

植物生态学报

Chinese Journal of Plant Ecology

第36卷 第8期 2012年8月 Vol. 36 No. 8 August 2012

专辑：种子生态学
Special issue: Seed ecology



主办单位：中国科学院植物研究所
中国植物学会

Sponsors: Institute of Botany, Chinese Academy of Sciences
Botanical Society of China

植物生态学报

Zhiwu Shengtai Xuebao

2012年8月 第36卷 第8期

种子生态学专辑

目 次

编辑之窗

705 种子生态学：种子在群落中的作用

黄振英 曹 敏 刘志民 王 雷

研究论文

708 湖北三峡大老岭自然保护区光叶水青冈群落
种子雨10年观测：种子雨密度、物种构成及
其与群落的关系

许 玥 沈泽昊 吕 楠 唐圆圆 李道新

王功芳 谭家林 刘益平

717 浙江古田山自然保护区常绿阔叶林种子雨的
时空变异

杜彦君 马克平

729 广西靖西西南桦天然林种子雨的时空动态

郭俊杰 赵志刚 欧景莉 沙 二 林开勤

曾 杰 徐大平

739 安徽万佛山自然保护区常见植物种子大小变异

陈延松 周守标 欧祖兰 徐忠东 洪 欣

747 科尔沁沙地黄榆种子散布的空间差异及规律

杨允菲 白云鹏 李建东

754 持久性土壤种子库种子萌发的个体竞争能力
会衰减吗？——以紫茎泽兰为例

沈有信 赵春燕

763 三江平原恢复湿地土壤种子库特征及其与植
被的关系

王国栋 吕宪国 姜 明 王 铭 赵魁义
娄彦景

774 埋藏条件下3种干旱荒漠植物的种子休眠释
放和土壤种子库

王彦荣 杨 磊 胡小文

781 盐生植物角果碱蓬种子二型性对环境的适应
策略

杨 帆 曹德昌 杨学军 高瑞如 黄振英

791 冷层积和室温干燥贮藏对河西走廊8种荒漠
植物种子萌发的影响

王桔红 马瑞君 陈 文

802 不同居群准噶尔无叶豆果实和种子特性及种
子萌发差异

刘会良 张永宽 张道远 尹林克 张元明

812 松嫩平原退化草地羊草种子萌发对环境因子

封面说明：左上：准噶尔无叶豆群落(尹林克摄)；右上：植株上的果实(尹林克摄)；左下：散布在母株基部
的果实(黄振英摄)；右下：远离母株的土壤种子库(黄振英摄)。准噶尔无叶豆系豆科无叶豆属超旱生小半灌
木，中亚荒漠特有和稀有种，典型的克隆植物。该种分布区和生态幅狭窄，在中国仅片断化分布于新疆古
尔班通古特沙漠局部区域。刘会良等研究了不同居群准噶尔无叶豆果实和种子的特性及种子萌发差异(本期
802–811)。

的响应	性对脱水的响应及其生态学意义
马红媛 吕丙盛 杨昊谕 闫超 梁正伟	王伟青 程红焱 刘树君 宋松泉
819 模拟增温和降水变化对北京东灵山辽东栎种子出苗和幼苗生长的影响	880 不同水稻品种种子固有细菌群落的多样性
董丽佳 桑卫国	邹媛媛 刘琳 刘洋 赵亮 邓启云
831 不同密度下辽东栎幼苗子叶丢失及其对幼苗存活和生长的影响	吴俊庄文宋未
闫兴富 周立彪 张靠稳 周云锋	综述
841 野豌豆属4种植物种子萌发的积温模型分析	891 沙丘生态系统种子库研究现状、趋势与挑战
胡小文 王娟 王彦荣	唐毅 刘志民
849 大麦种子对盐的发芽响应模型	899 光对种子萌发的影响机理研究进展
张红香 田雨 周道玮 郑伟 王敏玲	张敏 朱教君 闫巧玲
859 硬叶兰种子的迁地共生萌发及有效共生真菌的分离和鉴定	909 海草种子特性与海草床修复
盛春玲 李勇毅 高江云	韩厚伟 江鑫 潘金华 丛炜 孙娟 张壮志 宋少峰 盛宝利 王青岩 李晓捷
870 黄皮种子线粒体呼吸速率和活性氧清除酶活	918 种子地理学研究的新进展
	于顺利 方伟伟

Chinese Journal of Plant Ecology

August 2012 Vol. 36 No. 8

Special issue: Seed ecology

CONTENTS

Editorial

- 705 Seed ecology: roles of seeds in communities
HUANG Zhen-Ying, CAO Min, LIU Zhi-Min,
and WANG Lei

Research Articles

- 708 Ten years' observation of seed rain in a *Fagus lucida* community in Dalaoling Nature Reserve in the Three Gorges: seed rain density, species composition and their correlation with the community
XU Yue, SHEN Ze-Hao, LÜ Nan, TANG Yuan-Yuan, LI Dao-Xin, WANG Gong-Fang, TAN Jia-Lin, and LIU Yi-Ping
- 717 Temporal and spatial variation of seedfall in a broad-leaved evergreen forest in Gutianshan Nature Reserve of Zhejiang Province, China
DU Yan-Jun and MA Ke-Ping
- 729 Spatiotemporal dynamics of seed rain in natural forest of *Betula alnoides* in Jingxi County, Guangxi, China
GUO Jun-Jie, ZHAO Zhi-Gang, OU Jing-Li, SHA Er, LIN Kai-Qin, ZENG Jie, and XU Da-Ping
- 739 Seed mass variation in common plant species in Wanfoshan Natural Reservation Region, Anhui, China
CHEN Yan-Song, ZHOU Shou-Biao, OU Zu-Lan, XU Zhong-Dong, and HONG Xin
- 747 Spatial difference and regularity of seed dispersal of *Ulmus macrocarpa* in Horqin Sandy

Land, China

- YANG Yun-Fei, BAI Yun-Peng, and LI Jian-Dong
- 754 Will competitiveness of resulting plants of persistent soil seed bank decline? Example from *Eupatorium adenophorum*
SHEN You-Xin and ZHAO Chun-Yan
- 763 Characteristics of the soil seed banks and relationships with the vegetation in restored wetlands in Sanjiang Plain, northeast of China
WANG Guo-Dong, LÜ Xian-Guo, JIANG Ming, WANG Ming, ZHAO Kui-Yi, and LOU Yan-Jing
- 774 Seed dormancy release and soil seed bank of three arid desert plants under burial conditions
WANG Yan-Rong, YANG Lei, and HU Xiao-Wen
- 781 Adaptive strategies of dimorphic seeds of the desert halophyte *Suaeda corniculata* in saline habitat
YANG Fan, CAO De-Chang, YANG Xue-Jun, GAO Rui-Ru, and HUANG Zhen-Ying
- 791 Effects of cold stratification and dry storage at room temperature on seed germination of eight desert species from the Hexi Corridor of China
WANG Ju-Hong, MA Rui-Jun, and CHEN Wen
- 802 Variation in fruit and seed traits and seed germination among different populations of *Eremosparton songoricum*
LIU Hui-Liang, ZHANG Yong-Kuan, ZHANG Dao-Yuan, YIN Lin-Ke, and ZHANG Yuan-Ming

Cover illustration: Upper left: *Eremosparton songoricum* community (photographed by YIN Ke-Lin); Upper right: Fruits growing in the plants (photographed by YIN Ke-Lin); Lower left: Fruits dispersing in root of plants (photographed by HUANG Zhen-Ying); Lower right: Soil seed bank of *E. songoricum* away from mother plants (photographed by HUANG Zhen-Ying). *Eremosparton songoricum* (Fabaceae) is a leafless perennial clonal semi-shrub. It is a rare and endangered endemic species in Central Asian with a narrow distribution in fragmented habitat patches in the Gurbantünggüt Desert of Xinjiang, China. Liu *et al.* studied variation in fruit and seed traits and seed germination among populations of *E. songoricum* (Pages 802–811 of this issue).

- 812 Responses of seed germination of *Leymus chinensis* to environmental factors in degraded grassland on Songnen Plain in China
MA Hong-Yuan, LÜ Bing-Sheng, YANG Hao-Yu, YAN Chao, and LIANG Zheng-Wei
- 819 Effects of simulated warming and precipitation change on seedling emergence and growth of *Quercus mongolica* in Dongling Mountain, Beijing, China
DONG Li-Jia and SANG Wei-Guo
- 831 Cotyledon loss and its effects on survival and growth of *Quercus wutaishanica* seedlings under different densities
YAN Xing-Fu, ZHOU Li-Biao, ZHANG Kao-Wen, and ZHOU Yun-Feng
- 841 Thermal time model analysis for seed germination of four *Vicia* species
HU Xiao-Wen, WANG Juan, and WANG Yan-Rong
- 849 Research on modeling germination response to salinity of barley seeds
ZHANG Hong-Xiang, TIAN Yu, ZHOU Dao-Wei, ZHENG Wei, and WANG Min-Ling
- 859 *Ex situ* symbiotic seed germination, isolation and identification of effective symbiotic fungus in *Cymbidium mannii* (Orchidaceae)
SHENG Chun-Ling, LEE Yung-I, and GAO Jiang-Yun
- 870 Response of respiratory rate and reactive oxygen species scavenging enzyme activity in seed mitochondria of *Clausena lansium* dehydration and its ecological significance
WANG Wei-Qing, CHENG Hong-Yan, LIU Shu-Jun, and SONG Song-Quan
- 880 Diversity of indigenous bacterial communities in *Oryza sativa* seeds of different varieties
ZOU Yuan-Yuan, LIU Lin, LIU Yang, ZHAO Liang, DENG Qi-Yun, WU Jun, ZHUANG Wen, and SONG Wei

Reviews

- 891 Advances, trends and challenges in seed bank research for sand dune ecosystems
TANG Yi and LIU Zhi-Min
- 899 Review on influence mechanisms of light in seed germination
ZHANG Min, ZHU Jiao-Jun, and YAN Qiao-Ling
- 909 Characteristics of seagrass seed and restoration of seagrass bed
HAN Hou-Wei, JIANG Xin, PAN Jin-Hua, CONG Wei, SUN Juan, ZHANG Zhuang-Zhi, SONG Shao-Feng, SHENG Bao-Li, WANG Qing-Yan, and LI Xiao-Jie
- 918 New advances in seed geography
YU Shun-Li and FANG Wei-Wei