THE PEGGY NOTEBAERT
NATURE MUSEUM
The Museum of the Chicago Academy of Sciences

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Swamp Metalmark Butterfly Makes Comeback in Illinois

Chicago, IL (October 14, 2008) – A critically endangered butterfly in Illinois is poised for a comeback after the first successful breeding effort in a laboratory setting. The swamp metalmark butterfly has completed a breeding cycle in captivity for the first time at the Peggy Notebaert Nature Museum. The butterfly has not been seen in the state in any great number in more than 20 years.

"This accomplishment is a significant in preserving our local ecosystems and better understanding the process of breeding in captivity for other species," said Doug Taron, Curator of Biology at the Nature Museum. "All species are valuable, including the swamp metalmark butterfly. Biodiversity is an important resource, so we must be good stewards of nature." Taron's goal is to keep the swamp metalmark part of Illinois' biodiversity for generations to come.

The swamp metalmark butterfly is a critically endangered species; and among Illinois' butterflies, it has the highest risk of becoming extinct globally. Taron attributes the rapid demise of the swamp metalmark butterfly to the destruction of its habitat. "These tiny jewels never had much of chance in Illinois because their habitat has dwindled," Taron explained. Swamp metalmark butterflies thrive in wetland areas known as fens. Soil from this type of environment has certain chemical properties that allow the butterflies' food plants to survive. Over the years, such land use issues as overgrazing, mining and commercial and residential developments have disturbed their serene setting.

Over the past 25 years, Taron has been a steward of an ecosystem restoration project at the Bluff Spring Fen near Elgin, Ill.—an ideal environment for the swamp metalmark. Taron hopes that the butterflies in the lab today will mate and lay eggs. When the eggs hatch, the caterpillars will be stored outdoors over the winter in special cages. Next spring, Museum staff will rear the caterpillars to adulthood and release them back into nature in July—the usual time of year in which the caterpillar completes its transformation into a beautiful adult butterfly.

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"We think we know what these butterflies will like, but we won't know for sure until next summer, when the swamp metalmarks go through an entire cycle of the breeding process in the wild," Taron explained. The project enables scientists to learn about the conservation of insect. Taron hopes his work will help other scientists understand how to replicate the reintroduction of other species into the nature.

"This success story is just one example of the Nature Museum's dedication to restoring local ecosystems and advancing scientific knowledge, as well as our overall commitment to teaching people about nature and the environment," said Laurene von Klan, president and CEO of the Museum.

For more on the Chicago Academy of Sciences and the Peggy Notebaert Nature Museum's Butterfly Restoration Project, visit www.naturemuseum.org.

About the Swamp Metalmark Butterfly Breeding Process

In July 2008, the Peggy Notebaert Nature Museum's Butterfly Restoration Project, led by Doug Taron, Curator of Biology, captured three egg-filled adult swamp metalmarks from east-central Wisconsin. In September 2008, those butterflies laid more than 100 eggs in the Museum's butterfly breeding lab. Seventy caterpillars emerged from the initial batch. Museum officials nurtured the caterpillars waiting for them to pupate. On October 14, 2008, the first of the butterflies emerged from their chrysalis in the Museum—the first time something of this nature unfolded in a lab setting in Illinois.

Now scientists are hoping these butterflies born in the lab mate in their cages as they are strategically paired-up. Scientists expect the females to produce hundreds of eggs, ultimately resulting in a large number of butterflies. Taron hopes to release 50-80 adults in the wild in July. Scientists will know if the reintroduction of the species to the wild is a complete success after the swamp metalmark survives an entire breeding cycle in nature—August 2009 to August 2010.

Scientists have attempted the reintroduction of the swamp metalmark into the wild in the past—transferring about 60 larvae to Bluff Spring Fen in 2002. Since the reintroduction in the wild, only two adults have been spotted to date at Bluff Spring Fen.

About the Swamp Metalmark Butterfly

The swamp metalmark butterfly is indigenous to Illinois and other Midwestern states including Wisconsin, Iowa, Indiana, Ohio, Missouri, and Michigan. In the Chicago area, it has previously been recorded from northwest Cook County. Aside from the two recent sightings at Bluff Spring Fen, the species has been absent from the Chicago metropolitan area since about 1940, and from the state of Illinois since the mid-1980s.

The total time frame for one butterfly's life cycle—one generation involves the egg, caterpillar, chrysalis and butterfly—is about 6-8 weeks. The swamp metalmark lives for only one week as an adult (once it sheds it caterpillar skin); they wait a day after shedding their skin to mate, and the next day they start producing eggs. Of the hundreds of eggs laid, approximately one percent of those hatched make it to adulthood—their beautiful butterfly state. The tiny insect often lands upside down on the bottom of leaves. It gets its name from the metallic-colored lines and dots on its wings. The caterpillar feeds on thistle, while adults take nectar flowers. Its predators are birds, spiders, dragonflies and assassin bugs.

About the Butterfly Restoration Project

The Peggy Notebaert Nature Museum is bolstering populations of rare and endangered butterflies native to the Chicago region. Scientists and volunteers have spearheaded wildlife restoration and conservation projects which include collecting, breeding, raising, and studying a variety of creatures to learn more about how to ensure the survival of threatened species.

In December 2001, the Museum received the prestigious BP Leader Award and a butterfly restoration project was launched that has re-introduced imperiled insects to help with our region's ecological restoration. Scientists obtained females of swamp metalmarks as well as their host plants from Wisconsin and watched with delight as caterpillars emerged in the Museum's breeding laboratories. In September of 2002, the swamp metalmarks were transferred to Bluff Spring Fen.

Since their initial efforts, Nature Museum scientists have expanded their work to include other imperiled species. Earlier this summer, 100 silver-bordered fritillaries, an uncommon prairie species, were reared at the Museum and released at Glacial Park in McHenry County. Earlier this summer, Museum scientists captured female butterflies from two other species, the purplish copper and regal fritillary, and obtained eggs from them. There are currently 200 purplish copper caterpillars and nearly 1,000 regal fritillary caterpillars in the laboratory at the Museum. Since the mid-1910s, the regal fritillary populations have declined precipitously east of the Mississippi River. The purplish copper has dwindled to a handful of small populations. Once bred, these species will be released in Cook and Lake counties.

Celebrating more than 150 years of science exploration and education, the Peggy Notebaert Nature Museum is the public face of the Chicago Academy of Sciences, founded in 1857 as Chicago's first museum dedicated to educating Chicagoans about nature and science through the preservation and display of native specimens, classroom activities, and dissemination of scientific knowledge.

Today the Museum continues the Academy's tradition of research, conservation and education about nature in the Midwest through participatory exhibits and programs, educational outreach and ongoing scientific activity. Its collections, due to their age and type, are among the most important in the region. The Museum distinguishes itself through extensive involvement in schools and the opportunities it provides for visitors to experience nature up close.

As one of the city's best examples of eco-friendly building technology with its lush outdoor nature trails and habitat, green roof, solar panels, and natural light sources, the Museum engages visitors, especially urban dwellers, in new ways to connect with and preserve the natural world. Since its opening in 1999, the Museum has welcomed more than 1.5 million visitors and provides hands-on exhibits and programs to 65,000 students annually and trains and provides resources for more than 2,000 Chicago teachers.

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