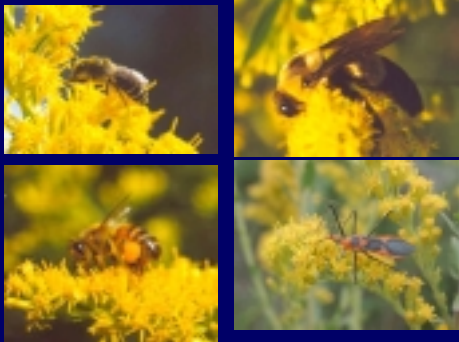


Goldenrod visitors (some pollinators)



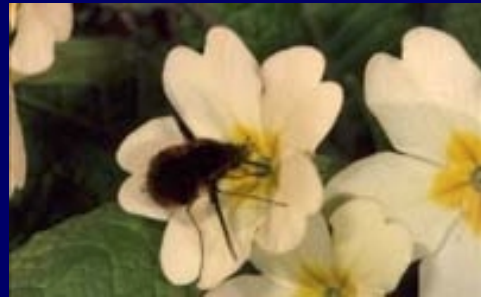
Fly orchid mimics female wasp and produces pheromones to attract male



Bee orchid resembling female



Fly pollination of primrose



Butterfly pollination of orchids



Hawkmoth pollination of orchid



Monkey beetle pollination in S. Africa



Carrion flowers (11 inches)



Carrion flowers and pollinator



Fig wasps in California



Female and male wasps



Female flower where female wasp enters



## Female wasps about to disperse



### General Characteristics of Bloodroot

- ✓ Member of the Poppy Family (Papaveraceae)
- ✓ One of the earliest ephemeral spring flowers
- ✓ Blooms before trees leaf out
- ✓ Blooms from April to June depending on geographical location
- ✓ Blossoms only last a few days



<http://www.prairieprober.com/page/44/epic-shill-ee2.html>

### Seed Dispersal by Ants: Myrmecochory

- ✓ Seeds grow on a separate stalk
- ✓ Once ripe, seed capsule opens
- ✓ Seeds have external white fatty tissue (elaiosomes) that is attractive to ants
- ✓ Ants carry seeds to their nest



<http://drlhewitt.com/ants/021.htm>

### Ant carrying seed with visible elaiosome



<http://www.biology.uni-ile.de/bio/03ant/ta/projects.html>

### Seed Fate

- ✓ The elaiosomes are eaten, but seeds remain viable
- ✓ The seeds are discarded with other nest waste
- ✓ Thus, this is an ant-plant interaction that is considered a mutualism because it is beneficial to both ants and plants

### Food bodies for acacia ants



### Domatia for ant mutualists



### Search words used with Google image search

- Pseudocopulation orchid
- Beetle pollination
- Hawkmoth pollinator
- Myrmecochory
- Ant acacia pseudomyrmex