

# Protected taxonomic status for *Papilio richmondia* Gray, [1853] (Lepidoptera: Papilionidae)

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**ABSTRACT.** The well-known Richmond Birdwing butterfly, *Ornithoptera richmondia* (Gray, [1853]), is a junior subjective synonym of *Amphrissius australis* Swainson, 1851, which has not been used as a valid name after 1899. To protect the stability of the younger, but widely used name, the older and virtually unknown *Amphrissius australis* (i.e., the senior subjective synonym) is suppressed under Article 23.9.2 of the Fourth Edition of the *International Code of Zoological Nomenclature*. By this action, *Papilio richmondia* Gray, [1853] becomes a *nomen protectum* and *Amphrissius australis* Swainson, 1851 a *nomen oblitum*.

## Introduction

The Richmond Birdwing butterfly (*Ornithoptera richmondia* (Gray, [1853])) is endemic to the subtropical rainforests of eastern Australia and is an important flagship species for the conservation of insect biodiversity of these ecosystems (Sands, 2008; Sands & New, 2013). It is currently known by the name *Ornithoptera richmondia* (Gray, [1853]) and is considered to be taxonomically distinct from its sister species *Ornithoptera euphorion* (Gray, [1853]) from the Wet Tropics in north-eastern Queensland (Common & Waterhouse, 1981; Hancock, 1991; Hancock & Orr, 1997). *Ornithoptera richmondia* was originally described by Gray ([1853]) under the name *Papilio richmondia* Gray, [1853], with the Richmond River, New South Wales (NSW) as the type locality (Edwards, 1995; Edwards *et al.*, 2001). Gray's publication is dated 1852, but in fact it was actually published on 8 January 1853 (Sherborn, 1932; Edwards, 1995).

During the compilation of the *Checklist of the Lepidoptera of Australia* (Nielsen *et al.*, 1996), Edwards (1995) discovered that there was an earlier available name for the butterfly, *Amphrissius australis* Swainson, 1851, also from the Richmond River, NSW. This senior name was published in a book review in the *Sydney Morning Herald* on 30 August 1851 by W. Swainson (1851), 16 months before Gray's ([1853]) publication. Swainson's review was based on examination of A. W. Scott's unpublished scientific manuscript and artwork (i.e., the magnificent water colour paintings by his two daughters, Harriet and Helena Scott) during a visit to his property on Ash Island in the Hunter River near Hexham, NSW. However, the book review was premature, and due to considerable delays Scott's manuscript was not published until 13 years later (Scott, 1864) but it did not contain the text and painting of Scott's 'new' species *Amphrissius australis*. A second volume of Scott's work (Scott 1890–1898) published in five parts after his death

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also did not include the watercolour plate depicting the new species *australis*. Edwards (1995, 1996) argued that the name *Amphrisius australis* was available and not a *nomen nudum*, noting that Swainson (1851) provided both a scientific name and a description:

“...the newly discovered *Amphrisius Australis*, a large insect of surpassing beauty, recently discovered in the neighbourhood of the Richmond river. In its general color it strongly resembles the famous *Priam* butterfly of Amboyna and the Indian Isles; the wings being varied in the male with velvet black upon an emerald green ground. The colors of the female are much more sombre, and this sex might easily be mistaken for another species.” (Swainson, 1851, p. 2)

It has become apparent that the nomenclature of *Ornithoptera richmondia* (Gray, [1853]) has not been resolved. *Amphrisius australis* has had no usage since it was first introduced in 1851. E.D. Edwards (Edwards, 1995, 1996; Edwards *et al.*, 2001) did not accept *A. australis* as a valid name but recommended that a case should be presented to the *International Commission of Zoological Nomenclature* (ICZN) to preserve the stability of the junior name *Papilio richmondia* Gray, [1853] and suppress the senior name *Amphrisius australis* Swainson, 1851.

The following acronyms refer to repositories where type material was examined or searched for: AMS: Australian Museum, Sydney; NHMUK: Natural History Museum, London.

## Nomenclature

### Order Lepidoptera Linnaeus, 1758

### Family Papilionidae Latreille, 1802

### Subfamily Papilioninae Latreille, 1802

### Tribe Troidini Talbot, 1939

### Subtribe Troidina Talbot, 1939

### *Ornithoptera* Boisduval, 1832

## *Ornithoptera richmondia* (Gray, [1853])

(Figs 1, 2)

*Papilio richmondia* Gray, [1853]: 2, pl. 2, figs 1, 2 [*nomen protectum*]

*Papilio priamus richmondia* Gray.—Kirby (1871: 517); Waterhouse (1937: 125)

*Papilio priamus richmondus* Gray.—Waterhouse (1932: 29–30)

*Ornithoptera priamus richmondia* (Gray).—Semper (1879: 177, 192); Zeuner (1943: 109, 138–139, 149, 162, figs 70–71); Common & Waterhouse (1972: 190–191); Haugum & Low (1978–1979: 106–111)

*Ornithoptera priamus richmondus* (Gray).—Common (1964: 44); D’Abbrera (1971: 52); McCubbin (1971: 144)

*Ornithoptera richmondia* (Gray).—Miskin (1891: 2); D’Abbrera (1975: 72–73); Common & Waterhouse (1981: 262–263, pl. 23, fig. 9); Braby (2000: 281–283, pl. 22, fig. 1, pl. 23, fig. 1)

*Ornithoptera richmondii* (Gray).—Schneider (1895: 93) [misspelling]

*Troides priamus richmondus* (Gray).—Rothschild (1895: 185, 187); Rainbow (1907: 179); Waterhouse & Lyell (1914: 160)

*Troides priamus richmondia* (Gray).—Waterhouse (1903: 37)  
*Troides richmondia* (Gray).—Miller (1987: 369); Edwards (1996: 239); Edwards *et al.* (2001: 440–441)

*Amphrisius australis* Swainson, 1851: 2 [*nomen oblitum*]  
*Amphrisius australis* Swainson.—Ord (1988: 40) [misspelling; unavailable]

*Ornithoptera australis* Scott, 1988.—Ord (1988: 40) [unavailable]

## Type material

### *Papilio richmondia* Gray, [1853]

**Lectotype.** ♂ “austr, Richmond R”, “Richmond River. Australia. 50. 114”, “type”, “B.M. TYPE, No. Rh. 10810. *Papilio richmondia* ♂ Gray”, “BMNH # 134294”, “NHMUK 013604376” (NHMUK) (Fig. 1).

**Remarks.** Gray ([1853]) described both sexes of *Papilio richmondia* based on at least three syntypes from the Richmond River, NSW (Howarth, 1977; Edwards *et al.*, 2001). Edwards (1995) clarified the type locality and argued that the type material most likely came from Leycester, Lismore, NSW near the Richmond River. Haugum and Low (1978–1979) designated one of the males as a lectotype and gave label data of the type specimen. The lectotype male is registered in the NHMUK (Fig. 1), but the whereabouts of the other paralectotypes are unknown.

### *Amphrisius australis* Swainson, 1851

**Type material.** The type material of *Amphrisius australis* from the Richmond River, NSW has not been traced. Helena Scott illustrated both sexes (2 males, 1 female) in her painting of the species (Fig. 2) completed sometime in the late 1840s (Ord, 1988; Braby & Olsen, 2011). Waterhouse (1937) indicated that A.W. Scott’s collection of butterflies, including types, was deposited in AMS, but there is no trace of type material of *A. australis* in the AMS (see also Peters, 1971). The specimens on which these illustrations were based, and which formed the subsequent description by Swainson (1851), represent the missing syntypes. However, since the original type specimens have been lost, and Swainson does not appear to have actually examined specimens, Scott’s painting constitutes an ‘iconotype’ (Vane-Wright, 2010; Oxford University Museum of Natural History, 2021).

## Discussion

Despite the recommendation by E. D. Edwards (Edwards, 1996; Edwards *et al.*, 2001), it appears that a case was never presented to the ICZN for the preservation of *Papilio richmondia* Gray, [1853] over *Amphrisius australis* Swainson, 1851 (G. Lamas, pers. comm. 2024). However, the *International Code of Zoological Nomenclature* (1999) allows a *nomen protectum* status for *Papilio richmondia* Gray, [1853] (i.e., the junior subjective synonym) under Article 23.9 (Reversal of Precedence) provided two conditions are met: (1) the senior synonym has not been used as a valid name after 1899 (Article 23.9.1.1), and (2) the junior synonym has been used in at least 25 works, published



**Figure 1.** Lectotype male of *Papilio richmondia* Gray, [1853] showing: (A) dorsal view, and (B) labels (NHMUK). Fig. 1A © The Trustees of the Natural History Museum London.

by at least 10 authors in the immediately preceding 50 years and encompassing a span of not less than 10 years (Article 23.9.1.2). In my opinion, conditions of both articles are met. Whereas I find no evidence that *Amphrisius australis* Swainson, 1851 has been used as a valid name since 1900, there is substantial evidence that *Papilio richmondia* Gray, [1853] has been used as a valid name by more than 25 publications of more than 10 authors since 1974 (Table 1). As both requirements of Article 23.9.1 are met, *Papilio richmondia* Gray, [1853] becomes a *nomen protectum* and *Amphrisius australis* Swainson, 1851 a *nomen oblitum* under Article 23.9.2 of the *Code* (ICZN, 1999). Interestingly, while Swainson's name was never used again, *Papilio richmondia* was used as early as the 1870s by W.F. Kirby and G. Sempér and, in Australia, as early as 1891 by W.H. Miskin (under the name *Ornithoptera richmondia*) and 1903 by G.A. Waterhouse (under the name *Troides priamus richmondia*).

Although A.W. Scott's original description and illustration of *Amphrisius australis* was never published during his lifetime, or during the lifetime of his daughters, Helena Scott's painting (Fig. 2) depicting the Richmond Birdwing was eventually reproduced and published some 140 years later by Ord (1988, pl. 3). In this book, Ord (1988) provided two names: *Ornithoptera australis* Scott, which is listed in the header of plate 3 and at the bottom of the painting on p. 41; and *Amprisius* [sic] *australis*, which is given in the text and is an extract from Swainson (1851). Presumably, A.W. Scott changed the name of the genus from *Amphrisius* to *Ornithoptera* sometime after 1851. I consider the names *Ornithoptera australis* Scott, 1988 (in Ord, 1988, pp. 40, 41) and *Amprisius* [sic] *australis* unavailable because the Foreword of Ord's (1988, p. 10) book includes a disclaimer that clearly states that the names are not available for the purposes of nomenclature: "The scientific names used in this book are not intended as a matter of permanent scientific record and previously unpublished names are not intended to be made available according to the International Code of Zoological Nomenclature." Braby and Olsen (2011) also reproduced Helena Scott's painting of the Richmond Birdwing butterfly on the front cover of their book. However, the imprint page gives the current binomen, *Ornithoptera richmondia*, rather than *Ornithoptera australis*, and indicates that the painting was completed by Helena Scott in the 1840s.

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<https://doi.org/10.1071/IS04020>



**Figure 2.** 'Iconotype' of *Amphrissius australis* Swainson, 1851, illustrated by Helena Forde (nee Scott) (1832–1910). Australian Museum Archives, AMS 193, Watercolour paintings of butterflies and moths prepared for AW Scott's Australian lepidoptera publication, 1838–1864; AMS193/58 'Ornithoptera Australis Scott', watercolour painting by Helena Scott, before 1851. The watercolour plate was never published until it was reproduced by Ord (1988) approximately 140 years later. The three syntypes illustrated have not been traced in the AMS.

**Table 1.** Evidence that the junior subjective synonym *Papilio richmondia* Gray, [1853] has been used as a valid name to denote the taxon currently known as *Ornithoptera richmondia* (Gray, [1853]) in at least 25 works, published by at least 10 authors during the last 50 years (1975–2024) and encompassing a span of not less than 10 years, and thus fulfilling the conditions of Article 23.9.1.2 of the *International Code of Zoological Nomenclature* (1999) in order to reverse the precedence of the senior synonym *Amphrissius australis* Swainson, 1851 and declare *Papilio richmondia* as a *nomen protectum* and *Amphrissius australis* as a *nomen oblitum*. References are listed in chronological order.

Reference	Nomenclature adopted in publication
1. D’Abrera (1975: pp. 72–73)	<i>Ornithoptera richmondia</i> Gray
2. Miller and Morhaus (1975: p. 86)	<i>Ornithoptera priamus richmondia</i> (Gray)
3. Sankowsky (1975: p. 55)	<i>Ornithoptera priamus richmondia</i> (Gray)
4. D’Abrera (1977: p. 52)	<i>Ornithoptera richmondia</i> Gray
5. Haugum and Low (1978–1979: pp. 106–111)	<i>Ornithoptera priamus richmondia</i> Gray 1852
6. Common and Waterhouse (1981: pp. 262–263, pl. 23, fig. 9)	<i>Ornithoptera richmondia</i> (Gray), 1853
7. Common and Waterhouse (1982: p. 129, pl. 14, fig. 9)	<i>Ornithoptera richmondia</i> (Gray), 1853
8. Hancock (1983: p. 30)	<i>Troides (Ornithoptera) richmondia</i> (Gray)
9. Miller (1987: p. 369)	<i>Troides (Troides) richmondia</i> (Gray)
10. Hancock (1991: pp. 22, 29)	<i>Ornithoptera richmondia</i> (Gray)
11. Dunn and Dunn (1991: p. 30)	<i>Troides priamus richmondia</i> (Gray), 1853
12. Edwards (1996: p. 239)	<i>Troides richmondia</i> (Gray, [1853])
13. Parsons (1996: p. 70)	<i>Ornithoptera richmondia</i> (Gray, 1852)
14. Sands <i>et al.</i> (1997: pp. 449–453)	<i>Ornithoptera richmondia</i> (Gray)
15. Braby (2000: 281–283, pl. 22, fig. 1, pl. 23, fig. 1)	<i>Ornithoptera richmondia</i> (Gray, [1853])
16. Edwards <i>et al.</i> (2001: pp. 440–441)	<i>Troides richmondia</i> (Gray, 1853)
17. Sands and New (2002: pp. 138–139)	<i>Ornithoptera richmondia</i> (Gray)
18. Braby (2004: pp. 124–125, 312)	<i>Ornithoptera richmondia</i> (Gray, [1853])
19. Braby <i>et al.</i> (2005: p. 136)	<i>Ornithoptera richmondia</i> (Gray)
20. Kendall (2007: p. 9)	<i>Ornithoptera richmondia</i> (Gray, [1853])
21. Sands (2008: pp. 4–16)	<i>Ornithoptera richmondia</i> Gray
22. Braby (2010: pp. 14, 28–29)	<i>Ornithoptera richmondia</i> (Gray, [1853])
23. Orr and Kitching (2010: pp. 132–133)	<i>Ornithoptera richmondia</i>
24. Sands and New (2013: pp. xiv+209)	<i>Ornithoptera richmondia</i> (Gray)
25. Sankowsky (2014: pp. 12–13)	<i>Ornithoptera richmondia</i>
26. Sankowsky (2015: p. 58)	<i>Ornithoptera richmondia</i>
27. Braby (2016: pp. 62–63, 343)	<i>Ornithoptera richmondia</i> (Gray, [1853])
28. Sankowsky (2020: pp. 16–18)	<i>Ornithoptera richmondia</i>
29. Hines (2020: pp. 18–24)	<i>Ornithoptera richmondia</i> (Gray, [1853])
30. Hines (2021: pp. 50–52)	<i>Ornithoptera richmondia</i> (Gray, [1853])

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