

## THE Drone

There are Three types of bees that make up the colony: The Queen, The Worker and The Drone.

Of these three, the Drone is the least talked about at bee meetings and at gatherings where bees are discussed. I suppose one of the reasons they are the least talked about is because the Drone does not possess the usual bee characteristics. He has no stinger to defend himself, no pollen baskets to carry pollen. He cannot feed himself and has to be mouth - fed by his sisters, which takes a while since the Drone is a very heavy honey eater. In the fall he is driven from the hive and starves to death, so he is no threat to anyone.

His behavior patterns are few and simple, as far as we know, and his only function in his short three to four months life cycle is to mate and fertilize with the young Queens, after that he dies. However, I always feel the Drones have much more use to the colony than we appreciate, since colonies which are denuded of Drones have never seem to function normally , and the Workers will become lazy and will be less productive. It seems to me, they have more than one function in the hive.

Drones fly out of the hive when the weather is reasonably warm and fine. They fly about thirty to ninety feet above the ground, depending the weather conditions. The Queens on her mating flight, flies straight up to the level of the Drones. Once she reaches the Drones, "layer of males" they are attracted to her by the sent of the substances (pheromones) produced in her mandibular glands. They form a "comet trail" behind the Queen and chase her by sight till they get within approximately three feet of her.

The first Drone to reach her is stimulated by another sent of unknown composition produced by the Queen, which causes him to mate with her. At the time of mating, the Drone's genitalia enter the Queen and he literally explodes, separating the queen from himself, at which time he dies. The genitalia remain in the vaginal opening of the Queen, with the torn end projecting from the tip of the Queen's abdomen. This is what is called the "mating sign". The Queen, however, does not mate with just one Drone, but on average with several about five to fifteen. She will then continue mating until her spermatheca is filled with sperms.

In all species of life, it is the female who does most of the rearing and protecting of the young, The males on the other hand are used for breeding and to keep the "line" going. It is usually the biggest and strongest who are involved with this chore.

So with the Drone his only main function for the survival of the Colony is to mate and fertilize the Queen.

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