



生态学报

ACTA ECOLOGICA SINICA

第43卷 第20期 Vol.43 No.20 2023 ISSN 1000-0933 CN 11-2031/Q

第二十一届中国生态学大会专辑



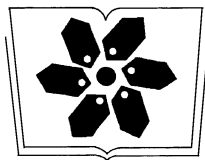
中国生态学学会 主办
中国科学院生态环境研究中心



科学出版社
Science Press

出版

方知库
Eco-Environmental
Knowledge Web



中国科学院科学出版基金资助出版

生态学报

(SHENGTAI XUEBAO)

第 43 卷 第 20 期 2023 年 10 月 (半月刊)

目 次

草原灌丛化对生态系统多功能性的影响.....	丁婧祎,尹彩春,韩逸,等 (8257)
共同生产理论视角下生态系统服务级联框架的重构.....	陈曦,梁松斌 (8268)
多情景模拟下重庆市土地利用变化对生态系统健康的影响.....	袁贞贞,王秋红,王勇,等 (8279)
中原城市群“三生”空间模拟及生态效应评估——基于未来土地利用模拟模型和共享社会经济路径情景 ...	 冯雨柯,翟石艳,姜昕彤,等 (8292)
黄河流域城市生态韧性时空演变及其影响因素.....	王松茂,牛金兰 (8309)
快速城市化地区生态网络构建与优化——以北京市大兴区为例.....	刘秀萍,李新宇,李延明,等 (8321)
基于修正碳账户的京津冀县域生态补偿量化及优先级分区.....	闫丰,庞娇,安晓明,等 (8332)
退耕还林背景下黄土高原蒸散量时空演变特征及归因.....	白萌,莫淑红,莫兴国,等 (8344)
极端暴雨下山地丘陵区小流域洪水淹没强度对景观特征的响应——以河南“7·20”暴雨为例	 张煜森,段彦博,吴哲元,等 (8359)
土地利用对流域水源涵养及水质净化的影响——以乌江流域为例.....	李威,吕思思,赵祖伦,等 (8375)
江西县域土地利用变化碳排放时空演变及其影响因素	黄汉志,贾俊松,张振旭 (8390)
我国主体功能限制开发区域旅游生态安全动态演变及其驱动因素——以张家界为例.....	 杨友宝,郭付友,韩国圣 (8404)
模拟氮沉降对土壤酶活性和微生物组成的影响.....	许延琴,周冰倩,刘隋赞昊,等 (8417)
植被恢复对西南喀斯特地区土壤气候韧性的提升作用.....	唐祎欣,张伟,吴汉卿,等 (8430)
高寒半湿润沙地植物与土壤微生物多样性对植被恢复的响应.....	苟小林,周青平,涂卫国,等 (8442)
西北荒漠绿洲过渡带土壤细菌结构和氮代谢对梭梭恢复的响应.....	安芳娇,牛子儒,刘婷娜,等 (8454)
长江口崇明岛周缘盐沼湿地土壤碳储量的空间格局.....	王栋,邹维娜,杨华蕾,等 (8465)
西南喀斯特长期植被修复对土壤有机碳组分的影响.....	张穗粒,盛茂银,王霖娇,等 (8476)
大气 CO ₂ 浓度升高对土壤碳库稳定性的影响.....	赵广,张扬建 (8493)
华北平原冬小麦田土壤胞外/内酶活性对长期 CO ₂ 浓度升高的响应	张馨月,白家韶,韩雪,等 (8504)
基于水生动物评价持续高余氯尾水排放对湿地水体的影响.....	龚海峰,白雪原,陈朋龙,等 (8516)
滨海湿地植被地上生物量遥感反演.....	邹乐,李欢,章家保,等 (8532)
湿地土壤微生物功能多样性及碳氮组分对长期氮输入的响应.....	李孟婷,宋艳宇,官超,等 (8544)
放牧干扰和种内竞争对伊犁河谷黑鳞顶冰花种群空间分布格局的影响.....	 韩大勇,王继丰,杨允菲,等 (8556)

基于特征分区的陕北黄土高原植被覆盖变化及其驱动因素·····	韩磊,曹鑫鑫,朱会利,等 (8564)
火干扰因素对藏南地区高山松径向生长及气候响应特征的影响·····	于德水,卢杰,江村扎西,等 (8578)
氮添加和凋落物去除对黔中喀斯特地区柳杉人工林土壤呼吸的影响·····	夏国威,汪东方,朱涛,等 (8587)
基于功能性状的毛乌素沙地不同演替阶段适生植物筛选·····	马乐,闫勇智,于佳伟,等 (8598)
短期增温对西藏念青唐古拉山典型植物群落结构和稳定性的影响·····	肖显承,王端阳,陈波,等 (8608)
气候变化背景下入侵植物曼陀罗在西藏的潜在风险区预测·····	王俊伟,陈永豪,许敏,等 (8620)
基于最大熵模型的中药材木贼麻黄潜在适生区·····	荣文文,黄祥,牛攀新,等 (8631)
实验检验东方田鼠学习能力的性别差异·····	李波,汪玲,左方明,等 (8647)
完达山东部欧亚水獭种群数量及出现频次影响因素·····	杨波,周绍春,张明海,等 (8655)
黄河流域水鸟保护优先区及空缺·····	段后浪,于秀波 (8663)
大型野生食草动物生境资源利用竞争关系·····	郭兴健,邵全琴 (8671)

期刊基本参数:CN 11-2031/Q * 1981 * m * 16 * 426 * zh * P * ¥90.00 * 1510 * 35 * 2023-10



封面彩图提供:徐卫华 中国科学院生态环境研究中心 E-mail: xuweihua@rcees.ac.cn

ACTA ECOLOGICA SINICA Vol.43, No.20 October, 2023 (Semimonthly)

CONTENTS

Research progress and perspectives on the impact of shrub encroachment on ecosystem multifunctionality	
.....	DING Jingyi, YIN Caichun, HAN Yi, et al (8257)
Reconstruction of ecosystem services cascade framework from the perspective of co-production theory	
.....	CHEN Xi, LIANG Songbin (8268)
Impacts of land use change on ecosystem health in Chongqing under multi-scenario simulation	
.....	YUAN Zhenzhen, WANG Qihong, WANG Yong, et al (8279)
Simulating spatio-temporal pattern of production-living-ecological space and evaluating eco-environmental effects in Zhongyuan Urban Agglomeration based on FLUS model and shared socioeconomic pathways	
.....	FENG Yuke, ZHAI Shiyan, JIANG Xintong, et al (8292)
Spatio-temporal evolution and influencing factors of urban ecological resilience in the Yellow River Basin	
.....	WANG Songmao, NIU Jinlan (8309)
Construction and optimization of ecological network in rapidly urbanized area: A case study of Daxing District, Beijing	
.....	LIU Xiuping, LI Xinyu, LI Yanming, et al (8321)
Quantification and priority zoning of ecological compensation at county level in Beijing-Tianjin-Hebei based on modified carbon account	
.....	YAN Feng, PANG Jiao, AN Xiaoming, et al (8332)
Spatio-temporal variation of evapotranspiration and its attribution over the Loess Plateau since the implementation of the Grain for Green Project	
.....	BAI Meng, MO Shuhong, MO Xingguo, et al (8344)
Response of flood inundation depth intensity to landscape characteristics in small watershed of hilly areas under extreme rainstorms: an example of “7-20” rainstorm in Henan Province	
.....	ZHANG Yusen, DUAN Yanbo, WU Zheyuan, et al (8359)
Impact of land use change on watershed water conservation and water quality purification service: a case study of Wujiang River Basin	
.....	LI Wei, LÜ Sisi, ZHAO Zulun, et al (8375)
Spatiotemporal pattern evolution and influencing factors of land-use carbon emissions in counties, Jiangxi Province	
.....	HUANG Hanzhi, JIA Junsong, ZHANG Zhenxu (8390)
Dynamic evolution and driving factors of tourism ecological security in the region of major function restricted development: A case study of Zhangjiajie	
.....	YANG Youbao, GUO Fuyou, HAN Guosheng (8404)
Effects of simulated nitrogen deposition on soil enzyme activity, microbial community composition and stoichiometric characteristics of short-term enclosed grassland around Urumqi	
.....	XU Yanqin, ZHOU Bingqian, LIU Suiyunhao, et al (8417)
Vegetation restoration enhances the resilience of soil quality to climate change in the southwest karst region	
.....	TANG Yixin, ZHANG Wei, WU Hanqing, et al (8430)
The responses of biodiversity and community composition in vegetation and soil microbes to restoration in alpine cold and sub-humid desertified land	
.....	GOU Xiaolin, ZHOU Qingping, TU Weiguo, et al (8442)
Responses of soil bacterial structure and nitrogen metabolism to <i>Haloxylon ammodendron</i> restoration in an oasis-desert ecotone of northwestern China	
.....	AN Fangjiao, NIU Ziru, LIU Tingna, et al (8454)
Spatial pattern of soil carbon storage in salt marsh wetlands around the Chongming Island in the Yangtze River Estuary	
.....	WANG Dong, ZOU Weina, YANG Hualei, et al (8465)
Effects of long term vegetation restorations on soil organic carbon fractions in the karst rocky desertification ecosystem, Southwest China	
.....	ZHANG Suili, SHENG Maoyin, WANG Linjiao, et al (8476)
Effect of elevated CO ₂ on the persistence of soil carbon pool	
.....	ZHAO Guang, ZHANG Yangjian (8493)
Response of soil extracellular/intracellular enzyme activity to long-term elevated CO ₂ in a winter wheat field of North China Plain	
.....	ZHANG Xinyue, BAI Jiashao, HAN Xue, et al (8504)

- Evaluation of impact of continuous discharge of high residual chlorine tailwater on wetland water ecosystem based on aquatic animals GONG Haifeng, BAI Xueyuan, CHEN Penglong, et al (8516)
- Inversion of aboveground biomass of saltmarshes in coastal wetland using remote sensing ZOU Yue, LI Huan, ZHANG Jiabao, et al (8532)
- Response of soil microbial functional diversity and soil carbon and nitrogen components to long-term nitrogen input in wetlands LI Mengting, SONG Yanyu, GONG Chao, et al (8544)
- Impacts of grazing and intraspecific competition on spatial distribution patterns of *Gagea nigra* population in the Ili Valley HAN Dayong, WANG Jifeng, YANG Yunfei, et al (8556)
- Change of vegetation coverage and driving factor in the North Shaanxi Loess Plateau based on characteristic zoning HAN Lei, CAO Xinxin, ZHU Huili, et al (8564)
- Effects of fire disturbance factors on *Pinus densata* growth and climate response characteristics in southern Xizang YU Deshui, LU Jie, JIANG Cunzhaxi, et al (8578)
- Effects of nitrogen addition and litter removal on soil respiration of *Cryptomeria fortunei* plantation in Karst Area of central Guizhou Province XIA Guowei, WANG Dongfang, ZHU Tao, et al (8587)
- Screening of suitable plants based on functional traits at different succession stages in Mu Us Sandy Land MA Le, YAN Yongzhi, YU Jiawei, et al (8598)
- Effects of short-term warming on structure and stability of typical plant communities in Nyenchenthanglha Mountain, Tibet XIAO Yucheng, WANG Duanyang, CHEN Bo, et al (8608)
- Prediction of potential risk area of the invasive plant *Datura stramonium* L. in Tibet under the background of climate change WANG Junwei, CHEN Yonghao, XU Min, et al (8620)
- Potentially suitable areas for traditional Chinese medicinal material *Ephedra equisetina* based on MaxEnt model RONG Wenwen, HUANG Xiang, NIU Panxin, et al (8631)
- Tests of sex differences in learning abilities of reed voles (*Microtus fortis*) LI Bo, WANG Ling, ZUO Fangming, et al (8647)
- Factors influencing the population number and occurrence frequency of Eurasian otter in the eastern Wanda Mountains YANG Bo, ZHOU Shaochun, ZHANG Minghai, et al (8655)
- Identifying conservation priority sites and gap for the waterbirds' habitat in the Yellow River Basin, China DUAN Houlang, YU Xiubo (8670)
- Population and habitat resource utilization of large wild herbivores based on UAV remote sensing GUO Xingjian, SHAO Quanqin (8677)

《生态学报》

Acta Ecologica Sinica

入选“中国科技期刊卓越行动计划”;入围“中国科协生态学领域高质量科技期刊 T1 区”

《生态学报》是由中国科学技术协会主管,中国生态学学会、中国科学院生态环境研究中心主办的生态学高级专业学术期刊,半月刊,主编傅伯杰院士。本刊坚持百花齐放、百家争鸣,产生于科学性、立足于学术性、着眼于实践性、服务于社会性的办刊宗旨,依靠和团结广大生态学科研工作者,为生态学基础理论和应用研究搭建国内一流的学术交流平台,促进生态学研究深入发展,为我国培养和造就生态学科研人才,为国民经济建设和发展提供知识创新服务。

《生态学报》主要报道生态学重要基础理论和应用研究的原始创新性科研成果。所刊文章类型有:研究综述;研究论文;学术信息与动态;生态学新理论、新方法、新技术介绍;新书评介及开放实验室介绍等。《生态学报》为国内一流领军期刊;国际生态学 Q1 类期刊;期刊总被引频次居中国自然科学期刊第 1 名,影响因子居生态学学科中文期刊第 1 名;连年获得“中国百种杰出学术期刊”、“中国最具国际影响力学术期刊”和“期刊数字影响力 100 强”等荣誉称号;获得中国科协 TOP50 科技期刊和中国科协中文精品科技期刊建设项目资助;中国科协生态学领域高质量科技期刊 T1 区期刊;中国科技期刊卓越行动计划入选期刊。

办公室电话: 010-62941099

E-mail: shengtaixuebao@rcees.ac.cn

投稿网址: www.ecologica.cn

若未订阅,但需购买本刊某期纸质本,请联系科学出版社,购买电话:010-64017032,010-64017539

执行副主编 孔红梅 责任编辑 刘昕 全元 谢武双 于恩逸 朱晶莹 编辑 宗静 彭小琼 刘佩琼

生态学报
(SHENGTAI XUEBAO)
(半月刊 1981 年 3 月创刊)
第 43 卷 第 20 期 (2023 年 10 月)

ACTA ECOLOGICA SINICA
(Semimonthly, Started in 1981)
Vol.43 No.20 (October, 2023)

编辑 《生态学报》编辑部
地址:北京海淀区双清路 18 号
邮政编码:100085
电话:(010)62941099
www.ecologica.cn
shengtaixuebao@rcees.ac.cn

Edited by Editorial board of
ACTA ECOLOGICA SINICA
Add:18, Shuangqing Street, Haidian, Beijing 100085, China
Tel: (010) 62941099
www.ecologica.cn
shengtaixuebao@rcees.ac.cn

主编 傅伯杰
主管 中国科学技术协会
主办 中国生态学学会
中国科学院生态环境研究中心
地址:北京海淀区双清路 18 号
邮政编码:100085

Editor-in-chief FU Bojie
Supervised by China Association for Science and Technology
Sponsored by Ecological Society of China
Research Center for Eco-environmental Sciences, CAS
Add:18, Shuangqing Street, Haidian, Beijing 100085, China

出版 科学出版社

Published by Science Press
Add:16 Donghuangchenggen North Street,
Beijing 100717, China

印刷 北京宝昌彩色印刷有限公司

Printed by Beijing Baochang Color Printing Co., Ltd,
Beijing 100094, China

国内发行 全国各地邮局

Subscribe by Science Press
Tel:010-64017032, 010-64017539
E-mail: journal@cspg.net

发行代号 82-7

国外发行 中国国际图书贸易总公司

发行代号 M670

订阅 科学出版社期刊发行部
010-64017032,010-64017539
或扫描封底二维码

Domestic issue All Local Post Offices in China 82-7
Foreign issue China International Book Trading M670
Corporation
Add:P.O.Box 399 Beijing 100044, China

广告经营 京海工商广字第 8013 号



ISSN 1000-0933

CN 11-2031/Q

定价 90.00 元