

Tiger Swallowtail; Eastern Tiger Swallowtail, *Papilio glaucus* Linnaeus (Insecta: Lepidoptera: Papilionidae)¹

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Introduction

The tiger swallowtail is probably our most recognizable swallowtail in the eastern United States. It is admired by butterfly gardeners and treasured by young butterfly collectors. The first drawing of a North American swallowtail was of a male tiger swallowtail and was drawn in 1587 by John White who was commander of Sir Walter Raleigh's third expedition to North American.

Distribution

The tiger swallowtail is widely distributed from New England west through the southern Great Lakes area (along Merriam's "transition life zone") through most of the Great Plains states and south to Texas and Florida. In the transition zone, the eastern tiger swallowtail is sympatric with the closely related Canadian tiger swallowtail, *Papilio canadensis* (until recently, considered a subspecies of *P. glaucus*).

Description

The tiger swallowtail is a large species with a wingspread range of 7.9 to 14.0 cm. Adults are yellow with four black bands on the front wings. The innermost band connects with the median band of the hind wing. The wing margins are black with a row of yellow spots. Some females are black with a marginal row of yellow spots. In many areas of the North, most females are black. Faint remnants of the

typical tiger banding pattern is visible on the undersides of the front wings of the black form. The hind wings of the black form are powdery blue above with a wavy black band dividing the powdery blue areas. This band is absent in female spicebush swallowtails, *Papilio troilus* L., which may otherwise superficially resemble black tiger swallowtails. Also, the marginal spots of *P. troilus* are typically blue green. The black females have long been considered to be Batesian mimics of the poisonous blue (pipevine) swallowtail, *Battus philenor* (L.). However, recent evidence has called this into question.



Figure 1. Yellow form of adult tiger swallowtail, *Papilio glaucus* L.
Credits: Jerry F. Butler, University of Florida

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Figure 2. Black female adult tiger swallowtail, *Papilio glaucus* L.
Credits: Jerry F. Butler, University of Florida

Newly laid eggs are green but soon turn greenish-yellow. Young larvae are dark and resemble bird droppings. Older larvae are green with a swollen thorax and a transverse band of faint blue dots on each abdominal segment. There is a black transverse stripe edged with yellow anteriorly between the first and second abdominal segments. Larvae also have a single pair of false eyespots on the metathorax. The eyespots are yellow ringed with black and contain a smaller blue spot lined with black and a black line dorsad of the blue spot.



Figure 3. Full grown larva of tiger swallowtail, *Papilio glaucus* L.
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The pupa is tan with a dark brown or black lateral stripe and a brown dorsal band.



Figure 4. Pupa of tiger swallowtail, *Papilio glaucus* L.
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Life Cycle

There are two flights in the northern part of the range and three to possibly four flights in Florida. The first flight in Florida begins in late February or early March. Males often patrol at treetop level and swoop to lower levels to intercept females for mating. Adults seek nectar at a variety of flowers and sip water and minerals from mud.

Eggs are laid singly and usually on the upper surface of leaves. A variety of hosts are utilized in the northern part of the range. In peninsula Florida, sweet bay (*Magnolia virginiana* (L.) [Magnoliaceae]) is used almost exclusively. Sweet bay grows in wet areas and may be distinguished from similar species by the glaucous undersides of the leaves and the stipular scar that completely surrounds the twig. Tulip tree, *Liriodendrum tulipifera* L. (Magnoliaceae), also may be used in north Florida. Black cherry, *Prunus serotina* Ehrh. (Rosaceae), a commonly used host farther north, is only occasionally used in peninsular Florida.

Larvae spin a mat of silk on a leaf that causes the leaf edges to curl upward, but they do not produce a complete leaf roll. The larva rests on the mat of silk. Mid to late instar larvae move from the resting site to other parts of the plant to feed and back to the mat of silk to rest. Chewed leaves are clipped at the petioles and dropped from the plant possibly to reduce predation from birds that locate prey by searching for damaged leaves. After full grown larvae have ceased feeding, they change to greenish-brown or chocolate brown and wander down tree trunks and sometimes onto the leaf litter where they are highly cryptic. They pupate close to the ground. The pupa is the overwintering stage.



Figure 5. Sweetbay, *Magnolia virginiana* (L.) (Magnoliaceae).
Credits: Donald W. Hall, University of Florida

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