

Attracting Butterflies and Caterpillars

One of the best ways to learn more about butterflies is to get up close and personal with them. Here are some tips for attracting these beauties.

With a wingspan of up to 14 centimetres, the giant swallowtail is one of North America's largest butterflies. Attract this citrus-loving giant to your garden by cutting an orange, grapefruit, tangerine or other sweet citrus fruit in half and placing it securely on a platform.

Butterflies are also attracted to smooth, sunny surfaces such as rocks. Since these insects are cold-blooded (they cannot generate their own body heat), they must bask in the sun to warm their bodies and wings. Often you will see several butterflies hanging out on the same rock, gently opening and closing their wings. The dark scales on their wings attract the warm sunshine and help regulate the butterfly's temperature. If a butterfly gets too cold, it cannot fly to escape danger. This is one reason why butterflies do not fly at night.

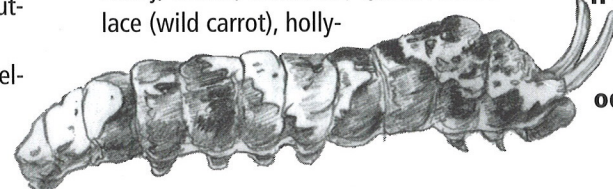
Placing a few large rocks in sunny, sheltered areas around your yard or garden may help attract these insects.

Once you have attracted butterflies, build them a cozy home where they are sheltered from wind and rain. Directions on making a butterfly condo can be found at <http://butterflywebsite.com/articles/house/plans.htm> You will need an adult's help with this project.

Plant a butterfly garden

Butterflies like:

- sunny locations
- shelter from the wind
- nectar-rich flowers – Several plants that are good for attracting butterflies to your garden are: bee balm (*Monarda*), coneflower (*Echinacea*), coreopsis, goldenrod, marigold, daisies, parsley, dill, celery, violets, milkweed, Queen Anne's lace (wild carrot), holly-



Did you know...

The caterpillar of the giant swallowtail looks like bird droppings and is called the "orange dog." If disturbed, two red-orange horns pop out from behind its head and release a foul odour!



monarch and butterfly weed

- hock, butterfly bush, lilac, sumac, spicebush and yarrow.
- host plants for their caterpillars — milkweed and butterfly weed (monarch), pearly everlasting or sunflowers (painted lady), cherry, blueberry (spring azure), willow, elm, hackberry (mourning cloak) and violets (fritillary).
- flat rocks or other flat surfaces for basking in the sun
- source of moisture—a shallow saucer filled with water and a few rocks

Want to learn more about butterflies?

These books are available from the FON: *Introducing Insects; The Jumbo Book of Nature Science.*

Other Internet sites:

Ontario butterfly counts and events, Toronto Entomologists Association, www.web-nat.com/Butterfly The Butterfly WebSite, <http://butterflywebsite.com/JourneysNorth> (tracking monarch and other creatures' migration), www.learner.org/jnorth

Conservation projects to help butterflies:

- North American Butterfly Association, www.naba.org
- North American Butterfly Monitoring Program, www.im.nbs.gov/butterflies.html
- Monarch Watch, www.monarchwatch.org

Answers to difference between butterfly and moth:

ANTENNAE

Butterfly: thin, smooth antennae with a club or hook at the end
Moth: thick, feather-like or thin without a club at the end

BODY:

Butterfly: thin, smooth body
Moth: fatter, furry body

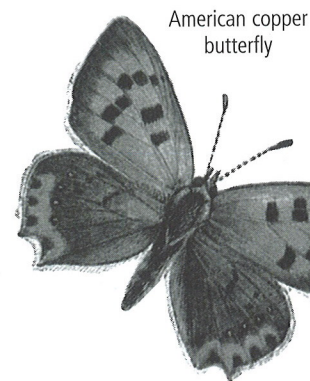
WING POSITION

Butterfly: wings held closed over body at rest
Moth: wings are opened over back at rest

Answers to other creatures that also undergo metamorphosis: insects, frogs and toads.



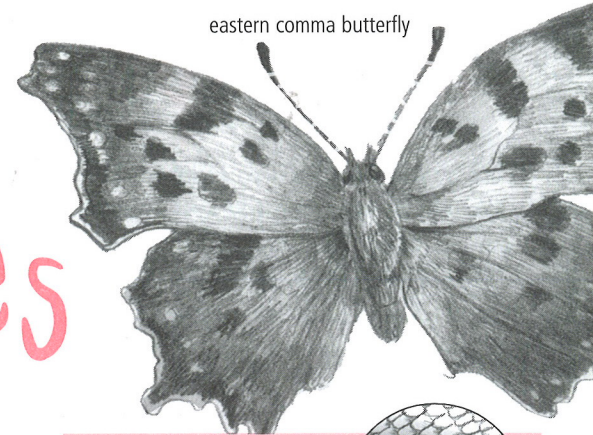
Why wouldn't they let the butterfly into the dance? **Because it was a moth ball!**



American copper butterfly

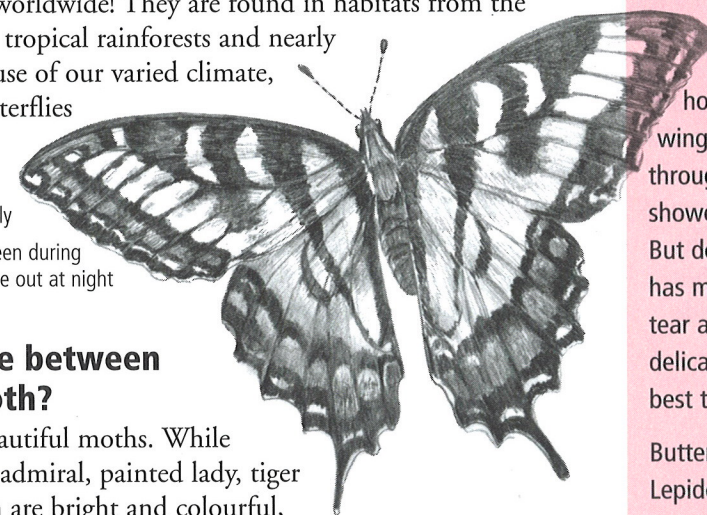
Butterflies

Just Wing It!



eastern comma butterfly

For many people, butterflies are to summer what robins are to spring. The lazy, hazy days relaxing at the cottage, in your backyard or schoolyard just aren't the same without the delicate dance of these colourful insects. Most people can identify a few different types of butterflies, but did you know that there are over 27,000 species of butterflies worldwide! They are found in habitats from the cold Arctic tundra to the hot tropical rainforests and nearly every place in between. Because of our varied climate, more than 140 species of butterflies live in Ontario.



tiger swallowtail butterfly

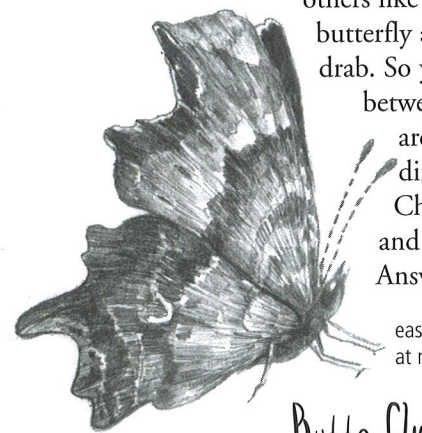
butterflies are usually seen during the day but moths come out at night

What's the difference between a butterfly and a moth?

Butterflies are not simply beautiful moths. While some butterflies like the red admiral, painted lady, tiger swallowtail and the monarch are bright and colourful,

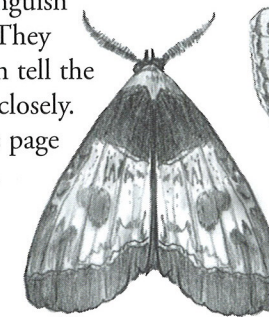
others like the pearly eye, hackberry butterfly, cabbage butterfly and southern cloudy wing are dull or even drab. So you can't use colour to distinguish between a moth and a butterfly. They

are different creatures. You can tell the difference by observing them closely. Check out the pictures on this page and write the differences below. Answers are on the back page.

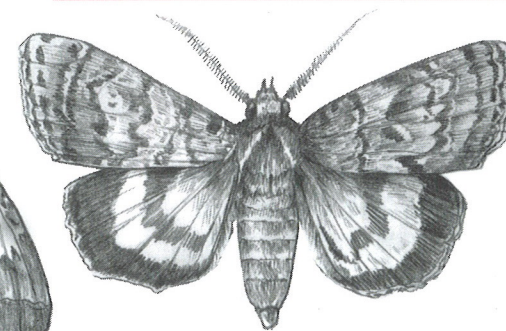


eastern comma butterfly at rest

Butterfly



underwing moth at rest



underwing moth in flight

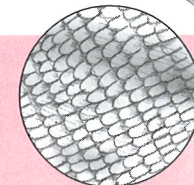
Moth

← antennae →

← body shape →

← wing position while resting →

The colourful wings of a butterfly are made up of tiny overlapping scales.



The undersides of the wings are usually dull so that when at rest, the insect is camouflaged from predators. The scales are arranged in even rows much like the shingles on the roof of a house. Without scales, a butterfly's wings would be transparent (see-through). Each beat of the wing sends a shower of these tiny scales into the air. But don't worry about the butterfly — it has millions of scales. Natural wear and tear are fine, but touching the butterfly's delicate wings can cause damage, so it's best to admire them from afar.

Butterflies are members of the order Lepidoptera, which comes from the Greek words meaning "scale" and "wings."

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Recycled paper



Metamorphosis—A Remarkable Change

When you were born you looked much like you do now. You had two eyes, two ears, a mouth, 10 fingers and 10 toes. When a baby butterfly hatches from its egg, it doesn't look like a butterfly at all. It looks like a grain of rice. As this tiny caterpillar begins to grow, you can see how unlike a butterfly it really is. It doesn't have wings or antennae and cannot fly. The caterpillar continues to eat leaves and shed its skin, growing bigger and bigger.

Once the caterpillar reaches its full size, it looks for a safe place in which to complete the next stage of its life cycle. Securing itself to the underside of a leaf or stem, the caterpillar hangs upside down and begins to wriggle vigorously. The skin along its back splits and the shiny, soft chrysalis shows through. This protective covering hardens in the air, and the caterpillar begins its metamorphosis inside. During this time, the caterpillar does not eat or drink but some amazing things happen inside the secrecy of the chrysalis.

When the caterpillar is in the chrysalis stage, it's vulnerable since it's unable to move at all. Therefore, the chrysalis is so well camouflaged that predators cannot see it and make a tasty meal of the newly developing butterfly.

Did you know...
From the time a caterpillar hatches until it begins to form a chrysalis, its weight increases 2,700 times! If a 3.5 kilogram newborn baby grew as fast as a caterpillar, it would weigh as much as an elephant in only two weeks!

monarch butterfly caterpillar

After weeks or months, depending on the type of caterpillar, the chrysalis may become transparent, and the adult butterfly can be seen wriggling about inside. One day the chrysalis splits, allowing the butterfly to come out of its cozy home. The adult butterfly cannot fly and must wait nearly two hours for its wings to dry and become hard in the warm air so that it can take flight.

Did you know...
Butterflies have to be very light in order to fly. It would take nearly 1,800 monarch butterflies to equal one kilogram!

Unlike the caterpillar, which ate juicy leaves, the adult does not have biting jaws. It uses a proboscis, which is like a long drinking straw, to sip the sweet nectar out of flowers. When not drinking, the butterfly curls up its proboscis like a birthday party noisemaker. Butterflies fly from flower to flower in search of nectar and, just like bees, play an important role in pollination. These gentle insects also enjoy rotting fruit, oozing sap from trees, honeydew secreted from aphids, bird droppings, animal dung and liquids from dead animal carcasses!

proboscis

Did you know...
A butterfly tastes with its feet and its proboscis (tongue)! Don't try this at home, we can only taste with our tongues!

What other creatures can you think of that undergo metamorphosis?

(Answer on the back page)

Life Cycle of a Butterfly

The full life cycle of a butterfly can take anywhere from a few weeks to several years, depending on the species.

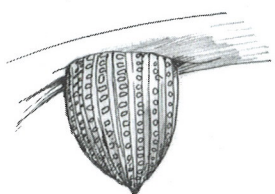
Caterpillar: The caterpillar is smaller than a grain of rice when it hatches from the egg. It has an amazing appetite and eats so much it has to shed its skin several times. When the caterpillar is full-grown, it finds a safe place for the next stage of its life.

Pupa (Chrysalis):

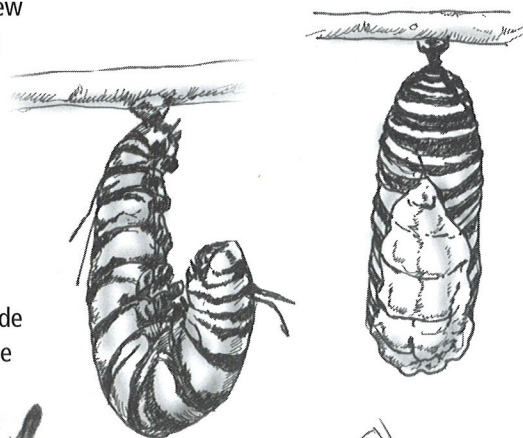
The caterpillar attaches itself, head-down, on a leaf or stick. Its skin cracks open once again, showing the chrysalis underneath. This new layer hardens and the next stage of a butterfly's life takes place within the secrecy of the protective chrysalis.

Adult: After a few weeks or months, the chrysalis splits and the fully formed butterfly emerges.

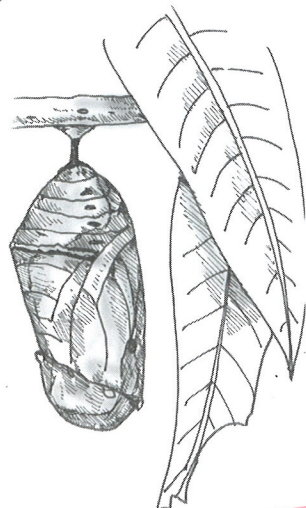
It has to wait a few hours for its wings to dry and harden before it can fly away in search of sweet, juicy nectar.



Egg: The female lays tiny eggs on the underside of leaves. She may be very picky about the type of plant where she will lay her eggs. The host plant must supply her tiny caterpillars with the food they'll need to transform into beautiful butterflies.



monarch butterfly



IN DANGER

Butterflies are disappearing from many grasslands and forests in North America.

Their habitat is being destroyed for agriculture, housing and industrial developments and roads, all of which threaten the plants that butterflies need to survive.

Development is not the only threat butterflies face. Some host plants, such as milkweed, are also destroyed by herbicides (weed killers). Pesticides that are intended to kill troublesome insects in agricultural areas or gardens also kill some less harmful caterpillars and butterflies. If you have pests or unwanted plants in your garden, don't use pesticides and herbicides. Find a natural alternative to these harsh chemicals – they are not only harmful to butterflies and caterpillars, they can also make your pets, or even you, sick.

They are also harmful to birds that eat butterflies, predators that eat the birds and so on up the food chain.

Like birds, some butterflies migrate in the fall to warmer tropical destinations. For these species, it is important to protect the butterfly habitat here in Canada as well as their wintering grounds and areas in between where they stop to rest and eat. Many conservation projects have started throughout North America to try to protect the natural habitat of butterflies. Check out the Internet sites on the back page for more specific projects.

above: tiger swallowtail butterfly caterpillar



mourning cloak butterfly caterpillar



Go on a Backyard Treasure Hunt!

Gather a clipboard and paper or a notebook, pencil crayons and a magnifying glass. Head into the wild outdoors of your backyard, schoolyard or local park.

Your mission is to locate at least seven of the following items. When you find an item on the list, sketch a picture of it in your notebook. Beside each picture, write the name and the place where you found it. Remember, this is an observation-only mission, do not collect or disturb any creatures or plants you find.

- | | | |
|---------------------|---|-----------------------------|
| 1. Caterpillar | 7. Partially eaten leaf | 11. A mammal with four legs |
| 2. Butterfly | 8. Insect (other than caterpillar, moth or butterfly) | 12. An amphibian or reptile |
| 3. Moth | 9. Bird's nest | |
| 4. Blooming flower | 10. Chrysalis or cocoon | |
| 5. Seed or Seed Pod | | |
| 6. Bird | | |



dreamy duskywing butterfly caterpillar

white admiral butterfly caterpillar

