

fourteen filled sections. At the end of September the colony was removed into an ordinary outside hive for wintering, the queen being unfortunately lost in the transfer. I will now refer to certain points which may be of interest.

The queen when laying invariably turned herself round so as to be head downwards on the comb. The time occupied in depositing the egg and getting clear of the cell varied usually from twenty-five to thirty-five seconds; very seldom as little as twenty-five and occasionally as much as forty-five. In the brisk season the laying seemed to go on throughout the twenty-four hours, but with intervals of varied duration. I often observed at night, but never through the twenty-four hours. The "Guide Book," supported by other books of instruction, says that the queen is capable of laying from 2,000 to 3,000 eggs a day. I do not dispute it, although it would be interesting to know how the conclusion has been arrived at. But whether capable or not, it seems to me improbable that the number of 2,000 is ever reached. Suppose the queen to lay for eighteen out of the twenty-four hours, resting only six. At the rate of two eggs a minute the number laid would be 2,160. Now this would be possible only when that number of cells should be ready for her, empty and adjacent. This implies about eighty-six square inches of unoccupied worker comb, in itself a not unreasonable condition; but it must be remembered that the queen would not settle down to wholesale laying unless honey and pollen were coming in plentifully. When this is the case, a competition for the empty cells arises between queen and workers, and here and there she will soon find a cell blocked. A grain or two of pollen or a trace of honey suffices. Again, bees are not methodical, and

as a queen is found on dissection to be poorly supplied with brains as compared with a worker, it is not surprising to find her travelling rather aimlessly along the combs and examining cells in which she has recently laid an egg. She will therefore soon cease to get in her two eggs a minute, and I think it will be found that she spends more time in looking for cells than in laying. For the above reasons it seems to me probable that a queen rarely lays more than 1,000 eggs in twenty-four hours.

It is well-known that a queen when fully primed for laying is unable to retain her eggs. I saw my queen in this condition. The egg was deposited or rather dropped on to the outside edge of the cell, and was at once seized and devoured by an expectant worker. Once only did I see two eggs deposited in the same cell; one of them subsequently disappeared.

Last summer I brought home a laying queen from a neighboring apiary. She was in full laying condition, and laid several eggs while on my hand, so that it was easy to watch the operation through a good magnifying glass. The use of the sting as ovipositor was very evident. The queen seemed to be surcharged with eggs, but having no cell wherein to place them she retained them as long as possible, so that at one time she had to the best of my belief, no less than four eggs loose within the cavity of the last segment of her abdomen. After watching her for a considerable time I remained in doubt whether or not as long as no more than two eggs at a time were loose she retained the power of depositing an egg singly. On the other hand, although three could be retained in the cavity they came out confusedly. While I was watching her, an egg protruded for a few seconds without leaving her body and was retained until no less than

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