

## SPECIES FACT SHEET

**Common Name: Siskiyou short-horned grasshopper**

**Scientific Name: *Chloealtis aspasma* Rehn and Hebard 1919**

Phylum: Arthropoda

Class: Insecta

Order: Orthoptera

Family: Acrididae

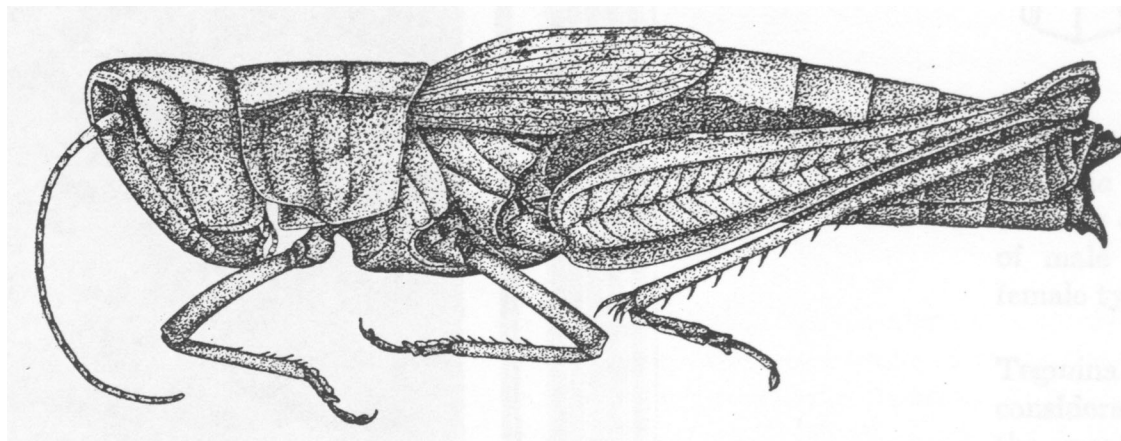
Subfamily: Gomphocerinae

Type Locality: OREGON, Jackson County, Siskiyou, Siskiyou Mountains, elevation 5,000 to 5,800 feet (Rehn and Hebard August 1909).

### **OR/WA BLM and FS Region 6 Units where Suspected or Documented:**

**BLM:** Butte Falls Resource Area.  
Ashland Resource Area.  
Medford District.

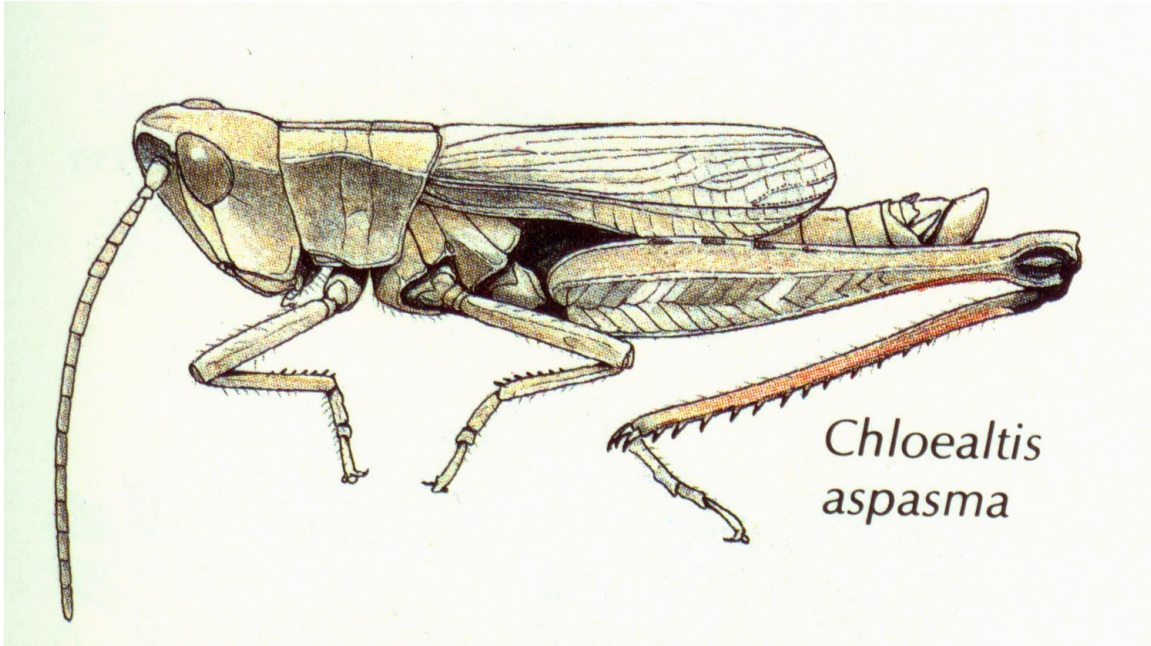
**USFS:** Rouge River National Forest.



***Chloealtis aspasma* Rehn and Hebard 1919.  
Drawing from Rehn and Hebard (1919).**

### **Description:**

Adults are 17 – 24 mm in length. Their bodies are argus brown in color and the wings, upper surface of the head, pronotum and abdomen are yellowish brown. The wings do not reach the end of the abdomen.



**Adult *Chloealtis aspasma* Rehn and Hebard 1919.  
Drawing from Otte (1981).**

**Location of type:**

ANSP Philadelphia  
Academy of Natural Sciences  
Manuscript and Archives Dept.  
1900 Benjamin Franklin Parkway  
Philadelphia, PA 19103-1195

**Life History:**

Females lay eggs in the pith of elderberry stems in the summer (Foster 1974). The eggs hatch the following year. Juvenile stages forage in open meadows near the ground. Juveniles look similar to the adults except the wings are much shorter and the individuals are smaller.

This species stridulates (makes a creaking sound) by rubbing the hind femora against the tegmina. The song is similar to that of *Chloealtis conspersa*, being a series of faint rasps about three or four per second (Gurney *et al.* 1964).

**Range and Distribution:**

*Chloealtis aspasma* distribution is in two general areas, one from southern Oregon, near the California border and the other in Benton County. The type locality is in the Siskiyou Mountains of Jackson County, Oregon (Sec13 T41S R1E) where specimens were collected on a ridge between 5,000 and 5,800 feet elevation in a treeless summit bald covered with an almost impenetrable brushy scrub through which were scattered grassy areas (Rehn and Hebard 1919). This species has also been collected near Willow Lake, off Highway 140, about 16 miles

northeast of Ashland (Sec5 T37S R3E) in an old logged-over clear-cut area surrounded by mixed conifer forest (Foster 1974); in Woodruff Meadows near Abbott Butte 18 miles west of Crater Lake (Sec7 T31S R3E) at the border of forest and meadow (Fulton 1930); and on the south slope of Jackson Hill near Corvallis, Benton Co., OR (NW ¼ of Sec35 T8S R3W) among St. John's-wort about a hundred feet from the forest border (Fulton 1930).

During a 1974 study in a clear-cut area 16 miles northeast of Ashland, numerous females and nymphs were conspicuous and easily collected. Grasshopper populations in undisturbed areas where elderberry plants were more widely scattered and restricted to open, south-facing slopes, the grasshoppers were less abundant (Foster 1974).

**Habitat Associations:**

This species occurs in Grassland/herbaceous habitats. It appears to be associated with elderberry plants. Females may lay their eggs in the pith of blue elderberry plants, *Sambucus caerulea* Raf. (Foster 1974, BLM 1995). This plant is native from Alberta, Canada to Mexico. It grows in gravelly, rather dry soils on stream banks, margins of fields, woodlands. Blue elderberry is a deciduous plant with handsome showy clusters of white flowers, and the attractive dark blue berries.



***Sambucus caerulea* Raf. Flowers and young fruit.  
Photo from OSU, Department of Horticulture.**



***Sambucus caerulea* Raf. leaves and fruit.  
Photo from OSU, Department of Horticulture.**

A closely related species, *Chloealtis conspersa*, lays eggs in dead wood (Gurney *et al.* 1964). This species is restricted to areas where dead wood, firm but yet soft enough to permit an oviposition hole to be drilled, is available. *Chloealtis aspasma* may exhibit similar behavior.

Gangwere (1961) reported that *Chloealtis* species feed mainly on grasses and to a lesser extent on forbs. *Chloealtis aspasma* may exhibit similar behavior. Females and nymphs were found throughout the clear-cut area of the study but less frequently in the brushy interface between the clearing and the forest. Males were apparently restricted to the brushy interface (Foster 1974).

The Willow Lake site was an old logged-over clear-cut surrounded by mixed conifer forest. The area was littered with slash from an adjacent clear-cut. Vegetation in the clearing consisted of grasses, forbs and elderberry (*Sambucus caerulea* Raf.).

**Threats:**

Restricted logging or fire prevention may lead to the loss of open meadows at higher elevations, eliminating habitat for host plant.

The only confirmed predator of *Chloealtis aspasma* is the egg predator, *Goniopsita oophaga* (Diptera: Chloropidae), whose larvae infest egg pods of *Chloealtis aspasma*. Studies have shown that up to 60 percent of egg pods can be infested by this predator (Foster 1978). Birds may also feed on the juveniles and adults.



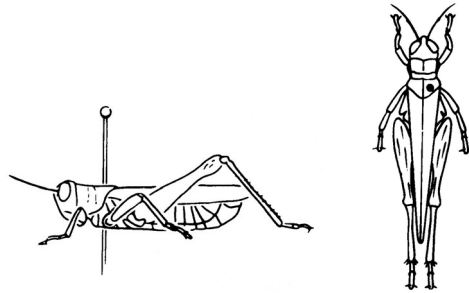
### **Conservation Considerations:**

Forest logging and mild or low intensity fire appears to provide open habitat for the host plant, blue elderberry, thereby increasing local populations of *Chloealtis aspasma*. Planting or placing blue elderberry stems in open areas provides oviposition sites.

Limiting factors may include availability of oviposition host plant (elderberry), or damage and loss of foraging habitat (open meadows). Cattle grazing can disrupt feeding by eliminating food sources. This may be most critical during the Spring and Summer months.

### **Sampling Considerations:**

Grasshoppers are generally collected using insect sweep nets in open habitat. Adult specimens should be killed using a kill jar, and pinned within a few days of collecting. Juvenile stages should be preserved in 70% ethyl alcohol. All specimens should be labeled with State, County, and Locality information, Date collected, Elevation or habitat, and Collector's name. Optional information includes habitat association, host plant, and general abundance.



**Grasshoppers are pinned through the thorax, with the pin slightly off-center to the right (Borror *et al.* 1989).**

Field identification of adults is possible if the collector is familiar with the species of grasshoppers in the area. A hand lens is helpful for identifications. Juvenile stages are difficult to sort from other grasshopper species.

## **TAXONOMIC EXPERTS**

Gregory Brenner  
Pacific Analytics, LLC  
P.O. Box 219  
Albany, OR 97321  
Phone: (541) 926-0117  
Fax: (541) 926-6291  
*mail@statpros.com*

Daniel Otte  
The Academy of Natural Sciences  
1900 Benjamin Franklin Parkway  
Philadelphia, PA 19103  
Phone: (215) 299-1000  
*otte@acnatsci.org*

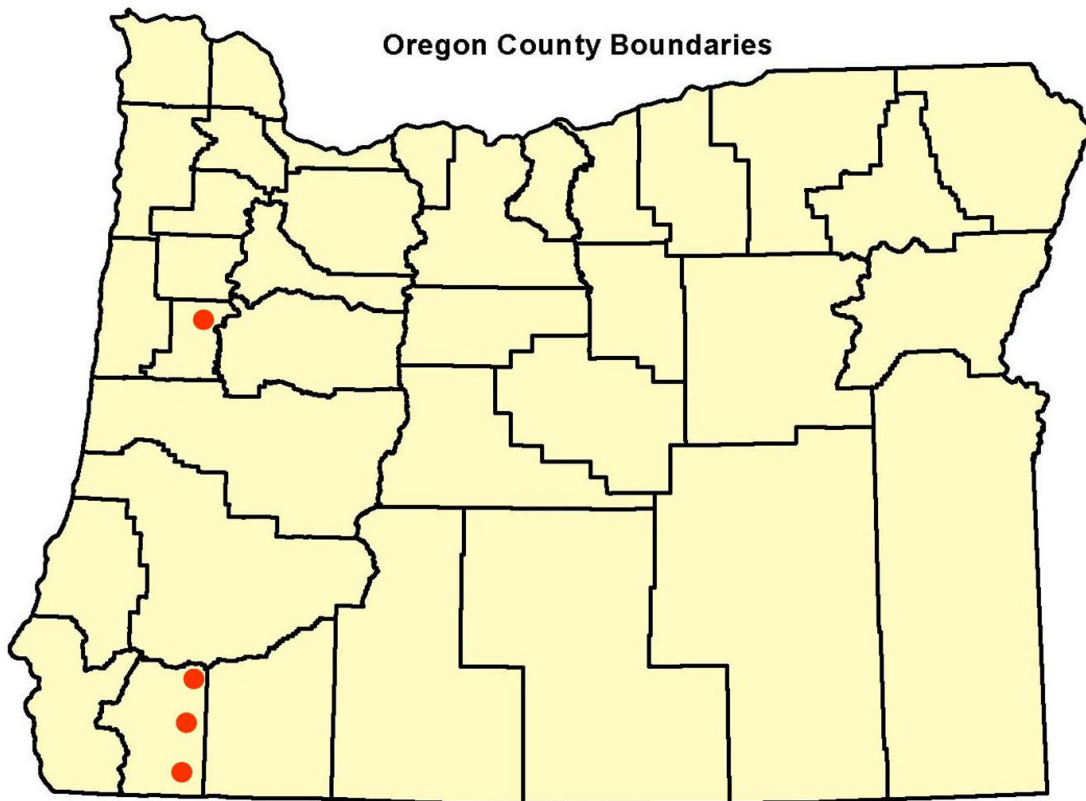
## **ATTACHMENTS:**

- (1) Map of Range and Distribution**
- (2) BLM Distribution Maps**
- (3) Digital Images**
- (4) List of Pertinent References/Literature**
- (5) Key to Identification of the Species**
- (6) Original Published Description**
- (7) Technical Description**

Rehn, J.A.G. and M. Hebard. 1919. A new species of grasshopper of the genus *Chloealtis* (Acridinae) from the Pacific Coast. Trans. Amer. Entomol. Soc. 45:81-87.

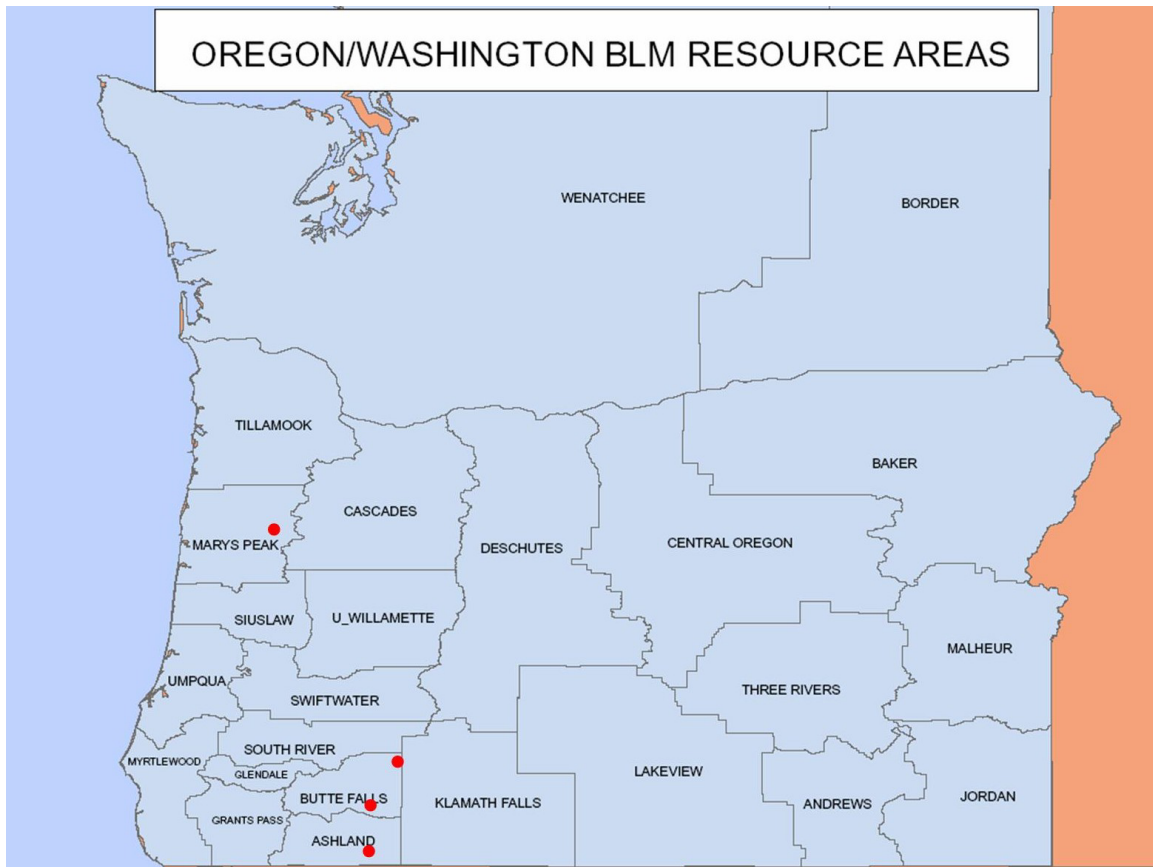
**Preparer:**  
**Gregory Brenner**  
**Pacific Analytics, LLC**  
**P.O. Box 219**  
**Albany, OR 97321**  
**(541) 926-0117**  
***mail@statpros.com***

**Date Completed: September 7, 2005**



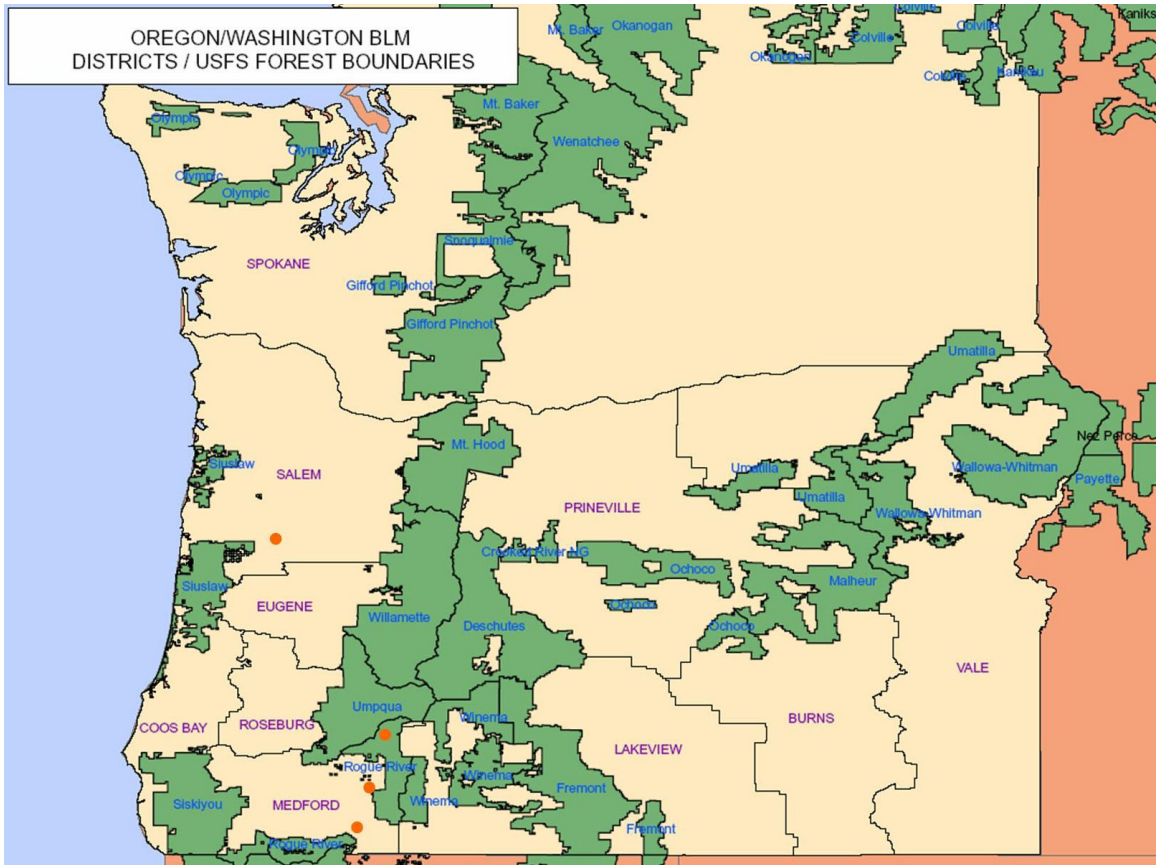
Oregon Distribution map for *Chloealetis aspasma* Rehn and Hebard 1919.

## BLM Distribution Maps



**BLM Resource Areas in Oregon  
where *Chloaltis aspasma* Rehn and Hebard has been found.**

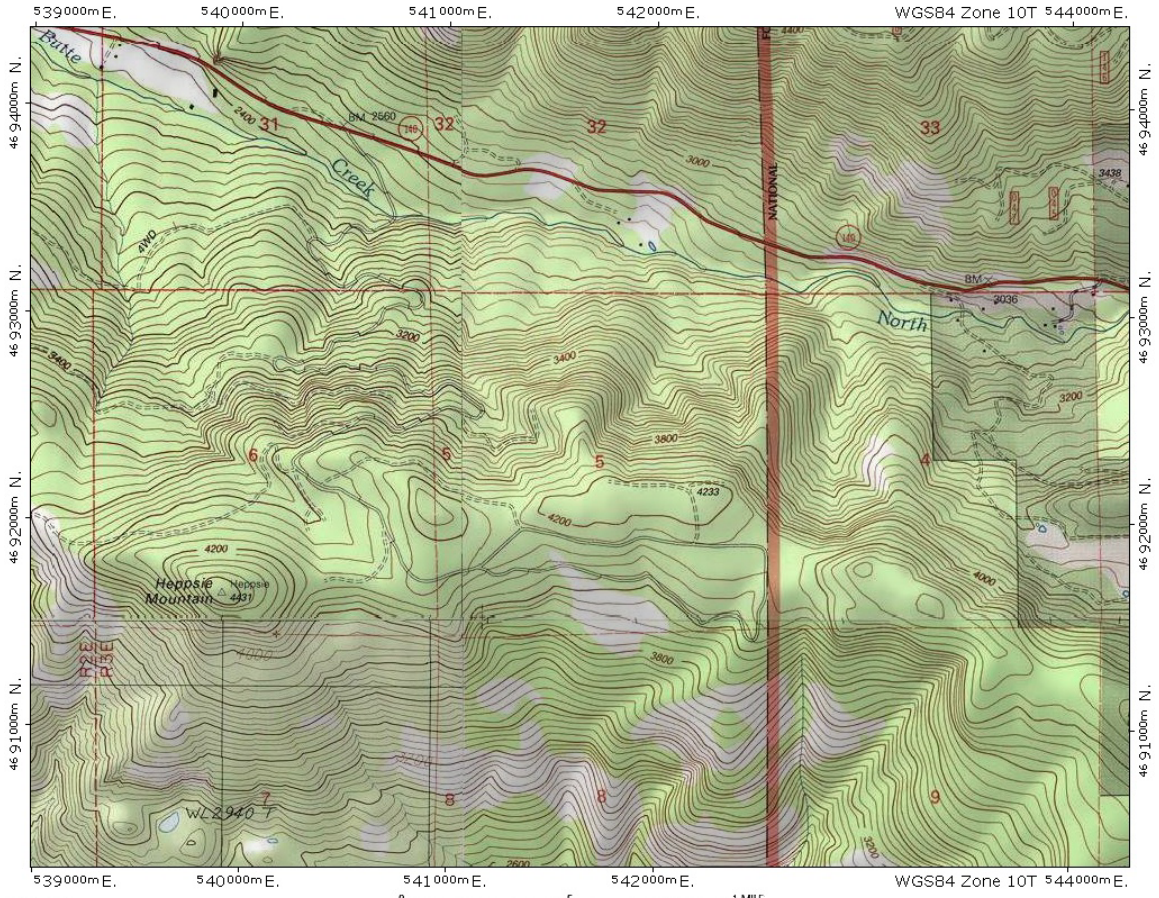




**BLM Districts/USFS Forests in Oregon where *Chloaltis aspasma* Rehn and Hebard has been found.**

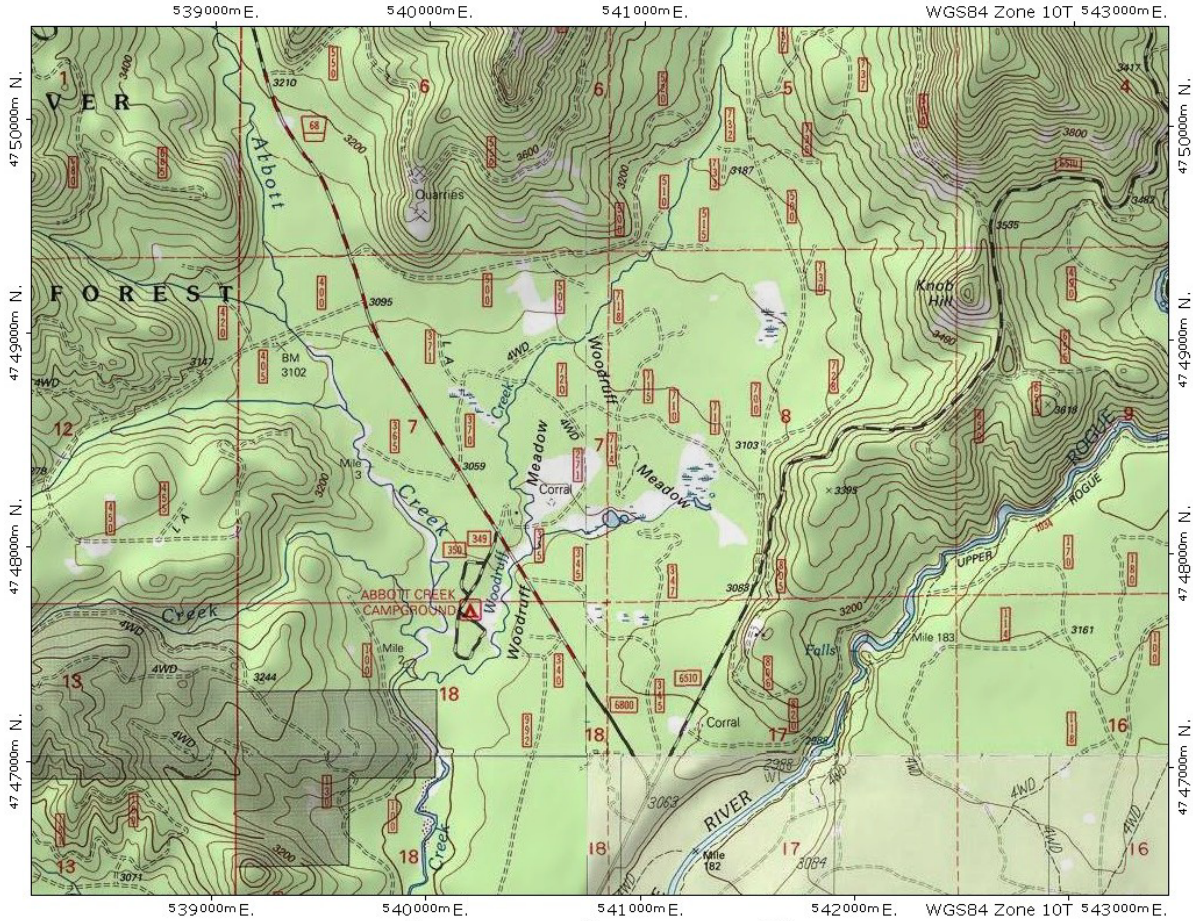






**Topographic map of Willow Lake locality where *Chloealtis aspasma* Rehn and Hebard has been found.**



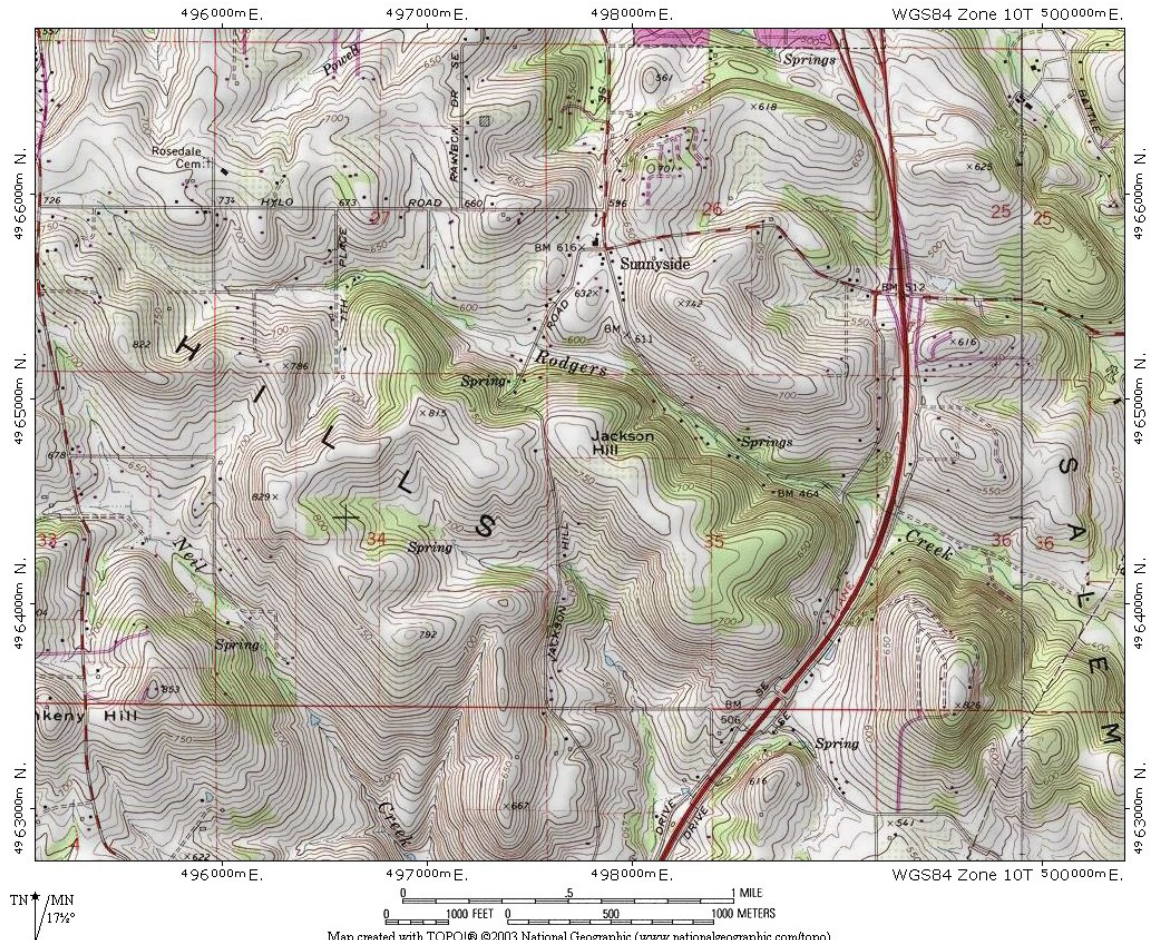


TN  $\nearrow$  MN  
16 1/2°

Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

**Locality Topographic map of Woodruff Meadows where *Chloealtis aspasma* Rehn and Hebard has been found.**





**Locality Topographic Map of the Jackson Hill Site, Benton County, OR.**

**Digital Pictures  
By Pacific Analytics, LLC**

**These images are available and can be used by the BLM.  
Please acknowledge photographs are Pacific Analytics, LLC 2005.**



**Lateral view of *Chloealtis aspasma* Rehn and Hebard 1919.  
Photograph by Pacific Analytics, LLC 2005.**



**Dorsal view of *Chloealtis aspasma* Rehn and Hebard 1919.  
Photograph by Pacific Analytics, LLC 2005.**

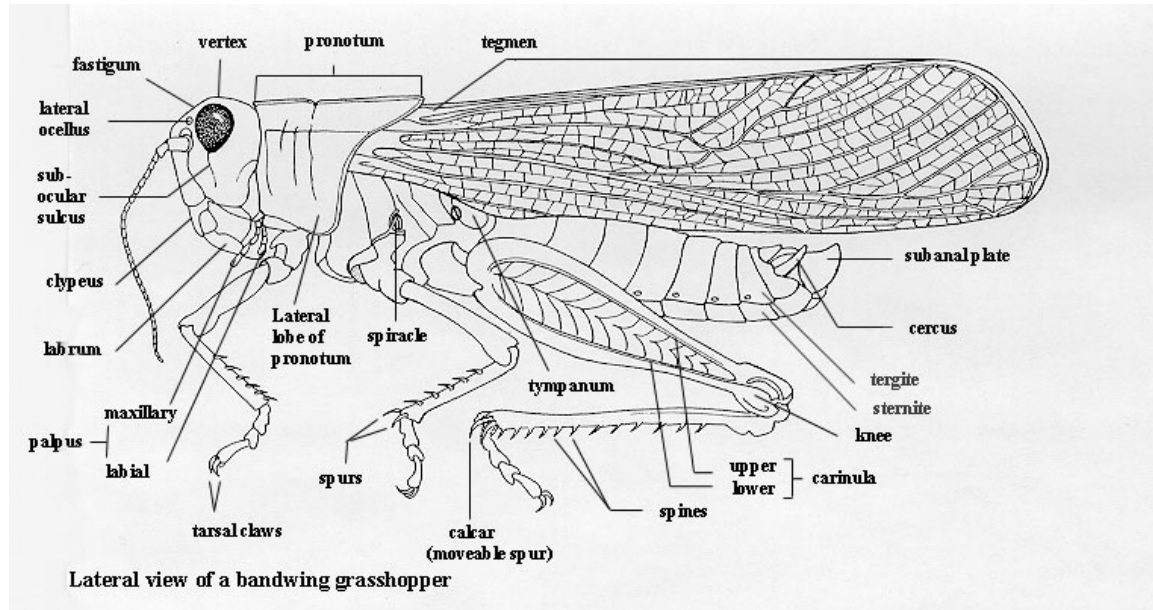


## References

- Applegarth, John S. 1995. Invertebrates of Special Status and Special Concern in the Eugene District (Oregon). U.S. Department of Interior, Bureau of Land Management Eugene, Oregon.
- BLM. 1995. Watershed Analysis of West Fork of Evans Creek. Medford District, Bureau of Land Management.
- Foster, D.E. 1974. Ovipositional behavior of *Chloealtis aspasma* (Orthoptera: Acrididae). *Pan Pacific Entomologist* 50(2):207-208.
- Foster, D.E. 1978. *Goniopsita oophaga* (Diptera: Chloropidae) a predator of grasshopper eggs. *Pan-Pacific entomologist* 54(3):206.
- Fulton, B. B. 1930. Notes on Oregon Orthoptera with descriptions of new species and races. *Annals of the Entomological Society of America*. 23: 611-641
- Gangwere, S.K. 1961. A monograph on food selection in Orthoptera. *Transactions of the American Entomological Society* 57:67-230.
- Gurney, A.B., H.F. Strohecker, J.R. Helfer. 1964. A synopsis of the North American Acridine grasshoppers of the Genus-Group *Chrysochranontes* (Orthoptera: Acrididae). *Transactions of the American Entomological Society* 89(1/2):119-140.
- Jago. 1969. *Proc. Acad. Nat. Sci. Philad.* 121:229-335 >> Neotype designation
- NDSU. 2005. North Dakota State University Department of Entomology. Orthoptera of the Northern Great Plains website: <http://www.ndsu.nodak.edu/entomology/hopper/anatomyimg1.htm>
- Oregon State University, Department of Horticulture website. Landscape Plants. <http://oregonstate.edu/dept/ldplants/3plants.htm>. 2005.
- Otte, D. 1981. *The North American Grasshoppers*. Volume I. Acrididae, Gomphocerinae and Acridinae. Harvard University Press, Cambridge, MA. 368 pp.
- Otte, D., D. C. Eades, and P. Naskrecki. 2005. Orthopterists' Society, Orthoptera Species File Online. <http://osf2x.orthoptera.org/osf2.2/OSF2X2Frameset.htm>.

Rehn, J.A.G. and M. Hebard. 1919. A new species of grasshopper of the genus *Chloealtis* (Acridinae) from the Pacific Coast. Trans. Amer. Entomol. Soc. 45:81-87.

**Technical Description:**



**Taxonomic Diagram of a Grasshopper (NDSU 2005).**

**Female:** Small size (for the genus): form moderately compressed. Head with its exposed dorsal length slightly less than the dorsal length of pronotal disk, not elevated dorsad of same; interspace between eyes subequal to two-thirds of the greatest fastigial width: fastigium with length from eye interspace less than greatest fastigial width, in form slightly more acute than a right angle when seen from the dorsum, the apex rounded, the dorsal surface of fastigium weakly impressed with its margins, a faint medio-longitudinal carina present on the fastigium and interocular region, becoming obsolete on the occiput: lateral foveolar surfaces visible from the dorsum, the surfaces directly dorso-cephalad, the impression of the foveolae formed of punctures and without clearly defined shape; fastigio-facial angle, when seen in profile, rather narrowly rounded, face decidedly retreating; frontal costa relatively broad, narrowed dorsad at its junction with the fastigium, subequal in width thence to the median ocellus, thence the margins of the costa regularly diverge and become subobsolete ventrad; surface of the costa rather thickly punctuate, faintly and narrowly sulcate mesad for a short distance ventrad of the median ocellus: eyes in basal outline short and broad ovoid, the length of the eyes less than the depth of the infra-ocular portion of the genae; when seen from the dorsum the eyes are not at all



prominent: antennae almost two and one-half times as long as the pronotal disk, flattened to some extent in the greater portion of their length, weakly expanded in proximal third.

Pronotum with the greatest caudal width of its dorsal surface contained one and one-half times in the greatest length of the same: cephalic margin of disk moderately arcuate, caudal margin of disk broad obtuse-angulate, the immediate angle entire and not markedly rounded; lateral carina of pronotal disk distinct, in general arcuate, appreciably converging caudad to slightly before the middle of the pronotum, thence diverging at about the same angle to the caudal pronotal margin, when seen from the side the lateral carina is appreciably bent-arcuate dorsad, the least width of the pronotal disk is equal to slightly more than three-fourths that of the cephalic margin of the same; median carina decided, straight when seen in profile; transverse sulcus intersecting the median and lateral carinae faintly caudad of the middle of the disk: lateral lobes of the pronotum slightly longer than deep, cephalic margin faintly sinuate, ventrocephalic angle rounded obtuse-angulate, ventral margin strongly sinuate-emarginate cephalad, straight caudad, ventro-caudal angle rounded rectangulate, caudal margin moderately oblique, faintly sinuate.

Tegmina equal in length to that of the head and pronotum combined, falling considerably short of the apex of the abdomen, in form elongate lanceolate, the greatest width, which is faintly proximad of the middle, contained two and three-fifths times in the greatest length, apex narrowly rounded: marginal field moderately expanded, regularly narrowing distad from point of greatest width of tegmen, the costal margin rounded obtuse-angulate at point of greatest width: venation will indicated. Wings greatly reduced.

Mesosternum with interspace subquadrate, weakly transverse, slightly widening caudad, caudo-internal angles of mesosternal lobes broadly rounded: metasternum with interspace moderately transverse, about two-thirds as wide as the mesosternal interspace. Abdomen distinctly compressed, with a prominent medio-longitudinal carina dorsad and a similar but less decided one ventrad: supra-anal plate elongate semi-elliptical in marginal outline, the apex weakly angulate, in transverse section the plate is arcuate, with a transverse depressed section, poorly defined, mesad: cerci short, styliform: dorsal ovipositor jaws short, deep, robust, of general type found in the other species of the genus, the apices strongly recurved, the dorsal surface deeply concavo-excavate, main external marginal cusp rather low, long, compressed, the margin of the same as a whole entire but with very minute serrulations evident under medium magnification, basal cusp decided, subpyramidal, transverse, its margin finely serrulate; ventral ovipositor jaws moderately

compressed, apices little decurved, ventral marginal tooth rectangulate at apex.

Cephalic and median limbs relatively slender, Caudal femora moderately slender, the length three times as long as the dorsum of the pronotum, greatest depth contained nearly four and one-half times in greatest length of same: Caudal tibiae slightly shorter than the caudal femore, external margin with eleven to twelve spines, internal margin with twelve spines; internal calcaria moderately unequal, the dorsal the shorter.

**Male:** Differing from the following features. Fastigio-facial angle, when seen in profile, more narrowly rounded than in female, face more retreating; antennae about two and two-thirds as long as pronotal disk, flattening of segments less extensive than in female. Pronotum with cephalic margin of disk weakly obtuse-angulate, caudal margin of same with angulation obtuse but slightly more marked in degree than in female. Metasternal interspace slightly more narrow than in female.

**Body Measurements (in mm):**

	Length of body	Length of pronotum	Greatest caudal width of pronotal disk	Length of tegmen	Greatest width of tegmen	Length of caudal femur
male	17-17.5	3.4-3.6	2.1-2.2	8.4-8.6	2.4-2.5	11-11.6
female	23-23.5	4.2-4.9	2.8-3.1	7.3-8.4	2.9-3	13-14.5

**Color Notes:** General color ranging from argus brown to mummy brown, occasionally with dorsal surface of head, pronotum, abdomen and greater portion of tegmina ochraceous-tawny to buckthorn brown. Face occasionally paler-buckthorn brown, this due to a reduction in the number of dark specklings which deepen the general tone in the other individuals: antennae ochraceous-tawny to russet, darkened with Prout's brown distad: eyes mar brown to saccardo's umber, but little contrasted with dorsal surface. General color of genae, lateral lobes or pronotum and pleura contrasted with pale dorsum in specimens having latter, giving the impression of broad, dark, poorly defined post-ocular bars. Dorsal surface of abdomen always paler than lateral surfaces, contrast decided. Limbs as a whole of the general color: caudal femora with three indefinite pale cross bars on dorsal surface; external surface of caudal femora with a small, median, pale spot; ventral surface of caudal femora and ventral surface of body ranging from Dresden brown to weak ochraceous-orange: caudal tibiae ranging from ferruginous to English red, distal extremity, and to a lesser degree caudal tarsi, infuscate; spines black tipped.