

Detroit Zoo Experiences Successful Year with Karner Blue Captive Propagation

The Karner blue (*Lycaeides melissa samuelis*) is a small butterfly once common from Minnesota to Maine. Karner blue populations have suffered greatly from habitat loss with many local populations disappearing completely. The Detroit Zoo is an active participant in the federal recovery plan for the Karner blue butterfly and is involved in recovery work taking place in Michigan.

In 2004, the Zoo's Associate Curator of Invertebrates, Laura Palombi, began the process of assessing potential reintroduction sites in Michigan, where the Karner blue has not been seen since 1987. A potential reintroduction site was located, and 3 years of habitat assessment and restoration work by the Zoo and the Michigan Department of Natural Resources (MDNR) followed.



Laura Palombi, Detroit Zoo's Associate Curator of Invertebrates, assesses possible reintroduction habitat
Photo: Chelsea Smith

The larvae of the Karner blue feed exclusively on the leaves of wild lupine (*Lupinus perennis*). Habitat loss from agriculture,

development and fire suppression, have severely reduced areas of oak savanna and thus the range and availability of wild lupine. Much of the habitat restoration going on in Michigan involves re-creating clearings through physical brush removal and controlled burns. Without this clearing, the larger trees and shrubs that are allowed to grow create a canopy under which the Karner blue cannot survive. In addition to clearing, a variety of native nectar sources and wild lupine are also being planted. It is hoped that the reintroduction site will be ready for releases this summer.

In 2007, captive propagation for site reintroduction began at the Detroit Zoo. Twenty fertile, adult Karner blue females were collected and transported to the Zoo. They were placed in individual enclosures over lupine plants to stimulate egg laying. The butterflies were hand fed daily using a floral tube filled with a 20% raw honey solution and fitted with a cotton wick.



Mesh bags enclose adult Karner blues with potted wild lupine
Photo Chelsea Smith

When 10 or more eggs could be seen on a lupine, the female was moved to a new host plant enclosure. Larvae were placed in clear plastic shoeboxes modified with a center cut-out covered by mesh. The larvae were fed with lupine leaflet cuttings in floral tubes placed in the boxes. The larvae pupated within 3 – 4 weeks.

BUTTERFLY CONSERVATION INITIATIVE

McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History,
UF Cultural Plaza, 308 Hull Road, P.O. Box 112710, Gainesville, FL 32611-2710



Captive Karner blue at feeding time Photo: Chelsea Smith

Pupae were stored in a paper towel lined shoebox and misted daily. Emerging adults were released in a large mesh tent where they were allowed to feed, mate and oviposit on the potted lupine.

Since it was determined that the designated release site in Michigan was not yet ready to support reintroductions,

the 129 butterflies raised in 2007 were, instead, released in Ohio in partnership with the BFCI member **Toledo Zoo**. The release took place at a site near the Kitty Todd Preserve where the Toledo Zoo began Karner blue reintroductions in 1998.



Adult Karner blues being released in Ohio
Photo: Chelsea Smith

“Following the well-developed protocols, engaging in numerous phone calls and on-site discussions and starting with a reasonable number of founders all contributed to a successful first year of captive breeding,” said Palombi. “The long range goal of this federal program is to protect existing populations of Karner blues and establish new, viable populations within their historic range. The ultimate goal is to eventually remove Karner blue butterflies from the federal list of endangered species.”

Palombi recognizes her intern, Chelsea Smith, the butterfly team of the Toledo Zoo, the Kitty Todd Preserve, the Michigan Department of Natural Resources and the Detroit Zoological Society for this first year success. “This project would not have been nearly as successful without their years of experience and willingness to share.

BFCI Mini-Grant Awards

The BFCI Steering Committee is pleased to announce the recipients of the 2008 BFCI mini-grants made possible by a donation from BFCI member **The Butterfly House**. Nicole Cavendar, Ph.D., Director of Restoration Ecology at *the Wilds*, for development of their pollinator rearing lab; Jason Bried, Stewardship Ecologist for The Nature Conservancy of Eastern New York and Preserve Ecologist for the Albany Pine Bush Preserve Commission for data management for recovery-based statistical analysis of Karner blue butterfly index counts; and Laura Palombi, Associate Curator of Invertebrates at the Detroit Zoo for captive rearing of the Karner blue butterfly. The Steering Committee is encouraged by the number of quality proposals received, and it looks forward to supporting many valuable projects during the next BFCI mini-grant cycle. BFCI congratulates these recipients and encourages others to visit the website www.butterflyrecovery.org, watch the BFCI listserv and BFCI News for upcoming requests for proposals.



Help Spread the Word About Pollinators at the U.S. Botanic Garden Family Days!

BFCI partner, the **North American Pollinator Protection Campaign** (NAPPC) is looking for those interested in giving a presentation at the U.S. Botanic Garden's (USBG) Family Days this summer.



The third Saturday of every month between Memorial Day and Columbus Day is dedicated to a Family Day focused on sustainability at the USBG in Washington D.C. The dates include June 21, July 19, August 16, and September 27.

NAPPC is looking for people who will represent NAPPC and conduct fun, family-oriented activities focusing on pollination and sustainability. This may include a hands-on activity, a speech or a workshop.

If you can help on one of the Family Days, please contact Katie Palm, Education Specialist at the USBG, at kpalm@aoc.gov or 202-226-8038.

America Celebrates Endangered Species Day

From www.stopextinction.org

On May 16th, 2008, America celebrates Endangered Species Day! The U.S. Senate has unanimously passed a resolution supporting Endangered Species Day, a national celebration of America's commitment to protecting and recovering our nation's endangered species.

The goal of Endangered Species Day is simple—to educate people about the importance of protecting endangered species. Endangered Species Day provides an opportunity for parks, wildlife refuges, zoos, aquariums, botanical gardens, schools, museums, libraries, agencies, businesses, community groups and conservation organizations to educate the public about the importance of protecting endangered species and highlight the everyday actions that individuals and groups can take to help protect our nation's wildlife, fish and plants. This year, the focus is on protecting imperiled species like polar bears, penguins, coral, migratory birds, salmon and frogs from global warming. A recently released report from the United Nation's Intergovernmental Panel on Climate Change (IPCC) states that 20-30 percent of animal and plant species could be at an increased risk of extinction, with up to 60 percent species loss in some areas if global warming continues unabated. With over 1,800 species worldwide now listed as threatened and endangered, and thousands more threatened with extinction unless they are protected, every such public education effort is greatly needed.

Endangered Species Day Toolkit

Everything you need to plan your own Endangered Species Day event!

The Endangered Species Coalition has developed the Endangered Species Day toolkit for people planning events and activities. If you are organizing an event or activity for Endangered Species Day, please feel free to download and use.

[Endangered Species Day brochure](#)- Inspiring people to celebrate Endangered Species Day

[Endangered Species Day flyer](#)- Spread the word!

[Endangered Species Day stickers](#)- fun for kids and adults alike, best when printed on Avery labels 5294

[Endangered Species Day toolkit](#)-with a step-by-step guide of how to plan an event

[Endangered Species Day lesson plans](#)- Learn about endangered species in school or at home

[Endangered Species Act factsheet](#)

[Endangered Species Day sample press release](#)

[Endangered Species Day sample media advisory](#)

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BRONX ZOO!**





San Diego Zoo's Wild Animal Park Opens Butterflies & Orchids Exhibit:

March 15–April 6, 2008

An additional splash of color intensifies a vibrant springtime event, the annual

Butterflies & Orchids event at the BFCI member **San Diego Zoo's Wild Animal Park**.

Hundreds of exotic orchids are in full bloom in Nairobi Village near the Animal Care Center while butterflies of every shape, size, and color flutter throughout the Hidden Jungle, a walk-through neo-tropical aviary.

Guests may enter into the lush jungle environment and become immersed in the sights and sounds of a South American rain forest. Butterflies will differ dramatically in coloration and size. A variety of butterfly species will flutter freely throughout Hidden Jungle and the entire jungle habitat is alive with these colorful creatures.

At nearby Nairobi Village, hundreds of exotic orchids will welcome spring with their pink, white, purple, and yellow blooms. Local horticulture experts will offer orchid culture and care demonstrations each weekend.

Thousands and thousands of butterflies inside the Hidden Jungle aviary and hundreds of exotic orchids in full bloom make Butterflies & Orchids a popular spring celebration



2008 Zoo Season Openings



April 22



March 28



April 19

Oregon Zoo's 2008 Wildlife Conservation Lecture Series

**"What Good Are Bugs?
The Case for Invertebrate Conservation"**

Tuesday, April 29

Scott Black, Entomologist, Xerces Society

Black makes a compelling case for appreciating bugs. People can thank insect pollinators for one third of every mouthful of food they eat. Without the lowliest flies in a stream for young fish to eat, grilled salmon would never make the menu. In fact, the direct benefit of insects to Americans is around \$57 billion a year.

Prepare to be astounded and enlightened about some of the planet's smallest, but most important inhabitants.



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- ** Columbus Zoo and Aquarium
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- ** The Dallas World Aquarium
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- ** Racine Zoological Gardens
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- U.S. Fish and Wildlife Service
- Xerces Society for Invertebrate Conservation

Thanks to Our Supporters!

As always, we thank our members, contributors, donors and partners for their dedication to BFCI's mission and goals.

**Announce your butterfly efforts and activities in *BFCI News* by contacting the
BFCI Program Coordinator at: ssanchez@flmnh.ufl.edu**

To learn more about the BFCI, please visit our website (www.butterflyrecovery.org).