

## BOOK REVIEW: ICONOTYPES

**Title** Iconotypes: A compendium of butterflies and moths. Jones's *Icones Complete*. 668 pp.

**Publishers** Thames & Hudson Ltd, 181A High Holborn, London WC1V 7QX

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**Summary** This wonderful book is a veritable tour-de-force. It is a marvellous blend of Aurelian history, taxonomy, art, biogeography, and thoughtful articles and anecdotes about the eccentric characters who have contributed to lepidopterology over the last three centuries. It is packed with stories and illustrations which will excite all lovers of Lepidoptera.

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- 2) Introduction Richard I. Vane-Wright: William Jones (1745-1818) & the birth of the *Icones*. 10–35

This partial biography of William Jones addresses his work as a naturalist after he retired to Chelsea in 1780. It describes how he was welcomed by the scientific community in London, and was elected a Fellow of the Linnaean Society of London in 1791, three years after it was founded. Having become a butterfly collector around 1770, he continued to build his own collection and educate himself about Lepidoptera, whilst beginning to learn and enjoy the techniques of painting butterflies and moths. His earlier subjects were mostly British specimens, but as he acquired exotic material for his own collection and got to know other collections he broadened his scope. He was a self-taught artist and learned his techniques by studying the work of his contemporaries. He began painting the *Icones* around 1783, and it eventually consisted of 1300 illustrations of butterflies and moths in seven original volumes, painted in exquisite detail and close to life size. The *Icones* were not published, but were made accessible to Jones's fellow scientists such as Fabricius, Banks, Drury and many others. The *Icones* were inherited by his cousin John Drewitt, who bequeathed them to his son Frederick Dawtrey Drewitt, who later, being an Oxford alumnus himself, gifted them to the Oxford Museum of Natural History between 1925 and 1933. Several attempts have since been made to publish Jones's masterpiece but it has now become a reality through the combined efforts of Thames & Hudson and the Oxford University Museum of Natural History.

- 3) Icones The crowning glory of this book is the *Icones* themselves, with 576 pages of magnificent paintings. The systematic arrangement reflects the classification of that era. Jones's names on each plate were the best he was able to do from studies of contemporary collections in England, and some are unnamed. A pictorial index is provided at the start of each volume. The text below each painting lists the original name, the source of the specimen from which the painting was done, the collection, the geographic area of occurrence and the modern name. Commentaries on the names and the localities explain how this name was inferred.

Vol I	Equites: Troes & Achivi	Papilionidae	36–129
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Vol III	Danai: Candidi & Festivi – Pieridae, but also includes many Nymphalidae ( <i>Idea</i> , <i>Caligo</i> , <i>Brassolis</i> , <i>Opsiphanes</i> , <i>Euploea</i> , <i>Danaus</i> , <i>Gnophodes</i> , <i>Melanitis</i> , <i>Tirumala</i> , <i>Dynastor</i> , <i>Caerois</i> , <i>Taygetis</i> , <i>Magneuptychia</i> , <i>Calisto</i> , <i>Pareuptychia</i> , <i>Catoblepia</i> , <i>Amiga</i> , <i>Memphis</i> , <i>Bia</i> , <i>Erebia</i> , <i>Proterebia</i> , and <i>Ypthima</i> ); Hesperidae ( <i>Heliopetes</i> and <i>Pyrrhocalcia</i> ), Castiniidae (moths) ( <i>Amauta</i> , <i>Ceretes</i> , <i>Telchin</i> , <i>Xanthocastnia</i> , <i>Synpalamides</i> , <i>Prometheus</i> and <i>Geyeria</i> ) a riodinid genus ( <i>Eurybia</i> ) and a lycaenid genus ( <i>Oboronia</i> ).		182–261
Vol IV	Nymphales: Gemmati & Phalerati – all the standard subfamilies		264–353
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Vol VI	Plebeji: includes Lycaenidae and Hesperidae		474–575
Vol VII	Papiliones. This final volume includes paintings that were copied from other paintings and not directly from a specimen.		590–663

- 4) Maps At the end of each volume a map depicts (with many uncertainties and assumptions) where the *Icones* specimens came from (Europe, North & Central America, South America, Asia, Africa and Australasia)

- 5) Feature articles

Alberto Zilli:	Early study of Lepidoptera	132–139
Alberto Zilli:	A flowering of Lepidopterological activity	264–275

These first two articles trace the fascination with Lepidoptera from Neolithic cave painters through the Chinese

domestication of silk worms, to the Egyptian iconographs, the works of Aristotle in Greece, and to the discovery of light trapping by the Roman writer Columella. It was only post-Renaissance that serious studies of Lepidoptera resumed, leading in the 15<sup>th</sup> and 16<sup>th</sup> centuries to the assembly and study of natural history collections, but preservation of delicate specimens such as Lepidoptera was difficult. During the early 17<sup>th</sup> century methods improved and particularly in the second half of the century the availability of microscopes led to better understanding of anatomy and metamorphosis. The Linnaean revolution in classification and standardisation of names then laid the foundation for modern taxonomy. As the incredible diversity of the world's Lepidoptera became apparent large collections were assembled, nearly all by wealthy amateurs such as Dru Drury, and many of the *Icones* were painted from specimens in his collection. Fabricius then used the *Icones* to describe 231 new species in his *Entomologia Systematica* in 1793, and the *Icones* thus contributed part of the foundations of modern taxonomy and systematics.

Arlene Leis: Collecting in the 18<sup>th</sup> & 19<sup>th</sup> centuries 356–363

The author gives an account of the “raison d’être” behind the collection of natural history specimens and how it became an important and lucrative activity of the imperial nations. She pays particular attention to female collectors, mostly from the aristocracy, such as the Duchess of Portland.

Stefanie Jovanovic-Kruspel: Art of painting butterflies 462–473

The painting of natural history subjects straddles the border between art and science, with Ulisse Aldrovandi (1602), Maria Sibylla Merian (1705) and Eleazar Albin (1720) making important contributions to the development of the art form. Taxonomic identification began to rely on illustrations rather than just words. Jones's *Icones* paintings were mainly based on specimens from the collections of Sir Joseph Banks, Dru Drury and John Francillon. He set out to refine Linnaeus's system so that images and specimens became the focus of species comparisons and diagnosis. He studied the theory of colours to get the most accurate and life-like paintings, so that shape, pattern and colour became the epitome of species definition.

Francisco Sánchez-Bayo: The decline of Lepidoptera around the globe 578–589

The general decline of Lepidoptera and indeed all insects around the world is lamented by the author. He attributes this principally to the destruction of habitat to expand agriculture, forestry and mining and urban areas; and latterly to the wide-scale use of pesticides and herbicides which directly kill Lepidoptera or eradicate many of their larval host plants. Climate change is another biologically destructive phenomenon, which results from the exponentially increasing use of fossil fuels and growth of the human population. The losses of insects in the “first world” countries has been alarming as well as tragic to witness, but nowadays no part of the world is immune from the ongoing extinctions.

6) Conclusion Richard I. Vane-Wright: The legacy of William Jones 664–671

- a) The Jones iconotypes have contributed to zoological nomenclature, and from them Fabricius (1793) was able to describe 231 new species, 127 of which are still names in current usage, and the other 104 were later found to be synonyms of already described species.
- b) The *Icones* is a lasting record of the exotic material assembled in London at that time, and will be of great value to trace the original type localities of the taxa illustrated.
- c) Jones also made significant advances on the Linnaean system of classification, which relied only on size, colour and wing shape, Jones being the first to use wing venation for higher level classification.
- d) He also developed a system of common names that popularised the study of Lepidoptera amongst those not comfortable with Latin names.
- e) He studied the ecology of butterflies by creating “bionomic tables” to record and analyse the data.
- f) His collection and his intensive study of British butterflies are a good source for finding out how many butterflies were present at that time on the British Isles.
- g) The *Icones* is most of all a priceless work of art as well as demonstrating the unity of art, science and aesthetics.

7) Appendices Full Listing of Jones's Iconotypes 672–675

This list tabulates all 231 iconotypes with columns “volume/plate (J); epithet (F); page no (F); current status (species, synonym, homonym, form, etc); current name; habitat = geographical origin (F); inferred origin; collection source (J); family; page in this publication”. Note that (J) refers to the *Icones* and (F) to Fabricius (1793).

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