

LABORATORY CULTURE METHOD OF THE GHOST ANT, *TAPINOMA INDICUM* (HYMENOPTERA: FORMICIDAE)

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Abstract The ghost ant, *Tapinoma indicum*, is a well-known tramp species and is highly adaptable in its nesting habits where it readily settles outdoors and indoors. As a tropical species, *T. indicum* may be sensitive to extreme abiotic conditions such as low relative humidity and temperature. The objective of this study was to develop efficient culturing methods that permit quick production of large numbers of healthy ghost ant colonies. Since ghost ants are sensitive to desiccation, the design of the ghost ant culturing methods was based on maintaining moisture and temperature. The difference among the four methods was the design of the artificial nest; (A) the petri dish method (B) the test tube method (C) the vermiculate method (D) the plaster of Paris method and (E) the paper towel method. Each method was replicated four times with each experimental colony comprising 4 queens, 500 workers and 0.05 g brood. Experimental colonies were kept in aluminium trays (40.0 x 24.5 x 8.0 cm) with water and foods given *ad libitum*. In method A, a petri dish was used as the artificial nest with corrugated paper as harbourage while in method B an open-ended test tube (diameter of 1.5 cm and 15.0 cm in length) bunged with moistened cotton at one end was used. In method C, a sack (6.0 x 6.0 x 1.5 cm) made from muslin cloth stuffed with vermiculate was placed inside a petri dish. Plaster of Paris moulded into a petri dish with a hole in the center was used in method D. The petri dish was placed on top of a cup containing water and a piece of parcel string connecting the dish to the cup was fastened through the hole in the center. In method E, a piece of paper towel (55.0 cm in length) folded into few layers was used as the artificial nest. Water was sprinkled on all artificial nests every two days to ensure moisture maintenance. Digital pictures of the experimental colonies were taken and the number of ants was counted via display on the computer screen at week 0, 1, 3, 5, 8, 12, 16, 24 and 32. Implications of the results are discussed.