



International Journal of Biology Sciences

ISSN Print: 2664-9926
 ISSN Online: 2664-9934
 NAAS Rating (2026): 4.82
 IJBS 2026; 8(6): 93-95
www.biologyjournal.net
 Received: 02-03-2026
 Accepted: 05-04-2026

Dr. M Devi

Associate Professor,
 Department of Entomology,
 MIT College of Agriculture and
 Technology, Musiri, Tamil
 Nadu, India

Dr. Ravishankar BS

Assistant Professor and Head,
 Department of Zoology,
 BLDEA's Commerce, BHS
 Arts and TGP Science College,
 Jamkhandi, Bagalkot District,
 Karnataka, India

Lakshdeep Jhans

Department of Plant Breeding
 and Genetics, Punjab
 Agricultural University,
 Ludhiana, Punjab, India

Ajay Baldaniya

Department of Entomology,
 Anand Agricultural
 University, Anand, Gujarat,
 India

Dr. Biplab Kumar Das

Assistant Professor,
 Department of Zoology,
 Jengraimukh College, Majuli,
 Assam, India

Corresponding Author:

Ajay Baldaniya

Department of Entomology,
 Anand Agricultural
 University, Anand, Gujarat,
 India

First report of *Clavigralla scutellaris* (Westwood) infesting on mungbean in Anand, Gujarat, India

M Devi, Ravishankar BS, Lakshdeep Jhans, Ajay Baldaniya and Biplab Kumar Das

DOI: <https://www.doi.org/10.33545/26649926.2026.v8.i6b.863>

Abstract

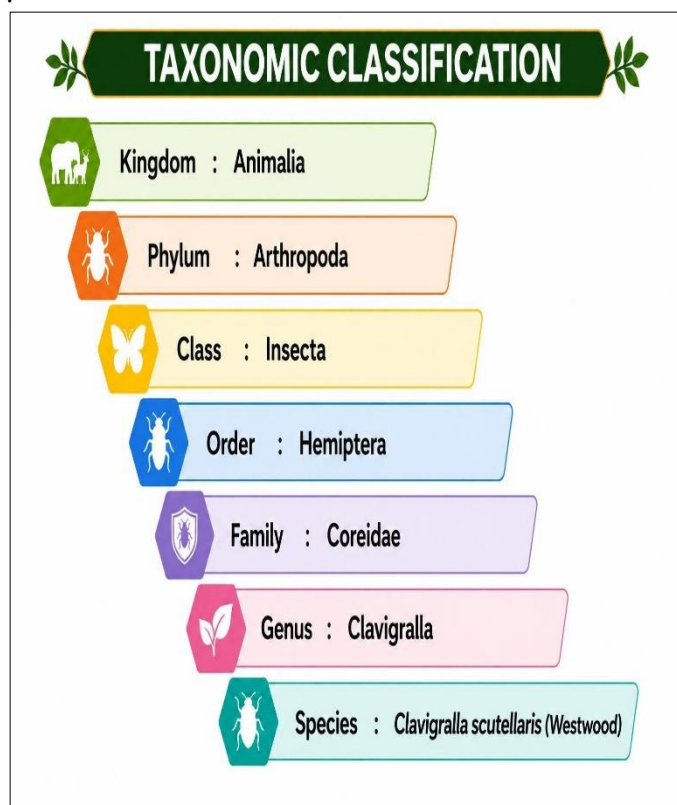
The study conducted on mungbean during summer 2025-26 revealed serious infestation of *Clavigralla scutellaris* (Hemiptera: Coreidae: Psudophloeini: Clavigrallini) during maturity stage of the crop. Both adult and nymphal stages feed on the host plant. The adults and nymphs of these bugs use their piercing mouthparts to penetrate the pod wall and suck the liquid from developing seeds. Damaged seeds become shriveled, and develop dark patches. The injury being similar to that of drought stress and the impact of these pests has been underestimated in the past. Seeds spoiled by pod- sucking bugs neither germinate nor are acceptable as human food. This small bug, *Clavigralla scutellaris*, was observed for the first time on mungbean in Anand, Gujarat, India, in large numbers on crop and adversely affected the plant growth.

Keywords: Mungbean, *Clavigralla*, Damage, Seeds

Introduction

Pulses have always been in focus right from the theme declared by the United Nations in 2016 to being an essential component of daily diets in various forms worldwide. Pulses have many uses, including supplying vital protein for human meals and improving soil health by fixing nitrogen. India stands as the global leader in pulse production, contributing 27-28% of the global total, as well as leading in consumption at 27% and importation at 14%. Pulses are an excellent source of protein for human consumption. About 20% of the food grain industry is made up of pulses, which account for 7–10% of India's overall food grain production. The cultivation of pulses is notably prominent across several major regions, including Maharashtra, Madhya Pradesh, Rajasthan, Karnataka, Uttar Pradesh, the West Bengal delta region, Tamil Nadu and Kerala. Bengal gram (Desi Chickpea/Desi Chana), Green gram (Moong bean), Pigeon pea (Arhar, Toor, Red gram), Chickpea (Kabuli Chana), Black-eyed pea (Lobiya), Mungo bean (Urad, Mah, Black gram), Lentil (Masoor), Red kidney bean (Rajma), and White pea (Matar) are the main pulses grown and consumed in India. These leguminous plants also maintain soil fertility by fixing atmospheric nitrogen. Mungbean, *Vigna radiata* (L.) is considered as one of the most economically important food legume crops of India. In India, it is the third most popular pulse crop after chickpea and pigeonpea (Swaminathan *et al.*, 2012) ^[1]. According to Reddy (2009) ^[6], India's pulse crop is reportedly affected by more than 250 insect species. Among the several factors contributing to the low productivity of pulses in India, biotic stress has been identified as the significant one (Kumar *et al.*, 2021) ^[3]. Over 250 insect pests affect legume crops throughout the country, of which the key pests during the vegetative stage include Leaf webber, Leaf roller, Whitefly, Thrips, Leaf hopper, Bihar hairy caterpillar, Black aphid, and Stem fly, causing substantial damage (Pandey *et al.*, 2024) ^[5]. The mungbean is infested by several insect pests starting from seedling to maturity and also in storage condition resulting and significant economic loss. So far, 64 species of insect pests and one species of millipede were found to infest mungbean (Siddapaji *et al.*, 1979) ^[8]. Duraimurugan and Jagadish (2002) ^[2] reported that the avoidable losses due to pest complex on mungbean ranged from 27.03 to 38.06% with an average of 32.97%. In Indian entomological literature, *Clavigralla gibbosa* Spinola (Hemiptera: Coreidae) is referred to as the "tur pod bug" and was once thought to be the only significant

coreid on tur (pigeonpea or red gram, *Cajanus cajan* (L.) Millsp.). Although mixed species aggregations have been observed on this crop in recent studies (Romeis *et al.*, 2000; Mitchell *et al.*, 2004) [7, 4], our finding raises the possibility that additional *Clavigralla* species may have more agricultural significance than was previously thought. Species of *Clavigralla* (Hemiptera: Coreidae) are among the most important insect pests of pulses. Three species of *Clavigralla* are associated with different pulses crops in India: *C. gibbosa* Spinola is distributed in all but the northeastern part of the country, *C. scutellaris* (Westwood) occurs in the south, and *C. orientalis* Dolling is present in the north (Dolling, 1978) [1].



Materials and methods

A study was conducted to identify the pests infesting mungbean crop at Main Vegetable Research Station, Anand Agricultural University, Anand, Gujarat, India, during the year 2025-

26. During the field visit, a coreid bug was observed on mungbean. To identify the bug infesting on mungbean, gathered samples were delivered to the Main Vegetable Research Station, Anand. Furthermore, the samples were collected and stored in a glass vial containing 70% alcohol for further studies. Specimens were sent to Modern College of Arts Science and Commerce, Shivajinagar, Pune for identification.

Morphological character

Very similar to *C. gibbosa*, with a broad band of dark brown between the humeral angles and a dorsally predominantly light colored appearance due to silky pubescence. Dark

brown eyes along with red ocelli observed. Head brown with irregular yellow patches. All antennal segments dark brown. Thorax has greater dorsal sclerotized and is brown with yellow spots. It is recognized by prosternum, mesosternum and metasternum dark brown approaching black colour. The dark brown color scutellum has been observed along with yellowish brown apex. Light to dark brown colour legs appear. Legs are slender and cylindrical. The leg segment (femora) anterior portion colour is yellow, while posterior half is brown colour with pubescent. Hemelytral membrane not reaching up to last abdominal segment. Total body length of the adult is 8.30 mm.

Symptoms of Infestation

Infestation by *Clavigralla scutellaris* can be recognized through several characteristic symptoms that appear on pods and seeds. One of the earliest signs is the presence of nymphs and adults congregating on developing pods, where they actively feed by sucking sap. Their feeding punctures appear as small brown or black spots on the pod surface, indicating areas of tissue damage. As feeding continues, developing seeds fail to fill properly and become shriveled, malformed, and lightweight. The pods may show discoloration and signs of premature drying before reaching physiological maturity. In severe cases, seed development is greatly impaired, resulting in reduced seed filling and poor-quality grains. The harvested produce often contains deformed, discolored, and unattractive seeds that have lower commercial and nutritional value. Farmers can effectively detect infestations by regularly monitoring crops during the flowering, pod formation, and seed development stages. The occurrence of clusters of bugs on developing pods, together with feeding punctures, shriveled seeds, and premature pod drying, are reliable indicators of infestation. Early identification of these symptoms is essential for timely implementation of management strategies and for minimizing economic losses in pulse production systems.

Acknowledgment

We are thankful to Dr. Hemant Ghatge, Department of Zoology, Modern College, Pune 411 005, India, for identifying the *Clavigralla* species.

Conclusion

Because of their high protein, vitamin, and mineral content, pulses are the second most important food in the diet after cereals. They are essential for maintaining the nutritional well-being of Indians, particularly for individuals living below the poverty line and lacking the means to purchase animal-based food products. Pulse crops have always been at risk from pest infestations, and this risk is currently at its worst due to the worsening effects of climate change and global warming. A significant sap-sucking insect pest, *Clavigralla scutellaris* (Westwood) is a member of the family Coreidae and order Hemiptera. It is commonly known as the pod-sucking bug and is a serious pest of leguminous crops, particularly pigeon pea, cowpea, and other pulse crops.

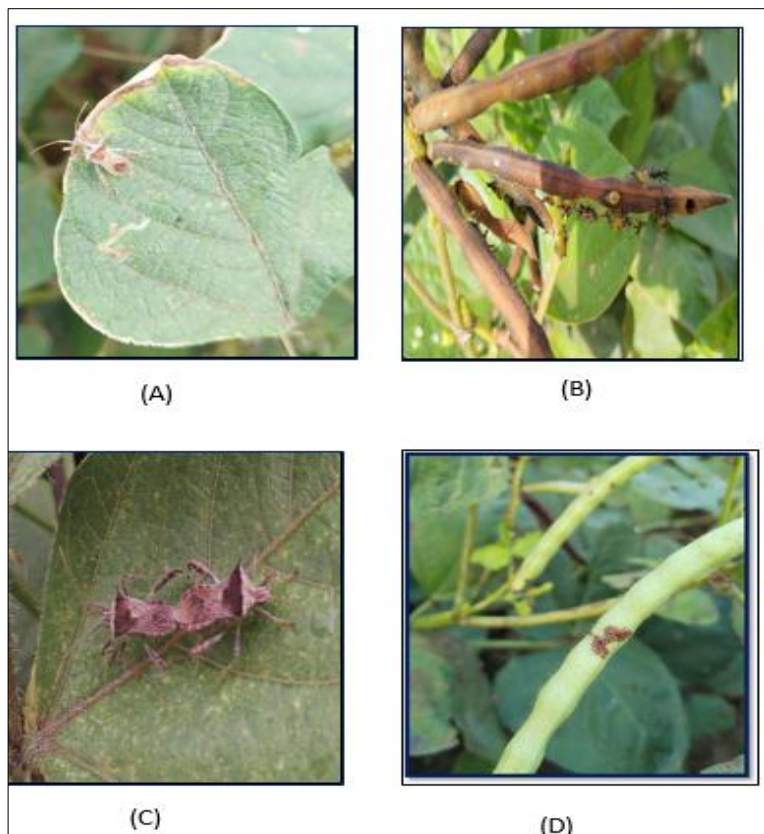


Fig. 1: (A) Adult on leaves (B) Nymphs aggregates on pod (C) Mating pair appeared on leaves (D) Eggs on pod

References

1. Dolling WR. A revision of the Oriental pod bugs of the tribe Clavigrallini (Hemiptera: Coreidae). 1978;36(6):281-321.
2. Duraimurugan P, Jagadish A. Seasonal incidence and effect of weather parameters on the population dynamics of chilli thrips, *Scirtothrips dorsalis* Hood (Thysanoptera: Thripidae) on rose. In: Proceedings of Resources Management in Plant Protection during Twenty First-Century; 2002 Nov 14-15; Hyderabad, India. Vol. 2. p. 180-183.
3. Kumar J, Murali-Baskaran RK, Jain SK, Sivalingam PN, Mallikarjuna J, Kumar V, vivo. Emerging and re-emerging biotic stresses of agricultural crops in India and novel tools for their better management. Current Science. 2021;121(1):26-36.
4. Mitchell PL, Gupta R, Singh AK, Kumar P. Behavioral and developmental effects of neem extracts on *Clavigralla scutellaris* (Hemiptera: Heteroptera: Coreidae) and its egg parasitoid, *Gryon fulviventre* (Hymenoptera: Scelionidae). Journal of Economic Entomology. 2004;97(3):916-923.
5. Pandey A, Singh SK, Singh AK, Pandey R, Routray S, Mishra MK, et al. Assessment of the incidence of pigeon pea leaf webber, *Grapholita critica* (Meyr.) and roller, *Caloptilia soyella* (Van.) in relation to weather variables in the Bundelkhand region of Uttar Pradesh. Legume Research-An International Journal. 2024;1:1-7.
6. Reddy AA. Pulses production technology: status and way forward. Economic & Political Weekly. 2009;44(52):73-80.
7. Romeis J, Shanower TG, Madhuri K. Biology and field performance of *Gryon clavigrallae* (Hymenoptera: Scelionidae), an egg parasitoid of *Clavigralla* spp. (Hemiptera: Coreidae) in India. Bulletin of Entomological Research. 2000;90(3):253-263.
8. Siddapaji C, Gowda NG, Rao GNG. Millipede—a new enemy of moong crop. Current Research. 1979;8(7):114-116.
9. Swaminathan R, Singh K, Nepalia V. Insect-pests of green gram *Vigna radiata* (L.) and their management. Agricultural Science. 2012;10:197-222.