

few minutes to an hour, depending not on the distance she has to go for flowers. When she returns and enters the hive one of two things or both almost always occurs. She may stop in a wild dance for a minute or more, consisting of a vibration of the lateral motion of the abdomen. This seems to be for the purpose of preventing the other workers from robbing her of her pollen. At least, when she is going through this performance the other workers are generally arranged around her, making an occasional diversion of her pollen baskets. But this apparent attempt at robbing seems to be motivated as often by her dancing as the reverse, for she often begins the same when no other workers are near to the other. After this, or in place of it, she usually spends a minute or two in thoroughly barbering herself, and then proceeds to find a pollen cell and untypical twigs.

a map of the distribution of her activity
 "1. After the twenty-four hours of the day have the results of the observations. Barbering, as stated before. The eight marked moves were watched on an average of twenty-four hours each. But they were generally watched twenty minutes every hour, instead of every hour, and at the times when they were apt to leave the hive they were watched all the time. Only seven figures in the results of the next day, which gives the average time in resting for the different three periods of the day, figured on a thirty-minute basis:

A. M.	P. M.
11-3 3-6 6-9 9-12 1-3 3-6 6-9 9-12	
rest 11-3 1.97 1.44 1.06 .75 1.68 1.14 2.29	

With the exception of the 6-9 p.m. period, this gives a fairly even curve. The low figure of 1.14 is undoubtedly,

I think, accidental, and would disappear in the results of more extensive observations. The remainder would seem to indicate that they do about twice as much resting from 9 p.m. to 3 a.m. as during the rest of the time.

The number of bees resting in the whole hive were also counted every hour of the day and night for forty-eight hours, but this was done in about twelve-hour sections, on different days, so that the results are not of a continuous twenty-four hours' observation. The number of resters thus to be counted at the same hour on different days seems to vary very greatly, and a more even curve would be obtained from a larger number of counts. It is not very easy, in fact impossible, to make an accurate count, because of the fact that they will be resting one-half minute and moving about the next half minute, while it takes about fifteen minutes to complete the count. Besides, many are often in the cells and others so thick on top that the cells cannot be seen. However, this, a considerable source of error, should not differ much from hour to hour, so that the relative number counted from hour to hour would remain the same, and thus not affect the results except in absolute numbers. The following are the results of the counts. The figures are average number of bees resting at the different hours of the day and night:

A. M.				P. M.			
11-3	3-6	6-9	9-12	1-3	3-6	6-9	9-12
778	746	374	327	217	328	493	680

These figures disagree with the results of the observations on individual bees in so far as in the previous table the maximum amount of resting at any time was only about two and a fourth minutes, while this table shows that