

# *Spodoptera* spp.

## FEMALE IDENTIFICATION AID

This identification aid illustrates the dissected female genitalia of *Spodoptera litura*, *S. littoralis*, and ten of the eleven native *Spodoptera* species occurring in the United States. The ten native species included, which are listed below in alphabetic order, have been found in survey traps. *Spodoptera hipparis* is not included. Most identification tools for *Spodoptera* illustrate male genitalia, but occasionally females are caught in survey traps. This tool provides support for the identification of dissected female specimens.

*Spodoptera albula*  
*Spodoptera androgea*  
*Spodoptera dolichos*  
*Spodoptera eridania*  
*Spodoptera exigua*

*Spodoptera frugiperda*  
*Spodoptera latifascia*  
*Spodoptera ornithogalli*  
*Spodoptera preafica*  
*Spodoptera pulchella*

# *Spodoptera* spp.



## **FEMALE IDENTIFICATION AID**

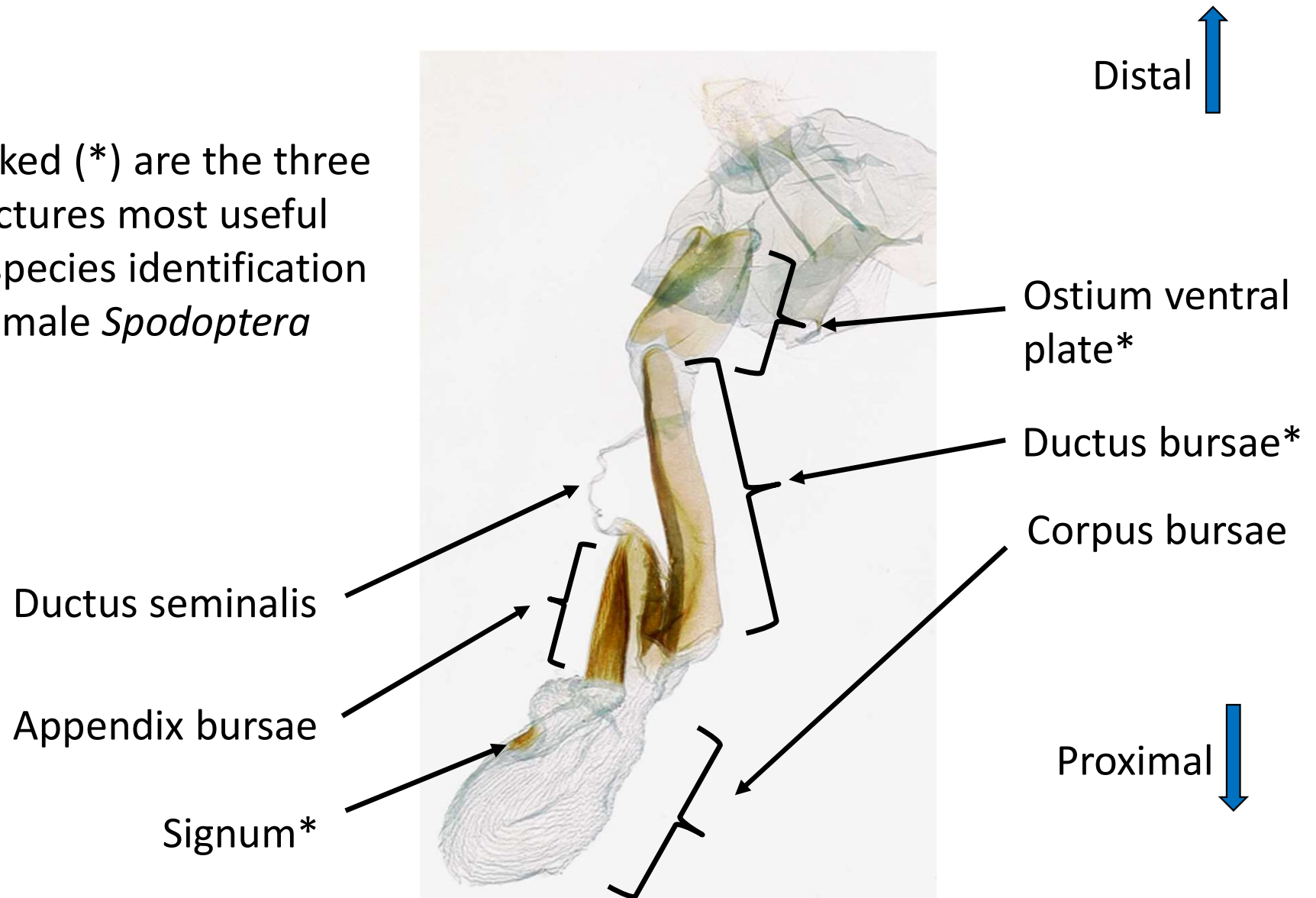
This resource was produced by Julieta Brambila (USDA/APHIS/PPQ) for CAPS (the Cooperative Agriculture Pest Survey program). It was made possible by James E. Hayden (Florida Department of Agriculture and Consumer Services, Division of Plant Industry =FDACS/DPI), who provided many of the genitalia photographs, loaned permanently mounted specimens, and reviewed this aid.

Michael Pogue (USDA-Systematic Entomology Laboratory, retired) is the author of the primary reference and provided specimens of the two non-native species of concern. Ariana Gaskin (FDACS/DPI/CAPS) provided several dissected female specimens and Sara Furgeson (FDACS/DPI/CAPS) identified several of the preserved and photographed specimens. Steven C. Passoa and James D. Young (USDA-APHIS-PPQ, Lepidoptera National Specialists) reviewed this identification aid and provided guidance.

# *Spodoptera* spp.

## Some structures of the female genitalia

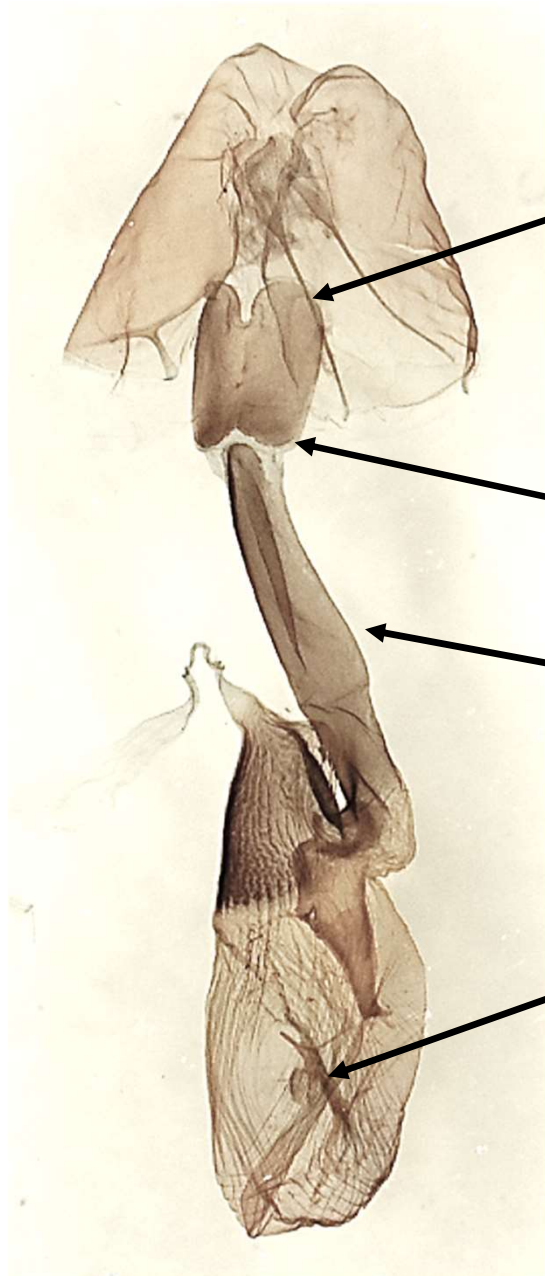
Marked (\*) are the three structures most useful for species identification in female *Spodoptera*



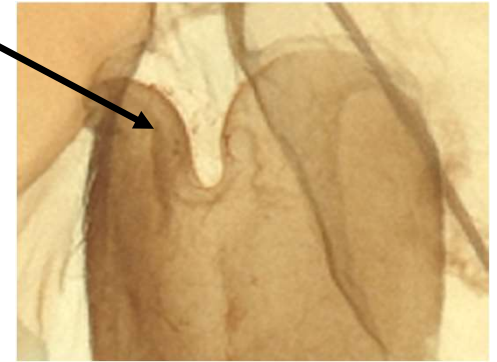
*Spodoptera litura*

# *Spodoptera litura*

**Not native to USA**



Ostium ventral plate slightly longer than wide, with a narrow “U”-shaped notch on distal margin, and proximal margin shaped as a shallow upside-down “V”



Example of another ostium ventral plate to show the distal margin

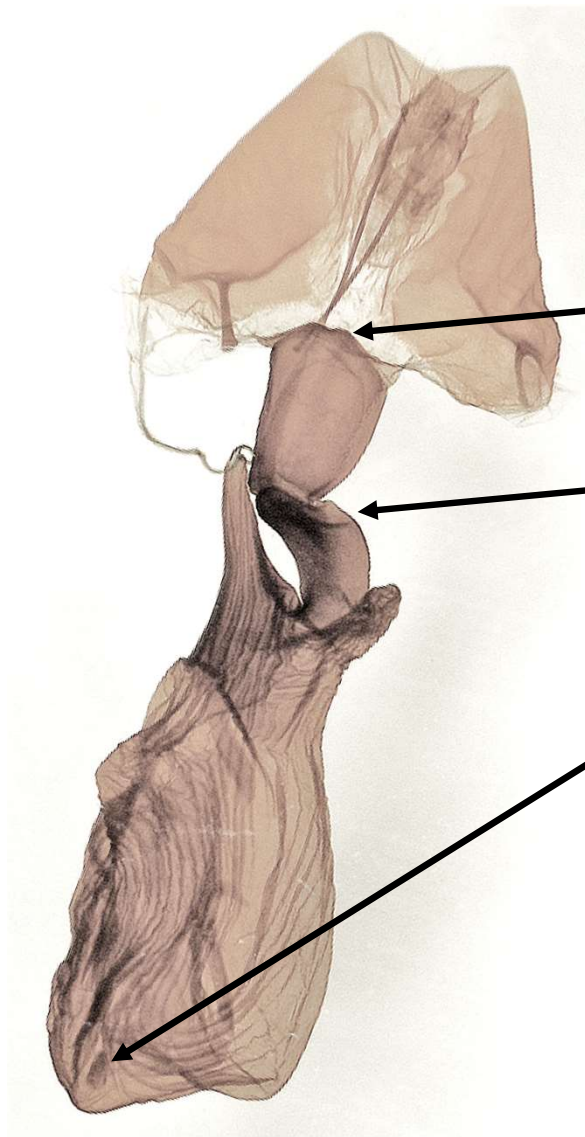
Ductus bursae long, length more than 3 times the width

Signum very short, shorter than the ostium plate

Slide #5  
How to identify  
*Spodoptera littoralis*

# *Spodoptera littoralis*

**Not native to USA**



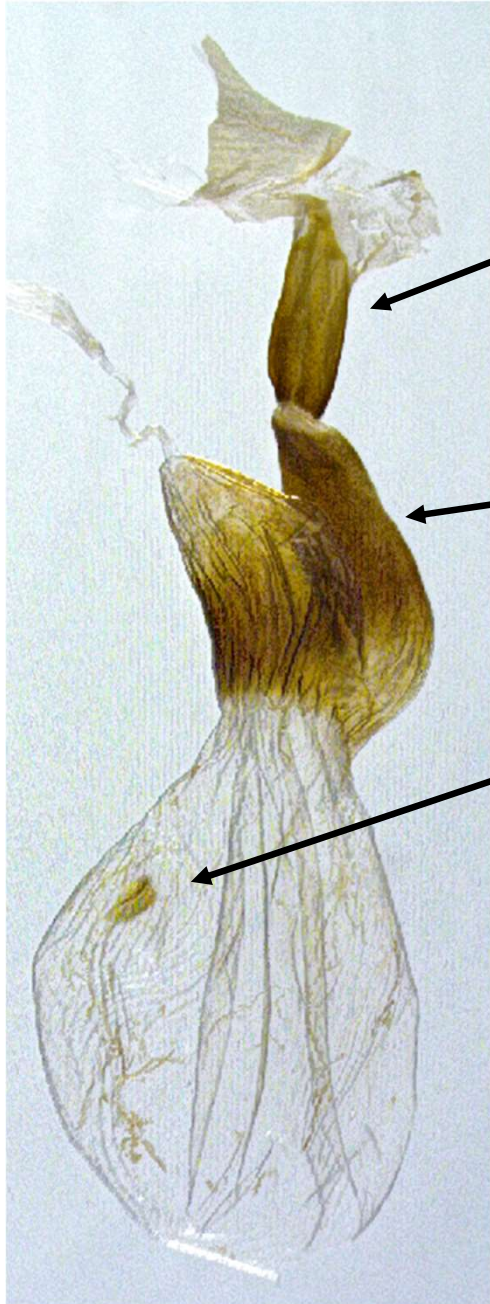
Ostium ventral plate slightly longer than wide, with apical margin convex

Ductus bursae short, length less than twice the width

Signum very short, located on distal half of corpus bursae



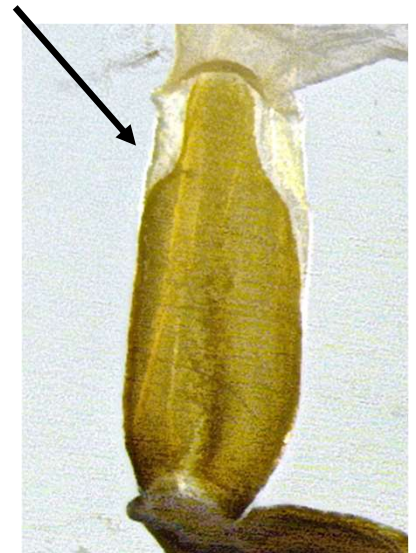
# *Spodoptera frugiperda*



Ostium ventral plate longer than wide, with distal margin usually membranous laterally (variable)

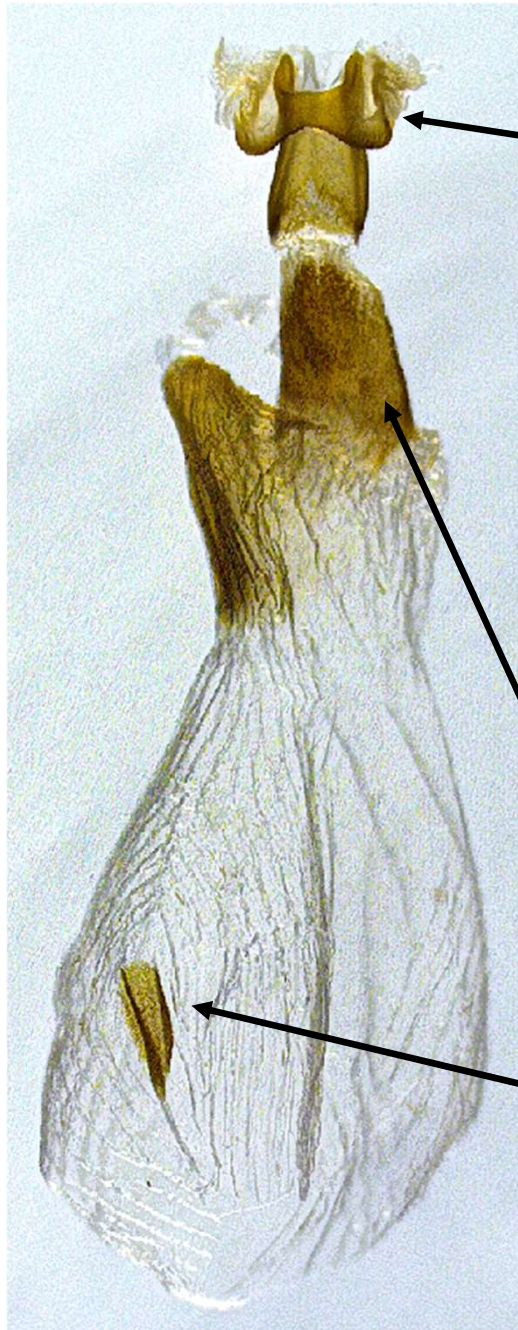
Ductus bursae short, length less than twice the width

Signum shorter than ostium plate, located on basal half of corpus bursae



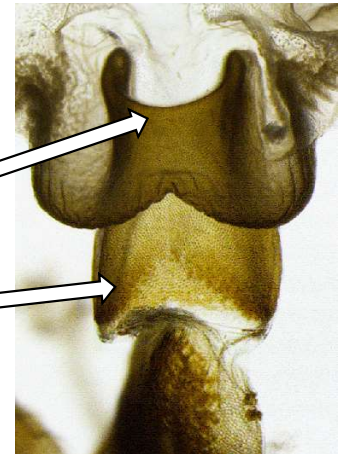
Example of another ostium ventral plate to show the distal margin

# *Spodoptera ornithogalli*



8<sup>th</sup> abdominal sternite invaginated forming large pockets (lamella postvaginalis) laterally at the ostium

Ostium ventral plate longer than wide, with distal margin U-shaped, and proximal margin shallow V-shaped (upside down "V")

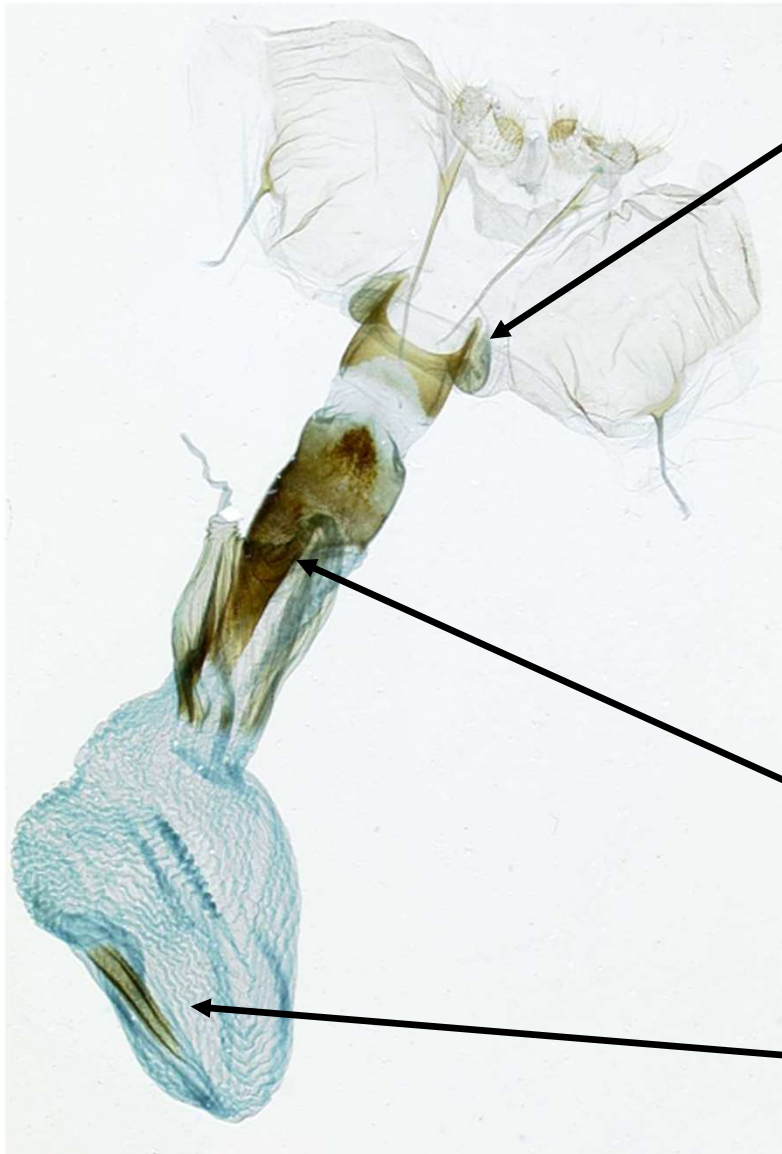


Ductus bursae short, length less than twice the width

Signum about as long as ostium plate, on distal half of corpus bursae

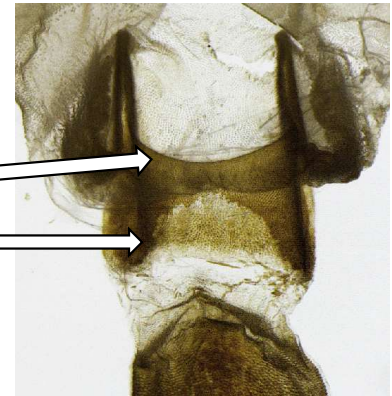


# *Spodoptera pulchella*



8<sup>th</sup> abdominal sternite invaginated forming pockets (lamella postvaginalis) laterally at the ostium

Ostium bursae plate slightly longer than wide, with distal margin deeply U-shaped, and proximal margin U-shaped (upside down wide “U”)

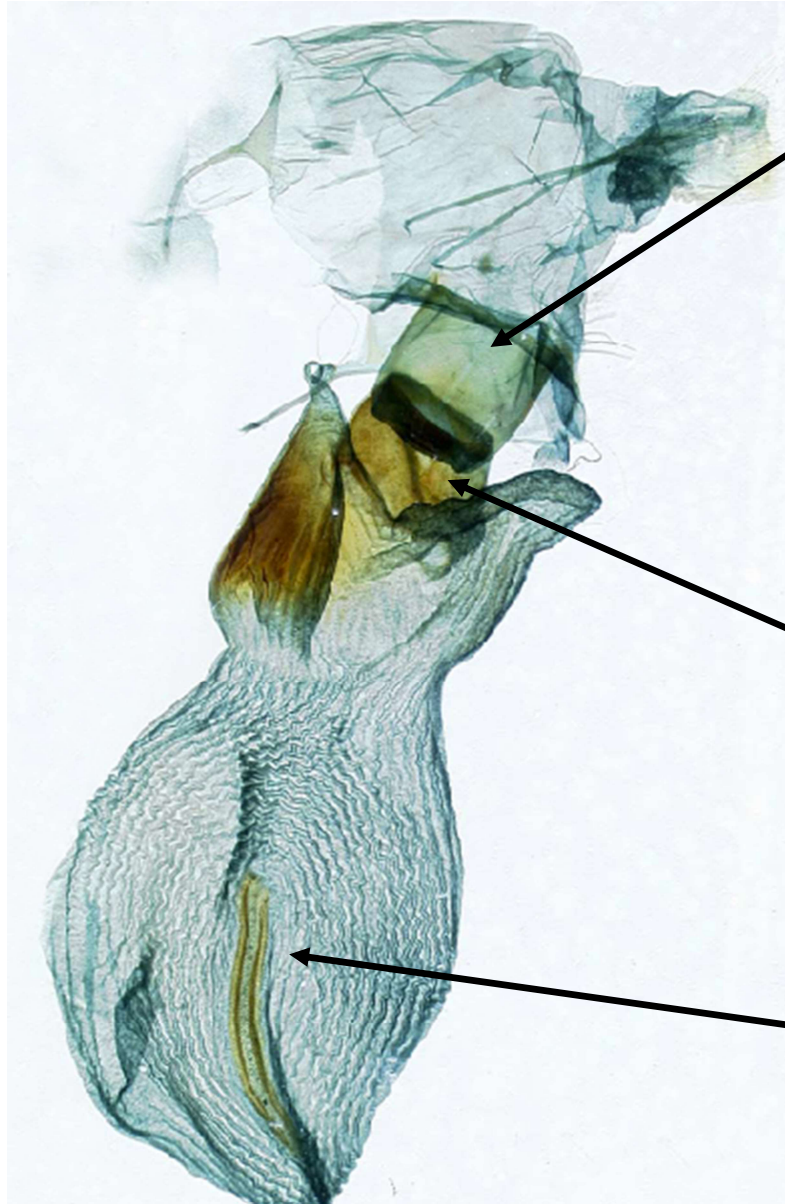


Ductus bursae short, length less than twice the width, with a sclerotized band

Signum long, longer than ostium plate, located on distal half of corpus bursae



# *Spodoptera dolichos*



Ostium ventral plate slightly wider than long, with distal margin straight and proximal margin V-shaped (upside down shallow "V")

Ductus bursae short, length less than twice the width (may be seen folded as in this image)

Signum long, longer than ostium plate, located on distal half of corpus bursae



Example of another ostium ventral plate to show the proximal margin

Slide #10

How to identify

*Spodoptera latifascia*

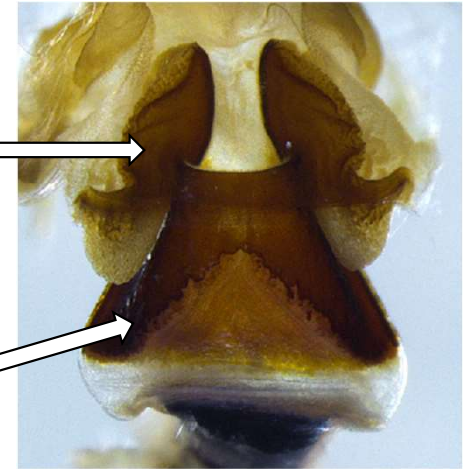
# *Spodoptera latifascia*

8<sup>th</sup> abdominal sternite invaginated forming pockets laterally (lamella postvaginalis) at the ostium

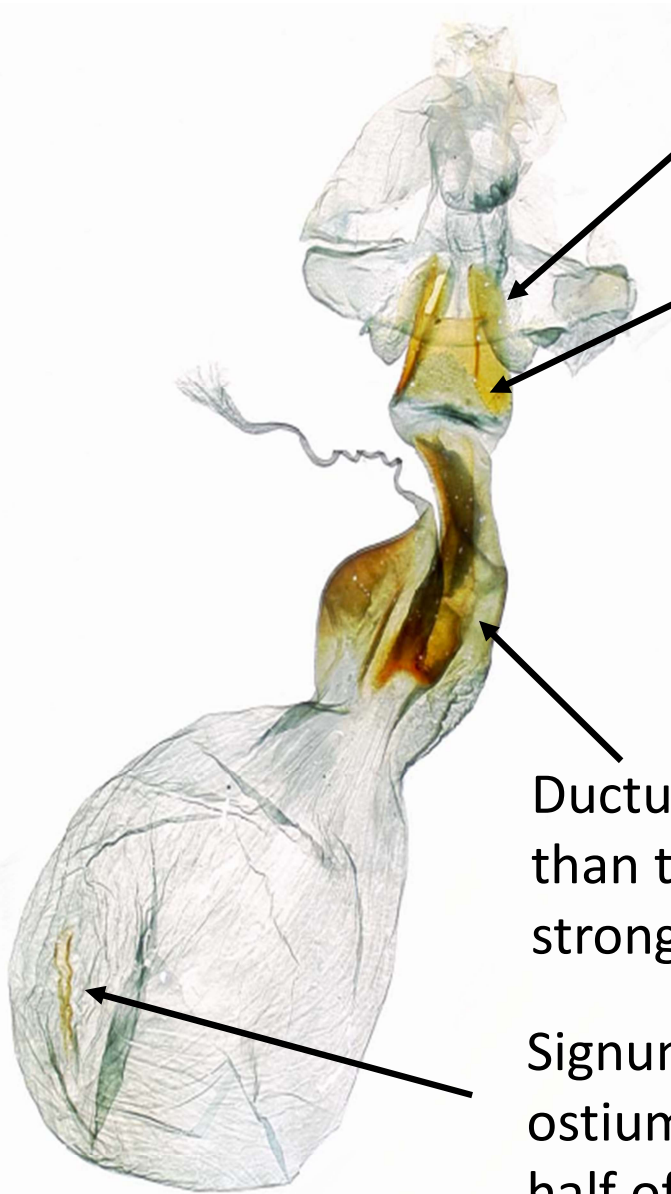
Ostium ventral plate slightly longer than wide, with distal margin in the shape of a deep and rectangular "U" (of variable shape), and proximal margin V or U-shaped (upside down)

Ductus bursae long, length more than twice the width, with a strongly sclerotized band

Signum slightly longer than ostium plate, located on distal half of corpus bursae



Example of another ostium ventral plate to show the margins



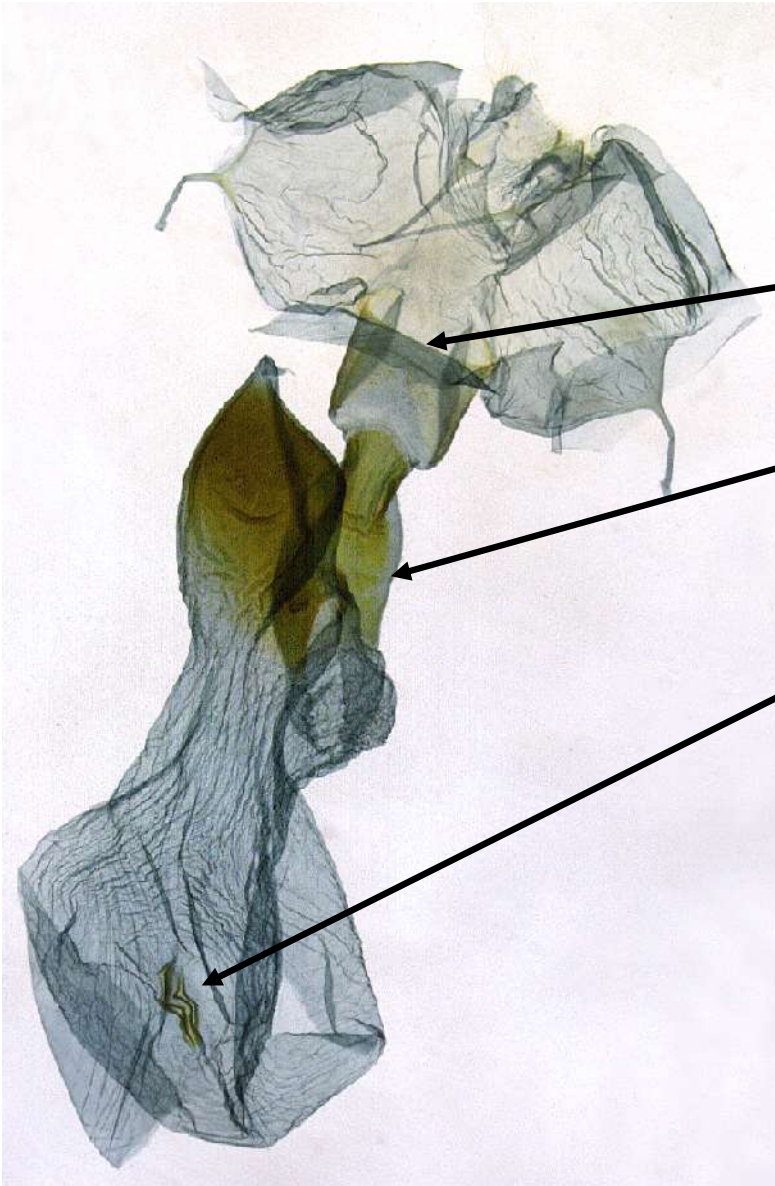
Left photo by J. E. Hayden  
Right photo by J. Brambila

Slide #11

How to identify

*Spodoptera androgea*

# *Spodoptera androgea*



Ostium ventral plate slightly wider than long, with distal margin straight

Ductus bursae long, length more than twice the width

Signum about as long as ostium plate, located on distal half of corpus bursae

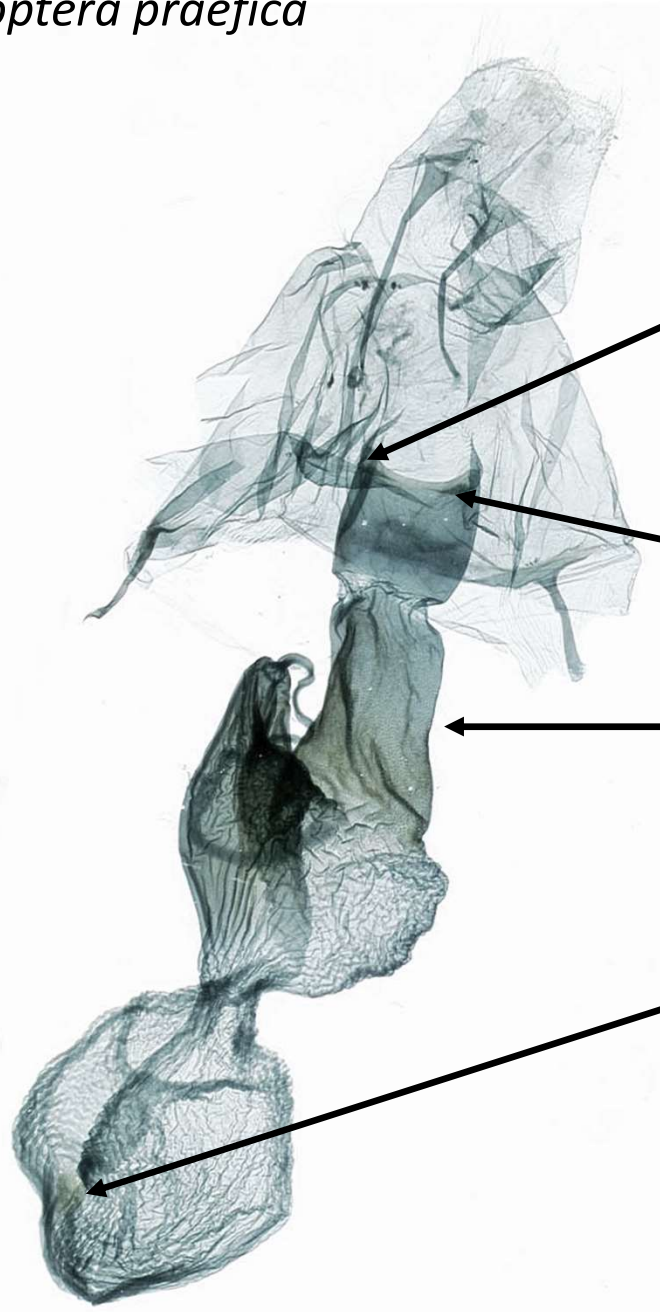


Slide #12

How to identify

*Spodoptera praefica*

# *Spodoptera praefica*



8<sup>th</sup> abdominal sternite invaginated forming shallow pockets (lamella postvaginalis) at the ostium

Ostium ventral plate slightly longer than wide, with distal margin broadly U-shaped (=concave)

Ductus bursae short, length less than twice the width

Signum very short, located on distal half of corpus bursae

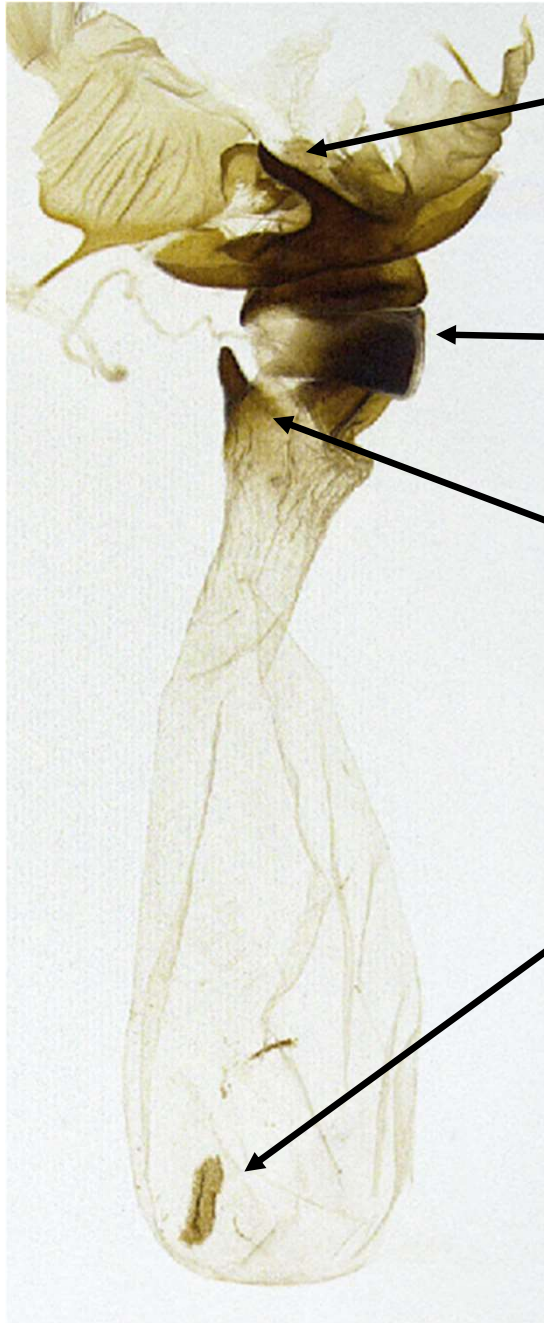


Slide #13

How to identify

*Spodoptera albula*

# *Spodoptera albula*



Ostium ventral plate wider than long, with an acute projection (of variable shape) on distal margin

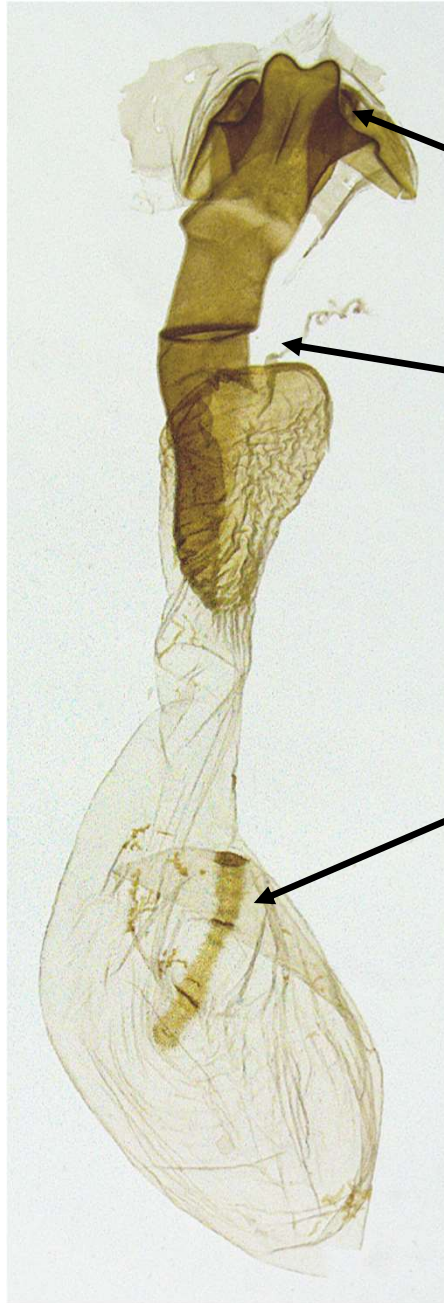
Ductus bursae about twice as long as wide (may be seen folded, as in this image)

Appendix bursae small and sclerotized, appearing like a short horn

Signum short, shorter than width or length of ostium plate, located on distal half of corpus bursae

Photo by J. Brambila

# *Spodoptera eridania*



Ostium ventral plate wider than long, with a bilobate projection on distal margin

Ductus bursae short, length less than twice the width (may be seen folded as in this image)

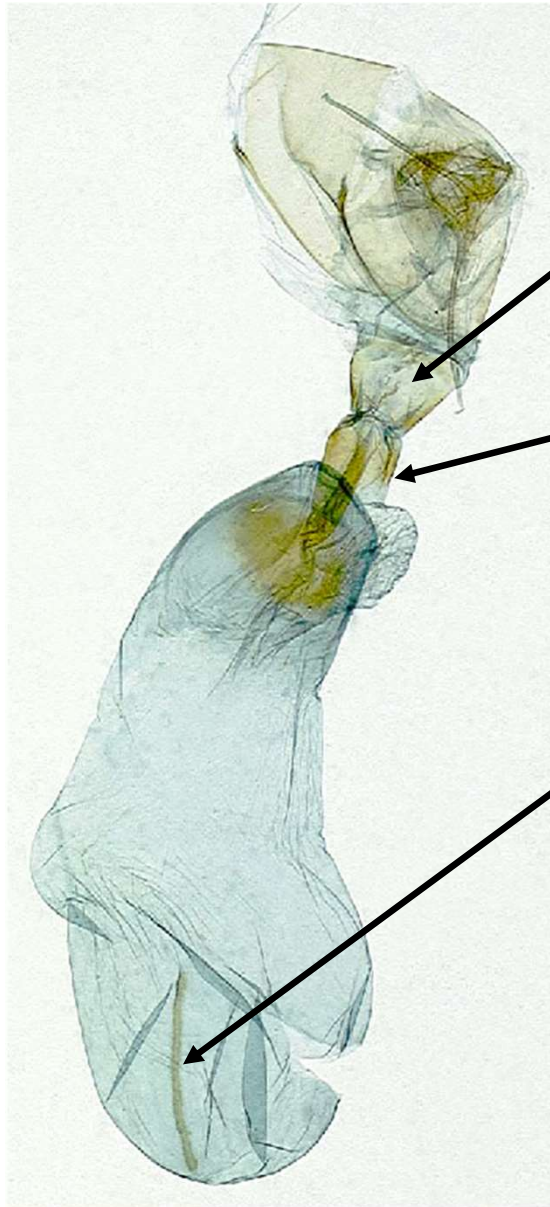
Signum very long, near middle of corpus bursae

Slide #15

How to identify

*Spodoptera androgea*

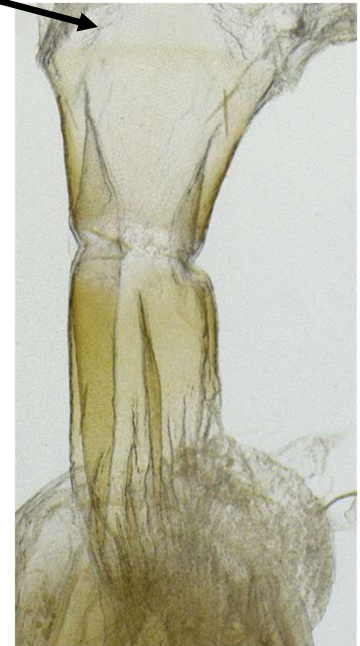
# *Spodoptera exigua*



Ostium ventral plate lightly sclerotized and slightly longer than wide, with distal margin straight

Ductus bursae lightly sclerotized and short, length less than twice the width

Signum very long, longer than ostium plate, located on apical half of corpus bursae



Example of another ostium ventral plate to show the distal margin

Left photo by J. E. Hayden  
Right photo by J. Brambila

# *Spodoptera* spp.

## Additional resources



Additional female genitalia photographs can be found in the following locations:

**Pogue, M. G., 2002.** A world revision of the genus *Spodoptera* Guenée (Lepidoptera: Noctuidae). *Memoirs Am. Ent. Soc.* 43: 202 pp. Found online at [Memoirs of the American Entomological Society: American Entomological Society: Free Download, Borrow, and Streaming: Internet Archive](#)

**Moth Photographers Group website, with links to several *Spodoptera* species, including these:**

[Moth Photographers Group – Genitalia – 990655 – 19655 – \*Spodoptera litura\* \(msstate.edu\)](#)

[Moth Photographers Group – Genitalia – 990640 – 19640 – \*Spodoptera littoralis\* \(msstate.edu\)](#)