

The Wonderful World of Bees

with James Donaldson

James Donaldson, of the Fleet and District Beekeepers Association gave a lively and informative talk that inspired at least one member to consider taking up beekeeping.

James, who is studying to be a Master Beekeeper, lives in Fleet and has been keeping bees for 10 years; he currently keeps six hives in Crookham Village. He teaches beekeeping to beginners and is a member of the Training Apiary Management Team, making him an ideal guide to the fascinating world of the honey bee.

He began by explaining that bees belong to the same family as wasps, ants and termites. Because our native honey bees were virtually wiped out by Isle of Wight disease, those kept now are European honey bees, in colonies consisting of 5-6000 individuals comprising one queen, drones and workers.

The queen is essentially an egg-laying machine, producing 1500-2000 eggs each day, which actually exceeds her body weight. She is fed by workers and secretes pheromones to indicate her health; a healthy queen is vital for a healthy colony. She mates when only a few days old with 12-20 drones, and thereafter her life, extending to three to four years, consists entirely of egg-laying. The beekeeper will colour mark her according to her year of birth, to keep track of her productivity.

The workers are all female daughters of the queen and half-sisters to each other who have a life span of just six weeks. The first three weeks are spent in the hive, where they clean, regulate temperature, store pollen, provide protection and process honey. The next three weeks are spent foraging for pollen and nectar. Workers are sterile and have a deadly sting.

Drones are male bees that develop from unfertilised eggs from late spring until mid-summer. They have huge eyes and large abdomens, and no sting. Their sole function is mating, and they die in the act. Those who fail to mate are expelled from the colony and also perish.

James went on to describe some of the features and behaviours that make bees so fascinating. For example, bees have compound eyes that can see into the ultraviolet part of the spectrum, a facility that guides them to flowers. And their polarised vision means they are able to fix their location very accurately.

Since 90% of plants need animals/insects for pollination, plants and pollinators evolved together, with the first bees appearing some 80-100,000,000 years ago. They are now key pollinators, their hairs collecting pollen from one flower and distributing it to others as they collect nectar, and a colony may visit 200,000 flowers in a day. There are around 30,000 beekeepers in the UK, and about 70 crops depend on, or benefit from, bees.

Scout bees seek sources of nectar, which is pure sucrose, and mark the flowers with their scent. They then return to the hive where they perform their distinctive dance to indicate the direction and quality of their find. Honey is processed from the nectar. It is mixed with enzymes in the bees' stomachs and then stored in the comb, where it matures and begins to dry out. When it reaches 17% by volume, it is sealed up and stored for the winter. It keeps so well that honey has been discovered in the tombs of the Egyptian Pharaohs, dating back 3-4000 years.

Honey is highly antiseptic, makes excellent wound dressings, is good for intestinal disorders, does not degrade, has multiple active properties and is very nutritious; consequently, it has been prized throughout human history. Local honey is also useful for desensitising allergy sufferers.

Beeswax is a useful by-product that is melted to make candles, polishes and cosmetics. It is produced in special glands in the abdomen and used to form cells for both brood and honey storage.

As we are all aware, the honey bee is facing a number of serious problems: loss of habitat; varroa mites; climate change; pesticides. James told us that we can help by planting bee-friendly plants such as willow, hazel, herbs, buddleia and borage, by avoiding pesticides, and by becoming beekeepers!

He traced beekeeping from prehistoric cave paintings through traditional 'skeps', dating from at least medieval times and kept in bee 'boles' in walls for protection, to modern hives, an example of which he had brought along.

James ended by telling us why we should consider beekeeping ourselves; it is fun and interesting, it benefits pollination and thus the environment; it is a key indicator of plant health; wild honey bees are nearly extinct; delicious honey (he had brought along plenty for us to buy). He encouraged us to contact Fleet Beekeepers for

more information and for details of forthcoming courses in beekeeping: <http://www.fleetbeekeepers.com>