

Vol 5

NEW ZEALAND HONEY



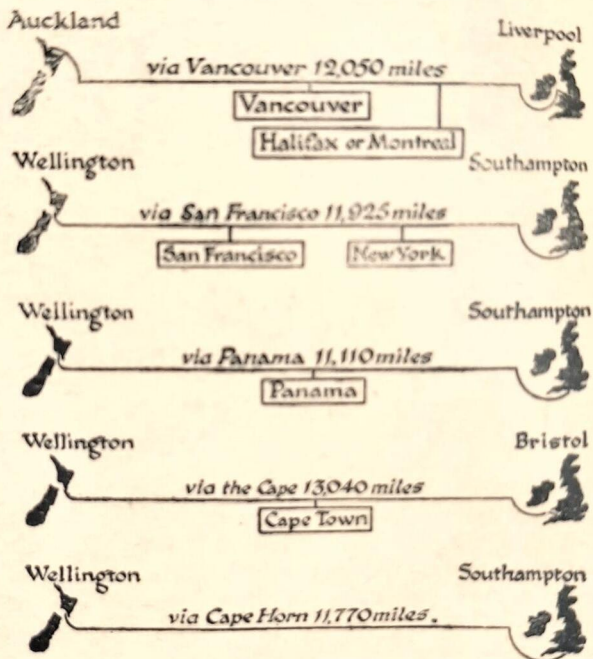
My son, eat thou honey
because it is good.

Pleasant words are as
an honeycomb, sweet to
the soul, and health to
the bones.

From the Proverbs of Solomon

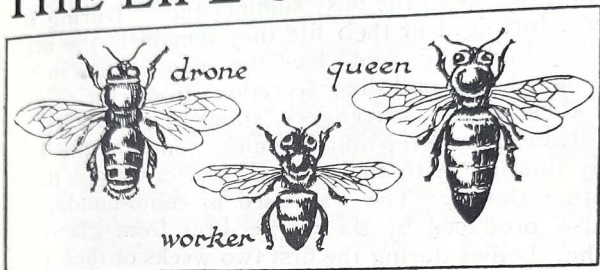
Issued by the Agents of the N.Z. Honey Export Control
Board, Colonial House, S.E.1.

ROUTES FROM NEW ZEALAND TO BRITAIN.



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THE LIFE OF THE BEE



THERE are three kinds of bees. A hive of bees contains: (1) a single fully developed female bee, called the queen, who is the mother of the whole colony; (2) a number of worker-bees, who are really undeveloped females (neuters). These range from a few thousand in a wild bees' nest to as many as 40,000 or 50,000 in a modern stock, or colony; (3) two or three hundred drones or male bees.

The queen-bee is the only one in the hive to reproduce her species. She is larger and longer in the body than the workers. She has a sting which she seldom or never uses except against a rival queen. She is capable of laying the incredible quantity of 2,000 to 3,000 eggs per day in the breeding season, these eggs weighing equivalent to or more than twice her weight daily. Fertilized eggs hatch out into workers, and unfertilized eggs as drones. She may under certain condition live for several years.

The Worker-Bees : The worker-bees live 6 or 7 months in the inactive winter season to only as many weeks in the busy summer-time. During the first fortnight of their life they remain in the hive. They build the comb, feed the young grubs in the cells with a milk-like secretion from their own bodies, act as scavengers, stand as guards at the entrance, to keep out enemies, ventilate the hive by fanning with their wings, and carry out many other duties. The wax used in comb-building is also produced by the worker-bees from glands in their bodies during the first two weeks of their existence. Afterwards they become nectar-gatherers. The nectar is placed in the comb-cells after being acted upon by the glands of the bee and, by a process of brewing, becomes honey. They also gather



pollen which is the fertilising dust of flowers. This is kneaded into little lumps, which the worker-bee brings home in the "baskets," which are at the middle joints of the hind legs. The pollen also is stored in the cells and employed as food by the whole hive, but mainly as the nitrogenous part of the larval food. A third substance found in a beehive is called propolis or bee-glue. It is used as an adhesive or varnish. It was formerly supposed that the worker-bees gathered this sticky matter entirely from certain resinous trees, but it is now fairly certain that the worker-bees also secrete it in their bodies as they do wax.

Propolis is used for closing up cracks, sealing down intruding snails, slugs, lizards, etc.

The Drones: The drone or male bee has a very burly appearance; he has no sting, no pollen baskets and no wax glands. His two big compound eyes are like black pearls which meet at the top of his head. His sole function is to mate with the young Princess and in this act he meets his death. He is very strong, has a big appetite, is very powerful on the wing and does not alight until he returns to the hive. There are about 200-300 drones in a normal hive. When autumn comes and the honey-flow has ceased, they are not required on account of their big appetites, and hence they have to be expelled. They are first starved, then driven out and mutilated until they die.

Combs and Comb Building : When the worker-bees begin to make comb, they first attach themselves in a dense cluster to the upper part of the hive, and there remain quiet while the wax generates in their wax-glands. During this time much honey is consumed, and the temperature of the hive greatly increases. The comb consists of a double wall of horizontal cells placed back to back. The cells are six-sided and measure about one-fifth of an inch across in the case of cells intended to hold worker-larvae, and a quarter-inch across in those used for drone-grubs. In addition there are transitional cells. Each young queen

is given a roomy apartment of her own, of the size and somewhat of the shape of a large acorn. This is usually suspended mouth-downwards from the lower edge of the comb. The queen lays her eggs in the cells. The grubs are hatched by the heat of the hive and are fed by the workers until fully grown. They then spin a silken cocoon and turn into pupae, after having been sealed in by the workers. The cappings which shut in the young bees, are made of a mixture of wax and pollen. When the young bees are fully developed, they cut their own way out. The cappings to honey-cells are made of wax only.

The advantage of the six-sided cell is that this shape requires a less expenditure of wax than any other; it is the most economical shape.

The Food of the Bee: It is generally believed that the normal food of bees consists of honey and pollen, but this is not strictly correct. The normal food of bees is fresh nectar and fresh pollen. But as these can only be obtained during the summer season in northern countries, the bees supply their winter needs by storing in their combs, a sufficient amount of nectar in a condensed and chemically changed condition. This is what we call honey; but honey is only a winter-ration to the bees, whilst we eat it all the year round. The bees preserve the pollen by packing it into the cells and placing a layer of honey over it to protect it from decomposition.