

MATERIAL AND METHODS.

The flies used for the present studies were obtained from the pure culture of Musca domestica nebulosa, Fabr. maintained in the laboratory, under controlled conditions. The stock has been thoroughly inbred for several generations. The flies were raised in specially constructed wooden cages, with one side made of glass for observation. The flies were fed on sweetened milk. The larvae were reared in tin cages and were fed on nidus consisting of semicolid mixture of wheat bran, yeast and water kept in the petridishes. Fine dry sand was placed in the cages which was suitable for the pupation.

After complete feeding, the full grown larvae deserted the nidus and entered the dry soil for pupation. The prepupae and the pupae were collected, kept at 28° C and allowed to develop at this temperature. These were then fixed at hourly intervals for the first 24 hours and then at an interval of every six hours till the 96 hours of growth, when the adult is almost ready for emergence. The larvae and the pupae of various periods of growth were dissected fresh in normal saline or in glycerine for the morphological studies. These were also studied by the histological observations. Fixatives used were Bouin's

Fluid, Dietrich's Fluid, Cornoy's Fluid etc. These fixatives were used either hot or cold depending upon their ingredients. In order to achieve proper fixation, the larvae, the prepupae and the pupae were either cut into two pieces or pricked at certain regions. The pupae were removed from the puparia, then pricked at various points with a fine needle and then fixed. This method of pricking ensured better penetration and fixation by the fixative. Material was then embedded in paraffin of 56° C melting point, and then sectioned at various thickness, ranging from $6\ \mu$ to $12\ \mu$. The stains employed were Delafield's Haematoxyline, counterstained with Eosin, Other stains used were α Acid Fuchsin, Methylene Blue, etc. Some of the organs like head, wings, legs, imaginal discs, etc. of the developing pupae were fixed, cleared and mounted in Canada Balsam to study the structural changes which take place during the course of development. The diagrams were made with the Camera Lucida.