

WHEN ARE PREDATORS LIKELY TO BE IN MY FIELD?

PREDATOR	MONTH											
	J	F	M	A	M	J	J	A	S	O	N	D
Big-Eyed Bug												
Assassin Bug												
Damsel Bug												
Minute Pirate Bug												
Ground Beetle												
Lady Beetle												
Lacewing												
Spiders												

High presence in field

Medium presence in field

Low presence in field

Data partially from fields with cover crop residue. All predators can be observed and collected during the day.

Pests

Scouting
for key pests and
beneficials is
critical for informed
and cost effective
management
decisions.



Thrips
Consistent early-season pest of seedling cotton



Southern green stinkbug
Potentially serious late-season pest of cotton



Whitefly
Potentially serious mid- to late-season pest of cotton



Corn earworm
Pest of cotton bolls



Brown stinkbug
Late-season pest of cotton bolls



Tarnished plant bug
Occasional mid- to late-season pest of cotton



Aphid
Potential early- to late-season pest of cotton

Acknowledgments

Special thanks to:

Georgia Cotton Commission and Cotton Incorporated

Field Guide to Predators, Parasites and Pathogens Attacking Insect and Mite Pests of Cotton by Allen Knutson and John Ruberson

"Insect Management in Cotton: An Initiative of the Australian Cotton Cooperative Research Centre"

Photos:

Aphids (4387054), Mississippi State University, Bugwood.org

Assassin bug (5367967, 5367980), big-eyed bug nymph (1242039), big-eyed bug (5367925), brown stinkbug (1242026), fire ant close-up (5367982), spined soldier bug nymph (1242093), and tarnished plant bug (5367937), Russ Ottens, University of Georgia, Bugwood.org

Brown lacewing (5351009) and lacewing eggs (5490113), David Cappaert, Bugwood.org

Cobweb weaver (5526012), Sarah Jane Rose, The Ohio State University, Bugwood.org

Corn earworm (1235128), Clemson University - USDA Cooperative Extension Slide Series, Bugwood.org

Damsel bug nymph (5507033) and damsel bug (5507032), Phil Sloderbeck, Kansas State University, Bugwood.org

Fire ant group (2666066) and minute pirate bug (2666062), John Ruberson, Kansas State University, Bugwood.org

Ground beetle (5210002) and lacewing larvae (1475047), Whitney Cranshaw, Colorado State University, Bugwood.org

Lady beetle larvae (1366008), Susan Ellis, Bugwood.org

Lady beetle (5526787), Jim Jasinski, Ohio State University Extension, Bugwood.org

Long-horned grasshopper (1225071), Edward L. Manigault, Clemson University Donated Collection, Bugwood.org

Long-horned grasshopper close-up (2154085), rove beetle (1386032), and wolf spider (5439120), Joseph Berger, Bugwood.org

Lynx spider (1576386), Gerald Holmes, California Polytechnic State University at San Luis Obispo, Bugwood.org

Minute pirate bug nymph (5471119), Adam Sisson, Iowa State University, Bugwood.org

Rove beetle (5368120), Merle Shepard, Gerald R. Carner, and P.A.C Ooi, Insects and their Natural Enemies Associated with Vegetables and Soybean in Southeast Asia, Bugwood.org

Spined soldier bug (1472044), Frank French, Georgia Southern University, Bugwood.org

Southern green stink bug (4387037), Phillip Roberts, University of Georgia, Bugwood.org

Tiger beetle (5379921), Jessica Louque, Smithers Viscient, Bugwood.org

Thrips and pupating convergent lady beetle, Schmidt lab

Whiteflies (1599599), John C. French Sr., Retired, Auburn University, University of Georgia, Clemson University, and University of Missouri, Bugwood.org

Drawings:

Spined soldier bug scale drawing by Clercq (2004), with permission from Springer Cover art and scale drawings for minute pirate bug, ground beetle, and big-eyed bug by Megan McCoy

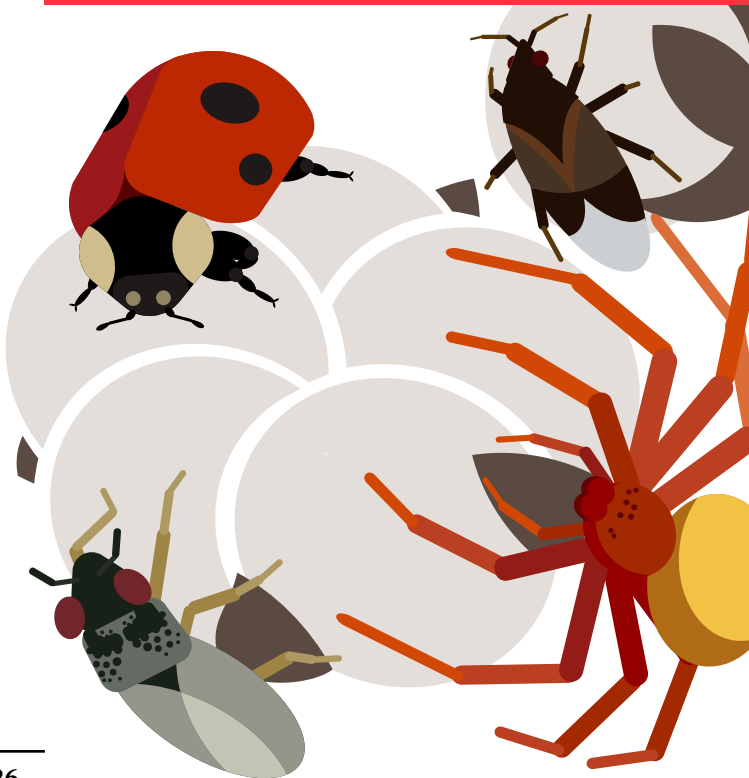
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Visual Reference Guide to Common Predators and Pests in Georgia Cotton

Jason Schmidt, Melissa Thompson,
Phillip Roberts, Michael Toews



UNIVERSITY OF GEORGIA
EXTENSION

The permalink for this UGA Extension expert resource is
fieldreport.caes.uga.edu/publications/C1161/

Key to Symbols for Predator Habitat Preferences

A All: found in all or almost all habitat types

C Canopy: found in the cotton canopy or among cotton flowers

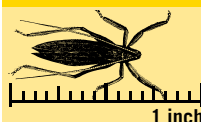
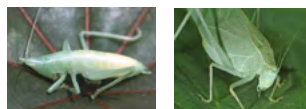
G Ground: found primarily on the soil or leaf litter

Gm Grass margins: found in grassy field margins or cover crop residue

Grasshoppers *Tettigoniidae:Orthoptera*

Long-horned grasshoppers

Feed on: aphids, thrips, lepidopteran eggs and larvae

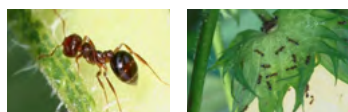


Gm C

Ants *Hymenoptera*

Fire ants

Feed on: lepidopteran larvae and eggs, aphids, soil insects, stink bug eggs, whitefly larvae, spider mites, beetle larvae, most soft-bodied insects, nectar



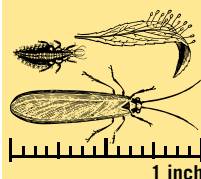
A

Lacewings *Neuroptera*

Brown and green lacewings

Larvae feed on: aphids, spider mites, other small insects

Brown lacewing adults are predatory while green lacewing adults feed on pollen and nectar.



C

Beetles *Coleoptera*

Ground and tiger beetles

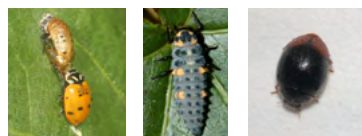
Feed on: lepidopteran larvae, aphids, soil insects, weed seeds



G

Lady beetles

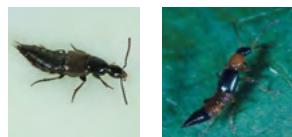
Feed on: aphids, lepidopteran eggs and larvae, spider mites, cotton nectar, pollen



C

Rove beetles

Feed on: aphids, spiders, other small insects



A

Spiders *Araneae*



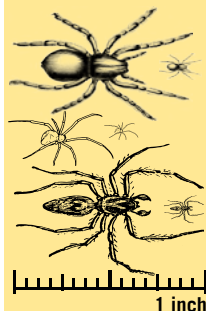
Ground hunters
Wolf spider



Canopy web builders
Cobweb weaver



Ambushers/stalkers
Lynx spider



Gm G

C

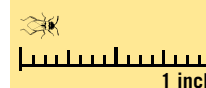
Feed on: lepidopteran eggs and larvae, whiteflies, plant bugs and hoppers, aphids, thrips

These spiders are just a few examples of this diverse group of predators found in cotton.

True Bugs *Hemiptera*

Big-eyed bugs

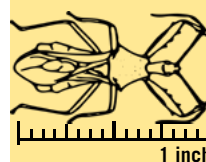
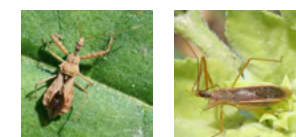
Feed on: lepidopteran eggs and larvae, aphids, mites, whiteflies, plant bugs, cotton nectar, plant sap



Gm C

Assassin bugs

Feed on: lepidopteran eggs and larvae, aphids, thrips



Gm C

Damsel bugs

Feed on: lepidopteran eggs and larvae, aphids, mites, whiteflies, plant bugs, fleahoppers, beneficials



Gm C

Minute pirate bugs

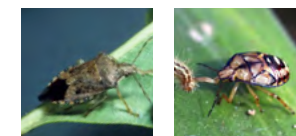
Feed on: lepidopteran eggs and larvae, aphids, mites, whiteflies, thrips, pollen



C

Spined soldier bugs

Feed on: caterpillars, beetle larvae



C