

# 臺灣蝶類紅皮書名錄

The Red List of Butterflies of Taiwan



農業部林業及自然保育署  
Forestry and Nature Conservation Agency, MOA, R.O.C. (Taiwan)



台灣昆蟲學會  
Taiwan Entomological Society



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# 目錄

摘要	04
<b>1 前言</b>	<b>05</b>
<b>2 評估流程</b>	<b>07</b>
2.1 界定評估區域	07
2.2 界定納入評估之物種	07
2.3 評估標準	08
2.4 資訊蒐集	09
2.5 系統化評估流程	10
2.6 公開意見徵詢	10
<b>3 評估結果</b>	<b>11</b>
3.1 國家級極危 (NCR) 類別蝶類名錄	11
3.2 國家級瀕危 (NEN) 類別蝶類名錄	11
3.3 國家級易危 (NVU) 類別蝶類名錄	12
3.4 國家級接近受脅 (NNT) 類別蝶類名錄	14
3.5 資料缺乏 (DD) 類別蝶類名錄	28
<b>4 謝誌</b>	<b>29</b>
<b>5 參考文獻</b>	<b>29</b>



# Contents

Abstract	30
<b>1</b> Introduction	<b>31</b>
<b>2</b> Assessment process	<b>33</b>
2.1 Assessment Region	33
2.2 Taxa for Assessment	33
2.3 Assessment Criteria	34
2.4 Data Collection	36
2.5 Systematic Assessment Process	36
2.6 Public Consultation	37
<b>3</b> Results	<b>38</b>
3.1 List of Nationally Critically Endangered butterfly taxa in Taiwan	38
3.2 List of Nationally Endangered butterfly taxa in Taiwan	38
3.3 List of Nationally Vulnerable butterfly taxa in Taiwan	39
3.4 List of Nationally Near Threatened butterfly taxa in Taiwan	41
3.5 List of Data Deficient butterfly taxa in Taiwan	53
<b>4</b> Acknowledgments	<b>54</b>
<b>5</b> References	<b>54</b>

## 封面照片 /

■ *Sibatanozephyrus kuafui*  
夸父璀灰蝶 Kuafu Hairstreak  
NCR B1ab(v)  
呂晟智 / 攝

## 目錄照片 /

■ *Papilio hopponis*  
雙環翠鳳蝶 Hoppon Peacock  
NVU B1ab(v)  
呂晟智 / 攝

# 臺灣蝶類紅皮書名錄

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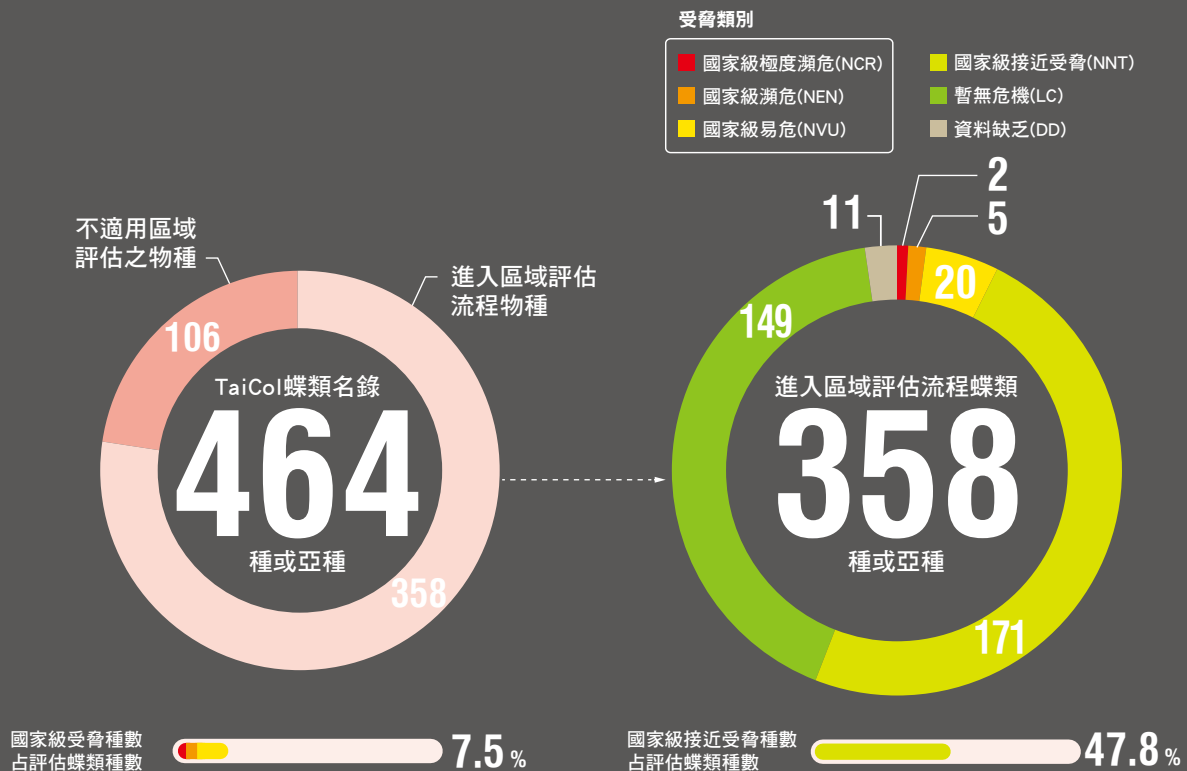
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## 摘要

本報告根據國際自然保育聯盟威脅評估系統與標準 (International Union for Conservation of Nature threat assessment system and criteria)，首次對臺灣 464 種蝶類進行國家蝶類紅皮書名錄評估。評估時排除了偶發種、疑問種、外來種、疑已滅絕物種，及離島物種 (珠光裳鳳蝶除外)，最終納入 358 種 / 亞種進行區域評估。結果顯示，臺灣共有 27 種國家級受脅蝶類，其中國家級極危 (Nationally Critically Endangered) 有 2 種，分別是黃鳳蝶和夸父璀灰蝶；國家級瀕危 (Nationally Endangered) 有 5 種，包括角翅黃蝶、臺灣脈弄蝶、南方燕藍灰蝶、大紫蛺蝶和波紋黛眼蝶；另有 20 種屬於國家級易危 (Nationally Vulnerable)。其餘評估結果包括 171 種屬於國家級接近受脅 (Nationally Near Threatened)、149 種屬於國家級暫無危機 (Nationally Least Concern)，以及 11 種屬於資料缺乏 (Data Deficient)。在有進行評估的蝴蝶中，受脅物種占 7.5%，接近受脅物種占 47.8%，其中僅有 8 種蝴蝶被納入全球尺度之評估，除臺灣寬尾鳳蝶為接近受脅 (Near Threatened) 等級，其餘 7 種為暫無危機 (Least Concern) 等級。





# 1. 前言

昆蟲是地球上物種多樣性最為豐富的生物類群，約佔所有動物物種的四分之三。然而，多項研究指出，全球昆蟲的數量與多樣性正因人類活動而迅速下降，其中鱗翅目昆蟲的減少尤為顯著 (Sánchez-Bayo & Wyckhuys 2019)。臺灣地處生物地理區交界，地形與氣候條件蘊育超過 400 種蝴蝶。但過去數十年來，棲地開發與氣候變遷持續衝擊蝴蝶多樣性，亟需進行系統性分析與評估，以瞭解蝴蝶族群現況並制定有效的保育對策。

世界自然保育聯盟 (International Union for Conservation of Nature, IUCN) 長期致力於評估物種受威脅的程度。IUCN 紅皮書名錄 (IUCN Red List of Threatened Species) 及

其評估標準，已成為保育實務的重要參考依據。紅皮書對滅絕風險的評估主要分為以下類別 (圖 1)：滅絕 (Extinct, EX)、野外滅絕 (Extinct in the wild, EW) 和區域滅絕 (Regionally Extinct, RE) 等三種滅絕狀態；極危 (Critically endangered, CR)、瀕危 (Endangered, EN) 和易危 (Vulnerable, VU) 等三種受脅狀態；以及接近受脅 (Near Threatened, NT) 和暫無危機 (Least Concern, LC) 兩種類別，作為瞭解物種族群現況的依據。若缺乏適當資料，則歸類為資料缺乏 (Data Deficient)。依此標準建立的紅皮書名錄具有資訊透明且可比較的特點，能作為生物多樣性長期監測、保育復育，以及資源分配等經營管理政策的重要參考依據。

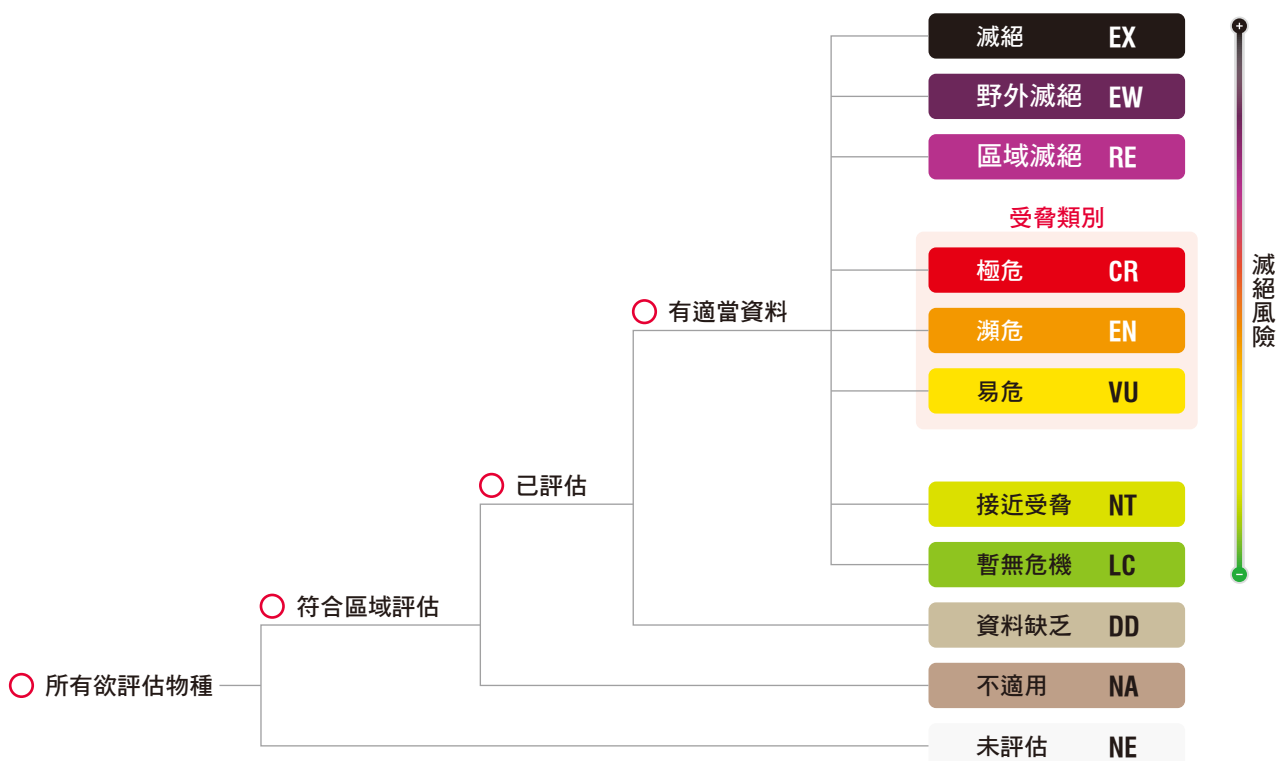


圖 1. IUCN 國家或區域紅皮書類別。



■ 夸父璣灰蝶 (*Sibatanozephyrus kuafui*)  
的棲地  
吳士緯 / 攝

紅皮書評估須依據物種的分布狀況、族群趨勢、棲地品質及威脅因子等多種資訊，以及長期累積的數據，以確保紅皮書名錄的科學性與適用性。已完成蝶類紅皮書評估的地區主要集中於歐洲及部分亞洲國家，如日本、新加坡等，有效協助各國瞭解蝶類面臨的各種威脅與保育需求。臺灣曾於民國 78 年將五種蝶類列入《保育類野生動物名錄》，並於民國 98 年進

行再評估 (趙等, 2009)，除此之外，迄今尚未對蝶類物種現況進行完整評估。本報告首次廣泛蒐集臺灣蝶類分布與族群動態資料，轉化為 IUCN 紅皮書評估所需資訊；透過學術單位、政府主管機關與非政府組織之協作，完成臺灣第一份國家蝶類紅皮書名錄。



## 2. 評估流程

### 2.1 界定評估區域

本報告依 IUCN 規範編制國家蝶類紅皮書。依據《IUCN 紅皮書名錄地區及國家級評估標準應用指南》(IUCN, 2012)，所謂「地區」(region) 可以是任何明確的地理範圍，包括大陸、國家或省份等。在進行地區性評估時，需要考慮物種是否為原生種或外來種、繁殖或非繁殖族群，以及是否曾經存在但已經局部滅絕等情況；且對於分布範圍不限於該區域的物種，需要調整流程與設定適當閾值，以符合其空間特性 (IUCN, 2012)。本研究依據《IUCN 紅皮書名錄類別與標準使用指南》(IUCN, 2017) 進行評估，並依據地區及國家級評估標準進行必要調整。

### 2.2 界定納入評估之物種

以臺灣物種名錄 (Catalogue of life in Taiwan, TaiCol) (鍾與邵, 2021) 為基礎，參考臺灣蝴蝶圖鑑 (徐, 2013a, 2013b, 2013c) 與臺灣蝶類誌 (徐等, 2018a; 徐等, 2018b; 徐等, 2019; 徐等, 2020)，將分布於臺灣與週邊島嶼之蝶類納入候選名錄，包括鳳蝶科、灰蝶科 (含蛺蝶科)、粉蝶科、弄蝶科與蛺蝶科，共計 464 種 / 亞種。由於離島物種多數為臺灣本島或東亞大陸的子族群，因此，除了珠光裳鳳蝶為保育類且有長期調查資料外，本次評估以臺灣本島物種為主。排除有鑑定或分類疑義、未建立長期族群的偶發種、以及外來種，將 106 個不適用物種 (Not applicable, NA) 移出候選名錄。最終納入正式評估流程共有 358 種 / 亞種，占臺灣蝶類總數 77%，包括鳳蝶科 30 種、粉蝶科 31 種、弄蝶科 60 種、灰蝶科 111 種以及蛺蝶科 126 種。



■ *Sasakia charonda formosana*  
大紫蛺蝶 Great purple emperor  
NEN B1ab(v)  
呂晟智 / 攝

■ 大紫蛺蝶 (*Sasakia charonda formosana*)  
的棲地  
林文傑 / 攝



## 2.3 評估標準

紅皮書受脅等級評估包含五大判定標準：A. 族群量下降 (Declining population)、B. 分布範圍 (Geographic range size, and fragmentation, decline, or fluctuations)、C. 族群量小且下降 (Small population size and fragmentation, decline, or fluctuations)、D. 族群數量極少或分布侷限 (Very small population

or very restricted distribution)，以及 E. 量化分析滅絕風險 (Quantitative analysis of extinction risk)。每項標準下設有次要標準 (Subcriterion) 及資格限制 (Qualifiers)(表 1)。每物種依據資料有無，可能採用多項標準，以最高受脅等級為最終結果。本報告依此標準評估物種之受脅等級，但本次徵集之資料尚無法評估滅絕狀態。

表 1. IUCN 紅皮書受脅 (極危、瀕危、易危) 及接近受脅類別評估標準摘要。

紅皮書受脅類別判定標準	極危 (CR)	瀕危 (EN)	易危 (VU)	接近受脅 (NT)
<b>A. 族群量下降 (時間區間為 10 年或 3 個世代，以較長者為優先)</b>				
A1	≥ 90%	≥ 70%	≥ 50%	≥ 30%
A2, A3, A4	≥ 80%	≥ 50%	≥ 30%	≥ 20%
<p>A1. 根據以下列舉任何方式觀察、估計、推斷或者猜測得知物種減少已經發生，而造成減少的原因明顯是可逆、已知並且已經停止。</p> <p>(a) 直接觀察 [A3 除外]。</p> <p>(b) 適合該分類群的物種豐富度指數。</p> <p>(c) 分布範圍、占有面積或棲地品質減少或下降。</p> <p>(d) 實際或潛在的開發破壞。</p> <p>(e) 直接觀察受外來種、雜交種、病原、汙染源、競爭者或寄生者之影響。</p> <p>A2. 經由 A1 所列舉任何方式所觀察、推估、推測或懷疑物種族群降低已經發生，但造成降低的原因仍未停止、不明或不可逆。</p> <p>A3. 經由 A1 所列舉任何方式所預估、推測或懷疑物種族群未來近期內會降低 (時間最長為 100 年)。</p> <p>A4. 經由 A1 所列舉任何方式所觀察、推估、推測或懷疑物種族群未來任何一段時間會降低，造成降低的原因仍未停止、不明或不可逆。</p>				
<b>B. 分布範圍之判定標準 (至少具備 B1 或 B2 其中之一的條件)</b>				
B1. 分布範圍 (EOO)	< 100 km <sup>2</sup>	< 5,000 km <sup>2</sup>	< 20,000 km <sup>2</sup>	< 20,000 km <sup>2</sup>
B2. 占有面積 (AOO)	< 10 km <sup>2</sup>	< 500 km <sup>2</sup>	< 2,000 km <sup>2</sup>	< 2,000 km <sup>2</sup>
且族群需遭遇以下至少兩種情況 (至少一種狀況適用於 NT 類別)				
(a) 嚴重破碎化或居留區數且為右項數值者	= 1	≤ 5	≤ 10	≤ 10
(b) 經由觀察、推估、推測或預估，下列各項情況之一的數值仍持續下降者：(i) 分布範圍；(ii) 占有面積；(iii) 棲地之區域、實際面積或品質；(iv) 生長地點或亞族群之數目；(v) 能繁殖之成熟個體數				
(c) 下列各項情況之一的數值呈劇烈變動時：(i) 分布範圍；(ii) 占有面積；(iii) 棲地之區域、實際面積或品質；(iv) 生長地點或亞族群之數目；(v) 能繁殖之成熟個體數				



紅皮書受脅類別判定標準	極危 (CR)	瀕危 (EN)	易危 (VU)	接近受脅 (NT)
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### C. 族群量小且下降之判定標準

族群內之成熟個體數	< 250	< 2,500	< 10,000	< 20,000
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#### 且具備 C1 或 C2 其中之一的條件

C1. 經由觀察、推估或預估物種族群成熟個體數持續下降。(時間至少為未來 100 年)	3 年或下一代 下降 25%	5 年或下一代 下降 20%	10 年或下一代 下降 10%	10 年或下一代 下降 10%
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#### C2. 經由觀察、推估或預估，能繁殖之成熟個體數持續下降，而且其族群結構遭遇下列至少一種情況者：

a(i) 每個亞族群能繁殖之成熟個體數	≤ 50	≤ 250	≤ 1,000	≤ 1,000
a(ii) 單一亞族群占成熟個體總數之百分比	90%	95%	100%	100%

#### (b) 成熟個體呈現劇烈變動

### D. 族群數量極少或分布侷限之判定標準

#### 族群遭以下情況：

D. 成熟個體數	< 50	< 250	D1. < 1,000	D1. < 2,500
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#### 與 / 或遭遇以下情況

D2. 出現面積受限或位於居留區的族群在未來有可能會面臨威脅，使之受脅程度提升至極危或瀕危類別 (此標準只用於評估易危及接近受脅類別)。	NA	NA	占有面積 <20km <sup>2</sup> 或居留區數量 ≤5	占有面積 <20km <sup>2</sup> 或居留區數量 ≤5
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### E. 量化分析

在野外滅絕之機率	10 年或三個世代 內野外滅絕機率 超過 50%	20 年或五個世代 內野外滅絕機率 超過 20%	100 年內野外滅絕 機率超過 10%	100 年內野外滅絕 機率超過 5%
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## 2.4 資訊蒐集

本研究蒐集了迄今最完整的臺灣蝶類分布及族群變化資料。主要來源包括：臺灣蝶類群聚複查 (主要用於評估標準 A 之十年以上長期變化)、臺灣生物多樣性網絡 (<https://www.tbn.org.tw/>) 和蝶類典藏標本 (兩者皆用於計算標準

B 中的分布範圍和占有面積)，以及臺灣蝶類長期監測 (用於評估標準 B 中的族群持續下降或劇烈變動)。此外，針對珠光裳鳳蝶，使用生物多樣性研究所於 1993-2004 年、以及 2019 年於蘭嶼的調查資料，執行標準 A、B、D 之評估。



江崎灑灰蝶 (*Satyrrium esakii*)  
的棲地  
吳士緯 / 攝

## 2.5 系統化評估流程

本評估透過系統化流程確保結果具有重製性與可驗證性。首先依據 IUCN 評估標準分析所有資料，產出初評結果資料表，詳細註解資料品質與初評結果之依據；接著邀請臺灣蝶類專家進行複評，根據長期野外經驗對初評結果提出意見，尤其是補充分布資訊、判斷族群趨勢，以及評估極小族群的受脅程度。每個物種至少經過三位專家獨立評估，工作小組將專家意見納入後重新獲得各物種之評估等級，重複上述流程使結果逐漸收斂。複評過程中，專家也提供分類、棲地、行為及各類威脅等資訊，作為類別調整以及最終評估的參考依據。最後進行必要之類別調整，若物種有穩定的遷入族群，則調降評估等級；若遷入族群在減少、且本地族群須依賴遷入來維持，則調升評估等級。若經上述流程仍無法取得足夠可用資訊，則將該物種列為資料缺乏。



*Satyrrium esakii*  
江崎灑灰蝶 Esaki's Hairstreak  
NVU D2  
呂晟智 / 攝

## 2.6 公開意見徵詢

邀集政府主管機關、非政府組織及學術單位召開多次專家會議，並於 2019 年與 2020 年台灣昆蟲學會年會舉辦交流工作坊，說明評估流程並公布評估結果，廣泛徵求回饋意見，確立最後蝶類紅皮書名錄。



### 3. 評估結果

評估結果顯示臺灣有 27 種國家級受脅蝶類，其中包括國家級極危 2 種、國家級瀕危 5 種、國家級易危 20 種。此外，還有 171 種國家級接近受脅、149 種國家級暫無危機，以及 11 種資料缺乏的物種。從比例來看，國家級受脅物種占評估總數的 7.5%(占臺灣蝶類總數的 4.2%)，而國家級接近受脅物種則占評估總數的

47.8%(占臺灣蝶類總數的 36.9%)。值得注意的是，在這些物種中，只有 8 種被納入全球評估，1 種為接近受脅等級，其餘 7 種為暫無危機等級。本次評估完成於 2021 年，完整名錄可掃 QR Code 取得。



完整名錄

#### 3.1 國家級極危 (NCR) 類別蝶類名錄

分類群	評估標準	全球紅皮書類別
<i>Papilio machaon sylvina</i> Hemming, 1933 黃鳳蝶 <sup>1</sup>	B1ab(v)	LC
<i>Sibatanozephyrus kuafui</i> Hsu & Lin, 1994 夸父璣灰蝶	B1ab(v)	NE

1. 本次評估完成於 2021 年，Nazari et al. (2024) 指出黃鳳蝶在臺灣疑似滅絕。

#### 3.2 國家級瀕危 (NEN) 類別蝶類名錄

分類群	評估標準	全球紅皮書類別
<i>Eurema laeta punctissima</i> (Matsumura, 1909) 角翅黃蝶	B1ab(v)	NE
<i>Praethoressa horishana</i> (Matsumura, 1910) 臺灣脈弄蝶	B1ab(v)	NE
<i>Everes lacturnus rileyi</i> Godfrey, 1916 南方燕藍灰蝶	B1ab(v)	NE
<i>Lethe rohria daemoniaca</i> Fruhstorfer, 1908 波紋黛眼蝶	B1ab(v)	NE
<i>Sasakia charonda formosana</i> Shirozu, 1963 大紫蛺蝶	B1ab(v)	NE

## 3.3 國家級易危 (NVU) 類別蝶類名錄

分類群	評估標準	全球紅皮書類別
<i>Byasa confusus mansonensis</i> (Fruhstorfer, 1901) 麝鳳蝶	B1ab(v)	NE
<i>Papilio dialis tatsuta</i> Murayama, 1970 穹翠鳳蝶	A2c	NE
<i>Papilio epycides melanoleucus</i> Ney, 1911 黃星斑鳳蝶	B1ab(v)	NE
<i>Papilio hopponis</i> Matsumura, 1907 雙環翠鳳蝶	B1ab(v)	NE
<i>Papilio xuthus</i> Linnaeus, 1767 柑橘鳳蝶	B1ab(v)	NE
<i>Troides magellanus sonani</i> Matsumura, 1932 珠光裳鳳蝶	D2	LC
<i>Aporia kuangtungensis cheni</i> Hsu & Chou, 1999 截脈絹粉蝶	D2	NE
<i>Eurema drona hainana</i> (Moore, 1878) 星黃蝶	B1ab(v)	LC
<i>Halpe gamma</i> Evans, 1937 昏列弄蝶	B1ab(v)	NE
<i>Satarupa majasra</i> Fruhstorfer, 1909 小紋颯弄蝶	D2	NE
<i>Antigius attilia obsoleta</i> (Takeuchi, 1923) 折線灰蝶	D2	NE
<i>Hypolycaena kina inari</i> (Wileman, 1908) 蘭灰蝶	B1ab(v)	NE
<i>Iratsume orsedice suzukii</i> (Sonan, 1940) 珠灰蝶	D2	NE



### 3.3 國家級易危 (NVU) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Satyrrium esakii</i> (Shirozu, 1942) 江崎灑灰蝶	D2	NE
<i>Argynnis hyperbius</i> (Linnaeus, 1763) 斐豹蛺蝶	A2c	NE
<i>Danaus genutia</i> (Cramer, 1779) 虎斑蝶	A2c	NE
<i>Kaniska canace drilon</i> (Fruhstorfer, 1908) 琉璃蛺蝶	A2c	NE
<i>Melanitis leda leda</i> (Linnaeus, 1758) 暮眼蝶	A2c	LC
<i>Mycalasis gotama nanda</i> Fruhstorfer, 1908 稻眉眼蝶	A2c	NE
<i>Ypthima wenlungi</i> Takahashi, 2007 文龍波眼蝶	D2	NE

| *Kaniska canace drilon*  
琉璃蛺蝶 Blue Admiral  
NVU A2c  
林文傑 / 攝



## 3.4 國家級接近受脅 (NNT) 類別蝶類名錄

分類群	評估標準	全球紅皮書類別
<i>Atrophaneura horishana</i> (Matsumura, 1910) 曙鳳蝶	B1a	NE
<i>Graphium cloanthus kuge</i> (Fruhstorfer, 1908) 寬帶青鳳蝶	B1a	NE
<i>Graphium eurous asakurae</i> (Matsumura, 1908) 劍鳳蝶	B1a	NE
<i>Graphium mullah chungianus</i> (Murayama, 1961) 黑尾劍鳳蝶	B1a	NE
<i>Papilio agestor matsumurae</i> Fruhstorfer, 1908 斑鳳蝶	B1a	NE
<i>Papilio maraho</i> Shiraki & Sonan, 1934 臺灣寬尾鳳蝶	B1a+D2	NT
<i>Aporia moltrechti</i> (Oberthur, 1909) 流星絹粉蝶	B1a	NE
<i>Aporia genestieri insularis</i> (Shirozu, 1959) 白絹粉蝶	B1a	NE
<i>Cepora nerissa cibyra</i> (Fruhstorfer, 1910) 黑脈粉蝶	B1a	NE
<i>Colias erate formosana</i> Shirozu, 1955 紋黃蝶	B1a	NE
<i>Delias berinda wilemani</i> Jordan, 1925 黃裙豔粉蝶	B1a	NE
<i>Delias hyparete luzonensis</i> C. Felder & R. Felder, 1862 白豔粉蝶	B1a	NE



### 3.4 國家級接近受脅 (NNT) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Delias lativitta formosana</i> Matsumura, 1909 條斑豔粉蝶	B1a	NE
<i>Gonepteryx taiwana</i> Paravicini, 1913 臺灣鉤粉蝶	B1a	NE
<i>Ixias pyrene insignis</i> Butler, 1879 異粉蝶	A2c	NE
<i>Prioneris thestylis formosana</i> Fruhstorfer, 1903 鋸粉蝶	B1a	NE
<i>Talbotia naganum karumii</i> (Ikeda, 1937) 飛龍白粉蝶	B1a	NE
<i>Abraximorpha davidii ermasis</i> Fruhstorfer, 1914 白弄蝶	B1a	NE
<i>Aeromachus bandaishanus</i> Murayama & Shimonoya, 1968 萬大弧弄蝶	B1a	NE
<i>Aeromachus inachus formosana</i> Matsumura, 1931 弧弄蝶	B1a	NE
<i>Ampittia dioscorides etura</i> (Mabille, 1891) 小黃星弄蝶	B1a	NE
<i>Caltoris bromus yanuca</i> (Fruhstorfer, 1911) 變紋黯弄蝶	B1a	NE
<i>Celaenorrhinus horishanus</i> Shirozu, 1960 埔里星弄蝶	B1a	NE
<i>Celaenorrhinus kurosawai</i> Shirozu, 1960 黑澤星弄蝶	B1a	NE

## 3.4 國家級接近受脅 (NNT) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Celaenorrhinus maculosus taiwanus</i> Matsumura, 1919 大流星弄蝶	B1a	NE
<i>Celaenorrhinus major</i> Hsu, 1990 臺灣流星弄蝶	B1a	NE
<i>Celaenorrhinus pulomaya formosanus</i> Fruhstorfer, 1909 尖翅星弄蝶	B1a	NE
<i>Celaenorrhinus ratna</i> Fruhstorfer, 1908 小星弄蝶	B1a	NE
<i>Choaspes benjaminii formosana</i> (Fruhstorfer, 1911) 綠弄蝶	B1a	NE
<i>Choaspes xanthopogon chrysopterus</i> Hsu, 1988 褐翅綠弄蝶	B1a	NE
<i>Hasora anura taiwana</i> Hsu, Tsukiyama & Chiba, 2005 無尾絨弄蝶	B1a	NE
<i>Lobocla bifasciata kodairai</i> Sonan, 1936 雙帶弄蝶	B1a+D2	NE
<i>Notocrypta feisthamelii arisana</i> Sonan, 1930 連紋袖弄蝶 (臺灣亞種)	B1a	NE
<i>Ochlodes bouddha yuchingkinus</i> Murayama & Shimonoya, 1962 菩提楮弄蝶	B1a	NE
<i>Ochlodes niitakanus</i> (Sonan, 1936) 臺灣楮弄蝶	B1a	NE
<i>Onryza maga takeuchii</i> (Matsumura, 1929) 黃點弄蝶	B1a	NE



### 3.4 國家級接近受脅 (NNT) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Pelopidas mathias oberthueri</i> Evans, 1937 褐弄蝶	B1a	LC
<i>Pelopidas sinensis</i> (Mabille, 1877) 中華褐弄蝶	B1a+D2	NE
<i>Potanthus diffusus</i> Hsu, Tsukiyama & Chiba, 2005 蓬萊黃斑弄蝶	B1a	NE
<i>Potanthus pava</i> (Fruhstorfer, 1911) 淡黃斑弄蝶	B1a	NE
<i>Pseudoborbo bevani</i> (Moore, 1878) 假禾弄蝶	B1a	NE
<i>Pseudocoladenia sadakoe</i> (Sonan & Mitono, 1936) 臺灣黃襟弄蝶	B1a	NE
<i>Satarupa formosibia</i> Strand, 1927 臺灣颯弄蝶	B1a	NE
<i>Tagiades trebellius martinus</i> Plotz, 1884 熱帶白裙弄蝶	B1a	NE
<i>Telicota colon hayashikeii</i> Tsukiyama, Chiba & Fujjoka, 1997 熱帶橙斑弄蝶	B1a	NE
<i>Zenonoida eltola tappana</i> (Matsumura, 1919) 碎紋弄蝶	B1a	NE
<i>Zinaida kiraizana</i> (Sonan, 1938) 奇萊禪弄蝶	B1a	NE
<i>Zinaida zina asahinai</i> (Shirozu, 1952) 長紋禪弄蝶	B1a	NE

## 3.4 國家級接近受脅 (NNT) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Abisara burnii etymander</i> (Fruhstorfer, 1908) 白點褐蛩蝶	B1a	NE
<i>Amblopala avidiena y-fasciatus</i> (Sonan, 1929) 尖灰蝶	B1a	NE
<i>Ancema ctesia cakravasti</i> (Fruhstorfer, 1909) 鈿灰蝶	B1a	LC
<i>Araragi enthea morisonensis</i> (Inoue, 1942) 墨點灰蝶	B1a	NE
<i>Arhopala ganesa formosana</i> Kato, 1930 蔚青紫灰蝶	B1a	NE
<i>Arhopala paramuta horishana</i> Matsumura, 1910 暗色紫灰蝶	B1a	NE
<i>Artipe eryx horiella</i> (Matsumura, 1929) 綠灰蝶	B1a	LC
<i>Callenya melaena shonen</i> (Esaki, 1932) 寬邊琉灰蝶	B1a+D2	NE
<i>Catapaecilma major moltrechti</i> (Wileman, 1908) 三尾灰蝶	B1a	NE
<i>Celastrina oreas arisana</i> (Matsumura, 1910) 大紫琉灰蝶	B1a	NE
<i>Celastrina sugitanii shirozui</i> Hsu, 1987 杉谷琉灰蝶	B1a+D2	NE
<i>Celatoxia marginata</i> (de Niceville, 1884) 白紋琉灰蝶	B1a	NE



### 3.4 國家級接近受脅 (NNT) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Chilades lajus kosuensis</i> Matsumura, 1919 綺灰蝶	B1a	NE
<i>Chrysozephyrus disparatus pseudotaiwanus</i> (Howarth, 1957) 小翠灰蝶	B1a	NE
<i>Chrysozephyrus kabrua niitakanus</i> (Kano, 1928) 黃閃翠灰蝶	B1a	NE
<i>Chrysozephyrus lingi</i> Okano & Okura, 1969 白芒翠灰蝶	B1a+D2	NE
<i>Chrysozephyrus mushaellus</i> (Matsumura, 1938) 霧社翠灰蝶	B1a	NE
<i>Chrysozephyrus nishikaze</i> (Araki & Sibatani, 1941) 西風翠灰蝶	B1a	NE
<i>Chrysozephyrus rarasanus</i> (Matsumura, 1939) 拉拉山翠灰蝶	B1a	NE
<i>Chrysozephyrus splendidulus</i> Murayama & Shimonoya, 1965 單線翠灰蝶	B1a+D2	NE
<i>Chrysozephyrus teiso</i> (Sonan, 1941) 碧翠灰蝶	B1a	NE
<i>Chrysozephyrus yuchingkinus</i> Murayama & Shimonoya, 1960 清金翠灰蝶	B1a+D2	NE
<i>Cordelia comes wilemaniella</i> (Matsumura, 1929) 珂灰蝶	B1a	NE
<i>Curetis brunnea</i> Wileman, 1909 臺灣銀灰蝶	B1a	NE

## 3.4 國家級接近受脅 (NNT) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Deudorix rapaloides</i> (Naritomi, 1941) 淡黑玳灰蝶	B1a	NE
<i>Deudorix sankakuhonis</i> (Matsumura, 1938) 三角峰玳灰蝶	B1a	NE
<i>Dodona formosana</i> Matsumura, 1919 臺灣尾蛺蝶	B1a	NE
<i>Euaspa forsteri</i> (Esaki & Shirozu, 1943) 伏氏鉞灰蝶	B1a	NE
<i>Euaspa milionia formosana</i> Nomura, 1931 鉞灰蝶	B1a	NE
<i>Everes argiades argiades</i> (Pallas, 1771) 燕藍灰蝶	B1a+D2	NE
<i>Fixsenia watarii</i> (Matsumura, 1927) 渡氏烏灰蝶	B1a	NE
<i>Freyeria putli formosanus</i> (Matsumura, 1919) 東方晶灰蝶	B1a	NE
<i>Horaga onyx moltrechti</i> Matsumura, 1919 鑽灰蝶	B1a	NE
<i>Horaga rarasana</i> Sonan, 1936 拉拉山鑽灰蝶	B1a+D2	NE
<i>Japonica patungkoanui</i> Murayama, 1956 臺灣焰灰蝶	B1a	NE
<i>Leucantigius atayalicus</i> (Shirozu & Murayama, 1943) 瓏灰蝶	B1a	NE
<i>Nacaduba beroe asakusa</i> Fruhstorfer, 1916 南方娜波灰蝶	B1a	NE



### 3.4 國家級接近受脅 (NNT) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Neozephyrus taiwanus</i> (Wileman, 1908) 臺灣檜翠灰蝶	B1a	NE
<i>Orthomiella rantaizana</i> Wileman, 1910 巒大鋸灰蝶	B1a	NE
<i>Phengaris atroguttata formosana</i> (Matsumura, 1926) 青雀斑灰蝶	B1a	NE
<i>Phengaris daitozana</i> Wileman, 1908 白雀斑灰蝶	B1a	NE
<i>Pithecops corvus cornix</i> Cowan, 1966 黑丸灰蝶	B1a	NE
<i>Pithecops fulgens urai</i> Bethune-Baker, 1913 藍丸灰蝶	B1a	NE
<i>Rapala caerulea liliacea</i> Nire, 1920 堇彩燕灰蝶	B1a+D2	NE
<i>Rapala nissa hirayamana</i> Matsumura, 1926 霓彩燕灰蝶	B1a	NE
<i>Rapala takasagonis</i> Matsumura, 1929 高砂燕灰蝶	B1a	NE
<i>Ravenna nivea</i> (Nire, 1920) 朗灰蝶	B1a	NE
<i>Satyrrium austrinum</i> (Murayama, 1943) 南方灑灰蝶	B1a	NE
<i>Satyrrium eximium mushanum</i> (Matsumura, 1929) 秀灑灰蝶	B1a	NE
<i>Satyrrium formosanum</i> (Matsumura, 1910) 臺灣灑灰蝶	B1a	NE

## 3.4 國家級接近受脅 (NNT) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Satyrium inouei</i> (Shirozu, 1959) 井上灑灰蝶	B1a+D2	NE
<i>Satyrium tanakai</i> (Shirozu, 1943) 田中灑灰蝶	B1a	NE
<i>Shijimia moorei taiwana</i> Matsumura, 1919 森灰蝶	B1a	NE
<i>Spalgis epeus dilama</i> (Moore, 1878) 熙灰蝶	B1a	NE
<i>Spindasis kuyanianus</i> (Matsumura, 1919) 蓬萊虎灰蝶	B1a	NE
<i>Tajuria yajna caerulea</i> Nire, 1920 褐翅青灰蝶	B1a	NE
<i>Tajuria diaeus karenkonis</i> Matsumura, 1929 白腹青灰蝶	B1a	NE
<i>Tajuria illurgis tattaka</i> (Araki, 1949) 漣紋青灰蝶	B1a	NE
<i>Teratozephyrus arisanus</i> (Wileman, 1909) 阿里山鐵灰蝶	B1a	NE
<i>Teratozephyrus elatus</i> Hsu & Lu, 2005 高山鐵灰蝶	B1a	NE
<i>Teratozephyrus yugaii</i> (Kano, 1928) 臺灣鐵灰蝶	B1a	NE
<i>Tongeia filicaudis mushanus</i> (Tanikawa, 1940) 密點玄灰蝶	B1a	NE
<i>Tongeia hainani</i> (Bethune-Baker, 1914) 臺灣玄灰蝶	B1a	NE



### 3.4 國家級接近受脅 (NNT) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Udara albocaerulea</i> (Moore, 1879) 白斑嫵琉灰蝶	B1a	NE
<i>Udara dilecta</i> (Moore, 1879) 嫵琉灰蝶	B1a	NE
<i>Ussuriana michaelis takarana</i> (Araki & Hirayama, 1941) 楮灰蝶	B1a	NE
<i>Wagimo insularis</i> Shirozu, 1957 臺灣線灰蝶	B1a+D2	NE
<i>Abrota ganga formosana</i> Fruhstorfer, 1908 璫蛺蝶	B1a	NE
<i>Argynnis paphia formosicola</i> Matsumura, 1926 綠豹蛺蝶	B1a	NE
<i>Athyma opalina hirayamai</i> (Matsumura, 1935) 流帶蛺蝶	B1a	NE
<i>Calinaga formosana</i> Fruhstorfer, 1908 臺灣絹蛺蝶	B1a	NE
<i>Chitoria ulupi arakii</i> Naritomi, 1959 武鎧蛺蝶	B1a	NE
<i>Dichorragia nesimachus formosanus</i> Fruhstorfer, 1909 流星蛺蝶	B1a	NE
<i>Euthalia formosana</i> Fruhstorfer, 1908 臺灣翠蛺蝶	B1a	NE
<i>Euthalia insulae</i> Hall, 1930 窄帶翠蛺蝶	B1a	NE
<i>Euthalia irrubescens fulguralis</i> (Matsumura, 1909) 紅玉翠蛺蝶	B1a	NE

## 3.4 國家級接近受脅 (NNT) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Euthalia kosempona</i> (Fruhstorfer, 1908) 甲仙翠蛺蝶	B1a	NE
<i>Helcyra plesseni</i> (Fruhstorfer, 1913) 普氏白蛺蝶	B1a	NE
<i>Helcyra superba takamukui</i> Matsumura, 1919 白蛺蝶	B1a	NE
<i>Lethe butleri periscelis</i> (Fruhstorfer, 1908) 巴氏黛眼蝶	B1a	NE
<i>Lethe christophi hanako</i> Fruhstorfer, 1908 柯氏黛眼蝶	B1a	NE
<i>Lethe europa pavida</i> Fruhstorfer, 1908 長紋黛眼蝶	A2c	NE
<i>Lethe gemina zaitha</i> Fruhstorfer, 1914 孿斑黛眼蝶	B1a	NE
<i>Lethe hyrania formosana</i> Fruhstorfer, 1908 深山黛眼蝶	B1a	NE
<i>Lethe mataja</i> Fruhstorfer, 1908 臺灣黛眼蝶	B1a	NE
<i>Lethe verma cintamani</i> Fruhstorfer, 1848 玉帶黛眼蝶	B1a	NE
<i>Limenitis asura baelia</i> (Fruhstorfer, 1908) 白圈線蛺蝶	B1a	NE
<i>Limenitis fortuna kodahirai</i> (Sonan, 1938) 幻紫線蛺蝶	B1a	NE
<i>Limenitis jina sauteri</i> (Fruhstorfer, 1912) 寬帶線蛺蝶	B1a	NE



### 3.4 國家級接近受脅 (NNT) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Limenitis sulpitia tricola</i> (Fruhstorfer, 1908) 殘眉線蛺蝶	B1a	NE
<i>Minois nagasawae</i> (Matsumura, 1906) 永澤蛇眼蝶	B1a	NE
<i>Mycalesis kagina</i> Fruhstorfer, 1908 嘉義眉眼蝶	B1a+D2	NE
<i>Mycalesis mineus</i> (Linnaeus, 1758) 小眉眼蝶	B1a	NE
<i>Mycalesis perseus blasius</i> (Fabricius, 1798) 曲斑眉眼蝶	B1a	NE
<i>Neope arandii laticolora</i> (Fruhstorfer, 1908) 白斑蔭眼蝶	B1a	NE
<i>Neope bremeri watanabei</i> Matsumura, 1919 布氏蔭眼蝶	B1a	NE
<i>Neope pulaha didia</i> Fruhstorfer, 1909 黃斑蔭眼蝶	B1a	NE
<i>Neptis podarces</i> Nire, 1920 白蓮環蛺蝶	B1a	NE
<i>Neptis ilos nirei</i> Nomura, 1935 奇環蛺蝶	B1a	NE
<i>Neptis noyala ikedai</i> Shirozu, 1952 流紋環蛺蝶	B1a	NE
<i>Neptis philyra splendens</i> Murayama, 1942 槭環蛺蝶	B1a	NE
<i>Neptis philyroides sonani</i> Murayama, 1942 鑲紋環蛺蝶	B1a	NE

## 3.4 國家級接近受脅 (NNT) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Neptis pryeri jucundita</i> Fruhstorfer, 1908 黑星環蛺蝶	B1a	NE
<i>Neptis reducta</i> Fruhstorfer, 1908 無邊環蛺蝶	B1a	NE
<i>Neptis sankara shirakiana</i> Matsumura, 1929 眉紋環蛺蝶	B1a	NE
<i>Neptis sylvana esakii</i> Nomura, 1935 深山環蛺蝶	B1a	NE
<i>Nymphalis xanthomelas formosana</i> (Matsumura, 1925) 緋蛺蝶	B1a	NE
<i>Palaeonympha opalina macrophthalmia</i> Fruhstorfer, 1911 古眼蝶	B1a	NE
<i>Polygonia c-album asakurai</i> Nakahara, 1920 突尾鉤蛺蝶	B1a	NE
<i>Sephisa chandra androdamas</i> Fruhstorfer, 1908 燦蛺蝶	B1a	NE
<i>Sephisa daimio</i> Matsumura, 1910 臺灣燦蛺蝶	B1a	NE
<i>Telchinia issoria formosana</i> (Fruhstorfer, 1912) 苧麻細蝶	A2c	NE
<i>Yoma sabina podium</i> Tsukada, 1985 黃帶隱蛺蝶	B1a	NE
<i>Ypthima akragas</i> Fruhstorfer, 1911 白帶波眼蝶	B1a	NE
<i>Ypthima angustipennis</i> Takahashi, 2000 狹翅波眼蝶	B1a	NE



### 3.4 國家級接近受脅 (NNT) 類別蝶類名錄 (續)

分類群	評估標準	全球紅皮書類別
<i>Ypthima argus okurai</i> Okano, 1962 北方小波眼蝶	B1a	NE
<i>Ypthima praenubila kanonis</i> Matsumura, 1929 巨波眼蝶 (北臺灣亞種)	B1a	NE
<i>Ypthima praenubila neobilia</i> Murayama, 1980 巨波眼蝶 (中臺灣亞種)	B1a	NE
<i>Ypthima tappana</i> Matsumura, 1909 達邦波眼蝶	B1a	NE
<i>Ypthima yamanakai</i> Sonan, 1938 白漪波眼蝶	B1a	NE
<i>Zophoessa dura neoclydes</i> (Fruhstorfer, 1909) 大幽眼蝶	B1a	NE
<i>Zophoessa niitakana</i> (Matsumura, 1906) 玉山幽眼蝶	B1a	NE
<i>Zophoessa siderea kanoi</i> (Esaki & Nomura, 1937) 圓翅幽眼蝶	B1a+D2	NE



*Lethe rohria daemoniaca*  
波紋黛眼蝶 Common Treebrown  
NEN B1ab(v)  
呂晟智 / 攝

## 3.5 數據缺乏 (DD) 類別蝶類名錄

分類群	評估標準	全球紅皮書類別
<i>Aeromachus matudai</i> (Murayama, 1943) 霧社弧弄蝶	–	NE
<i>Coladenia pinsbukana</i> (Shimonoya & Murayama, 1976) 台灣窗弄蝶	–	NE
<i>Antigius jinpingi</i> Hsu, 2009 錦平折線灰蝶	–	NE
<i>Celastrina argiolus caphis</i> (Fruhstorfer, 1922) 琉灰蝶	–	NE
<i>Euaspa tayal</i> (Esaki & Shirozu, 1943) 泰雅鋨灰蝶	–	NE
<i>Famegana nisa</i> (Wallace, 1866) 單點藍灰蝶	–	NE
<i>Hypolycaena othona</i> Hewitson, [1865] 熱帶蘭灰蝶	–	NE
<i>Nacaduba pactolus hainani</i> Bethune-Baker, 1914 暗色娜波灰蝶	–	NE
<i>Boloria palina yangi</i> Hsu & Yen, 1997 珀豹蛺蝶	–	NE
<i>Euthalia malapana</i> Shirozu & Chung, 1958 馬拉巴翠蛺蝶	–	NE
<i>Ypthima norma posticalis</i> Matsumura, 1909 罕波眼蝶	–	NE



## 4. 謝誌

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# The Red List of Butterflies of Taiwan

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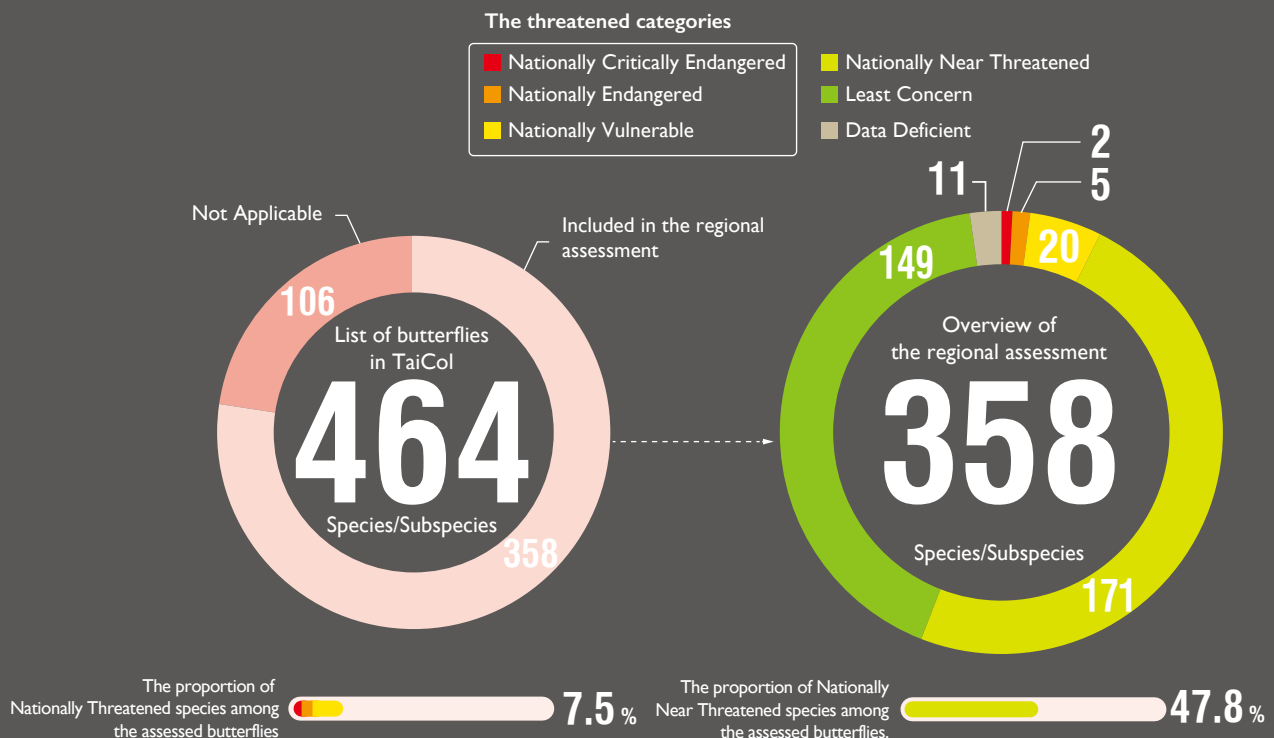
<sup>6</sup> Taiwan Biodiversity Research Institute, Ministry of Agriculture

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## Abstract

This report presents the first national Red List assessment of Taiwan's butterflies using the International Union for Conservation of Nature (IUCN) threat assessment system and criteria. Among the 464 butterfly species in Taiwan, 358 species/subspecies were selected for regional assessment, excluding vagrant species, questionable records, introduced species, presumably extinct species, and off-shore island species (except *Troides magellanus sonani*). The assessment identified 27 nationally threatened butterfly species in Taiwan. Among these, 2 species are categorized as Nationally Critically Endangered (NCR): *Papilio machaon sylvina* and *Sibataniozephyrus kuafui*. Five species are classified as Nationally Endangered (NEN): *Eurema laeta punctissima*, *Praethoressa horishana*, *Everes lacturnus rileyi*, *Sasakia charonda formosana*, and *Lethe rohria daemoniaca*. Additionally, 20 species are classified as Nationally Vulnerable (NVU). The remaining assessment results include 171 species classified as Nationally Near Threatened (NNT), 149 species classified as Nationally Least Concern (NLC), and 11 species classified as Data Deficient (DD). Among the assessed butterfly species, 7.5% are threatened and 47.8% are Near Threatened, of which only eight butterfly species have undergone global-level assessment. The Taiwan Broad-tailed Swallowtail (*Papilio maraho*) is classified as Near Threatened (NT), while the remaining seven species are categorized as Least Concern (LC).





# 1. Introduction

Insects represent the most species-rich group of organisms on Earth, comprising approximately three-quarters of all animal species. However, multiple studies indicate that global insect abundance and diversity are rapidly declining due to human activities, with Lepidoptera showing particularly significant decreases (Sánchez-Bayo & Wyckhuys, 2019). Taiwan, situated at the intersection of biogeographical regions and characterized by diverse topography and climatic conditions, harbors over 400 butterfly species. Nevertheless, habitat degradation and climate change have continuously impacted butterfly diversity over recent decades, necessitating systematic analysis and assessment to understand butterfly population status and develop effective conservation strategies.

The International Union for Conservation of Nature (IUCN) has established a comprehensive system for assessing species threat levels. The IUCN Red List of Threatened Species, along with its assessment criteria and species conservation status categories (Figure 1), has become a crucial reference for conservation practice. The Red List categorizes extinction risk into several categories indicating species population status: three extinction states (Extinct [EX], Extinct in the Wild [EW], and Regionally Extinct [RE]); three threatened states (Critically Endangered [CR], Endangered [EN], and Vulnerable [VU]); and two additional categories (Near Threatened [NT] and Least Concern [LC]). Species with insufficient information are classified as Data Deficient (DD). These criteria ensure transparent and comparable information

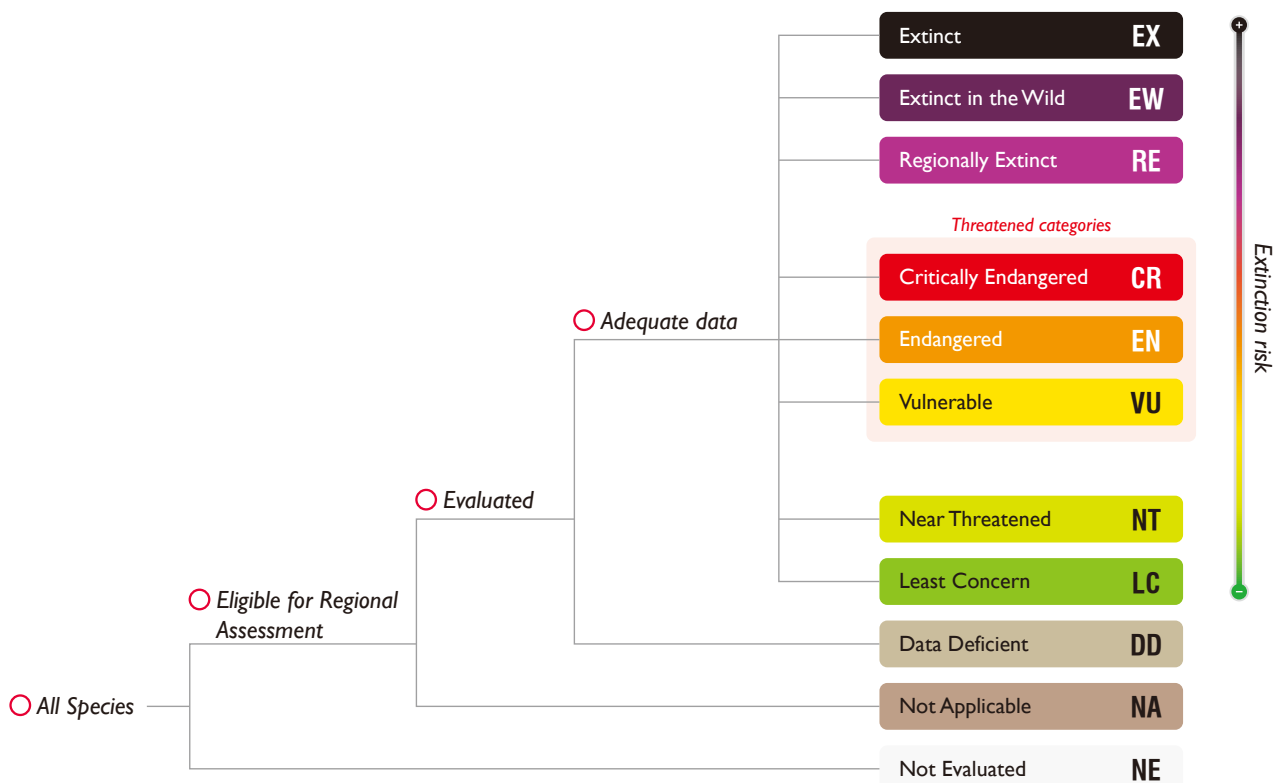


Figure 1. Regional/National IUCN Red List Categories.



*Papilio xuthus*  
柑橘鳳蝶 Chinese Yellow Swallowtail  
NVU B1ab(v)  
交配 (上♀下♂)  
洪裕榮 / 攝

in Red List assessments, serving as essential guidelines for long-term biodiversity monitoring, conservation and restoration programs, and resource allocation in management policies.

Red List assessments require the integration of multiple data sources, including species distribution, population dynamics, habitat quality, and threat factors, to ensure scientific rigor, credibility, and broad applicability of the results. Butterfly Red List assessments have been primarily completed in Europe and some Asian countries, including Japan and Singapore, effectively helping these countries understand the main threats

to butterflies and their conservation needs. In Taiwan, five butterfly species were listed in the 'Schedule of Protected Species' in 1989, followed by a reassessment in 2009 (Chao et al., 2009). No comprehensive assessment of butterfly species' conservation status has been conducted since 2009. This report presents Taiwan's first national butterfly Red List, accomplished through an extensive collection of distribution and population dynamics data, evaluation based on IUCN Red List assessment criteria, and collaboration among academic institutions, government authorities, and non-governmental organizations.



## 2. Assessment process

### 2.1 Assessment Region

This report presents a national butterfly Red List following IUCN guidelines. According to the 'Guidelines for Application of IUCN Red List Criteria at Regional and National Levels' (IUCN, 2012), a "region" refers to any clearly demarcated geographical area, including continent, country, or province. Regional assessments must consider whether species are native or introduced, whether populations are breeding or non-breeding, and whether species were historically present but have become locally extinct. For species with distributions extending beyond the assessment region, procedures and thresholds must be adjusted to reflect their spatial characteristics (IUCN, 2012). This study follows the 'Guidelines for Using the IUCN Red List Categories and Criteria' (IUCN, 2017) and incorporates necessary adjustments based on regional and national assessment criteria.

■ *Everes lacturnus rileyi*  
南方燕藍灰蝶 Indian Cupid  
NEN B1ab(v)  
呂晟智 / 攝

### 2.2 Taxa for Assessment

The candidate list was compiled based on the 'Catalogue of Life in Taiwan (TaiCol)' (Chung & Shao, 2021), with additional references to *The Butterflies of Taiwan* (Hsu, 2013a, 2013b, 2013c) and *Butterfly Fauna of Taiwan* (Hsu et al., 2018a, 2018b, 2019, 2020). The list includes butterflies distributed across Taiwan and its surrounding islands, encompassing five families: Papilionidae, Lycaenidae (including Riodinidae), Pieridae, HesperIIDae, and Nymphalidae, with a total of 464 species/subspecies. As most island populations represent subpopulations of either Taiwan or mainland populations, this assessment primarily focused on species in Taiwan, except for *Troides magellanus sonani*, which is a protected species and has long-term monitoring data. A total of 106 species were categorized as "Not Applicable (NA)" and excluded from the assessment list, including species with unresolved identification or taxonomic uncertainties, non-resident species without established populations, and introduced species. The final assessment included 358 species/subspecies, representing 77% of Taiwan's total butterfly species, comprising 30 species of Papilionidae, 31 species of Pieridae, 60 species of HesperIIDae, 111 species of Lycaenidae, and 126 species of Nymphalidae.



## 2.3 Assessment Criteria

The Red List assessment comprises five criteria: A. Declining population, B. Geographic range size, and fragmentation, decline, or fluctuations, C. Small population size and fragmentation, decline, or fluctuations, D. Very small population or very restricted distribution, and E. Quantitative analysis of extinction risk. Each criterion includes

subcriteria and qualifiers (Table 1). Species may be evaluated under multiple criteria depending on data availability, with the highest threat category determining the final assessment. This report evaluates species threat levels according to these criteria; however, the current data collected do not permit an assessment of extinction status.

**Table 1.** Red List criteria used in this study.

Use any of the criteria A-E	Critically Endangered	Endangered	Vulnerable	Near Threatened
<b>A. Declining population. (declines measured over the longer of 10 years or 3 generations)</b>				
A1	≥ 90%	≥ 70%	≥ 50%	≥ 30%
A2, A3, A4	≥ 80%	≥ 50%	≥ 30%	≥ 20%
<p>A1. Population reduction observed, estimated, inferred, or suspected in the past where the causes of the reduction are clearly reversible AND understood AND have ceased, based on and specifying any of the following:</p> <ul style="list-style-type: none"> <li>(a) direct observation. [except A3]</li> <li>(b) an index of abundance appropriate to the taxon.</li> <li>(c) a decline in area of occupancy (AOO), extent of occurrence (EEO) and/or habitat quality.</li> <li>(d) actual or potential levels of exploitation.</li> <li>(e) effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.</li> </ul> <p>A2. Population reduction observed, estimated, inferred, or suspected in the past where the causes of the reduction may not have ceased OR may not be understood OR may not be reversible.</p> <p>A3. Population reduction projected, inferred or suspected to be met in the future (up to a maximum of 100 years) [(a) cannot be used for A3]</p> <p>A4. An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.</p>				
<b>B. Geographic range in the form of either B1 (extent of occurrence) AND/OR B2 (area of oc-cupancy)</b>				
B1. Extent of occurrence (EEO)	< 100 km <sup>2</sup>	< 5,000 km <sup>2</sup>	< 20,000 km <sup>2</sup>	< 20,000 km <sup>2</sup>
B2. Area of occupancy (AOO)	< 10 km <sup>2</sup>	< 500 km <sup>2</sup>	< 2,000 km <sup>2</sup>	< 2,000 km <sup>2</sup>
AND at least 2 of the following 3 conditions (at least one for Near Threatened category):				
(a) Severely fragmented OR # locations	= 1	≤ 5	≤ 10	≤ 10
(b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals				
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals				



Use any of the criteria A-E	Critically Endangered	Endangered	Vulnerable	Near Threatened
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**C. Small population size and decline**

Number of mature individuals	< 250	< 2,500	< 10,000	< 20,000
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AND at least one of C1 or C2

C1. An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future):	25% in 3 years or 1 generation	20% in 5 years or 2 generations	10% in 10 years or 3 generations	10% in 10 years or 3 generations
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C2. An observed, estimated, projected or inferred continuing decline AND at least one of the following 3 conditions:

a(i) Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1,000	≤ 1000
a(ii) % of mature individuals in one subpopulation	90%	95%	100%	100%

(b) Extreme fluctuations in the number of mature individuals

**D. Very small or restricted population Either:**

D. Number of mature individuals	< 50	< 250	D1. < 1,000	D1. < 2,500
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AND/OR

D2. Only applies to the VU and NT category Restricted area of occupancy or number of locations with a plausible future threat that could drive the taxon to CR or EX in a very short time.	NA	NA	AOO < 20 km <sup>2</sup> or number of locations ≤ 5	AOO < 50 km <sup>2</sup> or number of locations ≤ 10
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**E. Quantitative Analysis**

Indicating the probability of extinction in the wild to be:	≥ 50% in 10 years or 3 generations (100 year max.)	≥ 20% in 20 years or 5 generations (100 year max.)	≥ 10% in 100 years	≥ 5% in 100 years
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*Eurema drona hainana*  
 星黃蝶 Small Grass Yellow  
 NVU B1ab(v)  
 陳建仁 / 攝

## 2.4 Data Collection

This study compiled the most comprehensive dataset to date on Taiwan's butterfly distribution and population changes. The assessment utilized data from four principal sources: Taiwan butterfly community resurveys (primarily used for Criterion A to assess long-term changes over 10+ years), Taiwan Biodiversity Network (<https://www.tbn.org.tw/>), butterfly specimen collections (both used to calculate extent of occurrence and area of occupancy under Criterion B), and Taiwan butterfly long-term monitoring (used to assess continuing population decline or extreme fluctuations under Criterion B). Additionally, the assessment of *Troides magellanus sonani* utilized survey data of the Lanyu population collected by the Taiwan Biodiversity Research Institute from 1993 to 2004 and in 2019, which was applied to evaluations under Criteria A, B, and D.

## 2.5 Systematic Assessment Process

The assessment followed a systematic process beginning with preliminary evaluations based on comprehensive data analysis, producing data

sheets corresponding to IUCN assessment criteria with detailed annotations on data quality and preliminary assessment rationale. Taiwan butterfly experts were then invited for peer review to provide input on preliminary results based on their long-term field experience, particularly supplementing distribution information, determining population trends, and assessing threat levels of very small populations. Each species underwent independent review by at least three experts, after which the assessment team incorporated expert feedback and reassessed the species, repeating this process until results converged. During the review process, experts also provided information on taxonomy, habitat, behavior, and various threats, which served as a reference for category adjustments and final assessments. Category adjustments were primarily made for species with populations immigrating from outside the assessment region. Threat categories were adjusted to a lower risk category when stable immigrant populations were expected. Conversely, categories were moved to a higher risk level when immigrant populations were declining and local populations depended on immigration for persistence. Species were classified as Data Deficient (DD) when insufficient information was available after completing this process.



**|** *Danaus genutia*  
虎斑蝶 Striped Tiger Butterfly  
NVU A2c  
呂晟智 / 攝



**Papilio xuthus**  
柑橘鳳蝶 Chinese Yellow Swallowtail  
NVU B1ab(v)  
林文傑 / 攝

## 2.6 Public Consultation

Expert meetings were conducted with representatives from government authorities, non-governmental organizations, and academic institutions. Additionally, workshops were organized at the Annual Meeting of Taiwan Entomological Society in 2019 and 2020 to present the assessment methodology and preliminary findings. Extensive consultations were conducted and feedback was actively sought to validate and finalize the assessment results.

**柑橘鳳蝶 (*Papilio xuthus*) 的棲地**  
吳士緯 / 攝



### 3. Results

The assessment reveals that 27 butterfly species in Taiwan are classified as Nationally Threatened, comprising 2 Nationally Critically Endangered (NCR), 5 Nationally Endangered (NEN), and 20 Nationally Vulnerable (NVU) species. Additionally, 171 species are categorized as Nationally Near Threatened (NNT), 149 as National Least Concern (NLC), and 11 as Data Deficient (DD). Nationally Threatened species account for 7.5% of assessed species (4.2% of Taiwan's total butterfly species),

while Nationally Near Threatened species represent 47.8% of assessed species (36.9% of total butterfly species). Among these species, only eight butterfly species have undergone global-level assessment, with one species classified as Near Threatened (NT) and the remaining seven species categorized as Least Concern (LC). The assessment was completed in 2021. The full catalog is available by scanning the QR code.



#### 3.1 List of Nationally Critically Endangered butterfly taxa in Taiwan

Taxon name	Criteria	Global Red List Category
<i>Papilio machaon sylvina</i> Hemming, 1933 Yellow Swallowtail <sup>1</sup>	B1ab(v)	LC
<i>Sibatanozephyrus kuafui</i> Hsu & Lin, 1994 Kuafu Hairstreak	B1ab(v)	NE

1. The assessment was completed in 2021, and Nazari et al. (2024) reported that the population of Yellow Swallowtail (*Papilio machaon sylvina*) endemic to Taiwan is presumed extinct.

#### 3.2 List of Nationally Endangered butterfly taxa in Taiwan

Taxon name	Criteria	Global Red List Category
<i>Eurema laeta punctissima</i> (Matsumura, 1909) Spotless Grass Yellow	B1ab(v)	NE
<i>Praethoressa horishana</i> (Matsumura, 1910) Taiwan Ace	B1ab(v)	NE
<i>Everes lacturnus rileyi</i> Godfrey, 1916 Indian Cupid	B1ab(v)	NE
<i>Lethe rohria daemoniaca</i> Fruhstorfer, 1908 Common Treebrown	B1ab(v)	NE
<i>Sasakia charonda formosana</i> Shirozu, 1963 Great purple emperor	B1ab(v)	NE



### 3.3 List of Nationally Vulnerable butterfly taxa in Taiwan

Taxon name	Criteria	Global Red List Category
<i>Byasa confusus mansonensis</i> (Fruhstorfer, 1901) Chinese Windmill	B1ab(v)	NE
<i>Papilio dialis tatsuta</i> Murayama, 1970 Hill Peacock	A2c	NE
<i>Papilio epycides melanoleucus</i> Ney, 1911 Lesser Mime	B1ab(v)	NE
<i>Papilio hopponis</i> Matsumura, 1907 Hoppon Peacock	B1ab(v)	NE
<i>Papilio xuthus</i> Linnaeus, 1767 Chinese Yellow Swallowtail	B1ab(v)	NE
<i>Troides magellanus sonani</i> Matsumura, 1932 Magellan Birdwing	D2	LC
<i>Aporia kuantungensis cheni</i> Hsu & Chou, 1999 Large Black-veined White	D2	NE
<i>Eurema drona hainana</i> (Moore, 1878) Small Grass Yellow	B1ab(v)	LC
<i>Halpe gamma</i> Evans, 1937 Gamma Ace	B1ab(v)	NE
<i>Satarupa majasra</i> Fruhstorfer, 1909 Majasra Large White Flat	D2	NE
<i>Antigius attilia obsoleta</i> (Takeuchi, 1923) Attilia Oak Hairstreak	D2	NE
<i>Hypolycaena kina inari</i> (Wileman, 1908) Blue Tit	B1ab(v)	NE
<i>Iratsume orsedice suzukii</i> (Sonan, 1940) Pearly Hairstreak	D2	NE

### 3.3 List of Nationally Vulnerable butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Satyrium esakii</i> (Shirozu, 1942) Esaki's Hairstreak	D2	NE
<i>Argynnis hyperbius</i> (Linnaeus, 1763) Indian Fritillary	A2c	NE
<i>Danaus genutia</i> (Cramer, 1779) Striped Tiger Butterfly	A2c	NE
<i>Kaniska canace drilon</i> (Fruhstorfer, 1908) Blue Admiral	A2c	NE
<i>Melanitis leda leda</i> (Linnaeus, 1758) Common Evening Brown	A2c	LC
<i>Mycalesis gotama nanda</i> Fruhstorfer, 1908 Chinese Bushbrown	A2c	NE
<i>Ypthima wenlungi</i> Takahashi, 2007 Wenlung's Three-ring	D2	NE



| *Iratsume orsedice suzukii*  
 珠灰蝶 Pearly Hairstreak  
 NVU D2  
 呂晟智 / 攝



### 3.4 List of Nationally Near Threatened butterfly taxa in Taiwan

Taxon name	Criteria	Global Red List Category
<i>Atrophaneura horishana</i> (Matsumura, 1910) Aurora Swallowtail	B1a	NE
<i>Graphium cloanthus kuge</i> (Fruhstorfer, 1908) Glassy Bluebottle	B1a	NE
<i>Graphium eurous asakurae</i> (Matsumura, 1908) Sixbar Swordtail	B1a	NE
<i>Graphium mullah chungianus</i> (Murayama, 1961) Blacktip Swordtail	B1a	NE
<i>Papilio agestor matsumurae</i> Fruhstorfer, 1908 Tawny Mime	B1a	NE
<i>Papilio maraho</i> Shiraki & Sonan, 1934 Taiwan Broad-tailed Swallowtail	B1a+D2	NT
<i>Aporia moltrechti</i> (Oberthur, 1909) Great Black-veined White	B1a	NE
<i>Aporia genestieri insularis</i> (Shirozu, 1959) Southern Black-veined White	B1a	NE
<i>Cepora nerissa cibyra</i> (Fruhstorfer, 1910) Common Gull	B1a	NE
<i>Colias erate formosana</i> Shirozu, 1955 Eastern Pale Clouded Yellow	B1a	NE
<i>Delias berinda wilemani</i> Jordan, 1925 Dark Jezebel	B1a	NE
<i>Delias hyparete luzonensis</i> C. Felder & R. Felder, 1862 Painted Jezebel	B1a	NE
<i>Delias lativitta formosana</i> Matsumura, 1909 Broadwing Jezebel	B1a	NE
<i>Gonepteryx taiwana</i> Paravicini, 1913	B1a	NE

### 3.4 List of Nationally Near Threatened butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Ixias pyrene insignis</i> Butler, 1879 Yellow Orange Tip	A2c	NE
<i>Prioneris thestylis formosana</i> Fruhstorfer, 1903 Spotted Sawteeth	B1a	NE
<i>Talbotia naganum karumii</i> (Ikeda, 1937) Naga White	B1a	NE
<i>Abraximorpha davidii ermasis</i> Fruhstorfer, 1914 Chequered Flat	B1a	NE
<i>Aeromachus bandaishanus</i> Murayama & Shimonoya, 1968 Taiwan Scrub Hopper	B1a	NE
<i>Aeromachus inachus formosana</i> Matsumura, 1931 Scrub Hopper	B1a	NE
<i>Ampittia dioscorides etura</i> (Mabille, 1891) Bush Hopper	B1a	NE
<i>Caltoris bromus yanuca</i> (Fruhstorfer, 1911) Extra-spot Swift	B1a	NE
<i>Celaenorrhinus horishanus</i> Shirozu, 1960 Puli Flat	B1a	NE
<i>Celaenorrhinus kurosawai</i> Shirozu, 1960 Kurosawa's Flat	B1a	NE
<i>Celaenorrhinus maculosus taiwanus</i> Matsumura, 1919 Large Spotted Flat	B1a	NE
<i>Celaenorrhinus major</i> Hsu, 1990 Taiwan Spotted Flat	B1a	NE
<i>Celaenorrhinus pulomaya formosanus</i> Fruhstorfer, 1909 Angled Flat	B1a	NE
<i>Celaenorrhinus ratna</i> Fruhstorfer, 1908 Fruhstorfer's Flat	B1a	NE



### 3.4 List of Nationally Near Threatened butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Choaspes benjaminii formosana</i> (Fruhstorfer, 1911) Indian Awlking	B1a	NE
<i>Choaspes xanthopogon chrysopterus</i> Hsu, 1988 Similar Awlking	B1a	NE
<i>Hasora anura taiwana</i> Hsu, Tsukiyama & Chiba, 2005 Slate Awl	B1a	NE
<i>Lobocla bifasciata kodairai</i> Sonan, 1936 Marbled Flat	B1a+D2	NE
<i>Notocrypta feisthamelii arisana</i> Sonan, 1930 Spotted Demon	B1a	NE
<i>Ochlodes bouddha yuchingkinus</i> Murayama & Shimonoya, 1962 Buddhist Darter	B1a	NE
<i>Ochlodes niitakanus</i> (Sonan, 1936) Taiwan Darter	B1a	NE
<i>Onryza maga takeuchii</i> (Matsumura, 1929) Maga Bush Ace	B1a	NE
<i>Pelopidas mathias oberthueri</i> Evans, 1937 Small Branded Swift	B1a	LC
<i>Pelopidas sinensis</i> (Mabille, 1877) Large Branded Swift	B1a+D2	NE
<i>Potanthus diffusus</i> Hsu, Tsukiyama & Chiba, 2005 Large Formosan Dart	B1a	NE
<i>Potanthus pava</i> (Fruhstorfer, 1911) Formosan Dart	B1a	NE
<i>Pseudoborbo bevani</i> (Moore, 1878) Bevan's Swift	B1a	NE
<i>Pseudocoladenia sadakoe</i> (Sonan & Mitono, 1936) Fulvous Pied Flat	B1a	NE

### 3.4 List of Nationally Near Threatened butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Satarupa formosibia</i> Strand, 1927 Formosan Large White Flat	B1a	NE
<i>Tagiades trebellius martinus</i> Plotz, 1884 Island Snow Flat	B1a	NE
<i>Telicota colon hayashikeii</i> Tsukiyama, Chiba & Fujioka, 1997 Pale Paim Dart	B1a	NE
<i>Zenonoida eltola tappana</i> (Matsumura, 1919) Yellow-Spot Swift	B1a	NE
<i>Zinaida kiraizana</i> (Sonan, 1938) Kiraizan Swift	B1a	NE
<i>Zinaida zina asahinai</i> (Shirozu, 1952) Zina Swift	B1a	NE
<i>Abisara burnii etymander</i> (Fruhstorfer, 1908) White-Spot Judy	B1a	NE
<i>Amblopala avidiena y-fasciatus</i> (Sonan, 1929) Chinese Hairstreak	B1a	NE
<i>Ancema ctesia cakravasti</i> (Fruhstorfer, 1909) Bi-spot Royal	B1a	LC
<i>Araragi enthea morisonensis</i> (Inoue, 1942) Walnut Hairstreak	B1a	NE
<i>Arhopala ganesa formosana</i> Kato, 1930 Tailless Oakblue	B1a	NE
<i>Arhopala paramuta horishana</i> Matsumura, 1910 Hooked Oakblue	B1a	NE
<i>Artipe eryx horiella</i> (Matsumura, 1929) Green Flash	B1a	LC
<i>Callenya melaena shonen</i> (Esaki, 1932) Metallic Hedge Blue	B1a+D2	NE



### 3.4 List of Nationally Near Threatened butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Catapaecilma major moltrechti</i> (Wileman, 1908) Gray Tinsel	B1a	NE
<i>Celastrina oreas arisana</i> (Matsumura, 1910) Eastern Large Hedge Blue	B1a	NE
<i>Celastrina sugitanii shirozui</i> Hsu, 1987 Sugitani's Hedge Blue	B1a+D2	NE
<i>Celatoxia marginata</i> (de Niceville, 1884) Margined Hedge Blue	B1a	NE
<i>Chilades lajus koshuensis</i> Matsumura, 1919 Lime Blue	B1a	NE
<i>Chrysozephyrus disparatus pseudotaiwanus</i> (Howarth, 1957) Howarth's Hairstreak	B1a	NE
<i>Chrysozephyrus kabrua niitakanus</i> (Kano, 1928) Kabru Hairstreak	B1a	NE
<i>Chrysozephyrus lingi</i> Okano & Okura, 1969 Wonderful Hairstreak	B1a+D2	NE
<i>Chrysozephyrus mushaellus</i> (Matsumura, 1938) Musha Hairstreak	B1a	NE
<i>Chrysozephyrus nishikaze</i> (Araki & Sibatani, 1941) Nishikaze Hairstreak	B1a	NE
<i>Chrysozephyrus rarasanus</i> (Matsumura, 1939) Rarasan Hairstreak	B1a	NE
<i>Chrysozephyrus splendidulus</i> Murayama & Shimonoya, 1965 Splendid Hairstreak	B1a+D2	NE
<i>Chrysozephyrus teisoi</i> (Sonan, 1941) Esaki's Hairstreak	B1a	NE
<i>Chrysozephyrus yuchingkinus</i> Murayama & Shimonoya, 1960 Yuchingkin's Hairstreak	B1a+D2	NE

### 3.4 List of Nationally Near Threatened butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Cordelia comes wilemaniella</i> (Matsumura, 1929)	B1a	NE
<i>Curetis brunnea</i> Wileman, 1909 Formosan Sunbeam	B1a	NE
<i>Deudorix rapaloides</i> (Naritomi, 1941) Camellia Guava Blue	B1a	NE
<i>Deudorix sankakuhonis</i> (Matsumura, 1938)	B1a	NE
<i>Dodona formosana</i> Matsumura, 1919 Tailed Punch	B1a	NE
<i>Euaspa forsteri</i> (Esaki & Shirozu, 1943) Forster's Indigo Oak Hairstreak	B1a	NE
<i>Euaspa milionia formosana</i> Nomura, 1931 Banded Indigo Oak Hairstreak	B1a	NE
<i>Everes argiades argiades</i> (Pallas, 1771) Chapma's Cupid	B1a+D2	NE
<i>Fixsenia watarii</i> (Matsumura, 1927) Watari's Hairstreak	B1a	NE
<i>Freyeria putli formosanus</i> (Matsumura, 1919) Grass Jewel	B1a	NE
<i>Horaga onyx moltrechtii</i> Matsumura, 1919 Common Onyx	B1a	NE
<i>Horaga rarasana</i> Sonan, 1936 Formosan Onyx	B1a+D2	NE
<i>Japonica patungkoanui</i> Murayama, 1956 Taiwan Flamed Hairstreak	B1a	NE
<i>Leucantigius atayalicus</i> (Shirozu & Murayama, 1943) Atayalian Hairstreak	B1a	NE



### 3.4 List of Nationally Near Threatened butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Nacaduba beroe asakusa</i> Fruhstorfer, 1916 Opaque Six-line Blue	B1a	NE
<i>Neozephyrus taiwanus</i> (Wileman, 1908) Taiwan Alder Hairstreak	B1a	NE
<i>Orthomiella rantaizana</i> Wileman, 1910 Chinese Straight-wing Blue	B1a	NE
<i>Phengaris atroguttata formosana</i> (Matsumura, 1926) Great Spotted Blue	B1a	NE
<i>Phengaris daitozana</i> Wileman, 1908 Formosan Spotted Blue	B1a	NE
<i>Pithecops corvus cornix</i> Cowan, 1966 Forest Quaker	B1a	NE
<i>Pithecops fulgens urai</i> Bethune-Baker, 1913 Blue Quaker	B1a	NE
<i>Rapala caerulea liliacea</i> Nire, 1920 Violet Flash	B1a+D2	NE
<i>Rapala nissa hirayamana</i> Matsumura, 1926 Common Flash	B1a	NE
<i>Rapala takasagonis</i> Matsumura, 1929 Taiwan Flash	B1a	NE
<i>Ravenna nivea</i> (Nire, 1920) Nivea Hairstreak	B1a	NE
<i>Satyrrium austrinum</i> (Murayama, 1943) Zelkova Hairstreak	B1a	NE
<i>Satyrrium eximium mushanum</i> (Matsumura, 1929) Buckthorn Hairstreak	B1a	NE
<i>Satyrrium formosanum</i> (Matsumura, 1910) Formosan Hairstreak	B1a	NE

### 3.4 List of Nationally Near Threatened butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Satyrium inouei</i> (Shirozu, 1959) Inoue's Hairstreak	B1a+D2	NE
<i>Satyrium tanakai</i> (Shirozu, 1943) Tanaka's Hairstreak	B1a	NE
<i>Shijimia moorei taiwana</i> Matsumura, 1919 Moore's Cupid	B1a	NE
<i>Spalgis epeus dilama</i> (Moore, 1878) Apefly	B1a	NE
<i>Spindasis kuyanianus</i> (Matsumura, 1919) Formosan Silverline	B1a	NE
<i>Tajuria yajna caerulea</i> Nire, 1920 Formosan Royal	B1a	NE
<i>Tajuria diaeus karenkonis</i> Matsumura, 1929 Straight-lined Royal	B1a	NE
<i>Tajuria illurgis tattaka</i> (Araki, 1949) White Royal	B1a	NE
<i>Teratozephyrus arisanus</i> (Wileman, 1909) Arisan Hairstreak	B1a	NE
<i>Teratozephyrus elatus</i> Hsu & Lu, 2005 Formosan Montane Hairstreak	B1a	NE
<i>Teratozephyrus yugaii</i> (Kano, 1928) Yushan Hairstreak	B1a	NE
<i>Tongeia filicaudis mushanus</i> (Tanikawa, 1940) Black Cupid	B1a	NE
<i>Tongeia hainani</i> (Bethune-Baker, 1914) Taiwan Black Cupid	B1a	NE
<i>Udara albocaerulea</i> (Moore, 1879) Albocaerulean	B1a	NE



### 3.4 List of Nationally Near Threatened butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Udara dilecta</i> (Moore, 1879) Pale Hedge Blue	B1a	NE
<i>Ussuriana michaelis takarana</i> (Araki & Hirayama, 1941) Ussuri Hairstreak	B1a	NE
<i>Wagimo insularis</i> Shirozu, 1957 Multi-line Hairstreak	B1a+D2	NE
<i>Abrota ganga formosana</i> Fruhstorfer, 1908 Sergeant-Major	B1a	NE
<i>Argynnis paphia formosicola</i> Matsumura, 1926 Silver-washed Fritillary	B1a	NE
<i>Athyma opalina hirayamai</i> (Matsumura, 1935) Himalayan Sergeant	B1a	NE
<i>Calinaga formosana</i> Fruhstorfer, 1908 Orange Freak	B1a	NE
<i>Chitoria ulupi arakii</i> Naritomi, 1959 Tawny Emperor	B1a	NE
<i>Dichorragia nesimachus formosanus</i> Fruhstorfer, 1909 Constable	B1a	NE
<i>Euthalia formosana</i> Fruhstorfer, 1908 Formosan Duke	B1a	NE
<i>Euthalia insulae</i> Hall, 1930 Narrow-Banded Duke	B1a	NE
<i>Euthalia irrubescens fulguralis</i> (Matsumura, 1909) Red Baron	B1a	NE
<i>Euthalia kosempona</i> (Fruhstorfer, 1908) Kosempo Duke	B1a	NE
<i>Helcyra plesseni</i> (Fruhstorfer, 1913) Plessen's Emperor	B1a	NE

### 3.4 List of Nationally Near Threatened butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Helcyra superba takamukui</i> Matsumura, 1919 Superb Emperor	B1a	NE
<i>Lethe butleri periscelis</i> (Fruhstorfer, 1908) Butler's Forester	B1a	NE
<i>Lethe christophi hanako</i> Fruhstorfer, 1908 Christoph's Treebrown	B1a	NE
<i>Lethe europa pavida</i> Fruhstorfer, 1908 Bamboo Treebrown	A2c	NE
<i>Lethe gemina zaitha</i> Fruhstorfer, 1914 Tytler's Treebrown	B1a	NE
<i>Lethe hyrania formosana</i> Fruhstorfer, 1908 Step-banded Forester	B1a	NE
<i>Lethe mataja</i> Fruhstorfer, 1908 Formosan Treebrown	B1a	NE
<i>Lethe verma cintamani</i> Fruhstorfer, 1848 Straight-banded Treebrown	B1a	NE
<i>Limenitis asura baelia</i> (Fruhstorfer, 1908) Studded Sergeant	B1a	NE
<i>Limenitis fortuna kodahirai</i> (Sonan, 1938) Chinese Sergeant	B1a	NE
<i>Limenitis jina sauteri</i> (Fruhstorfer, 1912) Sikkim Sergeant	B1a	NE
<i>Limenitis sulphitia tricola</i> (Fruhstorfer, 1908) Five-dot Sergeant	B1a	NE
<i>Minois nagasawae</i> (Matsumura, 1906) Nagasawa's Dryad	B1a	NE
<i>Mycalesis kagina</i> Fruhstorfer, 1908 Wood-Mason's Bushbrown	B1a+D2	NE



### 3.4 List of Nationally Near Threatened butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Mycalesis mineus</i> (Linnaeus, 1758) Dark-brand Bushbrown	B1a	NE
<i>Mycalesis perseus blasius</i> (Fabricius, 1798) Common Bushbrown	B1a	NE
<i>Neope arandii lacticolora</i> (Fruhstorfer, 1908) Chinese Labyrinth	B1a	NE
<i>Neope bremeri watanabei</i> Matsumura, 1919 Bremer's Labyrinth	B1a	NE
<i>Neope pulaha didia</i> Fruhstorfer, 1909 Veined Labyrinth	B1a	NE
<i>Neptis podarces</i> Nire, 1920 Hesione's Sailor	B1a	NE
<i>Neptis ilos nirei</i> Nomura, 1935 Ilos's Sailor	B1a	NE
<i>Neptis noyala ikedai</i> Shirozu, 1952 Noyala's Sailor	B1a	NE
<i>Neptis philyra splendens</i> Murayama, 1942 Long-streak Sailor	B1a	NE
<i>Neptis philyroides sonani</i> Murayama, 1942 False Long-streak Sailor	B1a	NE
<i>Neptis pryeri jucundita</i> Fruhstorfer, 1908 Pryer's Glider	B1a	NE
<i>Neptis reducta</i> Fruhstorfer, 1908 Formosan Glider	B1a	NE
<i>Neptis sankara shirakiana</i> Matsumura, 1929 Broad-banded Sailor	B1a	NE
<i>Neptis sylvana esakii</i> Nomura, 1935 Forest Glider	B1a	NE

### 3.4 List of Nationally Near Threatened butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Nymphalis xanthomelas formosana</i> (Matsumura, 1925) Yellow-legged Tortoiseshell	B1a	NE
<i>Palaeonympha opalina macrophthalmia</i> Fruhstorfer, 1911 Asian Wood Satyr	B1a	NE
<i>Polygonia c-album asakurai</i> Nakahara, 1920 Comma	B1a	NE
<i>Sephisia chandra androdamas</i> Fruhstorfer, 1908 Eastern Courtier	B1a	NE
<i>Sephisia daimio</i> Matsumura, 1910 Formosan Courtier	B1a	NE
<i>Telchinia issoria formosana</i> (Fruhstorfer, 1912) Yellow Coster	A2c	NE
<i>Yoma sabina podium</i> Tsukada, 1985 Australian Lurcher	B1a	NE
<i>Ypthima akragas</i> Fruhstorfer, 1911 White-banded Three-ring	B1a	NE
<i>Ypthima angustipennis</i> Takahashi, 2000 Taiwan Five-ring	B1a	NE
<i>Ypthima argus okurai</i> Okano, 1962 Okura's Five-ring	B1a	NE
<i>Ypthima praenubila kanonis</i> Matsumura, 1929 Great Four-ring	B1a	NE
<i>Ypthima praenubila neobilia</i> Murayama, 1980 Great Four-ring	B1a	NE
<i>Ypthima tappana</i> Matsumura, 1909 Tappan Four-ring	B1a	NE
<i>Ypthima yamanakai</i> Sonan, 1938 Conjunctive Five-ring	B1a	NE



### 3.4 List of Nationally Near Threatened butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Zophoessa dura neoclides</i> (Fruhstorfer, 1909) Scarce Lilacfork	B1a	NE
<i>Zophoessa niitakana</i> (Matsumura, 1906) Formosan Lilacfork	B1a	NE
<i>Zophoessa siderea kanoi</i> (Esaki & Nomura, 1937) Scarce Woodbrown	B1a+D2	NE

### 3.5 List of Data Deficient butterfly taxa in Taiwan

Taxon name	Criteria	Global Red List Category
<i>Aeromachus matudai</i> (Murayama, 1943)	–	NE
<i>Coladenia pinsbukana</i> (Shimonoya & Murayama, 1976) Taiwan Spotted Pied Flat	–	NE
<i>Antigius jinpingi</i> Hsu, 2009 Jinping's Oak Hairstreak	–	NE
<i>Celastrina argiolus caphis</i> (Fruhstorfer, 1922) Hill Hedge Blue	–	NE
<i>Euaspa tayal</i> (Esaki & Shirozu, 1943) Atayalian Indigo Oak Hairstreak	–	NE
<i>Famegana nisa</i> (Wallace, 1866) Small Grass Blue	–	NE
<i>Hypolycaena othona</i> Hewitson, [1865] Orchid Tit	–	NE
<i>Nacaduba pactolus hainani</i> Bethune-Baker, 1914 Large Four-line Blue	–	NE
<i>Boloria palina yangi</i> Hsu & Yen, 1997 Shepherd's Fritillary	–	NE

### 3.5 List of Data Deficient butterfly taxa in Taiwan (cont.)

Taxon name	Criteria	Global Red List Category
<i>Euthalia malapana</i> Shirozu & Chung, 1958 Malapa Duke	–	NE
<i>Ypthima norma posticalis</i> Matsumura, 1909 Small Three-ring	–	NE

## 4. Acknowledgments

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小紋颯弄蝶 (*Satarupa majasra*)  
的棲地  
吳士緯 / 攝

# 臺灣蝶類紅皮書名錄



## The Red List of Butterflies of Taiwan

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