

植物生态学报

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目　　次

综述

1745　苔藓植物光合能力及其影响因素

孟春雨　李晓明　包维楷　刘　鑫

1762　增温对林木高生长和径向生长的差异化影响研究进展

刘林焰　韩润宇　魏媛媛　杨智杰　熊德成　陈仕东

研究论文

1781　亚热带两种森林土壤净氮矿化速率对温度升高的响应

周子寒　方　晰　朱小叶

1800　氮磷输入对鄱阳湖湿地优势植物种间竞争的影响

陈亚松　兰志春　王银柳　姜昕怡　牛国祥

1820　基于遥感的超强台风“摩羯”对海南岛植被损害及恢复评估

李春波　王　宁　李晓明

1830　沿海拔梯度短暂性河流对植物群落结构及分布的影响

宋梦奇　倪铭遥　李永华　王耀龙　朱金雷　姚　斌　崔梦淳

1842　六盘山唐古特大黄迁地保护的适应性分析

马小霞　朱　强　曾继娟　高丽凡　颜子怡　杨淑娟　王玲霞　梁文裕

1857　林冠层介导的微气候和草本植物盖度对3种野生果树幼苗存活与生长的影响

张雨思　陈文龙　李　江　泮路明　依里帆•艾克拜尔江　石晓龙　田中平

1870　沈阳城区红皮云杉和黄檗的年内生长动态

李　岩　程哲彦　马慧宁　云飞龙　陈晓芳　王　萱　年玉欣　杨前宇　战　昊　李智辉

1880　饱和水汽压差主导北京山区侧柏人工林水分利用效率季节动态

高　瑶　周泽圆　李菲菲　胡东阳　张　咏　于海群　李鑫豪　赵洪贤　李钦渊　刘　鹏　查天山

1892　北京土石山区风化基岩水分对植物水分利用的影响

周永泉　牛云明　余新晓　王玉石　吕　申　贾国栋

1906　宁夏灵武白芨滩植物叶-茎-根多元素特征及其适应性

于江珊　许　浩　刘秉儒　王瑞霞　侯继华

1920　干热河谷区不同海拔下植被长期恢复对稀树灌草丛土壤养分和化学计量特征的影响

张　菡　郑伯琴　闻国静　张　杰　马雯泠　冯德枫　杨朝磊　张明达　田　波　孙永玉　宋清海　金艳强

1936　羽毛针禾根鞘和非根际土壤微生物群落特征及其与土壤因子的关系

吕　程　江康威　丁　雨　张芷晴　王亚菲　王　雨　张青青

1949　河西走廊不同退化程度梭梭人工林土壤微生物群落多样性

袁　梦　岳远志　陈壹铭　范卓鹏　何　彩　张　斌　单立山

数据论文

1962　极小种群植物巴朗山杓兰的分布、群落特征与生存现状

张君议　杨攀艳　林红强　金义国　廖　敏　邓亨宁　程跃红　徐　波

封面说明：粗叶泥炭藓(原始图片由张力拍摄)。苔藓植物是仅次于被子植物的第二大陆生高等植物类群, 广泛分布于热带雨林、极地苔原、干旱荒漠和亚高山森林等多样生境, 在生物固氮、涵养水源、物质循环和生态系统碳固持等方面发挥着重要作用。苔藓光合能力为维管植物平均水平的10%–20%。孟春雨等综述了苔藓植物光合能力及其影响因素的研究进展, 总结了苔藓光合作用的过程、光合特征与净光合能力及其种间差异和种内变异, 从植株形态与解剖结构、光照、水分和温度等环境因子以及群体结构等层面, 阐述了苔藓光合作用的限制因素与多维调控机制, 并展望了未来重点研究方向, 为深化苔藓光合机制认识、评估全球变化背景下苔藓的碳汇功能提供了基础支撑(本期1745-1761页)。

Chinese Journal of Plant Ecology

August 2026 Vol. 50 No. 8

CONTENTS

Reviews

1745 Bryophyte photosynthetic capacity and influencing factors
MENG Chun-Yu, LI Xiao-Ming, BAO Wei-Kai, and LIU Xin

1762 A review of the divergent responses of tree height growth and radial growth to warming
LIU Lin-Yan, HAN Run-Yu, WEI Yuan-Yuan, YANG Zhi-Jie, XIONG De-Cheng, and CHEN Shi-Dong

Research Articles

1781 Response of soil net nitrogen mineralization rate to elevated temperature in two subtropical forest ecosystems
ZHOU Zi-Han, FANG Xi, and ZHU Xiao-Ye

1800 Effects of nitrogen and phosphorus addition on interspecific competition of dominant plants in Poyang Lake
CHEN Ya-Song, LAN Zhi-Chun, WANG Yin-Liu, JIANG Xin-Yi, and NIU Guo-Xiang

1820 Remote sensing-based assessment of vegetation damage and recovery from super typhoon “Yagi” in Hainan Island
LI Chun-Bo, WANG Ning, and LI Xiao-Ming

1830 Influence of temporary rivers on structure and distribution of plant communities along altitude gradient
SONG Meng-Qi, NI Ming-Yao, LI Yong-Hua, WANG Yao-Long, ZHU Jin-Lei, YAO Bin, and CUI Meng-Chun

1842 Assessment of adaptation of *Rheum tanguticum* to *ex-situ* conservation in Liupan Mountains
MA Xiao-Xia, ZHU Qiang, ZENG Ji-Juan, GAO Li-Fan, YAN Zi-Yi, YANG Shu-Juan, WANG Ling-Xia, and LIANG Wen-Yu

1857 Effects of canopy-mediated microclimate and herbaceous cover on seedling survival and growth of three wild fruit tree species
ZHANG Yu-Si, CHEN Wen-Long, LI Jiang, PAN Lu-Ming, Yrfan AKBERJAN, SHI Xiao-Long, and TIAN Zhong-Ping

1870 Intra-annual growth dynamics of *Picea koraiensis* and *Phellodendron amurense* in urban area of Shenyang
LI Yan, CHENG Zhe-Yan, MA Hui-Ning, YUN Fei-Long, CHEN Xiao-Fang, WANG Xuan, NIAN Yu-Xin, YANG Qian-Yu, ZHAN Hao, and LI Zhi-Hui

1880 Vapor pressure deficit dominates seasonal dynamics of water use efficiency in *Platycladus orientalis* plantations in Beijing mountainous areas
GAO Yao, ZHOU Ze-Yuan, LI Fei-Fei, HU Dong-Yang, ZHANG Yong, YU Hai-Qun, LI Xin-Hao, ZHAO Hong-Xian, LI Qin-Yuan, LIU Peng, and ZHA Tian-Shan

1892 Effects of weathered bedrock moisture on plant-water utilization in rocky mountainous forest
ZHOU Yong-Quan, NIU Yun-Ming, YU Xin-Xiao, WANG Yu-Shi, LÜ Shen, and JIA Guo-Dong

1906 Multi-element characteristics and adaptability of plant leaves, stems and roots in Baijitan, Lingwu, Ningxia, China
YU Jiang-Shan, XU Hao, LIU Bing-Ru, WANG Rui-Xia, and HOU Ji-Hua

1920 Effects of long-term vegetation restoration on soil nutrients and stoichiometric characteristics in degraded savanna across various altitudes in dry-hot valleys
ZHANG Han, ZHENG Bo-Qin, WEN Guo-Jing, ZHANG Jie, MA Ji-Ling, FENG De-Feng, YANG Chao-Lei, ZHANG Ming-Da, TIAN Bo, SUN Yong-Yu, SONG Qing-Hai, and JIN Yan-Qiang

1936 Characteristics of *Stipagrostis pennata* rhizosheath and bulk soil microbial communities and their relationship with soil factors
LÜ Cheng, JIANG Kang-Wei, DING Yu, ZHANG Zhi-Qing, WANG Ya-Fei, WANG Yu, and ZHANG Qing-Qing

1949 Diversity of soil microbial communities in *Haloxylon ammodendron* plantations with different degradation levels in the Hexi Corridor
YUAN Meng, YUE Yuan-Zhi, CHEN Yi-Ming, FAN Zhuo-Peng, HE Cai, ZHANG Bin, and SHAN Li-Shan

Data paper

1962 Geographical distribution, community characteristics, and survival status of *Cypripedium palangshanense*, a plant species with an extremely small population
ZHANG Jun-Yi, YANG Pan-Yan, LIN Hong-Qiang, JIN Yi-Guo, LIAO Min, DENG Heng-Ning, CHENG Yue-Hong, and XU Bo

Cover illustration: *Sphagnum squarrosum* (the original image photographed by ZHANG Li). Bryophytes are the second largest group of terrestrial higher plants after the angiosperms, and are widely distributed across diverse habitats, including tropical rainforests, polar tundra, arid regions, boreal and subalpine forests, where they play important roles in biological nitrogen fixation, water retention, nutrient cycling, and ecosystem carbon sequestration. The photosynthetic capacity of bryophytes is about 10%–20% of the average level of vascular plants. Meng et al. (Pages 1745-1761) review research progress on the photosynthetic capacity of bryophytes and its influencing factors, summarizing the photosynthetic process, photosynthetic traits, and net photosynthetic capacity of bryophytes, along with their interspecific and intraspecific variation. Across multiple levels, from plant morphology and anatomy, through environmental factors such as light, water, and temperature, to colony structure, they elucidate the factors limiting bryophyte photosynthesis and its multidimensional regulation, and outline priority directions for future research. This review provides a foundation for advancing our understanding of bryophyte photosynthetic mechanisms and for assessing the carbon-sink function of bryophytes in the context of global change.