

目 次

综述

- 1 抗生素、重金属和杀生剂抗性共选择机制
陈帅, 邹海燕, 高方舟, 吴黛灵, 张敏, 何良英, 应光国

- 11 水蚤分子生态毒理学研究进展
巩宁, 孟紫强, 邵魁双, 孙野青
19 几类常见污染物对斑马鱼运动影响的研究进展
何锦, 薛永来, 周磊, 崔雯, 高璐, 杜道林

专论

- 29 雄激素 1,4-雄烯二酮和雄烯二酮对斑马鱼胚胎昼夜节律和下丘脑-垂体-性腺轴通路中基因转录表达的影响
马栋栋, 蒋宇霞, 杨雷, 应光国, 史文俊
39 纳米银复合材料与抗生素的联合抗菌性能及相关机制研究
王孟珍, 孙昊宇, 龙茜, 林志芬
50 环境剂量磷酸三(1,3-二氯丙基)酯多代暴露对斑马鱼子代仔鱼的神经发育毒性
丁希胜, 马徐发, 余丽琴
61 浮游动物 DNA 宏条形码标志基因比较研究
高旭, 杨江华, 张效伟
71 全氟辛烷磺酸盐(PFOS)对半滑舌鳎(*Cynoglossus semilaevis*)免疫相关基因表达的影响
汪笑宇, 戴媛媛, 贾磊, 王群山, 陈春秀
81 城镇污水二级处理和再生水三级处理过程的雌激素活性变化
赵静, 刘亿鑫, 邵征, 张新, 丁倩, 刘薇
87 磁铁矿纳米颗粒与 Pb²⁺复合物对大鼠肾细胞的毒性研究
陈力可, 郭昌胜, 刘森, 李专, 徐建
96 苯并[a]芘和 1-羟基芘诱导人胚胎干细胞分化心肌细胞 ROS、CYP 基因表达和 DNA 损伤
吴彬彬, 晏斌, 胡梅, 陈曦, 梁岩
104 交通空气污染对大鼠子代发育及社交行为的影响
田宇, 徐晨露, 黄丹妮, 冯钰东, 陈佳峰, 刘晨阳, 金永堂
113 PVC 塑料浸出液对 3 种海洋微藻光合作用及生长的影响
王帅, 王玥, 梁英, 郑立, 孙承君, 鞠鹏
130 基于权重敏感度分布研究太湖有机磷农药单一和复合风险
刘帆, 孔昊玥, 刘红玲
141 双酚 A 替代品与双酚 A 对非洲爪蛙急性毒性及其应激响应的比较
牛玥, 朱敏, 刘茺岩, 秦占芬
149 海河流域沉积物中典型重金属的生态风险评估及验证
李宏伟, 张彦峰, 阳金希, 祝凌燕
160 青鳉鱼的行为特征提取研究
刘翠棉, 饶凯锋, 李婧, 唐亮, 裴琨, 谷金峰, 刘勇, 王伟, 姜杰, 马梅, 王子健

- 171 低剂量微囊藻毒素 MC-LR 诱导罗氏沼虾肝胰腺损伤及凋亡
曹清晟,王丽萍,杨辉,魏文志,张莹莹
- 180 玉米秸秆生物炭对沉积物中 BDE-47 生态毒性的影响
向静,米盈,田斌,龚双姣,马陶武
- 190 湿地植物水蓼(*Polygonum hydropiper L.*)对镉的富集特征及生理响应
葛依立,陈心胜,黄道友,葛大兵,邓正苗,李峰,谢永宏
- 201 镉对大型溞肠道结构及消化酶活力的影响
高菲,林威,王兰,王茜
- 210 地质封存 CO₂ 泄漏对蚯蚓的毒性效应
赵晨阳,马俊杰,薛璐,田园,刘丹
- 220 长江流域重庆段水体和沉积物中农药分布特征及风险评价
余伟锋,石运刚,李洁,卓丽,胡凤琦,李文英,刘强,宋刚
- 231 武汉典型下垫面降雨径流 PAHs 污染特征研究
钟振兴,张春杰,丁兴辉,王浩升,杨志,陆谢娟,章北平
- 240 滴水湖水系表层水体、沉积物和生物体内多环芳烃的污染特征及风险评价
韩任琳云,饶若宸,董奕岑,刘宇超,王茜,李娟英,尹杰
- 252 4 种蔬菜对土壤 Mn 转运累积特征及食用安全性研究
陈小华,白玉杰,钱晓雍,沈根祥,郭春霞,胡双庆,顾海蓉,王振旗,付侃,赵庆杰
- 260 华东某铀矿区周边河流表层沉积物的天然放射性评价
郑立莉,周仲魁,饶苗苗,孙占学,郑仁杰,肖泽稷
- 268 华东地区鳜肌肉重金属含量现状与风险分析
吴红岩,赵金良,唐首杰,郝月月,程亚美

CONTENTS

- 1 Co-selection Mechanism of Antibiotic, Metal and Biocide Resistance
Chen Shuai, Zou Haiyan, Gao Fangzhou, Wu Dailing, Zhang Min, He Liangying, Ying Guangguo
- 11 Advances in Ecotoxicogenomics with Water Fleas
Gong Ning, Meng Ziqiang, Shao Kuishuang, Sun Yeqing
- 19 Research Advances in the Effects of Several Common Pollutants on Zebrafish Movement
He Jin, Xue Yonglai, Zhou Lei, Cui Wen, Gao Lu, Du Daolin
- 29 Effect of Androstadienedione and Androstenedione on Transcription of Genes in Circadian Rhythm and Hypothalamic-pituitary-gonadal Axis in Zebrafish Embryos
Ma Dongdong, Jiang Yuxia, Yang Lei, Ying Guangguo, Shi Wenjun
- 39 Combined Antibacterial Property and Mechanism of Nanosilver Composites and Antibiotics against Bacteria
Wang Mengzhen, Sun Haoyu, Long Xi, Lin Zhifen
- 50 Neurodevelopmental Toxicity of Zebrafish Offspring after Multigenerational Exposure to Tris (1,3-dichloro-2-propyl) phosphate at Environmental Concentrations
Ding Xisheng, Ma Xufa, Yu Liqin
- 61 Study on the Selection of Marker Genes in Zooplankton DNA Metabarcoding Monitoring
Gao Xu, Yang Jianghua, Zhang Xiaowei
- 71 Effects of Perfluorooctane Sulfonate (PFOS) on Immune-related Gene Expression in Half-smooth Tongue Sole (*Cynoglossus semilaevis*)
Wang Xiaoyu, Dai Yuanyuan, Jia Lei, Wang Qunshan, Chen Chunxiu
- 81 Variation in Estrogenic Activity during Secondary Treatment and Advanced Treatment Process in Municipal Wastewater Plant and Reclaimed Water Plant
Zhao Jing, Liu Yixin, Shao Zheng, Zhang Xin, Ding Qian, Liu Wei
- 87 The Cytotoxic Effects of Magnetite Nanoparticle-Pb²⁺ Complex on Rat Kidney Cells
Chen Like, Guo Changsheng, Liu Miao, Li Zhuan, Xu Jian
- 96 Benzo(a)pyrene and 1-Hydroxypyrene Induce ROS, *CYP* Gene Expression and DNA Damage in Human Embryonic Stem Cell Derived Cardiomyocytes
Wu Binbin, Yan Bin, Hu Mei, Chen Xi, Liang Yan
- 104 Effects of Traffic-Related Air Pollution on Development and Social Behavior of Offspring Rats
Tian Yu, Xu Chenlu, Huang Danni, Feng Yudong, Chen Jiafeng, Liu Chenyang, Jin Yongtang
- 113 Effects of PVC Plastic Leachate on the Photosynthesis and Growth of Three Marine Microalgae
Wang Shuai, Wang Yue, Liang Ying, Zheng Li, Sun Chengjun, Ju Peng
- 130 Study on Risk of Organophosphate Pesticides Mixture in Tai Lake Based on Weight Species Sensitivity Distribution
Liu Fan, Kong Haoyue, Liu Hongling
- 141 Comparison on Acute Toxicity and Stress Induction of Bisphenol A with Its Substitutes to *Xenopus laevis*
Niu Yue, Zhu Min, Liu Pengyan, Qin Zhanfen

- 149 Ecological Risk Assessment and Verification of the Typical Heavy Metals for Sediment of Haihe River Basin
Li Hongwei, Zhang Yanfeng, Yang Jinxi, Zhu Lingyan
- 160 Behavior Feature Extraction Based on Medaka
Liu Cuimian, Rao Kaifeng, Li Jing, Tang Liang, Pei Kun, Gu Jinfeng, Liu Yong, Wang Wei, Jiang Jie, Ma Mei, Wang Zijian
- 171 Low-dose Microcystins MC-LR Induced Hepatopancreas Injury and Apoptosis in *Macrobrachium rosenbergii*
Cao Qingsheng, Wang Liping, Yang Hui, Wei Wenzhi, Zhang Yingying
- 180 Impacts of Biochar Derived from Corn Straw on the Ecotoxicity of BDE-47 in the Sediments
Xiang Jing, Mi Ying, Tian Bin, Gong Shuangjiao, Ma Taowu
- 190 Accumulation Characteristics and Physiological Responses of the Wetland Plant, *Polygonum hydropiper* L. to Cadmium
Ge Yili, Chen Xinsheng, Huang Daoyou, Ge Dabing, Deng Zhengmiao, Li Feng, Xie Yonghong
- 201 Effect of Cadmium on Intestinal Structure and Digestive Enzymes Activities of *Daphnia magna*
Gao Fei, Lin Wei, Wang Lan, Wang Qian
- 210 Toxic Effects of CO₂ Leakage from Geological Storage on Earthworms
Zhao Chenyang, Ma Junjie, Xue Lu, Tian Yuan, Liu Dan
- 220 Distribution and Risk Assessment of Pesticides in Water and Sediments in the Yangtze River of Chongqing Section
She Weiduo, Shi Yungang, Li Jie, Zhuo Li, Hu Fengqi, Li Wenying, Liu Qiang, Song Gang
- 231 Investigation on PAHs Characteristics in Runoff of Different Underlying Surfaces in Wuhan
Zhong Zhenxing, Zhang Chunjie, Ding Xinghui, Wang Haosheng, Yang Zhi, Lu Xiejuan, Zhang Beiping
- 240 Distribution and Health Risk Assessment of Polycyclic Aromatic Hydrocarbons in Surface Water, Sediments and Organisms of Dishui Lake and Its Surrounding Water system
Han Renlinyun, Rao Ruochen, Dong Yicen, Liu Yuchao, Wang Qian, Li Juanying, Yin Jie
- 252 Study on Accumulation and Transport of Mn in Four Vegetables and Their Edible Safety
Chen Xiaohua, Bai Yujie, Qian Xiaoyong, Shen Genxiang, Guo Chunxia, Hu Shuangqing, Gu Hairong, Wang Zhenqi, Fu Kan, Zhao Qingjie
- 260 Natural Radioactivity Evaluation of Surface Sediments of Rivers around a Uranium Mining Area in East China
Zheng Lili, Zhou Zhongkui, Rao Miaomiao, Sun Zhanxue, Zheng Renjie, Xiao Zeji
- 268 Pollution Status and Risk Analysis on Heavy Metals in Muscles of Mandarin Fish (*Siniperca chuatsi*) from East China
Wu Hongyan, Zhao Jinliang, Tang Shoujie, Hao Yueyue, Cheng Yamei