Card Marking	*No. of Cocoons*	*Substances Impregnated*
C	7	Caproic acid
F	6	Formic acid
M	7	Methyl benzylamine
O	5	Oleic acid
L	7	Control

Immediately on exposure a worker on the crater seized one control and dragged it inside the nest. A second worker, encountering an oleic-acid-treated cocoon, started away. At 7:32, 1 caproic-acid-treated cocoon was dragged into the nest, followed at 7:35 by a second control cocoon. At 7:37 a cocoon from the formic acid group was taken to the nest. Between 7:37 and 7:40, 3 additional formic-acid-treated cocoons were taken into the nest, and one-half minute later the last control cocoon was taken in. One of the remaining two formic acid cocoons was inadvertently toppled into the nest by another worker, leaving 1 on the card. The other groups were untouched. At 8:02 p.m., when darkness forced cessation of observation, all cocoons treated with oleic acid, methylbenzylamine, and five of those with caproic acid remained in place on the cards. One cocoon treated with caproic acid had been deposited with the oleic-acid-treated group.

At 6:00 a.m. the following day, 3 of the caproic-acid-treated cocoons had been removed, but it was not possible to determine whether they had been taken into the nest or discarded. Some grains of earth had been scattered on the caproic-acid-treated card.

Observations were continued throughout the day, but no further attention was paid to the remaining cocoons. However, when the cards were removed from the crater at 7:00 a.m. on the third day, it was found that a new entrance-hole had been excavated under the card carrying the oleic-acid-treated cocoons.

It was clear that oleic acid, caproic acid, and methylbenzylamine effectively inhibited return of the cocoons to the nest by the workers, in marked contrast to those treated with formic acid and the controls, which were brought in promptly. Digging behavior was observed in the vicinity of oleic acid. In these experiments, however, the oleic acid objects were not buried nor transported to kitchen middens — perhaps because such middens of *M. vindex* are often located near the nest entrance. Indeed, it is an interesting behavioral characteristic of *M. vindex*, at least in this population that, at the seasons of maximum brood production, empty cocoons and pupal exuviae are frequently piled near the nest entrance. That this disposition may be more than accidental is suggested by the behavior of some colonies