

19th: the swarm came out, hived it on foundation and placed it on stand and next day took a peep into it to see if combs were in shape. Bees all right. Next day I opened the hive, and lo! behold, my hive was empty. I examined the combs and found about fifty cells with eggs in. Don't know when the swarm left, but suppose it was on the afternoon of 21st. Now I think these are strange freaks for bees under the circumstances.

R. H. JOHNSTON.

Lyn, July 27th, 1885.

P. S.—These were all first swarms.

The supposition is that the old queen was superseded in the parent colony just before swarming, then as the young queens hatched, the old colony swarmed taking out several young queens with it. They usually kill off all the queens except one, but on rare occasions they divide, part of the swarm protecting one queen, and part the other. This seems to cause a commotion in the hive, and one of the queens will perhaps leave with a portion of the bees, making a small swarm. We think they left the hive in the second case on account of the unusual heat. If you had shaded it entirely, pouring a couple of pails of water on and about the hive, the rays of the sun would have had less effect, and they might have remained. A few pails of cold water poured on the ground, hive, bushes, or shading board about the hive cools the atmosphere. When the hive becomes heated it gives the bees a disposition to stray, and an application of cold water will keep many colonies that would otherwise leave for the woods. If you had had your queen's wings clipped or at least all the old queens, it would have prevented them from leaving. We are fully convinced that it was on account of the warm weather and heat in the hive that the third swarm left. It certainly seems rather strange that you should have three leave. We believe we have not had three leave the hives in as many years. Swarms when first hived can be

made to leave the hive or swarm out by giving them too little room, or if there is too great an amount of heat. This may be prevented by any process which keeps them sufficiently cool.

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### OBSERVATIONS UPON DRONES.

REV. L. L. LANGSTROTH.

**B**EVAN says that the drone hatches on the 24th or 25th day after the egg is laid. I know of nothing more definite on this point.

To get more precisely the facts, on the 16th day of last July, a drone comb was put, at 7 a. m., centrally in a strong colony, which had been fed for several days, as the drones were being expelled from many hives. At 9 a. m. the queen was found on that comb, having laid three eggs. She had just begun laying. At nine a. m., on July the 17th, it was removed to a strong colony, without queen, eggs or larvae. On July 27, many cells were capped, and on July 28, at 2 p. m., some 200 were capped, many eggs having, for some cause, disappeared. On Aug. 9 none had hatched. On Aug. 10 examinations were made every hour. At 5.30 p. m. none had crawled out; at 6.30 two had hatched, and a third was hatching. If these drones came from the first eggs laid, they took about 25 days and 8½ hours to develop.

At 6 a. m. on Aug. 11, many more had hatched, and at 6 a. m., on Aug. 12, all but 17 had hatched. At 6.30 p. m. all but 2 had hatched, and at 6.30 a. m. of Aug. 13, the last one was found with the cap off, trying to crawl out; it was strong and perfect. Now if the egg producing this drone was laid just before the comb was removed, then it took nearly 27 days to mature.

During the whole time of these observations, the weather was of the most favorable kind—the thermometer ranging nearly every day above 80° Fahr., and being only once as low as 62°. The colony was kept in good heart by daily feeding, and I can think of nothing which could have retarded in the least the development of these drones unless possibly the fact that from so many eggs having disappeared, they were not as compact in the comb as they otherwise would have been. In this observation, although there could not possibly have been more than 24 hours difference between the laying of the first and the last egg, there was about two days and a half between the hatching of the first and the last drone.