

canus and at a time when the *curvispinosus* brood may consist principally or entirely of larvae). I have not determined whether the *duloticus* reject captured male and female pupae as do the *americanus*.

IV. OBSERVATIONS ON MIGRATORY FEMALES.

The nuptial flights took place from the 2 colonies in the artificial nest on September 4th and 5th, 1938, at about 3:30 P.M. Both days were clear and warm (about 82° F.), but not sultry or humid. The box in which the nests were placed had remained in the sunlight during the early morning and in strong, diffuse daylight during the late morning and afternoon.

In an attempt to determine the method of colony formation, 4 females were very carefully dealated at 4:30 and placed in a box containing a *curvispinosus* colony (1 dealate female, 7 workers, 15 pupae and 1 or 2 larvae). For 2 hrs. they ran quite actively over the sides and top of the box; then their activity began to subside and they showed a disposition to gather in crannies or in corners. This change was noted even though the nest was kept warm and illuminated under an incandescent light bulb in order to eliminate any influence due to the fading of daylight. By 8:00 P.M. all the females had taken shelter in cracks or in small sections of hollow weed stems provided them. They remained hidden during the night and did not reappear until the middle of the following afternoon, about the time that the nuptial flight had taken place the preceding day. Again they ran rapidly and somewhat erratically around the nest, taking shelter after a few hours, to repeat the performance on the next day. When they were active during the late afternoons, the females ran about over the *curvispinosus* nest, but showed little interest in it. Occasionally a female came upon the entrance and inserted her antennae, but invariably fled precipitately when snapped at by the *curvispinosus* workers. A group of 5 *curvispinosus* pupae in a small chamber was made accessible to 1 of the females. She entered, walked about in the nest chamber, "sniffed" casually at the pupae, and left, after being in the chamber about 20 to 30 seconds. Two pupae were offered to a female after she had taken refuge in a stem for the night. She smelled them rather casually and, after a few minutes, dragged them part way into the entrance, but deserted them when she left the twig on the following afternoon. On succeeding days the females spent more and more time in their hiding places and finally ceased entirely their afternoon sallies about the box. At no time did they show any interest in the *curvispinosus* nest.