

***Nomads of the Wind: The Migration of the Monarch Butterfly and other Wonders of the Butterfly World.*** Ingo Arndt, Claus-Peter Lieckfeld, Peter Huemer. Papadakis Publisher, London. 192 pp with colour plates. ISBN 978-1901092-92-9. [www.papadakis.net](http://www.papadakis.net) £20 sterling.

The secret life of the migration of the North American Monarch butterfly *Danaus plexippus* remained a mystery until 1975 when Fred Urquhart “discovered” their hibernating place in the highlands of Central Mexico. The Monarch’s range extends to the north-east of the United States and southern Canada. The less numerous western race, cut off by the Rockies, has its headquarters in California.

The Monarch has colonised the Canaries, the Azores and more recently southern Iberia where it breeds continuously. In Ireland, the occasional vagrant is reported especially from its southern coast in the aftermath of storms which have crossed the Atlantic. In the absence of its food plant, the milkweed, it would be unable to establish itself.



For many years the intricacies of the insect’s behaviour in North America have been tracked through the use of a tagging technique – the attachment of a decal (small disc), to a wing – the same general principle that is applied to bird ringing. In this case the author follow the ‘factual’ migratory life of WJE 148, a female who was tagged near Lake Michigan in the autumn, migrated some 2000 miles to Central Mexico and having over-wintered travelled northwards again and ended her life at Rocksprings, Texas , in a pumpkin garden, but not before she had carried out substantial ovipositing on her return journey, thus facilitating the continuation of the migratory chain for her great grandchildren to return to Mexico at the end of the season.



This publication with its lavish single and double plate photographs, informs us of many of the issues that affect the survival of insects, for example, weather, food supply, predators and human activities that have changed the landscape. Just as I was reading this book, there was a brief news item that referred to the occurrence of further logging that has been threatening its Mexican roosting habitat on Oyamel Fir *Abies religiosa*. These relict forests from an era when the planet was cooler, are themselves also under threat from global warming. The book reminds us of the intricate issues of poverty versus conservation where the reward for retrieval of a tag may be greater than a day's wages. It also reminds us that there is much more to understand about the mysteries of metamorphosis.

*Nomads of the Wind* is more than a photographic guide to the Monarch, it contains interesting information in relation to insect biology, probable navigation principles of the butterfly migration (e.g. an internal magnetic compass) and the devices, real or mimicry, that insects use to avoid being eaten by predators.

The second half of the book ("The Other Wonders of the World: eggs, caterpillars, pupae butterflies and moths") covers a range of insects photographed in various stages and circumstances with each



illustration complemented by brief relevant observations, all of which add to our knowledge of the lepidopteran world. Examples are a death's head hawk moth *Acherontia atropos* photographed stealing honey from a beehive – a high risk operation – and the annual congress of the Jersey tiger moth where million of them meet in Greece at Rhodes each summer.



Jersey Tiger Moth

This book should have a very wide general audience including the Monarch watcher, the nature photographer and the young or not-so-young enthusiast who has an interest in lepidoptera and all their wonders. I have one slight quibble in relation to the pagination and lack of index, but this is truly a book with magnificent photographs that can be coffee table opened at random for enjoyment. It should have a place on every coffee table, but buy two copies lest it too migrates!

David Nash