical and nutritional properties between crisp and normal <i>Oreochromis niloticus</i>	XIE Xi, <i>et al.</i> (8) : 1439
Comparison of nutritional ingredients of muscle in <i>Opsariichthys bidens</i> under wild, pond and factory farming conditions	QIU Delin, <i>et al.</i> (8) : 1449
Growth and nutritional differences between two shell-color clams ( <i>Cyclina sinensis</i> )	WEI Min, <i>et al.</i> (8) : 1458
Quality analysis of an improved strain of <i>Pyropia haitanensis</i>	LU Yudian, <i>et al.</i> (8) : 1466
Effects of berberine on lipid metabolism of <i>Danio rerio</i> liver cells induced by high fat	LIU Jin, <i>et al.</i> (8) : 1473
Preparation and characterization of monoclonal antibodies for type II interferons in grass carp ( <i>Ctenopharyngodon idella</i> )	ZHU Xiaozhen, <i>et al.</i> (8) : 1487
Hemocyanin purification from Chinese horseshoe crab ( <i>Tachypleus tridentatus</i> ) and analysis of the purified products by liquid chromatography tandem with mass spectrometry	ZHAO Zhonghao, <i>et al.</i> (8) : 1499
Molecular characteristics and expression pattern analysis under pathogen stress of <i>SOCs</i> genes in three species of yellow catfish	SUN Yiru, <i>et al.</i> (9) : 1537
Cloning and immunological function of <i>SBNO1</i> gene in <i>Exopalaemon carinicauda</i>	CHEN Hao, <i>et al.</i> (9) : 1553
Transcriptome analysis of <i>Paphia textile</i> with different foot colors	ZENG Qingmin, <i>et al.</i> (9) : 1562

- Comparison of physiological status of short-term starvation and feeding of mandarin fish (*Siniperca chuatsi*) at low temperature in winter ..... XU Hangzhong, *et al.* (9) : 1572
- Effects of stocking density on growth, antioxidant enzyme activity and related gene expression of juvenile Siberian hybrid sturgeon [*Acipenser baerii* (♀)×*A. schrenckii* (♂)] ..... ZHAO Daxian, *et al.* (9) : 1582
- Construction and analysis of risk assessment system for ichthyotoxic fishes — a case study of the Jailing River ..... ZHANG Fubin, *et al.* (9) : 1593
- Effects of planting density or proportion on water quality and bacterial microbiota in the tilapia and *Houttuynia cordata* aquaponics ..... KE Xiaoli, *et al.* (9) : 1604
- Effects of molasses addition on bacterial community structure of rearing water of *Litopenaeus vannamei* ..... HE Runduan, *et al.* (9) : 1620
- Path analysis of phenotypic traits on body weight of *Macrobrachium rosenbergii* before and after sexual maturity ..... XING Qianqian, *et al.* (9) : 1632
- Optimization of amplification conditions of filaments of *Scytosiphon lomentaria* by response surface methodology (RSM) ..... WANG Yumeng, *et al.* (9) : 1646
- Effects of common fishery drugs and water pH on nitrification performance and microbial community structure of biochar filler system ..... JIANG Haofei, *et al.* (9) : 1656
- Pathogenicity and inactivated vaccine protection of *Staphylococcus sciuri* JS-1 on *Carassius auratus* ..... MA Shuang, *et al.* (9) : 1669
- Cloning and mRNA expression analysis of *Schizothorax prenanti* Hsp60 in *Streptococcus agalactiae* infection ..... CHEN Defang, *et al.* (9) : 1680
- Effects of oligochitosan on the growth, immune responses and gut microbes of hybrid groupers [*Epinephelus fuscoguttatus* (♀)×*E. lanceolatu* (♂)] ..... SHI Fei, *et al.* (9) : 1689
- Bacteriological analysis of the digestive tract of five species of mariculture Sciaenidae ..... LIN Nengfeng, *et al.* (9) : 1701
- Preliminary research on "brown deposition syndrome" of raft farmed scallop (*Patinopecten yessoensis*) ..... YU Zuoan, *et al.* (9) : 1713
- Microbial community structure and its relationship with environmental factors on Hole-Rotten disease of *Saccharina japonica* in coastal Putian ..... FENG Lei, *et al.* (9) : 1721
- Characteristic volatile flavor components of in-pond raceway system in the muscle of channel catfish (*Ictalurus punctatus*) ..... LIU Chongwan, *et al.* (9) : 1732
- Effects of animal and plant proteins on growth, muscle composition, antioxidant abilities, mRNA expressions of genes related to TOR signaling pathway and appetite regulation in *Macrobrachium nipponense* ..... ZHENG Jinxian, *et al.* (10) : 1801
- Effects of replacing dietary fish meal with fermented soybean meal, meat and bone meal and their mixture on growth, serum biochemical indices and intestinal histology of largemouth bass (*Micropterus salmoides*) ..... BIAN Yuhao, *et al.* (10) : 1813

---

Effects of enzymatic chicken pulp on liver antioxidant capacity, intestinal physical barrier and microflora of <i>Micropterus salmoides</i> .....	FENG Zhuandong, <i>et al.</i> (10) : 1824
Effects of dietary L-arginine or N-carbamoylglutamate on intestinal mucosal morphology and intestinal flora of hybrid snakehead [ <i>Channa maculata</i> (♀)× <i>C. argus</i> (♂)] .....	LI Peijia, <i>et al.</i> (10) : 1836
Effects of hydroxyl methionine selenium supplementation in low-fishmeal diet on growth, antioxidant ability and nitrite tolerance of Pacific white shrimp ( <i>Litopenaeus vannamei</i> ) .....	LI Jing, <i>et al.</i> (10) : 1848
Comparative study on the utilization efficiency of grass carp to five non-grain protein sources at different feeding frequencies .....	XIA Shisen, <i>et al.</i> (10) : 1860
Effects of defatted <i>Schizochytrium</i> sp. in diet on the growth, lipid metabolism and health of <i>Onychostoma macrolepis</i> .....	XIAO Fenfen, <i>et al.</i> (10) : 1872
Effects of plant extract compound on growth performance, serum biochemical indices, liver and intestinal health of largemouth bass ( <i>Micropterus salmoides</i> ) .....	WANG Menghua, <i>et al.</i> (10) : 1892
Effects of tartrazine consumption on liver and intestine structure, antioxidant indices and intestinal microbiota in crucian carp ( <i>Carassius auratus</i> ) .....	XIN Qingqing, <i>et al.</i> (10) : 1902
Effects of glycerol monolaurate on growth performance, muscle amino acids, non-specific immunity and intestinal flora of <i>Litopenaeus vannamei</i> .....	WEI Hongjie, <i>et al.</i> (10) : 1912
Effects of dietary carbohydrate-to-lipid ratio on growth, physiology and biochemistry, gut microbiota and disease resistance of GIFT tilapia ( <i>Oreochromis niloticus</i> ) .....	NING Lijun, <i>et al.</i> (10) : 1927
Effects of dietary raffinose on growth performance, physiological indices and glycometabolism of juvenile sea cucumber ( <i>Apostichopus japonicus</i> ) .....	GUO Peng, <i>et al.</i> (10) : 1940
Effects of dietary phosphorus levels on phosphorus and fatty acid transport and triglyceride deposition in the intestine of GIFT tilapia ( <i>Oreochromis niloticus</i> ) .....	LIU Xiangyuan, <i>et al.</i> (10) : 1950
Effect of dietary phosphorus on physicochemical properties, composition of free amino acid, flavor nucleotide and free fatty acid in muscle of grass carp ( <i>Ctenopharyngodon idella</i> ) .....	HU Kai, <i>et al.</i> (10) : 1957
Effects of methanotroph ( <i>Methylococcus capsulatus</i> ) bacteria meal replacement of fish meal on growth performance, serum biochemical indices and intestinal health of hybrid grouper ( <i>Epinephelus fuscoguttatus</i> ♀× <i>E. lanceolatus</i> ♂) .....	LIANG Weixing, <i>et al.</i> (10) : 1969
Effects of inactivated <i>Lactobacillus plantarum</i> and its metabolites on growth performance and intestinal health of grass carp ( <i>Ctenopharyngodon idella</i> ) .....	TIAN Juan, <i>et al.</i> (10) : 1980
Effects of feeding different diets on survival, nutritional composition, digestion and immunity of juvenile Chinese mitten crab ( <i>Eriocheir sinensis</i> ) during overwintering .....	XIAO Changlun, <i>et al.</i> (10) : 1992
Correlation between hepatopancreas lipid metabolism and calcium during exoskeleton mineralization in <i>Eriocheir sinensis</i> .....	QI Changle, <i>et al.</i> (10) : 2007
Complete mitochondrial genome sequence of <i>Pseudocaranx dentex</i> and phylogenetic analysis of Carangidae .....	WANG Kaijie, <i>et al.</i> (11) : 2017

- Preliminary study on the expression and function of *IL-12* in *Megalobrama amblycephala*  
 ..... WU Jiaqi, *et al.* (11) : 2028
- Identification and expression analysis of interleukin 21 (*IL-21*) and its receptor (*IL-21R*) in Nile tilapia  
 (*Oreochromis niloticus*) ..... LI Lan, *et al.* (11) : 2038
- Expression of recombinant proteins and preparation of monoclonal antibodies for IFN $\alpha$  and IFN $\delta$  in grass carp  
 (*Ctenopharyngodon idella*) ..... WANG Zixuan, *et al.* (11) : 2053
- Molecular mechanism of *Pyropia haitanensis* in response to high light stress ..... ZHANG Bao, *et al.* (11) : 2066
- Growth characteristics of *Sthenoteuthis oualaniensis* based on growth increments of gladius in the Eastern  
 Indian Ocean in autumn ..... GUO Youjun, *et al.* (11) : 2076
- Distribution detection of *Larimichthys crocea* cultured in large net-enclosure aquaculture by Small Unmanned Surface Vehicle  
 ..... TIAN Yuxian, *et al.* (11) : 2084
- Response of juvenile abalone of *Haliotis discus hannai* to the combined stress of ocean acidification and deltamethrin  
 ..... DENG Qinyou, *et al.* (11) : 2097
- Accumulation of methylmercury in the farmed and wild freshwater fish from the Pearl River Delta Region  
 ..... ZHU Yungang, *et al.* (11) : 2107
- Effects of rice-crayfish integrated model on root exudates and microorganisms of rice during grain filling  
 ..... TAO Xianfa, *et al.* (11) : 2122
- Effects of lipopolysaccharide on biofilm formation and larval metamorphosis of the mussel *Mytilus coruscus*  
 ..... WU Jingxian, *et al.* (11) : 2134
- Comparative analysis of growth and nutritional components of *Scylla paramamosain* cultured in saline-alkali water and  
 marine water ..... FANG Wei, *et al.* (11) : 2143
- Effects of different carbohydrate levels on gill tissue structure, antioxidant capacity and immunity of *Micropterus salmoides*  
 ..... ZHAO Liulan, *et al.* (11) : 2158
- Effects of dietary *Haematococcus pluvialis* on growth, antioxidant enzyme activity, immune response and ammonia tolerance in  
 yellow catfish *Pelteobagrus fulvidraco* ..... FAN Yuwen, *et al.* (11) : 2168
- Muscle nutrition analysis of four snail species of Viviparidae ..... LUO Hui, *et al.* (11) : 2177
- Diversity of microflora involved in skin ulcer and death of *Andrias davidianus* ..... XU Junqi, *et al.* (11) : 2186
- Correlation between changes in freshness and biochemical characteristics of *Larimichthys crocea* muscle protein during  
 cold storage ..... ZHANG Jianyou, *et al.* (11) : 2196
- Gel properties changes of myofibrillar protein of silver carp (*Hypophthalmichthys molitrix*) in the process of TG catalysis  
 ..... FENG Qian, *et al.* (11) : 2208
- Study on the suitability of polyketone monofilament material for fishing ..... SUN Bin, *et al.* (11) : 2218
- Screening of SNP markers of mitochondrial *ND4L* gene in black carp (*Mylopharyngodon piceus*) and their frequencies in two  
 different body color populations ..... MAO Siqi, *et al.* (12) : 2257

Verification of <i>IGF2BP1</i> and its effect on the expression of mineralization related genes in <i>Pinctada fucata martensii</i> .....	XIONG Panpan, <i>et al.</i> (12) : 2265
Genetic diversity analysis of <i>Schizothorax biddulphi</i> based on mitochondrial DNA <i>COII</i> and <i>ND4</i> genes .....	REN Yongli, <i>et al.</i> (12) : 2274
Comparative study on the effect of over expression of <i>foxl3</i> recombinant plasmid and MT feeding on gonadal development of <i>Epinephelus coioides</i> .....	ZHANG Chunli, <i>et al.</i> (12) : 2286
Histochemical study of glycogen and lipid of different fertility Pacific oyster ( <i>Crassostrea gigas</i> ) during gonadal development .....	WANG Shuo, <i>et al.</i> (12) : 2297
Spatio-temporal distribution pattern and scale of density distribution for Antarctic krill ( <i>Euphausia superba</i> ) in the Antarctic Peninsula .....	LIU Hui, <i>et al.</i> (12) : 2306
Monthly spatio-temporal distribution of potential habitat of jumbo flying squid <i>Dosidicus gigas</i> in the Equator and its relationship with environmental conditions .....	YU Wei, <i>et al.</i> (12) : 2315
Modelling spatio-temporal distribution of <i>Larimichthys polyactis</i> in Haizhou Bay based on STAR model .....	ZHAO Wei, <i>et al.</i> (12) : 2330
Research on the prediction model of spatial distribution of <i>Sthenoteuthis oualaniensis</i> in the Arabian Sea based on PCA-GAM .....	FAN Xiumei, <i>et al.</i> (12) : 2340
Stock enhancement effect and potential genetic risks of <i>Xenocypris davidi</i> by molecular makers in the upper reaches of Qiantang River, China .....	GUO Aihuan, <i>et al.</i> (12) : 2349
Effect of sampling design on the estimation of length-weight relationship parameter <i>b</i> of <i>Chaemrichthys stigmatias</i> .....	CHENG Wen, <i>et al.</i> (12) : 2357
Numerical simulation of the flow retarding effect of a large-scale permeable artificial reefs .....	YANG Wei, <i>et al.</i> (12) : 2366
Effects of calcein feeding on the levels of antioxidant enzymes and lipid peroxidation in juvenile <i>Spinibarbus sinensis</i> .....	WANG Zhengxi, <i>et al.</i> (12) : 2383
Preliminary study on the annual variation of five immune factors in female parent and offspring of <i>Ctenopharyngodon idella</i> with maternal immunization by grass carp reovirus (GCRV) attenuated vaccine .....	LIU Yi, <i>et al.</i> (12) : 2396
Effect of IgY on the growth, immunity and resistance to <i>Vp<sub>AHPND</sub></i> infection of <i>Litopenaeus vannamei</i> .....	WANG Renbao, <i>et al.</i> (12) : 2409
Differential distribution of indigenous microbiome in tissues of <i>Mytilus coruscus</i> .....	HE Zhijiang, <i>et al.</i> (12) : 2421
Purification and characterization of a prolyl endopeptidase from <i>Haliotis discus hannai</i> .....	CHEN Shoufeng, <i>et al.</i> (12) : 2432
Highly sensitive and rapid detection of phosphatidylserine based on a colorimetric aptasensor .....	WANG Sai, <i>et al.</i> (12) : 2443

- Processing technology and flavor characteristics of Shanghai smoked fish (*Micropterus salmoides*)  
 ..... ZHOU Yu, *et al.* (12) : 2452
- ROUNDUP**
- Germplasm resources situation and protection & utilization of freshwater molluscs in China  
 ..... BAI Zhiyi, *et al.* (1) : 149
- A brief review on virology researches of fish herpesviruses ..... ZHAO Zhe, *et al.* (2) : 322
- Application advances and prospects of genome editing in molluscs ..... YU Hong, *et al.* (4) : 636
- A review of studies on sex differentiation and sex change in hermaphroditic fishes ..... ZHAO Huihong, *et al.* (4) : 644
- Progress of karyotype studies on Siluriformes in China ..... ZHU Chuankun, *et al.* (4) : 657
- Protection and utilization status and prospect of large yellow croaker (*Larimichthys crocea*) germplasm resources  
 ..... XU Peng, *et al.* (4) : 674
- Recent progress in the germplasm resources conservation and utilization of the Chinese giant salamander (*Andrias davidianus*)  
 ..... JIANG Wansheng, *et al.* (4) : 683
- Developmental status and vision for the future of China's deep blue fishery ..... LIU Yongxin, *et al.* (4) : 706
- Research progresses on *Decapoda iridescent virus 1* ..... SHENG Xiuzhen, *et al.* (5) : 721
- Review of types and functions of 17 $\beta$ -HSDs and related research progress in mollusks ..... ZENG Zhen, *et al.* (6) : 1104
- Research progress of mucosal microorganisms of fish ..... ZHANG Yanmin, *et al.* (6) : 1117
- Changes in composition and food structure of sea cucumber during processing ..... CHANG Yaoguang, *et al.* (7) : 1129
- Relationship between muscle quality changes and energy metabolism in fish and shellfish  
 ..... YIN Zhongzhuan, *et al.* (7) : 1143
- Fisheries stock enhancement assessment: progress and prospect ..... ZHANG Chongliang, *et al.* (8) : 1509
- Eco-economic characteristics and development direction of the fish-light complementation  
 ..... ZHANG Jiahua, *et al.* (8) : 1525
- Mechanism underlying barnacle larval adhesion to material surface: transcriptome and proteome  
 ..... HUANG Jingliang, *et al.* (9) : 1743
- Research progress in nutrition and immunity of aquatic animals ..... LIU Bo, *et al.* (10) : 1761
- Research advances in nutritional physiology and high-efficiency and environment-friendly feed of *Litopenaeus vannamei*  
 ..... NIU Jin, *et al.* (10) : 1776
- Advances in research on the effects of offshore wind farm on fish welfare ..... HUANG Liuyi, *et al.* (11) : 2226
- Application progress of fish skin gelatins in food processing industry ..... ZHANG Ting, *et al.* (11) : 2241
- Research development of xanthophore in Osteichthyes ..... TIAN Xue, *et al.* (12) : 2467