

control of the combs ; for, by removing the drone-comb, and supplying its place with worker-cells, the over-production of drones may be easily prevented. Those who object to this, as interfering with nature ; should remember that the bee is not in a state of nature ; and that the same objection might, with equal force, be urged against the killing off of the supernumerary males of our domestic animals.

Soon after the harvest is over, or if there is a lull in the yield of honey, the drones are expelled from the hive. The worker-bees sting them, or gnaw the roots of their wings, so that when driven from the hive, they cannot return. If not ejected in either of these summary ways, they are so persecuted and starved, that they soon perish. At such times they often retreat from the comb and keep by themselves upon the sides or bottom-board of the hive. The hatred of the bees extends even to the unhatched young, which are mercilessly pulled from the cells and destroyed with the rest.

*Healthy colonies almost always destroy the drones, as soon as forage becomes scarce.* In the vicinity of Philadelphia there were only a few days in June, 1858, when it did not rain, and in that month the drones were destroyed in most of the hives. When the weather became more propitious, others were bred to take their place. In seasons when the honey-harvest has been abundant and long protracted, we have known the drones to be retained, in Northern Massachusetts, until the 1st of November. If bees could gather honey and could swarm the whole year, the drones would probably die a natural death.

How wonderful that instinct which, when there is no longer any occasion for their services, impels the bees to destroy those members of the colony reared with such devoted attention !

It is interesting to notice the actions of the drones when they are excluded from the hive. For a while they eagerly search for a wider entrance, or strive to force their bulky bodies through the narrow gateway. Finding this to be in vain, they solicit honey from the workers, and when refreshed, renew their efforts for admission, expressing, all the while, with plaintive notes, their deep sense of such a cruel exclusion. The bee-keeper, however, is deaf to their entreaties ; it is better for him that they should stay without ; and better for them--if they only knew it--to perish by his hands, than to be starved or butchered by the unfeeling workers. Towards dark, or early in the morning--when clustered, for warmth, in the portico--they may be brushed into a vessel of water, and given to chickens which will soon learn to devour them.

Drones are sometimes raised in work-er-cells (150). They are smaller in size but apparently as perfect as the full-size drones, all their organs being well developed.

For the stages of development of drones see the comparative table at the end of this chapter.

We have repeatedly queried, why impregnation might not have taken place *in the hive*, instead of in the open air. A few dozen drones would then have sufficed for the wants of any colony even if it swarmed, as in warm climate-, half a dozen times, or oftener, in the same season ; and the young queens would have incurred no risks by leaving the hive for fecundation.

For a long time we could not perceive the wisdom of the existing arrangement ; although we never doubted that there was a satisfactory reason for this seeming imperfection. To have supposed otherwise, would have been entirely unphilosophical, when we know that with the increase of knowledge many mysteries in nature, once inexplicable, have been fully cleared up. "