

Insect Antennae



- The antennae are a pair of sense organs located near the front of an insect's head capsule. Although commonly called "feelers", the antennae are much more than just tactile receptors. They are usually covered with olfactory receptors that can detect odor molecules in the air (the sense of smell).
- Many insects also use their antennae as humidity sensors, to detect changes in the concentration of water vapour.
- Mosquitoes detect sounds with their antennae, and many flies use theirs to gauge air speed while they are in flight.

- Although antennae vary widely in shape and function, all of them can be divided into three basic parts:
- scape -- the basal segment that articulates with the head capsule
- pedicel -- the second antennal segment.
- flagellum -- all the remaining "segments" (individually called flagellomeres).

Types of antennae



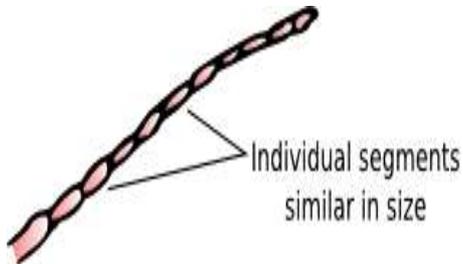
Filiform antennae:

This is the most basic form of insect antennae.

This basic structure is modified in a wide variety of ways.

This means that a number of different types may be recognised.

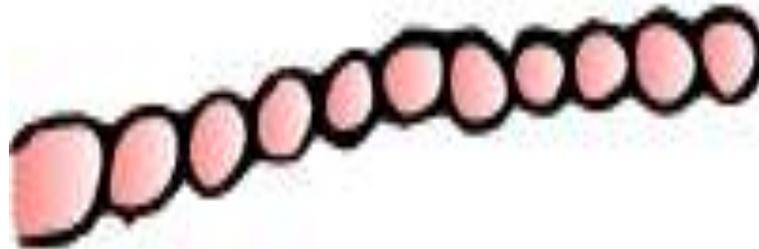
(Orthoptera)



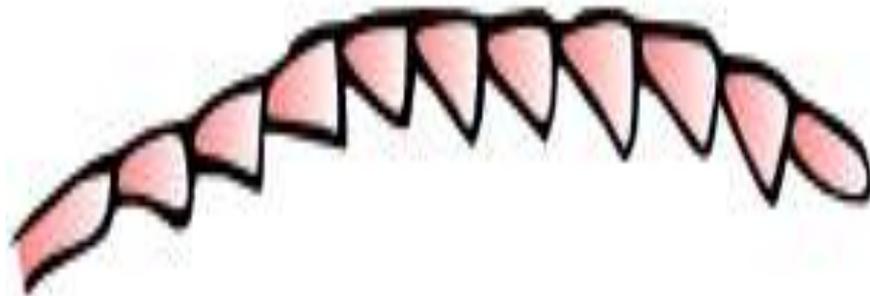
- **Setaceous** - There are many joints. The antenna tapers gradually from the base to the tip e.g. Cockroaches, Stoneflies.



- **Moniliform** - The round segments make the antenna look like a string of beads e.g. [Beetles](#).



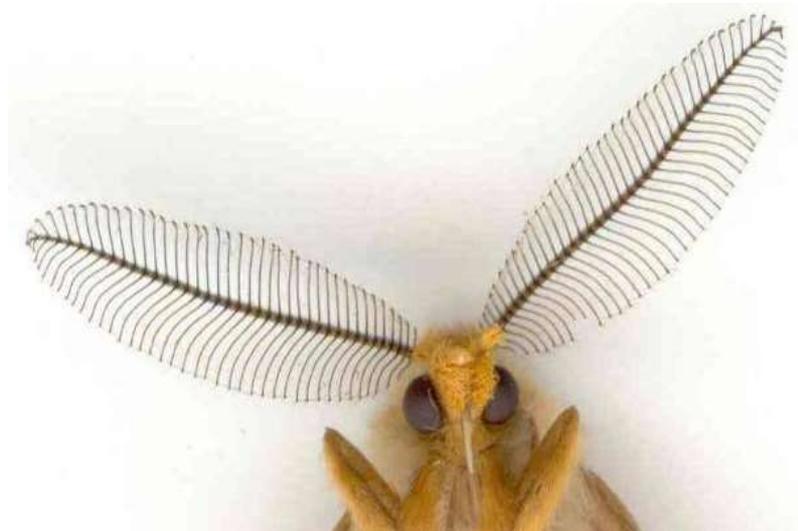
- **Serrate** - the segments are angled on one side giving the appearance of a saw edge e.g. Beetles.



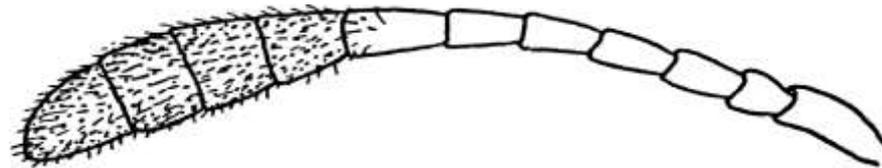
- **Pectinate** - The segments are longer on one side. This gives the appearance of a comb e.g. Sawflies (related to wasps) and Beetles.



- **Bipectinate:** The segments are longer on two . side



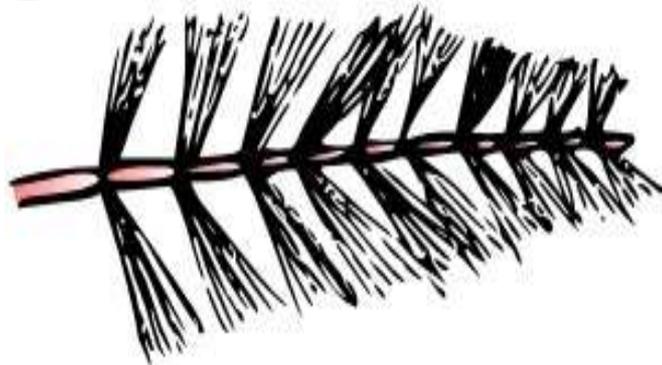
- **Clavate** - the segments become wider towards the tip of the antenna. This may be gradual along its length, or a sudden increase and therefore mainly affecting the last few joints and giving the appearance of a club e.g. Butterflies and Beetles.



- **Lamellate** - the segments towards the end are flattened and plate-like. This gives the appearance of a fan e.g. [Beetles](#)



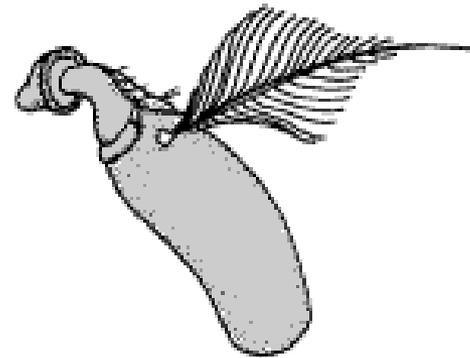
- **Plumose and Piplumose** - the segments each have a number of fine thread-like branches. This gives the appearance of a feather e.g. [Flies](#).



- **Capitates:** Capitate antennae are abruptly clubbed at the end. Ex. Butterflies.



- **Aristate:** pouch-like with lateral bristle. Ex. House flies



- **Geniculate:** there is an abrupt bend or elbow part of the way along the antenna e.g. Ants and Beetle



- **Stylate**: having a pointed process, a **style**.
Aristate is similar, but the process is off-center





ARISTATE



LAMELLATE



SERRATE



FLABELLATE



MONILIFORM



SETACEOUS



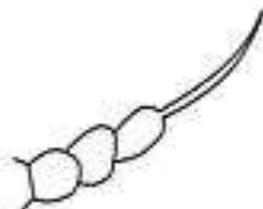
GENICULATE



PLUMOSE



PECTINATE



STYLATE



CLAVATE

Some Insect Antennae

