

## Some Observations on Brown Mirid Bug *Tytthus parviceps* Reuter a Predator of Rice Brown Planthopper, *Nilaparvata lugens* Stal.

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Many workers observed the predatory activity of mirid bugs against rice hoppers (Bae and Pathak, 1966). The bugs prey on the eggs, nymphs and adults of rice leaf and planthoppers and have been considered as effective predators (Staphley, 1976). Of the mirid bugs, *Cyrtorhinus lividipennis* Reuter is widely distributed and most common; the other mirids preying on the planthoppers being *Tytthus parviceps* Reuter and *T. chinensis* (Stal) (Stanley, 1976; Manjunath *et al.*, 1978; Basilo and Heong, 1990).

During 1992-93, the mirid bug, *T. parviceps* was found surviving on BPH and WBPH colonies in the glasshouse and field conditions in Hyderabad. The predator was yellowish

green when young and brown to dark brown when mature. *T. parviceps* laid eggs in plant tissues that hatched in  $4.6 \pm 0.89$  days. The mean nymphal period was  $20.2 \pm 1.48$  days and first to five instars were completed in  $2.4 \pm 0.55$ ;  $4.2 \pm 1.30$ ;  $4.4 \pm 0.55$ ;  $4.2 \pm 0.84$  and  $3.84 \pm 0.84$  days respectively (Table 1). The adult male and female mirid bugs attacked  $11.62 \pm 2.55$  and  $35.15 \pm 8.99$  per cent on BPH eggs/day whereas,  $5.98 \pm 2.44$  and  $11.90 \pm 3.50$  per cent of first instar nymphs were consumed per day (Table 2).

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**KEY WORDS :** *Nilaparvata lugens*, mirid predators, *Tytthus parviceps*

### REFERENCES

- BAE, S.H. and PATHAK, M.D. 1966. A mirid bug *Cyrtorhinus lividipennis* Reuter, Predator of the eggs and nymphs of brown planthopper. *Intern. Rice Commission Newsl.*, 15, 33 - 36.
- BASILIO, O.P. and HEONG, K.L. 1990. Brown mirid bug, a new predator of brown planthopper (BPH) in the Philippines. *Intern., Rice Res. Newsl.*, 15 (4), 27 - 28.
- MANJUNATH, T.M., RAI, S.P., GAVI-GOWDA and GOWDA, G. 1978. Natural enemies of green leafhopper in India. *Intern. Rice Res. Newsl.*, 31, 11.
- STAPHLEY, J.H. 1976. The brown planthopper and *Cyrtorhinus* spp. predation in the Solomon Islands. *Rice Entomol. News.*, 4, 15-16.

**Table 1.** Life cycle of *Tytthus parviceps* reared on *Nilaparvata lugens*

Stages	Mean Duration days*	
Egg	$4.6 \pm 0.89$	(4-6)
Nymphal instar	1	$2.4 \pm 0.55$ (2-3)
	2	$4.2 \pm 1.30$ (2-5)
	3	$4.4 \pm 0.55$ (4-5)
	4	$4.2 \pm 0.84$ (3-5)
	5	$3.8 \pm 0.84$ (3-5)
Total Duration	$20.2 \pm 1.48$	(18-22)

\* Mean of five replications  
Figures in parentheses indicate the range

**Table 2.** Predation of *Nilaparvata lugens* by *Tytthus parviceps* adults

Sex	Per cent BPH predation *	
	Eggs	1st Instar Nymphs
Male	$11.62 \pm 2.55$ (8.33 - 15.69)	$5.98 \pm 2.44$ (2.94 - 11.11)
	Female	$35.15 \pm 8.99$ (23.08 - 44.6)

\* Mean of five replications  
Figures in parentheses indicate the range