



## Long-horned Beetles (Coleoptera: Cerambycidae) and Tortoise Beetles (Chrysomelidae: Cassidinae) of Tripura, northeastern India with some new additions

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Members of the family Cerambycidae are commonly known as Longicorn or Long-horned Beetles. This family includes a vast assemblage of phytophagous and xylophagous insects. This is one of the largest families of Coleoptera and contains more than 35,000 species under 4,000 genera in 11 subfamilies (Lawrence 1982). The family, though predominant in tropics, is distributed throughout the world. The number of cerambycid species recorded from India is about 1500 (Beeson 1941; Breuning 1960–62, 1963a, 1963b, 1964, 1965, 1966) including 13 species reported from Tripura (Mukhopadhyay &

Biswas 2002). Several new species have been described since the above studies, and many are being documented in Indian territory for the first time (e.g. Ghate et al. 2006, 2011) and so the number of cerambycid species found in India may have changed.

Members of the subfamily Cassidinae (Chrysomelidae) are popularly known as Tortoise Beetles. There are 2,760 species of tortoise beetles known in the world so far (Borowiec 1999) including 450 species recorded from India and four species from Tripura (Basu 2002). Jacoby (1908), Maulik (1919, 1926), Scherer (1969), Takizawa (1980), Borowiec & Takizawa (1991) and Borowiec (1999) have produced monographic works on Indian Chrysomelidae, including tortoise beetles. In this communication, 11 species of Cerambycidae and seven species of Cassidinae beetles are reported as new records from the state of Tripura in India.

### Study site

Tripura, one of the border states of northeastern India, lies between 22°55'–24°32'N & 91°21'–92°16'E. The state has an area of 10,492km<sup>2</sup> with 53.62% of area under forest cover. Landscape of the state comprise of low hills covered with moist deciduous forests dominated by *Shorea* and *Tectona* trees with thick understorey, undulating hillocks covered with secondary forests dominated by *Dipterocarpus* trees and bushes, and agricultural plains dominated by paddy crop with rain-fed rivers and patches of plantation crops (jute, tea, rubber) and fruit trees (pineapples, mango, cashew nuts and jackfruits) (Chakraborty 1989, 2003). Thus, the landscape of Tripura is very heterogeneous which provides edge effects and diverse habitat types for flora and fauna.

### Methods

Collections were made during January 2007–December 2010 by frequent visits to forested and cultivated habitats in different parts of the state. Collected specimens were identified to species level following key characters provided by Gahan (1906), Maulik (1919, 1926), Cherepanov (1990), Mukhopadhyay & Biswas (2000), Basu (2002) and Mukhopadhyay & Halder (2004) and also by

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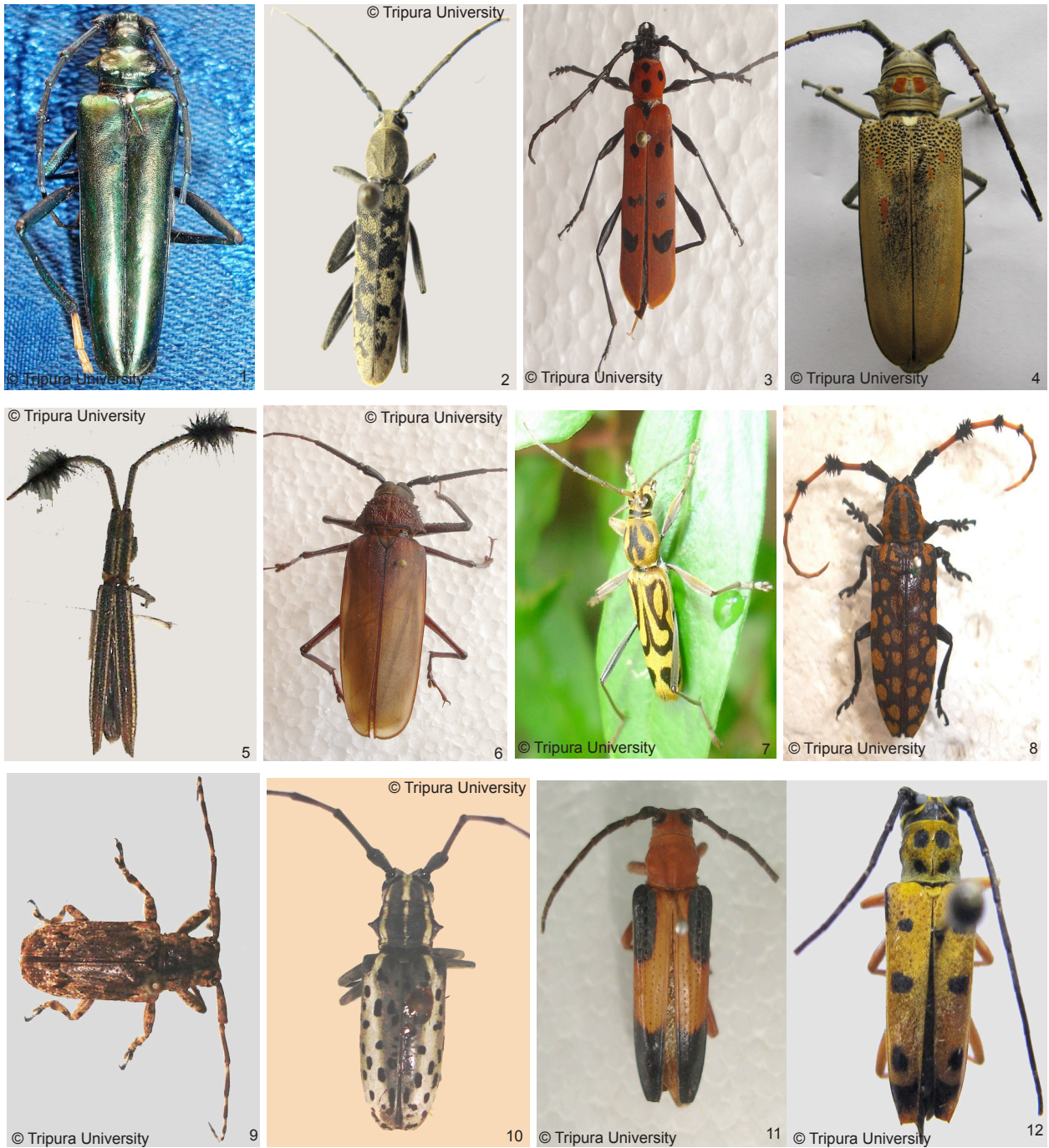
comparison with the identified materials available in the ecology and biodiversity laboratories, Department of Zoology, Tripura University where voucher specimens of species reported here are kept.

## Discussion

In the present study, 19 species of Cerambycidae belonging to three subfamilies were recorded. The subfamily Lamiinae is found to be dominant with 11 species, followed by Cerambycinae with seven species, and one species belonged to the subfamily Prioninae. Eleven of these species are reported here for the first time from Tripura (Table 1, Images 1–12). In case of tortoise beetles, eight species were recorded, of which seven species are reported as new records from Tripura (Table 2, Images 13–20). Considering the lack of studies on the Cerambycidae and Cassidinae insect biodiversity in this region, the findings are very significant for the understanding of insect biodiversity in Tripura State and providing baseline data.

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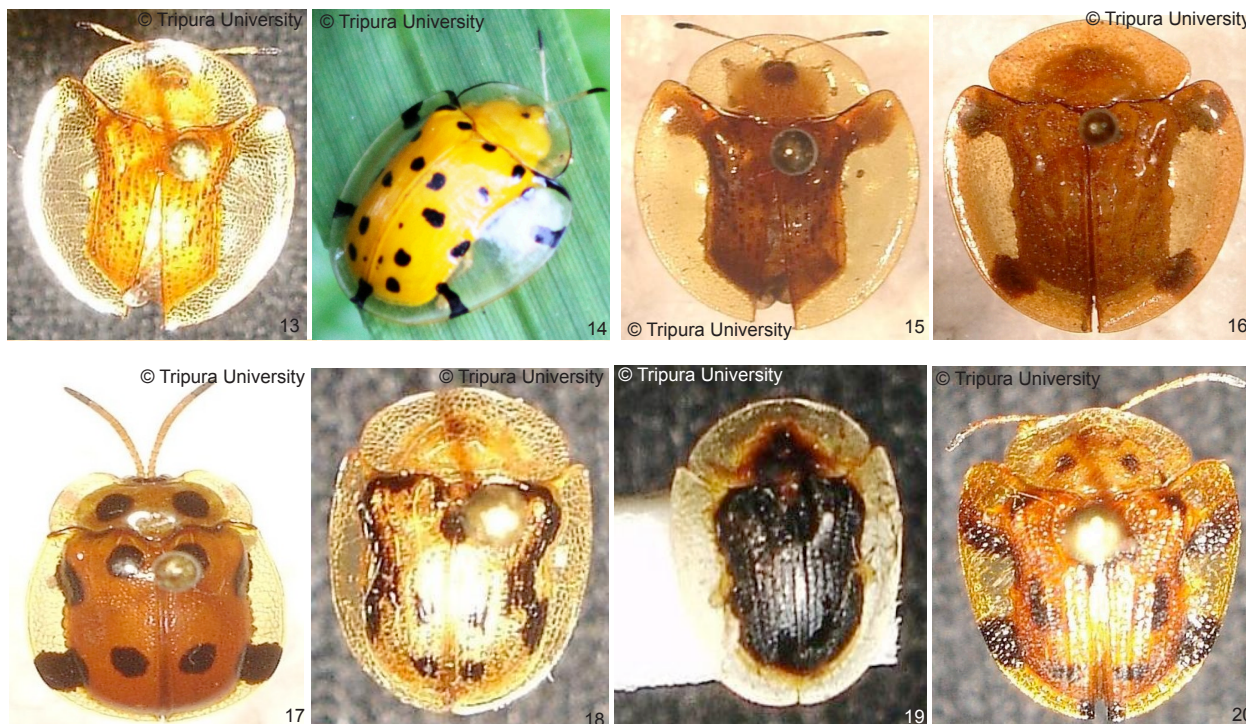
Images 1–12. Cerambycidae beetles.

1 - *Aphrodisium cantori* (Hope), 2 - *Oemospila maculipennis* Gahan, 3 - *Rosalia decempunctata* (Westwood), 4- *Batocera numitor* Newman, 5 - *Eucomatocera vittata* White, 6 - *Bander pascoei* Lansberge, 7 - *Chlorophorus annularis* F., 8 - *Aristobia testudo* Voet, 9 - *Coptops aedificator* F., 10 - *Epepeotes uncinatus* Gahan, 11 - *Stibara tetraspilota* Hope, 12 - *Glenea flava* Jordon.

Table 1. Records of Cerambycidae beetles of Tripura State

Species	Distribution in Tripura		Reference No.*	Remark
	Earlier recorded by Mukhopadhyay & Biswas (2002)	Records of new distribution		
<b>Superfamily: Cerambycoidea</b>				
<b>Family: Cerambycidae</b>				
<b>Subfamily: Cerambycinae</b>				
1. <i>Anubis inermis</i> (White)	Abhya, s. Tripura	-	ZSI collection +	-
2. <i>Aphrodisium cantori</i> (Hope)	-	Trishna WS, s. Tripura	2673	New Record
3. <i>Chelidonium gibbicole</i> (White)	Santibazar, s. Tripura	Trishna WS, s. Tripura	2674	-
4. <i>Chlorophorus annularis</i> F. (= <i>Caloclytus annularis</i> F.)	-	Jampui, n. Tripura	2675	New Record
5. <i>Noserius</i> sp.	Sikaribari, n. Tripura	-	ZSI collection +	-
6. <i>Oemospila maculipennis</i> Gahan	-	Jampui, n. Tripura	3125	New Record
7. <i>Rosalia decempunctata</i> (Westwood)	-	Trishna WS, s. Tripura	2668	New Record
8. <i>Stromatium barbatum</i> F.	Ambasa, d. Tripura	Bhubanban, w. Tripura Trishna WS, s. Tripura	2672	-
9. <i>Xystrocera globosa</i> Olivier	Belonia, s. Tripura, Belonia, s. Tripura	Trishna WS, s. Tripura	2679	-
<b>Subfamily: Lamiinae</b>				
10. <i>Aristobia testudo</i> Voet	-	Suryamaninagar, w. Tripura	207	New Record
11. <i>Batocera numitor</i> Newman	-	Jampui, n. Tripura	3126	New Record
12. <i>Centrura</i> sp.	Chimbagan, n. Tripura	-	ZSI collection +	-
13. <i>Coptops aedificator</i> F.	-	Trishna WS, s. Tripura	3127	New Record
14. <i>Epepeotes uncinatus</i> Gahan	-	Maharani, s. Tripura	3130	New Record
15. <i>Eucomatocera vittata</i> White	-	Subalsing, w. Tripura	2681	New Record
16. <i>Glenea indiana</i> Thomson	Baramura, w. Tripura, Abhya, s. Tripura	Mirza, s. Tripura	178	-
17. <i>Glenea assimilis</i> Gahan	Thakachera, Ameupur, s. Tripura	-	ZSI collection +	-
18. <i>Glenea flava</i> Jordan	-	Jampui, n. Tripura	3128	-
19. <i>Macrochenus guerini</i> White	Kungmura, s. Tripura	Maharani; s. Tripura	3129	-
20. <i>Olenecamptus bilobus</i> F.	Agartala, w. Tripura	Trishna WS, s. Tripura	2666	-
21. <i>Olenecamptus</i> sp.	Sonamura, s. Tripura	Trishna WS, s. Tripura	2667	-
22. <i>Oberea posticata</i> Boheman	Abhya, s. Tripura	-	ZSI collection +	-
23. <i>Oberea</i> sp.	Baramura, w. Tripura	-	ZSI collection +	-
24. <i>Stibara tetraspilota</i> Hope	-	Trishna WS, s. Tripura	2680	New Record
<b>Subfamily: Prioninae</b>				
25. <i>Bander pascoei</i> Lansberge	-	Trishna WS, s. Tripura	2665	New Record

w. Tripura = west Tripura District; s. Tripura = south Tripura District; n. Tripura = north Tripura District; d. Tripura = Dhalai Tripura District; Trishna WS = Trishna Wildlife Sanctuary; \* Reference collection number (Coleoptera / Cerambycidae- #) of Insect Biosystematics Centre, Department of Zoology, Tripura University; + As per the information documented in Mukhopadhyay & Biswas (2002).



Images 13–20. Cassidinae beetles. 13 - *Aspidomorpha dorsata* (F.), 14 - *Aspidomorpha miliaris* (F.), 15 - *Aspidomorpha furcata* (Thunberg), 16 - *Aspidomorpha sanctaerucis* (F.), 17 - *Basiprionota decemmaculata* (Boheman), 18 - *Cassida* sp., 19 - *Cassida flavoscutata* Spaeth, 20 - *Lacoptera nepalensis* Boheman

Table 2. Records of Cassidinae beetles of Tripura State

Species	Distribution in Tripura		Reference No.*	Remark
	Earlier recorded by Basu (2002)	Record of new distribution		
<b>Superfamily: Chrysomeloidea</b>				
<b>Family: Chrysomelidae</b>				
<b>Subfamily: Cassidinae</b>				
1. <i>Aspidomorpha dorsata</i> (F.)	-	Jampui, n. Tripura	3231	New Record
2. <i>Aspidomorpha furcata</i> (Thunberg)	-	Salema, d. Tripura	76	New Record
3. <i>Aspidomorpha miliaris</i> (F.)	-	Jampui, n. Tripura	3232	New Record
4. <i>Aspidomorpha sanctaerucis</i> (F.)	-	Pandabpur, w. Tripura	79	New Record
5. <i>Basiprionota decemmaculata</i> (Boheman)	-	Jampui, n. Tripura	3233	New Record
6. <i>Cassida catenata</i> Boheman	Bagma, Shalgara, s. Tripura	-	ZSI collection +	-
7. <i>Cassida circumdata</i> Herbst	Barpathari, s. Tripura	-	ZSI collection +	-
8. <i>Cassida flavoscutata</i> Spaeth	-	Bagabasa, s. Tripura	77	New Record
9. <i>Cassida</i> sp.	-	Jampui, n. Tripura	3234	-
10. <i>Chiridopsis scalaris</i> (Weber)	Belonia, s. Tripura	-	ZSI collection +	-
11. <i>Lacoptera nepalensis</i> Boheman	-	Jampui, n. Tripura	3235	New Record
12. <i>Lacoptera quadrimaculata</i> (Thunberg)	Ambassa, Dulubari, d. Tripura	-	ZSI collection +	-

w. Tripura = west Tripura; s. Tripura = south Tripura; n. Tripura = north Tripura; d. Tripura = dhalai Tripura; \* Reference collection number (Coleoptera / Chrysomelidae- #) of Insect Biosystematics Centre, Department of Zoology, Tripura University; + As per the information documented in Basu (2002)

