University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Historical Materials from University of Nebraska-Lincoln Extension

Extension

2003

EC03-1568 Grasshopper Identification Guide for Rangeland and **Pasture Summer Feeding Species**

Ronald C. Seymour University of Nebraska - Lincoln, rseymour1@unl.edu

John B. Campbell University of Nebraska - Lincoln, jcampbell1@unl.edu

Gary L. Hein University of Nebraska - Lincoln, ghein1@unl.edu

James A. Kalisch University of Nebraska - Lincoln, jkalisch1@unl.edu

Follow this and additional works at: https://digitalcommons.unl.edu/extensionhist



Part of the Agriculture Commons, and the Curriculum and Instruction Commons

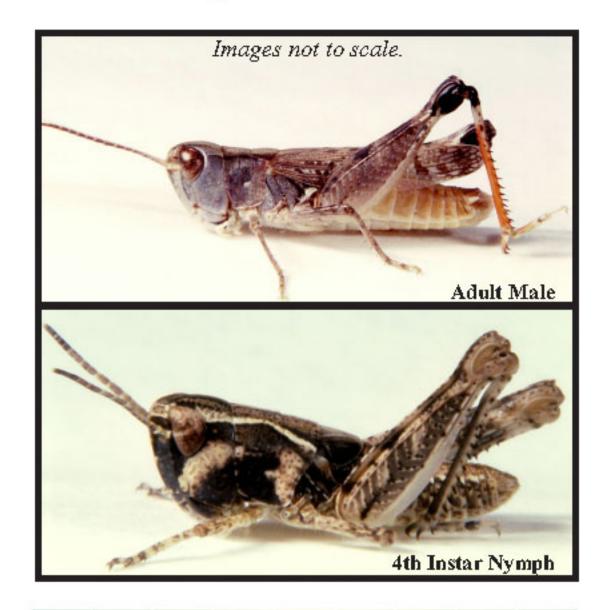
Seymour, Ronald C.; Campbell, John B.; Hein, Gary L.; and Kalisch, James A., "EC03-1568 Grasshopper Identification Guide for Rangeland and Pasture Summer Feeding Species" (2003). Historical Materials from University of Nebraska-Lincoln Extension. 1087.

https://digitalcommons.unl.edu/extensionhist/1087

This Article is brought to you for free and open access by the Extension at DigitalCommons@University of Nebraska -Lincoln. It has been accepted for inclusion in Historical Materials from University of Nebraska-Lincoln Extension by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

Whitewhiskered Grasshopper

Ageneotettix deorum



Facts

- · Spends much of its time on the ground.
- Feeds on grasses and sedges by climbing plants and clipping blades which fall to the ground unconsumed.
- · Begins to hatch in early May.
- Lays eggs among grass roots.

Adult Identification

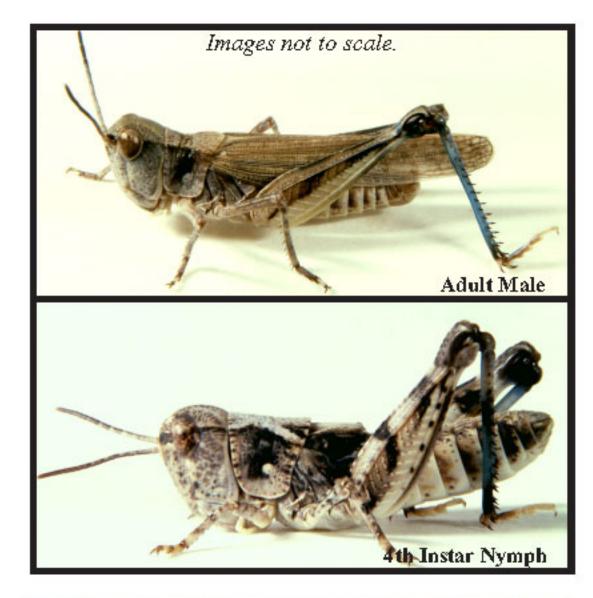
- Body robust, reddish brown with dark brown patches.
- Body length: male 0.6 in., female 0.9 in.
- Head slightly slant-faced with white, medium length antennae.
- · Forewings are tan with brown speckles.
- Lower part of hind legs is red to orange.

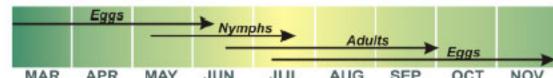
Nymph Identification

- · Body black on side with light tan on top.
- Head slightly slant-faced, black with light tan patch below eye.
- Body length of 4th instar nymph: 0.4 in.
- · White antennae.
- Upper part of hind legs mottled dark.

Bigheaded Grasshopper

Aulocara elliotti





Facts

- · Spends much of its time on the ground.
- Feeds on grasses and sedges by climbing plants and consuming blades and cutting them off.
- · Begins to hatch in early May.
- Lays eggs in bare soil.

Adult Identification

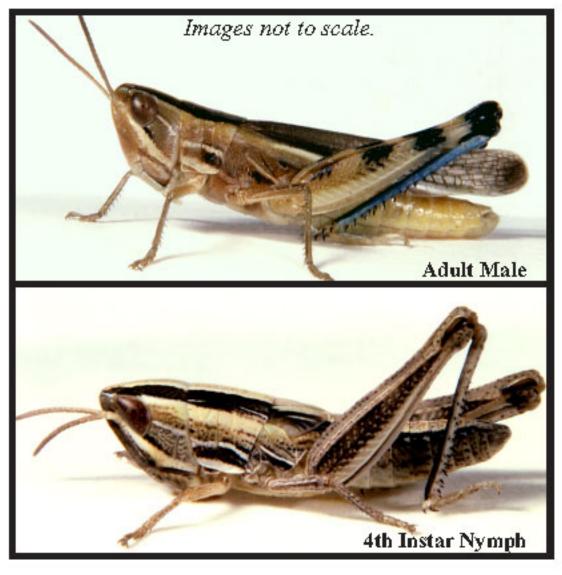
- Body robust, grey with dark brown areas.
- Body length: male 0.7 in., female 0.9 in.
- Head relatively large and slightly slant-faced.
- Forewings have dark spots.
- Top of pronotum (plate behind the head) has a light colored "X" pattern.
- Upper part of hind legs has two black bars.
- · Lower part of hind legs is medium blue.

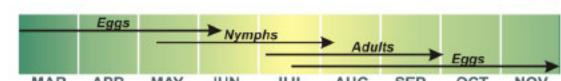
Nymph Identification

- · Body drab gray and tan with dark brown areas.
- Body length of 4th instar nymph: 0.5 in.
- · Head slightly slant-faced.
- Top of pronotum has light colored "X" pattern.
- Upper part of hind legs has two dark bars and four to seven dark spots.

Striped Grasshopper

Amphitornus coloradus





Facts

- · Rarely becomes a dominant species.
- Feeds on grasses and sedges by climbing plants and consuming blades and cutting them off.
- · Begins to hatch in early May.
- Lays eggs in soil at the base of grasses or sedges.

Adult Identification

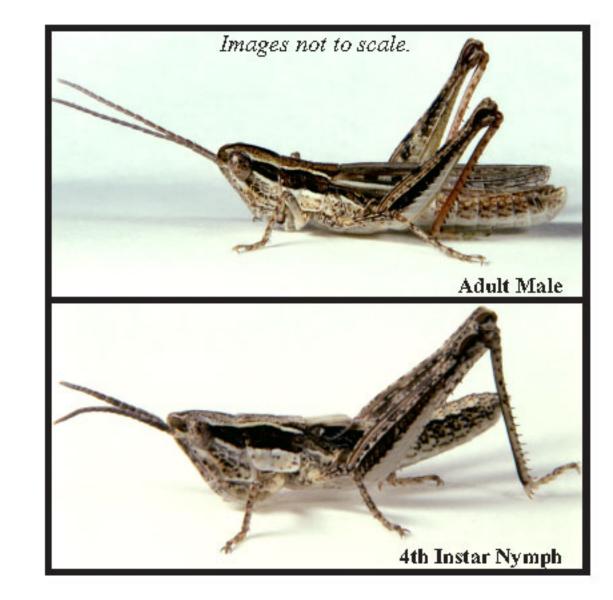
- · Body slender, cream colored with brown stripes.
- Body length: male 0.75 in., female 0.9 in.
- Head slant-faced, top with brown stripes divided by a cream colored stripe that extends down the pronotum (plate behind the head).
- · Upper part of hind legs has three brown bands.
- Lower part of hind legs is pale blue.

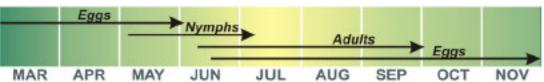
Nymph Identification

- · Body cream colored with brown stripes.
- Body length of 4th instar nymph: 0.5 in.
- Head slant-faced, top with brown stripes divided by a cream colored stripe that extends down the body.
- Upper part of hind legs has a lengthwise brown band.

Spottedwinged Grasshopper

Cordillacris occipitalis





Facts

- Particular problem in rangeland with sandy loam soils.
- Feeds on grasses by climbing plants and consuming blades.
- · Begins to hatch in early May.
- · Lays eggs in bare soil.

Adult Identification

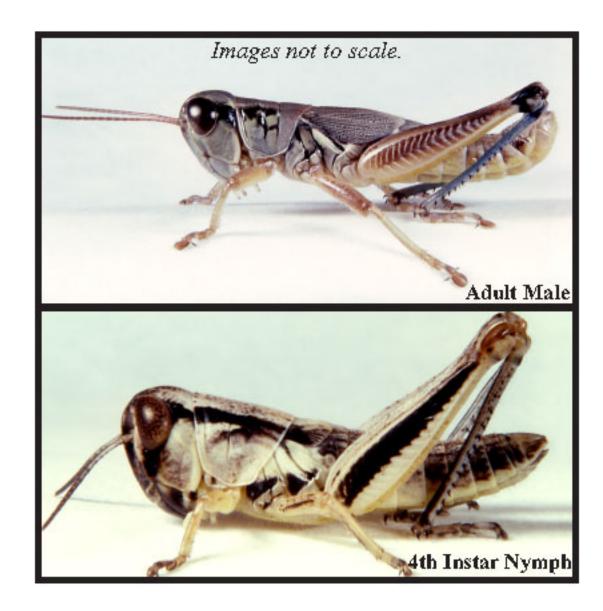
- · Body slender, tan and gray.
- Body length: male 0.7 in., female 0.9 in.
- · Head slant-faced with a brown stripe on the sides.
- Forewings spotted brown with ivory stripe near base.

Nymph Identification

- Body tan with brown side stripes from eye to abdomen.
- Body length of 4th instar nymph: 0.4 in.
- · Head slant-faced.
- Upper part of hind legs has a lengthwise brown stripe.

Largeheaded Grasshopper

Phoetaliotes nebrascensis



Facts

- Prefers tall grasses.
- Feeds on grasses by climbing plants and consuming blades.
- · Begins to hatch in early June.
- · Egg laying location variable.

Adult Identification

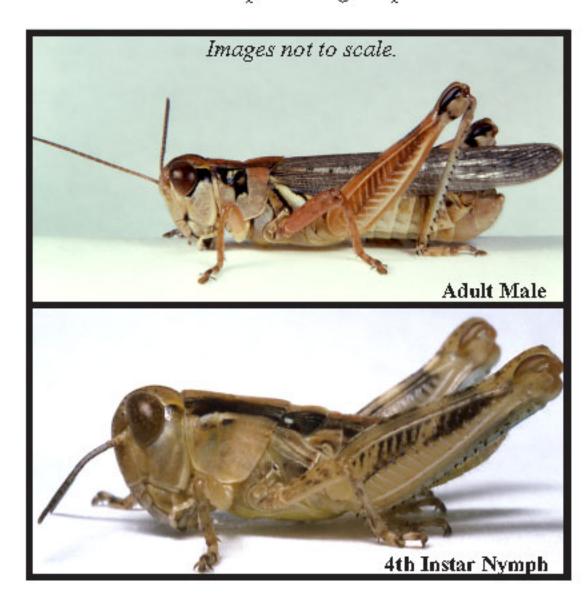
- Body light gray.
- Body length: male 0.7 in., female 0.8 in.
- Head rounded and large compared to body.
- · Has a body spur between the front legs.
- · Usually has short wings.
- · Upper part of hind legs has a brown stripe.
- · Lower part of hind legs is blue.

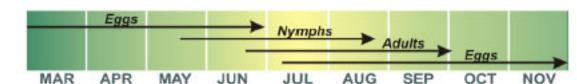
Nymph Identification

- Body light gray.
- Side of pronotum (plate behind head) has a dark stripe near top.
- Body length of 4th instar nymph: 0.5 in.
- Head rounded and large compared to body.
- Upper part of hind legs has a lengthwise brown stripe.

Migratory Grasshopper

Melanoplus sanguinipes





Facts

- More of a concern on depleted or weedy rangeland.
- Will migrate en masse to new feeding areas.
- Feeds on grasses and forbs by climbing on plants and consuming blades.
- · Begins to hatch in mid-May.
- · Lays eggs in soil at the base of grasses.

Adult Identification

- Body tan or gray, black stripe with light spots on head behind eyes that continues and widens across part of the upper pronotum (plate behind head).
- Body length: male 0.9 in., female 1.0 in.
- · Has a body spur between the front legs.
- Lower part of hind legs is blue green or reddish.

Nymph Identification

- · Body tan or gray.
- Body length of 4th instar nymph: 0.4 in.
- Head rounded with black stripe behind eyes that continues across the upper pronotum.
- Narrow pale yellow crescent on head below eyes that continues across pronotum.
- Upper part of hind legs has a lengthwise broken black stripe.
- · Lower part of hind legs is blue green or reddish.

Biology and Management

Many kinds of summer-feeding grasshoppers are found in Nebraska rangeland and pastures. Of these, the six species listed in this guide are most likely to be numerous during outbreak years. These species overwinter as eggs and hatch through much of May and June. When abundant they can cause severe damage to rangeland and pastures, especially when dry conditions limit grass growth. Identification of the species present is important because some have greater potential for damage than others. Identification of the nymphal development stage is important because control efforts are most effective when targeted at the 3rd and 4th instar stages.

Nymph Development



1st Instar

Wing pads rounded, with no distinct venation and no visible bulge at apex.

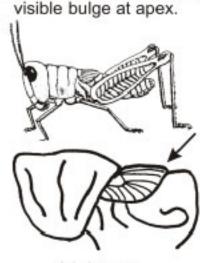


3rd Instar

Wing pads with venation, more sharply triangular and pointed downward.

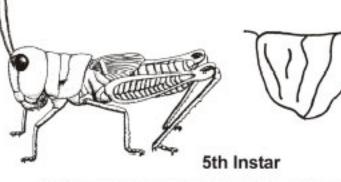


Wing pads rounded, with no distinct venation and slightly



4th Instar

Wing pads blunt, directed backward, but not extending beyond the first abdominal segment.



Wing pads more pointed, directed backward and extending beyond the second abdominal segment.

Acknowledgments: Our thanks to Dr. Robert E. Pfadt (retired), Dr. Jeff Lockwood and Scott Schell of the University of Wyoming and the USDA for graphics used in this publication. Financial support for this guide was provided by a grant from USDA Animal and Plant Health Inspection Service.



Cooperative Extension EC03-1568

GRASSHOPPER IDENTIFICATION GUIDE

for Rangeland and Pasture Summer Feeding Species

Ron Seymour

Extension Educator Adams County Extension

Jack Campbell

Extension Entomology Specialist West Central Research & Extension Center

Gary Hein

Extension Entomology Specialist Panhandle Research & Extension Center

Jim Kalisch

Extension Technologist Department of Entomology

Cooperative Extension Institute of Agriculture and Natural Resources



Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Elbert C. Dickey, Dean and Director of Cooperative Extension, University of Nebraska, Institute of Agriculture and Natural Resources.

University of Nebraska Cooperative Extension educational programs abide with the non-discrimination policies of the University of Nebraska-Lincoln and the United States Department of Agriculture.