雪霸自然保護區植物資源調查（二）
志樂溪流域植相及植群調查

Plant Resources in the Syue-ba Forest Reserve (Ⅱ)
The flora and vegetation surveys in the Chih Le River basin

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摘　　要

　　本研究計畫針對雪霸自然保護區之志樂溪流域八仙山事業區 76-84 林班之植物資源進行調查，並設置植群調查樣區，共計設置及調查了雪劍線、雪山西稜及志樂溪周邊 82 個樣區，樣區內記錄之維管束植物物種計 112 科 289 屬 437 種，其中特有種 168 種，比例達 38.44%；稀有植物計 34 種，依據 IUCN 之等級進行評估，極危（CR）1 種、瀕危（EN）1 種、易危（VU）12 種、近危（NT）20 種。其中包含增加臺灣稀有之植物-臺灣金蓮花(*Trollius taihasenzanensis* Masam.)，樣區區分為 61 個森林和 21 個非森林植物社會樣區，以雙向指標分析法(TWINSPAN)及矩陣群團分析作為植群分析及參考之依據，經計算 Sorenson 氏距離係數及轉換為訊息維持度(information remaining)後將森林植物社會區分成玉山圓柏林型、玉山杜鵑-玉山圓柏林型、臺灣二葉松-臺灣鐵杉林型、長葉木薑子林型、臺灣赤楊-霧社木薑子林型、香杉-長葉木薑子林型、臺灣鐵杉林型、臺灣冷杉林型、臺灣冷杉-臺灣鐵杉林型，其中長葉木薑子林型又可區分為長葉木薑子-紅皮亞型、臺灣肖楠-臺灣黃杉亞型、長葉木薑子-臺灣山香圓亞型；非森林植物社會則區分為玉山箭竹草本植物社會、阿里山龍膽草本植物社會、玉山圓柏-玉山杜鵑矮盤灌叢、玉山圓柏-玉山小蘗矮盤灌叢、紅毛杜鵑灌叢等，並以降趨對應分析法(DCA)進行植群與環境因子相關分析。結果顯示森林植物社會海拔高和全天光空域成顯著正相關，土壤反應則為負相關；土壤反應與水分指數以及全天光空域呈負相關。而非森林植物社會環境因子間相關性僅坡度和天光空域呈正相關。

關鍵字：雪霸自然保護區、維管束植物、珍貴稀有植物、志樂溪。

Abstract

The research project implemented the plant resource investigation in the Pahsienshan Working Circle 76-84, Chih Le River basin, Syue-Ba Forest Reserve and set the vegetation survey plots, 82 sample plots set along the Syue Jian line , Shei Shan West Ridge and Chih Le River. There were 437 species, 289 genera, and 112 families of vascular plants were recorded in the plots. Among those, 168 species were endemic species, and the proportion was up to 38.44%. Among the 34 species of rare plants, based on the assessment of IUCN, they were 1 critically endangered (CR) species, 1 endangered (EN) species, 12 vulnerable (VU) species, and 20 near threatened (NT) species. It contained a newly recorded rare plant in Taiwan, *Trollius taihasenzanensis* Masam. All plots were divided into 61 forest plots and 21 non-forest vegetation plots to carry out the Two-way Indicator Species Analysis (TWINSPAN) and the matrix and cluster analysis. After estimating the Sorenson's distance coefficient and transforming to information remaining, the forest plots were classified as *Juniperus squamata* forest type, *Rhododendron pseudochrysanthum - Juniperus squamata* forest type, *Pinus taiwanensis - Tsuga chinensis* var. *formosana* forest type, *Beilschmiedia erythrophloia* forest type, *Alnus formosana - Litsea elongata* forest type, *Cunninghamia konishii - Beilschmiedia erythrophloia* forest type, *Tsuga chinensis* forest type, *Abies kawakamii* forest type, and *Abies kawakamii - Tsuga chinensis* forest type. Among which, *Beilschmiedia erythrophloia* forest type could be divided into *Beilschmiedia erythrophloia - Styrax suberifolia* forest subtype, *Calocedrus macrolepis - Pseudotsuga wilsoniana* forest subtype, and *Beilschmiedia erythrophloia - Turpinia formosana* forest subtype. And the non-forest vegetation was classified into *Yushania niitakayamensis* grassland association, *Gentiana arisanensis* grassland association, *Juniperus squamata - Rhododendron pseudochrysanthum* shrub association, *Juniperus squamata - Berberis morrisonensis* shrub association, and *Rhododendron rubropilosum* shrub association. The detrended correspondence analysis (DCA) were performed to understand the correlation analysis between the vegetation and the environmental factors. The result showed that in the forest vegetation, the altitude and the whole light sky space had a significantly positive correlation, and the soil reaction and both the moisture index and the whole light sky space had negative correlations. However, among the environmental factors in the non-forest vegetation, only the slope and the whole light sky space showed a positive correlation.

Key words: Syue-Ba Forest Reserve, Vascular plants, Rare plants, Chih Le River.