

The Linnean Society's insect collection

Increasing access through digitisation

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Papilio machaon Linnaeus

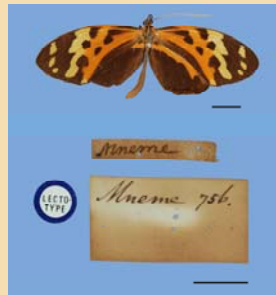
Why digitise the collection?

It will allow anyone, whether a specialist researcher or someone with a more general interest, to check details on-line or from high definition images. It will reduce, but not eliminate, the need for handling the specimens and thereby contribute to their long-term preservation.

What is in the collection?

The seven major groupings, the Orders, are as Linnaeus classified the 'insects' in the 12th edition of his *Systema Naturae* (1767) rather than as they are understood today, so the collection includes spiders, crustaceans and millipedes as well as insects proper.

There are about 9000 specimens, including about 3200 Linnaean ones. They are preserved dry, mainly on pins, and are arranged in glass-topped boxes.



The lectotype of *Papilio mneme* Linnaeus, with Linnaeus's label (above) and another added by Smith



Papilio ulysses Linnaeus



Papilio almana Linnaeus



A specimen of *Papilio lemonias* collected by N E Kinderley in the East Indies and added to the collection by Smith

Why digitise Smith's as well as Linnaeus's specimens?

After purchasing the collection in 1784 James Edward Smith added his own specimens to it, almost trebling its size over the following 44 years.

In many cases it is not certain if a particular specimen originated with Linnaeus or Smith, making it very difficult to separate the two component parts of the collection.

Linnaeus's material is far more important scientifically than Smith's because of the type specimens it includes. However, Smith's material is a valuable source of information on insects from around the globe in the late 18th and early 19th centuries. So far it has been little exploited.

The Project

The Entomology Department at the Natural History Museum, London is carrying out the digitisation of the collection.

The first phase covers the Lepidoptera (butterflies and moths).

Techniques

Labels are removed and specimens photographed on a glass-topped box to eliminate shadows. The labels are photographed separately.

Mounted butterflies and moths are essentially two dimensional and relatively easy to deal with, but for three-dimensional specimens such as beetles and flies it is proposed to use software which combines the sharply focussed parts of a series of images focussed at different heights on the specimen to produce a completely in-focus image.

Equipment

Camera, Nikon D2x digital SLR. Lens, AF Micro-Nikkor 105mm f/2.8 D.

The resulting images are 12 megapixel, 36.6MB TIFFs.



Images being taken at the Natural History Museum

Linnaean type specimens

Many of the specimens in Linnaeus's own collection are the types of his species. However, other collections also contain his types, because either he examined specimens in those collections or he referred to published descriptions or illustrations of the specimens.



This illustration by Merian shows a specimen which has been designated as lectotype of *Papilio bixae* Linnaeus and which still survives in her collection.