

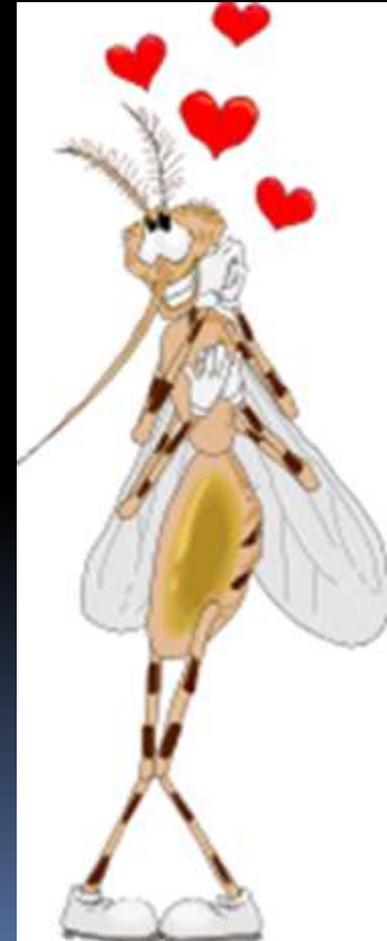


# Entomology for Beginners

**General Entomology ENT 100**

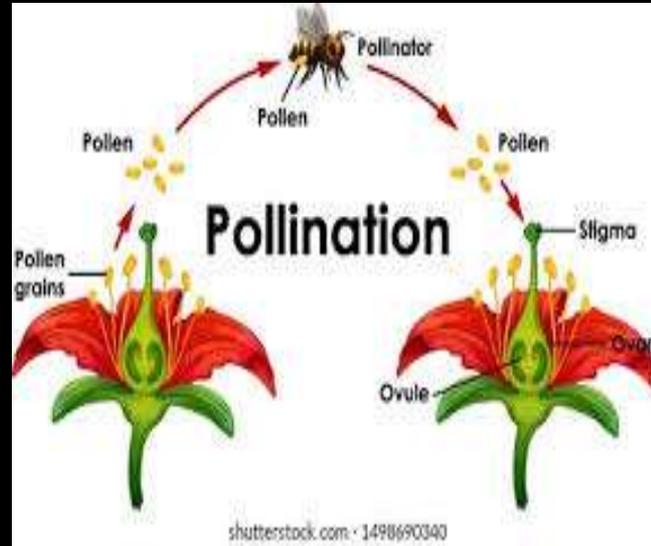
# Insects as a friend

## (Benefits of insects)



# Economic benefits

- Pollinate flowering plants.



# Economic benefits

- Important food source for many animals and humans in many countries.



# Economic benefits

- As consumers, scavengers, and decomposers, insects play a vital role in the biogeochemical cycling of nutrients.
- Insects aerate the soil, improve its retention of rain water, and improve its fertility.

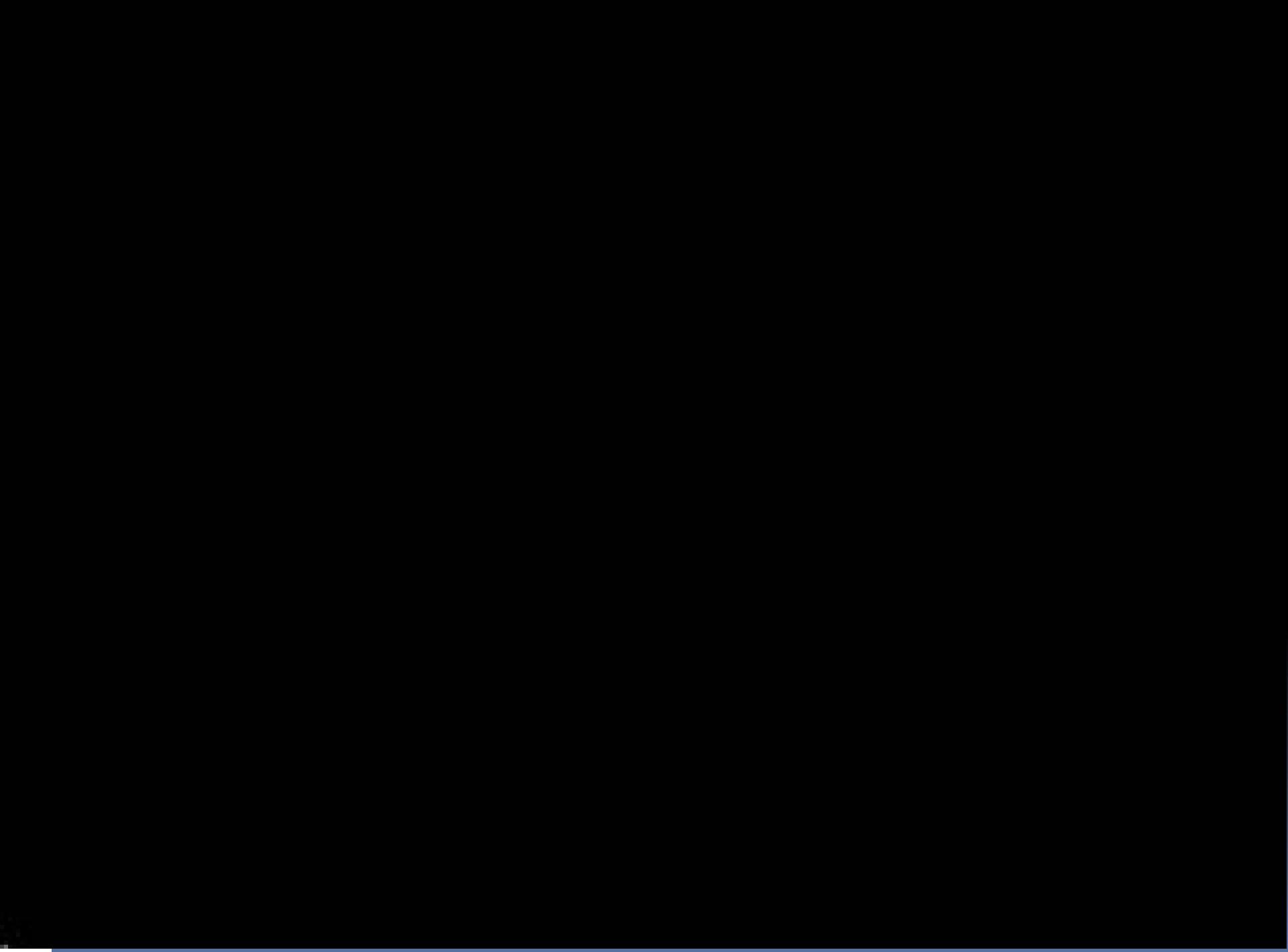


# Economic benefits

- Decomposition of dead organisms.



**Video**



# Economic benefits

- Many insects are used as biological control agents to fight pests and weeds.



# Economic benefits

- Honeybees produce important products as honey, beeswax, pollen and royal jelly.



# Economic benefits

- **The silkworm produces silk. Silk is the strongest of all natural fibers. Silk clothes are warm in winter, cool in summer, resistant to wrinkling, and light in weight.**



# Economic benefits

- Scale insects produce **Shellac**, which is used in cosmetics and as varnish for floors and furniture.



# Economic benefits

- Scale insects produce Cochineal which is a red dye called carmine (E 120), a permanent and good pigment. It is used as a coloring agent in foods and cosmetics as lipstick).



# Insects and the development of science and technology

- Scientists destroyed the **theory of spontaneous generation** when they found that worms found in meat are due to fly eggs.
- Studies on life cycles, physiology, and ecology of insects improved our understanding of biology.





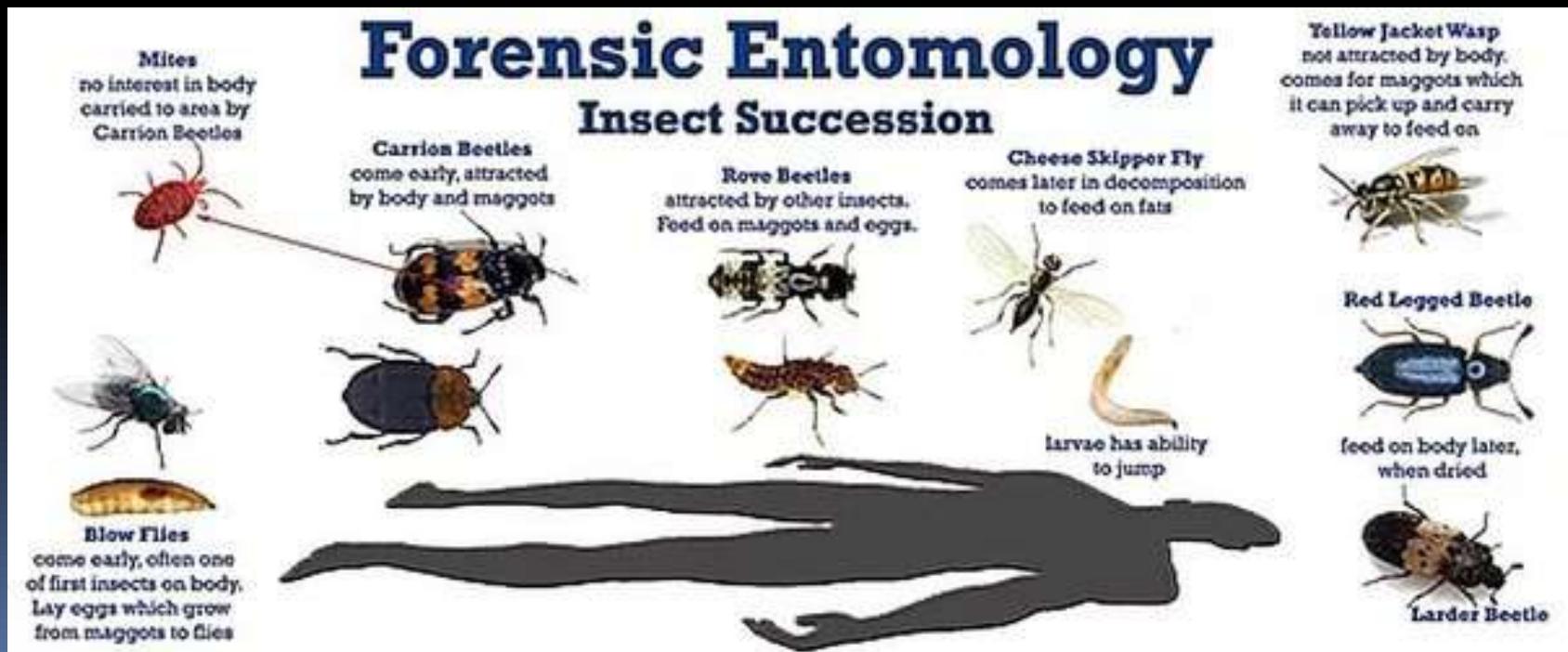
# Insects and the development of science and technology

- Engineers studied the legs of a grasshopper to help them design shock absorbers for jet fighters and developing **robots** similar to insects.



# Insects and the development of science and technology

- Specialists in forensic entomology can determine how, when, or where a crime was committed.



# Medical and Therapeutic Value of insects

- During World War I, wounds infested with blow fly larvae rarely developed bacterial infections.
- Many doctors use **maggot therapy** (sterile-reared fly larvae for cleaning necrotic tissue from deep wounds).





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