

目次

环境植物学-污染或受损环境的植物修复 (专栏)

土壤镉胁迫对田七体内镉分布及富集特性影响 李素霞, 陈玉萍, 韦司棋, 林俊良, 何晓诗, 农叶弯, 齐媛, 覃莉晨 (713)

莖菜叶片草酸钙晶体与水分维持的关系 苏志孟, 张习敏, 马琳, 段盛光, 陈婷, 乙引 (720)

一株李氏禾内生细菌去除 Cr (VI) 的特性 韩文, 陈海珊, 袁治豪, 秦舒琴, 陈慧英, 李典鹏, 李海云 (729)

室内观赏植物对甲醛的吸收及抗逆效果研究 贺辉, 彭其安 (737)

铊和镉胁迫对芦竹生长及光合特征的影响 陈霞霞, 蒲高忠, 黄玉清, 莫凌 (743)

重金属铜、锌、镉复合胁迫对麻疯树幼苗生理生化的影响 朱成豪, 唐健民, 高丽梅, 邹蓉, 史艳财, 付嵘, 曾小彪 (752)

硫酸对春油菜幼苗生理指标和土壤酶活性的影响 秦梅, 韩燕, 乔枫, 孙小凤, 严焕焕, 耿贵工 (761)

泌桐高速公路生态护坡不同草灌混播 10 a 后的植被群落特征 陈生义, 成子桥, 彭阿辉, 陈冬勤, 董世魁, 马闯, 张相锋, 陈璠 (768)

龙脑香热带雨林附生苔藓沿宿主垂直梯度的微生境偏好及其指示作用 沈婷, 宋亮, 郭新磊, Corlett Richard T., 吴毅, 马占霞, 陈泉 (776)

植物系统与进化

持续激活型 CIPK9 在花粉管生长过程中的生物学功能及亚细胞定位分析 周利明, 房玮 (788)

水深梯度对钝脊眼子菜生长和繁殖的影响 赫丁轩, 李肖夏, 郭友好 (794)

遮阴对高山杜鹃叶片解剖和光合特性的影响 宋杰, 李树发, 李世峰, 蔡艳飞 (802)

古林箐秋海棠叶斑结构对叶色的影响 杜文文, 崔光芬, 王继华, 段青, 马璐琳, 贾文杰, 王祥宁 (812)

广西部分地区野生茶树遗传关系 EST-SSR 标记分析 黄寿辉, 温立香, 彭静茹, 张芬, 檀业维, 龙凌云, 毛立彦 (821)

菊叶香藜转录组数据库中 *FPPS* 基因的挖掘与生物信息学分析 付苏宏, 雷鸣, 张勇群, 施静, 郝豆豆 (831)

综述

基于知识图谱的植物功能性状与环境研究前沿态势分析 顾丹丹, 李雅, 刘梅, 雷会珠, 刘杨 (843)

责任编辑 李莉 蒋巧媛 周翠鸣 何永艳
 责任校对 周翠鸣 蒋巧媛 李莉 何永艳
 英文编辑/校对 李莉 周翠鸣 蒋巧媛 何永艳
 封面/版式设计 蒋巧媛 周翠鸣 李莉 何永艳

期刊基本参数: CN 45-1134/Q * 1981 * m * A4 * 142 * zh+en * P * ¥45.00 * 1200 * 16 * 2019-06

封面说明: 秋海棠 (*Benonia*) 是秋海棠科秋海棠属多年生草本植物, 喜温暖潮湿环境, 惧阳光直射, 主要分布在非洲、中南美洲和亚洲的热带和亚热带地区。全世界有 1 900 多种, 中国已知 203 种 (包括亚种和变种), 园艺品种 15 000 多个。根据观赏特性, 秋海棠可分为观花类、观叶类和花叶兼赏类。其中, 观叶类在叶形和叶色等方面的丰富程度, 与其他园艺植物相比很少见。叶形变化多端, 有圆形、偏心形、卵形、盾形、掌形等, 边缘波状、齿裂、缺裂、掌裂、不规则分裂等; 叶色丰富多彩, 有红色、绿色、白色、紫色、褐色等, 通常一片叶子有 2 种以上的颜色, 且具不规则斑点、环带或斑纹等。观叶类秋海棠已成为宾馆厅堂、居室窗台、商厦橱窗、休闲娱乐等场所的装饰性植物材料。
 照片示: 部分代表性观叶类秋海棠。1. 螺旋形蟆叶秋海棠 (名称未知); 2. 商业品种 ‘烟火’; 3. 商业品种 ‘皮卡’; 4. 野生种盾叶秋海棠; 5. 野生种变色秋海棠; 6. 商业品种 ‘尼罗河’; 7. 野生种毛叶秋海棠; 8. 商业品种 ‘非洲丛林’; 9. 商业品种 ‘火焰’; 10. 商业品种 (名称未知); 11. 商业品种 ‘小兄弟’; 12. 野生种铺地秋海棠; 13. 商业品种 ‘黑武士’。(相关内容详见本期正文 812~820 页杜文文等的文章)

		2	3
1		4	5
6	7	8	9
10	11	12	13

CONTENTS

Environmental Botany: Phytoremediation of Polluted or Damaged Environment (Special Column)

Distribution and accumulation characteristics of cadmium in *Panax notoginseng* under cadmium stress in soil LI Suxia, CHEN Yuping, WEI Siqi, LIN Junliang, HE Xiaoshi, NONG Yewan, QI Yuan, QIN Lichen (713)

Relationship between calcium oxalate crystals and water maintenance in leaves of *Viola verecumda* SU Zhimeng, ZHANG Ximin, MA Lin, DUAN Shengguang, CHEN Ting, YI Yin (720)

Characteristics of Cr (VI) removal from *Leersia hexandra* by an endophytic bacteria isolated HAN Wen, CHEN Haishan, YUAN Zhihao, QIN Shuqin, CHEN Huiying, LI Dianpeng, LI Haiyun (729)

Absorption and resistance to formaldehyde of indoor ornamental plants HE Hui, PENG Qi'an (737)

Effects of thallium and cadmium stress on growth and photosynthetic characteristics of *Arundo donax* CHEN Xiaxia, PU Gaozhong, HUANG Yuqing, MO Ling (743)

Effects of combined stress of heavy metals Cu, Zn and Cd on physiology and biochemistry of *Jatropha curcas* seedlings ZHU Chenghao, TANG Jianmin, GAO Limei, ZOU Rong, SHI Yancai, FU Rong, ZENG Xiaobiao (752)

Effects of sulfur fertilizer on physiological indexes and soil enzyme activity of spring rape seedlings QIN Mei, HAN Yan, QIAO Feng, SUN Xiaofeng, YAN Huanhuan, GENG Guigong (761)

Community characteristics of ecological slope protection under mixture planting of shrub and herbage after ten years in Bitong expressway CHEN Shengyi, CHENG Ziqiao, PENG Ahui, CHEN Dongqin, DONG Shikui, MA Chuang, ZHANG Xiangfeng, CHEN Pan (768)

Habitat preferences of epiphytic bryophytes along the vertical gradient and their indicator functions in a tropical dipterocarp rain forest SHEN Ting, SONG Liang, GUO Xinlei, Corlett Richard T., WU Yi, MA Zhanxia, CHEN Quan (776)

Plant System and Evolution

Biological function and subcellular localization analyses of constitutively active CIPK9 in pollen tube growth ZHOU Liming, FANG Wei (788)

Influence of water depth on growth and reproduction of *Potamogeton octandrus* HE Dingxuan, LI Xiaoxia, GUO Youhao (794)

Effects of shading on photosynthesis and anatomical structure in leaves of *Rhododendron* SONG Jie, LI Shufa, LI Shifeng, CAI Yanfei (802)

Effects of foliar variegation structure on leaf color in *Begonia gulinqingensis* DU Wenwen, CUI Guangfen, WANG Jihua, DUAN Qing, MA Lulin, JIA Wenjie, WANG Xiangning (812)

Genetic relationship analysis of wild tea tree germplasm resources in part of Guangxi based on EST-SSR markers HUANG Shouhui, WEN Lixiang, PENG Jingru, ZHANG Fen, TAN Yewei, LONG Lingyun, MAO Liyan (821)

Mining and bioinformatic analysis of *FPPS* gene from *Dysphania schraderiana* transcriptome database FU Suhong, LEI Ming, ZHANG Yongqun, SHI Jing, HAO Doudou (831)

Review

Tendency analysis of plant functional traits and environments research based on knowledge map GU Dandan, LI Ya, LIU Mei, LEI Huizhu, LIU Yang (843)

Cover images: Selective presentation of foliage *Begonia*. **1.** *B. rex* with spiral leaves (name unknown); **2.** Commercial variety 'Firework'; **3.** Commercial variety 'Olympica'; **4.** Wild species *B. peltatifolia*; **5.** Wild species *B. versicolor*; **6.** Commercial variety 'Nile'; **7.** Wild species *B. rex*; **8.** Commercial variety 'African Jungle'; **9.** Commercial variety 'Inca Flame'; **10.** Commercial variety (name unknown); **11.** Commercial variety 'Little Brother'; **12.** Wild species *B. prostrata*; **13.** Commercial variety 'Black Warrior'. (For detail, please see the text by DU Wenwen et al. on page 812–820)

		2	3
1		4	5
6	7	8	9
10	11	12	13