

THE WORKERS.

The worker-bees are undeveloped females. They are hatched from a fertilised egg just like a queen, but at the end of the third day of the larval stage they are put upon a less nutritious diet which retards the development of the sex organs, hence they are unfit to become mothers. Their business is to carry in nectar, pollen and water, incubate the eggs, feed the larva, do the scavenger-work of the community, ventilate the apartment; in fact, do anything useful that happens to be necessary at the time. In the period of flight they live about six weeks, their short career being due to their intense industry, but those hatched in September and October generally last until April, when their successors appear on the scene. Broadly speaking, the main effort of the community is to have as many producers as possible during the honey-flow, and as few consumers as will keep the community going during the period of dearth.

THE DRONES.

The drones are the male members of the colony. They are called into existence in late spring in preparation for the mating season, and are mercilessly exterminated at the end of the honey-flow. From their structure they are unfit to gather nectar or pollen from blossoms, so the bee-keeper considers them as merely consumers, and rather costly ones at that; therefore, he limits their number as closely as possible to the actual needs of his apiary. By the use of wax foundation in the brood-frames he prevents the building of drone-cells; should the bees outwit him, he cuts the drone-comb out of the frames.

The mating of a queen with a drone occurs usually only once, when she is but a few days old, the event taking place in the air. When she makes her marriage flight, she flies swiftly away from the hive pursued by thousands of drones, the swiftest of them being the winner of the race; but he pays for his success with his life, for she deprives him of the sex organs, rupturing his abdomen so completely that he expires almost immediately. As the result of the intercourse, she is able to fertilise the hundreds of thousands of eggs she may lay in the course of her life, which may endure from a few weeks to several years.

Worker-bees are produced from eggs that have been fertilised, but drones are raised from eggs that have not been impregnated. These, therefore, have no father; consequently, any queen that has failed to mate, and this is not very unusual, will be the mother of drones only. Such an one is known as a drone-laying queen.

DEVELOPMENT TABLE.

The following table shows the duration in days of the various stages of development of queen, worker, and drone:

| | Egg. | Larva. | Pupa. | Total Time. |
|-------------|------|--------|-------|-------------|
| Queen..... | 3 | 5½ | 7 | 15½ |
| Worker..... | 3 | 5 | 13 | 21 |
| Drone..... | 3 | 6 | 15 | 24 |

From the start the novice will know the workers, as in suitable weather they are continually moving in and out of the hive. Drones appear about the 1st of May. They are bigger than the workers, fly generally in the heat of the day, making a loud hum, from which their name is derived. The queen never leaves the hive excepting to mate or with a swarm; therefore, to be seen she must be looked for on the frames. She is easily found in the spring months when the colony is weak in numbers, but rather difficult to find in the height of the summer. Once seen she will be readily recognised, as her abdomen is very much longer than that of the bees that surround her. Also, she moves very slowly, especially when she is laying freely, as she is then heavy with eggs. There is but one queen to a hive.