

鞘翅目昆蟲作為森林生物多樣性指標—

以具代表性之甲蟲科級成員為例

Coleopteran as indicators of biodiversity in forests –

by using representative beetle families as example

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中文摘要

維持生物多樣性是森林經營管理的課題之一，因此使用適當的監測指標便相益重要；鞘翅目是所有生物中最大的分類群，也是生物多樣性中重要的組成類群。Ohsawa 在 2010 年於日本山梨縣北部中央山脈中海拔區域設置 52 個樣點，以馬式網進行飛行甲蟲之攔截，分析結果顯示，天牛科、叩頭蟲科及象鼻蟲科最能當作甲蟲多樣性的生物指標。叩頭蟲科雖然種類數較天牛及象鼻蟲為少，卻被認為是代表鞘翅目多樣性的最佳選擇。叩頭蟲科的甲蟲棲息於各種森林的環境中，且其食性相當的廣泛多元，在幼蟲階段就包含了林木、腐葉、土壤、其它昆蟲、植物根部及腐朽木等；本研究於去年度在北部橫貫公路沿線設置 5 個樣點，以萬用型馬氏網進行甲蟲多樣性資源調查。下半年度（六至十二月）的結果顯示，最具代表性的科級甲蟲依次為：郭公蟲、象鼻蟲、叩頭蟲、花蚤、偽叩頭蟲、天牛及擬步行蟲。若細分為夏季與秋季，夏季最具代表性的甲蟲為：叩頭蟲、擬步行蟲及象鼻蟲；秋季為：郭公蟲、象鼻蟲與擬步行蟲。據本研究的結果顯示，在進行多樣性評估時應注意季節與海拔所造成的差異，來選擇具代表性的科級甲蟲。

關鍵詞：鞘翅目、保育、生物多樣性

英文摘要

The conservation of biodiversity is an important goal of most forest management efforts, and proper monitoring of biodiversity requires immediate attention. Coleoptera, the largest order of organisms on Earth, should be monitored as a crucial part of overall biodiversity. In 2010, Ohsawa set 52 forest stands in forest of northern Yamanashi prefecture in the central mountainous region of Japan and using the Malaise trap to intercept the flying beetle. The result shows Cerambycidae, Elateridae, and Curculionidae were determined to be good indicators of Coleoptera diversity. Although the species number of Elateridae are less than Cerambycidae and Curculionidae. However, Elateridae was determined to be the most suitable surrogate for Coleoptera diversity due to its subsist in a variety of forest habitats and exhibit wide-ranging food preferences: including wood, leaf mold, soil, other insects, plant roots, and decayed plant tissues during the larva stage. In this study, 5 malaise traps were set along Northern Cross highway to investigate beetle diversity. The result shows Cleridae, Curculionidae, Elateridae, Mordellidae, Eucnemidae, Cerambycidae and Tenebrionidae are the most important indicator to beetle diversity during our study period (June to December). If separate the data into different seasons (summer and autumn, Result shows Elateridae, Tenebrionidae and Curculionidae are most good indicators in Summer times; Cleridae, Curculionidae and Tenebrionidae are good in autumn. Based on our result, when choosing family indicator, it is important to consider the influence by different season and different altitude.

Key words: Coleoptera, conservation, biodiversity