Black Swallowtail (Parsleyworm)

Scientific Name: *Papilio polyxenes asterius* F.

Order: Lepidoptera (Butterflies, Moths, and Skippers)
Family: Papilionidae (Swallowtails and Parnassians)

Identification and Descriptive Features: The adult is a large butterfly (wingspan 3 1/4-4 1/4 inches/8-11 cm) that is predominantly black. Along the edge of the wings is a yellow band in males; females have a row of yellow spots and iridescent blue markings. A bull's eye-like marking of a black spot within a larger orange spot marks the inner hind wing of both sexes.

Appearance of the larvae varies considerably in different stages. Early instars are predominantly black with a blotchy band in the center of the body. Early stages also have spiny projections associated with orange spotting. Later instar caterpillars are yellow or yellow green with prominent black bands interrupted with yellow spots.

Figure 1. Black swallowtail female.

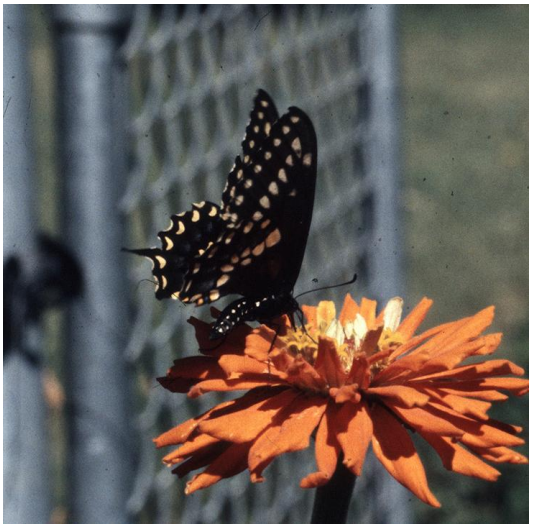

Figure 2. Black swallowtail visiting zinnia.

Figure 3. Late stage larva of the black swallowtail, a.k.a. a "parsleyworm".

Distribution in Colorado: The black swallowtail is widespread in eastern Colorado and may be common in yards and open fields where larval host plants are present. West of the Continental Divide it is only known from the extreme southwest part of the state.

Life History and Habits: The larvae of the black swallowtail, known as parsleyworms, develop on various plants in the carrot family (Apiaceae). Dill, parsley and fennel are

particularly common hosts and this insect may sometimes develop as a minor pest on these garden crops.

Winter is spent in the pupal stage, which is a variously mottled grey, brown, or green chrysalis. Adults emerge in late spring and feed on nectar from flowers, favoring larger showy flowers that are utilized by other large butterflies. Males establish territories and spend much of the day patrolling for females. After mating females, migrate within an area to seek out suitable host plants for their larvae and lay single eggs on leaves or flower buds.

The newly hatched larvae somewhat resemble bird droppings with a blotchy white band on a generally dark brown or black body. However, the larger, later stage larvae take on a much different appearance, being boldly striped and colorful. (These are sometimes mistaken for larvae of Monarch butterflies, a species with caterpillars that develop only on milkweeds.)

All swallowtail larvae have an interesting defense - the display of a large yellow Y-shaped gland from behind the head that everts when disturbed. This organ I known as an *osmeterium* and a strong odor is released when it is displayed

Figure 6. Parsleyworm displaying osmeterium.

Figures 4, 5. Black swallowtail egg laid on buds of parsley (top); early instar larvae of the parsleyworm feeding on the head of a dill plant.

When full grown the larvae will typically wander from the host plant and seek a place for pupation. The pupa (chrysalis) is attached at the base and by a girdle of silk around the middle of the body to trunks, rocks and other solid objects in locations where some shelter form the elements is present. The chrysalis varies in color and is usually some mixture of mottled grays and greens. Adults produced by larvae of the first generation emerge in early summer and produce a second generation. Larvae of the second generation pupate and go into a dormant condition (diapause). Second generation pupae

produced late in the growing season usually will not emerge until an extended cold period has passed.

Miscellaneous Note: The black swallowtail is the official state butterfly of Oklahoma.

Figure 7. Pupa (chryalis) of the black swallowtail.