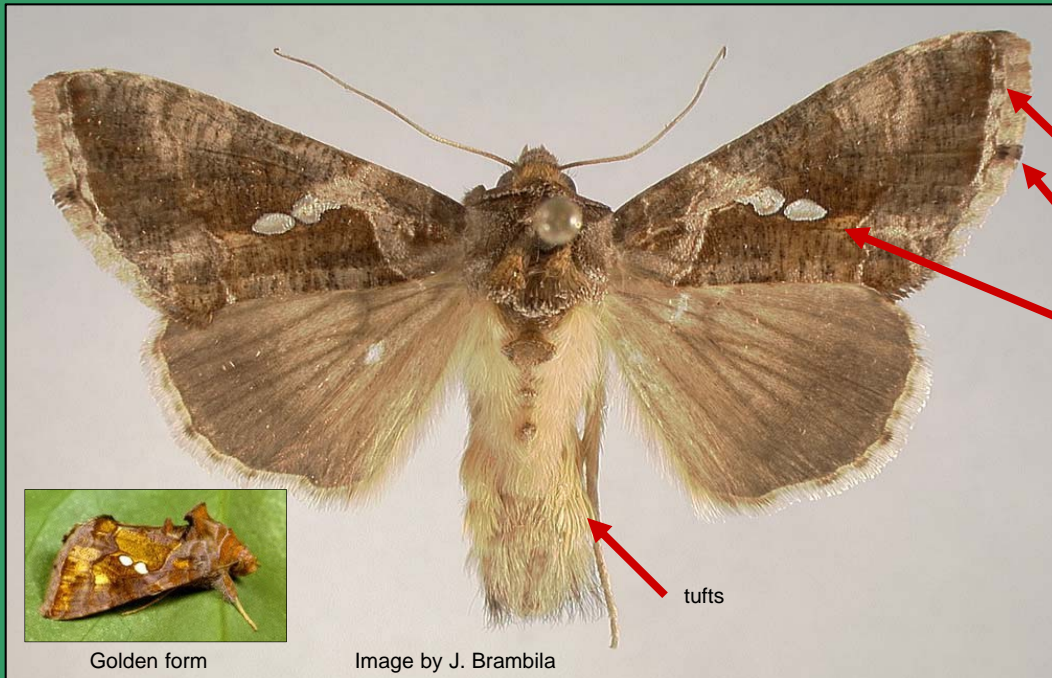


Chrysodeixis chalcites

Golden Twin Spot Moth

Identification Aid



Golden form

Image by J. Brambila

Wingspan: 40 mm (~1½ inch)

Forewing:

- ground color golden-orange to bronze-brown, slightly speckled with gray brown (one form very golden)
- terminal line pale brown on anterior half
- with a small black spot near margin of wing on vein M2 (sometimes rubbed off), on the fringe
- and with a silver or white stigma usually consisting of two similar oval spots (hence its common name)
- ~17mm in length

Hind wing:

- ground color brown-gray, darker toward margin, with dark gray veins and a pale-tan short fringe

Abdomen:

- males with tufts of yellowish beige long scales on sides of abdomen, and black scales at apex ventrally

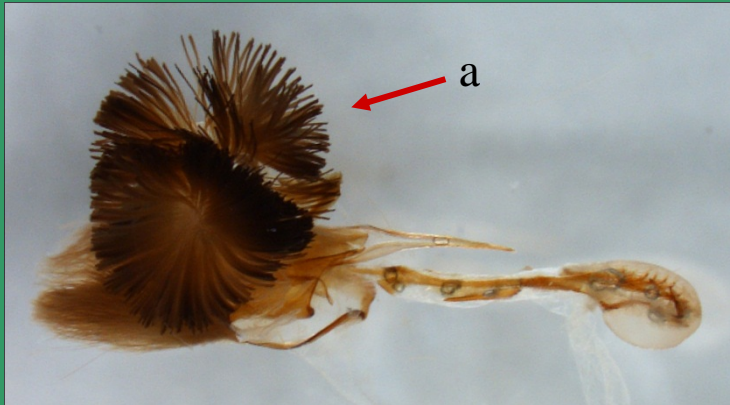
***Chrysodeixis chalcites* (Esper) (Lepidoptera: Noctuidae: Plusiinae) has a limited distribution in Canada. It is externally identical to *Chrysodeixis eriosoma* (Doubleday), which has not been found in North America. Because *C. chalcites* is very similar to several North American Plusiinae, especially *Chrysodeixis includens* (Walker), the soybean looper, dissection of genitalia and DNA-barcoding is necessary for final species determination.**

Chrysodeixis chalcites

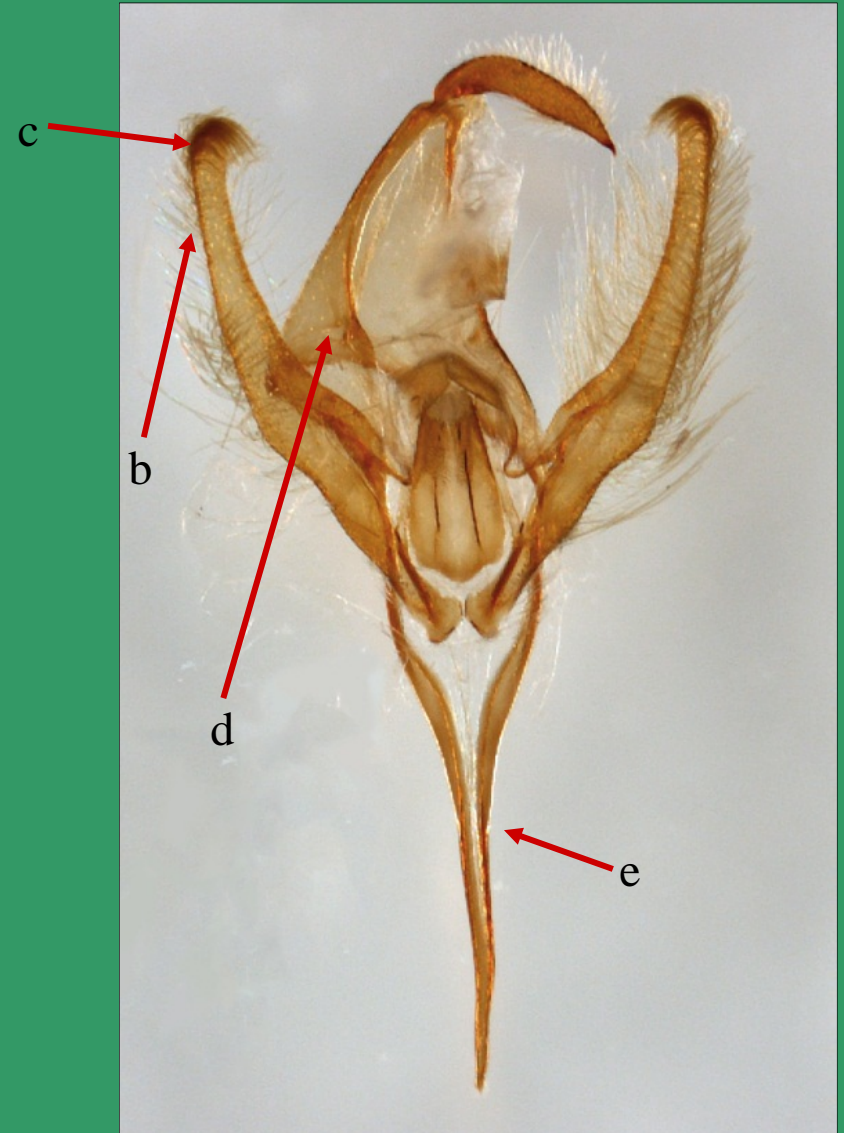
Golden Twin Spot Moth

Chrysodeixis chalcites (Esper) can be distinguished from *C. includens*, the native plusiine that most closely resembles *C. chalcites*, by several external and internal characters of the abdomen. Male *C. chalcites* have tufts of pale beige long scales on the sides of the abdomen and black long scales (a) on the apex, ventrally.

The genitalia are characterized by valva (b) elongate and wider at base than towards the apex, with a tight group of setae (c) at the apical margin, and a broad tegumen (d). The saccus is elongate and V-shaped (e).



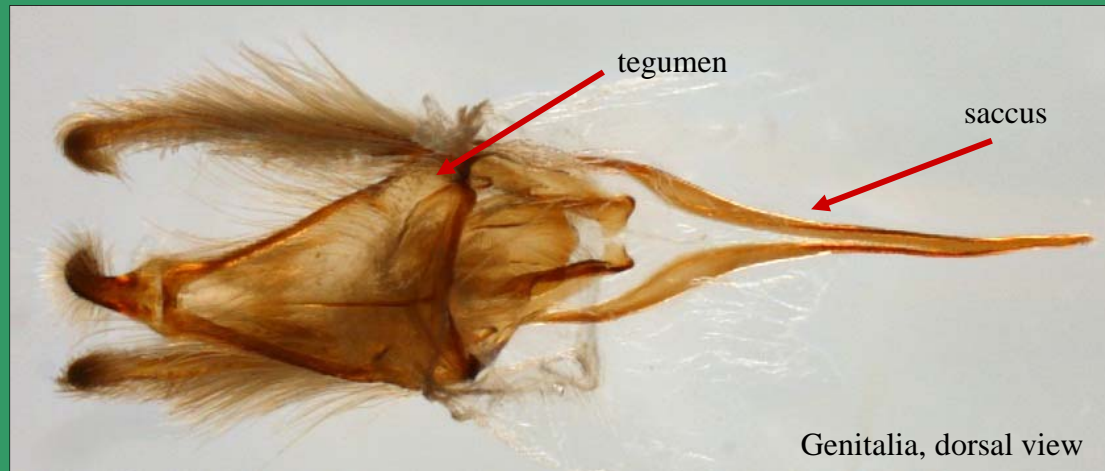
Genitalia and abdominal segment 8, ventral side up, with two tufts of long black scales



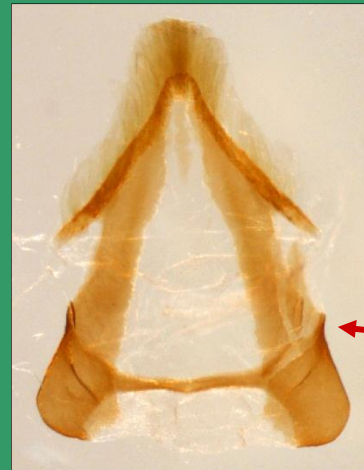
Genitalia, ventral view

Chrysodeixis chalcites

Golden Twin Spot Moth



Black elongate scales from male abdominal segment 8.



Sclerites from modified abdominal segment 8, with black scales removed.

Chrysodeixis chalcites

Golden Twin Spot Moth

The aedeagus of *Chrysodeixis chalcites* has a bulbous base (a) and a vesica with several apical cornuti (b) and an elongate basal cornutus (c).

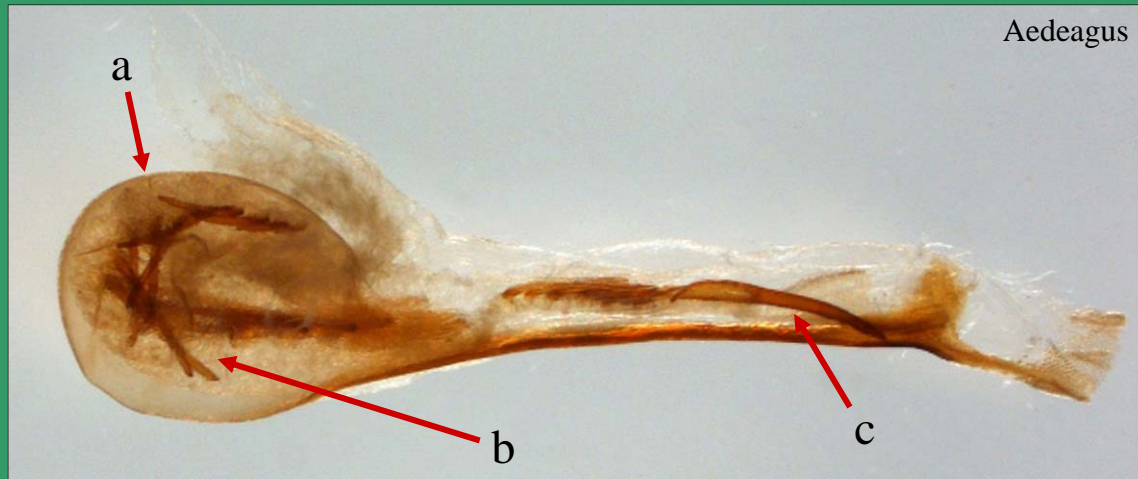


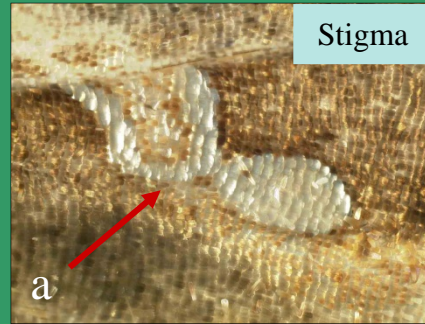
Image by J. Brambila

Chrysodeixis includens

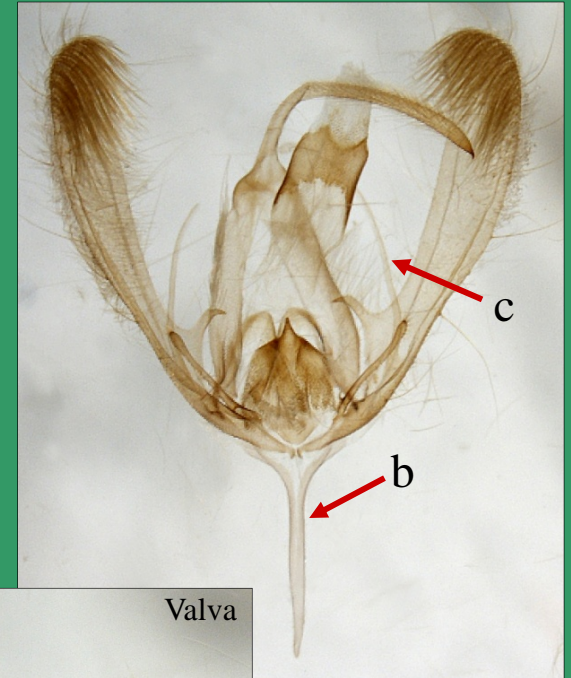
Soybean Looper Moth



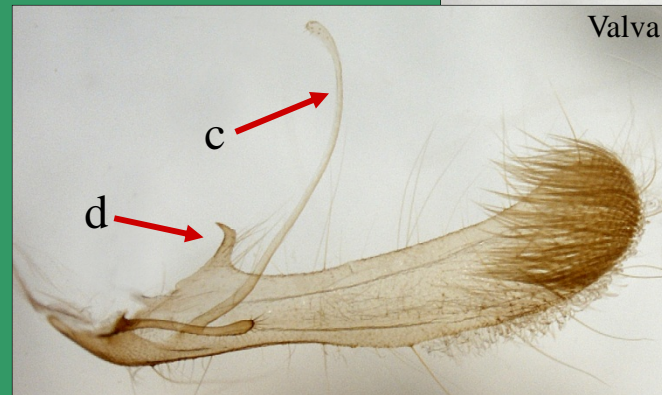
Image by Jim Vargo



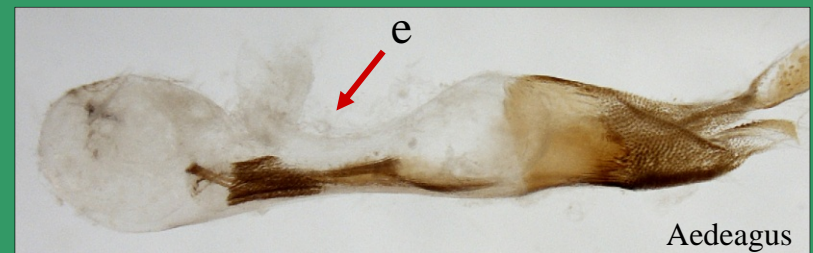
Images by J. Brambila



Genitalia, ventral view



d



Aedeagus

The soybean looper, *Chrysodeixis includens* (Walker), is a common North American pest, especially in the eastern U.S. Its forewing markings are extremely similar to the markings of *C. chalcites* and are variable (a). Male soybean loopers differ externally from male *C. chalcites* by the lack of tufts of scales on the sides and apex of the abdomen. The male genitalia are very useful for final identification. The most distinguishing genitalic characters are the extremely long and pointed saccus (b), the very long and thin clasper (c), and the costal projection (d) (variable in shape) near the base of the valva. The aedeagus is narrow (e) after the bulbous base and the vesica has a hooked basal cornutus.

Trichoplusia ni

Cabbage Looper Moth



Image by Lyle Buss,
University of Florida



Images by J. Brambila

Another commonly collected plusiine is *Trichoplusia ni* (Hübner), the cabbage looper. Because the wing coloration and the shape of the stigma (a) are variable, it is essential that genitalia are examined for the identification of this species. The main genitalic characters to notice are the large and recurved clasper on the center of the valva (b), the elongate V-shaped saccus (c), and the elongate apical cornutus on the vesica (d).

