SPECIES COMPOSITION OF RICE LEAF FOLDER *Cnaphalocrocis medinalis* (Guenee) (LEPIDOPTERA: PYRALIDAE) UNDER SOUTH GUJARAT CONDITION

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ABSTRACT

Study on species composition of rice leaf folder existing in rice ecosystem of South Gujarat was carried out by conducting rowing survey for two subsequent seasons Kharif 2012 and2013. After survey collected moths were brought to laboratory for identification. Results clearly indicated that there are only two species of rice leaf folder prevailing in the area i.e. Cnaphalocrocis medinalis (Guenee) contributed 84 per cent (620 of total moths 736) of total moths collected. Another species Marasmia patnalis (Bradley) had only 16 per cent (84 of total moths 736) of total moths collected. However, M. patnalis was reported first time under South Gujarat rice ecosystem.

KEY WORDS: Cnaphalocrocis medinalis, Marasmia patnalis, Rice leaf folder, Species composition

INTRODUCTION

Rice is the source of livelihood for hundreds millions of households around the Globe. Almost 90 per cent of the rice is grown and consumed in Asia (Khush and Brar, 2002). About 45 per cent of the total cultivated area of the nation is under rice cultivation. Among important insects attacking rice crop, rice leaf folder is considered second economically important insect after the stem borer. Out of the eight spices of leaf folder, the most widespread and important one is *Cnaphalocrocis medinalis* (Guenee) cause significant losses to rice ecosystem (Bhatti, 1995). In India four major species of leaf folders *viz*., *Cnaphalocrocis medinalis* (Guenee), *Marasmia patnalis* (Bradley), *Marasmia exigua* (Butler) and *Bradina arortraea* found damaging to the rice in various regions. Among these, *Cnaphalocrocis medinalis* (Lepidoptera: Pyralidae) is the most predominant and wide spread species in all rice ecosystems across the country (*Padmavathi et al.*, 2006).

MATERIALS AND METHODS

To study rice leaf folder species composition prevailing under rice ecosystem of South Gujarat, a rowing survey of naturally infested rice field was made at weekly interval from 28th to 43rd Standard Meteorological Week (SMW) during *Kharif* 2012 and 2013. During rowing survey adults of rice leaf folder were randomly collected by sweeping net from the naturally infested rice fields (Khan *et al.*, 1988). For identification and recording of data regarding species composition, moths were brought to laboratory and then after total number of moth counted and identified species wise on the bases of wing marking (Khan *et al.*, 1988).

RESULTS AND DISCUSSION

Rowing survey was carried out from 28th to 43rd Standard Meteorological Week (SMW) during *Kharif* 2012 and 2013. Rice leaf folder damage was initiated in 34th SMW and last up to 43rd SMW under South Gujarat rice ecosystem. Results on moths collected during *Kharif* 2012 revealed that numbers of moth collected was ranged from 57 to 87 in numbers (Table 1). The maximum number of moths (87) were collected during 38th SMW and the lowest moths (57) were collected in 43rd SMW. From the data on total numbers of moths collected (728) during survey indicates that two species of rice leaf folder i.e. *C. medinalis* and *M. patnalis* was found to be existed. Amongst them, *C. medinalis* dominated with 88 per cent (643 of 728 moths) and second species *M. patnalis* contributes 12.0 per cent (85 of 728 moths) of moths collected.

Data of *Kharif* 2013, the results indicates that the maximum number of moths (89) were collected during 37th SMW and the lowest number of moths (58) were in 43rd SMW. Data on species contribution on the basis of total numbers of moths (744) were collected and identified that leaf folder species *C. medinalis* was dominated with 596 numbers (79 %) and *M. patnalis* with remaining 148 numbers (20 %) of total moths collected (Table 1).

Same kind of trends was observed from average of both the seasons data (Table 1) on a number of moths collected. It confirmed that among two species of rice leaf folder prevailing in South Gujarat rice ecosystem, *C. medinalis* species contributed 84 per cent (620 of total moths 736) of total moths collected. Another species *Marasmia patnalis* (Bradley) had only 16 per cent (84 of total moths 736) of total moths collected. Present findings are in concurrences with the findings of Padmavathi *et al.* (2006), they reported that in India, four species of leaf folders *i.e., C. medinalis, M. patnalis, M. exigua* and *B. arortraea* found to be damaging on rice at different locations. Amongst them *C. medinalis* is the most predominant and wide spread species in all rice ecosystems across the country. Sivaraman and Hari Prasad (2012) also reported that *C. medinalis* was most prevalent species in Cauvery delta zone.

CONCLUSION

Rice leaf folder *Cnaphalocrocis medinalis* (Guenee) is the most predominant found species under South Gujarat rice ecosystem. Species M. patnalis was reported for the first time under South Gujarat rice ecosystem.

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Table 1: Rice leaf folder moths collected during *Kharif* 2012, Kharif 2013 and average of two seasons

SMW	Period	*Kharif 2012*					*Kharif 2013*					*Average of two seasons*				
		Number of Moths Collected	*Cnaphalocrocis medinalis*		*Marasmia patnalis*		Number of Moths Collected	*Cnaphalocrocis medinalis*		*Marasmia patnalis*		Number of Moths Collected	*Cnaphalocrocis medinalis*		*Marasmia patnalis*	
			Number	Per Cent	Number	Per Cent		Number	Per Cent	Number	Per Cent		Number	Per Cent	Number	Per Cent
34	Aug. 23 - Aug. 29	65	59	91	06	07	78	64	82	14	17	**72**	**62**	**87**	**10**	**12**
35	Aug. 30 -Sep. 05	72	66	92	06	07	76	70	92	06	07	**74**	**68**	**92**	**06**	**07**
36	Sep. 06 - Sep. 12	78	63	81	15	19	81	73	90	08	09	**80**	**68**	**86**	**12**	**14**
37	Sep. 13 - Sep. 19	83	71	86	12	14	89	75	84	14	17	**86**	**73**	**85**	**13**	**16**
38	Sep. 20 - Sep. 26	87	79	91	08	09	82	66	80	16	20	**85**	**73**	**86**	**12**	**15**
39	Sep. 27 - Oct. 03	81	73	90	08	09	78	63	81	15	19	**80**	**68**	**86**	**12**	**14**
40	Oct. 04 - Oct. 10	75	67	89	08	09	74	59	80	15	19	**75**	**63**	**85**	**12**	**14**
41	Oct. 11 - Oct. 17	68	59	87	09	10	68	48	71	20	28	**68**	**54**	**79**	**15**	**19**
42	Oct 18 - Oct. 24	62	56	90	06	07	60	38	63	22	35	**61**	**47**	**77**	**14**	**21**
43	Oct. 25 - Oct. 31	57	50	88	07	08	58	40	69	18	26	**58**	**45**	**79**	**13**	**17**
	Total	**728**	**643**	**88**	**85**	**12**	**744**	**596**	**79**	**148**	**20**	**736**	**620**	**84**	**117**	**16**

SMW: Standard Meteorological Week

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