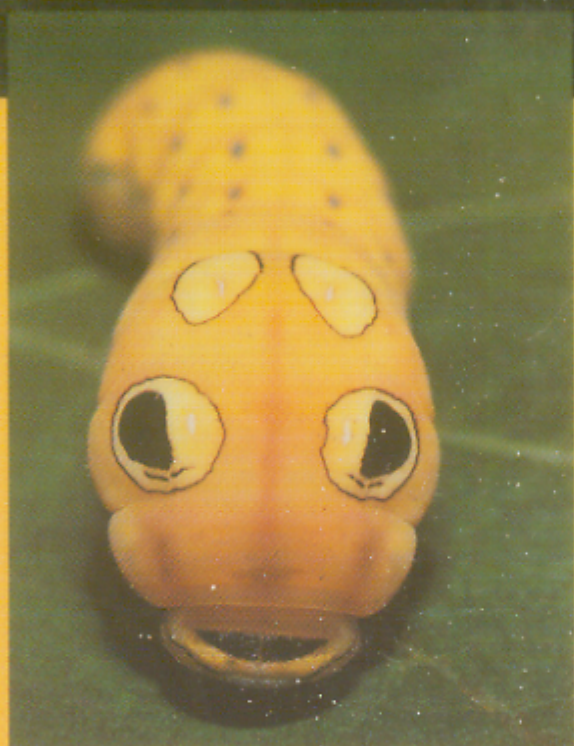




The striking caterpillar featured on the cover of *Essential Biology* is the larva of the spicebush swallowtail butterfly (*Papilio troilus*). It is named for one of its favorite foods, spicebush, but these

insects also feed on sassafras, prickly ash, and sweet bay. Ranging throughout the eastern United States, the spicebush swallowtail butterfly is common in woodlands, swamps, fields, yards, and parks. The larval form, or caterpillar, exhibits evolutionary adaptations that may turn away some birds and other predators. When the caterpillar is threatened, its first line of defense is mimicry: false eyespots on the larva's back along with serpentine movements of the head mimic the appearance of a larger, more dangerous animal—say, a snake. The second line of defense is chemical: the caterpillar extends scent glands that emit a strong odor that is apparently repulsive to some predators. How do such adaptations to an organism's environment evolve? And how do biologists test hypotheses like the idea that false eyespots and chemical weapons actually help protect the caterpillar from predators? These are examples of the questions that *Essential Biology* will help you explore.

Pearson
Education

ISBN 0-8053-7



9 780805 373936