

台北市立動物園蝴蝶公園蝶相之時空分布

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陳建志、朱耀沂。台北市立動物園蝴蝶公園蝶相之時空分布。動物園學報 11:27-48。

摘要：1993年1月至12月間，在台北盆地南邊台北市立動物園內之蝴蝶公園中，依1/500等高線圖經緯方格中之區塊，選擇一蝶相調查穿越線。穿越線涵蓋22個不同生態環境之銜接區塊，每一區塊之面積為 $50 \times 50 \text{ m}^2$ 。每週一次，於晴天上午10至12時間，以穿越線調查法穿越選定區塊，記錄蝴蝶種類、數量及其行為。調查期間完成32次有效穿越線調查，共記錄10科、130種、6367隻次蝴蝶。其中以7、8、9月份之種類數最多，分別為65、66、66種，以5月份的21種最低。每次穿越線調查，記錄之蝴蝶隻次以7月份的311隻次為最多；而以2月份的73隻次最少。以Shannon-Weiner多樣性指數分析結果，6、7月份的3.2為最高，2月及10月的2.6為最低。週年均均有發生記錄之蝶種包括黑鳳蝶 (*Papilio protenor amaura*) 等5種，另有15種蝴蝶之發生期為9個月以上。在喬木林所佔面積比率較低之區塊，出現之蝴蝶種類數、頻率及多樣性指數較高，其中含山谷線交會處之區塊為最高；中坡段地形及密林中，蝴蝶出現種類數及隻次較少。各區塊之蝴蝶種類數、出現頻率及多樣性指數有相同變化趨勢，但在寄主植物繁殖區及腐果餵食區等受到人為干擾之區塊，因特定蝶種數量增加，降低該區塊之多樣性指數。

關鍵字：台北盆地、蝶相、時空分布、多樣性指數

前言

在蝶類棲地日漸惡化下，都會區附近的動植物園、公園、校園及綠地之適宜經營，對當地蝴蝶的保育極為重要。這些地區可提供蝴蝶生活所需寄主植物與蜜源植物，也能提供蝴蝶棲息場所 (Elia 1993; Prchal 1991; The Xerces Society 1990; Vickery 1995)。

開放式蝴蝶棲地的經營方式，以保留或複製一個低維護、高承載量的半自然或人造棲地為主。蝶種選擇適當的環境棲息，並在棲地內自行維持族群之延續 (Morton 1991)。經營管理者通常以植物組成及其結構的操作，藉控制地形、地貌及棲地結構，以增加棲地的承載量 (Carrying capacity) (Davis 1989; Warren and Stephens 1989)。許多現代化都市的公園綠地或切割地，經規劃設計為蝴蝶棲地，不但可保育蝴

蝶資源，並可發揮環境教育及遊憩功能 (Sibatani 1990; Vickery 1995)。

1986年台北市立動物園於蝴蝶館後方之山谷設立蝴蝶公園，以經營一適宜蝴蝶棲息的環境。在谷底栽植台北盆地常見蝶種的寄主植物及蜜源植物，並對棲地內之植物結構與演替進行經營管理，以建立適宜蝶類棲息的良好環境 (陳 1992, 1994b)。

在都會區周緣經營蝶類棲地，對該地區日漸式微的蝴蝶資源保育必有助益，唯必先建立有關蝶類群聚之資料並持續監測，供長期經營管理之參考 (陳與朱 1994)。本文以台北市立動物園蝴蝶公園為試驗樣區，調查蝶類群聚結構，研究該樣區蝶相在時間及空間上的分布，進而探究影響分布的因素。期能據此建立蝴蝶公園蝴蝶資源之資料庫，供蝴蝶棲地經營管理參考。

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The temporal and spatial distribution of butterflies in butterfly park at Taipei Zoo.

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Abstract : The study started from January of 1993 and ended in December of the same year. 22 linking blocks of 50 * 50 m² covering various topographic and ecological structure were selected in southern slope of Taipei Basin for study. All the blocks were in the area of 1/500 contour and divided by meridian and parallel lines. Once a week on nice days, walking through each selected blocks Transect counts, recorded the species of butterflies, numbers of each species and their behaviors. During the study period, 32 valid Transect counts were made and resulted in the record of 10 families, 130 species and 6367 individual counts of butterflies. The recorded species (130) was about 34% of the total species (374) currently found in Taiwan and 56% of the recorded species in Taipei Basin (227). More species came into sight in July, August and September (65, 66, 66 respectively). May had the minimum species of 21. In the Transect counts, the maximum individual counts fell in July (311) and the minimum (73) in February. The largest Shannon-Weiner diversity index (3.2) was found in June and July, and the lowest (2.6) in February and October. Five species were observed in the whole year. Another 15 species were observed for 9 straight months. The butterflies community in the area could be classified into six categories, the butterflies recorded in the blocks with lower percentage of high forest showed more species and more individual counts and high Shannon-Weiner diversity index, especially the blocks in the intersection of valley. The species number, individual counts and diversity index of butterflies in each block changed in a similar trend. However, the Shannon-Weiner diversity index for the blocks where the artificial disturbance was applied to, such as host plants were cultivated and the rotten fruit was supplied, was lower due to the increase of specific species.

Key words: Taipei Basin、butterfly fauna、temporal and spatial distribution、diversity index

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