The flight of the Monarch

As soon as summer ends every year, millions of Monarch butterflies from North America land simultaneously within a short period of time in the forests of the high mountains east of Michoacan two hundred kilometers west of Mexico City . They fly from Canada and the eastern United States migrating south in search of warmer climate than where they originated. The Monarch, weighing less than half a gram, flies up to a hundred kilometers a day. Certain glider pilots have spotted it more than a kilometer above the ground in order to take advantage of the warm air current. On route, the Monarchs feed on nectar plants - fall flowers - or better late, summer and fall flowers.
Towards the end of October after a two month or longer voyage, the butterflies arrive at their destination. They come to the Oyamel fir forests of Mexico which have an average altitude of 3200 meters. They will stay there until March. At the end of winter, the time for reproduction begins. The majority of Males die quickly but some move north as well but in lower numbers and it is the females who make the journey north following the growth of their favorite plant, asclepiads where the butterflies lay there eggs one by one. Each female can lay up to - or, as many as 500 eggs. The offspring from the overwintering adults also migrate in May and early June expanding the population to the limits of host plants in Canada. Between the end of March and the end of September three-four generations are produced during the breeding season.

This annual migration covering thousands of kilometers is the longest ever observed among insects.

The migration of the monarch is in peril because of the growing loss of habitat in Mexico due to the deforestation of the Oyamel tree. It is also affected in the United States where the use of insecticides and weed killers by the agriculture industry is eliminating asclepiad, the plant which nourishes Monarchs.

Jean Lauriault is a professor of Biology and Ecology and a specialist on environment for the Museum of Nature in Ottawa, Canada. He has been studying Monarch butterflies since 1995 and his work involves establishing programs to sensitize and inform the local population and the greater public of the urgent need to protect the natural environment notably the forest. He has established a traveling exposition and the creation of several "reserves"
or protective zones, in Canada to help the conservation of Monarchs. Each year, Jean Lauriault visits the Angangueo valley in Mexico to observe and study the behavior of butterflies. For this biologist, the Monarch butterfly is a good example to make the public conscious of the urgency to protect and conserve the environment. Even on this reserve in the biosphere, there are very organized but illegal cut downs of trees where the wood is resold in Mexico. Despite the implantation of thousands of trees, it is urgent to act. For Jean Lauriault, deforestation is a real threat to biodiversity. "With deforestation, we increase the local temperature. Consequently, the Monarch butterfly is going to warm up and fly earlier. While flying, it will lose its energy, and it's possible it will find it more difficult to mate and to return to Canada." According to the findings carried out Jean Lauriault and his Mexican colleagues by helicopter, it's estimated there is a population of more than two hundred million Monarch butterflies in this region of Mexico. Four to five million are victims of predators such as the grosbeak with its black head and the Abeille Oriole, two species of birds immune to the poisonous properties of the Monarch. The lifespan of an overwintering Monarch is between six to nine months, while other butterflies endure a normal lifespan of twenty-four days. (reproductive monarchs in the breeding season live 3-5 weeks)

This migration remains a great mystery to scientists.

Jean Lauriault: "There are a lot of things that we don't know, this extraordinary migration, to go and return from Mexico to Canada. It's the only insect that makes such a long path. One of the reasons which can explain this phenomenon is the ideal temperature to pass the winter with a good level of humidity in this region of Mexico. One of the theories advances the fact that during the last ice age in North America, around 10,000 years ago, butterflies migrated with the melting of the ice and the displacement of their favorite plant, the asclepiad."

Chip Taylor is the Director of "Monarch Watch" and Professor of Ecology and Biology at the University of Kansas in the United States. He is passionate about this unique migration in the world.
Chip Taylor: "There's no other migration like this where insects come to one location. This is very interesting because there are three to four generations between each migration, yet they are coming back to the same general location every year.
It's a complicated migration because this species is a tropical insect and therefore it's not adapted to cold but they can expand into the temperate regions when the weather is warmer. So this species apparently expanded into temperate regions long ago and had to retreat when it got colder and evolved into this really complicated migration. The Monarch butterfly is a very charismatic insect and it's very symbolic of what is happening to the world. Here's an insect with a very magnificent migration and we're seeing a threat to the habitat in Mexico, in the US and everything to do with climate change. Habitat loss, climate change, increase of CO2 all have an impact on this butterfly. I'm using this butterfly as a symbol for all the questions we face on the conservation of life."
Chip Taylor has initiated the marking of butterflies. The technique consists of sticking a small stamp with an identification number on the wing of the insect. The experience is productive because hundreds of "tags" are recovered in the mountains of Mexico.
"To save the Monarch we must understand it. These tags allow us to understand better the species, its migration and to understand the dynamics of the process, We've been doing the tagging for a long time, since 1992, and we've learned some remarkable things such as the timing and pace of the migration. The timing of the migration appears to be linked to the declining angle of the sun in the late summer so we can predict when the monarchs will come to Mexico every year. We've learned all the places the butterfly comes from. We've learned that the survival of the butterflies on the migration is a related to the latitude and longitude from which it originates. For