

### **Short communication**

## **FIRST RECORD OF BROAD HEADED BUGS (HEMIPTERA: HETEROPTERA: ALYDIDAE) ON SHISHAM (*DALBERGIA SISSOO*) FROM JHARKHAND, INDIA**

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**ABSTRACT :** Two broad headed bugs *Leptocorisa acuta* (Thunberg) and *Riptortus linearis* (Fabricius) were observed to cause considerable damage by sucking the sap of tender shoot and leaves of *Dalbergia sissoo* in nursery and young plantations of Jharkhand. The present findings document a new record of host plant (*Dalbergia sissoo*) of these bugs from Jharkhand, India.

**Key words :** Broad headed bugs, *Leptocorisa acuta*, *Riptortus linearis*, first record, *Dalbergia sissoo*.

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Broad headed bugs are polyphagous, hemipteran insects belonging to the family Alydidae of superfamily Coreoidea. Alydidae is a cosmopolitan, very well known but relatively small family of plant feeding true bugs which are generally serious economic pests of leguminous and graminaceous crops (Panizzi *et al*, 2000; Jansen and Halbert, 2016). The alydids (broad headed bugs) are closely related to leaf footed bugs of family Coreidae in which the relative differences in widths are significantly greater. In Coreidae, head is narrower and shorter than pronotum, whereas the head of Alydidae is almost as wide and as long as pronotum (Swanson, 2011) and in Alydidae, bucculae is shorter than antennal insertion (Vazquez, 2008). Members of both the families Coreidae and Alydidae of superfamily Coreoidea are phytophagous sap sucking bugs and causes serious damage different agricultural, horticultural and tree crops. A few record of Infestation of leaf footed bugs of family Coreidae are there in the literature on *Dalbergia sissoo* Roxb. (Khan, 1995; Kalia and Lal, 1999; More and Ghate, 2018; Chattopadhyay, 2001, 2020). But there is no record of infesting *Dalbergia sissoo* by the broad headed bugs of family Alydidae in Jharkhand state of India. An attempt has been made herein to document a new record of host

plant (*Dalbergia sissoo*) of two species of broad headed bugs viz. *Leptocorisa acuta* (Thunberg) and *Riptortus linearis* (Fabricius).

During the survey of insect pest complex in the campus nursery and plantation in Faculty of Forestry, Birsa Agricultural University, Ranchi (23.18° N, 65.19° E, alt. 625m MSL), Jharkhand, quite a good number of broad headed sap sucking bugs were noticed to suck sap from the apical soft tender shoots and leaves of shisham (*Dalbergia sissoo* Roxb.) seedlings, saplings and also young plantation during 2019 – 2020. For identification and confirmation, these sap sucking bugs were collected with the help of long handled insect catching net and killed in the insect killing bottle by using ethyl acetate. The killed specimens were then properly pinned and kept in the fumigation boxes containing naphthalene balls for subsequent identification. Later after detailed morphological studies, these bugs were identified as *Leptocorisa acuta* (Thunberg) and *Riptortus linearis* (Fabricius) with the help of available authentic literature (Ghosh, 2008; Mandanayake *et al*, 2014; Tara *et al*, 2014; Jansen and Halbert, 2016). Adult bugs of *Leptocorisa acuta* (Figs. 1 & 2) are 14 – 17 mm long, brown olivaceous in colour and having reddish brown abdomen



Fig. 1 : Adult.

Fig. 2 : *Leptocorisa acuta* (Adult)

Fig. 3 : Adult.

Fig. 4 : Nymph of *Riptortus linearis*.

with a greenish yellow margin and are characterized by short rostrum hardly reaching 2<sup>nd</sup> coxae, small distinct tubercle near each pronotal angle, prominent central carinate line to pronotum and humeral angle with dark spots whereas the adults of *Riptortus linearis* (Fig. 3) are 13 – 16 mm long, dark cinnamon brown in colour and its diagnosing features are scutellum with pale luteous apex, pronotum with a spot at middle margin, lateral area of sternum distinctly punctuate and stout hind femora with a ventrolateral row of thin spines.

Adults and nymphs of both the broad headed bug species *L. acuta* and *R. linearis* possess piercing and sucking type of mouthparts and they were found to feed on *Dalbergia sissoo* by inserting their needle like mouthparts into new leaves and apical soft tender stem from 1<sup>st</sup> week of March to 1<sup>st</sup> week of June, 2020. Sometimes excessive feeding by them was observed resulting yellowing of the leaves, formation of numerous minute puncture holes on the leaves and dried appearance of apical shoot and leaves. They were found to be very active during early morning and late afternoon i.e. crepuscular habit. In order to protect from predators, nymphs of *Riptortus linearis* were found as ant mimics

(Fig. 4). Kumar (2017) documented six species of hemipteran bugs on *Dalbergia sissoo* other than broad headed bug species *L. acuta* and *R. linearis* of family Alydidae. Both the broad headed bug species are polyphagous and known to feed on quite a good number of agricultural and tree species (Ghosh, 2008; Chandra *et al*, 2011; Tara *et al*, 2014). However, the occurrence of these two bug species on *Dalbergia sissoo* is reported for the first time from Jharkhand state of India. Infestation details of these two bug species in relation to climatic factors will be taken into account to formulate suitable management practices.

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