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OCCURANCE OF *N. viridula* (Order- HEMIPTERA)) FROM SANGOLA, DIST.SOLAPUR (MS).

Bhosale A. M.* Kamble V. S.**
*Research student from JJT University Rajasthan.

** Asst. Prof.. Department of Zoology,
Sangola College Sangola

Abstract: -

Nezara viridula (L.) is a cosmopolitan, polyphagous heteropteran that causes economic damage to many crop species. It is predominant in most of the warmer regions, damaging a wide variety of fruits. In the present study, *N.viridula* insect pest was recorded for the first time. It belongs to the family Pentatomidae . This is a polyphagus vegetable pest that mainly occurs on brinjal and okra vegetable crops. It is a sap-sucking insect pest that causes severe damage and economic losses.

Key words: Occurance, *N. viridula,* vegetables, insect pest.

Introduction:-

The southern green stink bug, Nezara viridula (Order-Hemiptera) has body colour polymorphisms. Nine different colour morphs are known, which are derived from four basic types varying in the pattern of orange colouring. The pentatomid Nezara viridula (L.) is a major pest of vegetable crops, other grain legumes and many other crops in Australia and throughout the world (Clarke, 1992; Waterhouse, 1998). Nezara viridula (L.) as a cosmopolitan, polyphagous heteropteran that causes economic damage to many crop species. It is predominant in most of the warmer regions, damaging a wide variety of fruit, nut, grain, and vegetable crops (Dewitt & Godfrey, 1972; Todd & Herzog, 1980).

Material and Methods: -

Study region:-

"Sāngola taluka stretches between geographical coordinates: 17° 26' 0" North, 75° 12' 0" East, respectively Sangole or (Sangola) of Solapur district in the state of Maharashtra. It is situated near Holy City Pandharpur. Traditionally, in many historical records, this area was a part of the Mandesh region. Sangola contributes 102 small villages .Sangola mainly depends on the agriculture sector. In the region, a variety of agricultural crops and orchids are under cultivation. The vegetable crop cultivation is the main source of

economy for small-scale farmers. . Agriculture production mainly decreases due to the climatic conditions. Sangola is in a drought-prone region because a very low percent of rainfall would occur. Due to the drought conditions, vegetable crops and cereal crops are mainly cultivated for economic purposes, viz. Brinjal, Tomato, Okra and also cereals crops. Economic losses occurred due to the infection of insect pests.

Field visit:

For the present study, insect pests were collected from brinjal and okra vegetable crop fields during dusk (6:30 to 8:00 am) and down (5:30 to 7:45 pm) weekly interval, from Nazare region. The species was identified by using insect identification key by Squitier (1997, updated 2007); Todd J.W. (1989) and Yukava . et al. (2007).

Result and discussion:-

The present study was conducted in Nazare of Taluka Sangola. Dist. Solapur during dusk and down.. The N. viridula colour polymorphisms vary from region to region. In Japan, it showed the greatest diversity of color polymorphisms. In many parts of the world (Australia, Pacific Islands, USA, Central America, and the West Indies) they appear to be only or primarily green (Yukawa and Kiritani 1965). Nezara viridula, commonly known as the southern green stink bug, southern green shield bug or green vegetable bug, is a plant-feeding stink bug. Believed to have originated in Ethiopia. It has a preference for legumes, preferring to feed on plants that are fruiting or forming pods.[Todd J.W. (1989)

In the present study, a variety of vegetable crop pests were recorded but Nezara viridula (order-Hemiptera) was recorded for the first time on okra and bringal vegetable crop even though, the area comes under the drought prone region. Stinkbugs (Hemiptera: Pentatomidae) are of major economic importance as crop pests in wide regions of the world, being the most important agricultural insect pests. They feed on plants and seeds by means of their piercing-sucking mouthparts, causing deformations, seed abortion, decrease in germination and survival, and transmission of plant pathogens (Leskey, T. et al. (2012). Fuentes, F. et al. 2016). It was also reported that brnjal, okra, tomato, chili and gaur act as polyphagus. Nezara viridula (L.) as a cosmopolitan, polyphagous heteropteran that causes economic damage to many crop species able to feed on plants from over 30 families, both monocots and dicots.[Todd J.W. (1989).

This pest damages fruits and leaves by sucking cell sap. Due to this shrinkage and curving of fruits, shrinking and yellowing of leaves was observed in brijal as well as in the okra vegetable crop. The lower quality of seeds caused by stinkbugs is the main reason for yield reduction in crops, and results in economic losses. (Leskey, T. et al.2012).

References:

Andrés Lavore1, Lucila Perez-Gianmarco1, Natalia Esponda-Behrens2, Victorio Palacio1, Maria InesCatalano1, Rolando Rivera-Pomar 1,2 & Sheila Ons2 SCiENtiFiC REPOrTS | (2018) Nezara viridula (Hemiptera: Pentatomidae) transcriptomic analysis and neuropeptidomics 8:17244 | DOI:10.1038/s41598-018-35386-4

Clarke A. R. (1992). Current distribution and pest status of Nezara viridula (L.) (Hemiptera: Pentatomidae) in Australia J. Aust. Entomol. Soc.

Fuentes, F. et al. In Actualizacion 2016 (ed. INTA) (2016).

Hokkanen, H. 1986. Polymorphism, parasites, and the native area of Nezara viridula (Hemiptera:Pentatomidae). Annales Entomologici Fennici 52: 28–31.

Kiritani and Yukawa (1963), Yukawa and Kiritani 1965, Kiritani 1970, Hokkanen 1986).

Kiritani, K. and J. Yukawa. (1963), A note on the polymorphism of N. viridula and N. antennata. Rostria 5: 19–21.

Kiritani. K. 1970. Studies on the adult polymorphism in the southern green stink bug, Nezara viridula (Hemiptera: Pentatomidae). Res. Pop. Ecol. 12: 19–34.

Leskey, T. et al. Pest status of the brown marmorated stink bug, Halyomorpha halys in the USA. Outlooks pest management 23, 218–226 (2012).

Squitier J.M. (1997, updated 2007) «Southern green stink bug» Featured creatures, University of Florida Institute of Food and Agricultural services.

Todd J.W. (1989). «Ecology and behavior of Nezara viridula». Annu. Rev. Entomol. 34: 273-292. doi:10.1146/annurev.en.34.010189.001421.

Todd J.W. (1989). Ecology and behavior of Nezara viridula. Annu. Rev. Entomol. 34: 273-292. doi:10.1146/annurev.en.34.010189.001421.

Yukava J. et al. (2007). «Distribution range shift of two allied species, Nezara viridula and N. antennata (Hemiptera: Pentatomidae), in Japan, possibly due to global warming [permanent dead link]». Applied Entomology and Zoology 42(2): 205-215

Yukawa, J. and K. Kiritani. 1965. Polymorphism in the southern green stink bug. Pac. Insects. 7: 639–642.