

## DOCUMENTARY: “FLYING WITH THE MONARCH BUTTERFLY. THE MYSTERY OF THOSE WHO RETURN TO WHERE THEY HAVE NEVER BEEN”

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The butterflies are ephemeral beings. Their active life is very short. On average, from egg to caterpillar to the chrysalis, it varies from 20 days to a month. At these stages many butterflies succumb to predators, parasites and diseases and, for this reason, they play a key role in ecological networks.

So much beauty wasted?

No, on the contrary, it is the force of natural selection that has generated the colors, designs and shapes of the wings that fascinate us. Since prehistoric times, the myth of the butterfly as a symbol of life after death characterizes much of the Eurasian culture and the ancient Mesoamerican civilizations. In particular, Mexico is rich in evidence of butterflies representing creative deity depicted on anthropomorphic sculptures, but also spirit warriors, when they become part of the armor. Among the most spectacular examples: the butterfly-shaped staircase of the Palacio de las Grecas at Tonina in Chiapas, Mayan culture, the divinity of Itzpapalotl culture of Teotihuacan and the imposing statues of Toltec warriors placed on a pyramid at Tula de Allende, north of Mexico City. In the wet tropics the ideal conditions and the rapid succession of generations of butterflies have given rise to a great biological diversity. That is why today it is thought that most species have evolved in these tropical areas and then have colonized, after the retreat of the ice, the most diverse corners of the planet.

In climates where the butterflies have to face bad times, like winter, they survive normally in the form of egg, caterpillar or chrysalis. There are not many species that face the winter as an adult. The most famous is certainly the Monarch butterfly of North America, for scientists *Danaus plexippus plexippus*. This large and beautiful butterfly, which has become an icon at the global level and was chosen to represent many states, however, has kept many secrets of

its extraordinary life cycle. For a good part of the last century the question was “how and where do the numerous monarch spend the winter period that during the summer have colonized the northern part of North America?” Today we know that the fall generation performs an incredible migration of several thousands of kilometers, to reach the summits of a transvolcanic belt in the state of Michoacan in Western Central Mexico.

What drives these butterflies to migrate?

It is with this question that the expedition started from Esapolis, the Living Museum of Insects of the Province of Padua, organized by the Butterfly Arc, famous for the first Italian butterfly house in Montegrotto Terme, led by the entomologist Enzo Moretto, along with biologists Lisa Camerin, Marco Gherlenda and one of the top experts in the field, Michael Bopprè, professor of ecology at the University of Forest Science of Freiburg in Germany, sought to deepen the knowledge of the overwintering sites of butterflies and help their conservation.

## Реферат

# ДОКУМЕНТАЛЬНЫЙ ФИЛЬМ: «ПОЛЕТ С БАБОЧКОЙ МОНАРХОМ. ТАЙНА ТЕХ, КТО ВОЗВРАЩАЕТСЯ ТУДА, ГДЕ ОНИ НИКОГДА НЕ БЫЛИ»

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Производство компании the National Public Broadcasting Company  
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Новый научно-познавательный фильм «Полет с бабочкой монархом. Тайна тех, кто возвращается туда, где они никогда не были» посвящен ключевой роли бабочек в экологии и значению бабочек в культурах и традициях древних народов Мезоамерики. Он рассказывает о работе экспедиции, целью которой являлось изучение уникальных транссевероамериканских миграций бабочек монархов (*Danaus plexippus plexippus*). Экс-

педия была организована первым итальянским Домом бабочек Butterfly Arc в Монтегротто Терме во главе с его организатором и директором энтомологом др. Э. Моретто, а также биологами Л. Камерин, М. Герленда и одним из ведущих специалистов-лепидоптерологов, профессором экологии Университета лесоведения Фрайбурга, Германия, д-ром М. Боппре.