J.Biol.Control, 6 (1), 41, 1992

Occurrence of *Microvelia douglasi douglasi* Scott. (Veliidae:Heteroptera) in Tamil Nadu

P.NARAYANASAMY, J.NIRMALA and JOHN POLHEMUS*
Department of Entomology, Annamalai University
Annamalai Nagar - 608 002.

A survey of aquatic habitats including rice fields of certain localities in and around Chidambaram, Tamilnadu revealed the presence of a new species of ripple bug which is reported to be predatory on planthoppers of rice in other countries. The insect thus gathered was identified as *Microvelia douglasi douglasi* Scott. (Veliidae:Heteroptera). The occurrence of this species is reported for the first time in India. Earlier, an unidentified species of *Microvelia* was reportedly found in the rice fields of Cuttack subsisting on brown planthoppers (Samal and Misra, 1981). Later, *Microvelia atrolineata* (Bergr.) was observed in karnataka as a natural enemy of the brown planthopper (BPH) *Nilaparvata lugens* (Stal.) (Gubbaiah, 1983).

Adults of *M. douglasi douglasi* were olivaceous brown in colour. Head, crown and body were clothed with silvery white pile - like streaks. Pronotum was blackish brown and body segments were 6-7 in male and 9 in female. Eyes of both male and female (adults) were deep maroon in colour. Legs were pale brown in colour. Hinder angles were acute with sharp cut lines at the posterior side of the abdomen in the male.

These veliids were found in abundance skating on the water of the rice fields planted with varieties like IR 50 and ADT 36 numbering 7- 12/900 sq.cm during the month of August 1991 wherein moderate numbers of the brown plant hopper (BPH) *Nilaparvata higens* (stal) were found (3/hill). Lower populations of the predator (7-9/900 sq.cm.) and prey (at the rate of 2/hill) were due to high temperature (Max.35°C; Min.24°C) that prevailed during September 1991. The hoppers had served as prey for the bugs. These bugs were found to skate rapidly in sigmoid movement under normal circumstances.

Field observations revealed that the veliid bugs preyed upon various stages of the BPH and other hoppers that happened to fall on the water surface. Immediately after falling, each prey was surrounded by not less than 7 or 8 predators which fed continuously on the prey. It is clear from the observations that the population of the predator increased with relative increase in the number of prey per hill.

In the absence of the BPH during summer (April-May) of 1991, a laboratory stock culture of the predator was maintained on the maggots of *Culex sp.* The culture is being maintained for further study. As the bug appears to be a promising predator of BPH, further studies on its mass production and release in the field are being undertaken.

KEY WORDS : BPH, *Nilaparvata lugens*, *Microvelia douglasi douglasi*

REFERENCE

SAMAL,P. and MISRA,B.C. 1981. Biology of broad shoulder bug *Microvelia* sp. (Hemiptera:Veliidae), a predator on rice brown planthopper. *Oryza*, 18, 51-52.

GUBBAIAH,I. 1983. *Microvelia atrolineata*, a predaceous bug of *Nilaparvata lugens* (Stal). *Int. Rice Res. Newsl.*, 8, 14.

* 3115 S0. York, Englewood, Colorado, 80110 USA