



FACULTY OF AGRICULTURAL SCIENCES & ALLIED INDUSTRIES

ENT-121: Fundamentals of Entomology

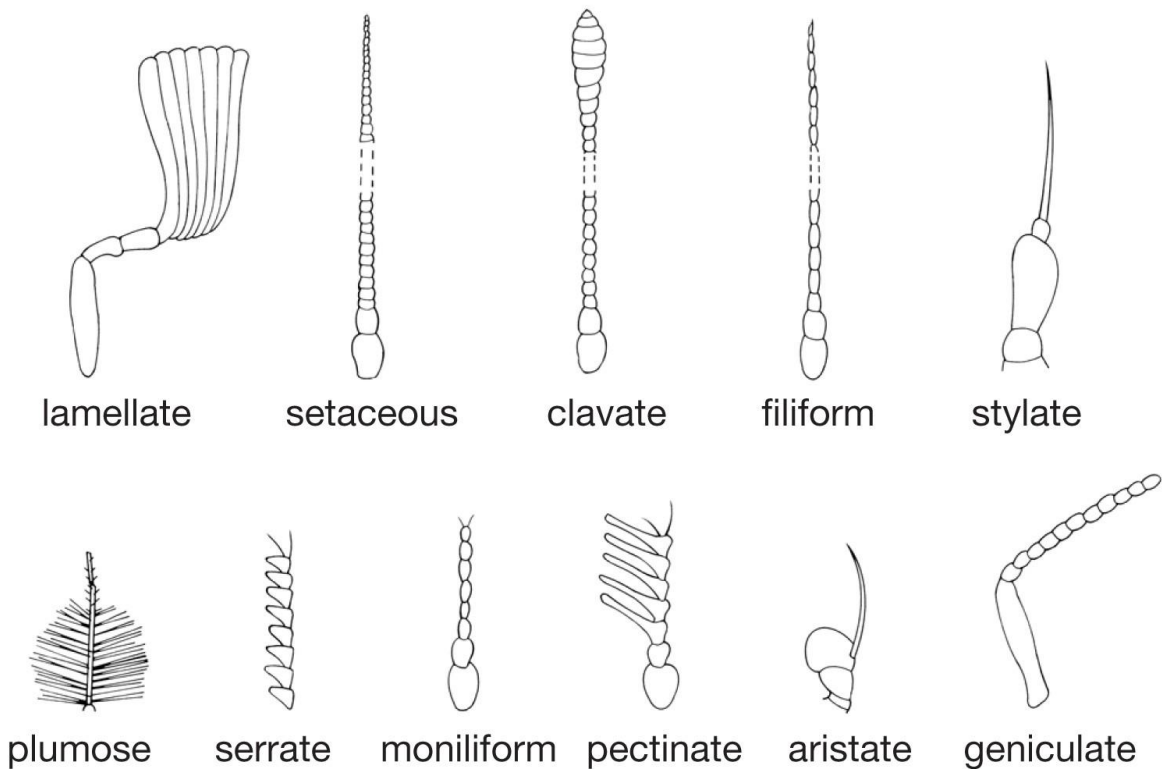
Lecture 10: Insect Antennae:

Structure of insect antenna: Antennae are also called feelers. They are paired, highly mobile and segmented. Antennae are located between or behind the compound eyes. All insects except Protura have a pair of antennae. Antennae has three parts **1. Scape 2. Pedicel 3. Flagellum or Clavola**

A mass of sense cells called Johnston's organ is present in the pedicel, which is used as a chordatonal organ in some of the insects like mosquitoes.

Types of antennae:

- 1. Setaceous:** (Bristle like) Size of the segments decreases from base to apex. e.g. Leafhopper, Dragonfly, Damselfly.
- 2. Filiform:** (Thread like) Segments are usually cylindrical. Thickness of segments remains same throughout. e.g. Grasshopper.
- 3. Moniliform:** (Beaded) Segments are either globular or spherical with prominent constriction in between e.g. Termite.
- 4. Serrate:** (Saw like) Segments have short triangular projections on one side. e.g. Longicorn beetle
- 5. Unipectinate:** (Comb like) Segments with long slender processes on one side e.g. Sawfly
- 6. Bipectinate:** (Double comb like) Segments with long slender lateral processes on both the sides e.g. Silkworm moth
- 7. Clavate:** (Clubbed) Antenna enlarges gradually towards the tip. e.g. Blister beetle
- 8. Capitate:** (Knobbed) Terminal segments become enlarged suddenly e.g. butterfly
- 9. Lamellate:** (Plate like) Antennal tip is expanded laterally on one side to form flat plates e.g. lamellicorn beetle
- 10. Aristate:** The terminal segment is enlarged. It bears a conspicuous dorsal bristle called arista e.g. House fly
- 11. Stylate:** Terminal segment bear a style like process eg. Horse fly, Robber fly.
- 12. Plumose:** (Feathery) Segments with long whorls of hairs e.g. male mosquito



13. Pilose: (Hairy) Antenna is less feathery with few hairs at the junction of flagellomeres. e.g. Female mosquito.

14. Geniculate: (Elbowed) Scape is long remaining segments are small and are arranged at an angle to the first resembling an elbow joint. E.g. Ant, weevil and honey bee.



Pilose Antennae Female (Mosquito)