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## **STUDIES ON THE REPRODUCTION BEHAVIOUR IN ALEYROLOBUS BARODENSIS, MASK. (HOMOPTERA: ALEYRODIDAE)**

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### **ABSTRACT**

*Author described mating behaviour method of reproduction and number of eggs laid by per female per month in Aleyrolobus barodensis, Mask.*

**Keywords:** *Aleyrolobus Barodensis, Mating Behaviour, Eggs Laying.*

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### **INTRODUCTION**

**Aleyrolobus barodensis**, Mask. is belonging to the family Aleyrodidae and commonly known as sugarcane whitefly. It is important pest of sugarcane, though it also infests Jwar, Bajra, Maize, Wheat, Barley and others crops in various parts of India such as Punjab, U.P., M.P., Bengal and Bihar etc. Both adult and nymph **Aleyrolobus barodensis**, Mask. suck the sap from under surface of the leaves of the sugarcane plants. The damage produced by **Aleyrolobus barodensis**, Mask. directly by sucking and indirectly by stimulating sooty fungus and 20 to 25% damage is caused to the sugarcane crop by this pest. Keeping in the view for accurate control measures of this pest, the authors have paid their attention on the studies of mating behaviour, means of reproduction and number of eggs laid down by this species.

### **METHODOLOGY**

The investigation work was carried out in zoology department at Narain College Shikohabad from October 2002 to January 2008. Periodical observations on the mating behaviour and egg laying time were done in natural conditions on the plants.

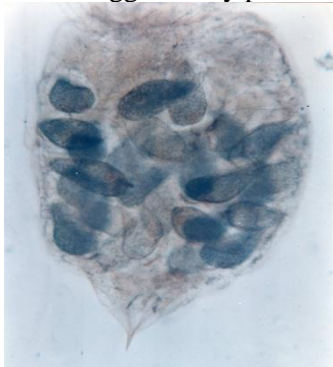
The material including eggs of **Aleyrolobus barodensis**, Mask. was collected from host plants leaves with the help of a sharp horticultural budding knife or shear. The shaved material was kept in tight closed colophone bags to minimize dessication. Specimens for microscopy were removed from host plant leaves and preserved in either 70% alcohol or dry preserved or preserved in conserving fluid.

For counting of the eggs of the gravid female, permanent slides from the collected preserved material containing different stages of lifecycle were prepared with the aid of binocular microscope according to the method described by Williams and Kosztarab (1970).

### **OBSERVATIONS**

**Mating Behaviour :** The adult male of **Aleyrolobus barodensis**, Mask. just after emergence, tries to make contact to the female for breeding purpose. Capulation occurs generally in the morning hour during the day time early in the morning. The greatest breeding activity occurs in the warmest and rainy months of July, August and September. Breeding start by the orientation of the male himself on the back of the female of **Aleyrolobus barodensis**, Mask. and insert the toping adages in the ovipositor of the female.

**Eggs Laying :** The female of *Aleyrolobus barodensis*, Mask. is oviparous. The female always laid down their eggs mid dorsal side of the very youngest leaf in linear fashion one by one. The old and young leaves were not chosen for oviposition. The infected leaf of sugarcane would become redish-yellow instead of green colour. The average of number of the developed egg found in the body of the female was studies in different months for two years i.e. February 2004 to January 2006. The average number of the eggs laid by the female (fig. 1) is counted on the basis of gravid female on the mounted slides, as well as the number of the eggs laid by the female on the experimental plant leaves recorded daily season wise. The average number of the eggs laid by per female is minimum 25 and maximum 50.



**Fig. 1**(gravid female of *Aleyrolobus barodensis*,Mask.)

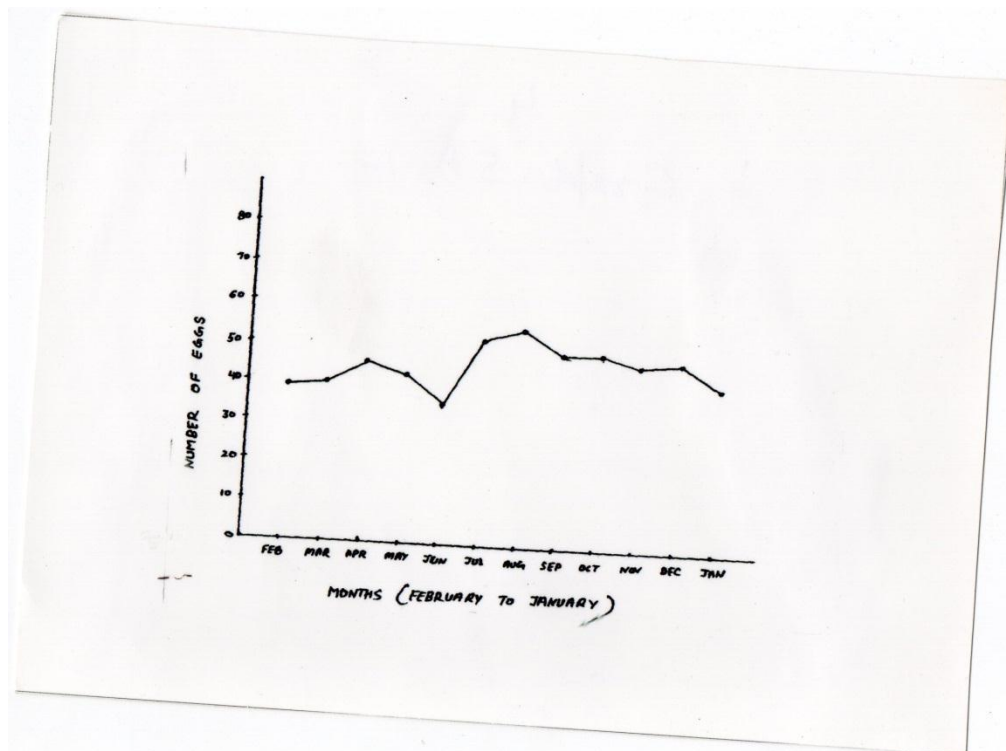
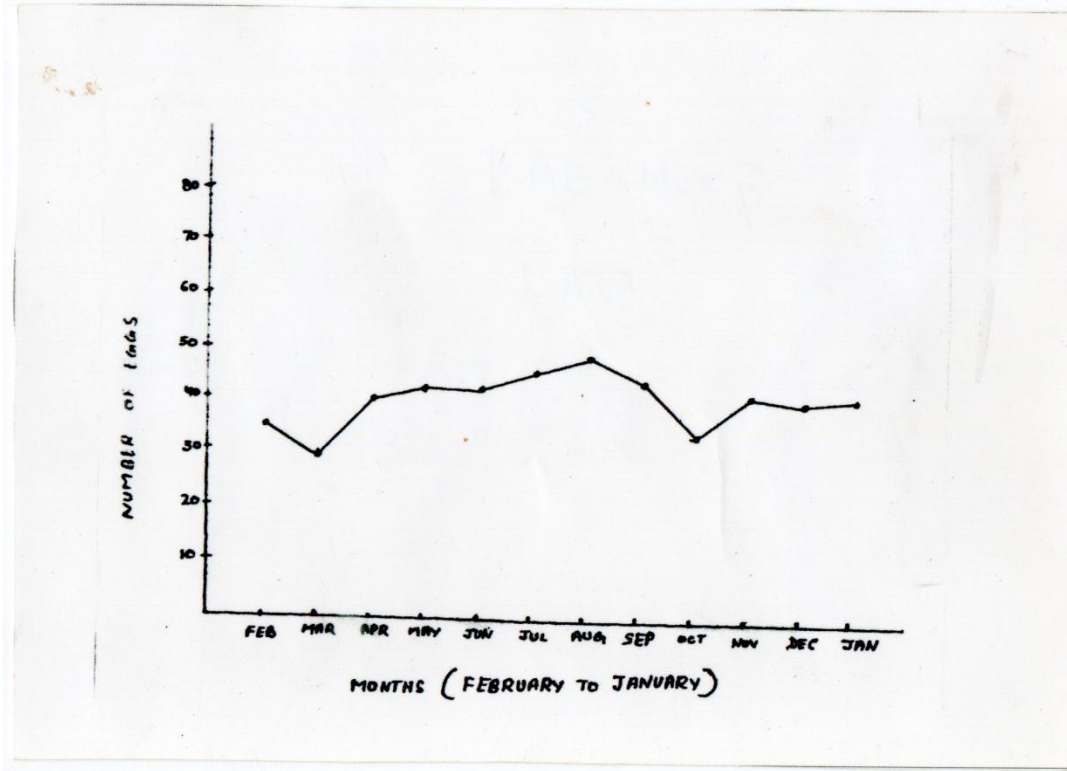
**Table 1** Showing number of the eggs in the body of the female of *Aleyrolobus barodensis*, Mask. from February 2004 to January 2005.

S. No.	Month	No. of eggs in the body of female			Average
		1	2	3	
1.	February 2004	42	34	30	35
2.	March 2004	46	38	48	32
3.	April 2004	40	42	38	40
4.	May 2004	17	23	20	20
5.	June 2004	16	22	18	18
6.	July 2004	48	49	40	45
7.	August 2004	50	49	46	48
8.	September 2004	45	43	46	44
9.	October 2004	39	32	39	37
10.	November 2004	37	38	30	35
11.	December 2004	30	25	20	25
12.	January 2005	21	18	18	19
<b>Average</b>					<b>33.08</b>

**Table 2** Showing number of the eggs in the body of the female of *Aleyrolobus barodensis*, Mask from February 2005 to January 2006

S. No.	Month	No. of eggs in the body of female			Average
		1	2	3	
1.	February 2005	30	36	33	33
2.	March 2005	46	36	38	40
3.	April 2005	49	38	48	45
4.	May 2005	22	16	18	18
5.	June 2005	16	18	20	16
6.	July 2005	58	49	48	51
7.	August 2005	57	48	59	54

8.	September	2005	51	49	48	49
9.	October	2005	36	28	32	37
10.	November	2005	46	45	49	36
11.	December	2005	48	45	49	27
12.	January	2006	39	38	46	18
<b>Average</b>					<b>32.00</b>	



**GRAPH 1**

**GRAPH 2**

(Showing monthly record of eggs laid by gravid female of *Aleyrolobus barodensis*, Mask)

(Table 1, table 2 and graph 1, graph 2) show that the average of minimum number of the eggs found in the body of the gravid female as well as number of eggs laid by female of **Aleyrolobus barodensis**, Mask. are in the month December, January, May and June of the year, however, the average of maximum number of the eggs per gravid female of **Aleyrolobus barodensis**, Mask. are found in the month of July, August and September.

## RESULT AND DISCUSSION

Pruthi and Samuel (1942) reported the egg laying of in tobacco whitefly, **Bemisia tabaci** (Gennadius) 27 to 206 eggs, however, Nene (1972) noted the egg laying of this whitefly 38 to 106 eggs on blackgram and greengram plants, while, Tahiliani (1977) and Butler et al. (1983) in this species described the egg laying capacity 3 to 154 and 72 to 81 eggs respectively on the tobacco plant, however, Patel and Srivastava, (1989) the number of the eggs laid by the female varied from 2 to 145 with an average of 45.24 to 30.50 at an average temperature of 26.76°C on cotton plant, while, Ghahari and Hatami (2000) reported the number of the eggs laid in 24 hours varied 1 to 10 with an average of 5.93±1.67 in green house whitefly, **Trialeurodes vaporariorum** (Westwood) but author reported in sugarcane whitefly, **Aleyrolobus barodensis**, Mask. the average number of the egg laying capacity was 25 to 50 eggs.

The cause of variation (Patel and Srivastava, 1989) found in egg laying capacity as reported by various workers in same species might due to difference in food materials used for feeding and climatic conditions prevailing in particular locality an other factors.

## ACKNOWLEDGMENT

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