

研究报告

# 北京市11种园林植物滞留大气颗粒物能力研究

王蕾,高尚玉,刘连友,哈斯

北京师范大学资源学院环境演变与自然灾害教育部重点实验室,北京 100875

收稿日期 2005-3-18 修回日期 2005-9-26 网络版发布日期 接受日期

## 摘要

测定了北京市11种园林植物叶面颗粒物附着密度,利用环境扫描电镜观察比较了各测试树种叶表面微形态,测量统计了滞留颗粒物的粒径分布.结果表明,植物主要通过叶片上表面滞留大气颗粒物,上表面滞留的大气颗粒物数量约为下表面的5倍;叶片上表面滞留大气颗粒物能力由高到低的微形态结构依次是沟槽>叶脉+小室 >小室>条状突起,并且结构越密集、深浅差别越大,越有利于滞留大气颗粒物;测试树种叶片上、下表面PM<sub>2.5</sub>和PM<sub>10</sub>平均百分含量分别为66.7%和98.3%与 43.4%和92.9%.

关键词 [园林植物](#) [大气颗粒物](#) [颗粒物附着密度](#) [粒径](#) [叶表面微形态](#)

分类号

## Atmospheric particle-retaining capability of eleven garden plant species in Beijing

WANG Lei,GAO Shangyu,LIU Lianyou,HA Si

Key Laboratory of Environmental Change and Natural Disaster of Education Ministry,College of Resources Science and Technology,Beijing Normal University,Beijing 100875,China

### Abstract

With eleven garden plant species in Beijing as test materials,this paper determined the adhesion density of atmospheric particles on leaf surface,observed the micro-configurations of leaf epidermis,and measured the particle size distribution of the particles. The results showed that the particles were mainly adhered on upside leaf surface,and the adsorbed amount was about six times higher than that on underside leaf surface.The particle-retaining capability of the micro-configurations of leaf epidermis was decreased in the order of groove>vein+cell>cell>strip protuberance.The capability of particle-retaining was higher when the micro-configurations were denser and the fall between them was larger.The mean value and the mean percentages of PM<sub>2.5</sub> and PM<sub>10</sub> on upside leaf surface were 66.7% and 98.3%,while those on underside leaf surfaces were 43.4% and 92.9%,respectively.

### Key words

[Garden plants](#) [Atmospheric particles](#) [Adhesion density of particles](#) [Particle size](#) [Micro-configuration of leaf epidermis](#)

DOI:

### 扩展功能

#### 本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(443KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献](#)

#### 服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

#### 相关信息

- ▶ [本刊中 包含“园林植物” 的相关文章](#)
- ▶ [本文作者相关文章](#)

- [王蕾](#)
- [高尚玉](#)
- [刘连友](#)
- [哈斯](#)

