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Short Note

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First Record of Natural Occurrence of Granulosis Virus on Rice Leaf Folder, *Cnaphalocrosis medinalis* (Guenee)

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Introduction

A good number of naturally occurring microbials cause epizootics in insect pests and managing them in their natural habitat. Due to the intensive agricultural practices coupled with climate change has brought many changes in the pest scenario. During kharif 2013, an unusual death of leaf folder larvae was observed at rice section, Hyderabad in the host plant resistance screening trials. Many leaf folder larvae were found soft, swollen with distended segments initially and later they were found clinging to the leaf blade /plant surface and were covered with hard, white granular masses (viral bodies). The larvae were showing little mobility and were sluggish in movement with reduced feeding prior to death. Since these symptoms were akin to the infection by granulosis virus (GV), a roving survey was conducted to find out the per cent infection by GV in Ranga Reddy District of Telangana State. Leaf folder larvae were collected and maintained in an incubator to measure the per cent infection. Upon observation no such infection was observed in collected larvae and the results revealed that the incidence of G V was not there in the entire locality and it was observed at Rice section of Hyderabad only. Upon examination of the larvae under Scanning Electron Microscope (SEM) the body of the insect was found filled with viral bodies not only outside, but also in the internal tissues.

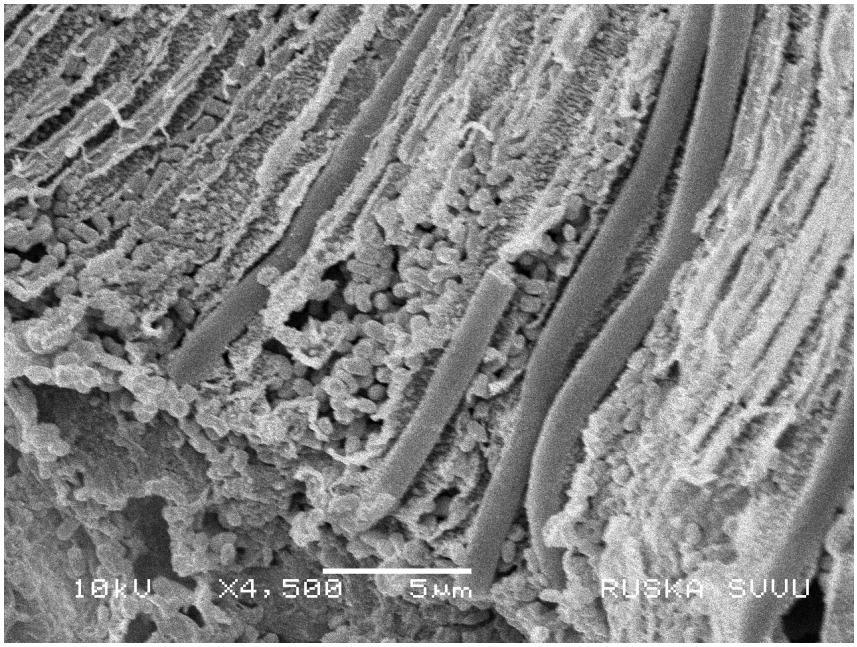
The Different Changes Observed in the Infected Larva are as follows:

1. Infected larva has become soft and swollen (bloated) at intersegmental areas.
2. The larval body colour changed from natural green to light yellow (Plate-1)
3. Larva become sluggish and feeding is reduced
4. Microscopic photograph of dead larval body (DRR, Hyderabad) indicated the presence of granular masses on the body (Plate -2).
5. SEM images (Ruska labs, SVVU, Rajendranagar, Hyderabad) have sown the body filled with insect viral bodies (Plate- 3)

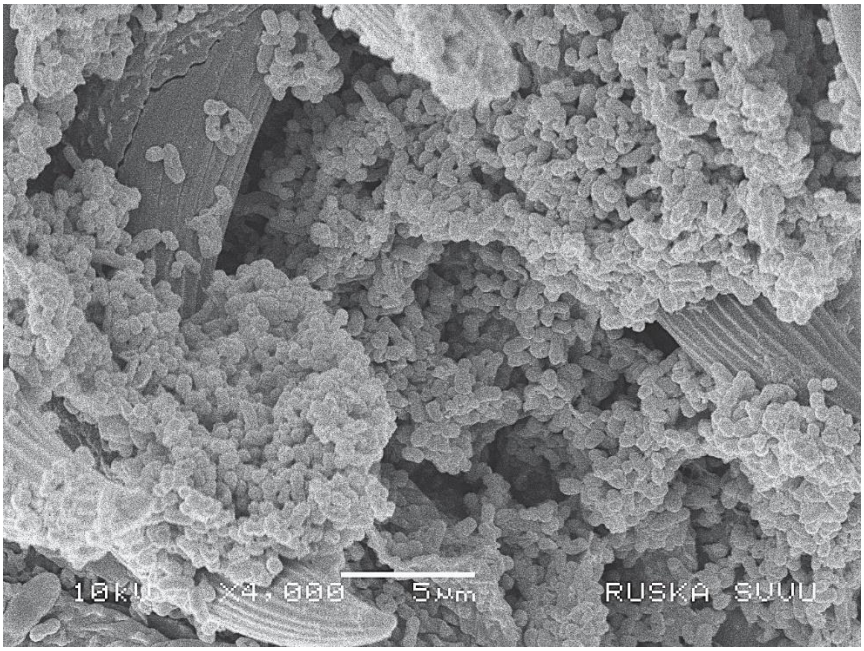
The further in-depth studies on site of multiplication in insect body and field efficacy and low cost mass multiplication are needed.

Plate-1. GV infected larva with distended abdominal segments.

Plate -2. GV Infected leaf folder larva with granular viral mass.



a. Gut wall



b. Close exposure

Plate -3. GV Infected leaf folder internal gut anatomy with SEM.

SEM protocol: John J. Bozzola and Lonnie D. Russell,1998. In: Electron Microscopy Principles and techniques for biologists2ndedn. Jones and Bartlett Publishers, Sudbury, Massachusetts. pp.19-24,54-55and 63-67.