

## Practical - 1

### Introduction to Apiculture: Importance and History

**Aims:** To understand economic importance of honey bees and developments taking place in modern beekeeping.

Insects are dominant animals on this earth. Usually insects are considered harmful to man but hardly 1 per cent of insect species fall in the pest category. Benefits of insects in maintaining economy outweigh the injury inflicted. Honey bees are one of the few insects directly beneficial to man.

- In the animal kingdom honey bees belong to: Phylum-Arthropoda, Class- Insecta, Order-Hymenoptera, Superfamily-Apoidea and Family-Apidae.
- Honey is highly valued food produced by honey bees and it is also used as medicine. In addition to honey, other products like bees wax, pollen, royal jelly and bee venom are also produced by honey bees.
- More than the producers of these hive products; bees play an important role in pollination of plants while collecting their food from flowers in the form of nectar and pollen.
  - Pollination is involved in a chain of complex events significant to our economy. Pollination by insects including honey bees is important for ecological balance.
  - Visitation by honey bees between distant varieties or cultivars promotes hybridization and help sparse populations to survive. Their mutual dependency has resulted into great degree of co-evolution.
- The science of rearing honey bees or beekeeping is known as **apiculture**.

We can learn a lot from these little wonderful creatures. Honey bees are admired for

- Their industriousness
- Unity
- Self sacrifice
- Tolerance
- Division of labour
- Even the most feared bee stings help in healing muscular pains, rheumatism, arthritis and reduction in cholesterol level.

Bee keeping can be practised as

- An ideal hobby
- Part-time business.
- Full-time business.

## History of beekeeping

- Primitive man used to rob bee colonies found in the cavities of hollow trees or on rocks and in traditional mud houses and this is still being followed by some tribes
- There was no development in beekeeping until 16<sup>th</sup> century.
- Proper beekeeping started only when man started giving protection to colonies found in the nature
- Idea to keep bees in log hives has been reported to come from the fallen trees which were nested by the cavity nesting bees.
- Development of modern bee keeping has its origin between 1500 and 1851 when many attempts were made to domesticate bees in different types of hives but were not successful because bees attached their combs together as well as to the walls of hive and combs required had to be cut for honey.
- The discovery of the principle of bee space in 1851 by L. L. Langstroth in USA resulted in first truly movable frame hive. This bee space was 9.5 mm for *Apis mellifera*.
- This discovery was followed by subsequent innovations like comb foundation mill, honey extractor, smoker, etc., which helped in the development of modern bee keeping we see today.

## Beekeeping in India

- In India first attempt to keep bees in movable frame hives was made in 1882 in Bengal and then in 1883-84 in Punjab.
- In south India, Rev. Newton during 1911-1917 trained several beekeepers and devised a hive for indigenous bee *Apis cerana* based on principle of bee space (which was named after his name as “Newton hive”).
- Beekeeping was also started in the Travancore state (now Cochin) in 1917 and in Mysore in 1925.
- In Himachal Pradesh modern beekeeping with indigenous honey bee *A. cerana* started in 1934 at Kullu and in 1936 at Kangra.
- The exotic bee *A. mellifera* was successfully introduced for the first time in India in 1962 at Nagrota Bagwan (then in Punjab state and now in Himachal Pradesh), because this bee has potentials to produce more honey.
- At present both the hive bee species are being used in modern bee keeping and lot of honey is also being collected from the wild bees viz. *A. dorsata* and *A. florea*.
- India is producing approximately 70000 metric tons of honey annually from all the four species of honey bees.