



University of Nebraska  
Department of Entomology



536

# Color Supplement For General Pest Control



Category 10a



Pill bug  
(*Armadillium vulgare*)

UGA12520



UGA14



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UGA10041

# Acknowledgements for color photos

Thanks to  
Bugwood.org

University of Nebraska -  
Department of Entomology

Handbook of PMP Mallis

NPMA Field Guide

Ohio Pest Control Association

Unknown Authors

Images on the front and back covers are  
courtesy of Bugwood.org and the  
University of Nebraska, Lincoln.

# **Insect Pests**

**AMERICAN COCKROACH**



Image courtesy of the University of Nebraska  
Department of Entomology

Actual Size  
Adults about 1 3/8 to 2 1/8"  
(34-53 mm) Long

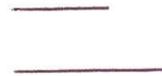


**ANGUMOIS GRAIN MOTH**



Image courtesy of Clemson University- USDA  
Cooperative Extension Slide Series  
Bugwood.org

Actual Size  
Adults with *wingspread* about 1/2 to  
5/8" (12-17mm ) long



**BALDFACE HORNET**



Image courtesy of Jerry A. Payne, USDA Ag  
Research  
Service, Bugwood.org

Actual Size  
Adults about 5/8 to 3/4 "  
(15 – 20 mm) long



|  |   |
|--|---|
| <p style="text-align: center;"><b>BED BUG</b></p>  <p style="text-align: center;">Image courtesy Clemson University – USDA<br/>Slide Series, Bugwood.org</p>  | <p style="text-align: center;">Actual Size<br/>Adults about 1/8 to 3/16”<br/>(4-5 mm) long</p> <p style="text-align: center;">—<br/>—</p>   |
| <p style="text-align: center;"><b>BLACK and VARIED CARPET BEETLE</b></p>  <p style="text-align: center;">Image Black courtesy of Clemson University –<br/>USDA Cooperative Ext. Bugwood.org<br/>Image Varied Natasha Wright, Florida Dept. of<br/>Ag., Bugwood.org</p> | <p style="text-align: center;">Actual Size<br/>Adults about 1/4:”<br/>(3-5 MM) long</p> <p style="text-align: center;">—</p>  |
| <p style="text-align: center;"><b>BLACK WIDOW SPIDER</b></p>  <p style="text-align: center;">Image courtesy of Clemson Extension<br/>Bugwood.org</p>  | <p style="text-align: center;">Actual Size<br/>Body about 1/2 “<br/>(12-15 mm) long</p> <p style="text-align: center;">—</p> <p style="text-align: center;">Body and legs about 1 1/2”<br/>(37 mm)</p> <p style="text-align: center;">—</p> |

**BOXELDER BUG**



Image courtesy of William M. Ciesla, Forest Health Management International, US, Bugwood.org

Actual Size  
Adults about 1/2"  
(11-14mm) long



**BROWN BANDED COCKROACH**



Image courtesy of University of Nebraska Department of Entomology

Actual Size  
Adults about 1/2"  
9male 13-14.5mm; femal11-12 mm)  
long



**BROWN RECLUSE SPIDER**



Image courtesy of Florida Department of Agriculture and Consumer Services Bugwood.org

Actual Size  
Adults about 1/4to 3/4"  
(6-20 mm) in size



**CAMEL AND HOUSE CRICKET**



TOP (Camel cricket) Image courtesy of David Capper, Michigan State University, Bugwood.org

BOTTOM (House Cricket) Image courtesy of Joseph Berger, Bugwood.org

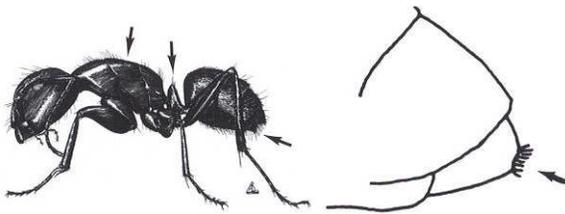
Actual Size  
Camel Cricket  
Actual Size  
Adults about 1/2 to 1 1/2"  
(13 to 33 mm) long



House Cricket  
Actual Size  
Adults about 3/4 to 1"  
(19 to 33 mm) long



**CARPENTER ANT**



Actual Size  
Adults about 1/2 to 5/8"  
(15 to 20 mm) long



**CARPENTER BEE**



Image courtesy of Paul M Choate, University of Florida

Actual Size  
Adult about 1/2 to 1"  
(12.5 to 25 mm)



**CENTIPEDE (HOUSE)**



Image courtesy of Edward I. Manigault, Clemson University Donated Collection, Bugwood.org

Actual Size  
Adults about 1/8 to 6"  
(4 to 152 mm)

**DRUGSTORE AND CIGARETTE BEETLES**



Image Courtesy of University of Nebraska – Department of Entomology

Actual Size  
LEFT ( Drugstore beetle)  
Actual Size  
Adults about  
(3.5 mm) long

RIGHT (Cigarette beetle)  
Actual Size  
Adults about  
(2 to 3 mm) long

**(WEBBING) CLOTHES MOTH**



Image courtesy of Clemson University – USDA Extension Slide Series, Bugwood.org

Actual Size  
Adults about 1/2"  
(12mm) long



**CLOVER MITE**



Image courtesy of Rayanne Lehman, PA Dept. of Ag., Bugwood.org

Actual Size  
Adults 1/64"  
(0.75 mm) long

**CLUSTER FLY**



Image courtesy of Whitney Cranshaw, Colorado State University, Bugwood.org

Actual Size  
Adult about 3/8"  
(8 mm) long



**DRAIN FLY**



Image courtesy of J. Hahn University of Minnesota

Actual Size  
Adult 1/16 to 1/14"  
(1/5 to 5 mm)

**EARWIG**



Image courtesy of Johnny N. Dell, Bugwood.org

Actual Size  
Adult about 1/4 to 1"  
(5 to 25 mm) long



**EUROPEAN OR BROWN HORNET**



Image courtesy of W. S. Wegner, OPCA

Actual Size  
Adult about 1 to 1.4"  
(25 to 35 mm) long

**FIELD ANT**

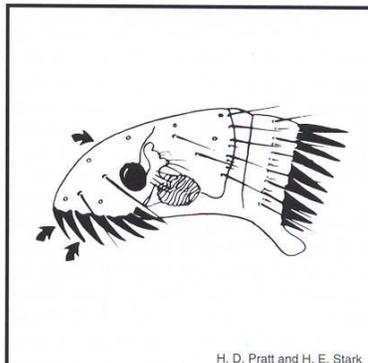
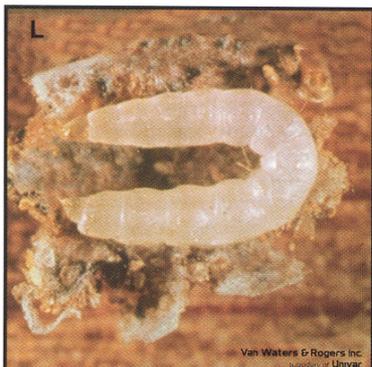
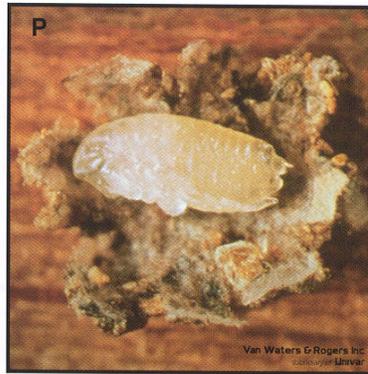


Actual Size  
Adults about 3/8"  
(11 mm) long



Image courtesy of Van Waters and Rogers Inc.

**FLEA (CAT)**



Actual Size  
Adult about 1/8"  
(2.5 to 3 mm) long



Image courtesy of Van Waters and Rogers Inc.

**FRUIT (VINEGAR) FLY**



Image courtesy of Andre Karth, Wikimedia Commons

Actual Size  
Adult about 1/8"  
(3 to 4 mm) long



**FUNGUS GNAT**



University of Nebraska  
Department of Entomology

Image courtesy of University of Nebraska -  
Department of Entomology

Actual Size  
Adult about 1/8"  
(3 to 4mm) long



**GERMAN COCKROACH**



University of Nebraska  
Department of Entomology

Image courtesy of University of Nebraska -  
Department of Entomology

Actual Size  
Adults about 5/8"  
(16mm)



**GREEN BOTTLE FLY**



UGA2102018

Image courtesy of Joseph Berger, Bugwood.org

Actual Size  
(10 to 14 mm) long  
Slightly larger than a house fly

**HONEY BEE**



Image courtesy of Jerry A. Payne, USDA Ag Research Ser., Bugwood.org

Actual Size  
Adult worker 1/2 to 5/8" (11 to 15 mm)  
Queens slightly larger, about 5/8 to 3/4" (15 to 20 mm) long



**HOUSE FLY**



UGA1435183

Image courtesy of Clemson University – USDA Extension Slide Series, Bugwood.org

Actual Size  
Adults about 1/8 to 1/4" (4 to 7.5 mm) Female usually larger than male



Mature larva about 1/4 to 3/8" (7 – 10 mm) long

|   |   |
|---|---|
| <p style="text-align: center;"><b>INDIAN MEAL MOTH and LARVA</b></p>  <p style="text-align: center;">Image courtesy of University of Nebraska<br/>Department of Entomology</p>       | <p style="text-align: center;">Actual Size<br/>Adults with wingspread<br/>about 5/8 to 3/4"<br/>(16 to 20 mm)</p> <p style="text-align: center;"> <br/>  </p> |
| <p style="text-align: center;"><b>(MULTICOLORED ASIAN) LADY BEETLE</b></p>  <p style="text-align: center;">Image courtesy of Scott Bauer, USDA Ag<br/>Research Ser, Bugwood.org</p> | <p style="text-align: center;">Actual Size<br/>Adults about 1/21 to 3/8"<br/>(0.8 to 1 mm) long</p>   |
| <p style="text-align: center;"><b>LEAFFOOTED BUG</b></p>  <p style="text-align: center;">Image courtesy of David Cappaert, MSU,<br/>Bugwood.org</p>                                | <p style="text-align: center;">Actual Size<br/>Adults about 3/4"<br/>(20 mm) long</p> <p style="text-align: center;">  </p>  |

**LICE (HEAD)**



Image courtesy of University of Nebraska – Department of Entomology

**Actual Size**

Adult Female 1/8"  
(2.4 to 3.7 mm) long

Adult Male 1/10"  
(2.3 to 3.2 mm) long

**MILPEDE**



Image courtesy of Van Waters and Rogers, Inc

**Actual Size**  
Adults about  
1 to 1.5"  
(25 to 38mm) long



**MUD DAUBER  
(Organ-Pipe)**



Image courtesy of BugGuide.net

Actual Size  
Adults about 1"



**ODOROUS HOUSE ANT**

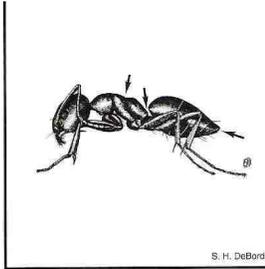


Image courtesy of Van Waters and Rogers  
**ODOROUS HOUSE ANT**

Actual Size  
Adults about  
(2.4 to 3.5 mm) long

**ORIENTAL COCKROACH**



Image courtesy of University of Nebraska –  
Department of Entomology

Actual Size  
Adult males about 1"  
(25 mm) long  
Females about 1 1/4"  
(32 mm) long

**PAPER WASP**



Image courtesy of David Cappaert, Michigan State University, Bugwood.org

Actual Size  
Adults about 5/8 to 3/4"  
(16 to 20 mm) long

**PAVEMENT ANT**

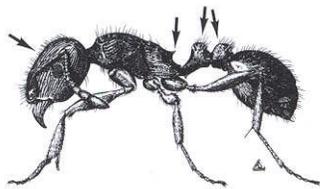
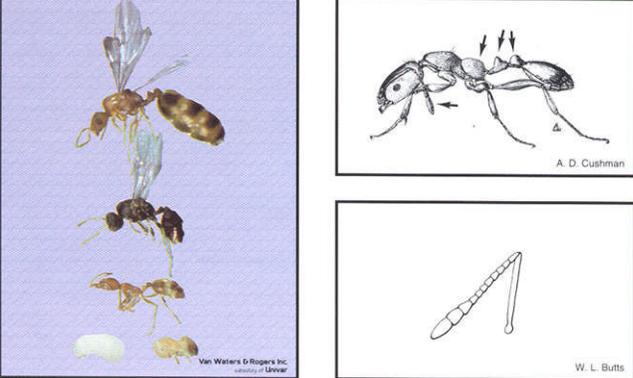


Image courtesy of the NPMA Field Guide

Actual Size

Workers about 1/16 to 1/8"  
(2.5 to 4 mm) long  
Queens about 3/8"  
(8 mm) long

|  |   |
|--|---|
| <p style="text-align: center;"><b>PHARAOH ANT</b></p>  <p style="text-align: center;">Image courtesy of Van Waters and Rogers, Inc.</p>   | <p style="text-align: center;">Actual Size<br/>(2 mm)</p>   |
| <p style="text-align: center;"><b>PHORID FLY</b></p>  <p style="text-align: center;">Image courtesy of G. S. Wegner, OPCA</p>  | <p style="text-align: center;">Actual Size<br/>Adults 1/64 to 1/4"<br/>(0.5 to 5.5 mm) long</p>                         |
| <p style="text-align: center;"><b>PILLBUG AND SOWBUG</b></p>  <p style="text-align: center;">Image courtesy of Joseph Berger, Bugwood.org</p> <p style="text-align: center;">Image courtesy of U of Kentucky - Entomology</p> | <p style="text-align: center;">Actual Size<br/>Adults 3/4"<br/>(19 mm) long</p> <hr style="width: 10%; margin: auto;"/> |

**POWDERPOST BEETLES  
ANOBIID BEETLE**



Image courtesy of James Castner, University of Florida

Actual Size  
Adults about 1/16  
to 1/8" long

-  
-

**ANOBIID BEETLE DAMAGE**



Image courtesy of UBC Forestry Handbook by J.A. McLean, B. Van der Kamp, and A. L. Behennah.

**BOSTRICHID BEETLE**



Image courtesy of James Castner, University of Florida

Actual Size  
Adults about 1/32  
to 3/8 long

**BOSTRICHID BEETLE DAMAGE**

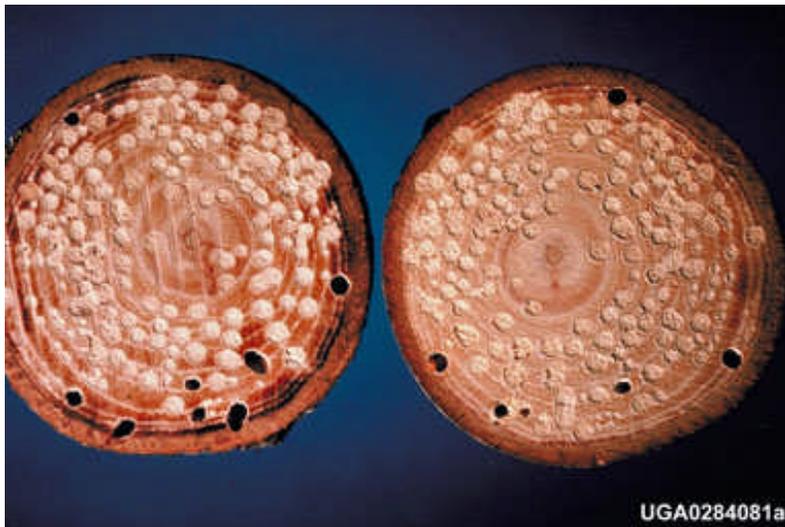


Image courtesy of James Solomon, USDA Forest Ser.,  
Bugwood.org

**LYCTID BEETLE**

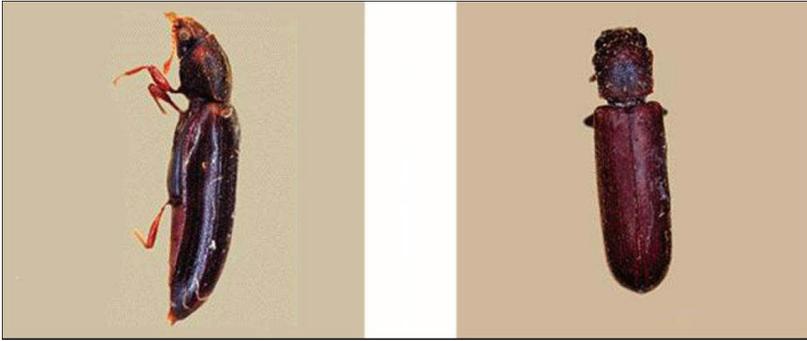


Image courtesy of James Castner, University of Florida

Actual Size  
Adults about 1/32  
to 3/8" long

**LYCTID BEETLE DAMAGE**



UGA0284057a

Image courtesy of USDA Forest Ser., Bugwood. Org

**PSOCIDS**



University of Nebraska  
Department of Entomology

Image courtesy of University of Nebraska – Department of Entomology

Actual Size  
Adults 1/25 to  
1/15"  
(1 to 2 mm) long

**RED FLOUR / CONFUSED FLOUR BEETLE**



Actual Size  
Adult 1/8"  
(3 to 4mm) long



Images courtesy of (Top)Rebecca Baldwin (red flour beetle)  
(Bottom) James Castner (confused flour beetle)

**RICE WEEVIL**



Image courtesy of Clemson University –  
USDA Slide Series, Bugwood.org

Actual Size  
Adult 1/8"  
(2.5 to 3.5 mm) long

—

**SAWTOOTHED GRAIN BEETLE**



Image courtesy of Clemson University –  
USDA Slide Series, Bugwood.org

Actual Size  
Adults 1/8"  
(2.5 to 3 mm) long

—

**SILVERFISH / FIREBRAT**



UGA1435185

Top image silverfish  
Bottom image firebrat  
Images courtesy of Clemson University –  
USDA Slide Series, Bugwood.org

Actual Size  
Adult 1/2 to 3/4" (not including  
tails)  
(12 to 19 mm)



**SPRINGTAIL**



UGA1366094

Image courtesy of Susan Ellis, Bugwood.org

Actual Size  
Adults 1/5"  
(5 mm)

**TICKS**

**BROWN DOG TICK**



Male (left) Female (right)

Image courtesy of J. F. Butler, University of Florida

Actual Size  
**Brown dog tick**  
Unfed adults 1/8"  
(2.5 to 3 mm)

—

**BLACKLEGGED OR DEER TICK**

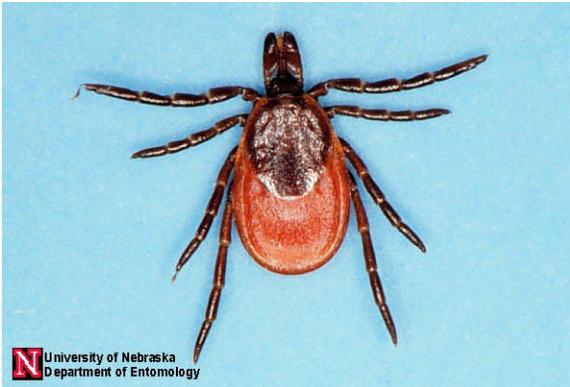


Image courtesy of University of Nebraska – Department of Entomology

Actual Size  
**Blacklegged or Deer tick**  
Adult males 1/16"  
Adult females 1/8"

—

—

**WOLF SPIDER**



Image courtesy of University of Nebraska – Department of Entomology

Actual Size  
Adult 1 1/2"  
(25 to 38 mm) long

—————

**WOOD COCKROACH**



University of Nebraska  
Department of Entomology

Images courtesy of University of Nebraska –  
Department of Entomology

Actual Size  
Adult males 1”  
Adult females 3/4” long



**YELLOWJACKET**



Image courtesy of Johnny N. Dell, Retired,  
Bugwood.org

Actual Size  
Adult worker 3/8 to 5/8”  
(10 to 16 mm) longer  
Queens 25% longer



**YELLOW SAC SPIDER**



Image courtesy of Joseph Berger,  
Bugwood.org

Actual Size  
Adult female 3/16 to 3/8”  
(4.9 to 10 mm) long  
Adult male 1/8 to 5/16”  
(4 to 8.5 mm) long

# **RODENT PESTS**

|  |  |
|--|--|
| <p style="text-align: center;"><b>WHITEFOOTED MICE</b></p>  <p>Image courtesy of Internet, author unknown</p> | <p style="text-align: center;">Actual Size<br/>Adults with head and body length about 2 3/4" to 4"<br/>(7 to 10.1 cm) long</p>                                   |
| <p style="text-align: center;"><b>HOUSE MOUSE</b></p>  <p>Image courtesy of Internet, author unknown</p>      | <p style="text-align: center;">Actual Size<br/>Adult head and body length 2 1/2" to 3 5/8"<br/>(6.5 to 9 cm)<br/>Tail length 2 3/4" to 4"<br/>(7 to 10.2 cm)</p> |
| <p style="text-align: center;"><b>NORWAY RAT</b></p>  <p>Image courtesy of University of Nebraska</p>       | <p style="text-align: center;">Actual Size<br/>Adults head and body length 7 to 9.5 "<br/>(18 to 25 cm)<br/><br/>Tail length 6 to 8"<br/>(15 to 21 cm)</p>       |
| <p style="text-align: center;"><b>MEADOW VOLE</b></p>  <p>Image courtesy of Internet, author unknown</p>    | <p style="text-align: center;">Actual Size<br/>Head and body 3.5 to 5"<br/>1 to 2 1/2 oz.</p>  |



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