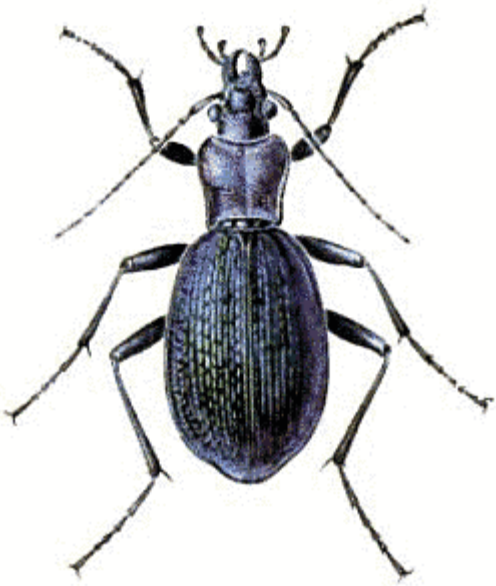


# 7 Common Insect Orders



## Coleoptera

(beetles)

- largest order of any animal with approximately 370,000 known species
- make up 25% of all known plants and animals
- found in every ecosystem except salt water and polar ice caps
- exoskeleton is very hard
- have biting mouthparts
- 2 pairs of wings, one for flying and one for a protective covering
- larvae are considered "grubs"
- life cycle - complete metamorphosis (egg, larva, pupa, adult)

## Lepidoptera

(butterflies and moths)

- second largest animal order with over 160,000 known species
- have large wings covered in tiny scales
- wings are often brilliantly colored or patterned
- adults feed on nectar gathered by a long tube that extends from their mouths called a proboscis
- "taste" with their feet
- life cycle - complete metamorphosis (egg, larva, pupa, adult)

## Hymenoptera

(ants, bees, and wasps)

- 2 pair of wings
- bees visit flowers to collect pollen and nectar
- may have chewing mouthparts or tubes to collect nectar from flowers
- can smell with their antennae
- wasps visit flowers to prey on smaller insects (often pests)
- well developed compound eyes
- can be social or solitary
- social species have a highly developed social structure
- life cycle - complete metamorphosis (egg, larva, pupa, adult)

## Diptera

(flies, gnats, mosquitoes)

- 2 pair of wings
- forewings are used for flight and hindwings are used for balance
- well developed compound eyes
- mouthparts designed to suck or pierce, not bite
- feed on liquids
- life cycle - complete metamorphosis (egg, larva, pupa, adult)
- considered pests and some are disease carriers

# Orthoptera

(grasshoppers and crickets)

- well developed mandibles and can bite
- 2 pair of wings – hindwings for flight and forewings are leathery wing protectors
- large hind legs allow them to jump
- can “sing” or “chirp” by rubbing parts of their bodies together
- life cycle – incomplete metamorphosis (egg, nymph, adult)
- grasshoppers eat plants, crickets hunt smaller insects

# Hemiptera

(“true bugs”, cicadas, aphids)

- piercing mouthparts to suck juice from plants or animals
- some species have 2 pair of wings, some have 1 pair, and others have no wings
- life cycle – incomplete metamorphosis (egg, nymph, adult)
- considered agricultural pests

# Odonata

(dragonflies and damselflies)

- relatively large insects with long bodies
- 2 pair of similarly sized wings that are transparent and veined
- large heads and large compound eyes
- very small antennae
- life cycle – incomplete metamorphosis (egg, nymph, adult)
- adults eat smaller insects