



## First record of the longhorn beetle, *Rosalia lameerei* Brongniart (Cerambycidae: Cerambycinae: Compsocerini) from India, with additional descriptions of male

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**ABSTRACT:** Longhorn beetle, *Rosalia lameerei* Brongniart, 1891 is reported from India for the first time with re-description of morphological characters and first time descriptions of male genitalia.

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**KEYWORDS:** Longhorn beetle, Compsocerini, *Rosalia lameerei*, male genitalia

### INTRODUCTION

During the survey of cerambycid beetles in Northeast India, a colorful longhorn beetle identified as *Rosalia lameerei* Brongniart, 1891 was collected from Medziphema, Nagaland, its presence in Nagaland is the first record from India and an addition to the known list of species of Indian Cerambycidae. *Rosalia lameerei* was redescribed by Gahan (1906), but subsequently there are no detailed descriptions or illustrations of important characters. In this note, we present an additional description of *R. lameerei* along with the illustrations of the collected male. Also included are images of male genitalia for the first time.

### MATERIAL EXAMINED

#### *Rosalia lameerei* Brongniart, 1891

1 ♂ INDIA, Nagaland state, Dimapur district, Medziphema, 24.VII.2009, Dr. Pankaj Neog leg., Measurements (mm): body length 35; breadth at

mid elytra 10; length and breadth of head 4 and 6; pronotal length 5 and breadth 7; elytral length 21; antennae 56.

### RESULTS

#### General form and coloration

Body size moderately large. Entire body clothed with fine pubescence; head black, with narrow semicircle of bluish strip below eyes; pronotum bluish green, elytra greenish blue with four transverse black, velvety bands and spots (Fig. 1); body beneath blue (Fig. 2) with head, mesosternum and transverse bands on abdomen black (Fig. 3). Mandibles black, long and broad, with dorsal ridge and tooth (Fig. 4). Antennae longer than body by the last five joints, light blue in color, except for first two antennomeres and distal ends of each antennomere, which are black; apex of each antennomere with tuft of black hairs, these very prominent on antennomeres 3 to 6, rest of tufts are smaller (Figs. 1, 2). Pronotum with median

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prominent black patch on the anterior half, with two separate laterally placed black spots (Fig. 5); scutellum bluish green and heart shaped. Legs black, femora sub-fusiform with a narrow bluish band near apex; pro and mesotibiae slender, metatibiae swollen at apex and setose; meso and meta tarsi bluish dorsally and brownish ventrally.

### Morphology

Head elongate, slightly sloping in front of eyes and narrowed at base; mandibles prominent, curved, sharply pointed, shining. Clypeus narrow, transverse; maxillary and labial palpi moderately long, black and covered with sparse pubescence; eyes large, finely faceted, emarginate. Antennae inserted at a distance in front of eyes, antennal tubercles moderately raised and area between them concave and coarsely punctate; short median longitudinal sulcus present between the antennal tubercles; antennae one and half times longer than body (in male), scape moderately long, slightly curved and gradually thickened from base towards apex, finely punctate (Fig. 5).

Prothorax broadest in middle and slightly narrower towards both ends, anterior margin slightly raised, unarmed at sides; prosternum slightly raised, bluish with sparse pubescence at sides, prosternal process narrow, slightly elevated (Fig. 7); mesosternum slightly depressed, mesosternal process bilobed reaching to half of meso-coxae; metasternum of moderate length. Metasternum broader than any other segment ventrally, rectangular. All legs moderately long, coxae prominent, femora sub-fusiform; mid and hind tibiae slightly dilated and more pubescent at distal end (Fig. 9); claws divergent.

Elytra almost parallel-sided, their apices moderately truncate. Of the four black bands and spots on elytra, the third one is represented by spots and other three by short bands except second, which is longer and broader.

### Male genitalia

According to the terminology of Wallin *et al.* (2013), tegmen approximately 3.7 mm in length; lateral

lobes straightly tapered from the middle to the narrowly rounded apices, with fine long setae (Figs. 13A-13C); median lobe plus median struts slightly curved (Figs. 10A-10C); longer than tegmen; dorsal plate bilobed and longer than ventral plate (Figs. 11A-11B); apex of the ventral plate straight; median foramen elongated; internal sac as long as median lobe (Figs. 11A-11B) with four semicircular basal pieces of armature, two arranged horizontally and two vertically. Tergite VIII broader than long (Figs. 12A-12B), apical margin bilobed, with short setae around sides.

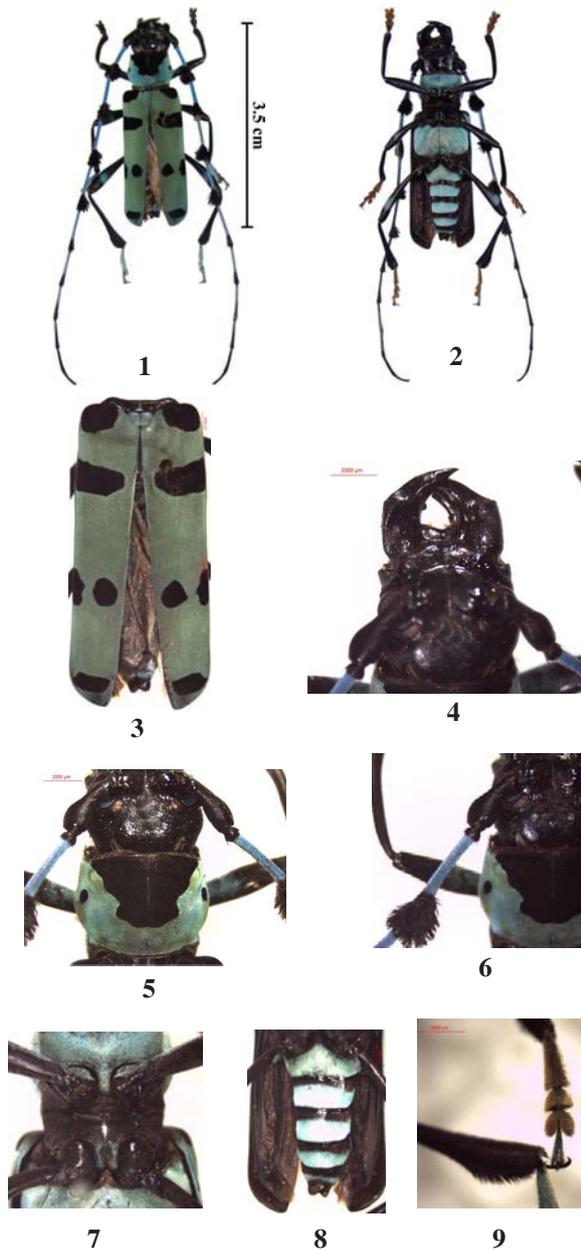
### Distribution

China, Laos, Myanmar (Burma), Thailand, Taiwan?, Vietnam (Gahan 1906, Takakuwa 1994) and India, present report.

## DISCUSSION

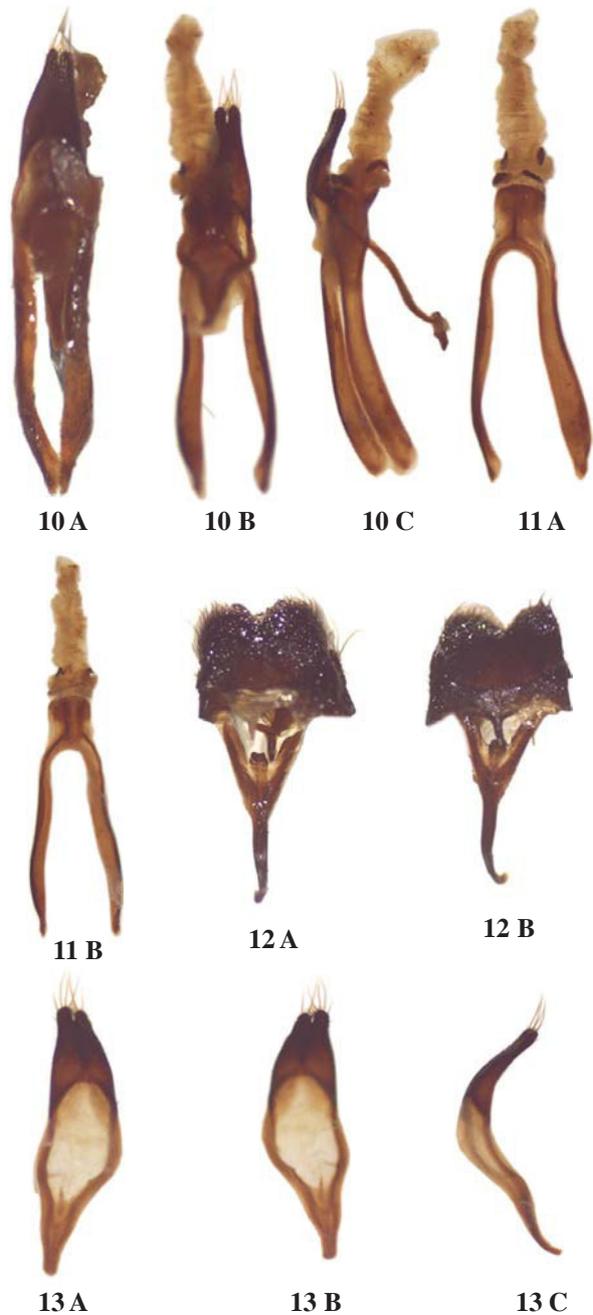
*Rosalia lameerei* is known to occur in Myanmar (Burma), Thailand, Laos, northern Vietnam, southwestern China and possibly, Taiwan so far (Gahan, 1906, Takakuwa, 1994). Previous papers dealing with Cerambycidae from Northeast India (Sengupta and Sengupta, 1981, Mukhopadhyay and Biswas, 2000, 2002, Mukhopadhyay and Halder, 2004, Agarwala and Bhattacharjee, 2012, Agarwala *et al.*, 2014, Mitra and Majumder, 2014 and Agarwala and Bhattacharjee, 2015) and the recent Nagaland survey by Mitra *et al.* (2016) do not list this species. Since Nagaland is located in the eastern most parts of India and Myanmar is adjacent country, occurrence of *R. lameerei* is not surprising. Lack of recent surveys in Northeast India does not allow full recognition of the biodiversity of these areas. The present observations on *R. lameerei* are in accordance with the descriptions given by Gahan (1906). Additional morphological characters and illustrations are furnished in this paper along with morphometry and details of male genitalia. Takakuwa (1994) studied genitalia of genus *Rosalia* but not *R. lameerei*, so these are first time descriptions of male genitalia.

Presently the genus *Rosalia* is placed in the tribe Compsocerini Thomson, 1864 of Cerambycinae.



Figs. 1-9. *Rosalia lameerei*. 1) dorsal habitus; 2) ventral habitus; 3) Elytra; 4) Mandibles; 5) Pronotum; 6) Antennomeres I-III; 7) Prosternal process; 8) Abdominal sternites; 9) mesotarsus and metatibial apex.

Five species of *Rosalia* viz., *R. (Eurybatus) decempunctata* (Westwood, 1848), *R. (Eurybatus) gravida* (Lameere, 1887), *R. (Eurybatus) lateritia* (Hope, 1831), *R. (Eurybatus) formosa* (Saunders, 1839) and *R. (Eurybatus) hariola* Thomson, 1860) are known to occur in Northeast India so far (Gahan, 1906);



Figs. 10-13. *Rosalia lameerei*. 10) male genitalia. A) dorsal, B) ventral, C) lateral; 11) Median lobe and internal sac. A) dorsal, B) ventral, scale 200 $\mu$ m. 12) Tergite VIII and sternite VIII and XI. A) dorsal, B) ventral. 13) tegmen. A) dorsal, B) ventral, C) lateral, scale 100 $\mu$ m.

*Rosalia decempunctata* was reported from Tripura, Assam, Arunachal Pradesh and Sikkim (Mukhopadhyay and Halder, 2003); *R. gravida* from Himalayas; *R. lateritia* from Himalayas and Arunachal Pradesh; *R. hariola* from Sikkim (Mukhopadhyay and Halder, 2003) and *R. formosa*

from Assam, Meghalaya, Sikkim (Mukhopadhyay and Halder, 2003). Now *R. lameerei* becomes the sixth species of *Rosalia* found in India that can easily be distinguished by its characteristic greenish blue coloration of the body and four elytral black markings. All other species are reddish brown to rusty with variable elytral markings. This is the only Indian species that belongs to subgenus *Rosalia*, the other ones belong to the subgenus *Eurybatus* (Gahan, 1906).

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