

TRAVELING INTO THE WORLD OF BUTTERFLIES AND MOTHS: PART II

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[Ed. Note: This article is the second in a four-part series on the study and science of Lepidoptera by Vladimir Kachan from Belarus. The first installment appeared in Volume 63, Number 3. Readers can contact the author via email at: vladimirkachan@mail.ru, or post at: P.O. Box-36, BY-220089, Minsk-89, Republic of Belarus.]

Introduction

Author's Preface

I began collecting philatelic materials with butterflies and moths 30 years ago. For my knowledge, I used a cross-referenced checklist, "Insects on Stamps," England 1978, and a topical catalogue of cancellations, *Butterflies and Moths*, Germany 1980. Ten years later I began to create my philatelic exhibit, "World of Butterflies and Moths." I knew only modern philatelic materials and tried to find old philatelic materials with butterflies and moths of the whole world.

My own research of the world philatelic materials was successful. I assisted a German philatelist, Rolf Merkert, with information about postal stationeries and cancellations, and he published a special world catalogue of butterflies and moths on postal stationeries in 1989. Also in 2002, he reworked and republished a world catalogue of butterflies and moths cancellations and meters. In 2007, the Chinese philatelist, Zou Ziyang, editor of the Chinese *Topical Butterfly* journal published a book that was a compilation of early butterfly-related philatelic items up to 1950. I assisted in this with information and philatelic materials from my collection.

I am always looking for, selecting and studying philatelic materials of the world with butterflies and moths, then I include my own research in my exhibit. My exhibit, *World of Butterflies and Moths*, received Large Vermeil awards at the World Philatelic Exhibition PORTUGAL-2010 and PHILANIPPON-2011.

More than 50 of my articles about butterflies and moths have been published in philatelic journals of Switzerland: *THEMA International*; Great Britain: *Themescene*; Germany: *Insektenkurier*; USA: *The Philatelic Aurelian*, *Biophilately*, *Topical Time*; Belgium: *Themaphila*; France: *La philatelie thematique*; and Italy: *Notiziario Tematico*.

I hope that my articles will stimulate interest in butterflies and moths on stamps, cancels, covers, and postal stationery. I am always glad to help philatelists create butterfly and insect exhibits. Best regards, Vladimir Kachan.

2. Life of Butterflies and Moths

DEVELOPMENT OF BUTTERFLY AND MOTH FROM OVUM TO INDIVIDUAL

Butterflies and moths belong to the group of insects with full transmutation. The female lays her ova as a rule only on the fodder crops of the caterpillar, or in some other place meeting the requirements of the species. The quantity of ova in one laying varies for different species—from several dozens to hundreds, and can amount to a thousand for some moths.

A caterpillar, or larva, that is not very mobile comes from an ovum. Most of its life takes place on the same fodder plant, and the main purpose of its life is feeding. Protective or warning coloring with hair protects it from enemies. A hatched caterpillar first of all eats a part of its ovum shell, and later it feeds on the fodder plant. Small caterpillars eat only the upper or lower layer of a leaf, leaving untouched a thin skin looking like a transparent eye. Some species give their preference to buds, and that is why they do great harm to plants.



Battus polydamas
Nevis Sc#802, 1993



Danaus plexippus larva
US Sc#3351j, 1999

After some time, which depends on temperature or season, growth of a caterpillar stops and shedding of its hair begins. It takes some species ten days, others weeks or months. During that time a caterpillar does not feed, fixes itself on a leaf, branch, rind, stone, or any other thing suitable and sheds its old dry skin. It is a critical period for a caterpillar, for being in its new, not hardened covering, it is easy prey.

The greatly elongated, cylindrical body of a caterpillar with a head, supplied only with poorly developed sense organs, does not allow one to suppose that one day it will become a winged individual of surprisingly beautiful coloring and shape. This metamorphosis takes place at the chrysalis stage. Inside the hard chitin capsule of the chrysalis, all the tissues of specific larval organs are destroyed, and the tissues and organs of an adult insect form from the accumulation of special cells.

The chrysalis does not have an active defense from unfavorable influences of the environment, illnesses, or predators. That is why a caterpillar must take enough effective measures for protection of the chrysalis from surrounding danger. Caterpillars instinctively choose the most inaccessible and hidden places to emplace the chrysalis. Very often in the search of such places they travel considerable distances. They may gnaw out chambers, spin cocoons, or wind leaves in the shape of tubes.

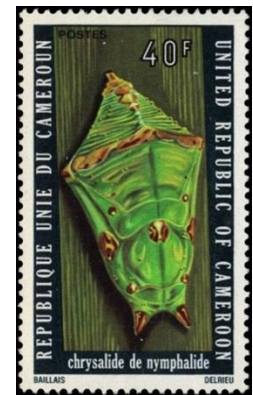
One may find the chrysalis of butterflies plainly fixed on different things, some of them hang head first, or girded with a thread with their heads upwards. After a certain period of reconstruction, which, depending on species, may continue from several days to several months or even years, a new butterfly emerges from the chrysalis. Just hatched, an adult individual looks quite different from the one seen flying from flower to flower.

Initially it has only soft short wings and cannot fly. During the first ten to twenty minutes, the wings reach their normal size remaining soft for some time. It takes them usually about two hours to harden. After that, the butterfly can bravely rise into the air.

DURATION OF THE LIVES OF BUTTERFLIES AND MOTHS

A mature butterfly has only one task in its life, which subordinates everything: it must bring posterity into the world, the next generation. After mating and the depositing of the fertilized ova, the adult males and females have played their roles in Nature, their lives have no further purpose, and they die. But before that happens, the butterfly can live long enough. One may see substantial differences in the duration of life.

Moths of families Cossidae, Lymantriidae, Psychidae, and Lasiocampidae do not have a developed proboscis and cannot take food. They live exclusively owing to adipose stock accumulated by the larva and die after several days. Many butterflies suck nectar and live several weeks or months. Some species even stay over the winter. These species include: *Nymphalis antiopa*, *Polygonia c-album*, *Gonepteryx rhamni*, *Vanessa atalanta*, *Nymphalis polychloros*, *Inachis io*, *Aglais urticae*, and others. During the winter, they hide in garrets or buildings, in basements, caves, or in hollows of tree trunks.



Euphaedra neophron
chrysalis
Cameroon Sc#608, 1975



Vanessa atalanta
Auckland, New Zealand Telegram, 1961

SPREADING OF BUTTERFLIES AND MOTHS



Parnassius delphius
Kyrgyzstan Sc#116e, 1998

Butterflies and moths dwell almost everywhere. They flutter in mountains and deep canyons, in forests, meadows and fields, one can meet them even in deserts. It is completely possible to meet them on the tops of the highest mountains, covered with eternal snows and glaciers, but there are no butterflies in the Arctic or Antarctic. In the Himalayas, some such as *Parnassius delphius*, can be found at the height of 5,000 meters (16,400 feet) and even 6,000 meters (19,700 feet) above sea level.

Some butterflies display a curious phenomenon—roaming from place to place and migrations. Lepidoptera such as *Colias croceus*, *Urania leilus*, and some others migrate for hundreds of kilometers. Others like *Danaus plexippus*, *Vanessa cardui*, and *Vanessa atalanta* travel thousands of kilometers while migrating.

In 1492, when Columbus's ships were approaching Cuba, the sailors were astonished by an unknown natural phenomenon. They observed a huge swarm of butterflies persistently flying in one direction. The captain put down in his diary, "Such innumerable flocks of butterflies appeared, that the sky darkened."

It is a pity that he did not describe those insects in detail, but almost surely it may be said that Columbus met the passage of butterflies *Danaus plexippus*. They live in the USA and Canada and in autumn they fly to winter in the south—to Florida, Mexico, Cuba, and the Bahamas covering the distances of more than 3,600 kilometers (2,240 miles). The butterflies fly at the height of 120 meters (400 feet). Their speed, depending on the speed of wind, is from 15 to 50 kilometers per hour (9 to 31 mph).

With darkness their flight stops. For many years, people could not find the places of mass wintering. Only in 1986, one Mexican amateur student of local lore searched in the Sierra Madre Mountains not far from the Mexican capital. In an area of about 8 hectares (20 acres) he found about 50 million butterflies.



Danaus plexippus
Mexico Sc#1562, 1988



Danaus plexippus
Mexico Sc#1559, 1988

They sat densely packed on evergreen plants, making the crowns of the trees and bushes look orange. It happens that under the weight of the butterflies, branches with a thickness of seven centimeters (2.75 inches) can break.

It takes three generations for the butterflies to reach their far northern areas again and the fourth generation, which has never been to their wintering locations, makes the return trip. Their phenomenal genetic memory helps them to find the wintering place without a mistake.

The *Vanessa cardui* butterfly lives everywhere except South America. Entomologists found out that in autumn, great swarms of *Vanessa cardui* in Europe move to the south. Some of them die during the trip, but many reach the Sahara Desert to lay their ova and die there. Then the opposite process takes place. In spring, young, brightly colored *Vanessa cardui* travel to the north to do their duty, to lay ova and to die, too.

A mass "invasion" of *Vanessa cardui* to the British Islands was observed in 1848. In another case, a ship had an accident in the Mediterranean Sea because of *Vanessa cardui* flocks. The clouds of butterflies pasted themselves all over the wheelhouse and a helmsman lost his bearings and the ship ran against an underwater rock.



Vanessa (Cynthia) cardui
Ireland Sc#1619, 2005

In the southeast part of the Volgograd region in Russia between 7 and 9 June 1964, forestman I.A. Sovin observed a mass flight of *Vanessa cardui* butterflies. According to him, during the three days, not less than 2700 million butterflies flew past. Specialists think that the mass of that accumulation was about 607 tonnes.



Vanessa atalanta
Great Britain Sc#3207, 2013

Vanessa atalanta is one of the most popular butterflies. It is spread from the Azores and the Canary Islands and Northern Africa through Europe to Asia Minor and Iran. It can be found in North America as far south as Guatemala. *Vanessa atalanta* has been found even on Haiti and New Zealand, but most likely it was brought there.

There are endemic, relic, and exotic species found among butterflies and moths. Endemic species are native to and spread over limited territories such as islands or mountains. Examples are: *Graellsia isabellae*, *Nossa palaeartica*, *Parnassius autocrator*, *Papilio homerus*, *Perisomena caecigena*, *Colias myrmidone balcanica*, and many others.



Papilio homerus
Jamaica Sc#223, 1964



Brahmaea wallichii
Maldives Sc#584, 1975

Relic species are the butterflies found in small regions and in limited quantities that are the remainders of the fauna from previous geological epochs. Examples are: *Atrophaneura alcinous*, *Sericinus telamon koreana*, *Libythea celtis*, and moths of the family Brahmaeidae.

Exotic butterflies are beautiful species that are the decoration of our nature. Examples are the butterflies of the family Morphidae living in Middle and South America and the butterflies of family Papilionidae, living on the islands of Oceania. Owing to the variety of shapes and colorings, they bring great aesthetic satisfaction.

[to be continued]

URUGUAY ISSUE

On 16 September 2014, Uruguay issued a souvenir sheet of four “Mother Earth” stamps that depict a variety of subjects across the biological spectrum. The issue promotes and recognizes the International Year of Family Agriculture, the 100th anniversary of the National Livestock and Agriculture Research Institute (INIA), World Biodiversity Day, and World Environment Day.

The Family Agriculture stamp shows a field of strawberries (*Fragaria x ananassa*) with images of the fruit.

The INIA stamp shows a researcher with a set of test tubes containing specimens. The tower is a structure on the main campus of the Institute in La Estanzuela.

The Biodiversity stamp has a Plains Zebra (*Equus quagga*) and a Greater Flamingo (*Phoenicopterus roseus*).

The Environment stamp shows a West Indian Buckeye butterfly (*Junonia evarete* = *J. lavinia*) on a thistle (*Stenachaenium* species, most likely *S. megapotamicum*).

The upper left margin shows a female Puerto Rican Emerald (*Chlorostilbon maugaeus*) feeding on a Cockspar Coral Tree flower (*Erythrina crista-galli*).

Uruguay Post (*Correo Uruguayo*) produced 5,000 of these sheets. Designer: Daniel Pereyra. Printer: Sanfer SRL.

