



Two new species of the genus *Pseudotritoma* Gorham, 1888 (Coleoptera: Erotylidae) from China

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Abstract

Two new species of the genus *Pseudotritoma* Gorham, *P. bicolorata* Liu & Li, **sp. nov.** and *P. rufobrunnea* Liu & Li, **sp. nov.**, are described and illustrated. A key to all known species of *Pseudotritoma* from China is presented.

Key words: *Pseudotritoma*, taxonomy, new species, key

Introduction

Pseudotritoma Gorham, 1888 is a small genus of the tribe Tritomini (Coleoptera; Erotylidae), with *Tritomidea nigrocruciata* Crotch, 1876 as the type species. In this genus, 23 species (including subspecies) have been reported from Asia and Europe (Chûjô, M. & Chûjô, M.T. 1990; Wegrzynowicz 2007; Jung 2018). So far, only one species, *Pseudotritoma maedai* Kiyoyama, 1979, has been reported to occur in China (Kiyoyama 1979). The genus *Pseudotritoma* can be distinguished by the following characters: the tip of the lacinia with a pair of curved projections; maxillary terminal palpomere almost equilateral triangular or more transverse, about twice as wide as long; prosternal process triangular, extending to the midpoint of the anterior margin of prosternum; and prosternal lines well developed. (Arrow 1925; Chûjô 1969).

When we identified the specimens collected from Taoyuandong Nature Reserve (Hunan Province), Huaping Nature Reserve (Guangxi Province), and West Tianmu Mountain (Zhejiang Province), two new species belonging to the genus were discovered. These species are described, their morphologically important characters are illustrated, and a key to the *Pseudotritoma* species from China is presented.

Material and methods

The abdominal segments and genitalia were detached from the body after softening in hot water. The male and female genitalia were then placed in a boiling solution of 5% NaOH for 5 mins and rinsed with distilled water. Morphological characters were observed using a Nikon SMZ800N stereomicroscope, drawn on sulphate paper, and scanned by using Epson V330 Photo. Finally, modifications were made using Adobe Photoshop CS6.0 (Adobe Systems Inc., San José, CA, USA). Habitus were taken with an Olympus E-M5II camera. Terminology for morphology follows Lawrence *et al.* (2010, 2011).

The following abbreviations are used in the text: Insect Collection of Shanghai Normal University, Shanghai, China (SNUC); Institute of Zoology, Chinese Academy of Sciences, Beijing, China (IZAS); Hebei Agricultural University, Baoding, Hebei, China (HEBAU).

Taxonomy

Genus *Pseudotritoma* Gorham, 1888

Pseudotritoma Gorham, 1888: 147. Type species: *Tritomidea nigrocruciata* Crotch, 1876.

Aporotritoma Arrow, 1925: 103. Type species: *Aporotritoma jucunda* Arrow, 1925.

Key to the species of *Pseudotritoma* from China

- 1 Pronotum unicoloured, entirely black *P. rufobrunnea* Liu & Li, sp. nov.
- Pronotum bicoloured 2
- 2 Each elytron with three black patches *P. bicolorata* Liu & Li, sp. nov.
- Elytra without patches *P. maedai* Kiyoyama, 1979

Pseudotritoma bicolorata Liu & Li, sp. nov.

Chinese common name: 双色拟宽董甲

(Figs 1, 2)

Material examined. HOLOTYPE: CHINA: ♂, Guangxi Province, Lingui County, Huaping Nature Reserve, Anjiangping, 13.VII.2011, Liang Tang leg. (SNUC). **PARATYPES:** CHINA: 2 ♀♀, same data as holotype (SNUC and HEBAU, respectively).

Diagnosis. Body oval. General color reddish-brown; eyes, antennomeres 9–10, center of prosternum, meso- and metaventricle, center of abdominal ventrite 1 and base of femora black; maxillary palpomeres, labial palpomeres, anterior margin of clypeus, antennomeres 1–8 and 11 yellowish-brown. Pronotum with two large, transverse, black patches. Each elytron with three black patches. Antennomere 3 about 2.7 times as long as antennomere 4. Maxillary terminal palpomere triangular, 2.1 times as wide as long. Prosternal process triangular, emarginated at anterior border. Prosternal lines extending anterior margin of procoxal cavities.

Description. Body (Fig. 1) oval, distinctly convex dorsally, smooth and glossy. General color reddish-brown; eyes, antennomeres 9–10, center of prosternum, meso- and metaventricle, center of abdominal ventrite 1 and base of femora black; maxillary palpomeres, labial palpomeres, anterior margin of clypeus, antennomeres 1–8 and 11 yellowish-brown. Pronotum with two large, transverse black patches from base to middle of lateral margin. Each elytron with three black patches: 1st semicircular patch from middle of 2nd and 3rd striae to sutural border, combine with other side forming a nearly round patch at behind of scutellar shield; 2nd round patch from 4th to 8th striae on each side; a transverse patch on each side between middle and apex of elytron, extending to lateral margin and sutural border, anterior margin depressed, basal margin arched.

Head (Fig. 2A) small, with coarse and dense punctures. Clypeus anterior margin emarginate, with narrow and complete marginal border, frontoclypeal suture incomplete. Eyes small, finely faceted, interocular distance 0.75 times width of head. Antennae (Fig. 2B) very short, with golden setae, antennomere 1 robust; antennomere 2 spherical, shorter than antennomere 1; antennomere 3 distinctly long, about 2.7 times as long as antennomere 4; antennomere 4 smallest; antennomere 5 equal in length to antennomere 6; antennomeres 7 and 8 wider than antennomere 6, but distinctly narrower than antennal club; antennal club dilation, antennomere 9 triangular, antennomere 10 bowl-shape; antennomere 11 irregularly rounded, distinctly narrower than antennomere 10, with indentation in middle. Relative lengths of antennomeres 2–11: 1.6: 2.6: 1: 1: 1: 1.2: 1.8: 1.8: 2.5. Maxillary terminal palpomere (Fig. 2C) triangular, 2.1 times as wide as long. Labial terminal palpomere (Fig. 2D) subcylindrical. Mentum (Fig. 2E) with pentagon plate. Submentum narrow.

Pronotum (Fig. 2F) trapezoidal, 1.7 times as wide as long, with coarse and sparse punctures. Anterior margin weakly bisinuate in middle, with narrow and complete marginal border; lateral margins converge forward, with distinctly narrow marginal border; basal margin weakly sinuate, slightly straight at apex, with narrow marginal border. Anterior angles blunt, posterior angles right. Prosternum (Fig. 2G) with coarse and sparse punctures; anterior margin with narrow and distinct marginal border, slightly arch forwards in middle; prosternal process broadly triangular, anterior margin emarginated. Prosternal lines extend to anterior margin of procoxal cavities. Scutellar

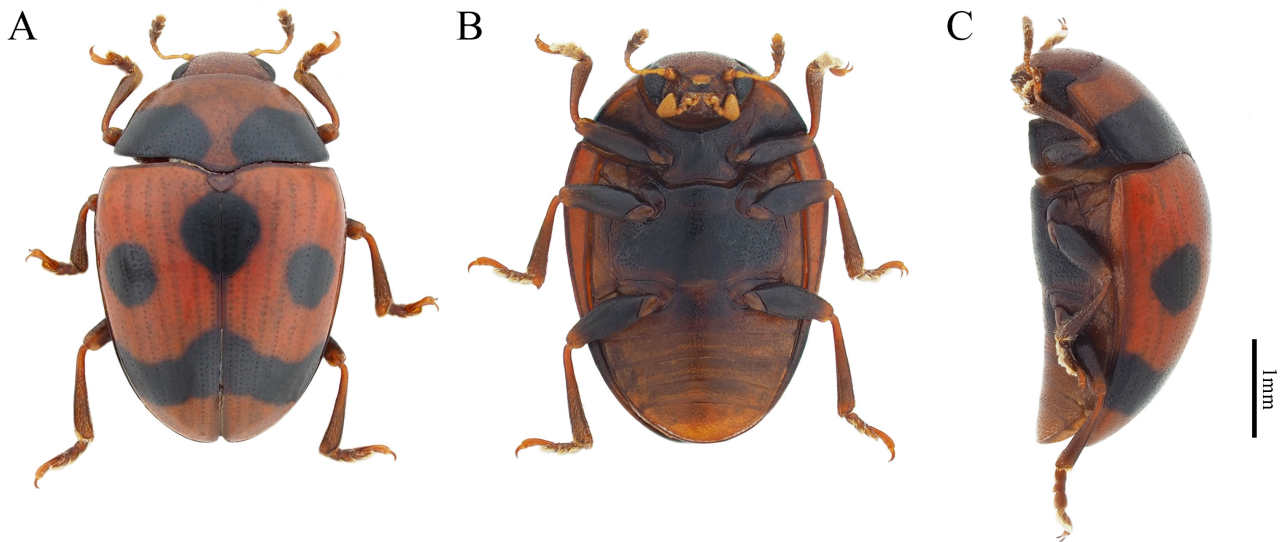


FIGURE 1. Photographs of *Pseudotritoma bicolorata* Liu & Li, **sp. nov.** **A.** Dorsal habitus. **B.** ventral habitus. **C.** lateral habitus.

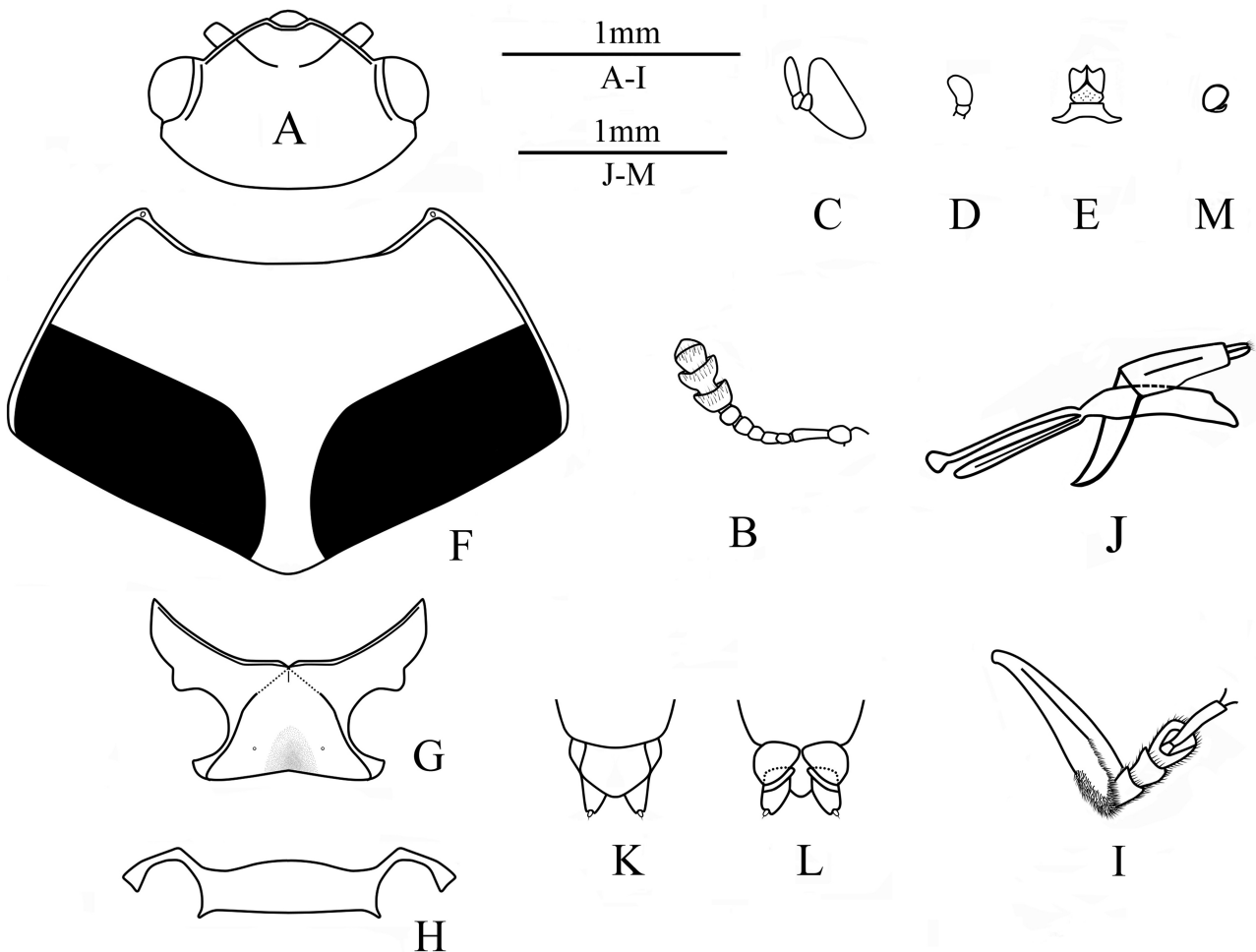


FIGURE 2. *Pseudotritoma bicolorata* Liu & Li, **sp. nov.** **A.** Head. **B.** Antenna. **C.** Maxillary palpus. **D.** Labial palpus. **E.** Mentum and submentum. **F.** Pronotum. **G.** Prosternum. **H.** Mesoventrite. **I.** Protibia and protarsus. **J.** Aedeagus in lateral view. **K, L.** Ovipositor in ventral and dorsal views. **M.** Female spermatheca. Scale bars: 1.0 mm.

shield nearly heart-shaped, sharp posteriorly, with some punctures. Elytra with complete marginal border. Elytra 1.1 times as long as wide, widest at basal fourth, then gradually narrowing to apex. Each elytron with eight striae, striae punctures stronger at base, gradually weakened apically; intervals finely punctured.

Mesoventrite (Fig. 2H) transverse, with coarse punctures in middle. Mesoventrite weakly lobed between mesocoxae, distance between mesocoxae 2.2 times width of mesocoxa. Metaventrite (Fig. 1B) 2.3 times as wide as long, with coarse and dense punctures, slightly decreasing in middle. Length between meso- and meta- coxal 0.8 times as long as distance between mesocoxae; anterior margin distinctly straight in middle. Postmesocoxal lines straight, extend to 1/2 of metaventrite. Metathoracic discrimen absent. Metanepisternum narrow, 4.3 times as long as its greatest width.

Legs (Fig. 2I) short and slender. Tibiae slightly widened at apex.

Abdomen (Fig. 1B) with coarse and dense punctures. Ventrite 1 anterior process trapezoidal, anterior margin of ventrite 1 straight. Postmetacoxal lines extend to basal 4/5 of ventrite 1.

Male genitalia (Fig. 2J) with median lobe curved, narrow at apex; median strut equal in length with median lobe.

Female genitalia (Fig. 2K–L) with apical segment of coxite long; styli obviously small. Spermatheca (Fig. 2M) small, nearly spherical.

Body length: 3.1–4.0 mm; width: 2.1–2.7 mm.

Comparative note. This species is similar to *Pseudotritoma quinquevittata* Chûjô, 1968 in the shape and coloration of the body. It can be distinguished by its reddish-brown head and legs, yellowish-brown maxillary terminal palpomere; a large transverse patch between the center and apex of the elytron, extending to the lateral margin and sutural border. In contrast to the new species, *P. quinquevittata* has the black head, maxillary terminal palpomere, and legs; and the large transverse patch of the elytron approaches the lateral margin rather than the sutural border.

Distribution. China (Guangxi).

Etymology. This specific name refers to the bicoloration of the body.

Pseudotritoma rufobrunnea Liu & Li, sp. nov.

Chinese common name: 红棕拟宽董甲

(Figs 3, 4)

Material examined. HOLOTYPE: CHINA: ♂, Hunan Province, Yanling County, Taoyuandong Nature Reserve, VII.2013, Cong-Chao Dai leg. (SNUC); **PARATYPES:** CHINA: 1 ♀, Guangxi Province, Lingui County, Huaping Nature Reserve, Anjiangping, 28.IX.2020, Pan-Pan Li leg. (IZAS); 4 ♂♂, 1 ♀, Zhejiang Province, Mt. Tianmu, 27.IV.2008, Liang Tang leg. (2♂♂ in SNUC and 2♂♂, 1 ♀ in HEBAU).

Diagnosis. General color reddish-brown, mesoventrite dark reddish-brown, head (except transverse patch on occiput), antenna, pronotum, prosternum, legs (except meso- and meta- coxal) black. Antennomere 3 2.4 times as long as antennomere 4. Maxillary terminal palpomere twice as wide as long. Prosternal process triangular, emarginated on anterior margin. Prosternal lines extending anterior margin of procoxal cavities.

Description. Body (Fig. 3) slightly elongate-oval, distinctly convex dorsally, smooth and shining. General color reddish-brown, mesoventrite dark reddish-brown, head (except reddish-brown transverse patch on occiput), antenna, pronotum, prosternum, legs (except meso- and meta- coxal) black.

Head (Fig. 4A) small, with fine and dense punctures. Labrum transverse. Clypeus anterior margin nearly straight, frontoclypeal suture incomplete. Eyes large and prominent, finely faceted, interocular distance 0.75 times width of head. Antennae (Fig. 4B) short, with golden setae. Antennomere 1 rather robust; antennomere 2 moniliform, distinctly shorter than antennomere 1; antennomere 3 long, 2.4 times as long as antennomere 4; antennomeres 4–7 nearly equal in length; antennomere 8 wider than antennomere 7; antennomere 9 bowl-shaped; antennomere 10 crescent-shaped; antennomere 11 nearly rounded, with depression in middle. Relative lengths of antennomeres 2–11: 1.0: 2.4: 0.9: 0.9: 0.8: 0.9: 0.7: 1.5: 1.4: 2.0. Maxillary terminal palpomere (Fig. 4C) transverse, triangular, twice as wide as long. Labial terminal palpomere (Fig. 4D) subcylindrical. Mentum (Fig. 4E) pentagon, middle area depressed. Submentum large, trapezoidal.

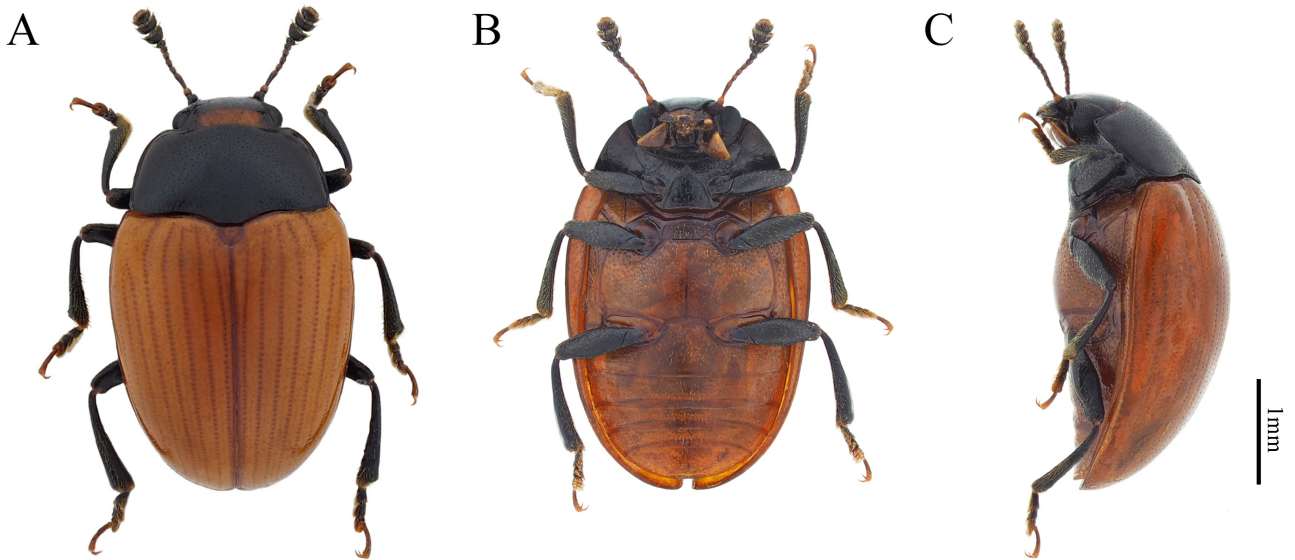


FIGURE 3. Photographs of *Pseudotritoma rufobrunnea* Liu & Li, **sp. nov.** A. Dorsal habitus. B. ventral habitus. C. lateral habitus.

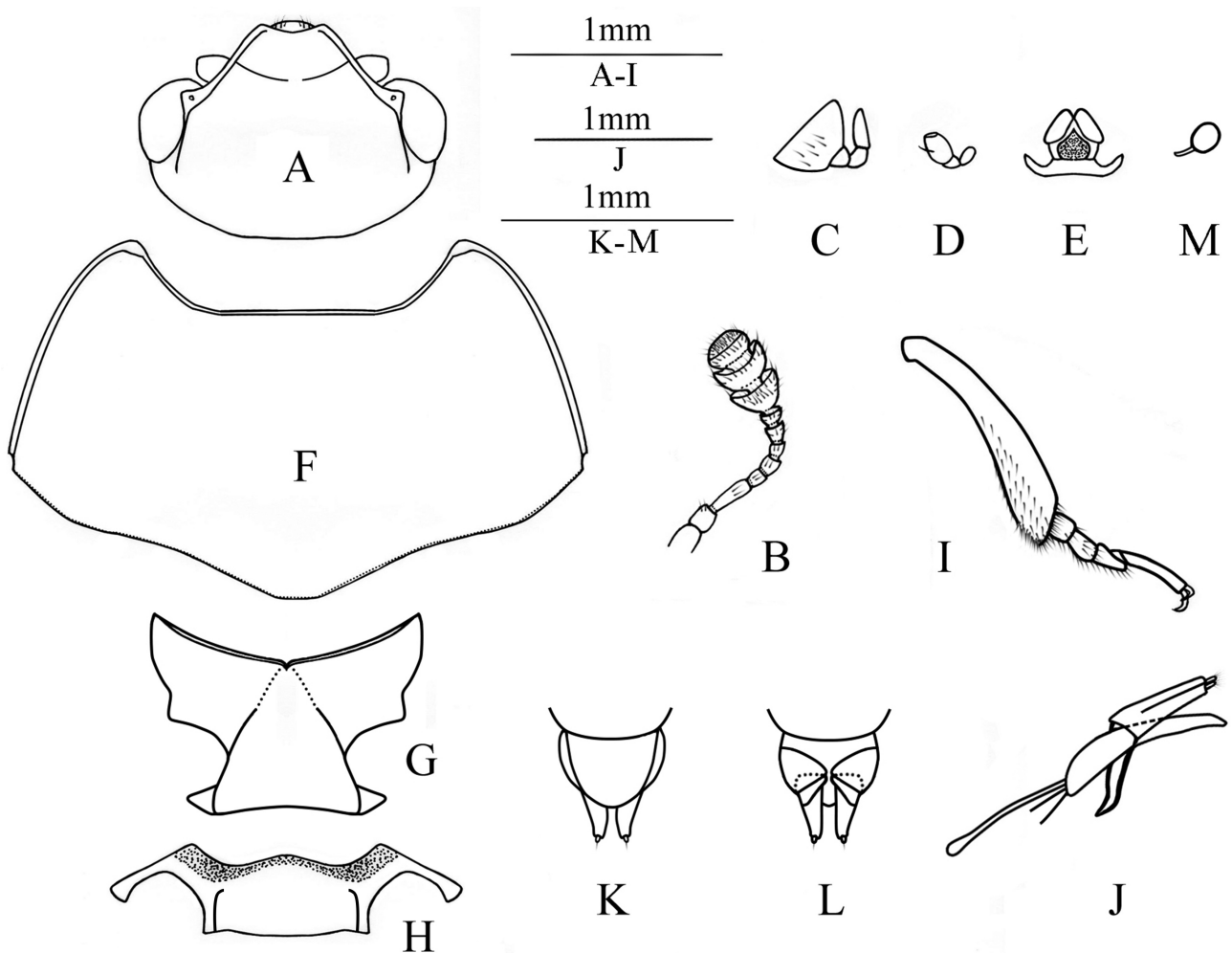


FIGURE 4. *Pseudotritoma rufobrunnea* Liu & Li, **sp. nov.** A. Head. B. Antenna. C. Maxillary palpus. D. Labial palpus. E. Mentum and submentum. F. Pronotum. G. Prosternum. H. Mesoventrite. I. Protibia and protarsus. J. Aedeagus in lateral view. K, L. Ovipositor in ventral and dorsal views. M. Female spermatheca. Scale bars: 1.0 mm.

Pronotum (Fig. 4F) trapezoidal, 1.65 times as wide as long, with fine and dense punctures. Anterior margin with narrow marginal border in middle and broad marginal border on both sides; lateral margins with complete marginal border; basal margin weakly bisinuate, with large punctures on both sides. Anterior angle protruded and blunt, posterior angle blunt. Prosternum (Fig. 4G) with coarse and sparse punctures in middle; anterior and lateral margins with marginal border; prosternal process triangular, produced to a central point of anterior margin of prosternum, emarginated on anterior border. Prosternal lines long, extending to anterior margin of procoxal cavities. Scutellar shield tongue-shaped, round posteriorly, with fine punctures. Elytra with complete marginal border, 1.15 times as long as wide, widest at basal fourth, distinctly convex. Each elytron with eight striae, outermost striae short, striae punctures strong from base to apex; intervals finely and sparsely punctured.

Mesoventrite (Fig. 4H) transverse, with some large punctures bearing short setae in middle, each side of concavity with long tubercle. Mesoventrite weakly lobed between mesocoxae, distance between mesocoxae 1.8 times width of mesocoxa. Metaventrite (Fig. 3B) twice as wide as long, with fine and sparse punctures bearing short golden setae. Length between meso- and meta- coxal 1.1 times as long as distance between mesocoxae; anterior margin distinctly straight in middle. Postmesocoxal lines short, extending to both sides of metaventrite. Metathoracic discrimen 0.65 times as long as metaventrite excluding metaventral process. Metanepisternum narrow, 4.0 times as long as its greatest width.

Legs (Fig. 4I) slender. Tibiae gradually widening to apex.

Abdomen (Fig. 3B) 1.3 times as wide as long, with fine and dense punctures bearing short golden setae. Ventrite 1 anterior process trapezoidal, anterior margin of ventrite 1 straight. Postmetacoxal lines extending to basal 2/3 of ventrite 1.

Male genitalia (Fig. 4J) with median lobe weakly curved, and narrow towards the apex; median strut slightly widened at apex, median strut equal in length with median lobe.

Female genitalia (Fig. 4K–L) with apical segment of coxite slightly long, gradually narrow from base to apex; styli small. Spermatheca (Fig. 4M) small, nearly spherical.

Body length. 3.7–4.0 mm; width: 2.2–2.7 mm.

Comparative notes. This species is similar to *Pseudotritoma laetabilis* (Lewis, 1887) in body shape, but can be distinguished by the following characters: the antenna and legs black; head black but with a transverse reddish-brown patch on occiput; elytra, scutellar shield, mesoventrite (without anterior margin), and metaventrite reddish-brown; scutellar shield tongue-shaped, round posteriorly. In contrast to the new species, *P. laetabilis* has its general coloration black, antenna and legs yellowish-brown; scutellar shield pentagonal, sub-angulate posteriorly.

Distribution. China (Hunan, Guangxi, Zhejiang).

Etymology. This specific name means the elytral coloration is uniformly reddish-brown.

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中国拟宽蕈甲属 *Pseudotritoma* 两新种 (鞘翅目: 大蕈甲科)

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摘要: 记述中国大蕈甲科拟宽蕈甲属 *Pseudotritoma* 两新种, 即双色拟宽蕈甲 *P. bicolorata* **sp. nov.** 和红棕拟宽蕈甲 *P. rufobrunnea* **sp. nov.**; 提供了新种的形态描述、特征图和中国已知种检索表。

关键词: 拟宽蕈甲属; 分类; 新种; 检索表