



Station 2

THE HIVE AS A SUPERORGANISM

Structure of the hive and life inside it

Visual scheme of a hive

Key parts:

- Roof – protection from weather conditions
- Honey super – the upper part where bees store honey
- Brood chamber – the lower part where the queen lays eggs
- Honeycomb – wax cells for brood and honey storage
- Entrance – the opening of the hive where defense takes place



How is a queen bee created?

Every queen develops from a fertilized egg.

The difference between a worker bee and a queen lies in the diet:

- If the larva is fed exclusively with royal jelly, it becomes a queen,
- If the larva does not receive a constant diet of royal jelly, it becomes a worker

This means the colony actively selects a new queen when:

- The old queen weakens
- Swarming occurs
- The colony loses its queen



Defense against predators

Hornets

- Bees surround the hornet
- By vibrating their muscles they raise the temperature above 45°C
- The hornet dies from overheating

Wasps

- Guard bees attack them immediately at the hive entrance.

Mice

- Bees narrow the hive entrance
- This prevents larger animals from entering.

During an attack, bees release an alarm pheromone that mobilizes the colony's defense.



The role of drones

Besides fertilization, drones:

- Help maintain the temperature inside the hive,
- Contribute to the genetic diversity of the population,
- Assist in warming the brood.

In autumn, worker bees expel them from the hive because they would consume valuable food reserves during winter..

Did you know?

Bees can remember the face of a predator and react faster the next time.