

ARGYNNIS CYBELE (LEPIDOPTERA: NYMPHALIDAE) – A ‘NEW’ RECORD FOR THE BRITISH ISLES

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ABSTRACT

Records indicate that a specimen of the American butterfly *Argynnis aphrodite* (Fabr.) was caught in the UK in 1833. However, the actual pinned specimen has recently been confirmed as being the similar-looking *Argynnis cybele* (Fabr.). This is also an American species that has not previously been recorded in the British Isles.

INTRODUCTION

According to the published record, only a single adventive specimen of the Venus Fritillary, *Argynnis (Papilio) aphrodite* (Fabr.), has ever been caught in the UK (Emmet & Heath, 1989). Ostensibly an American species, this butterfly was captured on the wing in Warwickshire in 1833, although its presence on this side of the Atlantic has always been considered to have been due to an accidental introduction. However, a closer inspection of the actual specimen has now indicated that the butterfly was misidentified and it is in fact *Argynnis cybele* (Fabr.), commonly known as the Great Spangled Fritillary (Plate 9, Figs. 1 & 2). This American species has itself never been recorded in the British Isles.

It is worth noting that in a taxonomic revision of the larger fritillaries proposed by Simonsen (2006), the genera *Argynnis*, *Argyreus*, *Nephargynnis*, *Frabriciana*, *Mesoacidalia* and *Speyeria* are all considered to be of one genus, namely *Argynnis*, and this nomenclature has been adopted here.

HISTORY OF THE SPECIMEN

The butterfly in question was collected during the summer of 1833 by a 19-year-old amateur entomologist, James Moreton Walhouse, who had gone to Ufton Wood near Leamington, Warwickshire, in search of the Silver-washed Fritillary *Argynnis paphia* (L.). Although he was aware that one of the specimens he caught appeared different from others, through inexperience he may have assumed it to be merely a sexual morph of *A. paphia*. For a while the specimen remained unidentified and, when he subsequently left England to join the Army in India, he passed his butterfly collection to his younger brother, Moreton John Walhouse. He in turn was to give some of the butterflies, including the unusual fritillary, to his friend William Bree (1822–1917), who lived in the nearby village of Allesley, Warwickshire. William was himself a keen amateur entomologist but, more importantly, his father, the Rev. William Thomas Bree (1786–1863), vicar of All Saints’ church in Allesley, was a noted observer of all aspects of natural history. Indeed, W. T. Bree contributed many articles and letters on his detailed observations of local plants, insects and bird life to the scientific journals of the time. Because of his interests, the Bree family library would have included an extensive collection of natural history books and William’s father must have immediately recognised that the specimen was not a native species of fritillary.

In 1840, W.T. Bree announced through the pages of Loudon's *Magazine of Natural History* that the unusual butterfly was *Argynnis aphrodite* (Fabr.), also known as the Venus or Aphrodite Fritillary, a species that had only previously been known to occur in North America (Bree, 1840). In his paper, which included a coloured illustration of the insect, Bree went to great length to explain the nature of its capture and how he was sure that it was a genuine specimen, having come from 'gentlemen of the highest respectability', who were personal friends of his son, and that it had not been through the hands of unscrupulous dealers. Moreton J. Walhouse had also confirmed that he had seen and discussed the unusual butterfly with his brother when it was still fresh and unset and that, at the time, they had no butterflies from overseas in their collection, with which it could have been confused.

So how did this American butterfly reach Warwickshire? In his paper Bree argued that it was unlikely that it had flown or been blown across the Atlantic, so the most logical explanation was that it had been introduced accidentally, possibly in the larval state, on bedding straw brought from America.

W. T. Bree was evidently a regular correspondent with the great Oxford entomologist, J. O. Westwood. The latter's book, *British butterflies and their transformations* (Humphreys & Westwood, 1841), subsequently cited information provided by Bree regarding the distribution of many species of butterfly in Warwickshire. In response to the recently-published article by Bree, Westwood also included in his book a brief description and illustrations of the Venus Fritillary, although the illustrations provided may well have been made directly from American specimens of *A. aphrodite* in the collections of the British Museum, and not from Bree's own specimen. Westwood was also to conclude that the accidental importation of a larva was the most likely reason for the occurrence of this non-native species in Warwickshire, noting that the size of the Leamington specimen described by Bree was slightly smaller than those in the British Museum. He stated rather poignantly, 'There are several closely allied American species, including the present – if indeed they are not merely varieties of each other'.

William Bree (the son of W.T.), who retained the butterfly in his collection, went on to become curate of All Saints' Church in Polebrook, near Oundle in Northamptonshire (1847–62) and was briefly rector there in 1862, before succeeding his father as vicar of Allesley in 1863. During his time in Northamptonshire, his continued interest in butterflies brought him into contact with the Rev. F. O. Morris, a prolific author of natural history books during the latter part of the 19th century. Morris visited Bree at Polebrook in 1852, a fact that he mentions in his book, *History of British Butterflies* (Morris, 1857). In this he was to include a section on the Venus Fritillary, briefly describing the circumstances of its discovery and including a plate redrawn from *British butterflies and their transformations* (Humphreys & Westwood, 1841).

Although the Venus Fritillary does not appear in many later books published on British Lepidoptera, it is mentioned in some relatively-recent literature (Howarth, 1973; Emmet & Heath, 1989). The *Checklist of Lepidoptera Recorded from the British Isles* (Bradley, 2000) also assigns reference number 1604 to *aphrodite*, based on the single specimen from Warwickshire.

RE-IDENTIFICATION OF THE SPECIMEN

Remarkably, the butterfly collection of William Bree still survives and it was amongst this that the long-lost specimen of the 'Venus Fritillary' came to light in 2006 (Plate 9, Figs 1 & 2). It is in remarkably good condition for a specimen that is

over 175 years old and that has probably been picked up and inspected on many occasions. More recently, photographs of the specimen were posted on the UK Butterflies website (www.ukbutterflies.co.uk). Peter Eeles, who runs this website, was contacted in April 2010 by David Ferguson of the Rio Grande Botanic Garden, based in Albuquerque, New Mexico, USA. He observed that the figured specimen was not *Argynnis aphrodite* (Fabr.), but a typical male of the nominate subspecies of *Speyeria cybele* (Fabr.) now referred to as *Argynnis cybele* (Fabr.). The two species are very similar but can be distinguished by the width of a light submarginal band on the underside of the hindwing.

The identification of the specimen as *A. cybele* was subsequently confirmed by other notable experts based in the USA, specifically Paul Opler, Jonathan Pelham and Norbert Kondla. Jonathan Pelham noted that *A. cybele* enters diapause as an unfed, first instar larva, which might explain how it could have survived a sea journey across the Atlantic, possibly amongst bedding straw. The same identification of the specimen was subsequently confirmed by Thomas Simonsen of the Natural History Museum, London, and Andrew Warren of the McGuire Center for Lepidoptera and Biodiversity, Florida.

Clearly, the original misidentification rests with Bree, although he is perhaps to be forgiven with regard to the information that would have been readily available to him at the time. Since subsequent illustrations of the butterfly (e.g. Humphreys & Westwood, 1841) seem to have been based on actual specimens of *A. aphrodite* in the British Museum, the mistake would not have been spotted by even the most critical of observers.

CONCLUSION

Although not strictly a 'new' record, the purpose of this article has been to correct a misidentification that occurred over 170 years ago. This correction effectively replaces one species on the British list, represented by a unique adventive specimen, with another species. That is, it replaces *Argynnis aphrodite* with *Argynnis cybele*.

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