

論文 (Original article)

Longicorn beetles from Mts. Bromo in East Java, Indonesia, with descriptions of a new species and a new subspecies (Coleoptera; Cerambycidae)

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Abstract

One new species *Prosoplus bromoensis* sp. nov. and one new subspecies *Rucentra ochreopunctata silvicola* subsp. nov. are described on the basis of the specimens collected from Mts. Bromo, East Java, Indonesia. A total of four cerambycid taxa including an unidentified *Sybra* sp. were collected from two study sites at 2,000-2,300m in altitude in Mts. Bromos in 2010.

Key words : Cerambycidae, new taxa, Mts. Bromo, Indonesia, Forest rehabilitation, natural forest.

Introduction

Mts. Bromo is a generic name of five volcanoes, Mt. Bromo (alt. 2,392m), Mt. Batok (alt. 2,470m), Mt. Kursi (alt. 2,581m), Mt. Watangan (alt. 2,661m) and Mt. Widodaren (alt. 2,650m) in the Bromo Tengger

Semeru National Park, in East Java, Indonesia, located between Malang and southeast of Surabaya, the capital of East Java (Fig. 1). These mountains form the big sand sea in the Tengger Caldera (Whitten et al., 1996) (Fig. 2).

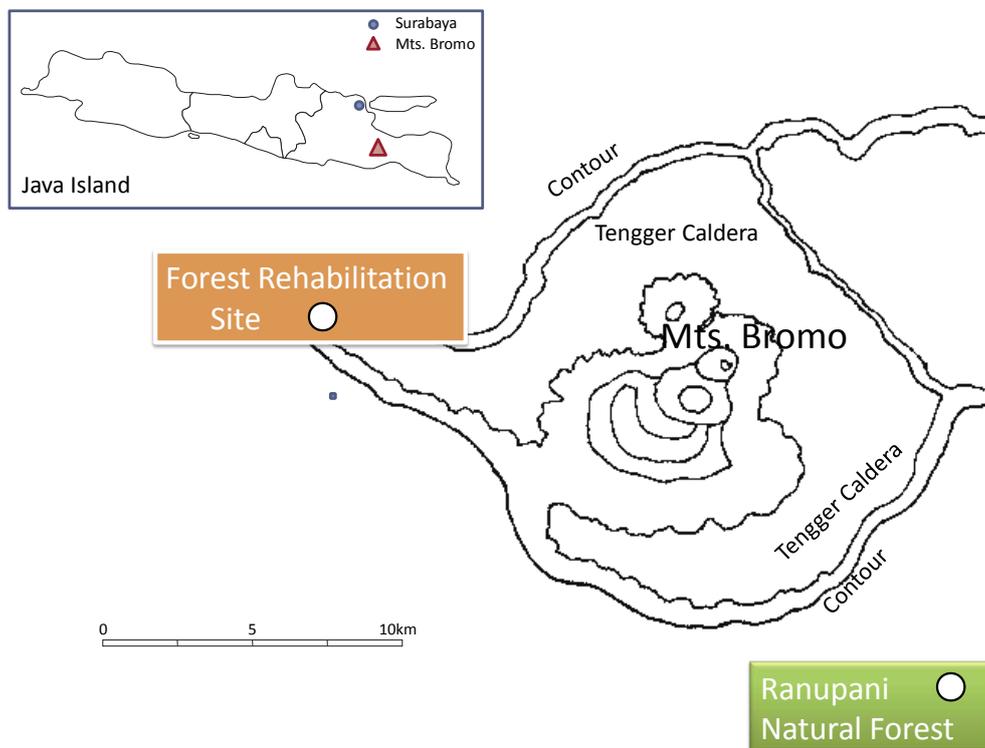


Fig. 1. Location map of Mts. Bromo and research sites (○).

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Fig. 2. Mts Bromo and Tengger caldera which formed big sand sea.



Fig. 4. Ranupani natural forest.



Fig. 3. Forest Rehabilitation site.



Fig. 5. The contour of the Tengger Caldera.

Only one cerambycid species was known from Mts. Bromo to date. That is *Rucentra ochreopunctata* Breuning (Breuning, 1938, 1960), an apterous species collected from the Tengger Caldera.

Cerambycidae survey was conducted in two sites in the outside of the contour of the Tengger Caldera (Fig. 5) in the southern part of Mts. Bromo; one is the forest rehabilitation site, FRS (alt. 2,300 m; Figs. 1, 3) managed by Sumitomo Forestry Co., Ltd. and the other is Ranupani natural forest, RF (alt. 2,000m; Figs. 1, 4), 20 km south east of the FRS. The FRS has a poor vegetation cover with a few trees mainly of *Casuarina junghuhniana* and *Acacia decurrens*. The RF is a moss forest comprised of rich vegetation as Fagaceae, Moraceae, Anacardiaceae and Rubiaceae.

Six *Artocarpus* traps (Fig. 6) were set up at the FRS in January 20-21 and July 21-25, 2010, and at the RF in July 20-24, 2010, respectively. Cerambycid specimens were collected by H. Makihara, and Sugiarto.



Fig. 6. *Artocarpus* trap.

Twenty two and twenty six cerambycid individuals were sampled from the FRS and RF respectively, and identified to species by authors. They were classified into four taxa; *Prosoplus bromoensis* sp. nov., *Rucentra ochreopunctata ochreopunctata*, *Rucentra ochreopunctata silvicola* subsp. nov. and *Sybra* sp.

Rucentra ochreopunctata shows geographical variation between two localities as the FRS and the RF, and a new subspecies *R. o. silvicola* subsp. nov. was described from the RF.

The following company and institutions are abbreviated: KTI, Kutai Timber Indonesia; LIPI, Lembaga Ilmu Pengetahuan Indonesia (Indonesian Institute of Science); MZB, Museum Zoologicum Bogoriense.

Cerambycid beetles from Mts. Bromo collected in 2010

Tribe Apomecynini Lacordaire, 1872

Sybra sp.
(Fig. 7)

This unidentified species may be close to *Sybra fuscotriangularis* Breuning described from Java. Detailed description of the sampled specimen omitted herein, since only the single female was available for study and could not compare with other *Sybra* species from Java which are known more than twenty species and morphologically very similar to each other.

Specimen examined. 1♀, Ranupani Natural Forest (alt. 2,000m), southern part of Mts. Bromo, outside of contour of Tengger Caldera, 20-24. VII. 2010, collected by *Artocarpus* trap, H. Makihara and Sugiarto leg.



Fig. 7. *Sybra* sp., 7 mm.

Rucentra ochreopunctata ochreopunctata
(Breuning, 1938)
(Figs. 8A, A')

Sybra ochreopunctata Breuning, 1938, Festschr. Embrik Strand., 5: 276 (Mts. Tengger, Java).

Rucentra ochreopunctata, Breuning, 1960, Cat. Lam. Mond., 3: 158 (Java).

Male (Fig. 8A).

Integument black to brown, tinged with brown to reddish brown on antenna. Body almost or partly covered with silver pubescence. Elytra decorated with a pair of small oblong markings on apical 2/5 of sides.

Head narrower than prothorax, shallowly and densely punctured; vertex shallowly concave; inferior eye-lobes as broad as deep, as deep as genae below it.

Antenna rather long, about 1.2 times as long as body, relative length of segments — 2.0 : 0.6 : 3.1 : 3.4 : 2.5 : 2.3 : 2.2 : 2.1 : 1.9 : 1.7 : 2.0; scape fusiform; scape and 2nd segment covered with short appressed hairs; 3rd to 11th segments with rather short oblique hairs arranging several lines, sparse erect or suberect short hairs on dorsal side, and dense long suberect hairs on ventral side (Fig. 9A).

Prothorax as long as broad or slightly broader than long, slightly rounded at sides, narrowed to apex, deeply and roughly punctured except for apical and basal portions, which are shallowly and densely corrugated punctured.

Scutellum semicircular, closely punctured.

Elytra about 2.5 times as long as broad, about 2.2 times as long as head and prothorax combined; basal portion flat (Fig. 10A); apical projection long and dully acuminate, provided with ten regular rows on disc, provided with deep and large punctures, and intermixed with small ones (Fig. 10A) the punctures are smaller toward apices.

Ventral surfaces smooth, provided with two to five punctures on mesepisternum, with about fifteen punctures on metasternum; last abdominal sternite provided with smooth, obtuse concavity .

Legs long, fore leg about 0.53, mid leg about 0.56 and hind leg about 0.72 times as long as body. Fore femur slightly longer than tibia, mid femur as long as tibia, and hind femur clearly longer than tibia. Tibiae are clearly longer than tarsi. Oblique groove of each fore-tibia long and not so deep on ventral side, oblique groove of each mid-tibia very deep on dorsal side. Tibiae provided with two short spines at apices on ventral sides.

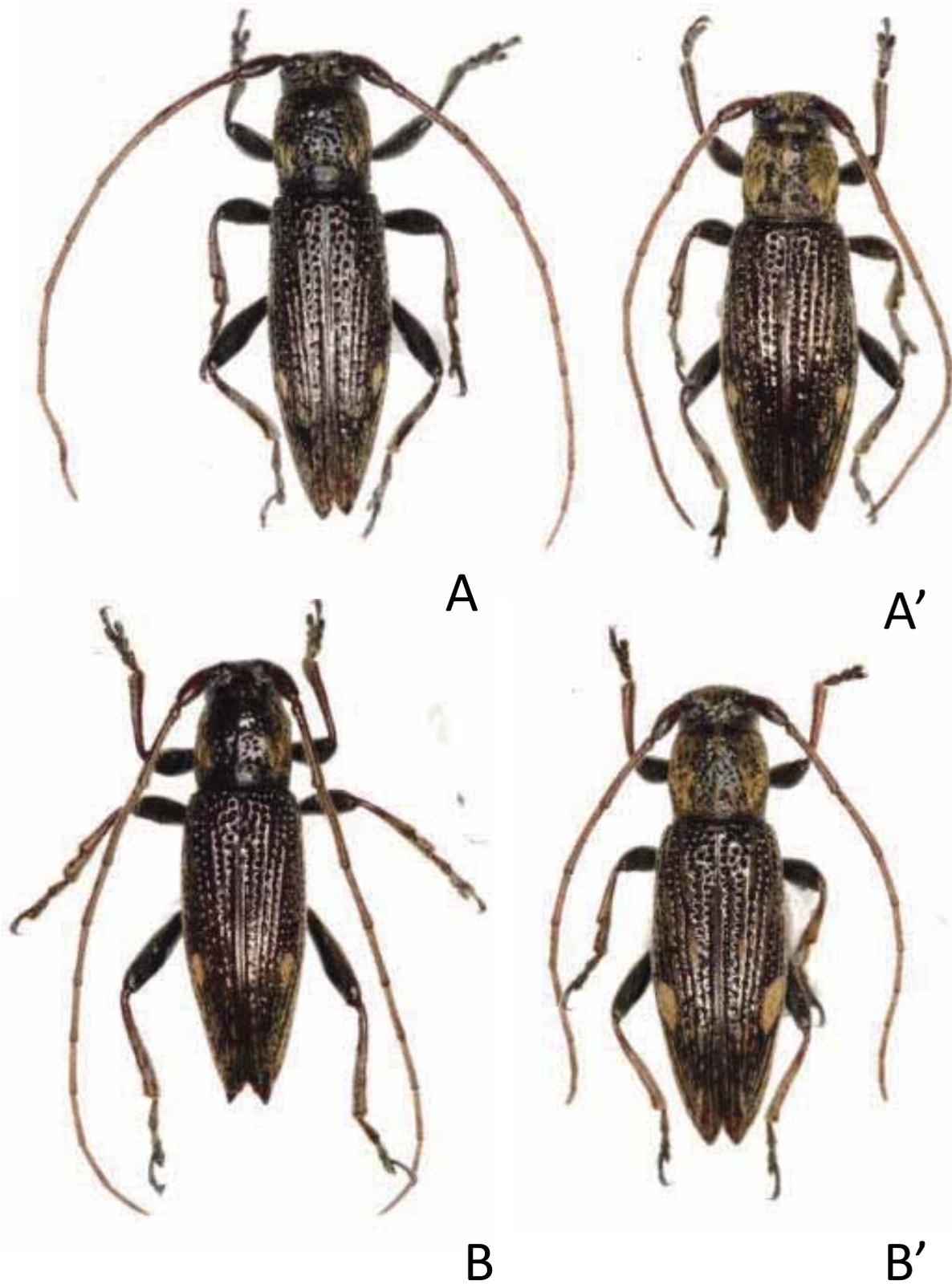


Fig. 8. *Rucentra ochreopunctata* subsp. *ochreopunctata* (A, male; A', female) and subsp. *silvocola* nov. (B, male; B', female).

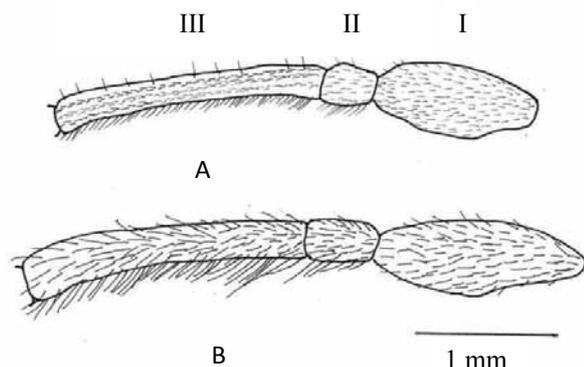


Fig. 9. Antennal segments 1-3 of *Rucentra ochreopunctata* subsp. *ochreopunctata* (A) and subsp. *silvicola* nov. (B).

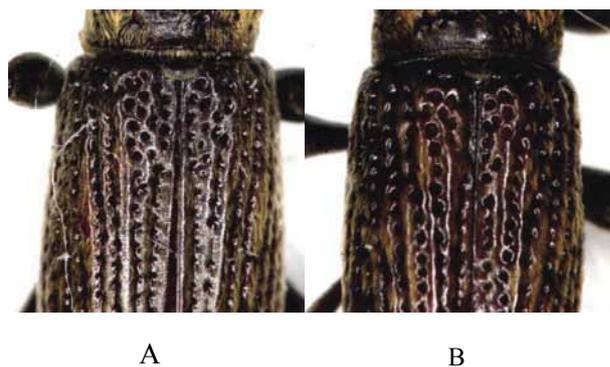


Fig. 10. Elytral punctures of *Rucentra ochreopunctata* subsp. *ochreopunctata* (A) and subsp. *silvicola* nov. (B).

Male genitalia (Figs. 11A, A'): — Median lobe provided with small projection at the widest point of sides; median struts short, 0.7 times as long as median lobe; apical part sharply pointed. Tegmen provided with long roof, which consist of weakly sclerotized plate on basal half and membrane on apical half; lateral lobes broad, weakly and obliquely truncated at apices, apices provided with rather long hairs; ringed part geniculated at the widest portion.

Body length 8.4—11.0 mm, width 2.3—3.0 mm.

Female (Fig. 8A').

Antenna rather short, 1.02—1.09 times as long as body, relative length of segments—1.8 : 0.5 : 3.0 : 3.2 : 2.3 : 1.9 : 1.8 : 1.6 : 1.5 : 1.4 : 1.5.

Prothorax slightly broader than long.

Elytra about 2.3 times as long as broad, about 2.3 times as long as head and prothorax combined,

Legs rather long, fore leg about 0.5 times, mid leg about 0.52 times and hind leg about 0.67 times as long as body.

Middle of last abdominal sternite provided with a dimple.

Body length: 7.4-11.0 mm, width 2.1-3.3 mm.

Specimens examined. 6♂♂, 13♀♀, 20-21. I. 2010, northern part of contour of Mts. Bromo, alt. 2,300m, East Java, Indonesia, Sugiarto leg.

Rucentra ochreopunctata silvicola subsp. nov.

(Figs. 8B, B')

Male (Fig. 8B).

Integument black to blackish brown, tinged with blackish brown to reddish brown antenna. Body almost or partly covered with tawny pubescence. Elytra

decorated with small oblong marking on apical 2/5 of side, sometimes with two small lineal markings, of which one is on basal fifth and another one on basal 2/5.

Head considerably narrower than prothorax, shallowly and minutely punctured; vertex rather deeply concave. Antenna about 1.3 times as long as body, relative length of segments—2.0 : 0.6 : 3.4 : 3.5 : 2.7 : 2.7 : 2.6 : 2.4 : 2.2 : 2.0 : 2.2; scape fusiform; all segments covered with rather dense oblique hairs; 2nd to 11th segments with dense long suberect hairs on ventral side (Fig. 9B).

Prothorax broader than long, parallel sided, slightly narrowed to apex, more deeply and roughly punctured as in that of the nominotypical subspecies, except for apical and basal portions.

Scutellum semicircular.

Elytra about 2.3 times as long as broad, about 2.2 times as long as head and prothorax combined,

provided with ten regular rows on disc; provided with deep and large punctures intermixed with small ones, which are smaller toward apices, the punctuation is more strong than in those of the nominotypical subspecies; basal portion dimple; apical projection well developed and dully acuminate.

Legs longer, fore leg about 0.58 times, mid leg about 0.62 times and hind leg about 0.77 times as long as body.

Male genitalia (Figs.11 B, B'): — Median lobe without small projections at the widest portion of side.

Body length 8.4-11.0 mm, width 2.3-3.0 mm.

Female (Fig. 8B').

Antenna rather short, about 1.1 times as long as

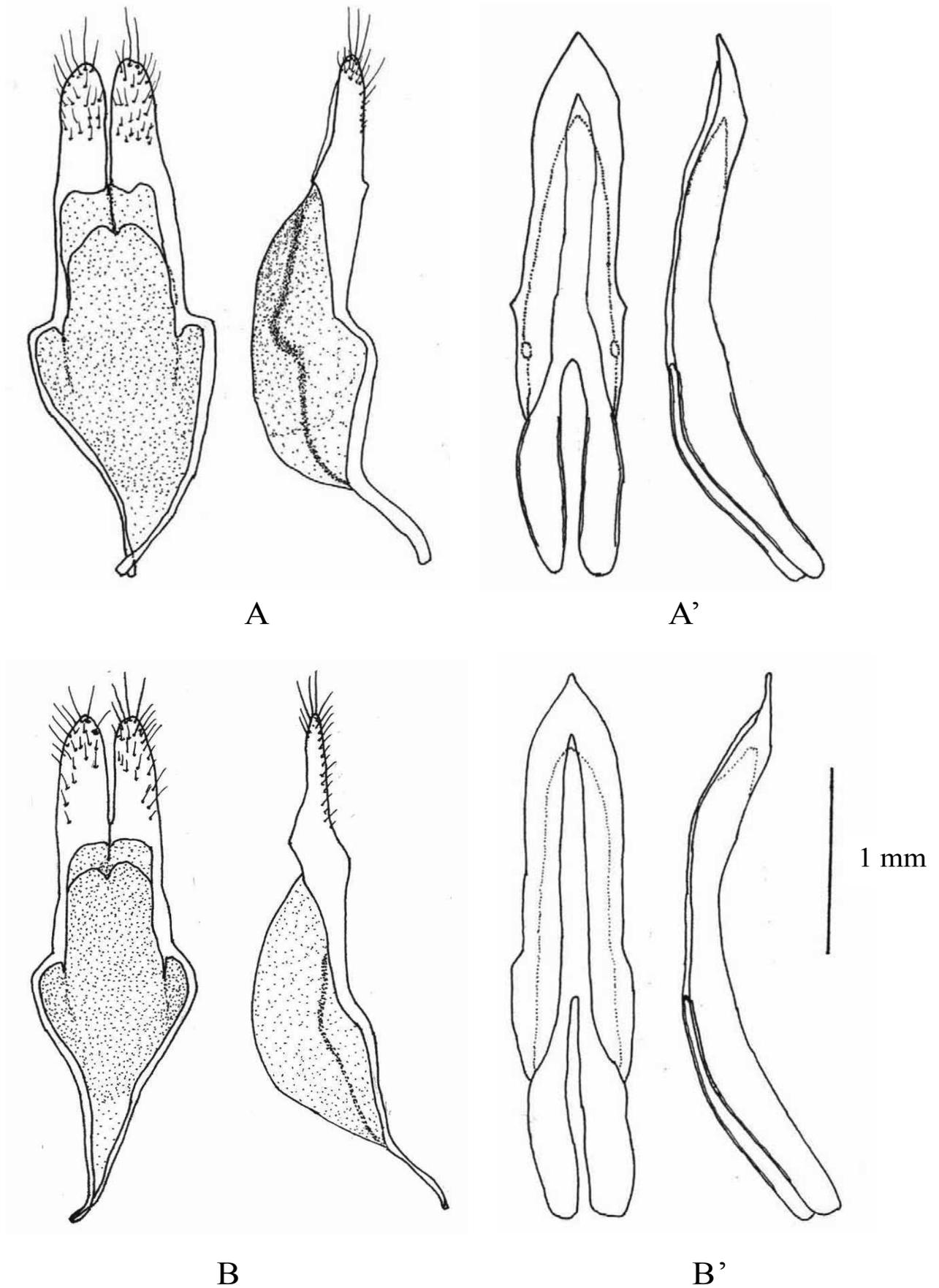


Fig. 11. Male genitalia of *Rucentra ochreopunctata* subsp. *ochreopunctata* (A, tegmen; A', median lobe) and subsp. *silvicola* nov. (B, tegmen; B', median lobe). Left figures, ventral view; right ones, lateral view.

body, relative length of segments—2.0 : 0.6 : 3.0 : 3.3 : 2.3 : 1.9 : 1.9 : 1.8 : 1.5 : 1.3 : 1.3.

Prothorax clearly broader than long.

Elytra about 2.35 times as long as broad, about 2.5 times as long as head and prothorax combined.

Legs longer, fore leg about 0.54 times, mid leg about 0.56 times and hind leg about 0.73 times as long as body.

Body length: 7.4-11.0 mm, width 2.1-3.3 mm.

Holotype ♂ (MZB. Cole. 80031, LIPI), Ranupani Natural Forest (alt. 2,000m), southern part of Mts. Bromo, outside of Tengger Caldera, 20-24. VII. 2010, collected by *Artocarpus* trap, H. Makihara and Sugiarto leg. Paratypes; 15 ♂♂, 9 ♀♀, same locality, data and collector as the holotype, collected by *Artocarpus* traps and dead branch of *Ficus* sp.

Two subspecies of *Rucentra ochreopunctata* are distinguished by the following characteristics:

Subsp. *ochreopunctata* (Figs. 8A, A'): Elytra provided with a pair of small oblong markings; antenna short, about 1.2 times as long as body in male, under 1.1 times in female; antenna poorly haired (Fig. 9A); elytra oblong and slender, about 2.5 times as long as broad, with basal portion flat, provided with large punctures (Fig. 10A); legs long, fore leg about 0.53, mid leg about 0.56 and hind leg about 0.72 times as long as body in male, fore leg about 0.5 times, mid leg about 0.52 times and hind leg about 0.67 times as long as body in female.

Subsp. *silvicola* (Figs. 8B, B'): Elytra provided with a pair of rather large oblong marking and sometimes with two small lineal markings; antenna rather long, about 1.3 times as long as body in male, about 1.1 times in female; antenna hairy (Fig. 9B); elytra oblong, about 2.3 times as long as broad, basal portion dimple with larger punctures than those of the nominotypical subspecies (Fig. 10B); legs longer, fore leg about 0.58 times, mid leg about 0.62 times and hind leg about 0.77 times as long as body in male, fore leg about 0.54 times, mid leg about 0.56 times and hind leg about 0.73 times as long as body in female.

Two subspecies of *R. ochreopunctata* were found on each isolated site showing the quite different vegetation respectively. *Rucentra o. ochreopunctata* lives in the Tengger Sand Sea (alt. 2,000-2,300m) with poor vegetation cover surrounded by a contour

of the Tengger Caldera. On the contrary, new subsp. *R. o. silvicola* lives in the Ranupani natural forest (alt. approx. 2,000m) with rich flora in southern part of outside of the contour of the Caldera.

Tribe Pteropliini Thomson, 1860

Prosoplus (Prosoplus) bromoensis sp. nov.

(Figs. 12A, A')

Male (Fig. 12A).

Integument black, tinged with reddish brown to blackish brown except for antennal segments 1st to 3rd. Body largely clothed with thick ochraceous hairs and pubescences, and combined with thin pale ones. Head clothed with thick prostrate ochraceous pubescence; prothorax with variegated thick prostrate ochraceous pubescence excepting at middle, and mixed with sparse prostrate thin pale hairs; scutellum covered with rather dense ochraceous pubescence at middle; elytron with variegated thick ochraceous pubescence, mixed with rather dense pale pubescence, and also with dense pitchy black pubescence on middle of basal fifth, decorated with a zigzag small white marking at middle and a smaller white or ochraceous dull zigzag marking at apical third, two zigzag bands are consist of thick pubescence; ventral side with rather thin and long pale hairs, with thick ochraceous pubescence on base of abdominal sternites; legs covered with sparse rather long prostrate pale hairs; femur with dense and thick oblique blackish brown hairs on dorsal side.

Head narrower than prothorax; finely punctured, with sparse rather large punctures on frons; vertex flat; inferior eye-lobe deeper than broad and gena below it. Antenna 1.3 - 1.4 times as long as body, relative length of each segment as follows: 2.2 : 0.7 : 3.3 : 4.3 : 3.3 : 2.9 : 2.6 : 2.3 : 2.2 : 2.1 : 2.4; scape fusiform. All segments covered with sparse rather short appressed hairs; segments 3rd to 11th with rather long oblique hairs on ventral sides and mixed with very short suberect pale hairs on dorsal sides, which are sparser towards apical segments.

Prothorax 1.25 times as long as broad, irregularly rugoso-punctured to feebly punctured, provided with a slot on central portion of disc; anterior portion of side with a large subacute tubercles.

Elytra about 1.7 times as long as broad, about 2.4 times as long as head and prothorax combined; each apex subrounded apically; disc rather heavily punctured, with a pair of low smooth swellings just before the punctuation on basal parts.

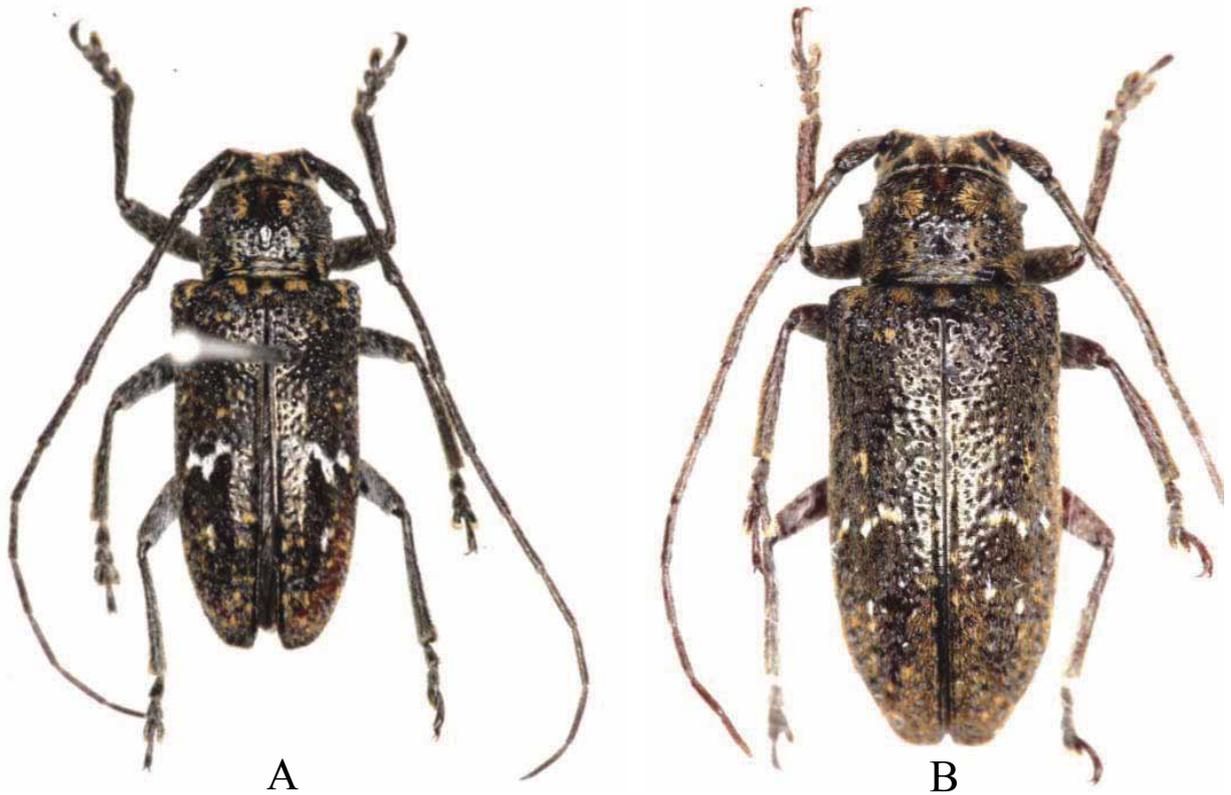


Fig. 12. *Prosoplus (Prosoplus) bromoensis* sp. nov., A, male; B, female.

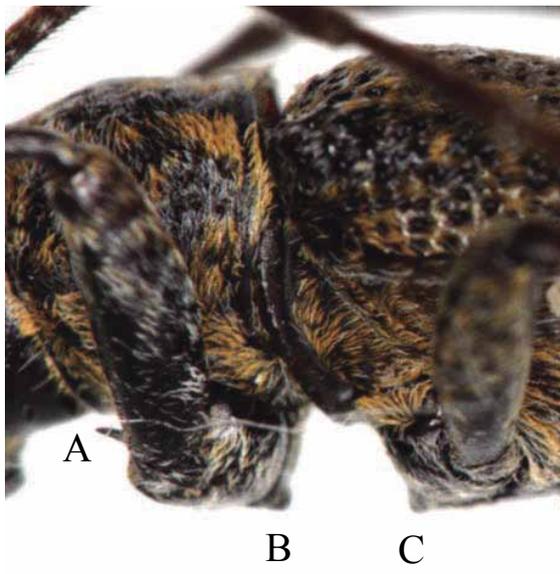


Fig. 13. Male thorax of *Prosoplus (Prosoplus) bromoensis* sp. nov., A, fore coxal spine; B, prosternal process; C, mesosternal process.

Ventral surfaces smooth, covered with dense appressed pubescence; fore coxa provided with a well developed spine (Fig. 13A); prosternal process enlarged between coxae (Fig. 13B); tubercle of mesosternal process weakly prominent and vertical anteriorly (Fig. 13C).

Legs long, fore leg 0.73, mid leg 0.70 and 0.74 times as long as body. Fore femur as long as tibia, mid femur slightly longer than or as long as tibia, and hind femur clearly longer than tibia. Tibiae clearly longer than tarsi.

Male genitalia (Fig. 14): — Median lobe with median struts long, as long as apical lobe; apical part sharply pointed (Figs. 14B, B'). Tegmen with roof rather long, weakly sclerotized; lateral lobes broad, provided with rather long hairs near apices; ringed part strongly geniculated at the widest portion (Figs. 14A, A').

Body length 9.6 – 12.5 mm, width 3.8 – 4.6 mm. Female (Fig. 12B).

Antenna short, 1.1 times as long as body; relative length of segments — 2.0 : 0.5 : 3.0 : 3.6 : 2.6 : 2.3 :

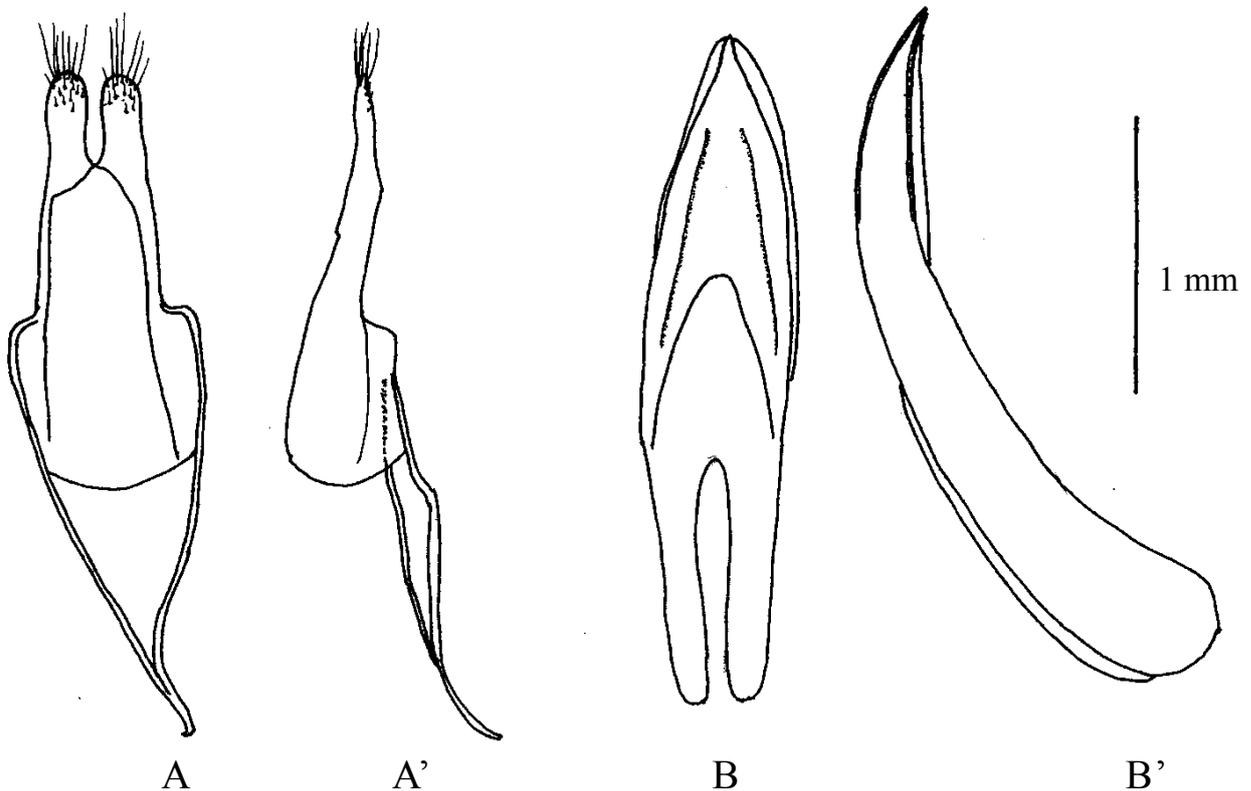


Fig. 14. Male genitalia of *Prosoplus (Prosoplus) bromoensis* sp. nov., tegmen in ventral (A) and lateral (A') view; median lobe in ventral (B) and lateral (B') view.

2.0 : 2.0 : 1.4 : 1.3 : 1.6.

Prothorax 1.3 times as long as broad.

Elytra 2 times as long as broad, and 2.8 times as long as head and prothorax combined.

Body length 9.7 mm, width 3.7 mm.

Distribution. Mts. Bromo, (alt. 2,300m), East Java, Indonesia.

This new species is closely related to *Prosoplus (Prosoplus) javanicus* Aurivillius, 1916 from Preanger of East Java, but differs from it by the zigzag markings on elytra.

Type series. Holotype ♂ (MZB. Cole. 80030, LIPI), west side of Mts. Bromo (alt. 2,300m), East Java, Indonesia, 21-25. VII. 2010, *Artocarpus* trap, H. Makihara and Sugiarto leg. Paratypes. 1♂, same data as the holotype; 1♀, same data as the holotype, 20- 21. I. 2010, Sugiarto leg.

Approximately 150 members of the genus *Prosoplus* have been recorded in the world and, almost all of them are known to distribute in east of the Wallace's Line (Breuning, 1960). Only two exceptions

have been recorded from west side of the line, of which *Prosoplus (Prosoplus) javanicus* Aurivillius (Aurivillius, 1916) from highland Preanger, north of Bandung, west Java, and *P. (Escharodes) sumatranus* Breuning & De Jong (Breuning & De Jong, 1941) from Langkat, North Sumatra. *Prosoplus* species from the east of the Wallace's Line are almost always found in low altitudes, while *P. javanicus* as the western member was recorded from the highland as in the case of *P. javanicus*.

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東ジャワ・ブロモ山のカミキリムシ (コウチュウ目) および 1 新種、1 新亜種の記載

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要旨

東ジャワのブロモ山でカミキリムシ相調査を 2010 年に行った。この調査の結果、4 種類のカミキリムシが得られた。うち 3 種類の種名が同定され、その 3 種には 1 新種、1 新亜種が含まれていた。これらは標高 2000 から 2300m 地点で得られたものである。新タクサは *Prosoplus bromoensis* sp. nov. および *Rucentra ochreopunctata silvicola* subsp. nov. と記載命名した。

キーワード：カミキリムシ科、新タクサ、ブロモ山、インドネシア、リハビリテーション植林、天然林

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