

Winter Survival Strategies of Common Wisconsin Butterflies

* * * * * Migratory Butterflies * * * * *

Some butterflies use flight to protect themselves from harsh winter weather, and to find the best sources of food for themselves and their offspring.



Monarch nectaring

Two-way Migration

Magnificent **Monarch** butterflies (*Danaus plexippus*) migrate each autumn from their northern range to spend the winter roosting in forests in the Sierra Madre mountains of central Mexico. Up to 20 million Monarchs may gather there. In late winter, they fly north again into the southern US, where they lay their eggs and die. The next generation continues the flight north, some flying into the southern Midwest, and their offspring are usually the Monarchs that reach Wisconsin. The last yearly generation of Monarchs emerge in September and join the great Monarch migration to Mexico.

Small Migration

Some other butterflies migrate. Their migrations are smaller and less dramatic than the Monarch. Some **Red Admirals** fly south to overwinter in south Texas. As the weather warms in spring, they fly north looking for good food sources. Those who don't fly south die off in cold Wisconsin winters. Butterflies that have small autumn migrations include:

American Lady (*Vanessa virginiensis*)

Painted Lady (*Vanessa cardui*)

Red Admiral (*Vanessa atalanta*)

Common Buckeye (*Junonia coenia*)

Immigrants

Some butterflies migrate into Wisconsin most years from warmer areas. They come looking for food - for nectar plants, and for caterpillar food plants for laying eggs. They cannot survive our winters, so the last generation each year dies and new butterflies come north in the spring.

Variiegated Fritillary (*Euptoieta claudia*)

Gray Hairstreak (*Strymon melinus humuli*)

Sachem (*Atalopedes campestris*)

Little Yellow (*Eurema lisa*)

Dainty Sulphur (*Nathalis iole*)

* * * * * Non-migratory Butterflies * * * * *

Many butterflies survive Wisconsin winters by entering a state called "diapause." Their bodies manufacture an internal antifreeze that protects their cells and keeps them from freezing over the winter.



Mourning Cloak on leaf litter

Adult Butterflies

These butterflies hibernate through the winter. They find shelter in wood piles, beneath loose bark, or in hollow trees or logs. The Tortoiseshell butterflies often hibernate in groups, and may even congregate in sheds or outbuildings for shelter.

Mourning Cloak (*Nymphalis antiopa*)

Question Mark (*Polygonia interrogationis*)

Eastern Comma (*Polygonia comma*)

Gray Comma (*Polygonia progne*)

Compton Tortoiseshell (*Nymphalis vau-album*)

Milbert's Tortoiseshell (*Nymphalis milberti*)

Eggs

In autumn, these butterflies lay their eggs on the stems, twigs, or at the base of caterpillar food plants. The eggs spend the winter in diapause, and the tiny caterpillars hatch in the spring to feast on the newly-emerging leaves.

European Skipper (*Thymelicus lineola*)

Bronze Copper (*Lycena hylus*)

Coral Hairstreak (*Satyrium titus*)

Edward's Hairstreak (*Satyrium edwardsii*)

Striped Hairstreak (*Satyrium liparops*)

Banded Hairstreak (*Satyrium calanus*)

Newly Hatched Caterpillars

Some adult butterflies lay their eggs on caterpillar food plants in the autumn. The eggs hatch, but the little caterpillars do not eat. Instead they make nests at the base of the plant, and hibernate until spring, waiting for warmer weather and the tender new growth.

Aphrodite Fritillary (*Speyeria aphrodite*)
Great Spangled Fritillary (*Speyeria cybele cybele*)

Common Wood-Nymph (*Cercyonis pegala nephele*)

Mid-stage Caterpillars

Most caterpillars go through five "instars" or stages of growth, shedding their skin between each stage. Some of them hibernate by going into diapause during one of the middle stages, resting through the winter to awake and complete their growth in the spring. Many of them make a leaf shelter by using silk to web leaves together into a tight roll. Some (**White Admirals, Red-spotted Purples, and Viceroy**s) "sew" part of a leaf to a stem or twig. **Eastern Tailed Blues** spend the winter in seed pods of pea family plants such as alfalfa, clover, and beans. Others overwinter beneath leaf litter or forest rubble.

Least Skipper (*Ancyloxypha numitor*)
Long Dash Skipper (*Polites mystic*)
Silver-spotted Skipper (*Epargyreus clarus*)
Indian Skipper (*Herperia sassacus*)
Peck's Skipper (*Polites peckius*)
Northern Broken Dash (*Wallengrenia egeremet*)
Dun Skipper (*Euphyes vestries metacomet*)
Sleepy Duskywing (*Erynnis brizo*)
Northern Cloudywing (*Thorybes pylades*)
Dreamy Duskywing (*Erynnis icelus*)
Juvenal's Duskywing (*Erynnis juvenalis*)
Common Sootywing (*Pholisora catullus*)
Pink-edged Sulphur (*Colias interior*)

Eastern Tailed Blue (*Everes Comyntas*)
Meadow Fritillary (*Boloria bellona*)
Silver-bordered Fritillary (*Boloria selene myrina*)
Atlantis Fritillary (*Speyeria atlantis*)
Silvery Checkerspot (*Chlosyne nycteis*)
Pearl Crescent (*Phyciodes tharos*)
White Admiral (*Limenitis arthemis arthemis*)
Viceroy (*Limenitis archippus*)
Red-spotted Purple (*Limenitis arthemis astyanax*)
Northern Pearly Eye (*Enodia anhedon*)
Little Wood Satyr (*Megisto cymela*)
Appalachian Eyed Brown (*Satyrodes appalachia*)
Eyed Brown (*Satyrodes eurydice eurydice*)



Black Swallowtail Chrysalis

Mature Caterpillars and Pupa (Chrysalis)

Some butterflies hibernate as mature caterpillars, or shed their last skin and emerge as a pupa (chrysalis) and enter diapause until spring.

Tawny-edged Skipper (*Polites themistocles*)
Delaware Skipper (*Anatrytone logan*)
Hobomok Skipper (*Poanes hobomok*)
Black Swallowtail (*Papilio polyxenes*)
Giant Swallowtail (*Papilio cressphontes*)
Eastern Tiger Swallowtail (*Papilio glaucus*)
Canadian Tiger Swallowtail (*Papilio canadensis*)
Cabbage White (*Pieris rapae*)
Mustard White (*Pieris napi*)
Olympia Marble (*Euchloe olympia*)
Clouded Sulphur (*Colias philodice*)
Orange Sulphur (*Colias eurytheme*)
American Copper (*Lycaena phlaeas americana*)
Brown Elfin (*Calophyrus augustinus*)
Spring Azure (*Celastrina ladon*)
Summer Azure (*Celastrina neglecta*)
Silvery Blue (*Glaucopsyche lygdamus*)



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