



E-ISSN: 2320-7078

P-ISSN: 2349-6800

JEZS 2019; 7(1): 175-176

© 2019 JEZS

Received: 05-11-2018

Accepted: 08-12-2018

Patel HPPulse Research Station,
Vadodara, Gujarat, India**Patel NK**Department of Entomology, B.
A College of Agriculture Anand
Agricultural University, Anand,
Gujarat, India**Sisodiya DB**Department of Entomology, B.
A College of Agriculture Anand
Agricultural University, Anand,
Gujarat, India**Borad PK**Department of Entomology, B.
A College of Agriculture Anand
Agricultural University, Anand,
Gujarat, India**Correspondence****Sisodiya DB**Department of Entomology, B.
A College of Agriculture Anand
Agricultural University, Anand,
Gujarat, India

First report of lace bug, *Urentius euonymus* distant (Hemiptera: Tingidae) on pigeon pea [*Cajanus cajan* (L.) Mill sp.] From Gujarat, India

Patel HP, Patel NK, Sisodiya DB and Borad PK

Abstract

A survey was conducted on pigeon pea [*Cajanus cajan* (L.) Mill sp.] during *kharif*, 2018 at Pulse Research Station, Anand Agricultural University, Vadodara, Gujarat to know the occurrence of various insect pests infesting pigeon pea. During the survey, a new insect pest was observed to infest leaves of pigeon pea and it was identified as lace bug, *Urentius euonymus* Distant (Hemiptera: Tingidae). Both nymphs and adults suck the sap from the leaves which reflected as small chlorotic spots on the leaves. Nymphs are brownish having mosaic appearance with shorter marginal tubercles. Adults are small, with light brown in colour. Terminal part of leg and antennae are light brown. Earlier, lace bug, *U. euonymus* was not recorded from Gujarat. Hence, this is the first report of lace bug, *U. euonymus* on pigeon pea from Gujarat, India.

Keywords: Lace bug, *Urentius euonymus*, pigeon pea, Gujarat

1. Introduction

Pigeon pea [*Cajanus cajan* (L.) Mill sp.] is an important pulse crop belongs to family Leguminosae. It is a multipurpose grain legume crop grown in Gujarat. The green pods of pigeon pea are used as vegetables, grains used as split grain as dal and it is rich in protein, averaging a protein digestibility of 70% when cooked^[7] and forms major constituent of our daily vegetarian diet. It also enrich the soil through biological nitrogen fixation, fit in various cropping system without disturbing the main cereal and oilseed crops, while the other plant parts are used as a valuable fodder. Among the *Kharif* pulses, pigeon pea rank first and it has great significance in Indian agriculture because of its multiple use (food, feed, fodder and fuel and its role in sustaining agricultural productivity). It is a drought resistant crop and suitable for dry land farming besides being used as an intercrop. It is cultivated in about 53.37 lakh ha with a production of 48.73 lakh tonne with a productivity of 913 kg ha⁻¹ in India. In Gujarat^[1], it is cultivated in 3.47 lakh ha with a production of 4.01 lakh tonne and a productivity of 1156 kg ha⁻¹^[1]. Many factors are responsible for low production of pigeon pea.

One of these major factors for pigeon pea production is heavy infestation caused by several insect pests which not only exert quantitative loss but also caused qualitative loss to the crop. Pigeon pea is tasty, not only to people, but also to insect pests. Nearly 300 species of insects are known which infest on pigeon pea crop at its various growth stages in India^[4]. The most economical pests those attack at flowering and podding stage of the crop are pigeon pea pod borer, *Helicoverpa armigera* (Hubner); blue butterflies, *Lampides boeticus* Linn. And *Catochrysops Strabo* (Fabricius); plume moth, *Exelastis atomosa* (Walsingham) and pod fly, *Melanagromyza obtuse* Malloch^[5]. Therefore, present study was conducted to know the occurrence of various insect pests in pigeon pea.

2. Materials and Methods

The present study was conducted to know the activity of different insect pests of pigeon pea during *kharif*, 2018 at Pulse Research Station, Anand Agricultural University, Vadodara, Gujarat. During the survey, new Hemipteran pest found infesting leaves of pigeon pea and which was collected from field and brought to the laboratory for further rearing in laboratory condition. Upon closer view under microscope, it was found newer one and decided to send for identification. For the purpose, nymphs and adults were collected and then kept in 70% alcohol filled in a glass vial. These specimens had been sent to Dr. C. A. Viraktamath,

These specimens had been sent to Dr. C. A. Viraktamath, Professor (Emeritus), Department of Entomology, UAS, GKVK, Bangalore, Karnataka for its detailed identification.

3. Results

In the present study infestation of *U. euonymus* was recorded on pigeon pea at Pulse Research Station, Vadodara, Gujarat during *kharif*, 2018. Infestation of this pest was observed during 1st week of October, 2018. Heavy infestation was observed on later stage of pigeon pea. It was about 20-25 number of nymphs and adults per trifoliate leaf of pigeon pea. The pest was identified as lace bug, *Urentius euonymus* Distant (Hemiptera: Tingidae). In past, this pest was not reported on pigeon pea from Gujarat. Therefore, this is the first report on pigeon pea from Gujarat.

3.1 Nature of damage

Lace bugs were observed on the leaves of pigeon pea plants in congregated form. Both nymphs and adults suck the cell sap from leaves by remaining at lower surface (Plate 1A & 1B). As a result, small chlorotic spots were observed from top side of leaf due to extensive feeding by the nymphs (Plate 1C). Heavily attacked leaves turned pale yellow and brown. Subsequently the leaves shrivel and dry up.

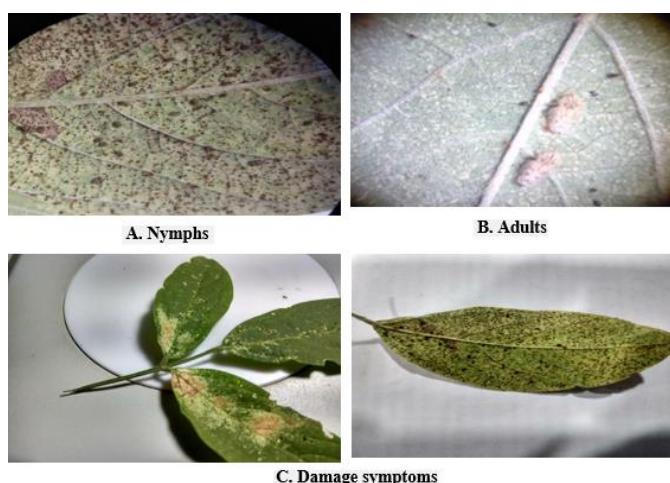


Plate 1: Damaging stage of *U. euonymus* and its damage on pigeon pea

3.2 Morphological characters

Nymphs are spiny in appearance and brownish in color having mosaic appearance with shorter marginal tubercles (Plate 1A). Adults are small, with light brown in color. Terminal part of legs and antennae are also light brown (Plate 1B). The bug are easily recognized by their densely reticulate body and wings.

4. Discussions

Urentius euonymus Distant is widely distributed in India, particularly in the southern part [2]. It is a sucking pest reported from various crops like pigeon pea, *Cajanus cajan* (L.) Huth; abutilon, *Abutilon* spp.; prickly sida, *Sida alba* L. Adana, *Rhynchosia memnonia* (Del.) DC. Giradol, *Chrozophora plicata* (Vahl.) from Sudan [6]. The lace bug species *Urentius echinus* [9] and *Urentius hystricellus* Richter [3] were found to damaging brinjal crop in Gujarat. Similarly, damage symptoms and habit of lace bug, *U. euonymus* was also reported on brinjal from Thailand [8]. The literature on this pest indicated that there was no report of this pest on

pigeon pea in Gujarat in past. Therefore, this pest reported first time as a pest of pigeon pea in Gujarat.

5. Conclusion

On the basis of collected literature, this pest previously not reported from the Gujarat on pigeon pea. Hence, this is the first report of lace bug, *U. euonymus* infesting pigeon pea in Gujarat.

6. Acknowledgment

The authors are highly thankful to Dr. C. A. Viraktamath, Professor (Emeritus), Department of Entomology, University of Agricultural Science, GKVK, Bangalore -560 065, Karnataka for authentic identification of specimens.

7. References

1. Anonymous. Ministry of Agriculture and Farmers Welfare, Govt. of India (ON1704), 2017.
2. Ghosh LK. Handbook on Hemipteran Pests in India, Publ. by Director, Zool., Surv., India, Kolkata, 2008, 437.
3. Kher RH. M. Sc. (Agri.) Thesis, Anand Agricultural University, Anand, Gujarat, 2002.
4. Lal SS, Singh NB. In: Proceedings of National Symposium on Management of Biotic and Abiotic Stresses in Pulse Crops. Indian Institute for Pulse Research, Kanpur (U.P.), India, 1998.
5. Reed W, Lateef SS, Sithanathan S, Pawar CS. *Pigeon pea and chickpea Insect Identification Handbook*. International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, Andhra Pradesh, India, 1989, 120.
6. Satti AA, Khidir EIE. Comparative bio-ecological studies among two species of *Urentius* lace bug (Hemiptera: Tingidae) in Sudan. *Journal of Saudi Society of Agricultural Sciences*. 2012; 11:149-155.
7. Singh U. The role of pigeon pea in human nutrition. In: Uses of tropical grain legumes: Proceedings of consultants meeting. Patancheru, Andhra Pradesh, India, 1991, 129-144.
8. Tigvattnanont S. Studies on the bionomics and local distribution of some lace bugs in Thailand III. *Urentius echinus* Distant (Hemiptera: Tingidae). *Khon Khen Agricultural Journal*. 1990; 18(5):251-260.
9. Zala MB, Bharpoda TM, Patel RD, Borad PK. First report of lace wing bug, *Urentius echinus* (Distant) associated with Brinjal, *Solanum melongena* L. in middle Gujarat. *Insect Environment*. 2014; 20(1):11-12.