

# Study of Transmission of Symbiotes from One Generation to Other Generation of *Dacus-cucurbitae*

**Dr. Harsh Bardhan Pritam**

M.Sc., Ph.D.

Department of Zoology,

B.R.A.Bihar University, Muzaffarpur.

**Abstract** : Histological tests can caring tissue of different organ for the observation of presence or absence of symbiotes like D-oleae, hind gut and vegina are in communication for a common alimentary and genital duct before opening to exterior. The epithelium is glandular and the cells are highly developed. The lumen of there organs in the beginning is narrow due to enlargement of cells to accommodate multiplying bacteria inside the intracellular symbiotes are then discharged along with the glandular secretions into the lumen is filled with pure culture of symbiotes and lumen enlarges due to reduction of cell size. The bacteria in there organs are bigger and status measuring 1.8 luas against in the mycetomes.

**Keywords** : Mycetome, D-aleae, *Dacus-cucurbitae*, Midgut, Intracellular & Extracellular Lumen, Ovipositor.

## I. INTRODUCTION

Transmission of symbiotes from one generation to other in female D-oleae which contain twenty fingers like processes at the based of ovipositor. They are arranged dorsally and laterally. The secretion of cells of this processes offer a good cultured medium for bacteria to grow and very soon then lumen of there organs are filled with bacteria. Petri (1904, 1905, 1906) in Daws - cucurbitae some what different situation exists although twenty finger like glandular processes are present. There open in the posterior part of the hindgut at the base of the ovipositor.

## II. MATERIALS AND METHODS

Experiments were carried for the determination of presence or absence of symbiotes in different tissue of *Dacus-cucurbitae* as follows mycetomes, ovary, egg, tissue, blood, fat body, diverticulum, midgut caeca (Larvae), and rectal process of Female details of Transverse section of adult mycetomic wall and lumen of mycetome were studied. T.S. of thoracic region showing the glandular nature of mycetome and smear of adults mycetome showing symbiotic bacteria were considered during the analysis of Transmission of symbiotes, Smear of adult Fly Mycetome and larval mycetome exhibited the presence of symbiotes.

1st Step :- Experiment were carried during histological, serological and biochemical test for the analysis of the mode of transmission of symbiotes in *Dacus-cucurbitae* as follows :

### III. RESULTS AND DISCUSSION

#### Results

In the female the symbiotes could be isolated from ovaries after the fly is at least five days old. The distal portion of the ovariole contains more symbiotes than the proximal portion. The rectal processes, the diverticulum, gut, hemolymph and fat bodies also indicate the presence of symbiotes. In male bacteria could be isolated only from the gut and diverticulum. In larvae symbiotes are present in the gut and fat body.

**Table-1**

Presence of absence of symbiotes in different tissues of *Dacus-cucurbitae*

<i>TISSUE</i>	<i>STATUS OF SYMBIOTES</i>
<b><u>Mycetome</u></b>	
Male	+
Female	+
Larvae	+
<b><u>Ovary</u></b>	
Fresh emerged Fly (whole ovary)	-
One week old fly (whole ovary)	+
One week old fly	+
One week old fly	+
One week old fly	+
Egg	+
Testis	Not tested
<b><u>Blood</u></b>	
Female (Fresh Fly)	-
Female (One week old female)	-
Male (Fresh fly)	+
Male (one week old male)	-
Fat body (Female of unknown age diverticulum)	-
Fresh Fly (Male, Female)	+
Fresh Fly (One week old male, female)	-
Midgut caeca (Larvae)	-
Rectal Process Female (Fresh + Old)	++
+ = Presence	- = absence

#### Discussion

The transmission in *D-cucurbitae* is transverial and egg get infected before they reach the oviduct. This is clear by the fact that the symbiotes could be seen in the egg smear removed from the ovary. The presence of symbiotes is also indicated in the transverse section of ovariole in the ovary. Further symbiotes were located and cultured from different part of an ovariole suggesting the possible entry of myco organism given on early oocytes. The only possible entry of mycoorganism given on early oocytes. The only possible way of transverial transmission in *D-cucurbitae* therefore seems to be that the symbiotes are released in to haemolymph from rectal process again a remote possibility of entry of Mycetomal organism in to the haemolymph from were they go to enter the ovaries.

## Conclusion

The only possible way of transovarian transmission in *D-cucurbitae* seems to be that the symbiotes are released into haemolymph from the rectal processes again. A remote possibility of entry of mycetomal organisms into the hemolymph can also not be ruled out. The bacteria enters the fat body, multiply and are then released back into hemolymph from where they go to enter the ovaries.

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