

BUTTERFLY REFERENCES

BOOKS

Butterflies of the North Woods, Minnesota, Wisconsin & Michigan by Larry Weber (Kollath & Stensaas Publishing, 2006)

Butterflies of North America by Jeffrey Glassberg (Sterling Publishing, 2004)

Caterpillars in the Field and Garden by Thomas J. Allen, Jim P. Brock, Jeffrey Glassberg (Oxford University Press, 2005)

The Life Cycles of Butterflies by Judy Burris and Wayne Richards (Storey Publishing, 2006)

Butterfly Gardens, Brooklyn Botanic Garden All-Region Guides (2007)

Beginner's Guide to Butterflies by Donald and Lillian Stokes (Little, Brown and Company, 2001)

Raising Monarchs by Sue Fox McGovern (Sunbury Press, Inc., 2013)

Stokes Butterfly Book, The Complete Guide to Butterfly Gardening, Identification and Behavior by Donald and Lillian Stokes and Earnest Williams (Little, Brown and Company, 2007)

ORGANIZATIONS

North American Butterfly Association (NABA)
www.naba.org

Southern Wisconsin Butterfly Association (Chapter of NABA, Madison, WI)
www.naba.org/chapters/nabawba

Monarch Watch (University of Kansas)
www.monarchwatch.org

Monarch Joint Venture (University of Minnesota)
www.monarchjointventure.org

Xerces Society (pollinator/insect conservation)
www.xerces.org

ADDITIONAL WEB SITES

www.learner.org/north (Journey North - tracks Monarch migration)

www.wisconsinbutterflies.org (identification, habitat, sightings of Wisconsin butterflies)

www.raisingbutterflies.org (how to raise a variety of butterflies)

www.monarchlab.org (University of Minnesota, Monarch rearing)



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How to Raise a Butterfly from an Egg

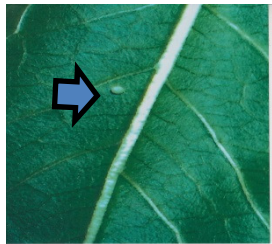


A simple guide to help you raise a butterfly from an egg and experience the amazing wonder of butterflies

Raising butterflies from their egg stage is an exciting project that children as well as adults will find amazing. Let's look at the life transformation of two of Wisconsin butterflies: the Black Swallowtail (*Papilio polyxenes*) and the Monarch (*Danaus plexippus*).

EGG STAGE

The Swallowtail egg stage is 3-5 days. Their eggs may be found on dill, parsley or fennel. A Monarch's egg stage is 1-5 days; and the eggs are found only on the milkweed plant. Female Monarchs will lay one egg per milkweed



Monarch Egg

plant, usually on the underside of a leaf. The eggs of both of these butterflies are cream colored. The egg of the Swallowtail is round in shape, while the Monarch's egg is oval. When collecting the eggs, take as much of the

plant as possible. Small portions of the plant can be kept in a large zip lock bag on a slightly damp paper towel to keep the eggs from drying out. Larger stems can be kept in water, as long as the container is covered to keep the caterpillar from falling into the container.

CATERPILLAR (Larvae) STAGE

Soon the tiny egg will hatch and enter into the caterpillar stage. This stage is about 2 weeks for the Swallowtail and anywhere from 9-16 days for the Monarch. After the caterpillar hatches, it is very small and not easily seen.

When the tiny Swallowtail caterpillar first emerges, it is black with a white spot in the middle. This little caterpillar is hungry! Note how this Monarch caterpillar feeds in a circular motion, leaving an



Monarch Caterpillar

arc-shaped hole in the leaf. Also, it will leave frass (caterpillar poop). When the caterpillar stops eating, it is about to shed its skin (molt) and should not be moved or disturbed. It will molt several times and often eats the skin. It should be noted that the Black Swallowtail caterpillar will change its appearance several times after molting before



Black Swallowtail Caterpillar

developing its green and black stripes with yellow spots.

After the caterpillar is about 4 days old, it can be placed in a large jar or clear plastic container covered with an open-weaved cloth for air

and secured with a rubber band. The container needs to be large enough for the butterfly to hang and spread its wings without touching the sides or anything else. Critter carriers or aquariums, available at pet stores, can be used also. Paper toweling placed on the bottom of the container will make clean-up easier. It is important to have a continuous supply of fresh leaves and to keep the container clean.



CHRYSALIS (Pupa) STAGE (10-14 Days)

When the caterpillar stops eating, it will start wandering



Monarch Chrysalis



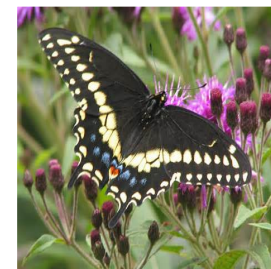
Swallowtail Chrysalis

around the container looking for a place to form its *chrysalis*. The Black Swallowtail will purge a greenish substance before going into chrysalis. Provide a variety of sticks in the container for the caterpillar to attach when forming a chrysalis. A Swallowtail caterpillar will attach itself by spinning a silk thread (girdle) around its body. It may also attach to a stem of the plant. The chrysalis can vary in color from tan, green and yellow. A Monarch may attach itself to the top of the jar, or sometimes to the milkweed plant. It will then remain in a "J" position, motionless for a time, before its chrysalis stage. Do not disturb the chrysalis until it has fully hardened after a day or so. It is during this time that the caterpillar tissues are broken down and the adult insect structures are formed inside.

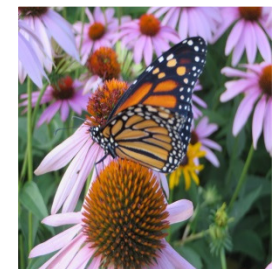
ADULT STAGE (Butterfly)

When the chrysalis turns dark and, in the case of the Monarch, the colors of the butterfly become visible, the butterfly is ready to emerge. It will need at least several hours for its wings to dry. Only after it begins flapping its wings and moving around should it be released.

Depending on when the butterfly emerges, it can be kept overnight. If bad weather delays release beyond 24 hours, a fresh flower or a little sugar water (1 tsp sugar to a cup of water) on a Q-tip can be used to feed it.



Adult Black Swallowtail



Adult Monarch Butterfly