

Fabricius N° 523

Centaurus

S^r Jos^h Banks

Alis caudatis caeruleis, limbo fusco subtus cinereis, maculis
baseos ocellaribus. — habitat in novâ Hollandiâ

Fabricius N° 532 Cleon S^r Jos^h Banks Fabricius Mto 15 Licias S^r Jos^h Banks



Alis caudatis fuscis, subtus cinereis, an- Alis tricaudatis: anticis fuscis; macula
-ticis striga, posticis fascia sanguinea, fulva, posticis subtus albis nigro —
angulo ani ocello gemino rubro. — maculatis —
habitat in Brasiliâ habitat in pulicandor

William Jones of Chelsea (1745–1818), and the need for a digital, online ‘*Icones*’

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Introduction

*This great and insufficiently
appreciated naturalist*

Sir Edward Poulton

William Jones was a wealthy London wine merchant, natural historian and scholar who ‘retired to Chelsea’, where he lived at No. 10 Manor Street (Faulkner, 1829). He was elected Fellow of the Linnean Society of London in 1791, only three years after its foundation. Jones evidently died in March 1818, as he was buried at the old St Luke’s graveyard on 1 April of that year (Poulton *et al.*, 1934). According to church records he was then aged 68, which suggests that Jones was born in 1750 (Salmon, 2000). However, Faulkner (1829) gives his age at death as 83, while his descendant Frederick Dawtrey Drewitt noted his year of birth as 1745 (Waterhouse, 1938) – the date accepted here. If so, Jones would have been about 73 at the time of his death, consistent with the idea that Faulkner’s “83” was a typographical *lapsus*.

Jones’ *Icones*

Jones is now mainly remembered for “*Jones’ Icones*” – a title for his major work perhaps bestowed in its modern form by J.O. Westwood (John Calhoun, pers. comm. September 2009). However, based on evidence from various data labels in the Linnean Collection held by the Linnean Society of London, it was probably first referred to as “*Icones Jones*” by the Society’s founder, James Edward Smith (1759–1828). For example, a Smith label on a specimen of *Graphium antheus* (Linnean Society butterfly specimen no. 0550)

Biosketch

Dick Vane-Wright has been associated with the Entomology Department of the Natural History Museum for almost 50 years, and is an Honorary Fellow of the Society. Following retirement from the Museum in 2004, he held a three-year NESTA Fellowship for work on attitudes to nature, values and the conservation of biodiversity. Currently he is Honorary Professor of Taxonomy at the University of Kent, Canterbury.

Opposite: Plate 22 from volume 6 of William Jones’ *Icones* (OUNHM), painted circa 1785. This is a typical Jones plate that would have been studied by J.C. Fabricius in 1787—presumably at Jones’ home in Chelsea. Fabricius possibly examined Banks’ collection directly at the same time, and certainly did so during earlier visits. Four species of Lycaenid butterflies from Sir Joseph Banks collection are shown. The two butterflies at top left represent the upper- and under-sides of what is now the lectotype of *Papilio centaurus* Fabricius, 1793, still present in the Banks Collection and now preserved at the BMNH London (currently placed in the genus *Arhopala* Boisduval, the true type locality of *centaurus* being Java, not “nova Hollandia” [Australia] as stated in the *Icones*: see Vane-Wright & Gaonkar, 2006). At lower left is *Papilio cleon* Fabricius, 1775, and at lower right *Papilio lisiias* [sic] Fabricius, 1787. These two nominal species were also based on Banks Collection material; the former is now placed as a species of *Ministrymon* Clench, and the latter is an invalid junior primary homonym treated as a synonym of *Drupadia ravindra* (Horsfield, 1829). The butterfly at top right, apparently included under *centaurus*, represents a fourth species of Lycaenidae, not yet identified. Photographer: Rennison Hall. Copyright: Oxford University Museum of Natural History.

states “*Antheus* Fab. 4, 36. S. Leone, Afzelius. Ecaudatus in *Icone* [terminal ‘s’ apparently cropped] Jones: idem ommino” (http://www.linnean-online.org/view/insects/papilio_.html).

Jones’ Icones comprises about 1500 watercolour images of butterflies and some moths, now arranged in six bound volumes (Waterhouse, 1938). Salmon (2000: 120) seems to imply that all the paintings were made during 1783–1785, and this was uncritically repeated by Vane-Wright & Gaonkar (2006: 297) – but this too narrow time period appears to be a misinterpretation of the dates given on the bindings. However, Jones probably did start the majority of the paintings during the 1780s and, although the entire work has been said to have taken about 30 years to complete (Waterhouse, 1938), it does not seem likely that much was added after the early 1790s (John Calhoun, pers. comm.). In addition to certain specimens in his own collection, Jones based most of his images on Lepidoptera in the cabinets of various London-based contemporaries, including those of the famous Joseph Banks, Dru Drury and John Francillon, as well as a few from the British Museum and the Linnean Society collections.

During a family visit to London in 1787 (Armitage, 1958), the Danish

scientist Johann Christian Fabricius studied all the paintings that Jones had made up to that time (Hope, 1845). Fabricius (1745-1808) was Linnaeus’ greatest entomological student (Vane-Wright, 2007c), and based well over 200 species of butterfly and a few moths new to science on images he found in the *Icones*. Most, if not all of these names, were published in the *Entomologia Systematica* (Fabricius, 1793). Some years later, Edward Donovan (1805) described further new species from the paintings. In many cases the original specimens are now lost, the only significant exceptions being those in the Banks Collection (Fitton & Shute, 1994), a few in the Linnean Society collection, and perhaps some in his own collection now at Oxford (see below). As a result, the ‘iconotypes’ are of great importance for establishing the true identities and geographical sources of the species so named by Fabricius and Donovan (Waterhouse, 1938; and e.g. Lamas, 1979; Robbins & Lamas, 2006; Vane-Wright & Gaonkar, 2006; Calhoun, 2009; Larsen *et al.*, in press).

The *Icones* was not published in William Jones’ lifetime. During 1925-1933 these remarkable paintings, together with specimens from his insect collection, letters and personal papers, were donated to Oxford

University by a descendant, Dr Frederick Dawtrey Drewitt (Waterhouse, 1938; Smith, 1986). Many years earlier Dawtrey Drewitt, in collaboration with Westwood, had sought to publish lithographs of many if not all of Jones’ paintings, together with an extensive account of his work – but this venture failed (Waterhouse, 1938). Subsequently, G.D. Hale Carpenter, Francis Hemming and others endeavoured to publish the *Icones*, but they were also unsuccessful (Smith, 1979). Eventually, in the late 1970s, the paintings were presented to the public for the first time, in the form of an uncut roll of 35mm colour film, comprising 765 slides issued by Oxford University Museum of Natural History (OUMNH). This slide collection, bought by only a handful of institutions, was issued with a minimal collation and index (Smith, 1979). From time to time a few of the images have been reproduced in papers (e.g. Vane-Wright & Whalley, 1985; Hancock, 1992; Gatrelle, 2004; Vane-Wright & Hughes, 2004; Vane-Wright & Gaonkar, 2006; Hancock *et al.*, 2008; Calhoun, 2009) and books (e.g. Smith, 1986), but no comprehensive account of the paintings has ever been published, and the *Icones* as a whole remains essentially unavailable.



The “Northern Brown Argus”, *Aricia artaxerxes* (Fabricius, 1793), was supposedly based on specimens collected at Arthur’s Seat, Edinburgh, “by a collector called Jones” (Melling, 1989: 156). While the original specimens were clearly in William Jones’ own collection, there is nothing to suggest that Jones was the collector. Based on the data in the *Icones*, Fabricius simply recorded the source as “Anglia”—evidence, according to Salmon (2000: 295), that Fabricius’ “knowledge of British geography was clearly limited.” However, nothing could have been further from the truth, as Fabricius spent three months in 1767 travelling from Edinburgh to London on horseback! (Vane-Wright, 2007c). The taxonomic status of this little butterfly continues to be discussed (e.g. Descimon & Mallet 2009: 324), and Jones’ images and the original material remain relevant to the debate. The individual shown here was photographed in June 2006 at Bishop Middleham quarry, County Durham—part of the population usually placed as a separate subspecies, *A. artaxerxes salmacis* (Stephens, 1828), the “Castle Eden Argus”. Photographer: Velela. Copyright: Wikimedia Commons.

The significance of William Jones' work

In addition to the fundamental importance of the iconotypes, research into William Jones and his work could provide valuable insights in at least five other areas: documentation of the insect collections studied by Jones—various misunderstandings still need to be resolved, even regarding the well-known Joseph Banks Collection (Vane-Wright & Gaonkar, 2006); analysis of the sources of exotic material reaching England in the mid-late 18th C, as many of the images remain unidentified to this day (cf. Vane-Wright & Hughes, 2005); an analysis and overview of Jones' contributions to British lepidopterology (cf. Poulton *et al.*, 1934; Salmon, 2000); a re-assessment of Jones' single but highly original paper on butterfly classification that was published in volume 2 of the *Transactions of the Linnean Society* (Jones, 1794; Poulton *et al.*, 1934; de Jong *et al.*, 1996;

Vane-Wright, 2007a,b); and an attempt to understand the beliefs of a member of the Enlightenment some 60 years before the emergence of the theory of evolution. Towards the end of his life, Jones became a follower of the Swedish scientist and mystic Emanuel Swedenborg (Faulkner, 1829; Salmon, 2000), a man who stood out among his contemporaries as an anti-materialist. Born in Stockholm in 1688, Swedenborg died in London in 1772. Various churches, societies and foundations continue to explore the significance of Swedenborg's theological ideas (Brock *et al.*, 1988), and it would be fascinating to see what insights concerning Jones' "conversion" could be gained from a study of his notebooks and other personal papers housed at Oxford. What would lead such a close observer of natural objects to a mystical vision of nature, when so many of his contemporaries were moving in an ever more materialistic direction?

A William Jones "Programme"

To realise the needs discussed above, four closely connected projects can be envisaged.

1. Digitisation and databasing of Jones' *Icones*

This fundamental step would require the creation of approximately 2000 high-quality digital images to cover the entire *Icones*, captured together with all the relevant manuscript annotations and information inherent in the layout of the bound volumes, and the collation issued by OUMNH (Smith, 1979). The care and safety of this unique work and its original bindings would be a special concern. On completion, the database and images could be made accessible to visitors to the Hope Library of Entomology. Making the images and data available on the Internet would be the subject of project 3. However, before that it would be desirable to complete project 2, to enhance the database and collation from the outset.

2. Identification of all *Lepidoptera* illustrated in Jones' *Icones*

Some of the Jones images have never been identified – although there appears to be an unpublished list made by Westwood in the Hope archives (Waterhouse, 1938; Smith, 1986), and another manuscript list due to Francis Hemming in the NHM London. All need checking, documenting and brought to modern standards of understanding for the full value of any otherwise successful imaging project to be realised. During the process, the geographical origins of the species depicted would be determined or inferred as accurately as possible, and links established to the existing literature – most notably for those species named from the *Icones* by Fabricius and Donovan. Research would also be undertaken to locate, wherever possible, any surviving specimens, notably in Jones' own collection (Oxford), the Banks Collection (NHM London), the Linnean Society, and perhaps the Alexander Macleay Collection, Sydney (<http://www.usyd.edu.au/macleay/cinsect.htm>) and the William Hunter Collection, Glasgow (Hancock, 2004). Wherever possible, images of such



The "Two-brand Crow", *Euploea sylvester* (Fabricius, 1793), is one of the most distinctive and widespread members of the large and complex milkweed butterfly genus *Euploea*. This butterfly, like many in the Indo-Australian tropics, occurs in numerous, mostly insular subspecies: currently well over 30 are recognised. It appears that William Jones' illustrations of this butterfly—on which basis Fabricius named it—were painted from material in Jones' own collection, for which no locality was cited. Since the mid-19th century the type locality has been considered to be Cooktown, Australia (Edwards, Newland & Regan, 2001: 319). Hopefully this is the correct interpretation, but it is not clear if the Jones figure or the Jones collection has been checked against our current understanding of this highly polytypic species. The individual shown here belongs to what is currently referred to as subspecies *E. sylvester coreta* (Godart, 1819), photographed at Bangalore, India, in May 2007. Photographer: Vijaybarve. Copyright: Wikimedia Commons.



Papilio crino Fabricius, 1793. One of the most beautiful species named by Fabricius on the basis of a figure in *Jones' Icones*. The original material was in Drury's collection, and was said to have been obtained from "Africa"—but this butterfly in reality is known only from southern India and Sri Lanka. The "Common Banded Peacock" illustrated here was photographed at Talakona Forest, Chittoor District, Andhra Pradesh, India, in August 2008. Unlike many butterflies, *Papilio crino* does not appear to be divisible into subspecies, and thus the precise provenance of the original material is not (currently) critical for nomenclature. Photographer: J.M. Garg. Copyright: Wikimedia Commons.

specimens, could be originated (if they do not already exist) and added to the database. This project would need extensive input from a specialist Lepidoptera systematist.

3. Creation of a William Jones website

The creation of a website, in the first instance to make the images and associated data gathered by projects 1 and 2 widely and freely available, would be the core element of the entire programme, and could proceed to a first phase immediately after completion of project 1. Updating and expansion would be required after completion of Project 2 and, if it were also to be undertaken, again after completion of Project 4. The most obvious host for such a website would be Oxford University, or perhaps the Linnean Society of London, the Natural History Museum, London, or the Royal Entomological Society.

4. Book on William Jones of Chelsea

This final project would not only add value to Projects 1-3, but also make full use of the other materials donated to the OUMNH by Dawtrey Drewitt, including Jones' surviving papers, correspondence, and insect collection. The ideal aim would be to create a scholarly but

accessible account of the man, his life and work, and his views on natural history, science and religion. What was Jones' motivation for creating his *Icones*? What was the fate of the various collections he worked on? What was the significance of his contribution to science and its pursuit? – notably his work on British entomology (Poulton *et al.*, 1934; Salmon, 2000; Barker & Vane-Wright, 2007), his influence during the founding of the Linnean Society (Smith, 1832; Dawtrey Drewitt, 1928), and the originality of his 1794 paper on butterfly classification (Jones, 1794; Poulton *et al.*, 1934; de Jong *et al.*, 1996; Vane-Wright, 2007b). A specific goal, based on the results of Project 2, would be an analysis of all the materials represented by the *Icones* to reveal the geographical origins of exotic insect material reaching England in the mid-18th Century (cf. Chapter 8 in Vane-Wright & Hughes, 2005). Finally, there is the fascinating question of Jones' embracement of Swedenborg's mystical ideas, and what this may reveal about the thinking of Enlightenment naturalists during the transition from natural theology to evolutionary biology.

The need for financial support

Desirable though these projects may be, the reality is that they will not happen unless the significant funds needed are found, most notably for technical phases 1 and 3. The author of this article would be very pleased to receive realistic suggestions as to how suitable funding for all or part of this work programme could be raised.

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