

5-13-84

# Monarch butterflies head north to escape people

MEXICO CITY (AP) — Riding the wind in burnt-orange waves, monarch butterflies have headed north from their mountaintop winter home, survivors of nibbling mice and birds, the weather and their biggest threat — people.

Monarchs — *Danaus plexippus* — have made their way to Australia, New Zealand, the Canary Islands and South America. But only those born at the end of the summer in North America, where they are most common, are known to fly thousands of miles to cluster in colonies in a mysterious annual migration, unique among insects.

In their most dramatic journey, millions of monarchs from southeastern Canada and the eastern United States wend their way to central Mexico, arriving around Nov. 1, two months after they left their northernmost summer sites.

There they wait out the winter, blanketing the towering oyamel fir trees. Masquerading as another layer of bark or dried leaves when the cold keeps their wings folded, leaving only the light tan undersides exposed, they paint the trees in splashes of autumnal ochre when, warmed by the sun, they open their wings. Black veins lacing their wings and a black border dotted with white add to their disguise.

It's no wonder they're winter home wasn't found until 1975.

About three hours west of Mexico City, the colonies were known only to peasants farming below the butterflies' 9,000-foot mountain ridge until Canadian zoologist Fred A. Urquhart homed in on them after decades of research.

Discovery means tourists, a potential danger, but may also mean protection for their habitat from the population pressure that pushes the peasants ever farther up the mountains.

For a monarch, the sun is the key — and the forest.

Big enough to fill the palm of your hand, monarchs are master sunbathers, "like little solar cells," as ecologist William Calvert puts it.

They cannot fly at all in temperatures below 59 degrees, says Calvert, an adjunct associate professor of zoology at the University of Florida and a leading researcher on the monarchs.

But let them warm up. They float from the trees, soar against the deep blue sky like autumn leaves, swoop down a path in an orange blizzard.

If caught on the ground for the night, they may climb up the underbrush, warmer than the ground and less accessible to mice, Calvert said. At 25 degrees, they begin to freeze.

Monarchs make most birds ill, but two species manage to eat them.

They take up little space at any given

moment — 11 acres this season, less than half the area in 1982-83.

"They need the warmest nighttime and coolest daytime conditions," says Calvert.

During storms or cold waves, every tenth of a degree drop in temperature could kill thousands, he has found.

"Every year there's a house a little farther up the slope, it's cut a little farther up the slope," he said of El Rosario, one of four sites the monarchs use every year. "It's pretty hopeless when you think that 60 percent of Mexicans are under 20 and think that all are going to want houses and newspapers and magazines and comic books. The pressure on those little forests is pretty great."

Along the rutted, dusty trail to El Rosario, cornfields slope down the mountainside dotted with tree stumps.

The government has prohibited cutting in the forests and issued a decree to protect the monarchs. The Urban Development and Ecology Ministry is working on another decree that specifies the areas to be protected, Javier de la Maza, assistant director of continental ecological reserves, said.

They hope to strictly preserve 2,470 acres and allow controlled activity on another 2,470-acre buffer zone at each site, he said.

The ministry envisions a regional, year-round development program that will offer economic alternatives to the peasants and protect the forest.

De la Maza admits it will be difficult to show "ejidatarios" — communal farmers — that they can profit from forest management.

"The ejidatario, unfortunately ... lives for the moment and if he needs a tree at that moment, he is going to cut it," said de la Maza,

The sites have survived this long, he added, because they are in such rugged terrain.

"With the rhythm of growth of our country and, in a way, the disorganization that reigns in the countryside, if we do not make our actions work, then I do not give areas that are now preserved more than six or seven years," de la Maza said.

The government wants no more visitors than now because it is not equipped to control them.

Training tourists may be as hard as educating farmers, but de la Maza said that "with paths at a distance, as if it were a museum, so they can see them but from far away, it will not hurt them."

By mid-April each year all the monarchs that survived have headed north. Soon after mating and laying eggs, they, too, will die, having lived eight months.