

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Invertebrate Abstract

Element Code: IIORT01L10

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Melanoplus pinaleno*
COMMON NAME: A Spur-throat Grasshopper
SYNONYMS:
FAMILY: Acrididae

AUTHOR, PLACE OF PUBLICATION: Hebard, Trans. Amer. Entomol. Soc. 63: 155. 1937.

TYPE LOCALITY: Ridge NW of Helicopter Peak, Mount Graham, Pinaleno Mountains, Arizona.

TYPE SPECIMEN: Holotype - ANSP Philadelphia (male).

TAXONOMIC UNIQUENESS: There are 21+ species in this genus.

DESCRIPTION: For Spur-throated grasshoppers in general they have a spine or tubercle on prosternum. The pronotum is flat dorsally and broadly rounded posteriorly. Pronotum is not prolonged back over the abdomen. The tarsi are 3-segmented. The face is usually vertical. The wings are usually well developed and the hind wings are generally clear. They have a flat, round, hearing organ called tympana on each side of the first abdominal segment. The antennae are always short. The females, which are nearly always larger than the males, do not have a conspicuous ovipositor.

AIDS TO IDENTIFICATION:

ILLUSTRATIONS: Color drawing (Borror 1970)
Color photo of genus (Tony DiTerlizzi 2003, *in*
<http://www.bugguide.net/node/view/2690/bgimage>)
Color photo of genus nymph (Mark Cassino 1999, *in*
<http://www.sel.barc.usda.gov/selhome/gbu/Melanoplus.html>)
Color photo of genus (C. Williams, *in*
http://stephenville.tamu.edu/~fmitchel/insects/t_1057.htm)
Color photo of genus (1999, *in*
<http://www.biosurvey.ou.edu/okwild/misc/stgrass.html>)

TOTAL RANGE: Arizona.

RANGE WITHIN ARIZONA: See "Total Range."

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: This group contains our most common grasshoppers. Grasshoppers are most active during the day so this means that courtship depends heavily on visual displays involving various parts of the body. Many are important pests of cultivated plants. A few species sometimes increase to epidemic proportions and migrate long distances. These migrating swarms contain millions of grasshoppers and cause enormous damage. Some of these grasshoppers perform drumming actions on their host plants with their hind legs while others produce a low buzzing sound by rubbing the roughened surfaces of their hind wings against the fore wings. Grasshoppers of the subfamily Melanoplineae (spur-throated) do not sing (<http://www.canadiangeographic.ca...>).

Flies are some of the most important enemies of grasshoppers, including the maggots of parasitic flies. They are also eaten by birds, coyotes, skunks, reptiles, rodents, mantids, beetles and spiders. Their jumping abilities make them some of nature's best athletes. The special jumping legs of grasshoppers have another purpose, they sometimes drop-kick their frass (insect dung), which is probably an adaptive value as a hygienic behavior. (<http://www.canadiangeographic.ca...>).

REPRODUCTION: Although many grasshopper species in this family sing, those in the genus *Melanoplus* do not. Instead, males lower their antennae during courtship, and points them at the female, while swaying his head a little from side to side. After mating egg masses are laid in the ground. A foamy substance that is secreted by the female protects the eggs. They may over winter in the egg stage. After a few weeks of warmth in the soil, the larvae hatch. Grasshoppers in general (<http://www.canadiangeographic.ca...>), grow and mature through a process called metamorphosis. The egg hatches into a worm-like larva which molts to become the first in a series of nymphs. Nymphs look like miniature adults without wings and reproductive organs. They molt and pass through 5-6 stages on their way to becoming adults.

FOOD HABITS: Herbivores. Spur-throats feed primarily on forbs (i.e., herbs). This diet is reflected in the basic morphology of their mouthparts. They have large cusps to tear and shred the more fleshy, leafy foods. (Evans 1990).

HABITAT: Forest- and woodland-conifer, and grassland-herbaceous. Small openings in the forest and mountain meadows of the Canadian Zone. Often associated with the grass *Muhlenbergia montanus*.

ELEVATION: Unknown

PLANT COMMUNITY: Forest- and woodland-conifer, and grassland-herbaceous communities.

POPULATION TRENDS: Unknown

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: None
OTHER STATUS:

MANAGEMENT FACTORS: Unknown

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Life history, distribution, and population status studies need to be performed.

LAND MANAGEMENT/OWNERSHIP: Unknown

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

This family of grasshoppers is a large group with a worldwide distribution.

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