

Haemocytes during Different Stages of Lifecycle in *Bombyx mori* (L.)

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ABSTRACT

Haemocytes in insects mediate the cellular responses like phagocytosis, encapsulation and clotting which signifies the immunological functions of any insect. In the domesticated variety of silkworm B.mori five types of haemocytes have been identified in all the stages. The most abundant cell was found to be plasmatocytes followed by Granular cells. Spherule cells and Oenocytoids were found to be less during IV and V instars and least or absent in all other stages. Haemocytes were found to be fluctuating before and after spinning. Plasmatocytes and granular cells decreased gradually with respect to number of days in pupa. The total haemocytic count increases gradually in the silkworm larval stages and found to be maximum at the last instar and least during adult stages where the role of haemocytes is not required because they die after laying eggs.

Keywords: Haemocytes, Mulberry, Silkworm, *Bombyx mori*, Plasmatocytes, Granular cells.

INTRODUCTION

Haemocytes are several types of cells which circulate within the haemolymph (Kerenap et al., 2005): in most of the insects they are well defined as Prohaemocytes, Plasmatocytes and Granulocytes and one more other types present in some other insects as coagulocytes Spherulocytes, Adipocytes and Oenocytoids (Nittono, 1960). Haemocytes are responsible for the cellular defense mechanism in the insect's immune system (Gupta & Sutherland, & Ribeiro & Brehlin, 2006) as a role to fight

against the pathogens involving various physical chemical means were studied in arthropods (Ratcliffe et al., 1976 & Mead, 1986). Most of the haemocytes rest on the surface of various organs of the haemocoel and some cells circulate freely in the haemolymph. The number of cells varies greatly in the developmental as well as during different physiological stages (Wigglesworth, 1973) in the same species and total haemocyte count found to be more in larval stages than nymphal and adult (Webley, 1951).

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