



生态学报

ACTA ECOLOGICA SINICA

第37卷 第7期 Vol. 37 No. 7 2017

ISSN 1000-0933 CN 11-2031/Q

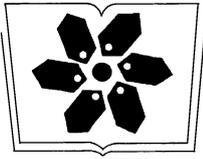
中国生态学学会
中国科学院生态环境研究中心

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 37 卷 第 7 期 2017 年 4 月 (半月刊)

目 次

专论与综述

- 恢复力视角下的乡村空间演变与重构 张 甜,刘焱序,王仰麟 (2147)
- 昆虫个体大小对其种群生物学的影响 黄韵姝,张静宇,蒋明星 (2158)
- 气候变化影响与风险研究的理论范式和方法体系 高江波,焦珂伟,吴绍洪,等 (2169)

研究论文

- 沙埋对干旱沙区真藓结皮层细菌群落结构和多样性的影响 滕嘉玲,贾荣亮,赵 芸 (2179)
- 模拟火干扰对森林土壤微生物活性及氮矿化的影响 刘发林 (2188)
- 长白山地低山区土壤动物群落特征及其对环境因子变化的响应 韩慧莹,殷秀琴,寇新昌 (2197)
- 秸秆还田对耕作黑土中小型土壤动物群落的影响 杨 旭,高梅香,张雪萍,等 (2206)
- 不同林分类型对昆虫群落多样性的影响 吴龙飞,姜文虎,刘 洋,等 (2217)
- 黄河中下游农业景观中景观简化对传粉昆虫多样性的影响——以巩义市为例
..... 王 润,丁圣彦,卢训令,等 (2225)
- 载畜率对内蒙古荒漠草原冷蒿种群资源分配格局的影响 古 琛,陈万杰,杜宇凡,等 (2237)
- 盐旱复合胁迫对小麦幼苗生长和水分吸收的影响 翁亚伟,张 磊,张 姗,等 (2244)
- 华东地区两种植被带内天女花的遗传结构 徐延年,邵剑文 (2253)
- 辽河三角洲河口湿地典型芦苇群落最大光能转化率模拟 陈吉龙,李国胜,寥华军,等 (2263)
- 利用结构方程解析杉木林生产力与环境因子及林分因子的关系 黄兴召,许崇华,徐 俊,等 (2274)
- 广西不同林龄杉木、马尾松人工林根系生物量及碳储量特征 韩 畅,宋 敏,杜 虎,等 (2282)
- 亚高寒草甸植物群落种多度分布关系及相似性对氮磷添加的响应 杨莹博,白 荣,李 爽,等 (2290)
- 接种 AM 菌对西部黄土区采煤沉陷地柠条生长和土壤的修复效应 孙金华,毕银丽,王建文,等 (2300)
- 不同经营方式下毛竹光合特性分异研究 封焕英,范少辉,苏文会,等 (2307)
- 干旱胁迫下胡杨光合光响应过程模拟与模型比较 王海珍,韩 路,徐雅丽,等 (2315)
- 人工调控措施下马尾松凋落叶化学质量变化及与分解速率的关系 陆晓辉,丁贵杰,陆德辉 (2325)
- 北京地区典型落叶阔叶乔木叶片含氮量和 $\delta^{15}\text{N}$ 值对大气氮沉降的响应
..... 刘超明,唐美庆,马 坤,等 (2334)
- 美国南卡罗来纳州森林湿地十种典型植物凋落叶的分解特征 李巧玲,曾 辉 (2342)

环境因子对湖泊岛屿苔藓植物分布和物种组成的影响.....	罗先真,熊源新,夏欣,等 (2352)
气候变化对邛崃山系大熊猫主食竹和栖息地分布的影响.....	晏婷婷,冉江洪,赵晨皓,等 (2360)
气候变化背景下松嫩平原玉米灌溉需水量估算及预测.....	黄志刚,肖焯,张国,等 (2368)
东北城市露水凝结观测及其与常规气象要素的关系.....	徐莹莹,汤洁,祝惠,等 (2382)
高寒生态脆弱区农户的气候变化适应策略评价——以甘南高原为例.....	王亚茹,赵雪雁,张钦,等 (2392)
基于公平与效率视角的中国大陆生态福祉及生态-经济效率评价.....	臧正,邹欣庆,吴雷,等 (2403)
多功能视角下的山区乡村空间功能分异特征及类型划分.....	洪惠坤,谢德体,郭莉滨,等 (2415)
帽儿山地区不同土地利用方式下土壤-微生物-矿化碳氮化学计量特征.....	周正虎,王传宽 (2428)
城镇化流域“源-汇”景观格局对河流氮磷空间分异的影响——以天津于桥水库流域为例.....	张亚娟,李崇巍,胡蓓蓓,等 (2437)
生态功能改善目标导向的哈尼梯田生态补偿标准.....	刘某承,熊英,白艳莹,等 (2447)
中国生态系统水源涵养空间特征及其影响因素.....	龚诗涵,肖洋,郑华,等 (2455)
滦河流域景观格局变化对水沙过程的影响.....	李莹,黄岁樑 (2463)
湖南省域化石能源消费碳排放时空格局及驱动因素.....	刘贤赵,高长春,宋炎,等 (2476)
期刊基本参数:CN 11-2031/Q * 1981 * m * 16 * 342 * zh * P * ¥90.00 * 1510 * 35 * 2017-04	



封面彩图提供: 胡煜 《中国科学》杂志社有限责任公司 E-mail: huyu@scichina.org

ACTA ECOLOGICA SINICA Vol.37, No.7 April, 2017 (Semimonthly)

CONTENTS

Review and Monograph

- The rural spatial evolution and reconstruction on a resilience view ZHANG Tian, LIU Yanxu, WANG Yanglin (2147)
- Effects of body size on the population biology of insects HUANG Yunshan, ZHANG Jingyu, JIANG Mingxing (2158)
- Theory paradigm and a methods system for research on climate change impacts and risks
..... GAO Jiangbo, JIAO Kewei, WU Shaohong, et al (2169)

Research Paper

- Impact of sand burial on bacterial community structure and diversity within biocrusts dominated by *Bryum argenteum*
..... TENG Jialing, JIA Rongliang, ZHAO Yun (2179)
- Simulating the effects of fire disturbance on microbial activity and nitrogen mineralization in forest soil LIU Falin (2188)
- Community characteristics of soil fauna in the low-mountain of the Changbai Mountains and its respond to the change of
environmental factors HAN Huiying, YIN Xiuqin, KOU Xinchang (2197)
- Effect of straw-returning management on meso-micro soil fauna in a cultivated black soil area
..... YANG Xu, GAO Meixiang, ZHANG Xueping, et al (2206)
- Effects of different forest stand types on diversity of insect community WU Longfei, JIANG Wenhui, LIU Yang, et al (2217)
- Effects of landscape simplification on pollinator diversity in agricultural areas near the lower reaches of the Yellow River: a case
study WANG Run, DING Shengyan, LU Xunling, et al (2225)
- Stocking rates affect the resource allocation patterns of *Artemisia frigida* in the inner mongolian desert steppe
..... GU Chen, CHEN Wanjie, DU Yufan, et al (2237)
- Effects of salt with drought stress on growth and water uptake of wheat seedlings
..... WENG Yawei, ZHANG Lei, ZHANG Shan, et al (2244)
- The genetic structure of *Oyama sieboldii* (K.Koch) N.H. Xia & C.Y. Wu within two vegetation zones in Eastern China
..... XU Yannian, SHAO Jianwen (2253)
- Simulation of maximum light conversion efficiency for a *Phragmites* salt marsh in the Liaohe River estuarine wetland
..... CHEN Jilong, LI Guosheng, LIAO Huajun, et al (2263)
- Structural equation model analysis of the relationship between environmental and stand factors and net primary productivity in
Cunninghamia lanceolata forests HUANG Xingzhao, XU Chonghua, XU Jun, et al (2274)
- Biomass and carbon storage in roots of *Cunninghamia lanceolata* and *Pinus massoniana* plantations at different stand ages in
Guangxi HAN Chang, SONG Min, DU Hu, et al (2282)
- Responses of species abundance distribution and community similarity to nitrogen and phosphorus additions in a subalpine meadow ...
..... YANG Yingbo, BAI Rong, LI Shuang, et al (2290)
- Effects of arbuscular mycorrhizal fungi on the growth of *Caragana korshinskii* Kom. and soil improvement of coal mining subsidence
in the Loess Area of West China SUN Jinhua, BI Yinli, WANG Jianwen, et al (2300)
- Photosynthetic characteristics of *Phyllostachys edulis* under different management modes
..... FENG Huanying, FAN Shaohui, SU Wenhui, et al (2307)
- Simulated photosynthetic responses of *Populus euphratica* during drought stress using light-response models
..... WANG Haizhen, HAN Lu, XU Yali, et al (2315)
- Impact of different control measures on leaf litter chemical quality dynamic and its relations with decomposition rate under the
pure *Pinus massoniana* forest LU Xiaohui, DING Guijie, LU Dehui (2325)
- Responses and Indications of Foliar Nitrogen Contents and $\delta^{15}\text{N}$ values to Atmospheric Nitrogen Deposition in Beijing, China
..... LIU Chaoming, TANG Meiqing, MA Kun, et al (2334)
- Leaf litter decomposition of ten plant species in a forested wetland in South Carolina, USA Li Qiaoling, Zeng Hui (2342)

- Environmental variables affect species composition and distribution of Bryophytes LUO Xianzhen, XIONG Yuanxin, XIA Xin, et al (2352)
- Climate-change impacts on bamboo distribution and giant panda habitat in Qionglai mountains YAN Tingting, RAN Jianghong, ZHAO Chenhao, et al (2360)
- Estimation and prediction of maize irrigation water requirement based on climate change in Songnen Plain, NE China HUANG Zhigang, XIAO Ye, ZHANG Guo, et al (2368)
- Monitoring dew condensation and its response to conventional meteorological factors in an urban ecosystem of northeastern China XU Yingying, TANG Jie, ZHU Hui, et al (2382)
- The evaluation of farmers' climate change adaptation strategies in high-frigid ecological vulnerable region: a case of Gannan Plateau WANG Yaru, ZHAO Xueyan, ZHANG Qin, et al (2392)
- Evaluation of ecological well-being and eco-economic efficiency in the Chinese mainland: From the perspective of justice and efficiency ZANG Zheng, ZOU Xinqing, WU Lei, et al (2403)
- Differentiation of spatial function in a mountainous rural area from a multi-functional perspective HONG Huikun, XIE Deti, GUO Libin, et al (2415)
- Soil-microbe-mineralization carbon and nitrogen stoichiometry under different land-uses in the Maoershan region ZHOU Zhenghu, WANG Chuankuan (2428)
- Impact of a "source-sink" landscape pattern in an urbanized watershed on nitrogen and phosphorus spatial variations in rivers: a case study of Yuqiao Reservoir watershed, Tianjin, China ZHANG Yajuan, LI Chongwei, HU Beibei, et al (2437)
- Ecological compensation standard for the Hani Rice Terrace System: an eco-functional-oriented improvement LIU Moucheng, XIONG Ying, BAI Yanying, et al (2447)
- Spatial patterns of ecosystem water conservation in China and its impact factors analysis GONG Shihan, XIAO Yang, ZHENG Hua, et al (2455)
- Effects of landscape pattern change on flow and sediment processes in the Luanhe River Basin ... LI Ying, HUANG Suiliang (2463)
- Temporal-spatial carbon emission patterns caused by fossil energy consumption at the city level in Hunan Province, China and the factors driving their composition LIU Xianzhao, GAO Changchun, SONG Yan, et al (2476)

《生态学报》2017 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共同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 全元

生 态 学 报

(SHENGTAI XUEBAO)

(半月刊 1981 年 3 月创刊)

第 37 卷 第 7 期 (2017 年 4 月)

ACTA ECOLOGICA SINICA

(Semimonthly, Started in 1981)

Vol. 37 No. 7 (April, 2017)

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	北京宝昌彩色印刷有限公司	Printed by	Beijing Baochang Color Printing Co., Ltd, Beijing 100094, 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

国内外公开发行

国内邮发代号 82-7

国外发行代号 M670

定价 90.00 元