

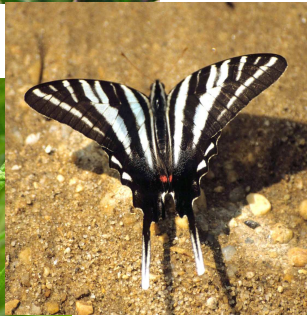
First Sighting – Date: _____ **Location:** _____



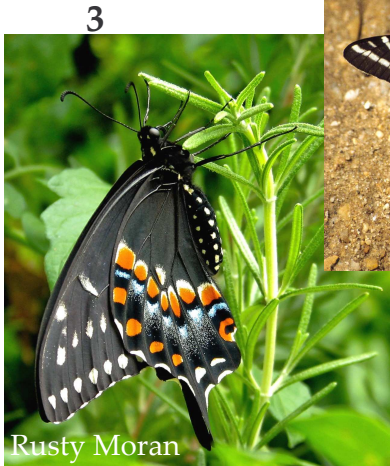
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K. Munroe

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Swallowtail Butterflies (Family Papilionidae)

Common swallowtail species in their natural range in Northern VA include the (1) **Tiger Swallowtail** (*Papilio glaucus*), which is the state butterfly of Virginia, the (3) **Spicebush Swallowtail** (*Papilio Troilus*), the Black Swallowtail (*Papilio polyxenes*), the (2) **Zebra Swallowtail** (*Eurytides marcellus*), and the Pipevine Swallowtail (*Battus philenor*). These are representatives of a family that includes the largest butterflies in North America. Their wingspan is some 2 ½ to 5 inches, and they normally have prominent “tails” on the hindwings. The caterpillars (larvae) are distinctive, typically with forklike horns (osmateria) and many with bright warning coloration or a large eyespot. Young caterpillars may be mottled, resembling bird droppings. Sexual dimorphism is common (two recognizable forms in a single species). In suburban settings, it is more common to see the Tiger and Black as their host plants are somewhat more widespread. Identification is easy for the Zebra and yellow form Tiger, each with distinctive color and markings.

The Pipevine Swallowtail is a species, like the Monarch, that serves as a model that other species mimic. Predators avoid the distasteful Pipevine and its look-alikes, including dark form female Tiger Swallowtails, Black Swallowtails and Spicebush Swallowtails. Similar flight behaviors, as well as closely matched physical features have evolved in the mimics to confuse potential predators.

What Swallowtails Need

Food: All adult stage Swallowtails seek nectar plants for energy during their short reproductive lives, but as with the Monarch, some depend on one particular plant to lay eggs and host the hungry caterpillar. The Zebra needs pawpaw (*Asimina* spp.); the Pipevine (no surprise) needs pipevine (*Aristolochia* spp.); the Spicebush needs our native spicebush (*Lindera benzoin*) and sassafras (*Sassafras albidum*); and the Black feeds on plants of the carrot family (*Apiaciae*), including dill, parsley, fennel and Queen Annes Lace. Tiger Swallowtail caterpillars feed on a variety of deciduous trees, including willows (*Salix* spp.), wild cherries (*Prunus* spp.) and our common tulip poplar (*Liriodendron tulipifera*).

How You Can Help

- Avoid using pesticides; broad spectrum insecticides kill all insects, including caterpillars and adult butterflies.
- Choose sun-loving flowers. Native nectar plants are preferred because these butterfly species recognize them. Recommended plants differ somewhat depending on species. However, reliable choices include coneflowers, milkweed, joe-pye weed, bee balm, sunflowers, blazing star (*liatris*), ironweed, dogbane, and goldenrods. Flowering annuals will also help, especially zinnias, sunflowers and salvias.
- Provide water. Butterflies will drink from shallow puddles and and muddy or sandy areas.



Black Swallowtail

K. Munroe



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Breeding: All butterflies undergo complete metamorphosis. This family of butterflies commonly produces anywhere from 1 to 3 flights (broods) per year. Eggs are laid singly on host plants, hatching in 4-10 days. Caterpillars mature in 3-4 weeks and the upright pupa stage lasts 10-20 days. The adult butterfly phase of mating and egg laying commonly lasts around 2 weeks.

Shelter: Adult Swallowtails are on the move almost constantly during their short lives. They may perch for the night, or during storms, under leaves or branches of shrubs or trees. Eggs and caterpillars (larvae) are vulnerable, not so much from predators, as from simple loss of habitat. They need the plants mentioned above in order to survive. On these plants, the caterpillar spends its life feeding and molting several times as it grows. The final molt produces the pupa, or chrysalis, during which stage it does not feed. Swallowtails over-winter in the pupa stage.

Other:
www.xerces.org -- The Xerces Society dedicated to invertebrate conservation is backing a Butterfly Conservation Initiative, www.butterflyrecovery.org that maintains a website with everything from native plants to images of butterfly species.

Also www.pollinator.org provides links to learning resources and protection campaigns.

- The host plants mentioned above are needed for the larval stage of our Swallowtails. Not all are equally easy to establish, but dill, parsley, fennel are a good start, and spicebush, sassafras, paw paw, black cherry and pipevine will flourish over time.
- Remember that having butterflies means having caterpillars, and caterpillars eat leaves. This means to support butterflies in your landscape some plant leaves will appear chewed and eaten – that’s good! It means you’ve helped a butterfly be created!
- Swallowtail habitat typically includes trees in close proximity to their nectar sources. Woodland edges, fields and meadows are the natural habitat of most of these species, while marshes, water courses and floodplain forests attract the Zebra Swallowtail in particular.
- Include some large shrubs or small trees on the periphery of your butterfly garden. Along with spicebush and sassafras, many native shrubs grow sufficiently large to provide shelter, for example native cherries (prunus species, such as common chokecherry) and many viburnum species. Inkberry Holly and Eastern Red Cedar provide thick, evergreen cover and windbreaks

- Male swallowtails will often gather to extract minerals from the soil to help produce sperm. This is called puddling.



K. Munroe

- * The bad-smelling, retractable “horns” of this Tiger Swallowtail caterpillar deter predators.



photo by Howard Evans

Resources:

Native plants—available at Debaggio Herbs, Nature by Design, Merrifield Garden Centers and other nurseries

Model Habitat and Observation Sites:

Huntley Meadows Park- www.fairfaxcounty.gov/parks/huntley/

Meadowlark Gardens Regional Park - www.nvrpa.org/meadowlark.html

Ocoquan Bay National Wildlife Refuge - www.fws.gov/refuges/profiles/index.cfm?id=51611

Manassas Battlefield Park - www.nps.gov/mana/naturescience/index.htm

Visit audubonva.org for more information and other Fact Sheets