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Antennae

They are paired freely mobile segmented appendages articulated with the head in front of or between the eyes. Antennae are also known as feelers. They are multi segmented, and may be divided into three parts:

Scape: It is basal segment of antenna by which it is attached with the head.

Pedicel: It is the second segment of antenna which is shorter than scape. It bears sensory apparatus known as Johnston organ.

Flagellum: The remaining divisions of antenna together constitute the flagellum which varies greatly in its form and structure according to the surroundings and habits of insects.

Modification of antennae:

On the basis of shape and structure the antennae may be of following types:

Setaceous: These are bristle like antennae in which the size of each segment become smaller and smaller towards flagellum and tapering into a point e.g., insects of order Coleoptera, Lepidoptera and Orthoptera namely cockroach and cricket.

Filiform: It is thread like antenna in which all the segments are of nearly uniform in thickness and have no prominent constrictions at the joints e.g., insects of order Orthoptera Coleoptera and Lepidoptera namely grasshopper and ground beetle.

Moniliform: All the segments of this antenna are globular in shape and of uniform thickness looking like a string of beads e.g., insects of order Isoptera and Coleoptera namely termite.

Serrate: This is a saw like antenna in which each segment is more or less triangular and projected on one direction like the teeth of saw e.g., Order Coleoptera Pulse beetle.

Pectinate: This is a comb like in structure in which each segment of the antenna possess long projections Order Lepidoptera-moths sugarcane root borer.

Bipectinate: In this type of antenna each segment has the long projections both the sides instead of one side like pectinate e.g. Order—Lepidoptera (silk moth).

Plumose: In such type of antenna the whorls of hair arise from the joint of each segment and look like plume e.g., Order Diptera-male mosquito.

Whorled: Basically these are setaceous, filiform or moniliform type of antennae in which there is a whorl of bristle at every joint e.g. order Hemiptera – male of mango mealy bug.

Clavate: These are club shaped antennae in which the segments become gradually broader towards the tip and the last segment finally ending into a round core e.g., order Coleoptera and Lepidoptera- butterflies.

Capitate: In this type of antenna the terminal segment or segments form a large knob or cap e.g., order Coleoptera and Lepidoptera.

Geniculate: In this type of antenna the first segment (scape) is long, second (pedicel) is short and flagellum is made of small segments which are bent on the scape just like a bent knee e.g., order Hymenoptera- Honey bee.

Aristate: This type of antenna is three segmented in which first segment is smaller and broader and the second is longer than the first. The flagellum is longer than both the segments and bears a heavy bristle known as arista e.g., order Diptera- House fly.

Stylate: In this antenna the last segment of flagellum is modified into a long bristle known as style e.g., order Diptera- Snipe fly.

References – A Text Book of Entomology by Dr. Mathur and Dr. Upadhyay

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