

THE CABBAGE BUTTERFLY - INTERESTING FACTS

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Amongst the most common butterflies in Malta is the Cabbage White (*Pieris brassicae*), which often lives in open spaces. The caterpillars of this butterfly often feed on the cabbage, in fact in Maltese the butterfly is known as ‘Farfett tal-Kaboċċa’ (Figure



Figure 1 – Stamp of Malta 2002

1). This butterfly is a well-known migrant, in fact, in Malta it is most often encountered in spring and autumn. The Cabbage butterfly with scientific name *Pieris brassicae* also known as the Large White is a butterfly in the family Pieridae. The Large White is common throughout Europe, north Africa, and Asia to the Himalayas often in agricultural areas, meadows and parkland. It has managed to establish a population in South Africa and in 1995 it was

predicted to spread to Australia. The Large White is a strong flier and the British population is reinforced in most years by migrations from the continent. In 2010 the butterfly was found in Nelson, New Zealand where it is known as the Great White Butterfly. The caterpillars feeds on cabbage (*Brassica oleracea*), completely stripping the leaves. This is a notorious agricultural pest, commonly known as the Cabbage White.

The first postage stamp with the image of this butterfly was issued by the post of Switzerland in 1956 (Figure 2) in set stamps Pro Juventute. The words Pro Juventute are Latin for “For the Children.” Like the country name on Swiss

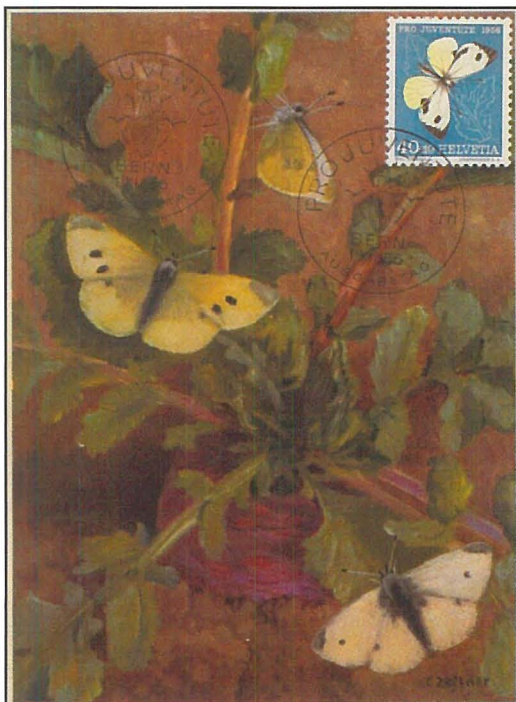


Figure 2 – Maximum card of Switzerland 1956 with Cabbage butterfly



Figure 3



Figure 4



Figure 5

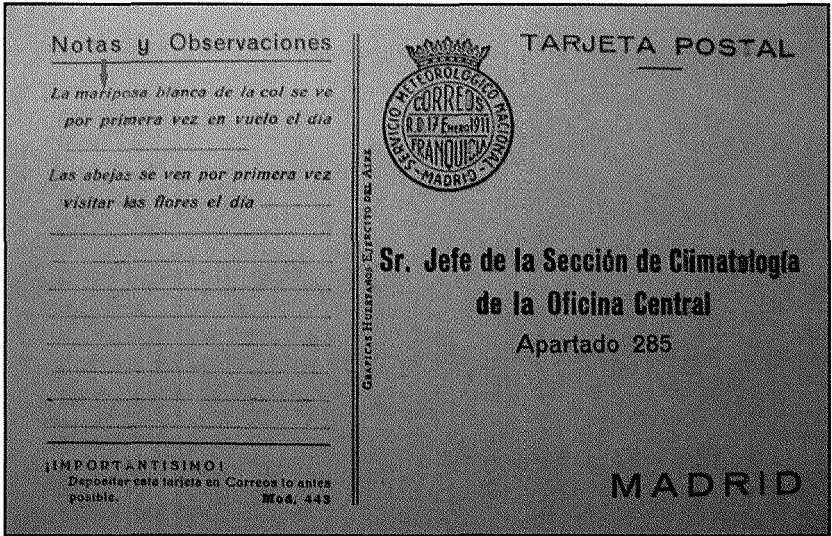
stamps. Helvetia, the neutral language in a multilingual country was Latin. Stamps were printed in sheets of 50 pieces and have descriptive marginal tabs in German, French, Italian (in each of the three principal languages spoken in Switzerland) and in Latin. So you can find postage stamps of Switzerland with the Cabbage butterfly and name Kohlweissling in German (Figure 3), name Pieride du chou in French (Figure 4), name Cavolaia maggiore in Italian (Figure 5) and name *Pieris brassicae* in Latin (Figure 6).

The Cabbage butterfly has the name in Spanish as mariposa blanca de la col. This name of the butterfly is found on the postcards of National Meteorological Service of Spain. Since its creation in 1887, the State Meteorological Agency of Spain (AEMET) has extended its network of observatories through all the national territory, from the big cities to the smallest and remote villages. In these, observations are usually made at the Civil Guard, Forest Service, Monasteries, Schools, Hydraulic stations, etc. And are verified by the monks, guards, foremen, teachers, who collect them in postcards with franchise of the Post Office and send them to the Center Meteorological Zone where, after being processed, they are sent to AEMET. Granted the franchises by the Royal Decree of January 17, 1911 and the Ministerial Order of July 9, 1951, over time and following



Figure 6

Figure 7 –
Stationery
card of
Spain
1911



the avatars of national policy, have appeared various variants of post cards, especially referred to the different emblems, the color of the paper in which they are printed or the imprint that they show. One of the variants of such postcard of National Meteorological Service in Madrid dated 1911 contains the text “The white cabbage butterfly is seen for the first time in flight the day” (Figure 7). Another type of such stationery card dated 1911 is known, which contains an additional emblem of the Ministry of the Air (Figure 8). Similar stationery card with Cabbage butterfly (in other color) also was issued in Spain in 1951 (Figure 9).

Why was the Cabbage butterfly chosen for meteorological observations in Spain? Because this butterfly is a migratory species. The Cabbage butterfly are found throughout most of Eurasia, though there are some seasonal fluctuations present due to migration. The northern populations tend to be

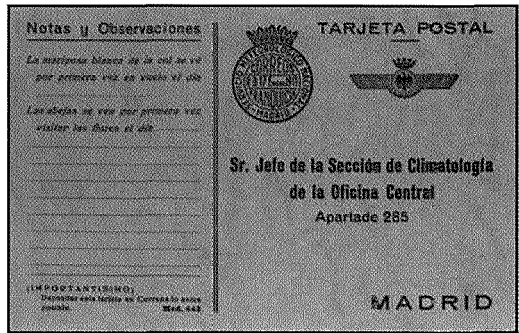


Figure 8

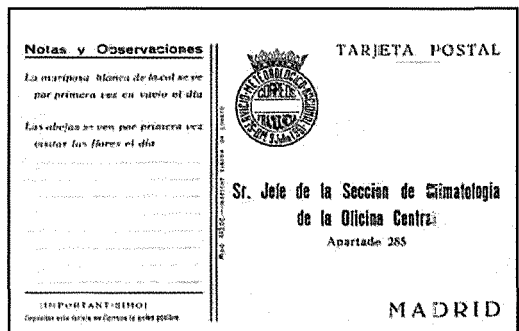


Figure 9

augmented during the summer migration season from butterflies from southern areas. The Cabbage butterflies fly starting early spring, and keep migrating until seasons shift to autumn and the resultant cold weather. This means the Cabbage butterflies typically take two to three flights per butterfly reproductive season. The Cabbage butterfly migration patterns are typically observed only when there is a disturbance. In general, the Cabbage butterfly's migratory patterns are atypical; normally, butterflies fly towards the poles in the spring, and towards the more temperate Equator during the fall. However, they fly in random directions, excluding north, in the spring, and there is little return migration observed. However, it has been hard to track entire migratory paths, since these butterflies can migrate more than 800 kilometres; thus, individual butterflies may not migrate the 800 kilometres, but rather that other butterflies start their migrations from where the other butterflies ended.

A false AIDS virus, which induces immunity without causing any infection, is being developed in Britain as the best means of arriving at an effective AIDS vaccine. The false virus is made from caterpillars of Cabbage butterfly, and include a substance once used by Brazilian Indians to staunch poison-arrow wounds. The false AIDS virus is being made by the Medical Research Council – using a substance called glycoprotein 120, which is found in the 'envelope' covering the virus. To obtain this protein in large quantities the gene producing it has been transferred from the AIDS virus to an insect virus which infects caterpillars. Caterpillars of Cabbage butterfly (**Figure 10**)



Figure 10 – Maximum card of Portugal Azores 1984



Malta butterfly sheet series, issued by Malta Post on 26 June 2002, featuring “Farfett tal-Ħaboċċa”, second bottom row



Moths & Butterflies



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MALTA POST
FDC No. 5
26.VI.2002

FDC, issued on 26 June 2002, featuring "Farfett tal-Kaboċċa", second bottom row

are a very convenient way of obtaining a protein as they can be grown on cabbages, or something similar, and about 25% of their body weight is the protein which is used in the vaccine.

A team of experts from the University of Exeter in Cornwall (USA) has examined new techniques for generating photovoltaic (PV) energy -- or ways in which to convert light into power. They showed that by mimicking the v-shape posture adopted by Cabbage butterflies to heat up their flight muscles before take-off, the amount of power produced by solar panels can increase by almost 50 per cent. Crucially, by replicating this 'wing-like' structure, the power-to-weight ratio of the overall solar energy structure is increased 17-fold, making it vastly more efficient. The Cabbage butterflies are known to take flight before other butterflies on cloudy days -- which limit how quickly the insects can use the energy from the sun to heat their flight muscles. This ability is thought to be due to the v-shaped posturing, known as reflectance basking, they adopt on such days to maximise the concentration of solar energy onto their thorax, which allows for flight. Furthermore, specific sub-structures of the butterflies' wings allow the light from the sun to be reflected most efficiently, ensuring that the flight muscles are warmed to an optimal temperature as quickly as possible. The team of scientists therefore investigated how to replicate the wings to develop a new, lightweight reflective material that could be used in solar energy production. The team found that the optimal angle by which the butterfly should hold its wings to increase temperature to its body was around 17 degrees, which increased the temperature by 7.3 degrees Centigrade compared to when held flat. They also showed that by replicating the simple mono-layer of scale cells found in the butterfly wings in solar energy producers, they could vastly improve the power-to-weight ratios of future solar concentrators, making them significantly lighter and so more efficient. The Cabbage butterfly (**Figure 11**) is not just a pest of your cabbages but actually an insect that is an expert at harvesting solar energy.

The Cabbage butterfly is very numerous



Figure 11 – Stamp of Yugoslavia 1974



Figure 12 – stamp of Ghana 1998

and so popular that the famous Spanish artist Pablo Picasso painted it in the painting “Composition with Butterfly” in 1932 (Figure 12). Even there is a coat of arms with the image of the Cabbage butterfly. The emblem of the Municipality of Masate in Italy tends to highlight, with visual immediacy, the predominantly agricultural characteristics of its land and its economy. Therefore the Cabbage butterfly emphasizes the distinctly agricultural character of the area on the coat of arms (Figure 13).



Figure 13 – Meter mark of Italy 1999 with the Cabbage butterfly on the coat of arms the Municipality Masate

Every female of the Cabbage butterfly deposit from 200 to 300 eggs in several groups on cultivated plants. Under favorable conditions, the mass of the offspring of a females of the Cabbage butterfly whiting may amount to 822 million tons per year which is 3 times greater than the weight of the entire population of our



Figure 14 – Stationery card of Belgium 2012 with Cabbage butterfly

planet (**Figure 14**). But huge quantities of butterflies, eggs and larvae fall victims to hungry frogs, toads, lizards, wasps, dragonflies, spiders and robber flies. Larval feeding on various Brassicaceae, although sometimes localized, may lead to 100% crop loss in certain areas at certain times.

I wish for enthusiasts of butterfly thematic philately had new discoveries and enjoyment. The Author is ready to help for philatelists in creating of philatelic exhibits on butterflies and moths. His address: Vladimir Kachan, street Kulibina 9-49, Minsk-52, BY-220052, Republic of Belarus, E-mail: vladimirkachan@mail.ru

“Due to the difficult, turbulent
and unpredictable times
we are presently living in
due to the Covid19 virus pandemic,
the Society is not in a position to advise
when the next member’s monthly meeting
is going to be held.

The MPS Committee is sure
that everyone understands
the seriousness of the situation
and that it will only be wise
to hold such events
once things will have returned to ‘normal’.”

May/June 2020