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REPORT OF LITCHI STINK BUG, *TESSARATOMA JAVANICA* (HEMIPTERA: TESSARATOMIDAE) ON MAHUA TREE IN CHHATTISGARH

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INTRODUCTION

Mahua (*Maduca indica*) is one of the most important forest trees widely distributed in India, belonging to family Sapotaceae. It is a tropical tree found largely in Central and North Indian plains forests. It is fast growing tree attains about 20 meters in height, possesses evergreen or semi-evergreen foliage. The tree is considered as boon for the tribals and forest dwellers in Central India.

The Litchi stink bug, *Tessaratoma javanica* (Thunberg) is relatively large sized bug characterized by the proportionately small head, short labium and large sternal plate between the middle and hind coxae. In India, it is considered to be a minor pest of litchi and has also been reported a pest of apple, pear and mulberry plant (*Morus alba*) (Sunil and Chandrashekar, 2013), whereas in southern part of India it is very common on *Michelia champaca*. Recently, an outbreak of Litchi stink bug was recorded during February–April, 2011 from the Chotanagpur plateau of Jharkhand, India (Chaudhary *et al*., 2013).

This bug usually appears on litchi from the last week of April and disappears from the orchard after the last week of August and undergoes hibernation in adult stages (Kumar *et al.* 2008). The nymphs and adults of the bug suck the sap of the flowering and fruiting shoots, flowers and young fruits causing flowers and fruits to fall, the necrosis of young twigs, the blackening of fruit to drying of shoot tips. Present study includes the report of new host plant of litchi stink bug from Chhattisgarh and also provides additional diagnostic and morphometric characters by taking measurements of different body parts and their ratios, means and Standard Deviation has also been calculated (Table-1)

MATERIALS AND METHODS

While undertaking the entomological survey of Korba district, 22 specimens (8 ♂♂ and 14 ♀♀), were collected by the second author from the bark of Mahua tree near Kartala Rest House, (22°16’405”, 82°51’10.6”; 343 m.), Korba district, Chhattisgarh, which were also observed from other localities in Korba district. The dead nymphs were observed in many numbers on the trunk of Mahua tree and many adults were found on the ground below the tree. Collected bugs were studied in details and photographs and measurements of different body parts were taken with the help of stereoscopic microscope (Leica M 205A).

RESULTS

The size of the litchi bug is 25 to 31 mm. length and breadth 15 to 16 mm. The body colour is ochraceous to pale olivaceous brown and the underside of the body is covered with a white

Table 1. Means and standard deviations of different body parts and their ratios in the male and female of adult *Tessaratoma javanica* (Thunberg).

Parts of body	MALE			FEMALE		
	MIN (m.m.)	MAX (m.m.)	Mean+SD	MIN (m.m.)	MAX (m.m.)	Mean+SD
Length of head (HL)	2.14	2.83	2.517±0.240	2.60	2.75	2.638±0.049
Max. width of head across eyes (HW)	3.64	3.95	3.818±0.102	3.80	4.03	3.881±0.077
Length of Pronotum (PL)	7.98	8.77	8.562±0.300	8.36	9.99	9.058±0.507
Max. width of pronotum (PW)	11.87	13.57	12.876±0.580	13.35	14.67	13.935±0.479
Length of fore femur (FF)	4.00	4.20	4.088±0.098	3.81	5.48	4.389±0.610
Length of mid femur (MF)	4.81	5.41	5.076±0.214	5.07	6.02	5.423±0.271
Length of hind femur (HF)	5.89	6.64	6.201±0.294	5.59	7.03	6.605±0.466
Length of 2nd joint of antennae (A2)	2.18	2.53	2.305±0.116	1.91	2.65	2.361±0.244
Length of 3rd joint of antennae (A3)	2.10	2.43	2.242±0.103	2.16	2.43	2.246±0.117
Length of 4th joint of antennae (A4)	2.69	3.08	2.861±0.181	2.81	2.87	2.848±0.031
Ratios						
Length of head / Max. width of head across eyes (HL/HW)	0.556	0.724	0.659±0.057	0.648	0.716	0.680±0.022
Length of Pronotum / Max. width of head across eyes (PL/HW)	2.097	2.409	2.244±0.104	2.194	2.479	2.333±0.098
Max. width of pronotum / Max. width of head across eyes (PW/HW)	3.149	3.569	3.373±0.127	3.397	3.782	3.591±0.116
Max. width of pronotum / Length of pronotum (PW/PL)	1.393	1.631	1.505±0.077	1.396	1.637	1.542±0.081
Length of hind femur / Length of mid femur (HF/MF)	1.163	1.260	1.222±0.030	1.103	1.292	1.218±0.068
Length of hind femur/ Length of fore femur (HF/FF)	1.402	1.660	1.518±0.097	1.246	1.693	1.522±0.166
Length of hind femur/ Max. width of head across eyes (HF/HW)	1.506	1.775	1.626±0.099	1.467	1.789	1.701±0.104
Length of 2nd joint of antennae/ Length of 3rd joint of antennae (A2/A3)	0.961	1.076	1.029±0.037	0.876	1.227	1.052±0.109
Length of 2nd joint of antennae/ Length of 4th joint of antennae (A2/A4)	0.711	0.881	0.808±0.058	0.666	0.943	0.829±0.087

powdery substance. The antennae brown, apical joint generally, brownish ochraceous; margins of head and pronotum very narrowly piceous; body above very finely and obscurely punctate. Head triangular from anterior view, wider than long, length 0.66 X to its width; antennae 4 jointed, 1st joint smallest, 2nd joint little longer than 3rd joints and 4th longest; antennal formula, 1<3< 2 < 4; rostrum relatively shorter, just passing anterior coxae; Pronotun slightly convex, slightly extended over, wider than long, maximum width of pronotum 1.5 X to its length. Femurs provided with pairs of apical spurs, hind femora more than one and a half times as long as fore femora, tibiae and tarsal segments, in all three legs are provided with spines arranged in row, basal joints of tarsi longer than rest of the tarsal joints; Scutellum more or less triangular, narrow at apex; corium finely punctuated, Abdomen ovate, wider than the maximum width of head in middle, about 1.19 X to hind femora and rounded apically.

The species is widely distributed all over India including Chhattisgarh, Assam, Andhra Pradesh, Bihar, Delhi, Gujarat, Haryana, Madhya Pradesh, Punjab, Rajasthan, Maharashtra, Sikkim, Uttar Pradesh and elsewhere in Bangladesh, Myanmar, Central Africa, Indo-China, Java, Indonesia, Malaysia, Laos, Lesser Sunda Is., Malay Peninsula, Pakistan, Philippines, Sri Lanka, Sumatra, Thailand, Vietnam.

Litchi stink bug, *Tessaratoma javanica* (Thunberg) has recorded for the first time on the bark of Mahua tree (*Maduca indica*) near Kartala in Korba district of Chhattisgarh. Hundreds of specimens were found on the ground below Mahua tree and various localities and nymph were attached to the bark of the tree and the hatched eggs were also found on the bark.

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PLATE I

Tessaratoma javanica (Thunberg)

A. dorsal view male

B. dorsal view female

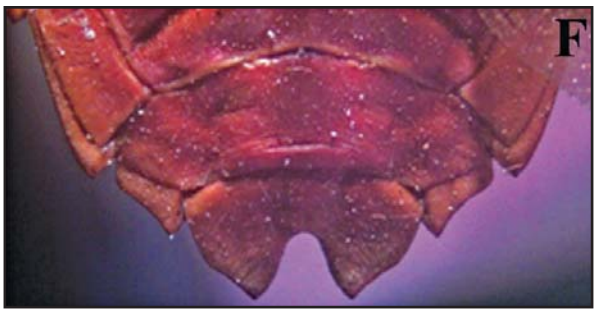
C. head and antennae

D. legs

E. male external genitalia (dorsal view)

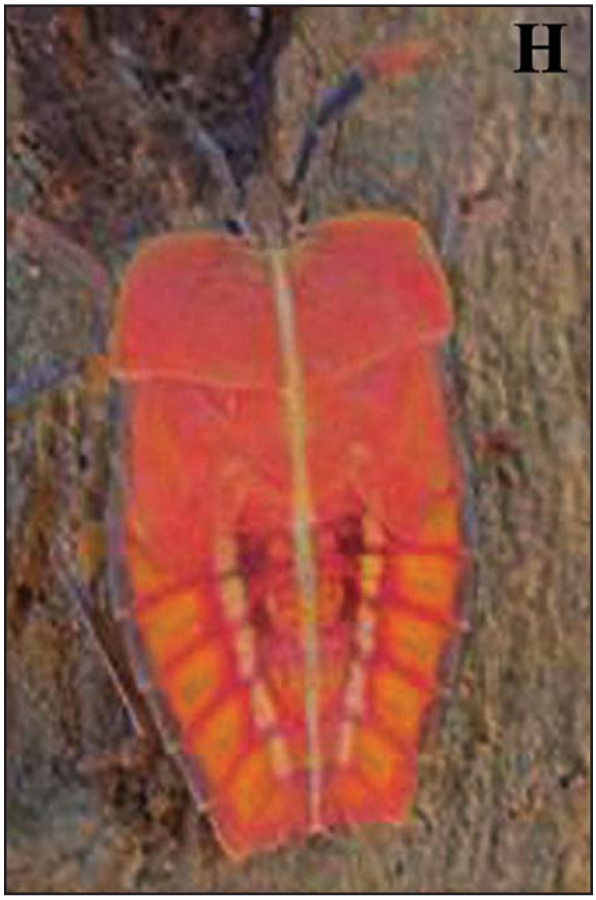
PLATE II

Tessaratoma javanica (Thunberg)



F. Female external genitalia (dorsal view)

G. Hatched eggs



H. Nymph

I. Dead nymphs and adults laying near Mohua tree