



The Mitchell's satyr is a rare butterfly that is now found in restricted areas within Michigan, Indiana, Virginia, Mississippi, and Alabama.



Photo courtesy of Doug Landis; Michigan State University

## Mitchell's Satyr Butterfly

The Mitchell's satyr is an *endangered species*. Endangered species are animals and plants that are in danger of becoming extinct. Identifying, protecting, and restoring endangered and threatened species is the primary objective of the U.S. Fish and Wildlife Service's endangered species program.

What is the Mitchell's satyr butterfly?

- **Scientific Name** - *Neonympha mitchellii mitchellii*
- **Appearance** - This butterfly is medium sized (1 ¾ inch wingspan) butterfly with an overall rich brown color. A distinctive series of orange-ringed black circular eyespots with silvery centers are located on the lower surfaces of both pairs of wings.
- **Range** - The Mitchell's satyr butterfly is one of the most geographically restricted eastern butterflies. Historically, the Mitchell's satyr was found in New Jersey, Ohio, Michigan, Indiana, and possibly Maryland. Today, the butterfly can be found in only 9 locations in Michigan and 1 locations in Indiana, along with a single county in Virginia, and restricted areas within Mississippi and Alabama. The southern populations were discovered in the early 2000's.
- **Habitat** - The Mitchell's satyr is restricted to rare wetlands called fens which are low nutrient wetlands that receive carbonate-rich ground water from seeps and springs. The southern populations are typically associated with beaver-influenced wetlands that are sedge dominated, and occasionally semi-open riparian or floodplain forest areas.
- **Reproduction** - Mitchell's satyr has four life stages: egg, larva, pupa, and adult. The eggs are laid on grasses, sedges, or underside of small forb seedlings. Eggs hatch into caterpillars (larvae) in about a week. The caterpillar grows throughout the year, shedding its skin many times. The fourth stage caterpillar hibernates under the snow to emerge in the spring and resume its development. In late-May to late-June, the caterpillars pupate, forming a chrysalis. After 10-15 days, the adult butterfly emerges. The adults live two to three weeks to mate, disperse, and lay eggs.
- **Feeding Habits** - Mitchell's satyr caterpillars feed on one or more species of grass-like plants called sedges. Adults occasionally feed on nectar.

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Why is the Mitchell's satyr butterfly endangered?

- **Habitat Loss and Degradation** - The greatest threat to the Mitchell's satyr is habitat destruction. Most of the wetland habitat that this butterfly depends on for survival has been drained and filled to make way for cities and farms. Also, invasion from exotic weeds threaten the fens where the butterflies live.
- **Pesticides and other Pollutants** - Contamination of fen wetlands by pesticides, fertilizer, and nutrient runoff from adjacent agriculture, including livestock production, poses a threat to the butterfly's habitat.

What is being done to prevent extinction of the Mitchell's satyr butterfly?

- **Butterfly Collectors** - It is believed that some populations of the Mitchell's satyr were eliminated by butterfly collectors. Because butterfly numbers are so low, the collection of even a few individuals could harm the butterfly population. Collection is illegal without a permit from the U.S. Fish and Wildlife Service.
- **Listing** - The Mitchell's satyr was added to the U.S. List of Endangered and Threatened Wildlife and Plants on June 25, 1991. It is illegal to harm, harass, collect, or kill the butterfly without a permit from the U.S. Fish and Wildlife Service.
- **Recovery Plan** - The U.S. Fish and Wildlife Service has created a recovery plan that describes actions needed to help the butterfly survive, and enable it to be taken off the Endangered Species List.
- **Programs for Landowners** - Opportunities are available for non-Federal landowners and land managers to conduct actions that contribute to the recovery of Mitchell's satyr through a Safe Harbor Agreement (SHA) and Habitat Conservation Plan (HCP).
- **Research** - Researchers are studying the Mitchell's satyr to find the best way to manage for the butterfly and its habitat.
- **Captive Rearing and Propagation** - Scientists are attempting to rear individuals within managed environments with the purpose of supplementing or augmenting wildlife population(s) or reintroducing to the wild to establish new population(s).
- **Habitat Protection** - On State, County, and private lands, the butterfly's habitat is being managed and protected. Many other kinds of plants and animals will also benefit from protection of the butterfly's habitat.
- **Public Education** - Public education programs are being developed to raise awareness of the butterfly's plight.
- **Learn** - Learn more about the Mitchell's satyr and other endangered and threatened species. Consider ways to reduce pesticide use. Understand how the destruction of habitat leads to loss of endangered and threatened species and our nation's plant and animal diversity. Tell others about what you have learned.

What can I do to help prevent the extinction of species?

- **Write** - Write to the U.S. Fish and Wildlife Service or your state fish and game agency to learn more about endangered and threatened species.
- **Join** - Join a conservation group; many have local chapters.
- **Protect** - Ensure your actions protect endangered species and their habitat, in the places you visit and live.