

LECTURE 1.

Definition of entomology and importance of insects.

Introduction to Phylum Arthropoda

Definition of 'Entomology' and importance of insects

The term entomology is derived from two Greek words. *Entomon* means an

insect and *logos* means to study. The term 'insect' is derived from the Latin word

insectum which means 'cut into'.

Insects came into earth 480 million years ago. Man came to mother earth only

one million years ago. Out of 17 lakh living species on earth, 9.5 lakh species are

insects, 2.5 lakh species are plants and 0.45 lakh species alone are vertebrates.

Insects are harmful to man as pests of cultivated crops, animals, stored products, carries of human diseases and pests of household and industrial articles.

They are also helpful as producers of honey, lac, silk, dyes, etc., pollinators of crops

and as natural enemies of crop pests. They also serve as important link in the foodweb of biological cycle in ecosystem.

Insects are grouped with other animals with similar characteristics in the Phylum Arthropoda.

Introduction To Phylum Arthropoda

There are about 1-2 million species of animals in the world and more than 70

per cent of these are insects. These animals are assigned to 29 phyla. Of these only

nine phyla are large, and their representatives are common and familiar to us. These

are called the major phyla. The other phyla are small and their representatives are

uncommon and of uncertain relationships.

Position of insects in animal kingdom and their relationship with other

Arthropods

Insects are invertebrates grouped in the phylum **Arthropoda** (Arthro-joint, poda-foot) and subphylum Uniramia. Characters of the Phylum Arthropoda are

1. Segmented body
2. Segments grouped into 2 or 3 regions (tagma) known as Tagmosis.
3. Renewable chitinous exoskeleton
4. Grow by molting.
5. Bilateral symmetry of body.
6. Body cavity filled with blood and called as haemocoel.
7. Tubular alimentary canal with mouth and anus at anterior and posterior ends.
8. Dorsal heart with valve like ostia.
9. Dorsal brain with ventral nerve cord.
10. Striated muscles (with dark and light bands).
11. No cilia (hair like vibratile structure on the surface of the cell).
12. Paired, segmented appendages.

Phylum Arthropoda is Classified in to 7 classes.

1. Onychophora (claw bearing) e.g. Peripatus
2. Crustacea (Crusta - shell) e.g. Prawn, crab, wood louse
3. Arachnida (Arachne - spider) e.g. Scorpion, spider, tick, mite
4. Chilopoda (Chilo - lip; poda - appendage) e.g. Centipedes
5. Diplopoda (Diplo - two; poda- appendage) e.g. Millipede
6. Trilobita (an extinct group)
7. Hexapoda (Hexa- six; poda-legs) or Insecta (In- internal; sect – cut) e.g. Insects.

Sources

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