



## ARTWORK VERSUS PHOTOGRAPHY, SET SPECIMEN VERSUS NATURAL POSTURE

by Richard Lewington



The varied artwork of artist Richard Lewington.

### INTRODUCTION

**A** little over 100 years ago, in 1907, Richard South wrote the groundbreaking two-volume set of books, *The Moths of the British Isles*. The plates were scattered through the books with the adult moths illustrated in colour, mainly with photographs, and the early stages with black & white drawings, mostly by Horace Knight, who also painted some of the adult moth plates. In 1961 a new edition was published in which the photographic plates were replaced with paintings by Mr H.D. Swain, with a few additional plates of the early stages, in black & white by Miss A. Walters.

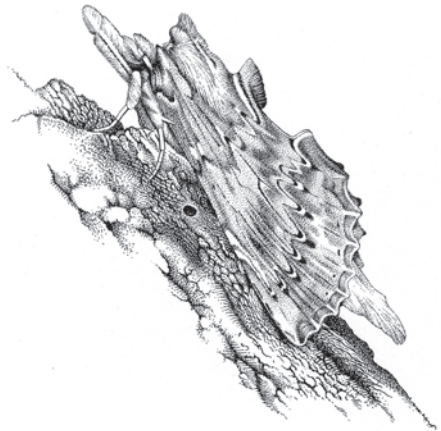
About 10 years later, in 1971, I left The Berkshire College of Art and Design to embark on a career as an illustrator, hoping to specialise in natural history illustration. My interest in natural history had been with me from childhood with both my father and grandfather being countrymen, keen on birds, butterflies and moths. I was doubtful though that I could make a living illustrating insects, as *A Field Guide to the Insects of Britain and Northern Europe* by Michael Chinery had recently been published (1973), so I thought the subject had been pretty well covered. However, one of my first jobs was to illustrate a selection of insects for the *AA Book of the British Countryside*, and it was this that led me to specialise in insect and invertebrate illustration for the next 40 years.

## THE EARLY YEARS

In those early years I was inspired by the work of two early twentieth century wildlife artists, Charles Tunnicliffe and Frederick William Frohawk, and also by two entomological illustrators, Amedeo John Engel Terzi and Arthur Smith, both of whom worked for the British Museum (Natural History).

Whilst at college in Reading I was fortunate to meet Brian Baker, who was in charge of the insect collection at Reading Museum and Art Gallery. After I had left college it was he, more than anyone, who helped and encouraged me, allowing me to borrow specimens from the museum as I struggled from one project to another and my interest in Lepidoptera grew. I regularly ran a Robinson MV trap in my garden and went moth-trapping with Brian, on one occasion with the intention of capturing a Stout Dart *Spaelotis ravidia* on the Berkshire Downs near my home (we were successful). At the time Brian advised me that the best books for identifying moths were the South volumes, although he was in great anticipation of a new publication, which was being prepared by Bernard Skinner and David Wilson. I already had the new edition of South but Brian suggested I try to get hold of the earlier edition, as he regarded the photographic plates more useful than the painted plates in the later edition. And so began the controversy as to which was considered better for identification, artwork or photography; and later, set specimen versus natural posture.

Many years later a discussion with Mark Tunmore led to the suggestion for this article, the intention being to give a personal view on the merits of artwork compared to photography, from the point of view of an illustrator. I obviously favour artwork but I will start by saying I believe there is no right or wrong, and so long as publications containing either artwork, photographs, or both, contribute something original, they are to be welcomed. My only concern, however, is that in recent years some publishers have been churning out titles covering subjects already well-covered, and taking advantage of an increasing number of knowledgeable enthusiasts, only too keen to have their names in print and for little or no return. This has often resulted in a dilution of the whole genre.



**Pale Prominent** *Pterostoma palpina*. Example of pen and ink line drawing, this being the front cover artwork for *Atropos* 16.



*Bombus subterraneus*. The progression from measured pencil drawing, to finished painting, showing head, thoracic and abdominal markings.

## ILLUSTRATION TECHNIQUES

Without going into too much detail I will outline the basic procedure I use when illustrating insects and other invertebrates. When set specimens are illustrated for the purpose of identification I always work from actual specimens, usually borrowed from private collections or museums. It is worth mentioning here that without these collections, made by enthusiasts and held privately or in museums, it would be impossible either to produce illustrations or identify many specimens in the first place.

To begin an illustration I firstly make a measured drawing of one half of the subject on thin layout paper, using proportional dividers, usually set at 125% or 133% of the reproduction size. The completed illustration will eventually be reduced when it is printed, resulting in a tighter, more finely detailed image than if it were to be printed the same size as the original or enlarged. The pencil drawing is then transferred, by tracing, onto the final watercolour paper, after which it is flipped to give perfect symmetry. To the eye this produces a more convincing final image, even though most insects aren't perfectly symmetrical. Once the image has been transferred, washes of gouache paint are applied using a sable brush, with details such as markings, textures, highlights and shading gradually being built up, in the same way as a watercolour artist creates a landscape.

## LIGHT AND SHADE

The convention when painting insects is to assume that the light comes from the top-left, thus creating a shadow with reflected highlights on the opposite side. Using this principle, textures, like the elytral pores of beetles, can be treated in exactly the same way, so as to show minute differences between similar species. Although light and shade are most important in describing form and texture, care must be taken, as markings and other fine details can be



**Purple Emperor** *Apatura iris*. Using light to show how the purple iridescence appears on the opposite side from the light source. Although butterfly wings appear flat, light and shade is used to show how the veins and the folds between them protrude from and incise the surface respectively.



Left: *Acleris littorana*. Showing the rough lichen-like texture of the forewings. Right: Pencil drawings of micro-moth heads showing structure and texture without the need of colour.

obscured and confused, particularly by too much shading. Certain subjects, for example Odonata, pose particular challenges, and as venation is important in separating some species this has to be portrayed with care and in detail, as impressionism plays no role here. For the bolder veins a fine brush is used, but as the veins become increasingly finer a fairly hard, sharply pointed pencil is used for best effect. Condition of specimens may also cause problems, for example, some of the specimens used to illustrate the *Field Guide to the Dragonflies of Britain and Europe* (K-D Dijkstra, 2006) were sent dried and papered from Holland and a few arrived broken into several pieces. Here reconstruction was necessary and the injection of warm water into the specimens with a hypodermic syringe, to relax them, was occasionally necessary in order to reconstruct and set them before illustration could begin.

### THE NATURAL POSTURE

The process for illustrating an insect in its natural posture is similar to illustrating that of the set specimen, though in some instances, particularly with micro-moths which often remain motionless, live specimens can be painted by carefully positioning them beneath the microscope—this always produces the best results. Failing that, a combination of set specimens (for the fine anatomical detail) together with photographs showing resting posture are usually used. I much prefer to show subjects in their natural postures, as we first see them in the wild or at rest in the moth-trap. However, in some instances an illustration of a moth or dragonfly at rest is insufficient to separate it from similar species, in which case a combination of illustrations, including details such as an underside, hindwing or head-on view may be helpful. This is demonstrated in several instances in *Field Guide to the Moths of Great*



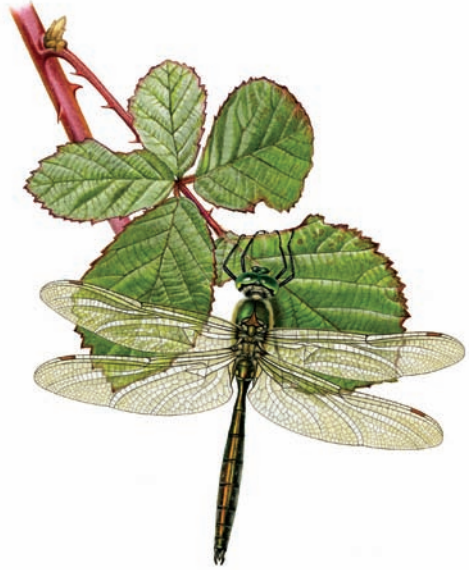
The artist at work.



*Britain and Ireland* (Waring, Townsend & Lewington, 2010) and *Field Guide to the Dragonflies of Britain and Europe*. Whether a painting is of a set specimen or of an insect in its natural posture, reference to living material or photographs can often assist, as the colours of many insects fade after death, for example some Odonata, Hemiptera and the eyes of Diptera, and abdomens may contract and distort.

### THE DIGITAL REVOLUTION

There is no question that with the rapid development of digital photography, books on butterflies and moths in their natural surroundings, with stunning photographs often taken by amateurs as well as professional photographers, are great show-pieces of their subjects. However, they serve a different purpose than the true identification field guide, and all things being equal can never compete with accurately painted and printed illustrations. For example, the recent photographic guide *British Moths and Butterflies* (Manley, 2008)



**Brilliant Emerald** *Somatochlora metallica*. Painting created using a museum specimen for fine anatomical detail, photograph for colour reference and bramble leaf for interesting textures and composition.



**White Admiral** *Limenitis camilla*. A poor photograph of a worn specimen, which is still useful as a reference for posture.



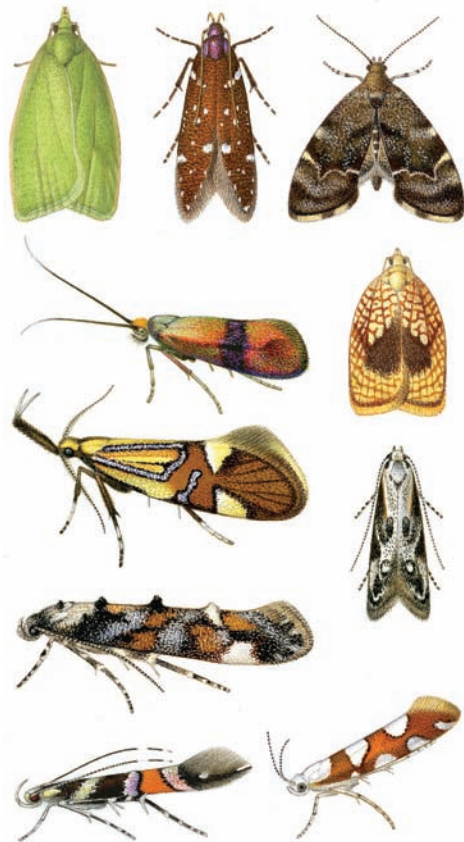
**White Admiral** *Limenitis camilla*. The finished painting, combining the previous photograph with a set specimen.

is a welcome addition to our bookshelves and an example of just how good digital images of Lepidoptera have become. Nevertheless, with around 60 photographers having contributed, all with different approaches and equipment, with photographs taken from various angles using different lighting and none of them to scale, comparison of similar species is not always easy. Furthermore, a photograph is a record of an individual specimen, which, if taken under natural conditions, will literally reflect the light and colours of its surroundings as well as the posture of the individual, which may not be typical. By studying a series of individual specimens (both from museums and in the field) the illustrator is able to produce an idealised portrayal of the species from a constant angle and with a uniform approach, allowing exact comparisons of similar species without distractions. In addition, the colours used will be those seen in a neutral light setting. This then allows the eye and brain of the observer, using the artwork with its neutral white background, to compensate subconsciously for the natural reflective colours when viewing a species in the real world. A photograph, unless taken under controlled conditions, cannot do that.

### SET SPECIMENS: PAINTINGS VERSUS PHOTOGRAPHS

Comparisons between photographs of set specimens, of the kind seen in *Colour Identification Guide to Moths of the British Isles* (Skinner, 1984/2010), *Tortricidae of Europe* (Razowski, 2002) and *A Guide to the Microlepidoptera of Europe* (Parenti, 2000), and paintings of set specimens, of the kind seen in *The Moths and Butterflies of Great Britain and Ireland* (Emmet et al.), *British Tortricoid Moths* (Bradley, Tremewan & Smith, 1979) and the burnet and clearwing paintings in *Field Guide to the Moths of Great Britain and Ireland*, are more of a subjective matter. My view is that the illustrator, by studying descriptions by the authors and others, in addition to the specimens themselves, is able to define points of subtle difference, hopefully without exaggeration, and is able to create an image of the perfect, typical specimen. Although I did read of someone who didn't trust artists, worrying he or she 'would miss significant details', and that 'paintings always have the salient features over-enhanced'!

With the photographic approach to set specimens many would argue that the



Selection of micro-moths. Samples from a forthcoming book on British micro-moths, showing the incredible diversity of resting postures, something that is unapparent in set specimens.



Isle of Man Butterfly Collection.

camera never lies and that photography uncompromisingly portrays images of actual specimens. I agree that photographs do not lie but details are often obscured and uniform lighting can flatten textures and form. Colours, particularly green in moths, may also be affected after death, and abdomens (important features in groups like clearwings) can become distorted, something that can be corrected with artwork. However, both photography and artwork can be unpredictable when reproduced, as can be seen in different editions of various guides, with an imbalance of colour or saturation sometimes affecting the final result.

## PRINTING AND BOOK PRODUCTION

For me, and probably for most illustrators and photographers, the defining issue and the cause of greatest frustration is the unpredictability of reproduction. When I first started as an illustrator the main printing concern was colour registration, which, if slightly out, often gave a blurring effect, but this seems to be less of an issue nowadays. However, with the coming of digital scanning and printing other issues have arisen, in particular the automatic use of the unsharp mask during scanning. This is a process, often over-used by photographers in the early days of digital photography, to improve images that weren't quite pin-sharp, but when over-used can cause a rather granular effect. Ultimately though, the success or otherwise of the finished plates, be they artwork or photography, lies with the scanning of the images and the man on the press. Whether or not proof-prints are supplied and marked-up beforehand, if the artist or conscientious publisher doesn't oversee the printing the result can be a lottery. Examples of this can be seen with many of the books I've illustrated: *The Moths and Butterflies of Great Britain and Ireland 7 (1)* (Emmet & Heath, 1990) in which the printing is quite good but slightly over-inked in places; *The Moths and Butterflies of Great Britain and Ireland 7 (2)* (Emmet & Heath, 1991): printing poor, lacking saturation, too much yellow; *Field Guide to the Dragonflies of Great Britain and Ireland* (Brooks & Lewington, 1997): printing poor, lacking saturation, venation washed out; *Field Guide to the Dragonflies of Great Britain and Ireland* (Brooks & Lewington, 2002): printing better but too much saturation and venation too heavy; *Field Guide to the Dragonflies of Great Britain and Ireland* (K-D Dijkstra, 2006): printing about right. In contrast, when *The Butterflies of Britain and Ireland* (Thomas & Lewington, 2010)





**Comma** *Polygonia c-album* and **Red Admiral** *Vanessa atalanta*. Stamp illustrations for the Isle of Man Butterfly Collection. Using a combination of painted butterflies on out of focus photographic backgrounds.

was recently re-published, together with the combination of careful scanning, good quality paper and being present at the printing with the publisher, it was possible to check the first prints before giving the final go-ahead. I'm convinced now that this is the best way to achieve the desired result, though if the book is being printed in Hong Kong rather than Britain this could be a problem.

To accompany this article I've included a variety of illustrations, including a hybrid mix of artwork and photography used for a set of stamps for the Isle of Man. I hope these will demonstrate the versatility of artwork and how important field observations, photography and a deep interest in the subjects are in the preparation of reference material and in producing the finished images. The sourcing of these references has been eased over the years by the generosity of many photographers with far more extensive collections of photographs than mine.

In addition to the large number of illustrations I've completed for identification guides, I've also had many other less conventional commissions, ranging from painting an Adonis Blue *Polyommatus bellargus* in flight for packaging containing treatment for Psoriasis, to a field guide to Easter eggs for Waitrose. All quite challenging and fun projects, and always more remunerative than conventional guides, but ultimately far less satisfying.

## IN CONCLUSION

I hope this account of my experiences as an entomological illustrator has been reasonably objective. To conclude, as far as moth identification is concerned I believe the two leading publications, namely Skinner and Waring *et al.*, should be regarded as complementary



**Common Earwig** *Forficula auricularia*. Example of half-tone pencil drawing.



to one another rather than in competition, and it is a pity that a division of opinion over the two exists. Some, but by no means all, more experienced lepidopterists often seem uncompromising in their preference for the set-specimen approach, and oppose those who prefer to photograph rather than collect specimens and who prefer illustrations showing moths in their natural postures. This has given rise to the naive assumption of a few that Waring *et al.* is for newcomers and Skinner for the more experienced. Given unlimited time and funding all the books mentioned in this article could be improved on, but mistakes will always occur. However, I am certain that all those involved in their production, including myself, have done our best to make a useful contribution to the subjects we all enthuse over, and hopefully any critics, like he who suggested 'I.M.H.O. I find Lewington's work simplistic', will pause and consider before they proclaim their 'humble opinions'.

Whether the developing digital technology will have an effect on the labour intensive, manual techniques of the illustrator, only time will tell. Ending on an optimistic note, after 40 years I am still fascinated by and take great satisfaction from illustrating the natural world, and when my latest collaborator, Phil Sterling, brings me a drawer full of dozens of apparently similar-looking micro-moths, I only have to place one under the microscope to be in awe.

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