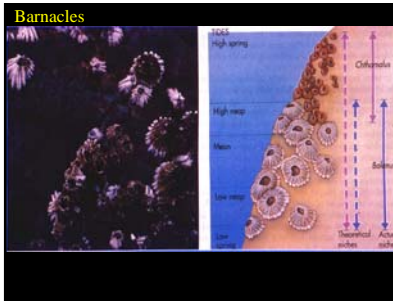


CO-EVOLUTION

Joint evolution of two (or more) species that do not exchange genes, but do have a close ecological relationship

Reciprocal selective pressures



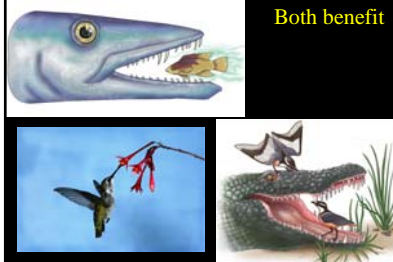
Predation/parasitism
Herbivory

SYMBIOSIS

Living together

MUTUALISM

Both benefit



COMMENSALISM

1 benefits / other not harmed



PREDATION/HERBIVORY/PARASITISM

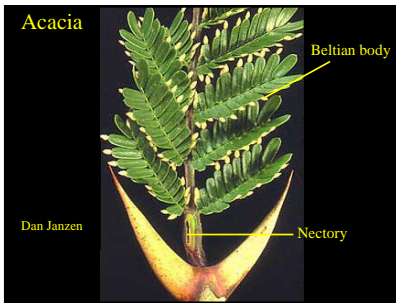
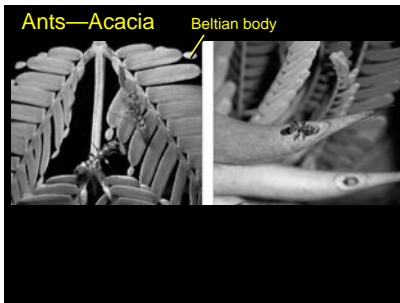
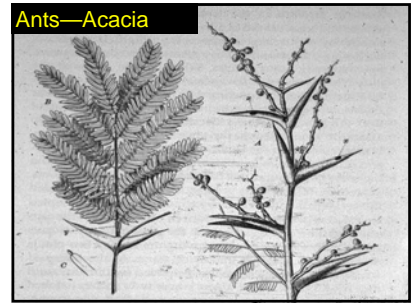
1 benefits / other harmed



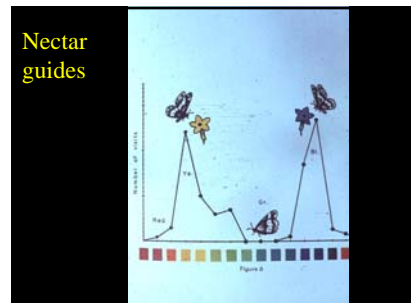
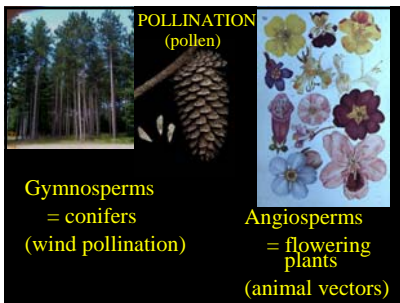
Chemical Toxins

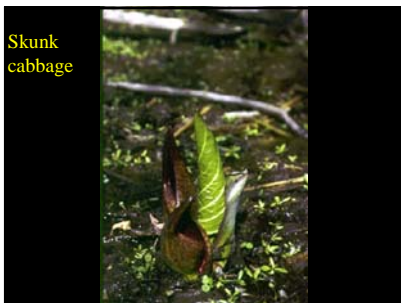
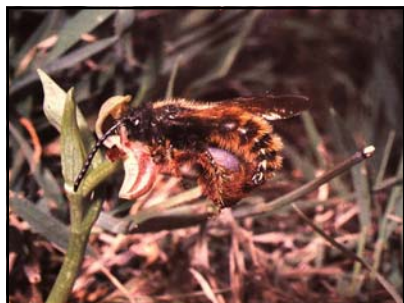
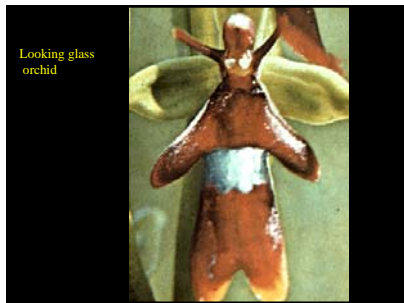
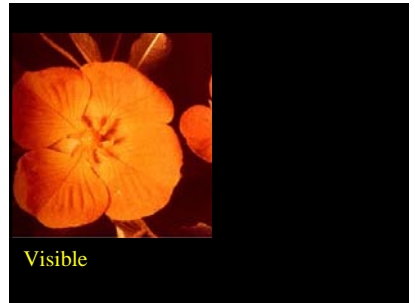
phytophagous insects
herbivore

Chemical Warfare



- Ant—Acacia Evolution
- Thorns
 - Facultative use of thorns
 - Feed on other plants
 - Ants attach enemies
 - Acacia provide food for ant





Aphid

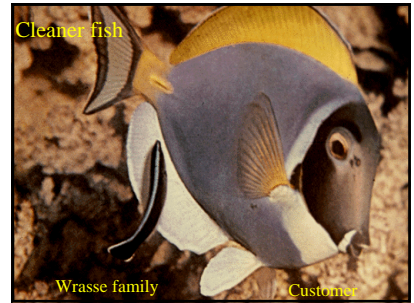


honeydew

Ants – Aphids



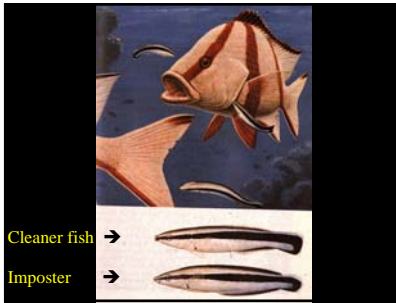
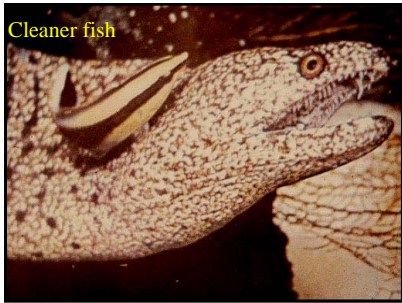
Cleaner fish



Wrasse family

Customs

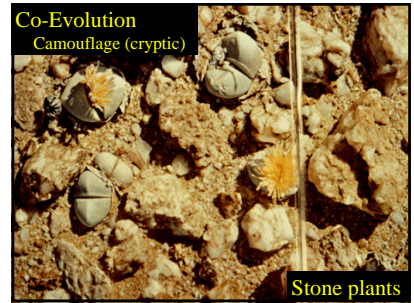
Cleaner fish



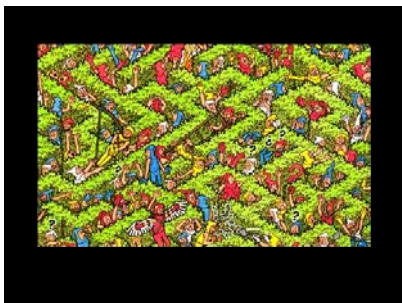
Cleaner fish

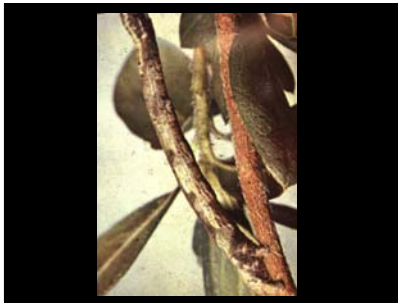
Imposter

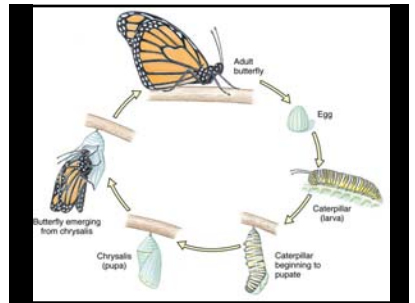
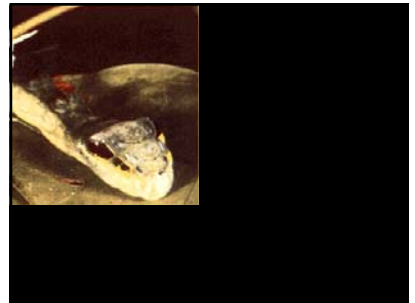
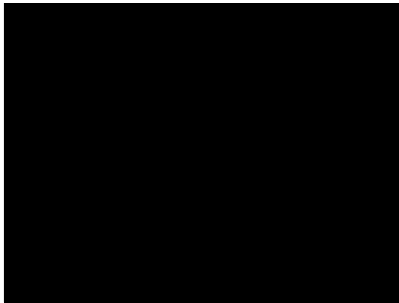
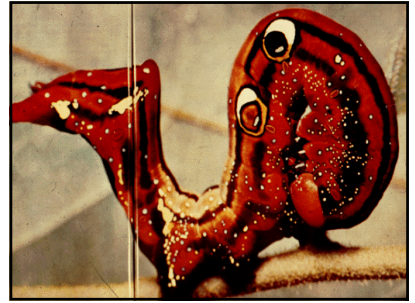
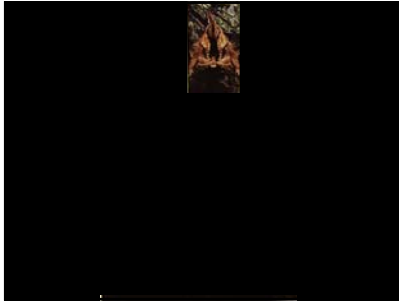
Co-Evolution
Camouflage (cryptic)

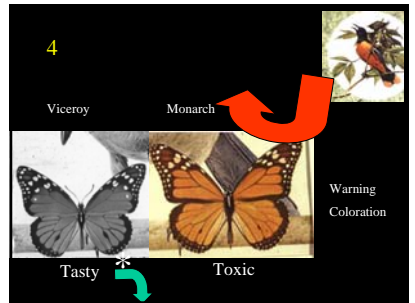
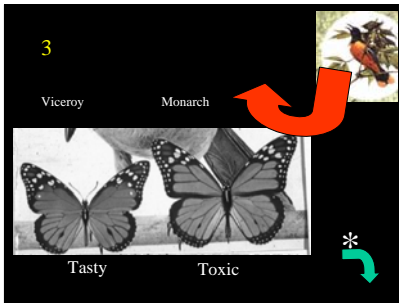
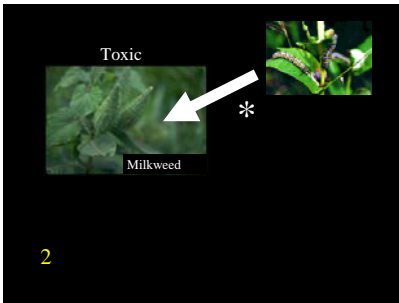
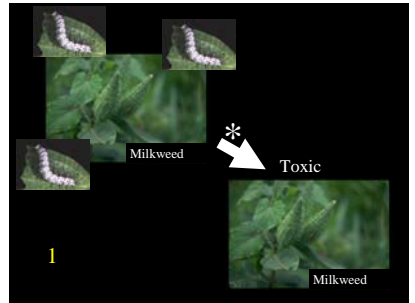
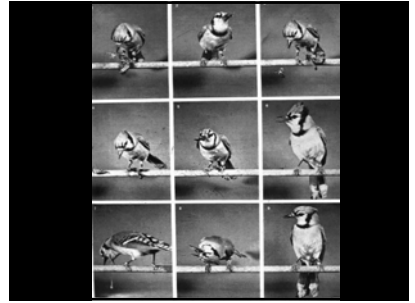
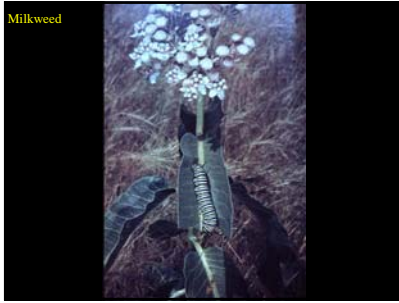


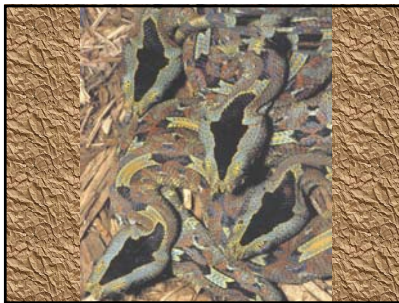
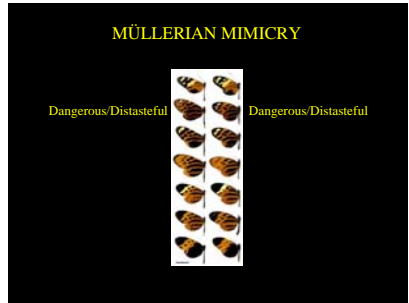
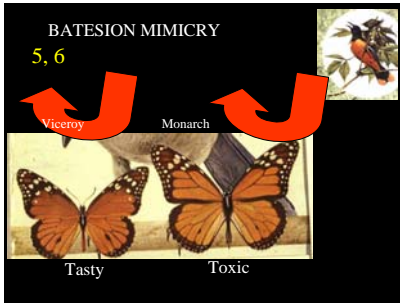
Stone plants

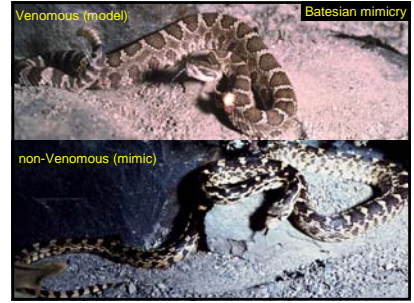
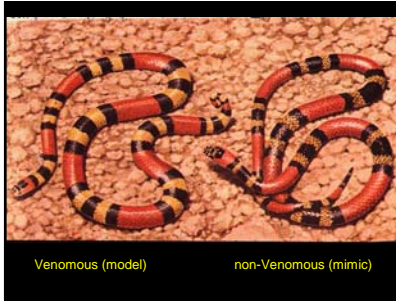
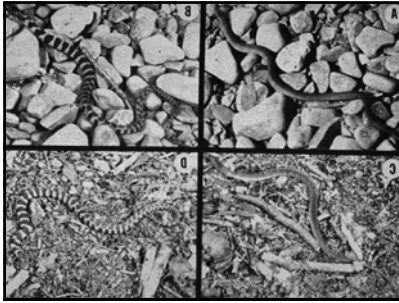












Müllerian mimicry

model—dangerous/distasteful
mimic—same

CO-EVOLUTION

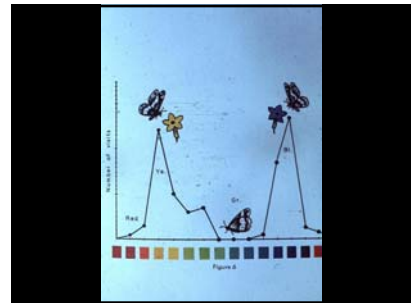
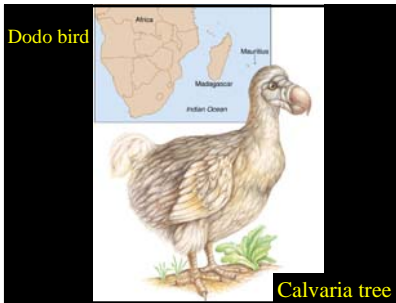
Joint evolution of two (or more) species that do not exchange genes, but do have close ecological relationship

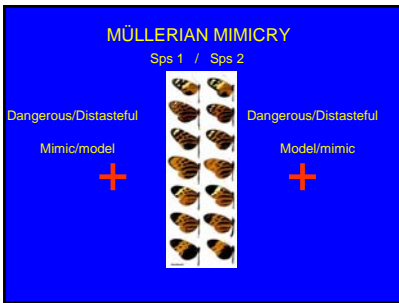
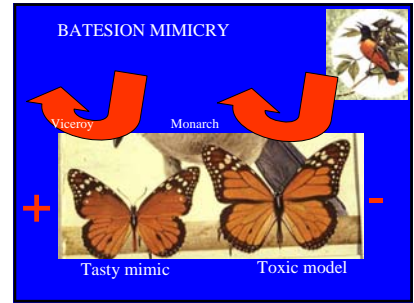
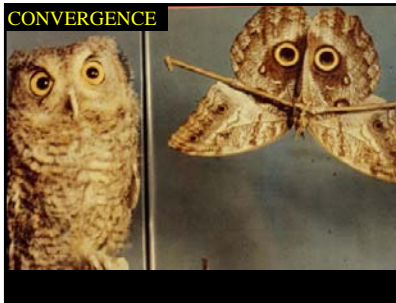
Reciprocal selective pressures



ASSESSMENT

Locked in





First, behavioral change
 Sets the stage of new selective advantages
 Then, any mutation that enhances favorable new association favored



Evolution proceeds by

REMODELING

