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#### 附录VI 本研究选取的7个植物功能性状及其生态含义

#### Supplement VI The seven plant functional traits selected for this study and their ecological implications

| 功能性状 Functional traits         | 生态含义 Ecological implications                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 比叶面积 Specific leaf area        | 反映植物的光资源获取效率和生长速率, 较高的比叶面积通常与快速生长和资源消耗型策略有关, 而低比叶面积则更倾向于资源保守型策略<br>Reflects plant light-acquisition efficiency and growth rate. Higher specific leaf area is typically associated with rapid growth and resource-acquisitive strategies, whereas lower specific leaf area is linked to resource-conservative strategies                                                            |
| 叶干物质含量 Leaf dry matter content | 反映叶片组织结构、抗逆性、保守型资源使用策略, 较高的叶干物质含量与结构坚固耐久的叶片相关, 与植物的抗逆性直接相关<br>Reflects leaf tissue structure, stress tolerance, and conservative resource-use strategies. Higher leaf dry matter content is associated with tougher and longer-lived leaves and is directly related to plant stress tolerance                                                                                      |
| 叶片碳含量 Leaf carbon content      | 反映结构强度、碳分配策略, 与光合能力及木质化程度相关<br>Reflects structural strength and carbon allocation strategies and is related to photosynthetic capacity and the degree of lignification                                                                                                                                                                                                             |
| 叶片氮含量 Leaf nitrogen content    | 与光合潜力、蛋白质含量及营养利用效率密切相关, 较高的叶片氮含量通常对应更强的光合作用能力<br>Closely related to photosynthetic potential, protein content, and nutrient-use efficiency; higher leaf nitrogen content is typically associated with greater photosynthetic capacity                                                                                                                                              |
| 叶片磷含量 Leaf phosphorus content  | 反映植物的营养状态与代谢能力, 参与光合作用、能量代谢以及核酸和蛋白质合成等关键生理过程, 较高的叶片磷含量通常与较快的光合速率、生长速率相关<br>Reflects plant nutritional status and metabolic capacity and is involved in key physiological processes, including photosynthesis, energy metabolism, and nucleic acid and protein synthesis. Higher leaf phosphorus content is typically associated with higher photosynthetic rates and faster growth |
| 植物高度 Plant height              | 反映光资源竞争的重要性状, 在群落中更高的植物能够遮蔽低矮植物, 影响其生长和繁殖<br>Reflects an important trait in light resource competition. Taller plants are able to overshadow shorter plants in the community, affecting their growth and reproduction                                                                                                                                                              |
| 种子大小 Seed size                 | 反映竞争-拓殖权衡, 大种子在幼苗建成与储备方面具有优势, 小种子更利于扩散、拓殖<br>Reflects the trade-off between competition and colonization. Large seeds have an advantage in seedling establishment and resource storage, whereas small seeds are more advantageous for dispersal and colonization                                                                                                                   |