

# EUROPEAN CORN BORER

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# EUROPEAN CORN BORER



<u>Scientific classification</u>	
Kingdom:	<u>Animalia</u>
Phylum:	<u>Arthropoda</u>
Class:	<u>Insecta</u>
Order:	<u>Lepidoptera</u>
Family:	<u>Crambidae</u>
Tribe:	<u>Pyraustini</u>
Genus:	<u>Ostrinia</u>
Species:	O. nubilalis

# INTRODUCTION

- The corn borer moth is about one inch long with a one-inch wingspan. The female moth is light yellowish-brown with dark, irregular, wavy bands across the wings. The male is slightly smaller and darker in coloration. The tip of its abdomen protrudes beyond its closed wings. The fully-grown larva is three-quarters to one inch in length. This borer is usually flesh-colored, but may range from light gray to faint pink, with conspicuous small, round, brown spots on each segment.

# DESCRIPTION

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- The **European corn worm** or **European corn borer** (*Ostrinia nubilalis*), also known as the European high-flyer, is a pest of grain, particularly maize. The insect is native to Europe, originally infesting varieties of millet, including broom corn. The European corn borer was first reported in North America in 1917 in Massachusetts, but was probably introduced from Europe several years earlier. Since its initial discovery in the Americas, the insect has spread into Canada and westward across the United States to the Rocky Mountains.

# CLASSES OF EUROPEAN CORN BORER



Female, dorsal view



Female, ventral view



Male, dorsal view

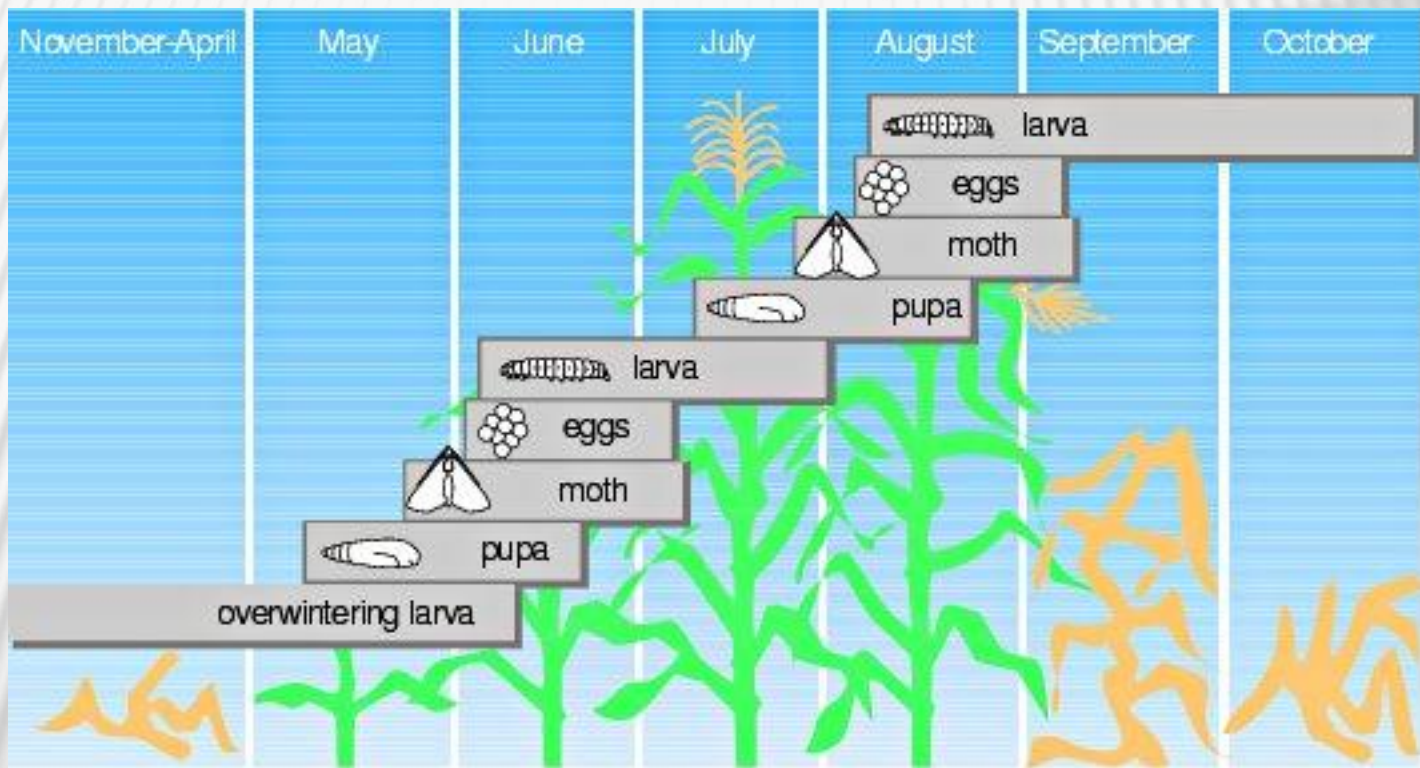


Male, ventral view

# LIFE CYCLE OF EUROPEAN CORN BORER

- During its lifetime, the European corn borer goes through four stages of development (Figure 2): egg, larva (borer), pupa, and adult (moth). These four stages constitute a generation. The larva goes through five instars, or larval stages, of development (Figure 3). During the fifth instar, all larvae either prepare to pupate and become adults or enter diapause. Diapause, a type of hibernation, is a physiological condition resulting in suspended development. It is controlled by day length, temperature, genetic composition of the population, and, in some instances, by the nutritional quality of host plants.

# LIFE CYCLE OF EUROPEAN CORN BORER



# HISTORY OF EUROPEAN CORN BORER



- The European corn borer, an introduced species, has been an important pest of corn in the Midwest since the 1920's. Besides feeding on all types of corn, European corn borer also attacks and damages hundreds of crop and weed species (e.g., peppers, apples, soybean, cotton, foxtails, pigweeds, ragweeds, smartweeds, etc.).



# ***FEMALE MOTH***



- The European corn borer passes the winter as full-grown larva in corn stalks and other plant refuse such as weed stems. The mature larva is about 1 inch (25 mm) long, creamy to grayish in color, and marked by rather inconspicuous rows of small, round, brown spots running the length of its body.

# ***MATURE LARVA IN SILK TUNNEL***



- Overwintering larvae pupate in the spring, emerging as moths in late May and early June. Female moths are pale yellow-brown with irregular darker bands running in wavy lines across their wings; male moths are distinctly darker and usually smaller. Mating takes place in early June (first generation) and in late July and early August (second generation) in dense grassy areas around corn fields.

# ***PUPA INSIDE STALK CAVITY***



- Female moths generally lay their eggs on the underside of corn leaves (often along the leaf midrib), leaf sheaths, and/or ears, depending on the generation, in masses of 15 to 30 eggs overlapping like scales of a fish. Tall, lush, early planted corn is the preferred oviposition site for the first generation moths; whereas second generation moths target actively pollinating corn, which is usually planted late. After 5 to 6 days, the eggs develop what appears to be black spots, which are actually the head capsules of young borer larvae. Once the black head is visible, hatching is imminent.

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