

## Moth Immigration

Immigrant moths are individuals or species that do not normally breed in the UK and have flown or been carried by the wind to the British Isles from other countries. The majority of these immigrant moths, however, don't return to where they came from, nor usually do their offspring. Immigrant moths arrive in the UK from different locations. Most frequent immigrants arrive from Mediterranean Europe and North Africa, including species such as the Dark Sword-grass *Agrotis ipsilon* and the Gem *Orthonama obstipata*. Some, such as the Great Brocade *Eurois occulta*, come from eastern and northern Europe and very few, like Stephen's Gem *Autographa biloba*, can travel from as far as North America.



Great Brocade – Alan Barnes/Butterfly Conservation

The majority of moth immigrants around the world, move in a northerly direction. Of those that arrive in the UK, usual time of immigrant activity is in late summer to early autumn though spring/early summer immigrations are frequent. Occasionally winter conditions facilitate immigration, such as the significant early immigration in January and February 2004. Several species are thought to be assisted by the wind in their travels.

In the UK, resident populations of some moths are sometimes reinforced by immigrants like the Angle Shades *Phlogophora meticulosa* and the Large Yellow Underwing *Noctua pronuba*. For some species, immigrants and residents mix and regularly breed together, and an influx can only be distinguished by the sudden arrival of the immigrants in large numbers. In other species, however, there are differences in wing pattern and

colouring between immigrant and resident individuals. The immigrants and residents of these species may occur in different locations within Britain. Species generally showing differences between resident and immigrant individuals include the Scarce Silver Y *Syngrapha interrogationis* and Angle-striped sallow *Enarggia paleacea*.

Many species of moth that are immigrants in Britain do not live here permanently. In the case of the Convolvulus Hawk-moth *Agrius convolvuli*, all individuals are thought to be immigrants in the UK as they are unable to overwinter here, due to the harsher climate. The Convolvulus Hawk-moth usually resides in Africa, some of the adults then migrate to Europe to breed and the offspring of these moths are thought to be the individuals that reach our distant shores though very occasionally they are offspring of earlier immigrants.



Silver Y – Martin Warren/Butterfly Conservation

The number of or frequency of immigrants to the UK can vary greatly between species and quite often can be influenced by the weather. Immigrant species that are considered to be common in certain areas of the UK, due to their arrival in large numbers, include the Silver Y *Autographa gamma* and Rusty-dot Pearl *Udea ferrugalis*. The numbers of even these common immigrants can be influenced by the weather; a particularly hot summer may result in a noticeable increase in the numbers of immigrants. 2003 for example was a 'good year' for Hummingbird Hawk-moth *Macroglossum stellatarum* sightings though this species may now be resident, temporarily at least, in this country. Some moths are more irregular immigrants but are occasionally

recorded here in numbers, such as the Striped Hawk-moth *Hyles livornica*. In 1943 over 540 were recorded and it was widely recorded in 2002. The Cosmopolitan *Mythimna loreyi* was considered a particularly scarce immigrant to the UK, but numbers fluctuate greatly from year to year and recently, records of this species do seem to have increased. The impressive Oleander Hawk-moth *Daphnis nerii* is a very scarce immigrant to the UK, being recorded in some years but not in others.



Oleander Hawk-moth – David Green/Butterfly Conservation

The reasons why some moths migrate are not greatly understood, particularly when those that arrive do not return to where they came from, and may not be able to breed successfully upon arrival in the host country. It has been observed that some moths tend to migrate more readily when population numbers and, therefore, possible competition for resources is high. This suggests that there must be advantages in being able to disperse or migrate when necessary, such as locating

#### References and further reading:

- Majerus, M. E.N. (2002). *Moths*. HarperCollinsPublishers, London, UK.
- Parsons, M. (2003). The changing moth and butterfly fauna of Britain during the twentieth century. *Entomologist's Record*, Volume 115, p49-66.
- Young, M. (1997). *The Natural History of Moths*. T & A D Poyser Ltd, London, UK.
- <http://www.migrantmoth.com/>

Butterfly Conservation, Manor Yard, East Lulworth, Wareham, Dorset, BH20 5QP  
[www.butterfly-conservation.org](http://www.butterfly-conservation.org)

Author: Sarah Brook

new resources, or escaping from predators or disease.

Humans have also played a part in influencing the number and kind of moth species arriving in the British Isles. More correctly known as introduced species, some moths have arrived in the UK with imported goods, on human transport vessels or associated with the horticultural trade. When compared to the number of immigrant species reaching the UK, few species survive to establish a breeding population. This may change in the future, however, as climate change and association with non-native plants could influence the colonisation success of immigrant species. The British passion for gardening and horticulture, have helped to create new habitats for many species associated with non-native plants.



Cypress Carpet – David Green/Butterfly Conservation

The Blair's Shoulder Knot *Lithophane leautieri* and Cypress Carpet *Thera cupressata* are both immigrant species that have recently colonised the UK by establishing themselves on introduced plants like cypresses. This trend is likely to continue and in conjunction with climate change, we may see an increase in immigrant species to our shores and in the number of those that are able to survive and colonise the UK.