

Septicemia

Dr.H.B.Mahesha, Yuvaraja's College, University of Mysore, Mysuru.

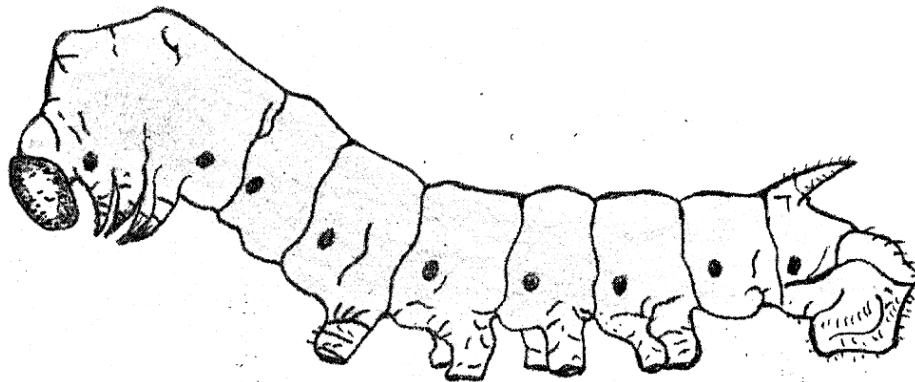
Experiment No. 9: Study of septicemia and preparation of temporary slides of bacteria.

This disease is caused by the multiplication of a large number of bacteria, *bacilli*, *streptococci* and *staphylococci* in the haemolymph. Septicemia during the larval stage leads to larval mortality whereas the infection in pupal and moth stages leads to a large number of melted cocoons.

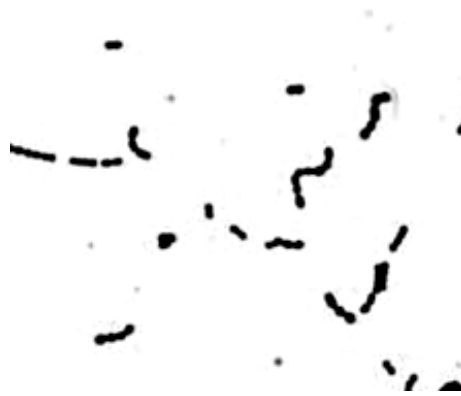
The route of infection is through injury or wounds and rarely perorally. Two major types of bacterial septicemia are generally observed, one is the black thorax septicemia caused by *Bacillus* sp. belonging to the family Bacillaceae of the order Eubacteriales and the other is red septicemia caused by the *bacillus Serratia marcescens*.

Symptoms: They have some common symptoms like sluggish movement, decreased appetite, straightened body, swollen thorax, shrinkage of abdominal segments, vomiting and bead like faeces and loss of clasping power of legs. Further, the body becomes soft and discolored and the body wall ruptures easily emitting foul smelling fluid.

Difference in the symptoms: In black thorax septicemia, the blackening starts from the thorax and extends to the dorsal vessel till the whole body blackens and rots. In red thorax septicemia the whole body softens taking a slightly reddish tinge.



Septicemia infected silkworm



Streptococci under microscope

Prevention and control:

1. Before the commencement of silkworm rearing, rooms, appliances and rearing surroundings must be thoroughly disinfected with 2 percent formalin.
2. Maintenance of strict hygienic and standard atmospheric conditions during silkworm rearing. Care should be taken to avoid injury to the worms, overcrowding of trays and accumulation of faeces in the rearing bed.

Temporary slide preparation of bacteria

1. Take a drop of bacterial suspension on a clean glass slide and make a thin smear, air/flame dry.
2. Fix the material in ethanol/methanol for 1 min and air dry the specimen.
3. Stain in crystal violet for 30 - 60 seconds and wash excess stain.
4. Observe under a microscope at 400-450 x magnification.

REFERENCES

1. Anonymous, 1990, Hand book on pest and disease control of mulberry and silkworm, United Nations, Thailand.
2. Krishnaswamy, S., Narasimhanna, M.N., Suryanarayan, S.K., and Kumararaj, S. 1976; Sericulture Manuals, Vol. 2, Silkworm Rearing, FAO, United Nations, Rome.
