

THE DELICATE BEAUTY OF BUTTERFLIES

Vladimir Kachan, Belarus

There are about 180,000 described species of butterflies and moths spread throughout the globe. Butterflies are usually associated with grace—they roam the skies with an admirable air of freedom. The beauty of each butterfly is in its wing pattern—a delicate pattern crafted by nature’s paintbrush.

Among other functions, the coloring of butterflies has a heat regulating purpose. The butterflies with light coloring keep in well-lit places such as in the crowns of the trees, on the edge of forests, or on the sand at river banks. Butterflies with dark coloring in most cases fly in the shade. The wings of tropical butterflies are covered with optical scales. Because they are exposed to the direct rays of the sun, their shiny metallic coverings reflect the rays and serve as protection from excessive over-heating.

A beautiful and easily recognizable butterfly is the Common Swallowtail (*Papilio machaon*) was named by Carl Linnaeus in the 10th edition of *Systema Naturae* in 1758, along with nearly 200 other species of butterflies. This butterfly is widespread in Europe, as well as in Asia, northern Africa, and northern America. The butterfly has a strong and fast flight, but frequently pauses to hover over flowering herbs and sip nectar. It frequents alpine meadows and hillsides, and males are fond of “hilltopping,” congregating near summits to compete for passing females. At lower elevations, it can be seen visiting gardens.

The Apollo (*Parnassius apollo*), one of the most adorable and large butterflies in Europe, lives in the Alps at an altitude of 600 to 2,500 meters. This typical mountain species prefers hills and flowery alpine meadows and pastures of the continental European mountains, in Spain, Scandinavia, and Central Europe, in the Balkans up to northern Greece, and in the Alps between Italy and France.

It is also present in some areas of the central Asia. It has bright red spots on the front and rear wings. The color scheme of the wings of the Apollo combines the nobility of whiteness with an amazing spotted color. In the rays of sunlight, the butterfly reminds one of an exotic flower, miraculously soaring in the air slowly flying from flower to flower.

The Red Admiral (*Vanessa atalanta*) is a well-known colorful butterfly, found in temperate Europe, Asia, North Africa, and North America. It is found even on Haiti and New Zealand. Figure 3 is an image of a 1963 telegram form from New Zealand showing a Red Admiral at upper right.

The Red Admiral is resident only in warmer areas, but migrates north in spring, and sometimes again in autumn. This medium-sized butterfly is identified by its striking dark brown, red, and black wing pattern. In northern Europe, it is one of the last butterflies to be seen before winter sets in, often feeding on the flowers of ivy on sunny days. The Red Admiral is also known to hibernate, re-emerging individuals showing prominently darker colorings than first-brood subjects. The butterfly also flies on sunny winter days, especially in southern Europe.

The Common Brimstone butterfly (*Gonepteryx rhamni*) is a very attractive, light lemon or yellow butterfly that has a rather pointed wing shape. Some say that this butter-colored insect was responsible for the name “butterfly.” It lives in Europe, North Africa, and Asia. It hibernates during the winter. Many butterflies suck nectar and live several weeks or months. However, the Brimstone butterfly can be entered in the book of records for the duration of life among the butterflies of the world. Its lifespan, taking into account the hibernation, can last for eleven months.



Fig 1. *Papilio machaon* L. artwork for unissued Italy



Fig 2. *Parnassius apollo* L. unlisted imperforate souvenir sheet, Sierra Leone, 2010

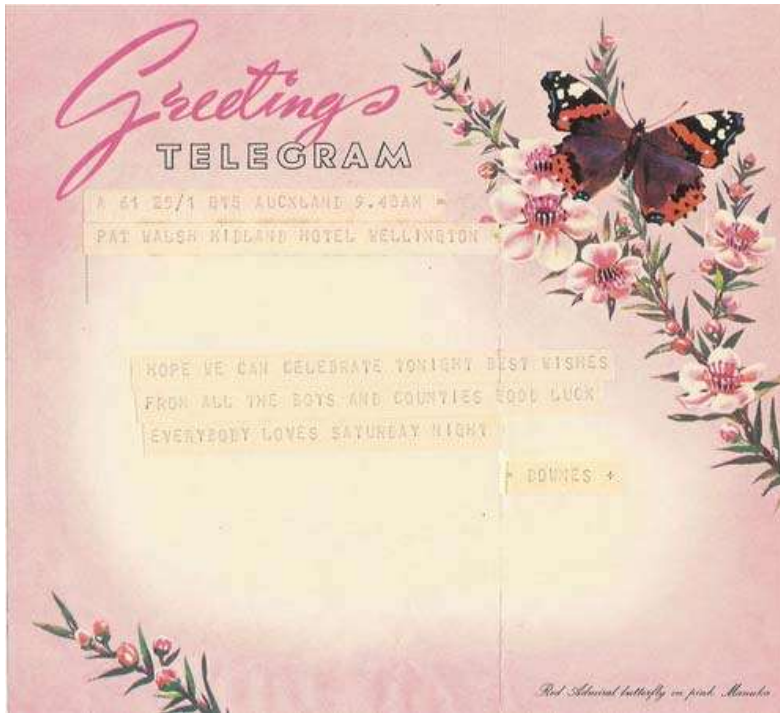


Fig 3. *Vanessa atalanta* L.
telegram format, New Zealand, 1963

The Monarch (*Danaus plexippus*) is the most popular butterfly in America. In 1492, when Columbus's ships were approaching Cuba, the sailors were astonished by a previously 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 Monarch butterflies. 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 distances of more than 3,600 kilometers. They fly at the height of 120 meters. Their speed, depending on the speed of wind, is from 15 to 50 kilometers per hour. At dark their flight stops.



Fig 6. *Danaus plexippus* L.
normal & color missing, Mexico, 1988, Sc#1559

generation, which has never been to their wintering location, makes the return trip. Their phenomenal genetic memory helps them to find the wintering place without a mistake.



Fig 4. *Gonepteryx rhamni* L.
postage meter Germany 2002

The African Giant Swallowtail (*Papilio antimachus*) is an exceedingly beautiful butterfly with a relatively wide range in Africa's primary rainforests. The African Giant Swallowtail is the largest African butterfly and has a long, narrow wingspan of 20–23 cm and no tails. It is orange to reddish-brown with a complex pattern of black and yellow-ochre markings. The butterfly has no natural enemies because it is very poisonous, with a toxin potent enough to kill up to six average house cats.



Fig 5. *Papilio antimachus* Dry.
Artwork, Burundi, 1984, Sc#614

For many years, people could not find the wintering places of these butterflies. 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 eight hectares he found about 50 million butterflies. 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 can break. It takes three generations for the butterflies to reach their far northern areas again and the fourth

The butterfly *Ancyluris formosissima* with rapid flight and instant reaction is present in tropical rainforests of South America, mainly in Ecuador, Peru, and Bolivia. It can be found at an elevation up to 3,000 meters above sea level. Its wingspan is about 38–45 millimetres. The upper sides of the forewings are dark brown with a blue-green band, while the base is white and brown. The hind wings are white, pink, and brown, with a brilliant blue-green marginal band and a small red area. At the edge of the hind wings there is a short tail. In South America, this butterfly is called a “living treasure.” The species name *formosissima* means “very beautiful.”

In the tropical forests of South America there are the butterflies that have lost the scaly covering on their wings, making them almost completely transparent. Only the hind wings display eyes that are typical for this family. When such a butterfly is on the crown of a tree, it is quite unnoticeable because the design of the leaf on which it sits appears through its glassy wings. One of these butterflies is the Amber Phantom (*Haetera piera*). These elusive crepuscular butterflies are denizens of the darkest and dampest recesses of the rainforest.

The Blue Morpho (*Morpho peleides*) from the rainforests of South America is among the largest in the world, with a wingspan up to 20 cm. The males have beautiful metallic-blue upper wings, while the females are drab.



Fig 9. *Morpho peleides* Kollar original artwork, Venezuela, 1966

As the butterflies move their wings up and down during flight, they seem to disappear, and then reappear a short distance away, looking like ethereal flashes of bright blue light. The dark undersides of their wings strengthen this effect. Combined with an undulating pattern of flight, this ability to change color quickly makes them difficult for predators to pursue.

The magnificent *Morpho rhetenor*, also called Blue Morpho, is a very beautiful butterfly from South America. Their distribution extends from Peru to Colombia and from Guyana to Suriname. The wingspan is about 14–17 cm. Only the wings of the male are blue. They shine the most brilliant blue of all butterflies due to the structure of the wing scales. They always fly energetically at a great height, mounting from 3 to 6 meters with an undulating flight. In bright sunlight, each wing flap can be seen up to a distance of one third of a kilometer.



Fig 7. *Ancyluris formosissima* Hew. Guinea, 1973, Sc#641

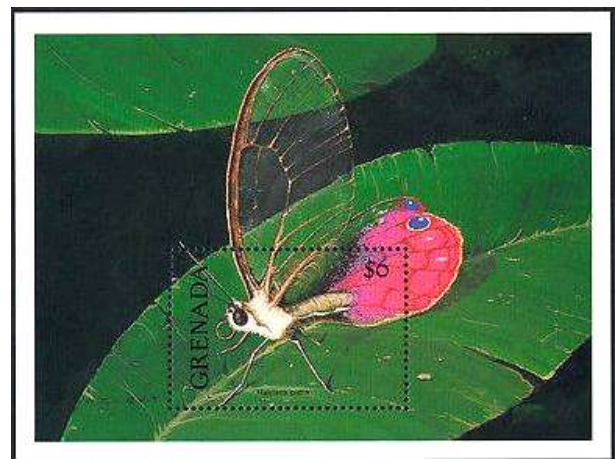


Fig 8. *Haetera piera* L. Grenada, 1991, Sc#1948

Their iridescence stems from the microscopic structure of their wings. Pilots flying over the rain forest can occasionally see brief flashes of blue as these butterflies travel above the forest canopy. Iridescent surfaces, such as butterfly wings, help animals to elude potential predators. When these insects fly, the upper surface of their wings continually changes from bright blue to dull brown because the changing angle of the light striking the wings.



Fig 10. *Morpho rhetenor* Cr. Niue, 2004, Sc#786

The Common Rose (*Pachliopta aristolochiae*) is an unusual swallowtail butterfly belonging to the roses, or red-bodied swallowtails. It is beautiful butterfly that is extensively distributed across South and Southeast Asia. The red body, slow peculiar flight, bright colouration and pattern of the wings are meant to indicate to predators that this butterfly is inedible, being well protected by the poisons it has sequestered from its larval food plant. The Common Rose is active much earlier in the morning than most butterflies and remains so throughout the day until dusk. It flies just as readily in the shade as in the sun, and frequently visits flowers.



Fig 11. *Pachliopta aristolochiae* Fabr. Malaysia, 1996, aerogramme



Fig 12. *Troides helena* L. Hong Kong, 2000, Sc#903

The Common Birdwing (*Troides helena*) with wingspan of 140–170 mm is one of the largest and most beautiful butterflies in Asia. Its common name is derived from the fact that a careless look at this conspicuous black and yellow butterfly might almost give the impression of a bird in flight.

The dramatic contrast of golden yellow hind-wings and glossy black forewings gives this species a striking appearance, and serves as a protection mechanism by warning potential predators that it is distasteful. The Common Birdwing enjoys the widest distribution of all birdwings, stretching from India and Nepal in the west, to China in the north, and down through Southeast Asia to Indonesia in the south and east. This species is protected under Wild Animals Protection Ordinance in Hong Kong.

Queen Alexandra’s Birdwing (*Ornithoptera alexandrae*) is the largest butterfly in the world, with females reaching wingspans up to 28 cm. Its distribution is restricted to the forests of the Oro Province in eastern Papua New Guinea. This species displays sexual dimorphism. The wings of males are long with angular apexes. They are iridescent bluish green with a black central band. The underside is green or blue green with black veins. The wingspan of the males is about 20 cm.

Females are larger than males with markedly rounder, broader wings. The female can reach a body length of 8 cm and a body mass of up to 12 grams, all enormous measurements for a butterfly. The female has brown wings with white markings arranged as two rows of chevrons. The hindwings are brown with a submarginal line of centered yellow triangles. They fly almost untouchable in the crowns of trees of the rainforests of New-Guinea. The species is considered endangered.



Fig 13. *Ornithoptera alexandrae* Roths. preliminary art, Papua New Guinea, 1975



Fig 14. *Ornithoptera alexandrae* Roths. ♀ maximum card, Papua New Guinea, 1988

An imperfect respiratory system limits butterfly size. Their colorless blood cannot carry oxygen, the flow of which to their organs depends only on diffusion. That is why the biggest butterflies live in the tropics. The variety and coloration of wings compare butterflies to the most beautiful creatures on Earth.

I hope that my article illustrated by different types of philatelic materials will help philatelists in creating, developing, and improving exciting philatelic exhibits about butterflies.

Please write to the author Vladimir Kachan by e-mail: vladimirkachan@mail.ru.