

**Studies on the Haemocytes of Mulberry Silkworm *Bombyx mori* L in the Region of District  
Amethi, Uttar Pradesh, India**

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**Abstract**

The silkworm, *Bombyx mori* L. is a delicate and sensitive lepidopteron insect, which has been domesticated for silk production. Due to continuous domestication, silkworm becomes susceptible to various diseases. The insect immune response consists of two tightly interconnected components, the cellular and the humoral responses. The cellular response is mediated by haemocytes and involves responses such as phagocytosis, encapsulation, and clotting. During the course of infection the cellular defense mechanism in silkworm is mediated by different types of haemocytes. Haemocytes are found circulating freely in the haemolymph or adhering to internal organs such as the fat body or the digestive tract of the insects. Five types of haemocytes were found in the haemolymph of *Bombyx mori* L viz., prohaemocytes (PRs), plasmatocytes (PLs), granulocytes (GRs), spherulocytes (SPs) and oenocytes (ONs). The total haemocyte counts and the differential haemocyte counts vary in the different life stages. Haemocyte numbers in the hemolymph of any particular insect may vary depending on various factors, such as disease and meteorological factors, including altitude. The results show significant variations of different haemocyte in the various larval forms of silkworm. The first instar nymph contained only PRs. Second and third instar nymph had PRs and PLs. Fourth instar nymph contained PRs, PLs and GRs. These investigations may be very useful in planning rearing strategies for commercial species of Silk moths.

**Keywords:** Haemocytes, Mulberry silkworm, *Bombyx mori*, Amethi, Uttar Pradesh, India.