



Cornell University

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Aphids

Pest & Natural Enemy ID
Greenhouse Scout School
Session 2: Feb. 20, 2025



Entomology
Research
Laboratory

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Part 2: Natural Enemy ID

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Orius spp.
(Hemiptera: Anthocoridae)



de IPM Program
agents, University of California



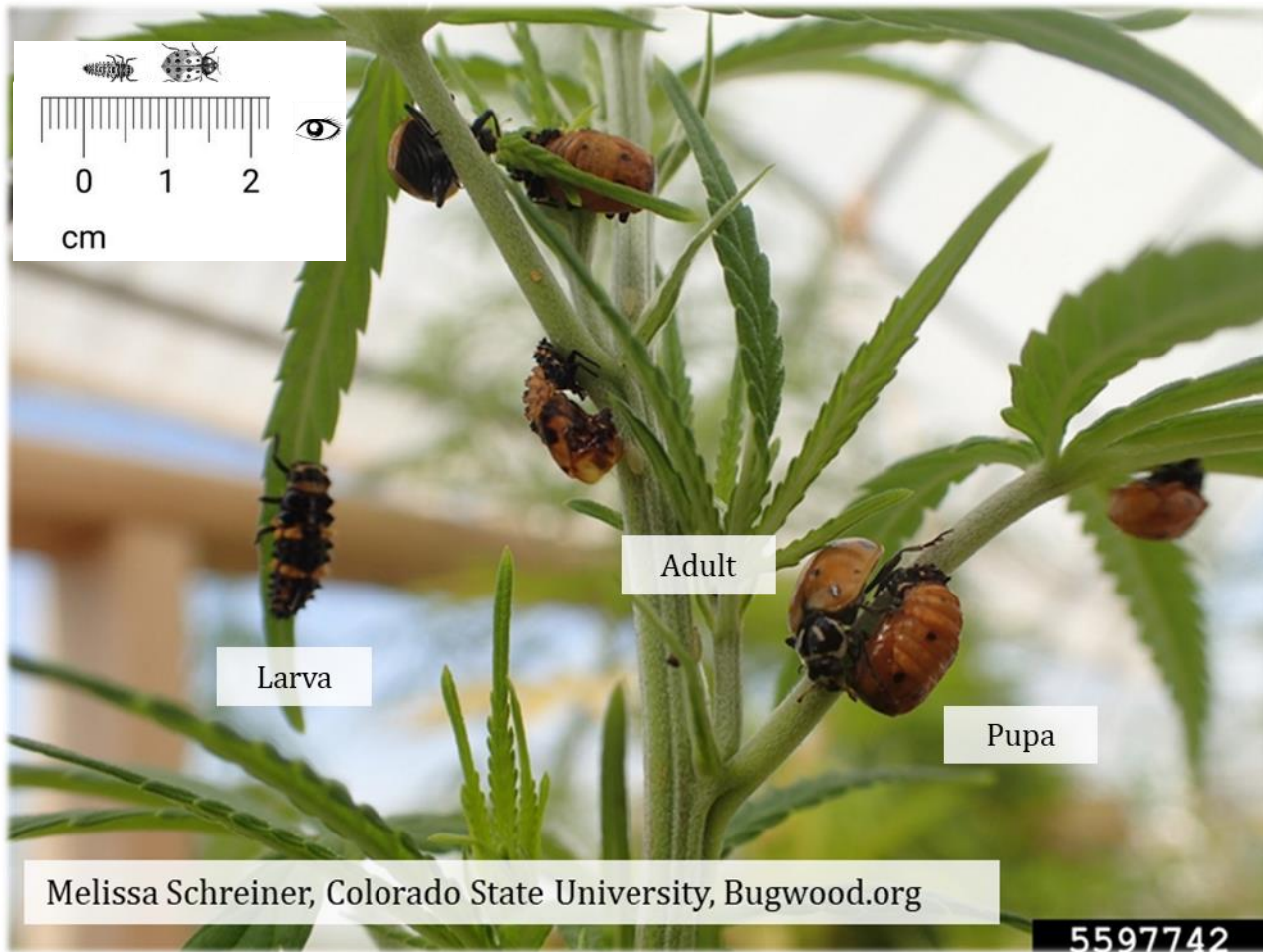
PM Project
ts, University of California


Lady Beetles

Hippodamia convergens

and other natural occurring spp.

(Coleoptera: Coccinellidae)





Pupa
(silken cocoon)

UC Statewide IPM Project
© 2000 Regents, University of California




Adult

Eggs (stalked)

© Koppert Biological Systems

Green Lacewings *Chrysoperla* spp. (Neuroptera: Chrysopidae)



Larva

© Koppert Biological Systems

Brown Lacewings
Micromus variegatus
(Neuroptera: Hemerobiidae)



Adult



Larvae

Syrphid Flies (Diptera: Syrphidae)

Larva



Adult



Photo by Cheryl Frank Sullivan, Univ. of VT

Margined calligrapher
Toxomerus marginatus



Adult

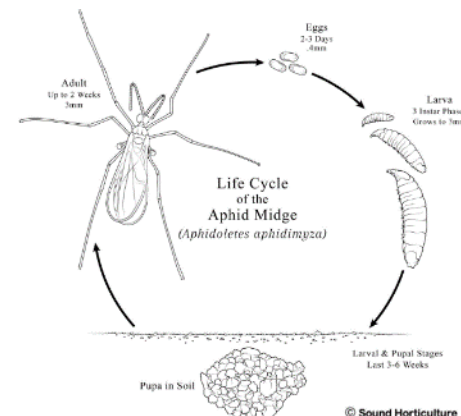
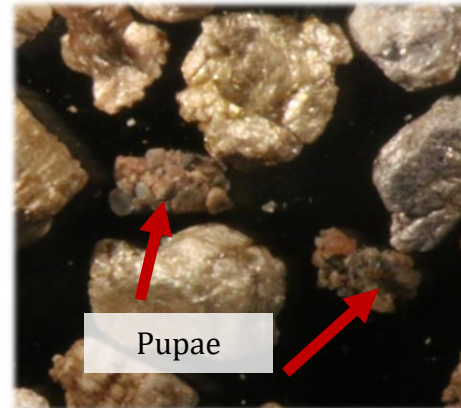
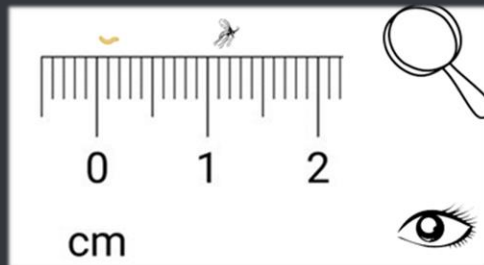
Aphidoletes aphidimyza
(Diptera: Cecidomyiidae)



Appearance: Adults 2-3 mm mosquito-like with long antennae (males longer than females with longer hairs), eggs oval and orange (0.1-0.3 mm), larvae are orange maggots (2-3 mm).

Life cycle: 24 days at 70 °F (21°C) to complete; egg, 3 larval stages, and adults visible, pupae in soil. Larvae are predatory.

Monitoring: Check aphid infestations, focus on leaf undersides for eggs and larvae, adults can be caught on sticky traps.



Eggs



Larvae/maggots



Eggs

Larva



Look for carcasses of aphids
killed by *Aphidoletes*



Aphid Parasitoids (Wasps)



Mummies (parasitized aphids)

***Aphidius* spp.**
(Hymenoptera: Braconidae)

Green peach & melon aphid

A. colemani

Appearance: Adults ~ 3-5 mm long, slender, black color with long beaded antennae and constricted waist (*A. ervi* larger than *A. colemani*).

Life cycle: Single eggs laid in aphid nymphs, larvae develop inside feeding on aphid insides, “mummies” with pupae turn golden brown after 2-3 weeks.

Monitoring: Check aphid infestations, focus on leaf undersides for mummies, exit holes indicate wasp emerged. Will get caught on sticky cards.

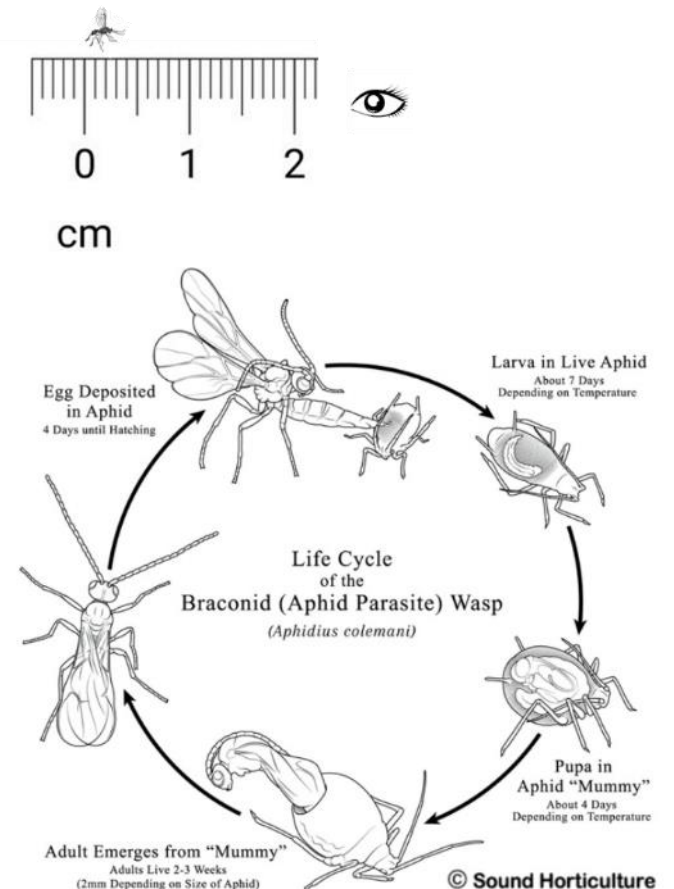
Green peach aphid

A. matricariae



Potato/foxglove

A. ervi



Aphid Banker Plants

Supports *Aphidius colemani* for
green peach aphids.



Don't place card near these!



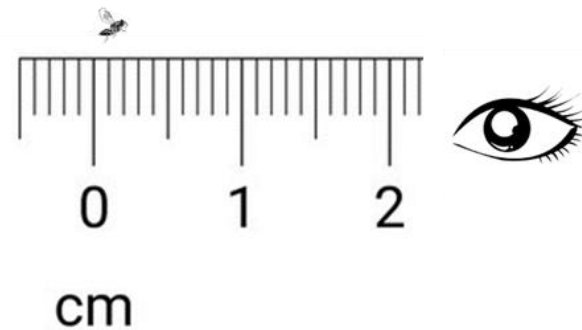
Aphelinus abdominalis
(Hymenoptera: Aphelinidae)

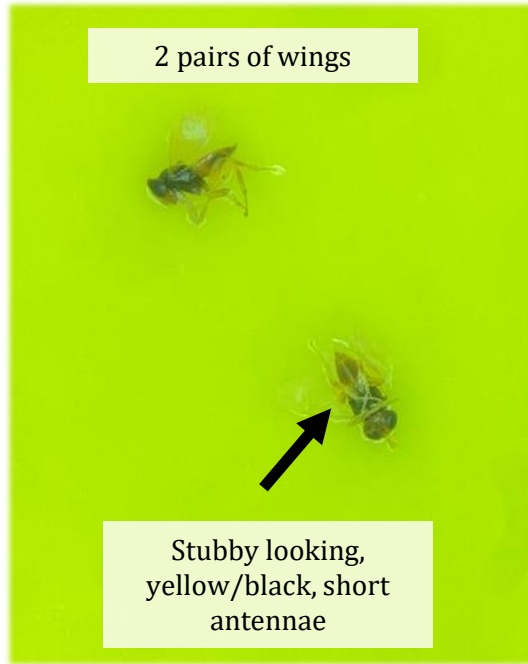
**Attacks potato/foxglove
aphids (among others)**

Appearance: Adults ~ 2 mm long
with yellow-brown abdomen and
short antennae.

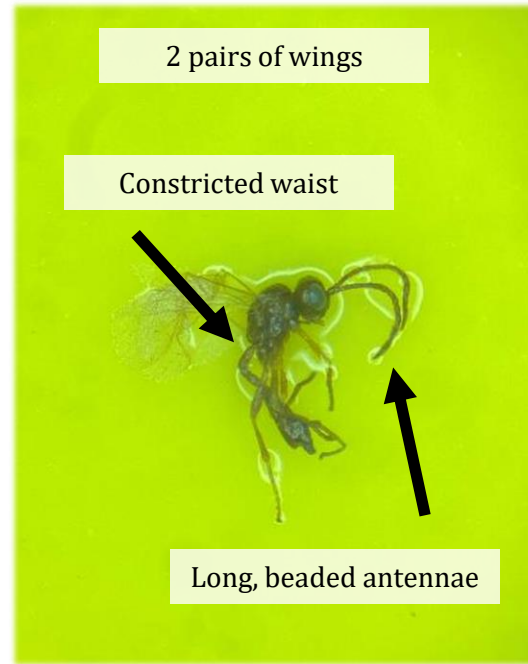
Life cycle: Single eggs laid in mid-
aged aphid nymphs, mummies turn
black after 2-3 weeks.

Monitoring: Check aphid
infestations, focus on leaf
undersides for mummies, exit
holes indicate wasp emerged. Will
get caught on sticky cards.

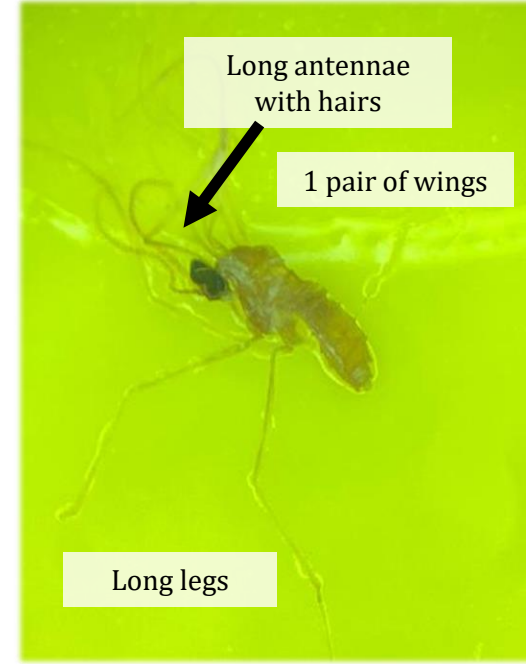




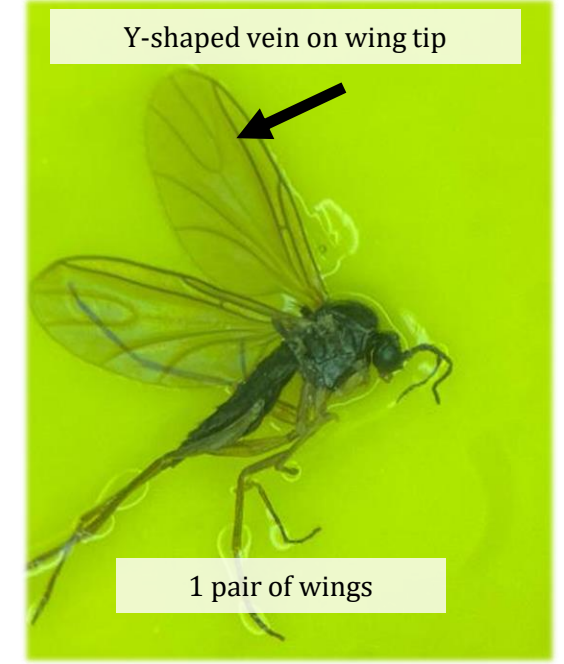
Aphelinus (wasp)



Aphidius (wasp)



Aphidoletes (fly)



Fungus Gnat (fly)

Recognition Recap

Lots of syrphid flies

Winged aphids

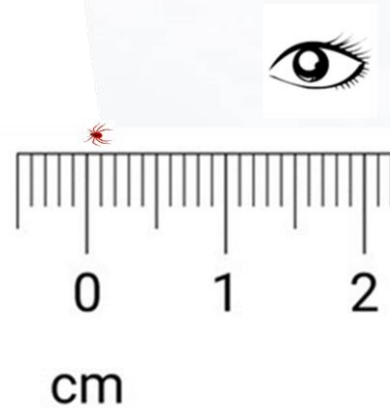
Orius bug

Lots of wasp parasitoids
(*Aphidius* spp.)

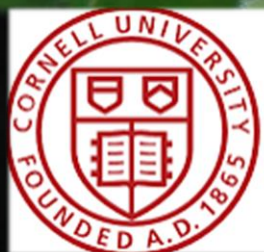


Anystis baccarum (Crazee Mite)

- Has erratic searching behavior 'whirligig mite'
- Generalist (attacks aphids, thrips, mites, and more, other biocontrol agents and each other)
- "Large" red mite (~1–1.5 mm) (around 2x the size of other predatory mites commercially produced)
- Research is ongoing



Thank You!



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