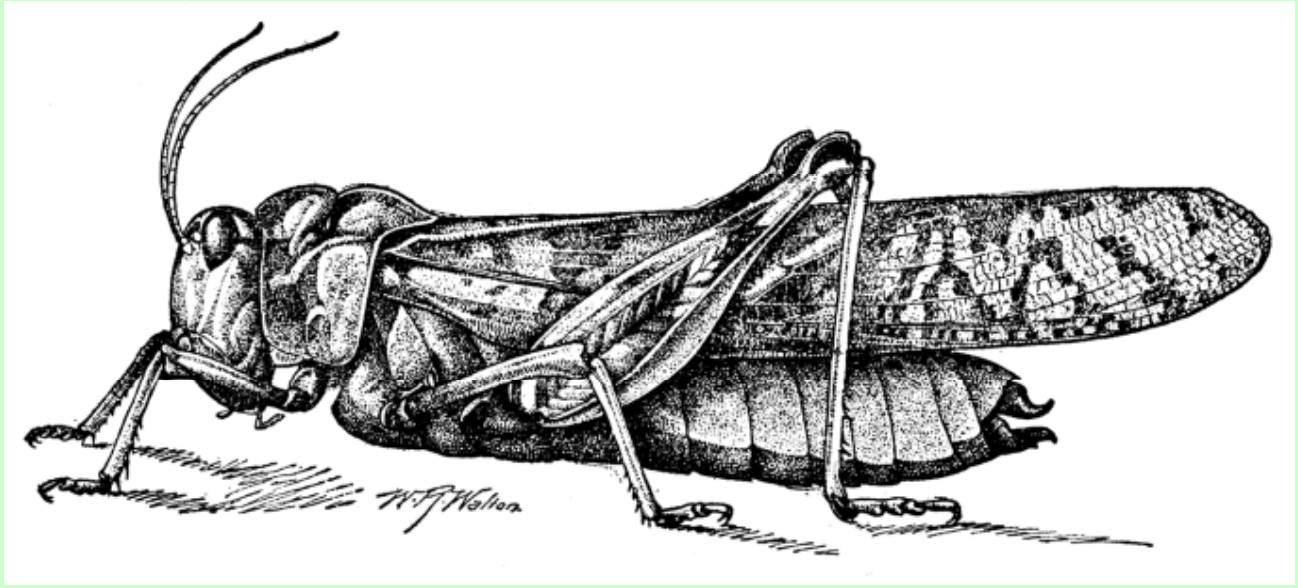


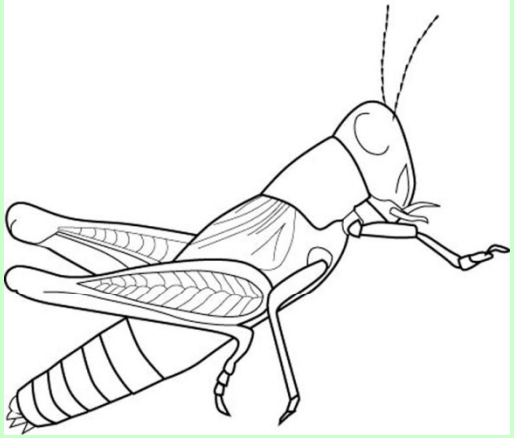
Grasshoppers

Maxwell Norton

UC Cooperative Extension

With much material from UC IPM Program

Grasshopper Feeding



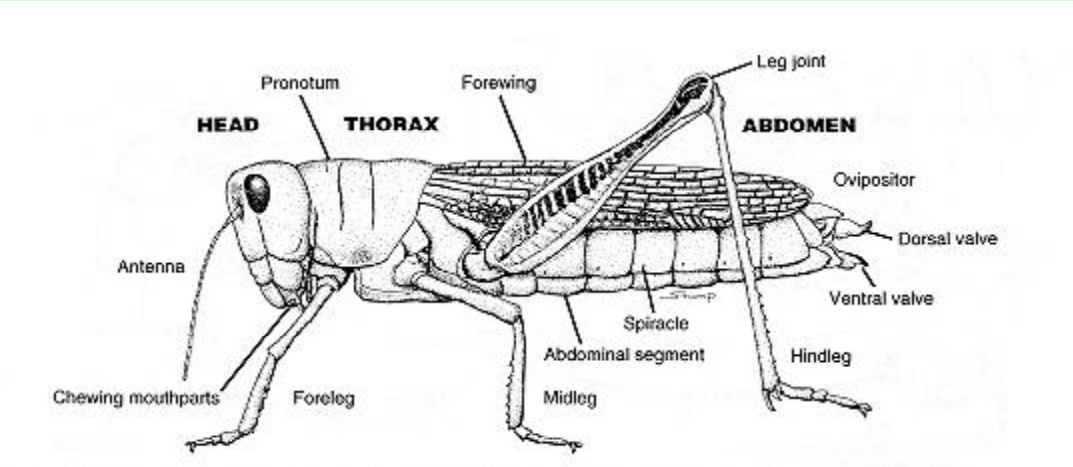
- Appearances can vary depending on species
- Environment and food may affect appearance.
- Can be confused with relatives such as crickets and katydids (both have longer antennae)

Over 200 species in CA

Most widespread and destructive:

- “devastating grasshopper”
  = *Melanoplus devastator*

- “valley grasshopper”
  = *Oedaleonotus enigma*



MORPHOLOGY

From: USDA-ARS

Adult Devastating Grasshopper

Adult Devastating Grasshopper

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Grasshopper Nymph

Adult Grasshopper

Unknown grasshopper species on citrus

Grasshopper Nymph (species unknown)

Adult Gray Bird Grasshopper

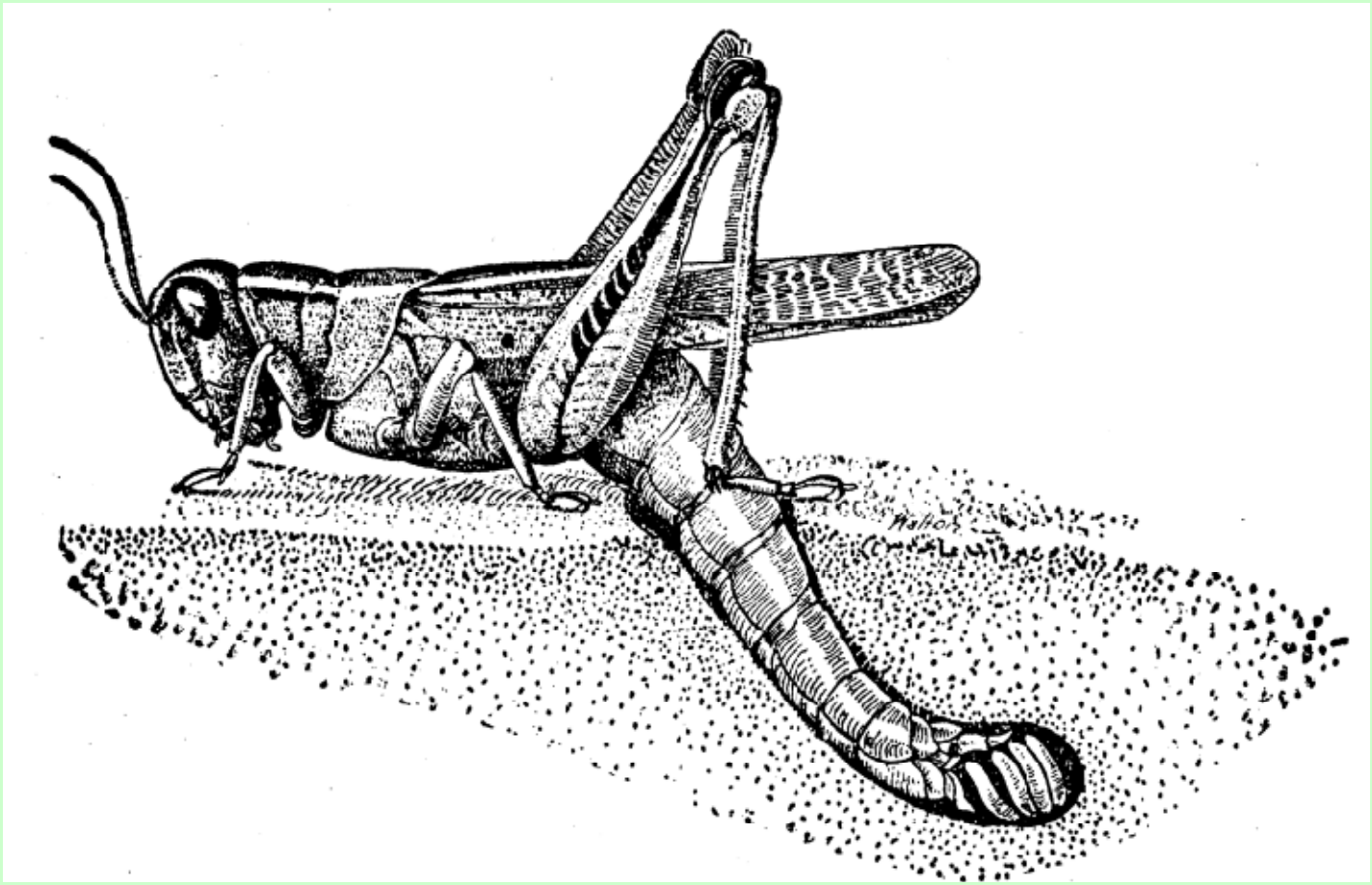
Field Cricket Nymph

Cricket Nymph

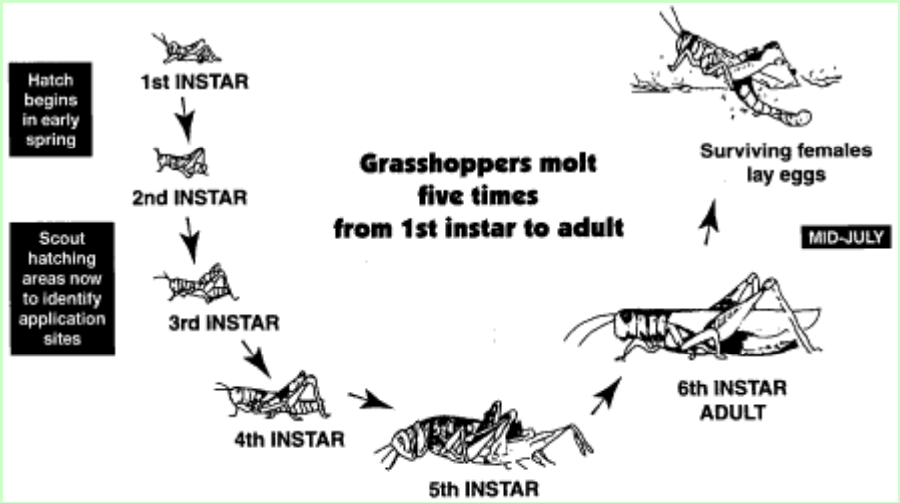
Adult Katydid

Adult Praying Mantid

From: Animal Corner – U.K.

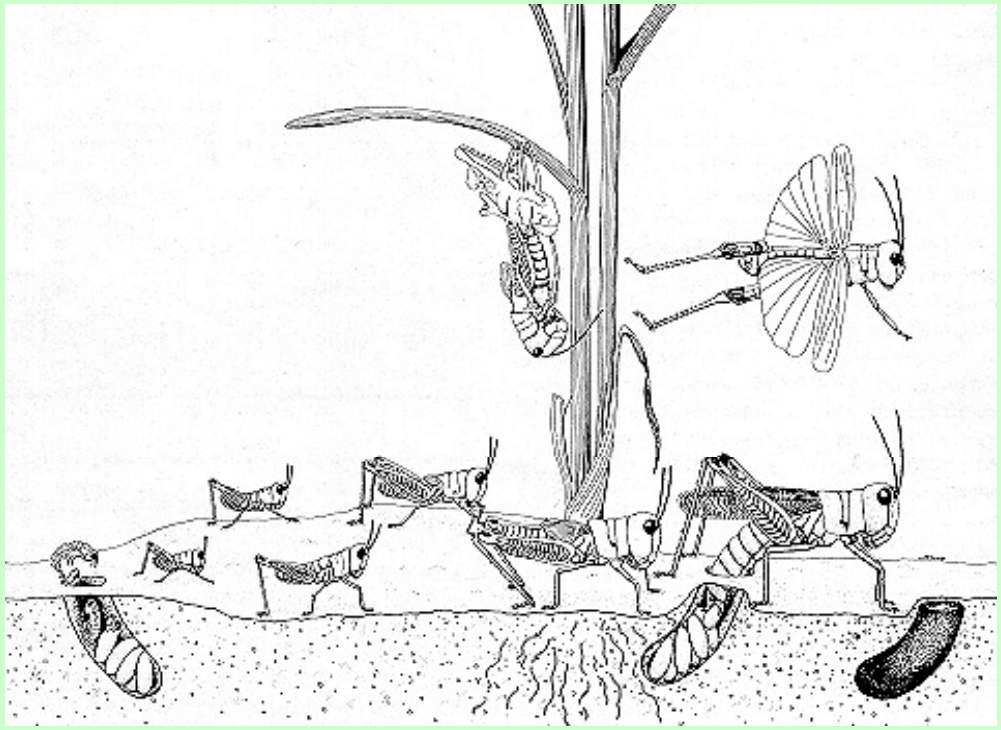


Depositing eggs in the soil



From: North Dakota State University

From: Animal Corner – U.K.



From USDA-ARS

Temperature Effects

Warm spring

Early hatch, followed by

<70F → No feeding, high mortality

Hot summer thru fall

Early maturity of grasshoppers

Long egg laying period

Warm and dry → Good start

Winter temps have little affect

(From North Dakota State University)

Rainfall Effects

Cloudy, wet weather for 1+ weeks
→ fungal pathogens of grasshoppers
Prolonged wet periods can make worse

Heavy rains during emergence can kill young, embed young in soil or physically wash them away

Extreme drought
- Poor egg hatch
- Starve from lack of food
- Low egg production by adults

Decrease when . . .

Warm early spring, premature hatch and cold snap → poor development

Hot in early spring, promotes hatching following by cloudy, wet weather favors occurrence of disease

Cool summer and early fall delays maturity & shortens time for egg laying

Increase when . . .

Cool, wet weather in early spring prevents premature hatch & insures adequate food supply

Warm and dry in late spring promotes uniform hatching also good for feeding

Hot summer with adequate rainfall
provides good food supply
low incidence of disease

Late fall → long egg laying period

(From North Dakota State University)

Severe outbreaks often develop when there are a few years of gradual increase followed by an unusually favorable year

- Grasshoppers & crickets often in-migrating
- Usually cannot treat where came from
- Must protect your own domain
- Screening - exclusion
- Spraying & baits
- Trap crop
- Chickens

Use metal window screen

Screen needs to cover wood also

Inside shelter, can use sticky cards or tape

Chemical Control

- Yard and garden foggers
- Pyrethrum or synthetic pyrethroids
- Many other garden insecticides
- Will have to repeat as needed
- Bait containing carbaryl (Sevin) “EcoBran”
- Bait with Semaspore

Bait containing Sevin
Fairly fast-acting
Only kills insects with chewing mouth parts (grasshoppers & crickets)

PlanetNatural.com

- *Nosema locustae* = naturally occurring disease
- Become sick, eat less, and begin to die
- Disease spreads to healthy grasshoppers through cannibalism
- In 2-4 weeks, 50% die, most survivors will be infected & spread the disease.
- Infected survivors eat less and lay fewer eggs.
- Safe for people, pets and the environment.
- OK for organic production.

- Need to apply early – nymphs
- Near where hatching if possible
- Farm Supply needs week to get in
- Does not act immediately

Stanislaus Farm Supply 723-0704

Trap Crop

- Plant a green strip of something attractive in long strip 200-300 feet away
- They like corn, beans, onions, alfalfa
- Keep well-watered & lush
- Spray once per week with a fast-acting insecticide like a synthetic pyrethroid
- Bait containing cabaryl (Sevin)
- Semaspore

- Chickens & guinea hens love insects
- Can be used all season for pest control
- Keep out of vegetable gardens until after harvest is complete
- They even eat gophers
- Long narrow run on side of yard where insects come from, or in a perimeter

UC Statewide Integrated Pest Management Program - Mozilla Firefox

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- Maintenance gardener pest control exam preparation (Category Q)
- Kiosk schedule updated for November
- False Chinch Bug new Pest Note!
- Dry beans guidelines updated.
- Green Bulletin new issue for October.
- Cole Crops and Lettuce guidelines updated.
- Alfalfa guidelines updated
- Sudden Oak Death new Pest Note!

Solve your pest management problems with UC's best information, personalize it with interactive tools, or find out about pest management research and extension projects.

- About UC IPM
- 2009 Annual Report

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ipm.ucdavis.edu

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EMAIL PRINT

Welcome!

The California Master Gardener Program designed the California Garden Web to serve as a portal to organize and extend the University of California's vast collection of research-based information about gardening to the **public**. The California Garden Web focuses on sustainable gardening practices and uses a question and answer format to present solutions. The blog below highlights gardening issues pertaining to the season.

California Gardening Blog

Red Palm Weevil Detected in Orange County

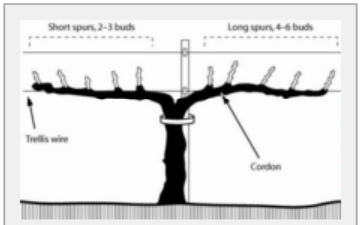
(Text abridged from CDFA Alert) In October 18th, 2010 Ag officials confimred the detection of a red palm weevil (scientific name: Rhynchophorus ferrugineus and native to Southeast Asia) in Orange...

Continue Reading

Posted by **Pamela M. Geisel** on **Monday, October 25, 2010** at **1:40 PM**

Comments: 0

California Gardening



Spur Pruning Example

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