



FACULTY OF AGRICULTURAL SCIENCES & ALLIED INDUSTRIES

ENT-121: Fundamentals of Entomology

Lecture 3: Dominance of Insects:

1. More number of species:
2. Large number of individuals in a single species:
3. Great variety of habitats:
4. Long geological history:

Reasons for dominance:

1. Capacity for flight: Due to having usually two pairs of wing
2. More adaptability or universality: adoptive to all known conditions
3. Smaller size: Majority of insects are small in their size conferring the following physiological and ecological advantages.
4. Presence of exoskeleton: Insect body is covered with an outer cuticle called exoskeleton which is made up of a cuticular protein called Chitin. This is light in weight and gives strength, rigidity and flexibility to the insect body.
5. Resistance to desiccation: Insects minimize the water loss from their body surface through prevention of water loss conservation of water
6. Tracheal system of respiration: This supply of adequate oxygen to actively breathing tissues.
7. Higher reproductive potential: Reproductive potential of insect is high, short development period and presence of special types of reproduction other than oviparity and viviparity, Polyembryony, Parthenogenesis and Paedogenesis
8. Presence of complete metamorphosis: More than 82 per cent of insects undergo complete metamorphosis (holometabolous insects) with four stages.
9. Presence of defense mechanisms: By different defense mechanisms, insects escape from the enemies to increase their survival rate.
10. Hexapod locomotion: Insects uses 3 legs at a time during locomotion, while the remaining 3 legs are static, which gives greater stability.