

the end of August it will have fully regained its normal strength. From that time onward the queen will gradually contract the space occupied by brood, and after the young bees hatch in the outer frames, the cells are left unoccupied or are filled with Autumn honey. Just as the space occupied by brood is enlarged in the Spring by the queen from the centre outwards, so it is contracted from the outside to the centre as the Autumn draws near. This contraction is necessary because in September, though the days may still be warm, the nights are liable to be cold and frosty, thus causing the bees to cluster in a compact mass, as during the winter, for the sake of warmth, and brood in the outer combs if left uncovered by bees would certainly perish. Before the autumn is too far advanced it is always advisable for the beekeeper to make sure that none of his colonies have become queenless, or are in even a worse condition, viz., that of having a drone laying queen; and also to make equally sure that they have sufficient honey to carry the bees safely through the long winter. When a virgin queen leaves the hive for the purpose of mating, she sometimes fails to return and such colonies must be promptly provided with another queen, otherwise they will soon dwindle away and become a prey to the bees worst enemy, the larvae or grubs of the bee-moth (*Galleria mellanotis*.)

Under normal conditions bees will always provide themselves with a new queen when necessary, but in order that they may be able to do this successfully there must be either worker eggs or very young worker larvae in the hive and a fair number of drones still in the apiary. When the season is far advanced and the drones have all or nearly all disappeared, this method of re-queening with a virgin queen cannot be recommended, owing to the uncertainty of her finding a mate. If the colony is worth saving it will be better to purchase a mated queen from some reliable dealer, rather than trust to chance. When a virgin queen fails to mate within a few weeks after hatching, she becomes what is known as a drone layer—eggs laid by such a queen are deposited in a most irregular manner, sometimes two, three or even more in one cell. Another peculiarity is that while these eggs produce *only* drones they are usually deposited in worker cells instead of drone, with the result that the inmates when hatched are little more than half their normal size owing to not having had sufficient room to attain their full growth.

A colony which has been in possession of a drone laying queen for three or four weeks is in a sad plight and certainly not worth trying to save as it will probably contain only a few hundred bees and a varying number of dwarfed and useless drones.