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Aspidimorpha sanctaecrucis (Fabricius): A newly recorded tortoise beetle (Coleoptera: Chrysomelidae: Cassidinae) on *Dalbergia sissoo* Roxb. from Jharkhand, India

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Abstract

Foliage Infestation of Golden tortoise beetle, *Aspidimorpha sanctaecrucis* (Fabricius) was observed in the shisham plantation of Jharkhand and the present finding documents a new record of host plant (*Dalbergia sissoo* Roxb.) of this coleopteran beetle from Jharkhand, India. This leaf beetle exhibits almost rounded, humped body encircled by a faint light brown border and a golden reflection in the elytral disc and prothorax.

Keywords: *Aspidimorpha sanctaecrucis*, foliage infestation, *Dalbergia sissoo*, new record

Introduction

Shisham (*Dalbergia sissoo* Roxb.) is socioeconomically acceptable tree species to the people of India because it provides timber, firewood, fodder, medicine and used extensively for shading, erosion control and soil fertility. It is a fast growing, hardy, timber yielding, silviculturally important tree species and very well suited for plantation programme in different parts of the country. Seedlings, saplings and young trees of shisham are often prone to leaf eating and sap sucking insect pest attack which hampered the production of this important tree species in all shisham growing states of India including Jharkhand [1, 2, 3, 4, 5, 7, 11, 13]. Among the leaf damaging coleopteran insect pests of shisham, two species of tortoise beetles viz. *Aspidomorpha miliaris* (Fabricius) and *Lacoptera nepalensis* Boheman were recorded to feed on foliages of shisham in both nursery and plantation [6]. Besides tortoise beetles, only a few coleopteran leaf beetles have been recorded on *Dalbergia sissoo* from Jharkhand [3, 4, 13]. However this present information is a newly recorded tortoise beetle, *Aspidimorpha sanctaecrucis* (Fabricius) infesting on *Dalbergia sissoo* Roxb. from Jharkhand, India.

Materials and methods

During the study of leaf damaging insect pests in the tree plantation areas of Forestry faculty, Birsa Agricultural University, Ranchi (23.18° N, 65.19° E; alt. 625 MSL) of Jharkhand, infestations of some golden shiny tortoise beetles on foliages were observed in different shisham plantations during the month of July - August, 2020 and the infestation of the same was also noticed in road side young shisham plantation in and around Ranchi, Jharkhand. These beetles were collected with the help of insect catching net and killed in the insect killing bottle containing ethyl acetate. The insects were pinned properly and pinned specimens were kept in insect box containing naphthalene ball for further identification. Later these beetles were identified as *Aspidimorpha sanctaecrucis* (Fabricius) based on detailed morphological studies and with the help of relevant literature [9, 12, 14].

Pinned specimens of *A. sanctaecrucis* (Fabricius) are kept in the collection of Insects (BAUFENT) and will be deposited in the National Zoological Collections at Zoological Survey of India, Kolkata in time.

Results and Discussion

Incidence of adult tortoise beetles (*Aspidimorpha sanctaecrucis*) (Figs. 1, 2) were noticed on the underside of shisham foliages during rainy season (July – August) and found feeding from

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lower surfaces of the leaves in the evening time creating small irregular holes of variable sizes. Adult beetles are almost rounded in shape, measuring 14 - 15 mm in length and 13 - 14 mm in breadth. These beetles are called golden tortoise beetle because of golden shine in the discs of elytra and prothorax and characterized by head with two apical joints of antenna black, elytra with a pointed conical hump behind scutellum, elytral discs irregular, four corners of elytra each with a conspicuous brown patch, margins of elytra and prothorax expanded, largely concealing the head and appendages, explanate margin transparent and with faint brown border all round. Some members of family Convolvulaceae are regarded as host plants of *A. sanctaerucis* but the most common are *Ipomoea* species viz. *Ipomoea carnea*, *I. fistulosa*, *I. aquatic*, *I. batatus*, *I. palmate* [8, 9, 10, 15]. Recently, two species of foliage eating tortoise beetles viz. *Aspidomorpha miliaris* and *Laccoptera nepalensis* were mentioned on shisham (*Dalbergia sissoo*) [5] and *Aspidomorpha sanctaerucis* (Fabricius) is the first report as a leaf damaging insect beetle from shisham plantation of Jharkhand state of India.



Fig 1: *Aspidomorpha sanctaerucis* (Adult)



Fig 2: *Aspidomorpha sanctaerucis* (Adult) Ventral view

Conclusion

The present information is the new addition tortoise beetle infesting the most valuable timber yielding tree species (*Dalbergia sissoo*) and detailed study on bionomics and host plant association of the pest has been taken for formulating effective management practices.

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