



生态学报

ACTA ECOLOGICA SINICA

第36卷 第14期 Vol. 36 No. 14 2016

ISSN 1000-0933 CN 11-2031/Q



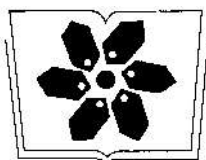
中国生态学学会
中国科学院生态环境研究中心

主办



科学出版社
Science Press

出版



中国科学院科学出版基金资助出版

生态学报

(SHENGTAI XUEBAO)

第 36 卷 第 14 期 2016 年 7 月 (半月刊)

目次

专论与综述

- 天然草地管理措施对植物病害的影响研究进展..... 刘 勇,张雅雯,南志标,等 (4211)
- 城市菌根真菌多样性、变化机制及功能应用 陈 云,马克明 (4221)
- 丛枝菌根真菌参与下植物-土壤系统的养分交流及调控 韦莉莉,卢昌熠,丁 晶,等 (4233)
- 空气微生物群落解析方法:从培养到非培养 方治国,郝翠梅,姚文冲,等 (4244)
- 大气 CO₂ 浓度和温度互作对水稻生长发育的影响 景立权,赖上坤,王云霞,等 (4254)

研究论文

- 中国天然林资源保护工程温室气体排放及净固碳能力..... 刘博杰,逯 非,王效科,等 (4266)
- 区域生态系统健康动态评价——以毛集生态实验区为例..... 杨 阳,蔡怡敏,白艳莹,等 (4279)
- 城市发展指数和生态足迹在直辖市可持续发展评估中的应用..... 郭慧文,严力蛟 (4288)
- 九寨沟景观游憩价值评估及空间分异..... 邢振华,高 峻 (4298)
- 三江平原孤立湿地景观空间结构 刘吉平,马海超,赵丹丹 (4307)
- 土地利用格局对 SWMM 模型汇流模式选择及相应产流特征的影响 班玉龙,孔繁花,尹海伟,等 (4317)
- 不同水深条件下刺参养殖池塘大型底栖动物群落结构季节性变化特征.....
..... 温 彬,高勤峰,董双林,等 (4327)
- 太湖水华程度及其生态环境因子的时空分布特征 张艳会,李伟峰,陈求稳 (4337)
- 青岛太平湾潮间带趋磁细菌多样性..... 徐 丛,张文燕,陈一然,等 (4346)
- 现场模拟添加磷、铁及胶体对北部湾 2007 年春季生物固氮的影响 连忠廉,郑爱榕,黄楚光 (4355)
- 天山北坡植物土壤生态化学计量特征的垂直地带性..... 谢 锦,常顺利,张毓涛,等 (4363)
- 不同采样密度下县域森林碳储量仿真估计..... 郭含茹,张茂震,徐丽华,等 (4373)
- 1961—2013 年东北三省玉米低温冷害强度的时空分布特征 杨若子,周广胜 (4386)
- 黄河下游平原非农植物多样性拆分研究..... 卢训令,汤 茜,梁国付,等 (4395)
- 植物空间分布格局中邻体距离的概率分布模型及参数估计 高 猛 (4406)
- 干旱胁迫对蒙古黄芪生长及根部次生代谢物含量的影响..... 梁建萍,贾小云,刘亚令,等 (4415)
- 黄土区不同林龄刺槐人工林细根的衰老生理特征..... 苏 瑾,王迪海 (4423)
- 施肥对麦田土壤可溶性有机氮的影响..... 梁 斌,李俊良,杨学云,等 (4430)
- 临安次生灌丛植物多样性对林火烈度空间异质性的响应..... 杨 一,王懿祥,白尚斌,等 (4438)
- 华北平原地区景观格局对麦田害螨种群数量的影响..... 卢增斌,欧阳芳,张永生,等 (4447)

连作对棉花抗枯萎病生理生化特性的影响.....	张亚楠,王兴祥,李孝刚,等 (4456)
基于生态位和模糊数学的冬小麦适宜性评价.....	王 丽,李阳煦,王培法,等 (4465)
气候变化下栓皮栎潜在地理分布格局及其主导气候因子.....	高文强,王小菲,江泽平,等 (4475)
正常和环割条件下不同形态氮素添加对红椎幼苗光合特性的影响.....	洪丕征,刘世荣,王 晖,等 (4485)
南亚热带红椎和格木人工幼龄林土壤微生物群落结构特征.....	洪丕征,刘世荣,王 晖,等 (4496)
弄岗喀斯特季节性雨林不同群丛物种多样性随海拔的变化.....	黄甫昭,丁 涛,李先琨,等 (4509)
基于 T-RFLP 技术的不同水位梯度植物根际细菌群落多样性特征分析	张琼琼,黄兴如,郭道宇 (4518)
DNA 复合条形码在太白山土壤动物多样性研究中的应用	宋 颢,黄 原 (4531)
不同林分白蜡树云斑白条天牛种群空间格局地统计学分析	李建庆,梅增霞,杨忠岐 (4540)
光周期对两种色型豌豆蚜种群参数的影响	马亚玲,刘长仲 (4548)
期刊基本参数:CN 11-2031/Q * 1981 * m * 16 * 346 * zh * P * ¥90.00 * 1510 * 35 * 2016-07	



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

ACTA ECOLOGICA SINICA Vol.36, No.14 July, 2016 (Semimonthly)

CONTENTS

Review and Monograph

- Progress of research into the effects of native grassland management practices on plant disease
..... LIU Yong, ZHANG Yawen, NAN Zhibiao, et al (4211)
- Mycorrhizal fungi in urban environments: diversity, mechanism, and application CHEN Yun, MA Keming (4221)
- Functional relationships between arbuscular mycorrhizal symbionts and nutrient dynamics in plant-soil-microbe system
..... WEI Lili, LU Changyi, DING Jing, et al (4233)
- Culture-dependent and culture-independent approaches for studying airborne microbial diversity
..... FANG Zhiguo, HAO Cuimei, YAO Wenchong, et al (4244)
- Combined effect of increasing atmospheric CO₂ concentration and temperature on growth and development of rice: a research
review JING Liquan, LAI Shangkun, WANG Yunxia, et al (4254)

Research Paper

- Greenhouse gas emissions and net carbon sequestration of the natural forest protection program in China
..... LIU Bojie, LU Fei, WANG Xiaoke, et al (4266)
- A dynamic evaluation of regional ecosystem health using a multiple index system: a case study of Maoji Biosphere Reserve
..... YANG Yang, CAI Yimin, BAI Yanying, et al (4279)
- The application of city development index and ecological footprint in the assessment of sustainable development of China's
municipalities GUO Huiwen, YAN Lijiao (4288)
- An assessment of the jiuzhaigou landscape recreational value and spatial variation BING Zhenhua, GAO Jun (4298)
- Analysis on the spatial structural of isolated wetland landscapes in the Sanjiang Plain
..... LIU Jiping, MA Haichao, ZHAO Dandan (4307)
- Impacts of land use patterns on the overland flow routing options and simulation outputs of stormwater management models
..... BAN Yulong, KONG Fanhua, YIN Haiwei, et al (4317)
- Seasonal changes in macrobenthic community structures of sea cucumber *Apostichopus japonicus* (Selenka) farming ponds at
different water depths WEN Bin, GAO Qinfeng, DONG Shuanglin, et al (4327)
- Spatial-temporal variance of the intensity of algal bloom and related environmental and ecological factors in Lake Taihu
..... ZHANG Yanhui, LI Weifeng, CHEN Qiuwen (4337)
- Diversity of magnetotactic bacteria in the intertidal zone of Taiping Bay, Qingdao
..... XU Cong, ZHANG Wenyan, CHEN Yiran, et al (4346)
- Factors that affected nitrogen fixation by the addition of phosphorus, iron, and colloids in the surface water of the Beibu Gulf in
spring, 2007 LIAN Zhonglian, ZHENG Airong, HUANG Chuguang (4355)
- Plant and soil ecological stoichiometry with vertical zonality on the northern slope of the middle Tianshan Mountains
..... XIE Jin, CHANG Shunli, ZHANG Yutao, et al (4363)
- Simulation of regional forest carbon storage under different sampling densities
..... GUO Hanru, ZHANG Maozhen, XU Lihua, et al (4373)
- Spatio-temporal distribution of maize chilling damage intensity in the Three Provinces of Northeast China During 1961 to 2013
..... YANG Ruozhi, ZHOU Guangsheng (4386)
- Additive partitioning of non-agricultural plant diversity in the lower reaches of the Yellow River plain
..... LU Xunling, TANG Qian, LIANG Guofu, et al (4395)
- Nearest neighbor distance in spatial point patterns of plant species-probability distribution model and parameter estimation
..... GAO Meng (4406)
- Effects of drought stress on seedling growth and accumulation of secondary metabolites in the roots of *Astragalus membranaceus*
var. *mongholicus* LIANG Jianping, JIA Xiaoyun, LIU Yaling, et al (4415)

- Physiological characteristics and senescence of fine roots in *Robinia pseudoacacia* plantations of different forest ages in the Loess Plateau SU Jin, WANG Dihai (4423)
- Effect of fertilization on extractable organic nitrogen in wheat monoculture cropping systems LIANG Bin, LI Junliang, YANG Xueyun, et al (4430)
- Effects of spatial heterogeneity of forest fire severity on plant diversity in a secondary shrub community in Linan YANG Yi, WANG Yixiang, BAI Shangbin, et al (4438)
- Impacts of landscape patterns on populations of the wheat mites, *Petrobia latens* (Müller) and *Penthaleus major* (Duges), in the North China Plain LU Zengbin, OUYANG Fang, ZHANG Yongsheng, et al (4447)
- Effects of continuous cropping on physiological and biochemical resistance of cotton to *Fusarium* wilt ZHANG Yanan, WANG Xingxiang, LI Xiaogang, et al (4456)
- Assessment of ecological suitability of winter wheat in Jiangsu Province based on the niche-fitness theory and fuzzy mathematics WANG Li, LI Yangxu, WANG Peifa, et al (4465)
- Impact of climate change on the potential geographical distribution pattern and dominant climatic factors of *Quercus variabilis* GAO Wenqiang, WANG Xiaofei, JIANG Zeping, et al (4475)
- Effects of different nitrogen forms on foliar photosynthetic characteristics of *Castanopsis hystrix* seedlings under ungirdled and girdled conditions HONG Pizheng, LIU Shirong, WANG Hui, et al (4485)
- Characteristics of soil microbial community structure in two young plantations of *Castanopsis hystrix* and *Erythrophleum fordii* in subtropical China HONG Pizheng, LIU Shirong, WANG Hui, et al (4496)
- Species diversity for various associations along an altitudinal gradient in the karst seasonal rainforest in Nonggang HUANG Fuzhao, DING Tao, LI Xiankun, et al (4509)
- Analysis of the characteristics of rhizosphere bacterial diversity from plants with different water level gradients based on T-RFLP ZHANG Qiongqiong, HUANG Xingru, GUO Xiaoyu (4518)
- The application of DNA metabarcoding in the study of soil animal diversity in Taibai Mountain SONG Yang, HUANG Yuan (4531)
- Geostatistical analysis on the spatial distribution of *Batocera lineolata* (Coleoptera: Cerambycidae) populations in different types of ash tree forests LI Jianqing, MEI Zengxia, YANG Zhongqi (4540)
- Effect of photoperiod on population parameters of two color morphs of the pea aphid *Acyrtosiphon pisum* MA Yaling, LIU Changzhong (4548)

《生态学报》2016 年征订启事

《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,创刊于 1981 年,报道生态学领域前沿理论和原始创新性研究成果。坚持“百花齐放,百家争鸣”的方针,依靠和团结广大生态学科工作者,探索生态学奥秘,为生态学基础理论研究搭建交流平台,促进生态学研究深入发展,为我国培养和造就生态学科人才和知识创新服务、为国民经济建设和发展服务。

《生态学报》主要报道生态学及各分支学科的重要基础理论和应用研究的原始创新性科研成果。特别欢迎能反映现代生态学发展方向的优秀综述性文章;研究简报;生态学新理论、新方法、新技术介绍;新书评价和学术、科研动态及开放实验室介绍等。

《生态学报》为半月刊,大 16 开本,280 页,国内定价 90 元/册,全年定价 2160 元。

国内邮发代号:82-7,国外邮发代号:M670

标准刊号:ISSN 1000-0933 CN 11-2031/Q

全国各地邮局均可订阅,也可直接与编辑部联系购买。欢迎广大科技工作者、科研单位、高等院校、图书馆等订阅。

通讯地址:100085 北京海淀区双清路 18 号 电 话:(010)62941099; 62843362

E-mail: shengtaixuebao@rcees.ac.cn 网 址: www.ecologica.cn

执行副主编 孔红梅 责任编辑 段 靖 刘 昕

生 态 学 报
(SHENGTAI XUEBAO)
(半月刊 1981 年 3 月创刊)
第 36 卷 第 14 期 (2016 年 7 月)

ACTA ECOLOGICA SINICA
(Semimonthly, Started in 1981)
Vol. 36 No. 14 (July, 2016)

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	Editor-in-chief	FU Bojie
主 管	中国科学技术协会	Supervised by	China Association for Science and Technology
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	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 地址:北京东黄城根北街 16 号 邮政编码:100717	Published by	Science Press Add: 16 Donghuangchenggen North Street, Beijing 100717, China
印 刷	北京北林印刷厂	Printed by	Beijing Bei Lin Printing House, Beijing 100083, China
发 行	科 学 出 版 社 地址:东黄城根北街 16 号 邮政编码:100717 电话:(010)64034563 E-mail: journal@cspg.net	Distributed by	Science Press Add: 16 Donghuangchenggen North Street, Beijing 100717, China Tel: (010)64034563 E-mail: journal@cspg.net
订 购	全国各地邮局	Domestic	All Local Post Offices in China
国外发行	中国国际图书贸易总公司 地址:北京 399 信箱 邮政编码:100044	Foreign	China International Book Trading Corporation Add: P.O.Box 399 Beijing 100044, China
广告经营 许 可 证	京海工商广字第 8013 号		



ISSN 1000-0933
CN 11-2031/Q

国内外公开发刊

国内邮发代号 82-7

国外发行代号 M670

定价 90.00 元