

Insects

and related arthropods



an introduction by Valerie Bugh



sowbug

isopods



pillbug





centipedes





millipedes





scorpions





velvet mites



hard-backed ticks



pseudoscorpion



harvestmen





spiders



spider:

2 body parts

8 legs



insect:

3 body parts

6 legs





Hemiptera

Lepidoptera



Diptera

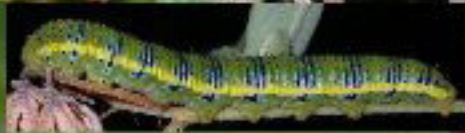
Coleoptera



Hymenoptera



butterflies



**queen
on
milkweed**



**giant swallowtail on
wafer ash**



**great
purple
hairstreak
on
mistletoe**

moths





more
moths





moth larvae



beetles

beetle:

**wings solid from front
to back with straight
lateral lines and
small scutellum**



bug:

**wings partly membranous
with diagonal lines and
large triangular scutellum**



beetle:
chewing mouth, and
antennae with many
segments



bug:
sucking mouth, and
antennae with few
segments

true bugs







flies



syrphids that mimic bees and wasps



fly:
short antennae
large eyes



bee:
long antennae
small eyes



bees



wasps



ants



dragonflies





damselflies

owlfly



antlion



antlion larva



mantisfly



green lacewing



dustywing



snakefly



brown lacewing



neuroptera



earwig



cockroaches



termites



walkingsticks



Carolina mantis





crickets





katydids





grasshoppers

barklice



scorpionfly



jumping bristletail







egg



pupa



complete metamorphosis

larva



adult



**complete
metamorphosis**



larva



pupa

ox beetle

adult



3



4



5



instars

2



incomplete
metamorphosis

1



adult



Aztec spurthroat



1st instar



2nd instar



3rd instar



4th instar



5th instar



adult



adults



damselfly

larvae

dragonfly

partial metamorphosis



*Acanthocephala
terminalis*





**ants and
other
insects**





ants and things like them





bumble bee



robber fly

syrphid fly



**southern yellowjacket
queen**



beetle tricks











grooming



robber fly grooming itself



feeding



**gathering
building
materials**



hunting



drinking



bees with pollen





**leafcutter bees
(Megachilidae)**

**blow
fly**



syrphid



pollination

syrphid



soldier fly

mealtime



baby flies

(maggots)





earwig



pillbug



scavengers

**pale-bordered
field cockroach**



**black widow
+ scorpion**



**robber fly
+ beetle**

**snack or
banquet**



stink bug + caterpillar

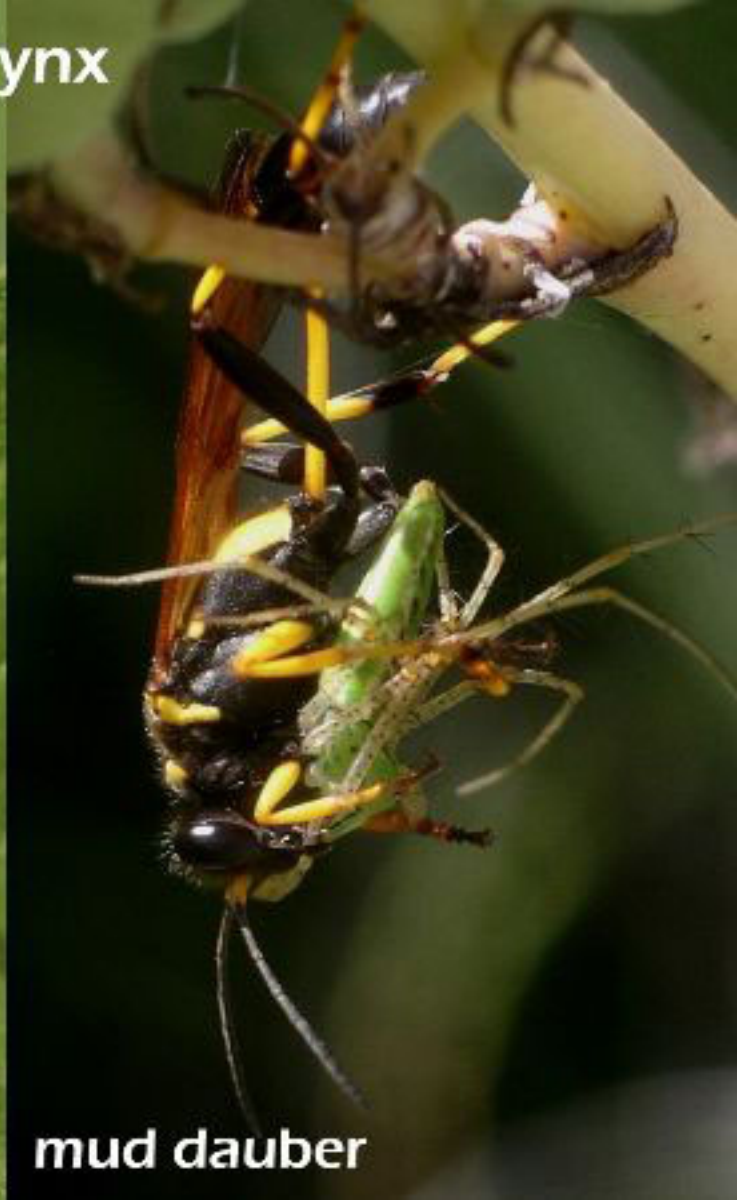


**ground beetle
+ pillbug**

green lynx



spider wasp



mud dauber

Rambur's forktail



hanging thief
(robber fly)



leafhopper

dragonflies



robber fly



**ladybugs:
good**



ugly



bad





disease

**predatory
wasps**





**predatory
stink
bugs**





**parasitoid
wasps**

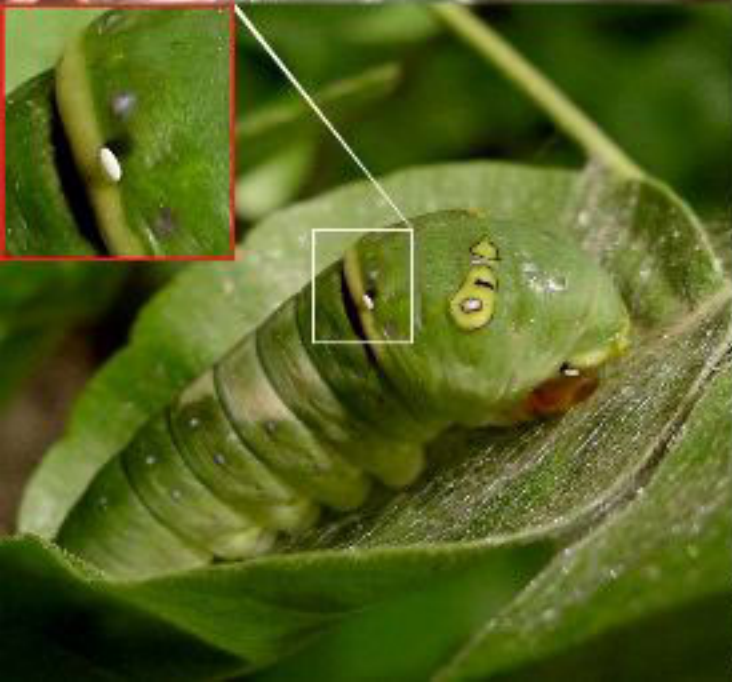




parasitoid
larvae & pupae



tachinid
flies





camouflage



chemicals
allies
mimicry





**numbers
markings**



spines



**poison
webbing**



io moth



spiny oak slug

venom



tussock moth

buck moth

puss caterpillar (asp)





**retreat
building**



pesticides

