

First Report on the Occurrence and Outbreak of Pentatomid Bug, *Degonetus serratus* (Hemiptera: Heteroptera) on Teak in Bariatu, Ranchi (Jharkhand), India

*Anand Kumar Thakur

Entomology Laboratory, University Department of Zoology,
Ranchi University, RANCHI-834008 (JHARKHAND) INDIA

*E-mail : fmruanand@gmail.com

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ABSTRACT

Degonetus serratus (Distant) is a pentatomid bug belonging to the order Hemiptera of the class Insecta. The present work is a report on the outbreak of this bug on the teak trees in Ranchi, Jharkhand. The collection was made during the field visit in an urban area Rani Bagan, Bariatu, Ranchi. Several newspaper reports emphasized on the degree of damage of leaves of teak in the area. The present paper is the first report of the occurrence of this bug and its frequent infestation from June 2023 to February 2024 in the Bariatu area of Ranchi.

Figure : 01

References : 16

Table : 00

KEY WORDS : Bariatu, *Degonetus serratus*, Hemiptera, Insecta, Jharkhand, Pentatomid, Ranchi.

Introduction

A strange disease was seen on teak trees in Ranchi, Jharkhand between June 2023 and February 2024 in which the entire leaf dried up. The effect of insect pests was visible on the new strips. In this regard, frequent reports were published in newspapers. The author searched the related teak trees and found that all the young leaves that were being affected by the pentatomid bug *Degonetus serratus* were present in them. Insect pests and host plants share a co-evolutionary pathway in the ecosystem⁵. The order Hemiptera is considered for its highest number of species and many of them are serious pests on agro-horticultural crops and forest plants⁶. Teak, *Tectona grandis* is a timber plant known for its high economic value. Out of 196 insect species reported on them, about 194 species were reported in India¹⁶. Madhya Pradesh, Tamil Nadu, Kerala, Andhra Pradesh, Karnataka, and Jharkhand are known for this plant¹¹. This plant is always under the threat of insect pests¹⁶. In a report from Thailand, insects of the orders Hemiptera, Coleoptera, Lepidoptera, and Orthoptera are frequently found as pests on teak plantations⁸. *Degonetus Serratus* a Pentatomid bug is also known as Stink bug. It belongs to the family Pentatomidae of the sub-order Heteroptera⁷. About 5000 species were reported under Pentatomidae¹³. Most of them are phytophagous. While Asopinae are predatory. They are minor and occasional

insect pests. They feed on crops, vegetables, fruits, and wild trees¹². This article reports the outbreak of the pentatomid stinkbug, *Degonatus serratus* (Hemiptera: Heteroptera: Pentatomidae) on the Teak, *Tectona grandis* from Ranchi, Jharkhand.

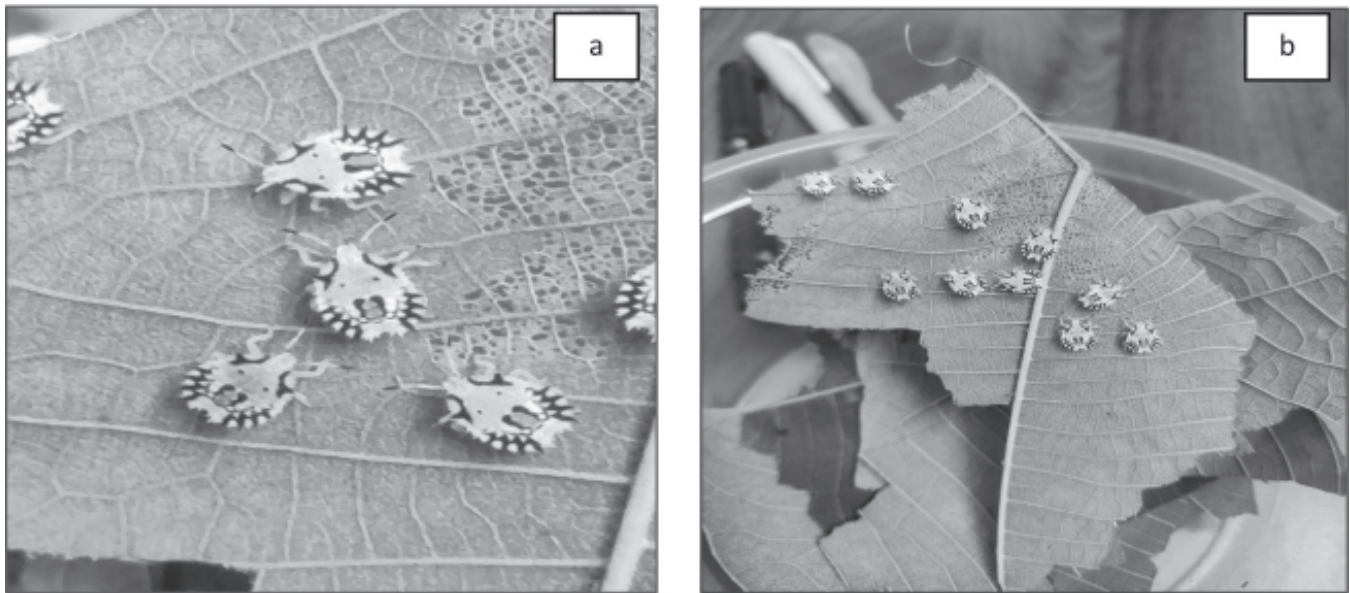
Materials and Methods

A field survey was executed in the Rani Bagan, Bariatu area of Ranchi, Jharkhand, mainly considering the teak plant problem. The geo-coordinate is 23.39437, 85.36356. The author found that the teak tree leaves' texture was damaged. The author collected fresh leaves that had an infection of stink bug through the hand pic method and cultured them in the lab at Entomology unit of the University Department of Zoology, Ranchi University, Ranchi. Photographs were taken through a mobile phone camera Redmi7pro. Each specimen was taken care of and noted the length and width in mm and the mean was calculated. The identification was done based on the photograph matching with the materials available on the internet and available literature. It was *Degonatus serratus* (Hemiptera: Heteroptera: Pentatomidae). A senior Scientist 'E', ZSI, Kolkata, confirmed the identification.

Results and Discussion

The genus name *Degonetus*. was reported in Asan Bani, Jharkhand.

Adult insects lay their barrel-shaped eggs in



Figs. 1a & b : Nymphs resting under the teak leaves collected from the Rani Bagan, Bariatu, Ranchi Jharkhand (India)

clusters on leaves. They are too small up to 1mm to 1.3 mm (1.13 ± 0.03). Nymphs were found on the ventral part of the teak's leaves. Length (head to the abdomen) and the pronotum width of males range between 11-14 mm (12.07 ± 0.22) and 6-9 mm (7.28 ± 0.32). The ventral part of the leaves of teak was a common feeding area for both nymphs and adults (Fig. 1a, b).

Many workers reported *D. serratus* in different parts of India. Earlier workers reported the first report of two morphs of this insect from Goa (India)¹⁰. Other investigators reported this insect in the forest areas of

the Tapi district of Gujrat (India)^{3,4}, in the Bhoj wetland and Van Vihar National Park, Bhopal in Madhya Pradesh (India)¹, from Pune, Maharashtra (India)⁹, reported it in South India¹⁵, from Veerangana, Damoh, Madhya Pradesh (India)². reported from the teak forest of Madhya Pradesh (India)¹⁴.

Authors' contribution

This work was carried out solely by the author.

Conflict of Interest

The author declares that he has no conflict of interest.

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