

台灣原生蕨類植物在景觀造園上之應用

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摘要

Abstract

Native fern species almost take up one seventh of all the native plant species in Taiwan, with a documentation of 37 families, 145 categories, and 629 species. As such an important composition of plant species in Taiwan, fern species applied to landscape and garden design, however, are limited to only tree ferns and sword ferns. The former is usually used to create a subtropical atmosphere and the latter a ground cover. Overlooked for a long time, a variety of landscape aesthetics should be unveiled for the 629 fern species. In terms of growth characteristics, there are inserted ferns, rock ferns, climbing ferns, pendulous ferns, ground cover ferns, aquatic ferns, and wetland ferns. The growth of fern species calls for a wide range of eco environmental conditions such as full sun, shade, half shade, high humidity, and proper drainage. The acknowledgement of these characteristics lays the foundation for applying fern species to landscape and garden design.

This paper aims to discuss how native fern species in Taiwan can be applied to landscape and garden design for two fields. First, select proper fern species to match different eco environmental conditions and landscape space. For example, we can grow *Angiopteris palmiformis* (Cav.) C. Chr. under large shade trees or grow *Cyclosorus acuminatus* (Houtt.) Nakai ex H. Ito alongside the wetland. Second, create landscape fern gardens that cater to the needs of the growth characteristics and eco environmental conditions for fern species. For instance, we can make use of pendulous giant sword ferns, large inserted bird's-net ferns and rock-ginger fern, shade-tolerant *Asplenium prolongatum* Hook.、*Tectaria decurrens* (Pr.) Copel.、*Tectaria yunnanensis* (Bak.) Ching、*Tectaria subtriphyllo* (Hook. & Arn.) Copel. as accent plants in a landscape garden. Only with sufficient knowledge of the growth characteristics and environmental conditions for ferns can we apply them properly to garden

design.

This paper will also present actual cases to discuss the practicality and feasibility of applying ferns species to garden design in terms of their aesthetic and growth characteristics, showing both the difficulties and potentials in applying native fern species in Taiwan to landscape and garden design.

關鍵字：Keywords: Fern species, landscape and garden design, planting design, native plants in Taiwan