

ISSN 1000-0933

CN 11-2031/Q

生态学报

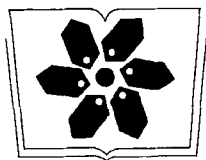
Acta Ecologica Sinica



第35卷 第8期 Vol.35 No.8 2015

中国生态学学会
中国科学院生态环境研究中心
科学出版社

主办
出版



中国科学院科学出版基金资助出版

生态学报

(SHENGTAI XUEBAO)

第 35 卷 第 8 期 2015 年 4 月 (半月刊)

目 次

专论与综述

- 丛枝菌根真菌与植物共生对植物水分关系的影响及机理····· 祝 英,熊俊兰,吕广超,等 (2419)
- 旱地小麦理想株型与生长冗余····· 王建永,李朴芳,程正国,等 (2428)
- 城市代谢研究评述:内涵与方法 ····· 卢 伊,陈 彬 (2438)
- 高浓度 CO₂对树木生理生态的影响研究进展····· 徐 胜,陈 玮,何兴元,等 (2452)
- 线蚓科分类学研究进展····· 陈 静,蒋万祥,沈 琦,等 (2461)

研究论文

- 红树植物对根域真菌生态的影响····· 刘 玉,温翠屏,李艳萍,等 (2473)
- 岷江干旱河谷优势灌丛对土壤微生物群落组成的影响····· 王冰冰,曲来叶,宋成军,等 (2481)
- 增施氮肥能够缓解麦田土壤线虫群落对 O₃浓度升高的响应 ····· 杨 悦,鲍雪莲,鲁彩艳,等 (2494)
- 辛基酚胁迫对雄性泥鳅抗氧化酶及卵黄蛋白原的影响····· 雷 忻,关鹏周,贾向荣,等 (2502)
- 羊草克隆种群的螺旋扩张规律····· 张继涛,李秀军,田尚衣,等 (2509)
- 恶性入侵植物豚草的繁育系统特性····· 郝建华,金洁洁,陈国奇,等 (2516)
- 水分条件变化对哀牢山亚热带常绿阔叶林林下幼苗死亡率的影响····· 杞金华,章永江,张一平,等 (2521)
- 黄河故道不同灌水方式刺槐人工林幼树水分利用效率和生长特性····· 陈金平,兰再平,杨慎骄,等 (2529)
- 四种园林植物对土壤镉污染的耐受性····· 顾翠花,王懿祥,白尚斌,等 (2536)
- 海南霸王岭陆均松空间分布格局及其与微生境异质性的关系····· 李肇晨,罗 微,陈永富,等 (2545)
- 贵阳市区灌木林生态系统生物量及碳储量····· 宁 晨,闫文德,宁晓波,等 (2555)
- 秦岭松栎混交林群落的稳定性····· 张明霞,王得祥,彭舜磊,等 (2564)
- 模拟降雨下植被盖度对坡面流水动力学特性的影响····· 孙佳美,余新晓,樊登星,等 (2574)
- 连栽第 1 代和第 2 代杉木近熟林水文过程养分动态比较····· 何介南,康文星,王 东,等 (2581)
- 华北低丘山区栓皮栎生态系统氧同位素日变化及蒸散定量区分····· 孙守家,孟 平,张劲松,等 (2592)
- 不同生境下入侵植物胜红蓟种群构件生物量分配特性····· 周 兵,闫小红,肖宜安,等 (2602)
- 松嫩平原野古草种群构件结构动态 ····· 李程程,李海燕,杨允菲 (2609)
- 广西马山岩溶次生林群落生物量和碳储量····· 朱宏光,蓝嘉川,刘 虹,等 (2616)
- 北京地区同域分布的普通鸭和黑头鸭种群密度比较····· 刘天天,邓文洪 (2622)
- 黄河三角洲东方白鹤繁殖期觅食栖息地的利用····· 段玉宝,田秀华,马建章,等 (2628)
- 基于 *nad5* 的西施舌漳州群体遗传分化水平分析——以蛤蚧属 2 个物种差异水平为参照 ·····
- 孟学平,申 欣,屠海淼,等 (2635)

pH、食物和光周期对福寿螺生长发育和繁殖的影响 朱丽霞,黄瑶瑶,张泽宏,等 (2643)

鲢幼鱼通过水流速度障碍的模拟..... 胡运燊,石小涛,陈求稳,等 (2652)

不同营养盐条件下赤潮高发区围隔生态系内多胺的变化 刘 艳,赵卫红,苗 辉 (2659)

川中丘陵区柏木低效林改造模式植物多样性对土壤有机碳的影响..... 李 平,李凤汀,范 川,等 (2667)

半干旱雨养区不同覆膜方式对冬小麦土壤水分利用及产量的影响 杨长刚,柴守玺,常 磊 (2676)

宽幅播种下带间距对冬小麦衰老进程及产量的影响..... 冯 伟,李世莹,王永华,等 (2686)

UV-B 辐射增强和 O₃浓度升高对大豆叶片内源激素和抗氧化能力的影响
..... 赵天宏,刘 波,王 岩,等 (2695)

基于加权 Ripley's K-function 的多尺度景观格局分析——以江苏盐城滨海湿地为例
..... 张东菊,左 平,邹欣庆 (2703)

基于系统演化视角的可持续性评价方法 黄茹莉 (2712)

近 50 年武威市地气温差变化趋势及影响因子 杨晓玲,丁文魁,李岩瑛,等 (2719)

基于生态足迹的大型水电工程建设生态补偿标准评价模型——以三峡工程为例.....
..... 肖建红,王 敏,于庆东,等 (2726)

基于能值分析的我国小水电生态影响研究 庞明月,张力小,王长波 (2741)

产业园区温室气体排放清单..... 齐 静,陈 彬 (2750)

舟曲藏文化生态环境观对比分析..... 张旺锋,薛海燕,韩茂莉,等 (2761)

期刊基本参数:CN 11-2031/Q * 1981 * m * 16 * 350 * zh * P * ¥90.00 * 1510 * 40 * 2015-04



封面图说: 大豆——大豆属双子叶植物纲,豆目,豆科,蝶形花亚科,大豆属,大豆种。大豆是我国重要的油料作物,对 O₃污染较为敏感,利用开顶式气室(Open-top chamber,OTC),研究 O₃浓度升高和 UV-B 辐射增强对大豆叶片内源激素含量及与其相关的活性氧代谢的影响,旨在揭示大豆内源激素对臭氧浓度升高和紫外线辐射增强的适应机制与响应方式,为进一步深入研究作物对全球变化的适应机理提供理论依据和思路(详见 P2695)。

彩图提供: 陈建伟教授 北京林业大学 E-mail: cites.chenjw@163.com

ACTA ECOLOGICA SINICA Vol.35, No.8 April, 2015 (Semimonthly)
CONTENTS

Review and Monograph

- Effects of arbuscular mycorrhizal fungi and plant symbiosis on plant water relation and its mechanism ZHU Ying, XIONG Junlan, LÜ Guangchao, et al (2419)
- Plant ideotype and growth redundancy in dryland wheats WANG Jianyong, LI Pufang, CHENG Zhengguo, et al (2428)
- A review on urban metabolism: connotation and methodology LU Yi, CHEN Bin (2438)
- Research advance in effect of elevated CO₂ on eco-physiology of trees XU Sheng, CHEN Wei, HE Xingyuan, et al (2452)
- Systematics of the enchytraeidae (annelida, clitellata): past, present and future CHEN Jing, JIANG Wanxiang, SHEN Qi, et al (2461)

Research Paper

- A comparative study on rhizosphere and non-rhizosphere fungi in six mangrove communities LIU Yu, WEN Cuiping, LI Yanping, et al (2473)
- Effects of dominant shrubs on soil microbial composition in the semi-arid Minjiang River valley WANG Bingbing, QU Laiye, SONG Chengjun, et al (2481)
- N fertilization regulates the response of soil nematode communities to elevated O₃ in a wheat field YANG Yue, BAO Xuelian, LU Caiyan, et al (2494)
- Incidence of antioxidant enzymes and vitellogenin induced in male loach (*Misgurnus anguillicaudatus*) exposed to octylphenol LEI Xin, GUAN Pengzhou, JIA Xiangrong, et al (2502)
- The spiral elongation rule in clonal population of *Leymus chinense* ZHANG Jitao, LI Xiujun, TIAN Shangyi, et al (2509)
- Breeding system of a noxious invasive alien plant, *Ambrosia artemisiifolia* L. HAO Jianhua, JIN Jiejie, CHEN Guoqi, et al (2516)
- The influence of changes in water availability on seedling mortality of a subtropical evergreen broadleaf forest on Ailao Mountain QI Jinhua, ZHANG Yongjiang, ZHANG Yiping, et al (2521)
- Water use efficiency and growth characteristics of young trees of *Robinia pseudoacacia* plantation forest under different irrigation methods in old course of Yellow river area CHEN Jinping, LAN Zaiping, YANG Shenjiao, et al (2529)
- Tolerance and accumulation of four ornamental species seedlings to soil cadmium contamination GU Cuihua, WANG Yixiang, BAI Shangbin, et al (2536)
- The relationships between microhabitat heterogeneity and the spatial distribution of *Dacrydium pectinatum* in Bawangling, Hainan Island LI Zhaochen, LUO Wei, CHEN Yongfu, et al (2545)
- Biomass and carbon storage of shrub forests ecosystem in karst city NING Chen, YAN Wende, NING Xiaobo, et al (2555)
- Community stability analysis for the oak-pine mixed forest in Qinling Mountains ZHANG Mingxia, WANG Dexiang, PENG Shunlei, et al (2564)
- Impact of vegetation cover on surface runoff hydraulic characteristics with simulated rainfall SUN Jiamei, YU Xinxiao, FAN Dengxing, et al (2574)
- Characteristics of nutrient dynamic in hydrological processes of first and second rotations of prematured Chinese fir plantations HE Jienan, KANG Wenxing, WANG Dong, et al (2581)
- Variation of vapor oxygen isotopic composition and partitioning evapotranspiration of oak woodland in the low hilly area of north China SUN Shoujia, MENG Ping, ZHANG Jinsong, et al (2592)
- Module biomass of *Ageratum conyzoides* populations in different habitats ZHOU Bing, YAN Xiaohong, XIAO Yi'an, et al (2602)
- Dynamics of module structures on *Arundinella hirta* populations in Songnen Plains of China LI Chengcheng, LI Haiyan, YANG Yunfei (2609)
- Biomass and carbon storage of communities in secondary karst forests in Mashan county, Guangxi ZHU Hongguang, LAN Jiachuan, LIU Hong, et al (2616)
- Comparison of population density in two sympatric nuthatch species LIU Tiantian, DENG Wenhong (2622)
- Foraging habitat use of the oriental white stork during its breeding season DUAN Yubao, TIAN Xiuhua, MA Jianzhang, et al (2628)

The genetic differentiation analysis on *Coelomactra antiquata* Zhangzhou populations based on *nad5*: taking that of two *Macra* species as a reference MENG Xueping, SHEN Xin, TU Haimiao, et al (2635)

Effects of pH, food and photoperiod on the growth, development and reproduction of *Pomacea canaliculata* ZHU Lixia, HUANG Yaoyao, ZHANG Zehong, et al (2643)

The simulation of silver carp crossing through velocity barriers HU Yunshen, SHI Xiaotao, CHEN Qiuwen, et al (2652)

Effects of nutrient on polyamines variation in the mesocosm in the East China Sea ... LIU Yan, ZHAO Weihong, MIAO Hui (2659)

Effects of plant diversity on soil organic carbon under different reconstructing patterns in low efficiency stands of *cupressus funebris* in the hilly region of central Sichuan LI Ping, LI Fengting, FAN Chuan, et al (2667)

Influences of different plastic film mulches on soil water use and yield of winter wheat in semiarid rain-fed region YANG Changgang, CHAI Shouxi, CHANG Lei (2676)

Effects of spacing intervals on the ageing process and grain yield in winter wheat under wide bed planting methods FENG Wei, LI Shiyang, WANG Yonghua, et al (2686)

Effects of plant endogenous hormones and antioxidant ability in soybean leaves under UV-B and ozone stress ZHAO Tianhong, LIU Bo, WANG Yan, et al (2695)

Multi-scale analysis of landscape characteristics in coastal wetlands in Yancheng, Jiangsu, based on the weighted Ripley's K-function method ZHANG Dongju, ZUO Ping, ZOU Xinqing (2703)

A new method to assess sustainability: from the perspective of system evolution HUANG Jiali (2712)

Analysis on change trend and influence factors of differences between soil and air temperature in Wuwei city during recent 50 years YANG Xiaoling, DING Wenkui, LI Yanying, et al (2719)

The evaluation models of ecological compensation standard on the large-scale hydropower engineering construction based on ecological footprint: a case of Three Gorges Project XIAO Jianhong, WANG Min, YU Qingdong, et al (2726)

Emergy evaluation for ecological impacts of small hydropower in China ... PANG Mingyue, ZHANG Lixiao, WANG Changbo (2741)

Greenhouse Gas Inventory of industrial parks in China QI Jing, CHEN Bin (2750)

Comparative analysis research on Zhouqu's ecological view in a Tibetan Culture's Perspective ZHANG Wangfeng, XUE Haiyan, HAN Maoli, et al (2761)

《生态学报》2015 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 刘天星 段 靖 刘 昕

生态学报
(SHENGTAI XUEBAO)
(半月刊 1981 年 3 月创刊)
第 35 卷 第 8 期 (2015 年 4 月)

ACTA ECOLOGICA SINICA
(Semimonthly, Started in 1981)
Vol. 35 No. 8 (April, 2015)

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		

