

per, and then the colony became very quiet. In the three or four days following this the temperature was lowered from 62° to 56°, and all but three or four bees of the cluster had retired to the inside of the papers.

On account of some manipulations I wished to make with some other colonies, I continued to lower the temperature toward 50°, and as these bees had gone inside the hive, I thought a lower temperature would be cold on them, and I accordingly laid on the top of the papers a new half inch pine board that was warped so as to leave a space under it like a Hill's device.

In lowering the temperature it was necessary to be absent about two hours; when I returned and was surprised to find this colony (previous, so still) now making a great uproar. On raising the board it was found to be warped exactly the opposite from what it was when put on, and hundreds of bees crowding in under it, and the paper had been removed for a space larger than my hand. The board was set on one edge against the hive, and there was immediately began the contented hum, and march back into the hive.

Although I brought a bright lamp and set it on one corner of the hive, only one or two bees paid any attention to the light. The temperature was then 52°. When the bees had become settled a piece of writing paper was laid over the hole the bees had now made in the papers, and it was soon torn, and as the bees went at it in great force, it was crowded entirely out of the way, and the bees went back amongst the combs and became quiet, and did not enlarge the hole they had made in the paper.

One thing of importance noticed, when the bees were in this uneasy state, and trying to remove the cover was, that quite a number of bees, perhaps 50 or 75, crawled out on the cover papers, away from the rest of the bees, and dropped their excrement, just as the bees in a diarrhetical colony will crawl upward above the entrance to the hive and void the same.

There is a peculiar motion among the individual bees when they leave the cluster for this purpose—they seem to have only one idea or thought, which is to get out and separate from the rest of the bees. They came threading their way through, turning this way and that, to get past other bees, while the main throng were marching the other way, keeping up a joyful hum. They appear about as heedless (or, perhaps, as headless) as people escaping from a burning building.

After evacuation they remained motionless as if contemplating whether to wander further away from the hive and die, or return and undertake to live in it again. Hearing the hum of contentment set up by the other bees, they would turn their heads to one side and then to the other, and then scrambled back toward the brood combs quite lively.

The bodies of these bees were not excessively distended. They could take wing easily and fly all around the room. Now the question comes up: Was this diarrhoea or healthy evacuation of the intestines?

It looks to me as if there was some kind of atmosphere in the hives that caused it, and that the board and paper I laid on caused it to accumulate in the top of the hive. The entrance,  $\frac{1}{2}$  x 16 inches, was wide open. Our, supposed to

be, best authorities say that "noisome gases and vapors escape at the bottom of the hive." When the coverings are removed, the stench from the colonies rises to one's nostrils.

It looks as if this may have been a healthy colony. Still it would have been charged as being afflicted with diarrhoea. I have noticed some diarrhetical appearing colonies which seem to be in bad condition, that lived until Spring and then built up to good colonies. Other times they dwindled out in spite of all that could be done. One seems to be tenacity to life, and the other tenacity to death; yet they are mistaken for the same sort of affection.

As I was about to close this article the thought came to me to test the temperature of this colony in both its quiet and disturbed conditions. On going to the colony, now, after it had been quiet five days, I found the thermometer where I had left it above the cluster, lying on top of the brood frames, with bees on both sides of it, and two or three around the bulb, and it registered 59°. When it was raised one-half inch above the frames it was 58. Another thermometer which leaned against the hive and rested upon the floor of the repository registered 57°. Four feet above the floor it registered 60°.

Twelve hours ago it was 64°. Not disturbing the thermometer lying on the frames, a piece of newspaper was quietly laid over it, and then several thicknesses of quilts over the paper. After ten minutes the mercury had risen from 59° to 61°. At the end of 45 minutes it was 68°, with considerable excitement. At 75 minutes it marked 78°, and was still on the rise, and the quilts and paper were taken away.

Two healthy colonies were tested under quilts, and in one the temperature was 63°, and in the other 61°. Two colonies which were afflicted with diarrhoea three weeks ago, and kept up an uproar for ten days before they were set in the warm repository are now comparatively quiet, and the temperature under the quilts was 64° in the one, and 66° in the other. One of them objects to any covering to the brood chamber.

As Mr. Muth speaks on page 191 of being tired of speculative articles, and having advanced more or less theory in some former communication, in this I have intended to deal with facts only.

Clinton, Wis., Feb. 23, 1892.

FOR THE CANADIAN BEE JOURNAL.

#### Report From Bruce County

**D**EAR EDITOR,—I am happy to report that my bees are in first-class condition. They had a grand cleansing fly on the 21st, 22nd and 23rd. I took the opportunity to examine them, and found them all with plenty of stores, and strong in bees, with considerable brood and some young bees hatched. I never saw them better at this time of the year than at present. Bee-keepers here are commenting on the action of the O.B.K.A. in regard to the N.A.B.K.A. They were sorry to sever the tie, but when they read Mr. Pond's letter on first page of the C.B.J. of the 15th, I think they will see that it was the proper thing to do.

A BRUCE BEE-KEEPER.

Walkerton, Feb. 26th, 1892.