

Late Spring Butterflies of the Philadelphia region

This guide was developed to be printed and each butterfly species treatment can be cut out separately along the dashed lines. These can then be bound together to carry out in the garden for use as a true field guide. Our next installment can be added to these for a full season guide.

The trees have leafed out and the days are much warmer. The equinox is a couple months past and we are nearing the longest days of the year. As the season continues to change, the types of butterflies we encounter while enjoying the great outdoors change too. In light of this, it is time for the next installment of the Academy's Butterfly Guide, which highlights butterflies that can be found in the Philadelphia area during different times of the year. We are delighted to share with you our 11 favorites among the mid- to late-spring butterflies during May and June

In this issue, we have added information for each species that we didn't have in the early-spring issue of the butterfly guide:

OVERWINTERING

You have asked where butterflies go in the winter? We have added a specific category for that information in this guide. Butterflies have different strategies for surviving the cold winter conditions. Although the majority of the butterflies in this guide overwinter in their chrysalis, some hibernate as caterpillars. Others, like the Monarch, fly south as adults to spend the winter in a warmer area with their subsequent generations moving back north and into our area as the weather warms and plants leaf out.

SIZE

Fruits are familiar objects and so we decided to use fruit as a way to give you an idea about the size of each butterfly. It is fun to use fruit to portray size because butterflies have some size variations and fruits also have some size variation.

As in the previous guide, the photos of museum specimens in this post were taken by curatorial staff in the Academy's entomology research collection. The work is part of the Lepidoptera of North America Network (LepNet) initiative to photograph and transcribe the data of 1.7 million moth and butterfly specimen records. The result is a collection of digitized moth and butterfly data that is ready to be used for systematic, ecological, and global change research. The LepNet photos have also been used to calibrate AI moth and butterfly identification. Download and try out the app, "Leps" today! <https://leps.fieldguide.ai/>

Some of the butterfly species in the early spring guide, like the Cabbage White, Tiger Swallowtail, Comma, Question Mark and Mourning Cloak can also be found now and later in the season, so keep that guide handy. Enjoy this late spring butterfly guide.

DORSAL SIDE

Top of the butterfly.

VENTRAL SIDE

Bottom of the butterfly.

Black Swallowtail (*Papilio polyxenes*)



TOP/DORSAL VIEW



UNDERSIDE/VENTRAL VIEW

SIZE: Large, around the size of an orange

GENERATIONS PER YEAR: Three

OVERWINTER AS: Chrysalis (Pupa)

INTERESTING FACTS: If you grow parsley or fennel in your yard, you will likely find the caterpillars of this species some time during the growing season, so plant enough for you and for the butterfly!

When touched, the caterpillar may extrude what looks like a pair of soft orange-yellow "horns" behind its head. This forked extruded defensive gland is called the osmeterium. It is a chemical defense common to all members of the swallowtail family. The osmeterium excretes butyric acid (rancid butter smell) as a defense to warn you or any predators away.

Swallowtail butterflies often flutter their wings rapidly when nectaring at a flower.

Did you know that the state butterfly of New Jersey is the Black Swallowtail?

WHAT DO I PLANT TO ENCOURAGE IT? Parsley, fennel, Queen Anne's Lace and other members of the Carrot family

WHERE CAN I SEE IT? Urban and suburban yards. Particularly where host plants are grown.

Spicebush Swallowtail (*Papilio troilus*)



TOP/DORSAL VIEW



UNDERSIDE/VENTRAL VIEW

SIZE: Large, around the size of an orange

GENERATIONS PER YEAR: Three

OVERWINTER AS: Chrysalis (Pupa)

INTERESTING FACTS: The dark adult females are thought to mimic the toxic Pipevine Swallowtail. The first two larval stages escape from predators by resembling a bird dropping, but as the caterpillar grows larger it molts its skin again and eventually becomes green in color with impressive fake eyespots. The caterpillar constructs a series of "homes" out of the leaves it is feeding on, spinning a bridge of silk to fold the leaf edges together. It hides out in this shelter during the day and feeds on its host plant at night.

WHAT DO I PLANT TO ENCOURAGE IT? Spicebush (*Lindera benzoin*) and Sassafras (*Sassafras albidum*)

WHERE CAN I SEE IT? Woodlands with spicebush or sassafras in the understory. For example, the woods behind Pennypack Environmental Center in Philadelphia is a reliable location. They will visit residential gardens.

Clouded Sulphur (*Colias philodice*)



TOP/DORSAL VIEW



UNDERSIDE/VENTRAL VIEW

SIZE: Medium size, about the size of a lime

GENERATIONS PER YEAR: Three to four

OVERWINTER AS: Larva and Chrysalis (Pupa)

INTERESTING FACTS: This species and the Orange Sulphur are the commonest of the sulphur butterflies in our area. The Orange Sulphur expanded its range from the Southwest US into our area during the mid-1900s. The Clouded and Orange Sulphurs hybridize making distinguishing these two sulphurs difficult, even for experts. Also, both species show two different color forms of females, with one of these being white, and this white form female may be confused with the common Cabbage White butterfly (covered in our early spring guide).

WHAT DO I PLANT TO ENCOURAGE IT? Clovers (*Trifolium* spp.) and other legumes like alfalfa.

WHERE CAN I SEE IT? Open areas, such as meadows and lawns

Orange Sulfur (*Colias eurytheme*)



TOP/DORSAL VIEW



UNDERSIDE/VENTRAL VIEW

SIZE: Medium size, about the size of a lime

GENERATIONS PER YEAR: Three to four

OVERWINTER AS: Larva and Chrysalis (Pupa)

INTERESTING FACTS: This species and the Clouded Sulphur are the commonest of the sulphur butterflies in our area. The Orange Sulphur expanded its range from the Southwest U.S. into our area during the mid-1900s. The Clouded and Orange Sulphurs hybridize making distinguishing these two sulphurs difficult, even for experts. Also, both species show two different color forms of females, with one of these being white, and this white form female may be confused with the common Cabbage White butterfly (covered in our early spring guide).

WHAT DO I PLANT TO ENCOURAGE IT? Clovers (*Trifolium* spp.) and other legumes like alfalfa.

WHERE CAN I SEE IT? Open areas, such as meadows and lawns

Eastern Tailed-Blue (*Cupido comyntas*)



TOP/DORSAL VIEW



UNDERSIDE/VENTRAL VIEW

SIZE: Small, about the size of a blueberry

GENERATIONS PER YEAR: Four

OVERWINTER AS: Chrysalis (Pupa)

INTERESTING FACTS: This is our most often seen of the "blue" butterflies in the spring and summer, and it is also one of the smallest. The Eastern Tailed-Blue is active close to the ground, often on lawns with clover. The dorsal or top side of male butterfly's wings are iridescent blue, which can be observed as a flash of blue in flight or when they are sunning on a leaf.

WHAT DO I PLANT TO ENCOURAGE IT? Clovers (*Trifolium* spp.), alfalfa, crownvetch and other legumes

WHERE CAN I SEE IT? On lawns and meadow-like areas, in suburban and urban settings

Summer Azure (*Celastrina neglecta*)



TOP/DORSAL VIEW



UNDERSIDE/VENTRAL VIEW

SIZE: Small, about the size of a raspberry

GENERATIONS PER YEAR: Three

OVERWINTER AS: Chrysalis (Pupa)

INTERESTING FACTS: The Summer Azure is another of the blue butterflies. For many years it was considered as a single Azure species. Recent research has documented that six very similar species had been grouped as *Celastrina ladon* (scientists call this a species complex). The six species are remarkably similar in morphology but have different flight times as adults and different host plants as larvae. The Summer Azure is the species in this complex that is most likely to be seen in our yards. It is larger and flies higher than the Eastern Tailed-Blue.

Azures, like some other butterflies, can be seen in groups "puddling" at damp soil, where the males are imbibing essential nutrients like salt. Try forming a wet puddle in a bare place in your yard to see which butterflies stop for a drink!

WHAT DO I PLANT TO ENCOURAGE IT? Floral buds of many different plant species including Dogwood (*Cornus* spp.) and White Meadowsweet (*Spiraea alba*)

WHERE CAN I SEE IT? Many habitats including parks and gardens.

American Snout (*Libytheana carinenta bachmanii*)



TOP/DORSAL VIEW



UNDERSIDE/VENTRAL VIEW

SIZE: Medium, about the size of a cherry

GENERATIONS PER YEAR: Two to three

OVERWINTER AS: Adult in Southeastern U.S. It must repopulate our area every year (adults move northward in the spring after overwintering).

INTERESTING FACTS: The Snout Butterfly is so named due to the very long labial palps on their head, which resemble a nose or beak.

The earliest spring generation moves northward into our region, sometimes as early as spring. This species, like the Painted Lady (following), is known for large population fluctuations from year to year.

The North American subspecies of the Snout Butterfly was named to honor John Bachman (1790-1874) who was a prominent naturalist and friend of John James Audubon.

WHAT DO I PLANT TO ENCOURAGE IT? Hackberry (*Celtis* spp.)

WHERE CAN I SEE IT? This species frequents woodland edges and brushy fields. It may be found in parks and woodlands where Hackberry trees are present.

Painted Lady (*Vanessa cardui*)



TOP/DORSAL VIEW



UNDERSIDE/VENTRAL VIEW

SIZE: Medium, about the size of a lime

GENERATIONS PER YEAR: One to three (depending on when migrants populate our area)

OVERWINTER AS: Chrysalis (Pupa) but doesn't overwinter in our area.

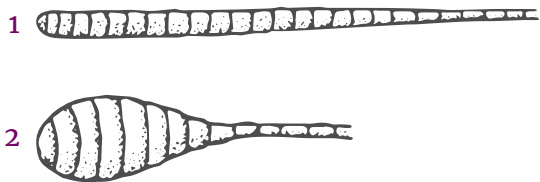
INTERESTING FACTS: This species can vary in abundance from year to year, with occasional population explosions resulting in mass migratory movements and in other years rather rare. It is a common visitor to flowers in the garden,

WHAT DO I PLANT TO ENCOURAGE IT? Thistles (*Cirsium* spp., *Carduus* spp.), Burdock (*Arctium lappa*), Borage (*Borago officinalis*), Mallows (*Malva* spp.).

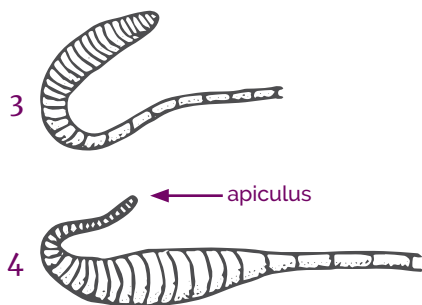
WHERE CAN I SEE IT? Open meadows.

Skippers

TRUE BUTTERFLIES (1 and 2)



SKIPPERS (3 and 4)



Future Legend: Different shapes of the antenna's "knob" or "club" in Butterflies and Skippers.
[after Klots (1951), A Field Guide to the Butterflies.]

Skippers are a group of Lepidoptera thought by most entomologists to be close relatives of butterflies. While butterfly antennae have a rounded knob/club (or thickening) at the end, the antennae of skippers have a curved knob at the end, sometimes with a very narrow projection beyond the knob to the end of the antenna (the *apiculus*). Some skippers open their wings flat when perched like Juvenal's Duskywing, but others open the wings only partially, like the Zabulon Skipper.

Because most skippers are active during the day, they are treated as "honorary butterflies" and are usually included in field guides and popular literature alongside the "true" butterflies.

Silver-spotted Skipper (*Epyrgreus clarus*)



TOP/DORSAL VIEW



UNDERSIDE/VENTRAL VIEW

SIZE: Medium, about the size of a Cherry

GENERATIONS PER YEAR: Three

OVERWINTER AS: Chrysalis (Pupa)

INTERESTING FACTS: Like many skippers, the male of the Silver-spotted Skipper is territorial. It watches from a perch and flies out to chase away other insects and even human observers. The name refers to a large silvery patch on the underside of each hind wing.

WHAT DO I PLANT TO ENCOURAGE IT? Black Locust (*Robinia pseudoacacia*) and other plants in the Pea family, including ornamental *Wisteria* in cities and parks.

WHERE CAN I SEE IT? Readily visits flowers in gardens



Zabulon Skipper (*Poanes zabulon*)



FEMALE

SIZE: Small, about the size of a raspberry

GENERATIONS PER YEAR: Two

OVERWINTER AS: Partially grown caterpillar (Larva)

INTERESTING FACTS: The Zabulon Skipper is a strongly *sexually dimorphic* species, a term that scientists use to indicate that the males and females are quite different in appearance. The males of the Zabulon Skipper are brown with a bright golden patch on the hind wings. The females are overall a chocolate brown color.

WHAT DO I PLANT TO ENCOURAGE IT? Native grasses

WHERE CAN I SEE IT? Parks and gardens as well as edges of woodlands. They readily visit flowers.

Juvenal's Dustywing (*Erynnis juvenalis*)



TOP/DORSAL VIEW



UNDERSIDE/VENTRAL VIEW

SIZE: Medium, about the size of a cherry

GENERATIONS PER YEAR: One

OVERWINTER AS: Fully grown caterpillar (Larva)

INTERESTING FACTS: This species belongs to the "spread-wing" group of skippers, which rest with their wings outspread and flat. They often land on the ground, rather than visit flowers. This group contains several species in our area with similar-looking adults that can be hard to identify, particularly if the wings are worn and missing scales.

Several of the duskywings were named after ancient Roman poets like Juvenal.

WHAT DO I PLANT TO ENCOURAGE IT? Oaks such as White Oak (*Quercus alba*) and Red Oak (*Quercus rubra*).

WHERE CAN I SEE IT? Woodlands and woodland edges bordering open fields.

ADDITIONAL REMARKS AND RESOURCES

The photos of museum specimens in this post were taken by curatorial staff in the Academy's entomology research collection. The work is part of the Lepidoptera of North America Network ([LepNet](#)) initiative to photograph and transcribe the data of 1.7 million moth and butterfly specimen records. The result is a collection of digitized moth and butterfly data that is ready to be used for systematic, ecological and global change research. To search the Academy's Lepidoptera specimen records, go to <https://www.idigbio.org/portal/search> and add "Lepidoptera" to the Order search field, and "ANSP" in the institutional field.

The LepNet photos have also been used to calibrate AI moth and butterfly identification. Download and try out the app, "Leps" today! <https://leps.fieldguide.ai/>

If you like photographing butterflies you see and want some help in identifying, you might enjoy this app for your phone which has a built-in algorithm to identify the species from a photo you submit: iNaturalist <https://www.inaturalist.org/>

If you want a complete paper field guide to have around the garden or out on your walk, we recommend this one for this region:
A Field Guide to Eastern Butterflies (Peterson Field Guide Series). By Paul A. Opler
In paperback. 512 pp. Houghton Mifflin Harcourt. ISBN: 0395904536
<https://smile.amazon.com/Field-Eastern-Butterflies-Peterson-Guides/dp/0395904536>

<https://www.barnesandnoble.com/w/a-field-guide-to-eastern-butterflies-roger-tory-peterson/1119268694>

If you choose to purchase through Amazon, consider purchasing through AmazonSmile. Amazon will donate .5% of your purchase amount to the Academy if you designate us as your preferred charity. Now, we know that .5% doesn't sound like a lot—but it adds up!

SOME REFERENCES WITH MORE INFORMATION ON BUTTERFLIES FOR OUR REGION INCLUDE

Butterflies of Pennsylvania: A Field Guide. 2017, by James L. Monroe and David M. Wright. In paperback. <https://upittpress.org/books/9780822964551/>

Butterflies of New Jersey. 1997. by Michael Gochfeld and Joanna Burger. in paperback. <https://www.amazon.com/exec/obidos/ISBN=0813523540/103-2305405-0687859>

Butterflies of the East Coast: An Observer's Guide. 2007. by Rick Cech and Guy Tudor. In paperback. Princeton Univ. Press. <https://smile.amazon.com/Butterflies-East-Coast-Observers-Guide/dp/0691090564>

Butterflies & Skippers (Lepidoptera: Papilionoidea, Hesperioidea) of the Franklin Parker Preserve, Burlington County, New Jersey. 2015. By Stephen C. Mason Jr. Transactions of the American Entomological Society, 141(3):351-368 download <http://taes.entomology-aes.org/modules/articles#/manuscripts>

Butterflies and Moths of North America. website: <https://www.butterfliesandmoths.org/>

For the most recent sightings of butterflies in New Jersey check out the South Jersey Butterfly Project <https://sjbutterflies.org/>

CREDITS

Content from Isabelle Betancourt, Jason Weintraub and Jon Gelhaus
Images as already attributed on the images on the blog post
Design by Stephanie Gleit
Editing by Carolyn Belardo
Web Uploading and formulation by Mike Servedio
Event Coordination by Katie Marquart