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植物生态学报

Zhiwu Shengtai Xuebao

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封面说明: 在浙江省千岛湖片段化景观中, 安装在岛屿和大陆上的红外相机拍摄到了分散贮食动物正在取食壳斗科植物种子的照片(钟雨辰和曾頔提供), 上排两图为松鸦, 下排两图为赤腹松鼠, 中图为鼠类。钟雨辰等利用红外相机和种子追踪技术分析并讨论了浙江省千岛湖地区6种壳斗科植物的种子捕食和扩散模式(本期154-162页)。

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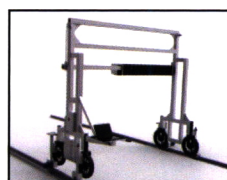
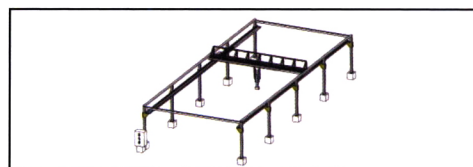
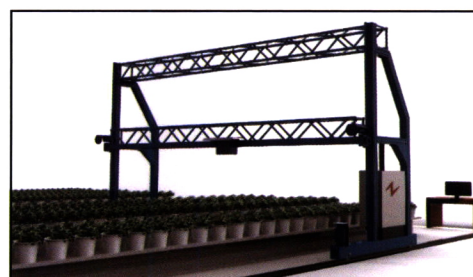
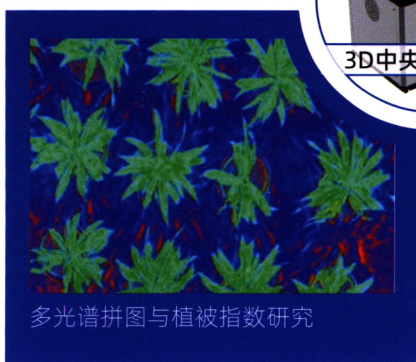
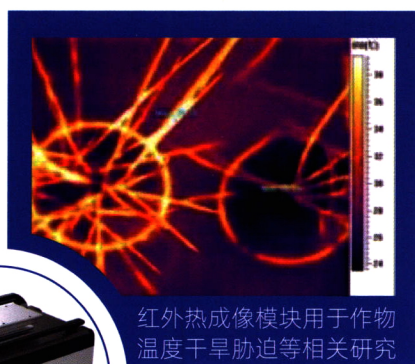
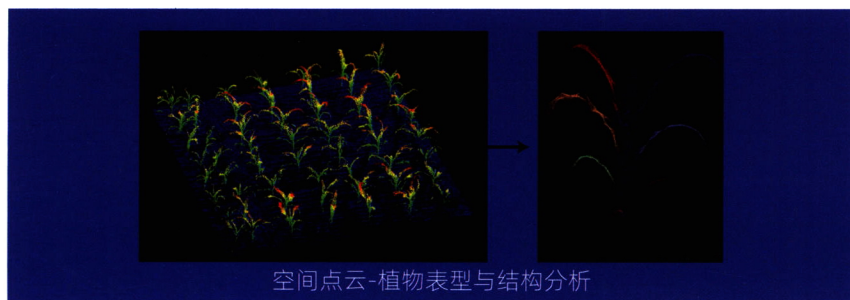
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Cover illustration: Photos of scatter-hoarders feeding on the seeds of Fagaceae plants captured by infrared cameras installed on island and mainland forests in the fragmented landscape of the Thousand Island Lake region in Zhejiang Province, eastern China (provided by ZHONG Yu-Chen and ZENG Di). The top two pictures are jays, the bottom two pictures are red-bellied tree squirrels, and the middle picture is a rodent. Using infrared cameras and seed tracking technology, Zhong *et al.* explored and discussed the seed predation and dispersal patterns of six species of Fagaceae in the Thousand Island Lake region in Zhejiang Province (Pages 154-162 of this issue).



3D中央成像单元

- ☐ 点云模块：激光雷达，高精度获取植物空间点云，通过集成了神经网络技术和深度学习算法的PhenoWatch软件，实现植物群体分单株，单株植物的茎叶分割，提取植物群体参数和单株形态参数。
- ☐ 红外热成像模块：配备了非制冷式氧化钒红外探测器，高精度红外热成像CCD，能够生成640x480像素的热图像，具有卓越的图像质量，可视化显示线性ROI温度值、温度剖面图。
- ☐ 高光模块：对每个空间像元形成200多个窄波段以进行连续的光谱覆盖，形成三维数据块，用于作物长势分析、类别鉴定、病虫害监测、水肥状况监控、生化参数检测等方面的研究。
- ☐ 多光谱成像模块：以五通道（Blue、Green、Red、NIR、RedEdge）光谱影像为数据源，通过影像与点云的匹配融合，从而为三维空间点云赋予光谱信息，最终实现三维与二维植被指数的计算。
- ☐ RGB成像模块：高分辨率的RGB相机，色彩影像与点云匹配融合，以保障在获取高精度三维影像的同时，还原植物真实的色彩。

