



## A revision of the genus *Eutetrappa* Bates (Coleoptera: Cerambycidae: Lamiinae: Saperdini)

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### Abstract

A revision of the genus *Eutetrappa* Bates, 1884 is presented. Four new species are described from China: *E. parastigmata* Lin & Yang, **sp. nov.** from Hubei, Chongqing and Shaanxi; *E. tianmushana* Lin & Bi, **sp. nov.** from Zhejiang; *E. shaanxiana* Lin & Yang, **sp. nov.** from Shaanxi, Hubei, Gansu; and *E. gui* Lin & Yang, **sp. nov.** from Hainan. *Eutetrappa virides* Pu & Jin, 1991 is transferred to the genus *Paraglenea*, and *Glenea ocelota* Bates, 1873 is transferred from *Eutetrappa* to *Saperda (Lopezcolonia)*. *Eutetrappa laosensis* is newly recorded from India and Myanmar, while *Eutetrappa flavoguttata*

Pu & Jin, 1991 is newly recorded from Myanmar. India and Myanmar represent new country records for *Eutetrappa*. Twenty-one taxa are recognized in the genus *Eutetrappa*, and a key to the described species of the genus is presented.

**Key words:** new species, new combination, taxonomy, genitalia, distribution, Oriental region

## Introduction

The genus *Eutetrappa* was erected by Bates (1884) for five species: *E. variicornis* Bates, 1884 and *E. chrysargyrea* Bates, 1884; together with *Saperda carinata* Blessig, 1873; *Saperda metallescens* Motschulsky, 1860; and *Glenea ocelata* Bates, 1873. Bates (1884) first defined the genus *Eutetrappa* as: “A gen. *Saperda* differt elytris lateraliter carinatis. Segmental ventralia 1–4 subæqualia; unguibus simplicibus; elytris apice rotundatis vel breviter et obtuse truncatis.” and “Closely allied to *Saperda tremula* and *punctata*, and differing solely in the carinated sides of the elytra.”

However, this genus has not been well-defined since the original description, and is often confused with *Paraglenea* Bates, 1866. Though Bates (1884) defined *Eutetrappa* as having “unguibus simplicibus” (claws simple), all five species he included in the genus have appendiculate claws (i.e., males with small teeth on anterior pro- and mesotarsal claws, and simple claws (not appendiculate) on females and metatarsal claws of males). On the other hand, he transferred *Glenea chrysochloris* Bates, 1897 to the genus *Paraglenea* in the same paper, saying that “the claws in the male have a short and broad, but sharp tooth at the base, the claws in the female alone being simple.” However, the claws of *Glenea chrysochloris* are similar to the five species he combined as *Eutetrappa*, and later, K. Ohbayashi (1959) transferred this species to the genus *Eutetrappa*. Similarly, *Eutetrappa velutinofasciata* Pic, 1939 had been placed in the genus *Paraglenea* (Breuning 1952; Hua 2002; Hua *et al.* 2009) until Lin *et al.* (2006) returned it to *Eutetrappa*. *Paraglenea nigromaculata* Wang & Chiang, 2002 was synonymized with *E. velutinofasciata* Pic, 1939 (Lin *et al.* 2006). We believe *Eutetrappa virides* Pu & Jin, 1991 should be transferred to the genus *Paraglenea* because of the appendiculate claws (Fig. 144) of males.

*Eutetrappa* was also confused with *Saperda* and *Glenea*. Some authors considered it as a subgenus of *Saperda* (e.g., Felt & Joutel 1904; Pic 1910), and Abdullah & Abdullah (1966) treated it as a junior synonym of *Saperda* because they did not accept the generic value of carinate elytra. These authors transferred eight taxa from *Eutetrappa* to *Saperda*, but this proposal was not followed by subsequent authors. The only major distinction between the genera *Saperda* and *Eutetrappa* is that the sides of the elytra are simple in the former, and carinate in the latter (Bates 1884; Felt & Joutel 1904; Abdullah & Abdullah 1966). *Eutetrappa sedecimpunctata* (Motschulsky, 1860) was first described under the genus *Saperda*, and *Eutetrappa variicornis* Bates, 1884 and *Saperda motschulskyi* Plavilistshikov, 1915 (= *Saperda sulphuratus* Matsushita, 1906) were synonymized with this species. Also, *Eutetrappa ocelota* (Bates, 1873) was first described under the genus *Glenea* and transferred to *Eutetrappa* by Aurivillius (1923), and *Saperda maculithorax* Pic, 1923 had been synonymized with this species. Herein, we transfer *Eutetrappa ocelota* to *Saperda* (*Lopezcolonia*).

Finally, we recognize 21 taxa in the genus *Eutetrappa*, including four new species from China: *E. parastigmata* Lin & Yang, **sp. nov.**, *E. tianmushana* Lin & Bi, **sp. nov.**, *E. shaanxiana* Lin & Yang, **sp. nov.** and *E. gui* Lin & Yang, **sp. nov.** Among these, male claws of *E. chlorotica* Pu & Jin, 1991 and *E. tianmushana* Lin & Bi, **sp. nov.** are not typical for the genus, but the other morphological characters proved to be consistent with the generic definition of *Eutetrappa*.

## Materials and methods

Photographs were taken with several different camera systems. Habitus photographs were usually taken with a Sony T30, or Canon EOS 7D + Canon Macro 100 mm, and genitalia photographs were taken with a Sony T30, or Sony T30 + Leica S8AP0. All the photographs of metallic scales and some of the genitalia photographs were taken with a large depth of field 3D Digital Microscope (Keyence VHX-1000C).

Specimens studied are deposited in the following institutions, museums or private collections:

BJFU	Beijing Forestry University, Beijing, China
BPBM	Bernice P. Bishop Museum, Honolulu, HI, USA
CAS	California Academy of Sciences, San Francisco, CA, USA
CBWX	Collection of Wen-Xuan Bi, Shanghai, China
CCCC	Collection of Chang-Chin Chen, Tianjin, China
CGQH	Collection of Gui-Qiang Huang, Chongqing, China
CPV	Collection of Petr Viktora, Kutná Hora, Czech Republic
CWD	Collection of Dong Wen, Qingdao, Shandong, China
CWIC	Collection of Wen-I Chou, Taiwan, China
CWSL	Collection of the late Wenhsin Lin, Taiwan, China (all transferred to NMNST in 2012)
CYTC	Collection of Yi-Ting Chung, Taiwan, China
EUMJ	Ehime University Museum, Matsuyama, Japan
HBU	Hebei University, Hebei, China
IRSNB	Institut royal des Sciences naturelles de Belgique, Brussels, Belgium
IZAS	Institute of Zoology, Chinese Academy of Sciences, Beijing, China
KLUC	School of Environment and Life Science, Kai-Li University, Kaili, Guizhou, China
MHNG	Muséum d'Histoire Naturelle de Genève, Geneva, Switzerland
MHNL	Muséum d'Histoire Naturelle, Lyon, France
MNHN	Muséum national d'Histoire naturelle, Paris, France
NHMB	Naturhistorisches Museum (Museum Frey, Tutzing), Basel, Switzerland
NMNST	National Museum of Natural Science, Taiwan, China
NSMT	National Science Museum of Tokyo, Japan
OSAKA	Osaka Museum of Natural History, Osaka, Japan
SHEM	Shanghai Entomology Museum, Shanghai, China
SWU	Collection of Insects, Southwest University, Chongqing (ex Southwest Agricultural University), Chongqing, China
SYSU	Sun-Yatsen University, Guangzhou, China
ZIN	Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia
ZMUM	Zoological Museum, University of Moscow, Moscow, Russia

## Taxonomy

### Genus *Eutetrappa* Bates, 1884

*Eutetrappa* Bates, 1884: 256. Type species: *Eutetrappa variicornis* Bates, 1884 (= *Saperda carinata* Blessig, 1872 = *Saperda sedecimpunctata* Motschulsky, 1860). Designated by Gressitt, 1951: 555.

*Eutetrappa*; Matsushita, 1933: 401, 403; Gressitt, 1951: 555; Breuning, 1952: 131; Samuelson, 1965: 126; Breuning, 1966: 676; Rondon & Breuning, 1970: 526; Pu, 1980: 107; Lee, 1987: 197; Zhou *et al.*, 1988: 105; Pu & Jin, 1991: 189; N. Ohbayashi *et al.*, 1992: 634; Nakamura *et al.*, 1992: 102; Kurihara & A. Saito, *In*: N. Ohbayashi & Niisato, 2007: 653; Löbl & Smetana, 2010: 323; Nakamura *et al.*, 2014: 170.

*Saperda* (*Eutetrappa*): Felt & Joutel, 1904: 6; Pic, 1910: 9, 10.

*Saperda* (pars): Abdullah & Abdullah, 1966: 87. (synonymized *Eutetrappa* with *Saperda*)

**Redefinition.** Medium sized (length between 10–25 mm), body length more than 3.3 times of humeral width. Head as broad as prothorax; frons subquadrate; eyes deeply concave, of which inferior lobe subequal to or narrower than half of frons. Antennae longer than body, sparsely fringed with short hairs on ventral sides of basal antennomeres; scape slightly expanded, without ridge; the third antennomere longest; fourth longer than scape. Pronotum slightly broader than long, without lateral tubercles. Elytra subparallel sided, with distinct lateral carinae; apices rounded or slightly truncated. Procoxal cavity closed or narrowly open posteriorly; mesocoxal cavity open externally to mesepimeron; metanepisternum more than twice as wide anteriorly as posteriorly; mesotibiae grooved; metafemora reaching fourth to fifth abdominal segment; first metatarsal segment subequal to or slightly longer than following two combined. Female claws simple (Fig. 143); male claws with anterior ones of pro- and mesotarsi appendiculate with small teeth on outer side, others simple (Figs. 146a–c).

**Male genitalia:** Apex of male tergite VIII rounded, truncated or emarginated. Lateral lobes stout (length less than four times of width) to slender, with a finely setose ridge at ventral base; ringed part elbowed in widest portion, converging; basal piece well-developed and bifurcated. Median lobe slightly curved, longer or shorter than tegmen, dorsal plate shorter than ventral plate. Median foramen elongated. Endophallus with two bands of supporting armature, four basal plate-like sclerites, a strongly sclerotized part (at apical 1/3 or apical half) and three rod-like sclerites. Ejaculatory duct single. **Female genitalia:** Setae of sternite VIII dense and long. Spermathecal capsule and gland positioned on apex of spermathecal duct. Spermathecal capsule strongly sclerotized, composed of an apical orb and a short to long stalk, spiculum ventrale slightly shorter to longer than abdomen.

**Diagnosis.** This genus differs from *Paraglenea* Bates (Fig. 144) by the distinct male claws (Figs. 146a–c), which are quite different from the typical appendiculate claws on inner side (Fig. 145). However, two other species (*E. chlorotica* Pu & Jin, 1991 and *E. tianmushana* Lin & Bi, **sp. nov.**) also possess atypical claws, with anterior ones appendiculate on outer side while others appendiculate on inner side (Figs. 147a, b). For females, usually antennomere III is much longer than scape, while antennomere III is subequal to or slightly longer than scape in *Paraglenea*.

Generally speaking, this genus differs from *Glenea* Newman by elytral apex without distinct teeth. However, there are some species with almost round or slight truncated elytral apex and same male claws in *Glenea* Newman, such as *G. subviridescens* Breuning, 1963 (which may belong to *Pseudochlorisanis* Breuning, 1954, according to Viktora & Lin 2012).

**Remarks.** Prior to this work, 19 taxa (17 species and 2 subspecies) were recorded in the genus (Tavakilian & Chevillotte 2016), with all species distributed in China except two subspecies endemic to Japan: *E. chrysochloris chrysochloris* (Bates, 1879) and *E. sedecimpunctata australis* Takakuwa & Hirokawa, 1998. Four new species are described from China, and two species are transferred out of *Eutetrappa*. In this work, we recognize 21 taxa in the genus *Eutetrappa*.

*Eutetrappa* can be separated into two subgroups, the sedecimpunctata group, which are covered with pubescence and is quite similar to *Saperda* except due to its distinct elytral lateral carinae; and the chrysochloris group, which are covered with metallic scales and is quite distinct from the sedecimpunctata group according to molecular analyses (Dr. Nonaka Masaru, personal communication). The type species (*E. sedecimpunctata*) is the only species in the genus with procoxal cavity narrowly open posteriorly. The first author will use both morphological and molecular data to study morphological characters and test the monophyly of the genus (in preparation).

**Distribution.** China, Russia, North Korea, South Korea, Japan, Laos, India (new country record), Myanmar (new country record).

### ***Eutetrappa sedecimpunctata sedecimpunctata* (Motschulsky, 1860)**

Figs 1–9

*Saperda sedecimpunctata* Motschulsky, 1860: 151. Type locality: Russia, Siberia, Daourie. Type depository: ZMUM.

*Saperda duodecimpunctata* Motschulsky, 1860 (*nec* Brahm, 1790): 151. Type locality: Russia, Siberia, Daourie. Type depository: ZMUM. [preoccupied by *Leptura duodecimpunctata* Brahm, 1790: 176 = *Saperda perforata* (Pallas, 1773).]

*Saperda carinata* Blessig, 1872: 219. Type locality: Russia, E. Siberia, Bureja-Gebirge, Am Suyfun und bei Wladiwostok. Type depository: ZIN.

*Eutetrappa variicornis* Bates, 1884: 256. Type locality: Japan, Hokkaido, Junsai. Type depository: MNHN. Synonymized by Plavilstshikov, 1934: 116.

*Eutetrappa 16 punctata*: Heyden, 1885: 310.

*Eutetrappa 12 punctata*: Heyden, 1885: 310.

*Saperda* (*Eutetrappa*) *16-punctata* var. *rosinae* Pic, 1904: 17. Type locality: Russia, Siberia, Radde. Type depository: MNHN.

*Saperda sulphurata* Matsumura, 1906 (*nec* Gebler, 1825): 11, pl. 52, fig. 13. Type locality: Japan. Type depository: Entomological Museum, Hokkaido University, Sapporo. [preoccupied by *Saperda sulphurata* Gebler, 1825: 52 = *Menesia sulphurata* (Gebler, 1825)]

*Saperda* (*Eutetrappa*) *16-punctata*; Pic, 1910: 11.

*Saperda* (*Eutetrappa*) *16-punctata* v. *rosinae*; Pic, 1910: 11.

*Saperda motschulskyi* Plavilstshikov, 1915: 80. [new name for *Saperda sulphurata* Matsumura, 1906]

*Eutetrappa 16-punctata* ab. *infrequens* Plavilstshikov, 1927: 109. [infrasubspecies, from Russia Siberia]

*Eutetrappa sedecimpunctata*; Aurivillius, 1923: 488; Matsushita, 1933: 403, 404; Gressitt, 1951: 555; Breuning, 1952: 132, pl.

III, fig. 7; Chen *et al.*, 1959: 101, pl. XIX, fig. 140; Breuning, 1966: 676; Pu, 1980: 107; Lee, 1987: 197, pl. 24, fig. 270; Zhou *et al.*, 1988: 105, pl. XV, fig. 144; Pu & Jin, 1991: 190; N. Ohbayashi *et al.*, 1992: 634, fig. 2 in page 59 and fig. 4 in page 257; Hua, 2002: 208; Zhao, 2005: 11; Hua *et al.*, 2009: 213, 354, pl. LXXVIII, 900.

*Eutetrappa sedecimpunctata* m. *rosinae*; Breuning, 1952: 133.

*Eutetrappa sedecimpunctata* m. *infrequens*; Breuning, 1952: 133.

*Saperda* (*Saperda*) *motschulskyi*; Breuning, 1952: 190.

*Eutetrappa sedecimpunctata* m. *reductemaculata* Breuning, 1957: 278. [infrasubspecies, from Aomori, northern Japan]

*Saperda* (s. str.) *motschulskyi*; Podaný, 1963: 69, fig. 11.

*Saperda sedecimpunctata*; Abdullah & Abdullah, 1966: 90.

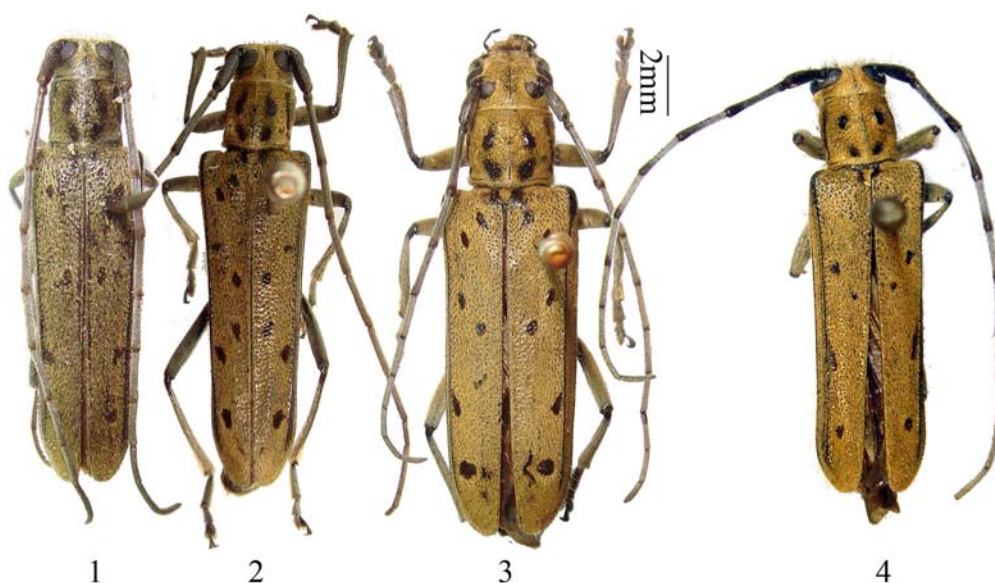
*Saperda variicornis*; Abdullah & Abdullah, 1966: 90.

*Saperda sedecimpunctata* var. *infrequens*; Abdullah & Abdullah, 1966: 90.

*Saperda sedecimpunctata* var. *quattuordecimpunctata*; Abdullah & Abdullah, 1966: 90.

*Saperda sedecimpunctata reductemaculata*; Abdullah & Abdullah, 1966: 90.

*Eutetrappa sedecimpunctata sedecimpunctata*; Takakuwa & Hirokawa, 1998: 303, figs. 3–6; Kurihara & A. Saito, *In*: N. Ohbayashi & Niisato, 2007: 653, pl. 73, figs 11 & 12; Löbl & Smetana, 2010: 323; Jang *et al.*, 2015: 357, figs.; Hwang, 2015: 452, figs.

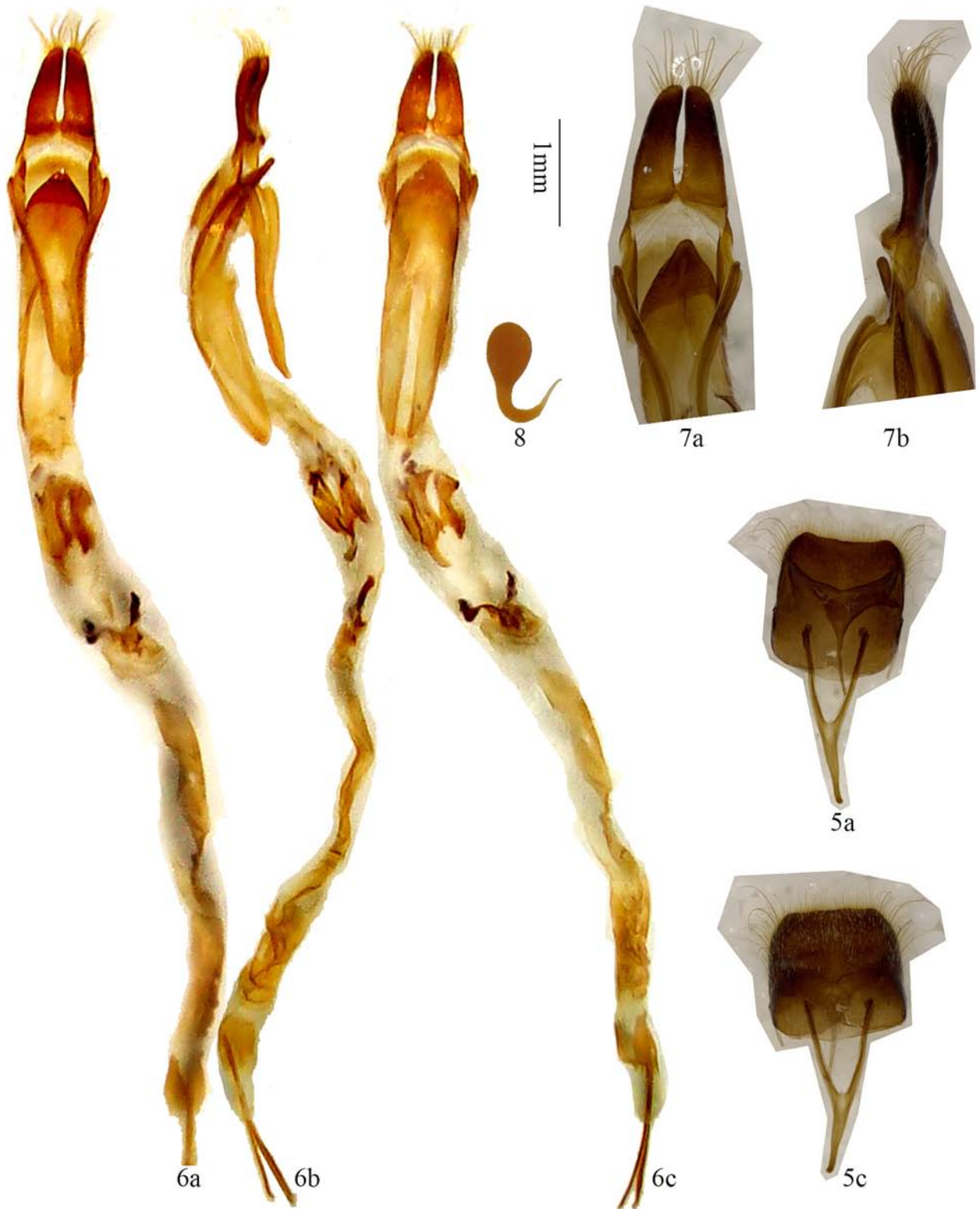


**FIGURES 1–4.** *Eutetrappa sedecimpunctata sedecimpunctata* (Motschulsky, 1860), habitus. 1. Type of *Saperda* (*Eutetrappa*) *16-punctata* var. *rosinae* Pic, 1904, male, from Russia, Siberia; 2. Male, from China, Jilin. 3. Female, from China, Heilongjiang. 4. “Holotype” of *Eutetrappa sedecimpunctata* m. *reductemaculata* Breuning, 1957, male, from Japan, Gifu Pref. 1–3. Scale 2 mm. 4. Not to scale.

**Supplementary description (genitalia).** **Male genitalia** (Figs. 5–7): Tergite VIII (Figs. 5a & 5c) broader than long; apex truncated, with setae which are long at sides, and shorter and sparser at middle. Spiculum gastrale slightly shorter than ringed part of tegmen, spiculum relictum about one half of spiculum gastrale in length. Tegmen (Figs. 6a–6c) about 3.2 mm in length; lateral lobes (Figs. 7a–7b) slender, tapering apically, each about 0.8 mm long and 0.2 mm wide; apex with fine setae which are shorter than half of length of lateral lobes; median lobe slightly curved (Fig. 6b) in lateral view, shorter than tegmen (7:8); median struts about half-length of median lobe (Fig. 6c); apex of ventral plate (Fig. 7a) pointed; endophallus more than triple length of median lobe, with four pieces of basal plate-like sclerites (located behind apex of median struts), and three rod-like sclerites at end, which are about 2.0 mm, much shorter than tegmen. **Female genitalia:** spermathecal capsule (Fig. 8) composed of an apical orb and a curved stalk, stalk only a little longer than apical orb. Spiculum ventrale longer than abdomen. In our observation, spiculum ventrale measured 10.8 mm for an adult with abdomen measured 9.2 mm in ventral view.

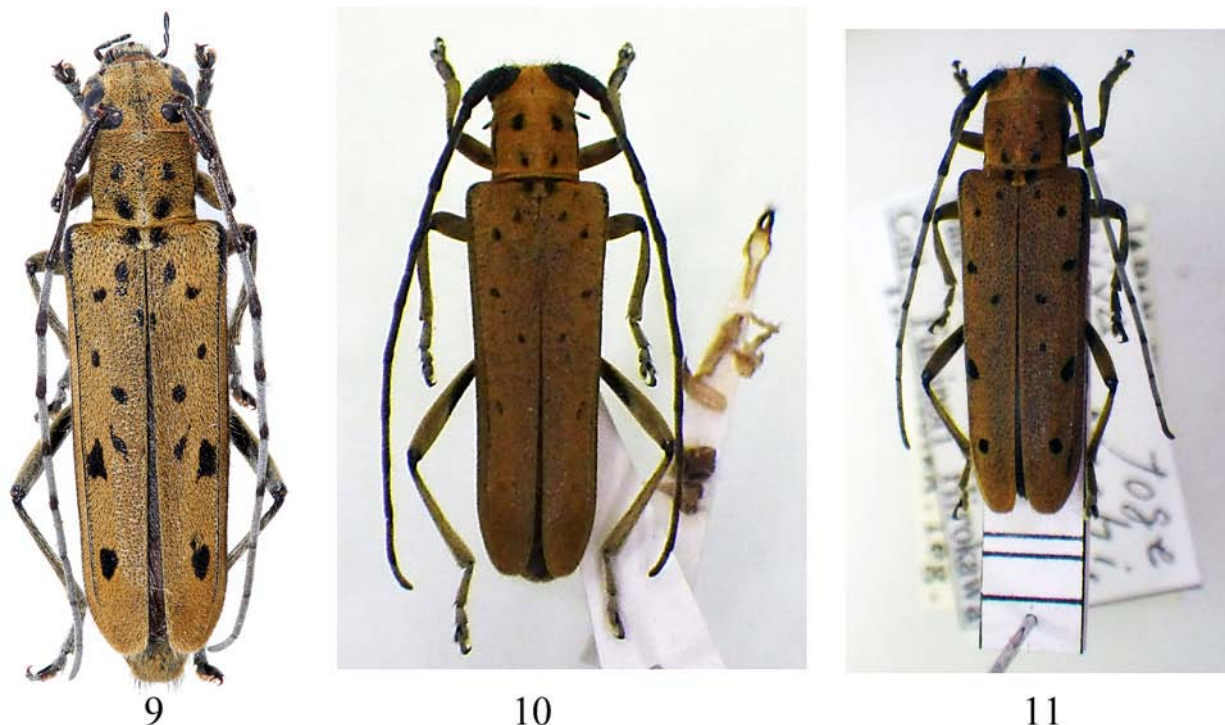
**Host plants.** *Acer* sp. (Aceraceae), *Populus* sp. (Salicaceae), *Robinia pseudoacacia* Linnaeus (Fabaceae), *Salix* sp. (Salicaceae), *Tilia cordata* Miller (Tiliaceae), *Tilia japonica* (Miquel) Simonkai (Tiliaceae).

**Favorite host plants.** *Salix cardiophylla* Trautvetter & Meyer (Salicaceae), *Senecio* sp. (Asteraceae).



**FIGURES 5–8.** Terminalia of *Eutetrappa sedecimpunctata sedecimpunctata* (Motschulsky, 1860). 5–7. Male genitalia, from China, Jilin. 5. Tergite VIII and sternites VIII & IX in ventral view. 6. Male genitalia. 7. Showing base of lateral lobes of tegmen and apex of ventral plate. a. Ventral view, b. Lateral view, c. Dorsal view. 8. Female from China, Heilongjiang, showing the spermathecal capsule. Scale 1 mm, 7a and 7b not to scale.





**FIGURES 9–11.** *Eutetrappa sedecimpunctata*, habitus. 9. *Eutetrappa sedecimpunctata sedecimpunctata* (Motschulsky, 1860), female, from Japan, Fukushima Pref. 10–11. *Eutetrappa sedecimpunctata australis* Takakuwa & Hirokawa, 1998, photographed by Kyohei Watanabe. 10. Holotype, male, from Japan, Kumamoto Pref. 11. Paratype, female, from Japan, Kumamoto Pref. Not to scale.

**Remarks.** The distribution record from Hubei was mentioned by Hua without reference material or literature cited (Hua 2002; Hua *et al.* 2009) and followed by Löbl & Smetana (2010). We could not examine any specimens from Hubei, but found three specimens from Hebei.

For the Taiwanese fauna, *E. sedecimpunctata* was recorded by Chen *et al.* (1959), including some ecological notes. Meanwhile, *Menesia sulphurata* (Gebler, 1825) the occurrence from Taiwan was not included in Chen *et al.* (1959), Hua (2002) and Hua *et al.* (2009). Thus, we conclude that these authors misapplied *Saperda sulphurata* Matsumura, 1906 (a homonym of *Saperda sulphurata* Gebler, 1825 and a synonym of *Eutetrappa sedecimpunctata*) to *Saperda sulphurata* Gebler, 1825. As a result, we exclude Hubei and Taiwan, and add Hebei to the distribution of this species.

The black maculae on the pronotum and elytra are quite variable, and several varieties, aberration or morphs were described as infrasubspecific taxa. Also, *E. duodecimpunctata* = *16-punctata* (Motschulsky, 1960) or *E. variicornis* Bates, 1884 have been synonymized with *E. sedecimpunctata*.

**Distribution.** China: Heilongjiang, Jilin, Liaoning, Hebei (new province record), Shaanxi; Russia, North Korea, South Korea, Japan.

**Type specimens examined.** Holotype (of *Saperda* (*Eutetrappa*) *16-punctata* var. *rosinae* Pic, Fig. 1), male, Siberia, Radde, 1903, leg. Maximilian & Rosina Korb (MNHN, ex Coll. M. Pic).

**Other specimens examined. Heilongjiang:** 1 male, Jixi City, Hutouzhen, 2009.V.25, leg. Ye Liu (IZAS); 1 male 1 female, Harbin, 1966.VI.20–22 (IZAS); 1 female, Heilongjiang, 1957.XI.13, leg. Sanfu Liu (IZAS); 5 males 6 females, Harbin, 1947.VII.16 (IZAS); 12 males 47 females, same data but 1965.VI.20–22; 1 male 1 female, Yichun, 1956.VI.2–20 / VII.10 (IZAS); 1 male, Yangmugang, 1959.VI.3 (IZAS); 1 male 1 female, Laogang, 1959.VI.24 (IZAS); 1 female, Hulin, 1971.VI.13 (IZAS); 1 male, Shanhetun, 1970.VII.9 (IZAS); 1 male, Maoershan, 1931.VII.12 (IZAS); 1 female, Dailing, 1956.VI.20, leg. Jiao Kang (IZAS); 1 female, Dailing, alt. 390 m, 1957.VI.15, leg. Zhong He (IZAS); 2 males, Dailing, alt. 390 m, 1962.VII.3–6, leg. Jiu-Wei Bai (IZAS); 1 male 1 female, Dailing, Liangshuigou, 1957.VI.9 (IZAS); 2 females, Ercengdianzi, 1941.VI.15 (IZAS). **Jilin:** 1 male 1 female, Linjiang, 1955.VI.4 / VIII.27 (IZAS); 1 female, Fusong, 1955.VI.22 (IZAS); 1 female, Changbaishan, 1982.VII.2, leg. Baolin Zhang (IZAS); 1 male, Changbaishan, alt. 740 m, 1990.VII.26 (IZAS); 1 female,

Changbaishan, alt. 740 m, 1993.VII.4–7, leg. Pei-Yu Yu (IZAS); 1 female, Manjiang, 1955.VI.27 (IZAS); 1 male 3 females, Yitong, 2003.V.12, leg. Chang-Sheng Zhao, host: *Tilia* sp. (TILIACEAE). **Liaoning:** 1 male, Gaolingzi, 1937.VII.2 (IZAS); 2 females, Gaolingzi, 1939.VI.7 / VII.15 (IZAS); 1 female, Gaolingzi, 1940.VII.10 (IZAS); 2 males 5 females, Gaolingzi (IZAS); 1 male 3 females, Qingyuan, 1954.VI.12–VII.17, leg. Lin (IZAS); 1 female, Qingzong, 1954.VII.18; 1 female, Fengcheng, Tongyuanbao, 1963.VI.29, leg. Hongxing Li (IZAS). **Hebei:** 3 females, Zunhua, E. Tomb (IZAS). **Japan:** 1 male (Fig. 4), “holotype” of *Eutetrappa sedecimpunctata* m. *reductemaculata* Breuning, 1957, Japan, Hondo, Gifu Prefecture, Kumagawa, 1949.VII.5 (NHMB, not matching with collecting data in original description = Insel Hondo, Aomori Pref., Obokutai, ex coll. Shimoyama); 3 females (Fig. 9), Fukushima Pref., Hinoemata-mura, Aizu-gun, 1982.VI.13, leg. Kiichi Shimizu (IZAS, ex Ehime University); 1 female, Fukushima Pref., Minamiaizu-gun Tatateiwa-mura, 1994.VII.2, leg. Satoshi Maru leg. (IZAS, ex Ehime University).

### ***Eutetrappa sedecimpunctata australis* Takakuwa & Hirokawa, 1998**

Figs. 10–11

*Eutetrappa sedecimpunctata australis* Takakuwa & Hirokawa, 1998: 303, figs. 1, 2. Type locality: Japan, Kyushu, Momiki, Izumi-mura. Type depository: Kanagawa Prefectural Museum of Natural History, Odawara, Japan.

*Eutetrappa sedecimpunctata australis*; Kurihara & A. Saito, *In*: N. Ohbayashi & Niisato, 2007: 653, pl. 73, fig. 13.

**Host plant.** *Tilia japonica* (Miquel) Simonkai (Tiliaceae).

**Remarks.** We did not examine any specimens of this subspecies except photographs of the holotype and one female paratype. According to the original description by Takakuwa & Hirokawa (1998), this subspecies is distinguishable from the nominotypical subspecies by the following features: body stout, especially in male, with rather flattened elytral disk, and densely clothed with orange-yellow pubescence throughout; dorsum of antennae with all the segments in male or basal five segments in female clothed with minute, fuscous pubescence; elytral black maculations evidently smaller and often indistinct or nearly obsolete. In addition, according to the photographs we studied, it appears that this subspecies has shorter antennae than the nominotypical subspecies. However, the coloration of pubescence or black maculae would not be important diagnostic characters because these features are quite variable even in the nominotypical subspecies. This subspecies is known only from areas above 1,400 m altitude in Kyushu, Japan.

**Distribution.** Japan (Kumamoto Prefecture).

**Type specimens examined** (through photographs from Kanagawa Prefectural Museum of Natural History, Odawara). Holotype (Fig. 10), male, Japan, Kumamoto Pref., Izumi-Mura, Momiki, Mt. Shiratoriyama, alt. 1400 m, 1989.IX.9 (larva, mesh co. 4830-57-49), leg. Fuminori Hirokawa; 1 paratype (Fig. 11), female, Japan, Kumamoto Pref., Yabe T. Shiayatôge, alt. 1400 m, 1986.VI.10 (mesh co. 4831-70-14), leg. Fuminori Hirokawa.

### ***Eutetrappa complexa* Pu & Jin, 1991**

Figs. 12–21

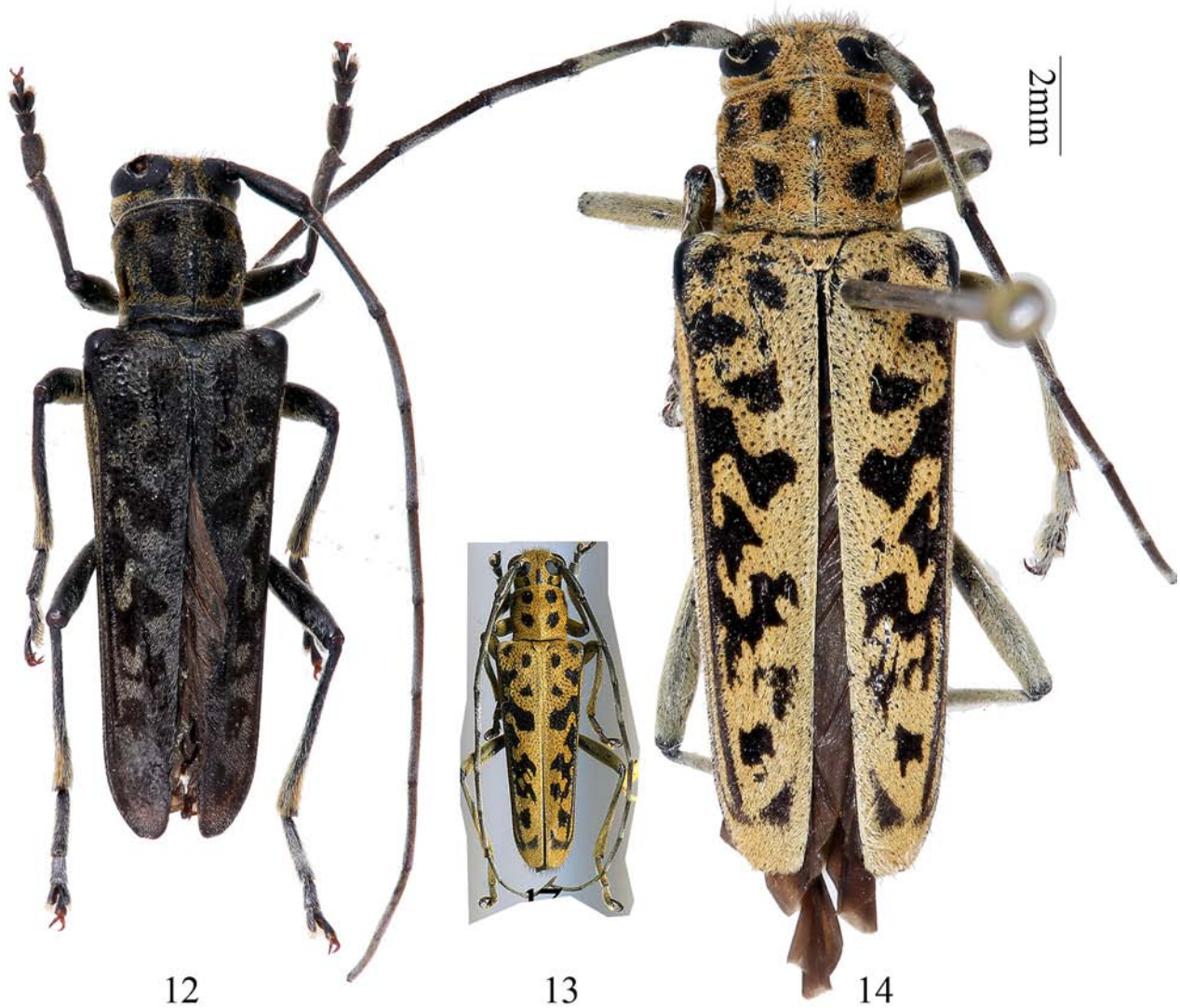
*Eutetrappa complexa* Pu & Jin, 1991: 192, 197, pl. IIIB: 4. Type locality: China, Shaanxi, Zhouzhi County. Type depository: IZAS.

*Eutetrappa complexa*; Hua *et al.*, 2009: 455; Löbl & Smetana, 2010: 323; Lin, 2015: 274, fig. 217691.

**Supplementary description.** Male (Figs. 12–13, described for first time) matches female quite well, with antennae slightly longer, body slender, anterior claw of pro- and mesotarsi appendiculate with short tooth (Figs. 146a–c). Male (n = 1): length 12.6 mm, width 4.0 mm. Female (n = 2): length 15.5–17.0 mm, width 5.0–5.7 mm. **Male genitalia** (Figs. 15–20): Tergite VIII (Figs. 15a, 15c) slightly broader than long, apex almost rounded, slightly emarginate in middle, with setae which are long at sides, and shorter and sparser at middle. Spiculum gastrale subequal to ringed part of tegmen, spiculum relictum about a half of spiculum gastrale in length. Tegmen (Figs. 16a–c) about 3.1 mm in length; lateral lobes stout, each about 0.7 mm long and 0.3 mm wide; gradually narrower apically (from outer), apex with several fine setae which are shorter than half of length of lateral lobes; median lobe



slightly curved (Fig. 17b) in lateral view, slightly shorter than tegmen (28:31); median struts about half-length of median lobe (Fig. 17b); apex of ventral plate (Fig. 18) bluntly pointed; endophallus more than triple length of median lobe, with four pieces of basal plate-like sclerites (located behind apex of median struts), two bands of supporting armature, and three rod-like sclerites at end (Fig. 20), two longer rods each about 2.1 mm, much shorter than tegmen, short rod about 1.9 mm. **Female genitalia:** spermathecal capsule (Fig. 21) composed of an apical orb and a stalk. Spiculum ventrale longer than abdomen. In our observation, spiculum ventrale measured 8.4 mm for an adult compared with abdomen which measured 7.7 mm in ventral view.



**FIGURES 12–14.** *Eutetrapha complexa* Pu & Jin, 1991, habitus. 12. Male, from China, Shaanxi; 13. Male, from China, Gansu. 14. Holotype, female, from China, Shaanxi. 12 & 14. Scale 2 mm. 13. Not to scale.

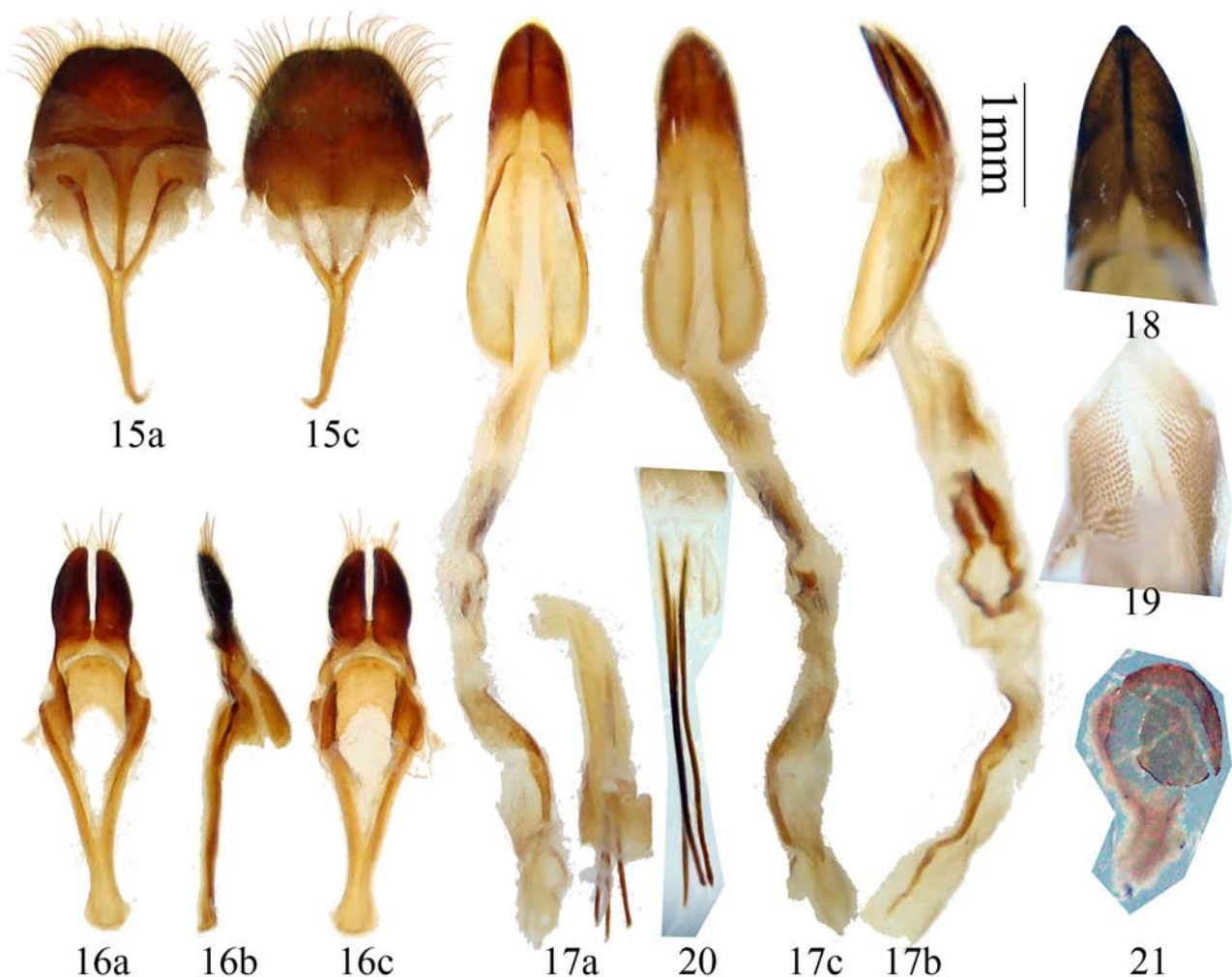
**Diagnosis.** This species resembles *E. sedecimpunctata* (Motschulsky, 1860) by the tawny pubescence and black spots on pronotum and elytra, but can be easily distinguished by having the elytron with a row of punctures between humeral carinae instead of two rows, punctures sparser between the exterior margin and external carina of humerus and black maculae on elytra larger and positioned near lateral margin (Pu & Jin 1991, partially modified).

**Distribution.** China: Shaanxi, Gansu (new province record).

**Type specimen examined.** Holotype (Fig. 14), female, Shaanxi, Zhouzhi County, 1981.VII.19, leg. Zhong-Fang Wang (IZAS, IOZ(E) 217691).

**Other specimens examined.** **Shaanxi:** 1 male (Fig. 12), Ningshan, Huoditang, 1580 m, 1998.VII.27, leg. Xue-Zhong Zhang (IZAS); 1 female, Qinlingshanliang, and North slope, 2050 m, 1998.VII.30, leg. Jian Yao (IZAS); 1 female, Qinling Mts., S. slope, Xunyangba - S+W env., 33°28–37'N, 108°23–33'E, 1400–2100 m, 1995.VI.5–9, leg. L. & R. Businský (CCH, examined by Carolus Holzschuh). **Gansu:** 1 male (Fig. 13), S. Gansu,

through a photograph shown to us by Tomas Tichy, the locality could be Wudu, which was also available on website [http://www.gorodinski.ru/view\\_cerambycidae.php?id\\_cerambyx=357](http://www.gorodinski.ru/view_cerambycidae.php?id_cerambyx=357) (access on April 13, 2015).



**FIGURES 15–21.** Terminalia of *Eutetrappa complexa* Pu & Jin, 1991. 15–20. Male genitalia, from China, Shaanxi. 15. Tergite VIII and sternites VIII & IX. 16. Tegmen. 17. Median lobe plus endophallus, 17b and 17c with apical part of endophallus missing. a. Ventral view, b. Lateral view, c. Dorsal view. 18. Apex of ventral plate. 19. The sclerotized microspinules on apical part of endophallus. 20. Rod-like sclerites. 21. Female from China, Shaanxi, showing the spermathecal capsule (part, broken). Scale 1 mm, 18–21 not to scale.

### *Eutetrappa stigmosa* Pu & Jin, 1991

Figs. 22–26

*Eutetrappa stigmosa* Pu & Jin, 1991: 191, 196. Type locality: China, Guangxi, Tianpingshan. Type depository: IZAS.  
*Eutetrappa stigmosa*; Hua *et al.*, 2009: 455 (part); Löbl & Smetana, 2010: 324 (part); Lin, 2015: 278, fig. 217695.

**Supplementary description (female and male genitalia).** Female (Fig. 23, described for first time) matches male quite well except sexual differences of genus, including claws simple, antennae shorter than male and subequal to body length, body stouter and middle of last visible abdominal ventrite with a fine longitudinal furrow. Female genitalia not available. **Male genitalia** (Figs. 24–26): Tergite VIII (Fig. 24) nearly as broad as long, apex weakly projected, with setae which are long at sides, and shorter and sparser at middle. Spiculum gastrale slightly shorter than ringed part of tegmen, spiculum relictum about one half of spiculum gastrale in length. Tegmen (Figs. 25a–c, 26) about 3.5 mm in length; lateral lobes slender, each about 0.8 mm long and 0.2 mm wide; apex with fine setae which are shorter than half of lateral lobes; median lobe slightly curved (Fig. 25b), slightly shorter than tegmen



(35:37); median struts about half-length of median lobe (Fig. 25c); apex of ventral plate (Fig. 26) pointed; endophallus more than triple length of median lobe, with more than four pieces of basal plate-like sclerites (located behind apex of median struts), two bands of supporting armature, and largely and quite strongly chitinized part after basal plate-like sclerites. Rod-like sclerites at end destroyed in specimen observed, but it is assumed that there are three of similar length.

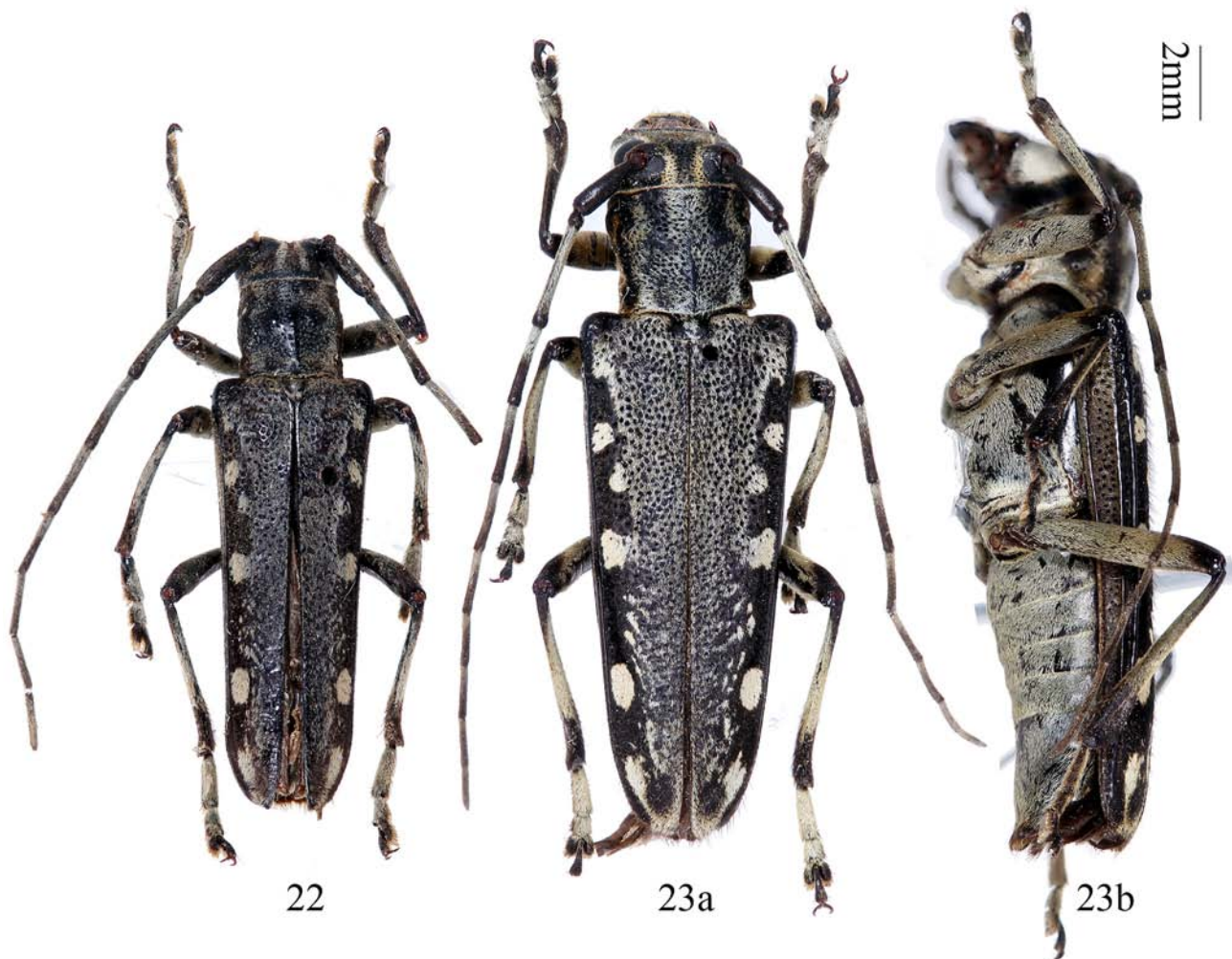
**Diagnosis.** This species can be easily separated from the known congeners by the grayish-white pubescent spots located along the humeral carina of elytra and arranged in a longitudinal row (Pu & Jin 1991).

**Distribution.** China: Guangxi, Guizhou (new province record).

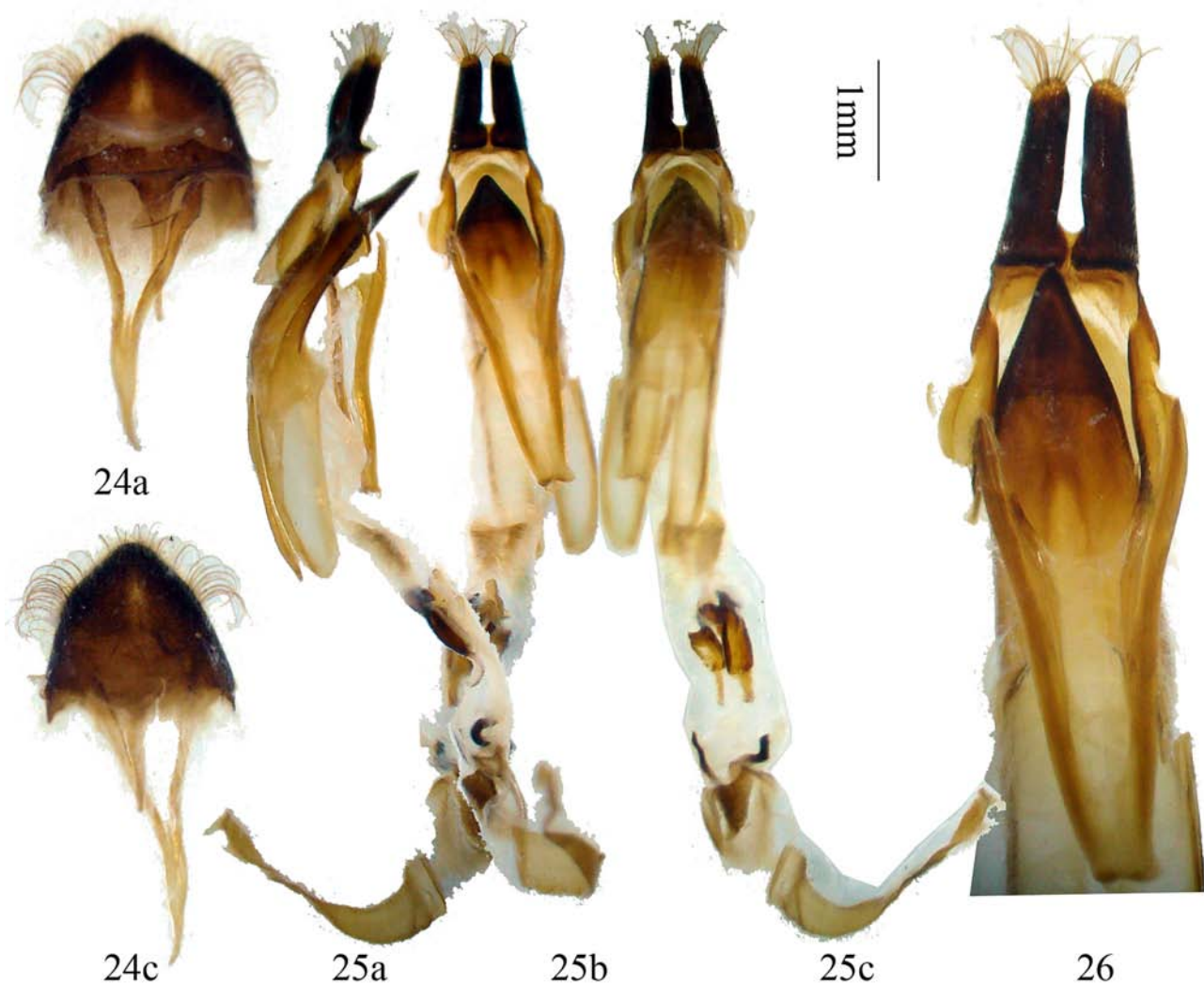
**Type specimens examined.** Holotype (Fig. 22), male, Guangxi, Tianpingshan, 1963.VI.6, leg. Qi-Jing You (IZAS, IOZ(E)217695).

**Other specimens examined. Guizhou:** 1 female (Fig. 23), Jiangkou, Fanjingshan, 2001.VII.29, leg. Guo-Dong Ren (HBU).

**Remarks.** The allotype and one male paratype from Hubei Province were misidentifications of *Eutetrappa parastigmosa* Lin & Yang, **sp. nov.** The known localities of this species are Guangxi and Guizhou, which suggests a relationship with the Nanling Mountains. One specimen was reported from Guizhou, Fanjingshan by Wang (2014: 722, fig. 3419+1) as a variety of *E. elegans*, which obviously belonged to this species, and the locality was confirmed by the specimen we examined.



**FIGURES 22–23.** *Eutetrappa stigmosa* Pu & Jin, 1991, habitus. 22. Holotype, male, from China, Guangxi; 23. Female, from China, Guizhou. a. Dorsal view. b. Lateral view. Scale 2 mm.



**FIGURES 24–26.** Terminalia of *Eutetrappa stigmosa* Pu & Jin, 1991, male holotype from China, Guangxi. 24. Tergite VIII and sternites VIII & IX. 25. Tegmen, Median lobe plus endophallus (last part of endophallus including rod-like sclerites lost). a. Ventral view, b. Lateral view, c. Dorsal view. 26. Apex of ventral plate and lateral lobes of tegmen. Scale 1 mm, 26. not to scale.

***Eutetrappa parastigmosa* Lin & Yang, sp. nov.**

Figs. 27–37

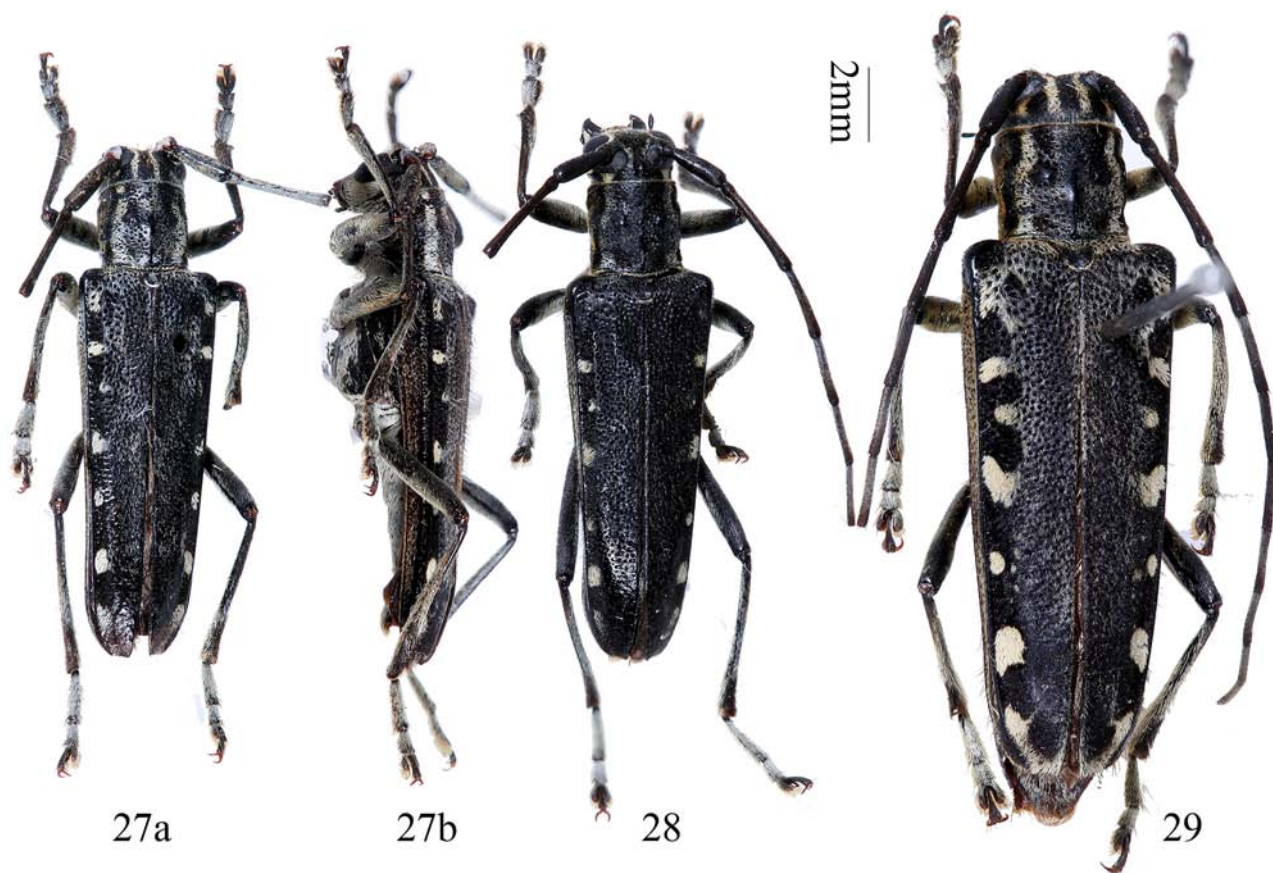
*Eutetrappa stigmosa*; Pu & Jin, 1991: 191, 196, pl. IIIB: 3; Hua *et al.*, 2009: 455 (part); Löbl & Smetana, 2010: 324 (part). (*nec* Pu & Jin, 1991)

*Eutetrappa* sp.; Lin, 2015: 278, fig. 217696.

**Description.** Male (n = 2): length: 13.8–14.2 mm, humeral width: 3.8–4.0 mm. Female (n = 2): length: 16.5–19.0 mm, humeral width: 4.8–5.5 mm. Body black. Head black, frons and genae clothed with grayish-white pubescence, vertex with two pair of grayish-white longitudinal stripes, one in middle and another behind superior eye lobes; lateral side of inferior eye lobe (tempora, Fig. 27b) covered with grayish-white pubescence. Antenna black, antennomeres I to III with grayish-white pubescence beneath, while antennomeres IV to IX ringed with grayish-white pubescence (usually more developed on ventral and inner sides), sparsely fringed with short hairs on ventral sides of basal five antennomeres. Prothorax dark black with four grayish-white pubescent longitudinal stripes, two median stripes sparse and indistinct, connected to each other at base and apex, and one on each side attaining basal and apical margins. Basal margin of pronotum and elytra with grayish-white pubescence; medium and margin of scutellum with pubescence. Elytron dark black, near median suture sparsely clothed with grayish-white



pubescence, with seven grayish-white pubescent spots situated along humeral carina and arranged in a longitudinal row, not uniform in size (usually third and fifth are smaller). Elytra clothed with yellowish grey pubescence laterally (Figs. 27b & 29). Legs clothed with grayish-white pubescence. Ventral surface mostly covered with whitish gray pubescence (Fig. 27b).



**FIGURES 27–29.** *Eutetrappa parastigmosa* Lin & Yang, *sp. nov.*, habitus. 27. Holotype, male, from China, Hubei. a. Dorsal view, b. Lateral view. 28. Paratype, male, from China, Chongqing. 29. Paratype, female, from China, Shaanxi. Scale 2 mm.

Head slightly narrower than prothorax. Eyes medially emarginate, inferior eye lobes nearly 3.0 times as high as (male) or subequal to (female) genae. Antennae slender, slightly longer than (male) or subequal to (female) body; antennomeres ratio: male: 15:3:25:18:17:16:16:?:?:?:?; female: 19:4:28:19:19:16:16:16:16:14:15. Prothorax densely punctured, with three glossy calli on pronotum (Fig. 29). Elytron densely and coarsely punctured, gradually narrower apically, with two lateral carinae, neither from base nor reaching apex; apex rounded, with a blunt tooth at inner angle. Sternite VII of male narrow, apical margin slightly emarginate, with dense brown apical hairs; sternite VII of female with a middle groove, with longer apical brown hairs. Legs slender, mesotibiae slightly grooved, metafemur reaching fourth or fifth abdominal segment, first metatarsal segment longer than following two segments combined. Anterior claw of pro- and mesotarsal claws of male with a small tooth (Figs. 146a–c), female tarsal claws and metatarsal claws of male simple (Fig. 143). **Male genitalia** (Figs. 30–36): Tergite VIII (Figs. 30 & 35) longer than broad, apex weakly projected, with setae which are long at sides, and shorter and sparser at middle. Spiculum gastrale slightly shorter than ringed part of tegmen, spiculum relictum about one half of spiculum gastrale in length. Tegmen (Figs. 31a–c) about 3.1 mm in length; lateral lobes slender, tapering apically, each about 0.7 mm long and 0.2 mm wide (Fig. 33); apex with fine setae which are subequal to length of lateral lobes; median lobe slightly curved (Fig. 32b) in lateral view, subequal to tegmen in length; median struts shorter than half-length of median lobe (Fig. 32c); apex of ventral plate (Fig. 32a) pointed; endophallus nearly four times as long as median lobe, with four pieces or more of basal plate-like sclerites (located behind apex of median struts), two bands of supporting armature, and three rod-like sclerites at end (Fig. 34), each about 3.0 mm, subequal to length of tegmen. **Female genitalia**: spermathecal capsule (Fig. 37) composed of an apical orb and a curved stalk, strongly sclerotized part of stalk only a little longer than apical orb. Spiculum ventrale longer than abdomen. In our



observation, Spiculum ventrale measured 9.0 mm for an adult compared with abdomen which measured 8.5 mm in ventral view.

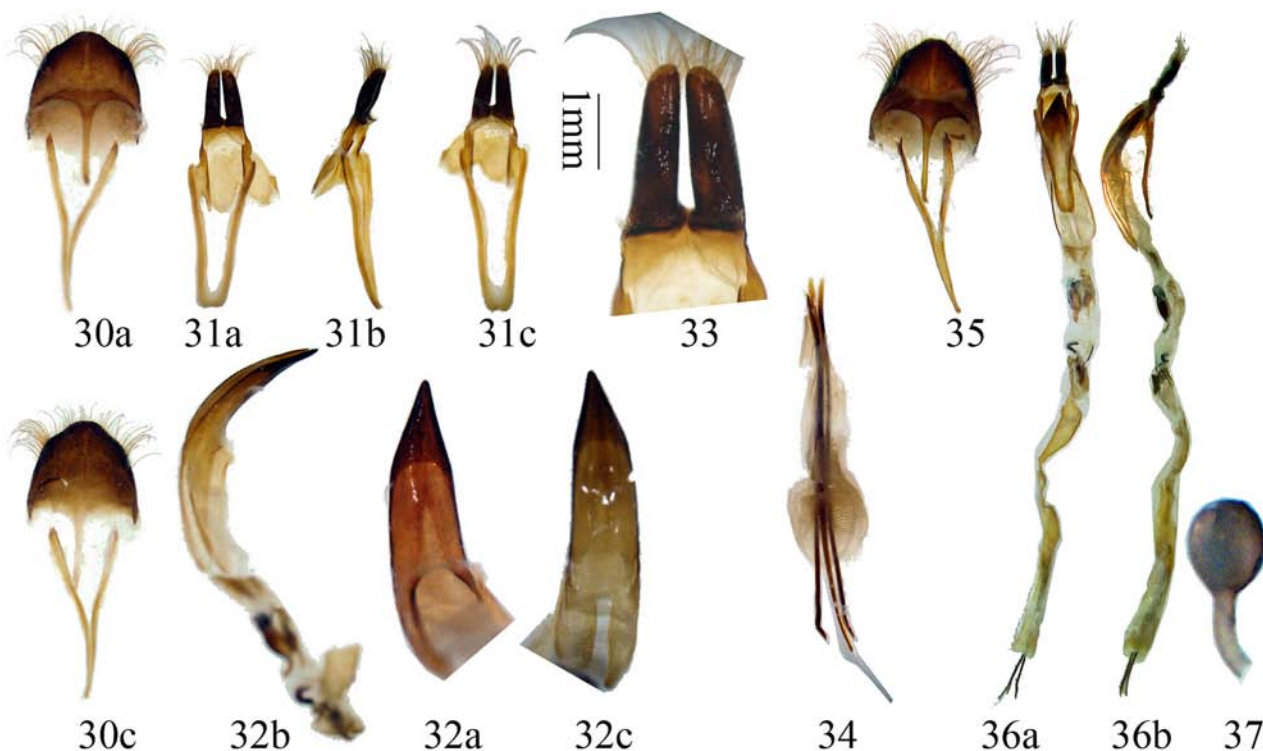
**Diagnosis.** This species is similar to *Eutetrappa stigmosa* Pu & Jin, 1991 but can be distinguished by: a. with one more grayish-white or yellowish grey spot after middle of lateral spotted stripe on each elytron, that is, seven spots in total; b. antennomere III only covered with grayish-white pubescence beneath while upper side black; c. tergite VIII weakly projected and median lobe with median struts more strongly curved.

**Etymology.** This species name is derived from its similarity to *Eutetrappa stigmosa* Pu & Jin, 1991.

**Remarks.** The known localities of this species are Shaanxi, Hubei, Henan and Chongqing, which indicates a relationship with the Qinling Mountains. One pair of specimens was reported from Henan, Songshan, Baiyunshan by Wang (2014: 722, fig. 3419+2) as a variety of *E. elegans*, which obviously belongs to this new species and the locality may be correct.

**Distribution.** China: Shaanxi, Hubei, Chongqing, Henan.

**Type specimens examined.** Holotype (Fig. 27), male, Hubei, Shennongjia, 1981.VII.21–30, leg. Pei-Yu Yu (IZAS, IOZ(E)217696, misidentified as paratype of *Eutetrappa stigmosa* Pu & Jin, 1991). **Paratypes:** 1 female, Hubei, Shennongjia, Muyu, alt. 1200 m, 1983.VIII.26, leg. Gen-Tao Jin, Zu-Yao Liu, Jian-Zhong Zheng (SHEM, 24116857, misidentified as allotype of *Eutetrappa stigmosa* Pu & Jin, 1991); 1 female (Fig. 29), Shaanxi, Ningshan, Huoditang alt. 1580 m, 1998.VIII.22, leg. De-Cheng Yuan (IZAS, IOZ(E)1905303); 1 male (Fig. 28), Chongqing, Chengkou, Mingzhong, Shapo, N31°73.792', E108°80.328', alt. 1180, leg. Yu Li (CCCC, B08L0343).



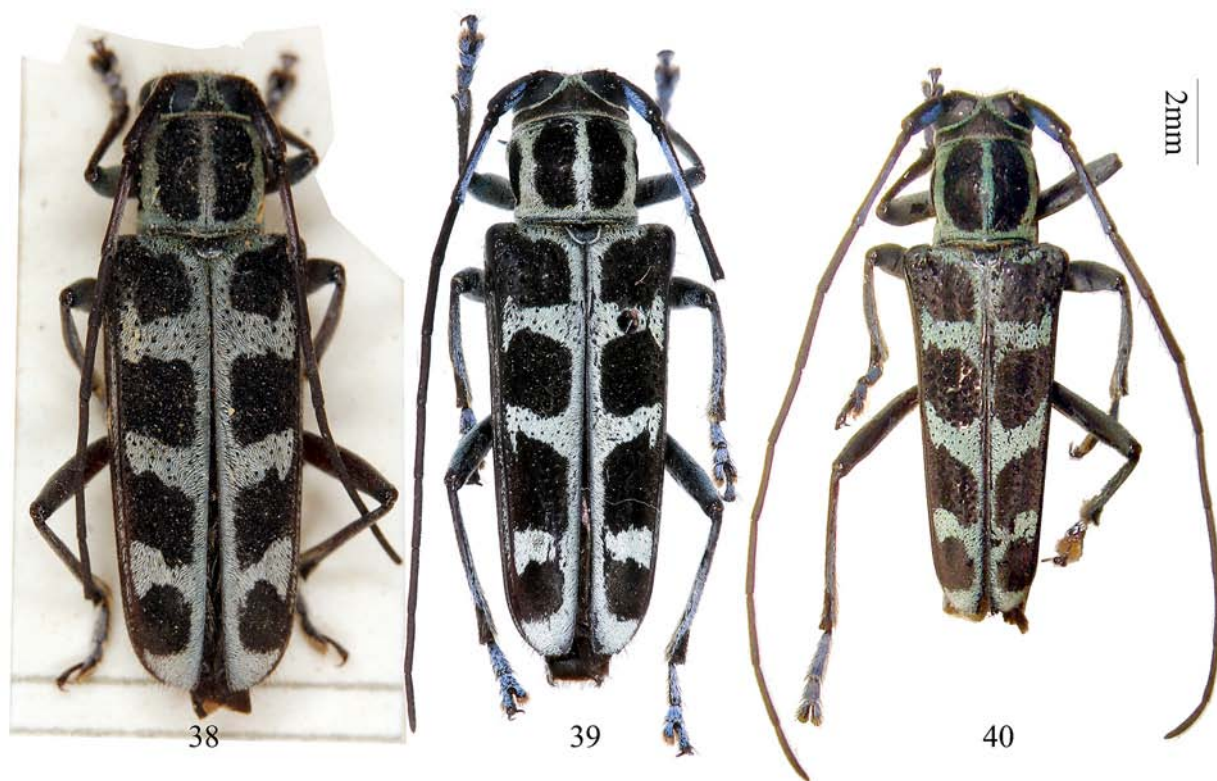
**FIGURES 30–37.** Terminalia of *Eutetrappa parastigmosa* Lin & Yang, **sp. nov.** 30–34. Male holotype from Hubei. 35–36. Male paratype from Chongqing. 30 & 35. Tergite VIII and sternites VIII & IX. 31. Tegmen. 32. Median lobe plus endophallus (last part of endophallus including rod-like sclerites lost). 33. Finely setose basal carina in ventral side of tegmen. 34. Rod-like sclerites. 36. Male genitalia. 37. Female from Shaanxi, showing the spermathecal capsule, with part of basal stalk lost. a. Ventral view, b. Lateral view, c. Dorsal view. Scale 1 mm. 32–34 & 36–37. not to scale.

### *Eutetrappa laosensis* Breuning, 1965

Figs. 38–43

*Eutetrappa laosensis* Breuning, 1965: 62, fig. page 62. Type locality: Laos, Vientiane Province, Phou Kou Khouei. Type depository: BPBM.

*Eutetrappa laosensis*; Rondon & Breuning, 1970: 526, fig. 44e; Pu, 1991: 250; Pu & Jin, 1991: 190; Hua *et al.*, 2009: 455; Löbl & Smetana, 2010: 323.



**FIGURES 38–40.** *Eutetrappa laosensis* Breuning, 1965, habitus. 38. Holotype, female, from Laos, Vientiane; 39. Female, from China, Yunnan. 40. Male, from Laos, Sayaboury. Scale 2 mm.

**Supplementary description.** Body length: 13.8–14.2 mm (Rondon & Breuning 1970). Male is similar to female but slender, with antennae much longer than body (8th antennomere reaching elytral apex). Anterior claw of pro- and mesotarsal claws of male with a small tooth (Figs. 146a–c), female tarsal claws and metatarsal claws of male simple (Fig. 143). **Male genitalia** (Figs. 41–42): Tergite VIII (Fig. 41) longer than broad, apex weakly projected, with setae which are long at sides, and shorter and sparser at middle. Spiculum gastrale slightly shorter than ringed part of tegmen, spiculum relictum about one half-length of spiculum gastrale. Tegmen (Fig. 42a) about 3.2 mm in length; lateral lobes slender, expanded before apex and then tapering apically, each about 0.8 mm long and 0.2 mm wide; apex with fine setae which are shorter than a half-length of lateral lobes; median lobe slightly curved (Fig. 42b) in lateral view, subequal to tegmen in length; median struts shorter than half-length of median lobe (Fig. 42c); apex of ventral plate (Fig. 42a) bluntly pointed; endophallus more than triple length of median lobe, with four pieces or more of basal plate-like sclerites (located behind apex of median struts), two bands of supporting armature, and three rod-like sclerites at end, each about 2.1 mm, much shorter than length of tegmen. **Female genitalia**: spermathecal capsule (Fig. 43) composed of an apical orb and a curved stalk, strongly sclerotized part of stalk only a little longer than apical orb. Spiculum ventrale longer than abdomen. In our observation, spiculum ventrale measured 8.0 mm for an adult compared with abdomen which measured 6.4 mm in ventral view.

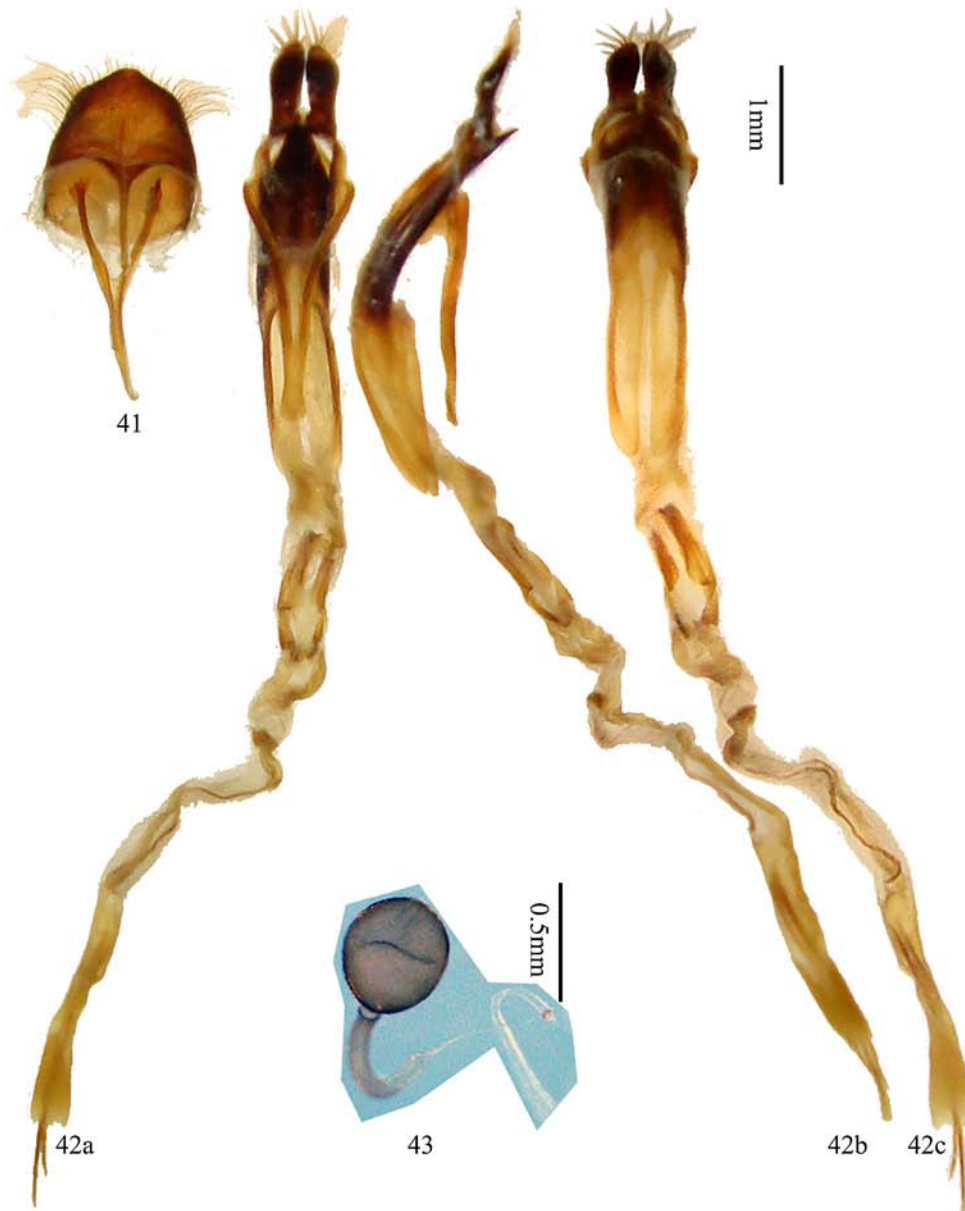
**Diagnosis.** This species is similar to *Paraglenea sylvia* Gressitt, 1951 by the two black maculae on the pronotum and four black maculae on each elytron, but can be easily distinguished by the two black maculae on the pronotum being much more developed and the first one on the elytron touching the lateral margin.

**Distribution.** China: Yunnan; Laos, India (new country record), Myanmar (new country record).

**Type specimen examined.** Holotype, female, Laos, Vientiane prov., Phou Kou Khouei, 1963.VI.10, leg. Rondon (BPBM 8729, ex Coll. J. A. Rondon).

**Other specimens examined.** Laos: 11 males 1 female, Sayaboury, 1966.III.25 (IRSNB, ex Coll. J. Rondon); 4 males 1 female, same data but 1964.V.18; 1 female, same data but 1964.X.8; 1 male, Sayaboury, 1964.V.18 (MHNG, dissected); 1 male, Sayaboury, 1965.IV.15 (NHMB, ex collection of Frey); 1 female, same data but 1965.VI.19; 1 male, Sayaboury, 1964.VIII.13 (MHNG, labeled as paratype and with a handwritten label by Breuning, but not mentioned in original paper); 3 males 1 female, Phon Tiou (Khammouane), 1966.IV.18 (IRSNB,

ex Coll. J. Rondon). **China: Yunnan:** 1 female, Xishuangbanna, Xiaomengyang, alt. 850 m, 1957.V.7, leg. Fu-Ji Pu (IZAS); 1 female, Xishuangbanna, Damenglong, Mengsong, alt. 1600 m, 1958.IV.26, leg. Shu-Yong Wang (IZAS). **India:** 2 females, British Bootang, Maria Basti (NHMB, ex collection of Frey); 1 female, British Bootang (NHMB, ex collection of Frey); 1 female, British Bootang, 1898, leg. L. Durel (NHMB, ex collection of Frey). **Myanmar:** 1 female, Burma, MHNL (ex Coll. Lepesme, 2002).



**FIGURES 41–43.** Terminalia of *Eutetrappa laosensis* Breuning, 1965. 41–42. Male from Laos. 41. Tergite VIII and sternites VIII & IX. 42. Male genitalia. a. Ventral view, b. Lateral view, c. Dorsal view. 43. Female from China, Yunnan, showing the spermatheca, scale 0.5 mm. Others scale 1 mm.

***Eutetrappa shiqianensis* Pu & Jin, 1991**

Figs. 44–51

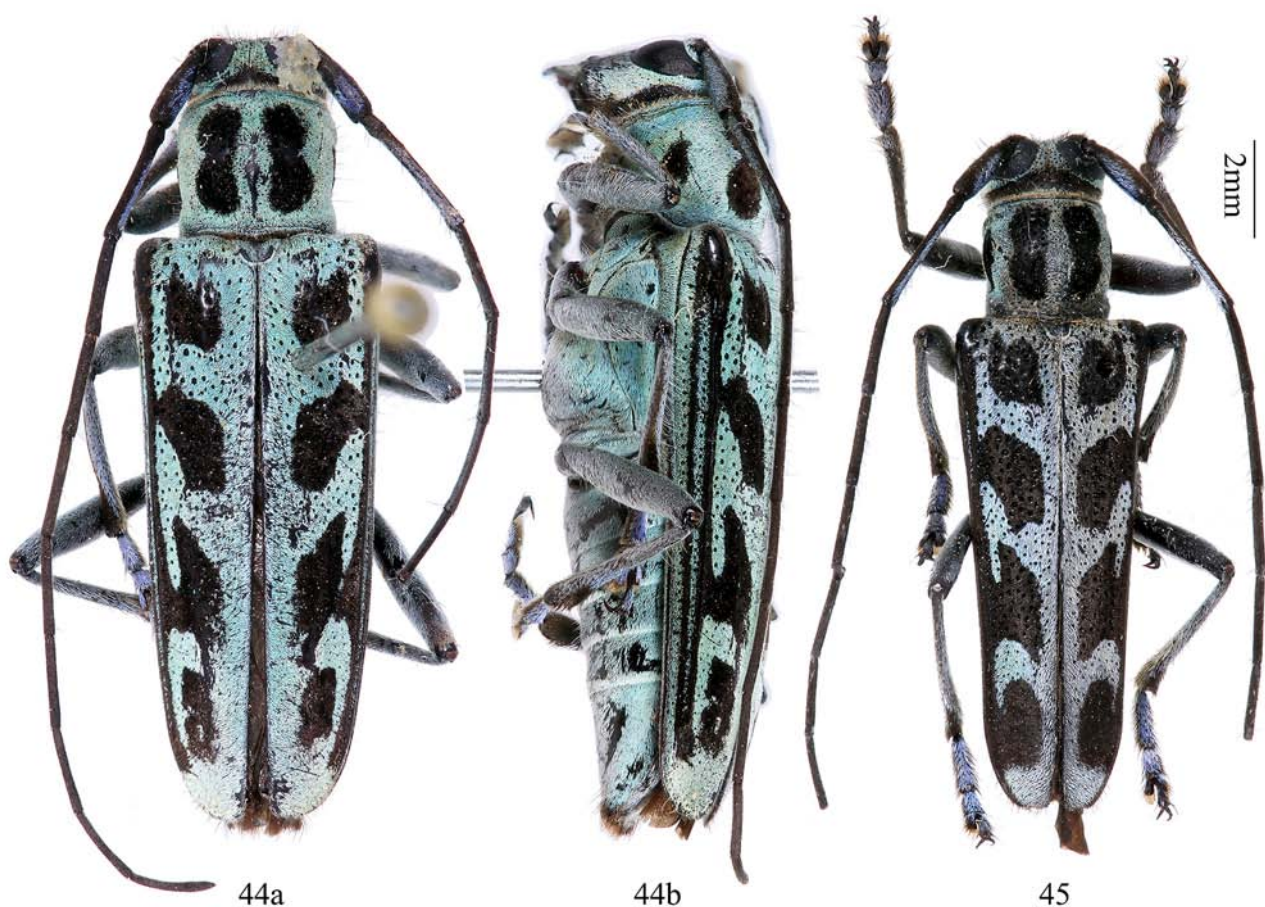
*Eutetrappa shiqianensis* Pu & Jin, 1991: 192, 198, pl IIIB: 6. Type locality: China, Guizhou, Shiqian, Jinxing. Type depository: IZAS.

*Eutetrappa shiqianensis*; Hua *et al.*, 2009: 455; Löbl & Smetana, 2010: 324; Lin, 2015: 278, figs. 217693, 217694.

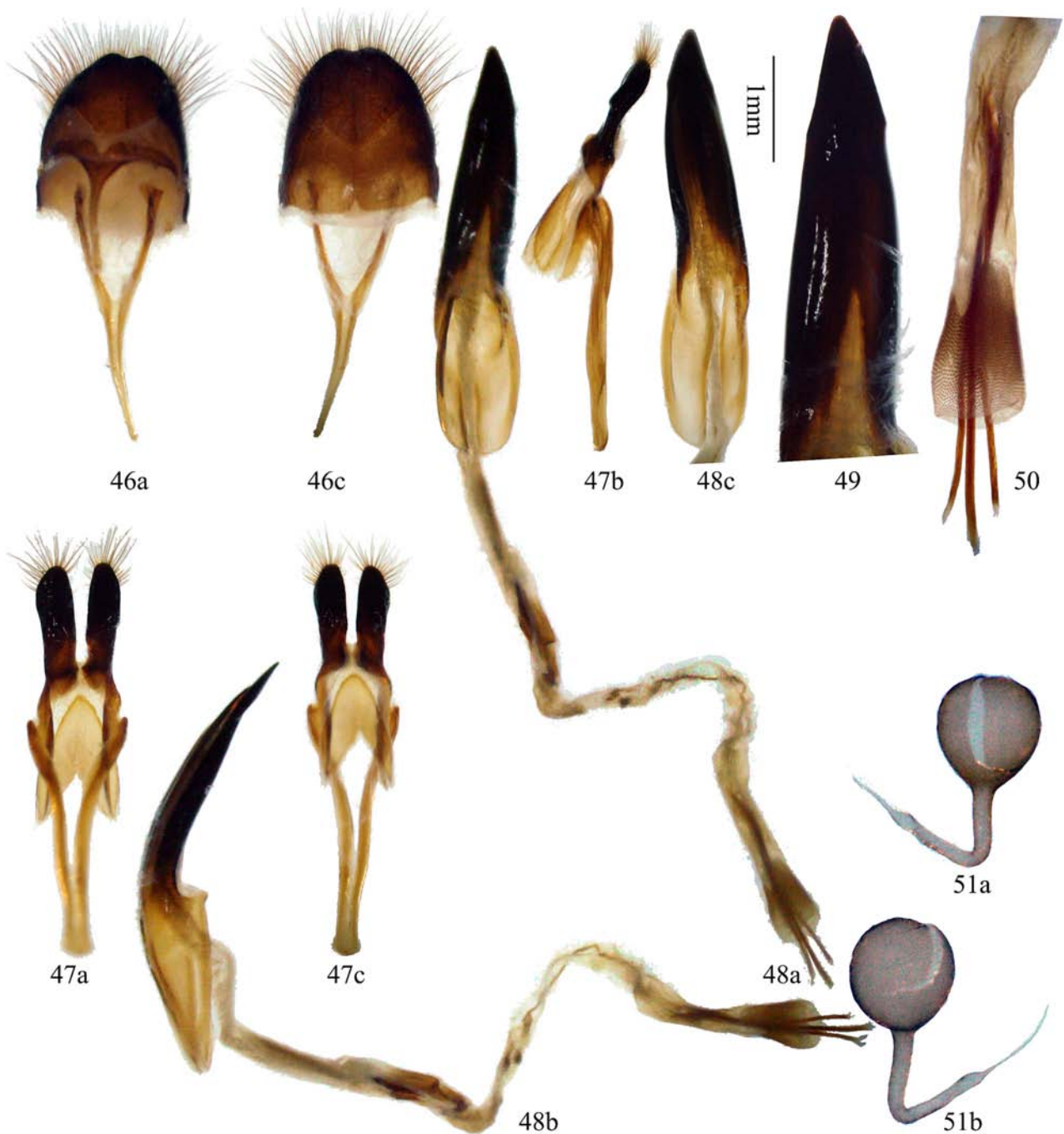


**Supplementary description.** Male (Fig. 45, described for first time) matches female quite well, with antennae slightly longer, body slender, anterior claw of pro- and mesotarsi appendiculate with short tooth (Figs. 146a–c). Male (n =1): length 13.1 mm, width 3.8 mm. Female (n =2): length 15.5–18.3 mm, width 4.0–4.7 mm. **Male genitalia** (Figs. 46–50): Tergite VIII (Figs. 46a, 46c) as broad as long, apex almost rounded, slightly emarginate in middle, with setae which are moderate long at sides, and shorter but not sparser at middle. Spiculum gastrale subequal to length of ringed part of tegmen, spiculum relictum about a half-length of spiculum gastrale. Tegmen (Figs. 47a–c) about 3.7 mm in length; lateral lobes slender, each about 1.0 mm long and 0.3 mm wide; slightly expanded before apex and then obliquely rounded, with fine setae which are shorter than half-length of lateral lobes; median lobe slightly curved (Fig. 48b) in lateral view, slightly longer than tegmen (39:37); median struts much shorter than half-length of median lobe (Fig. 48c); ventral plate (Figs. 48a, 49) slightly turned to right side in ventral view, apex pointed; endophallus more than triple length of median lobe, with four pieces of basal plate-like sclerites (located behind apex of median struts), two bands of supporting armature, and three rod-like sclerites at end (Fig. 50), two longer ones each about 2.2 mm, much shorter than tegmen, short one about 2.1 mm. **Female genitalia:** spermathecal capsule (Fig. 51) composed of an apical orb and a strongly curved stalk. Spiculum ventrale longer than abdomen. In our observation, spiculum ventrale measured 8.5 mm for an adult compared with abdomen which measured 8.0 mm in ventral view.

**Diagnosis.** This species is similar to *E. laosensis* Breuning, 1965, but can be separated by the black markings on elytra less developed, especially the first one not touching lateral margin and the second one at most partially touching lateral margin. It is similar to *Paraglenea sylvia* Gressitt, 1951 by the two black maculae on pronotum and four black markings on each elytron, especially the first one on elytron with similar shape and size, but can be easily separated by the two black maculae on pronotum much more developed and the second and third ones on elytron with distinctly different shape.



**FIGURES 44–45.** *Eutetrappa shiqianensis* Pu & Jin, 1991, habitus. 44. Holotype, female, from China, Guizhou. a. Dorsal view. b. Lateral view. 45. Male, from China, Fujian. Scale 2 mm.



**FIGURES 46–51.** Terminalia of *Eutetrappa shiqianensis* Pu & Jin, 1991. 46–51. Male from China, Fujian. 46. Tergite VIII and sternites VIII & IX. 47. Tegmen. 48. Median lobe plus endophallus. a. Ventral view, b. Lateral view, c. Dorsal view. 49. Ventral plate of median lobe. 50. Rod-like sclerites. 51. Female paratype from China, Guizhou, showing the spermathecal capsule. a & b. Different view, c. Dorsal view. Scale 1 mm. 49–51. Not to scale.

**Distribution.** China: Guizhou, Fujian (new province record).

**Type specimens examined.** Holotype, female, Guizhou, Shiqian, Jinxing, alt. 650–800 m, leg. Shu-Yong Wang (IZAS, IOZ(E) 217693); paratype, 1 female same data but IOZ(E) 217694.

**Other specimens examined.** **Fujian:** 1 male, Fujian, Majiaping, 1989.VI.13, leg. Nai-Yan Chen (SYSU, En-366121); 1 female, Fujian, Jiangle, 1987.VIII.11 (reported by Wang (2014: 721, fig. 3417.2) as variety of *E. chrysochloris*). **Guizhou:** 1 female, Jiangkou Co., ca. 50 km SW Jiangkou Shiduvillage, 27°32.83'N, 108°36.45'E, 600–800 m, 2001.VI.29–VII.6, leg. C. Holzschuh (CCH, examined by Carolus Holzschuh).



***Eutetrappa bicostata* Hayashi, 1994**

Figs. 52–53

*Eutetrappa bicostata* Hayashi, 1994: 75, pl. 6, fig. 19. Type locality: China, Taiwan, Nantou H., Saichitau. Type depository: OSAKA.

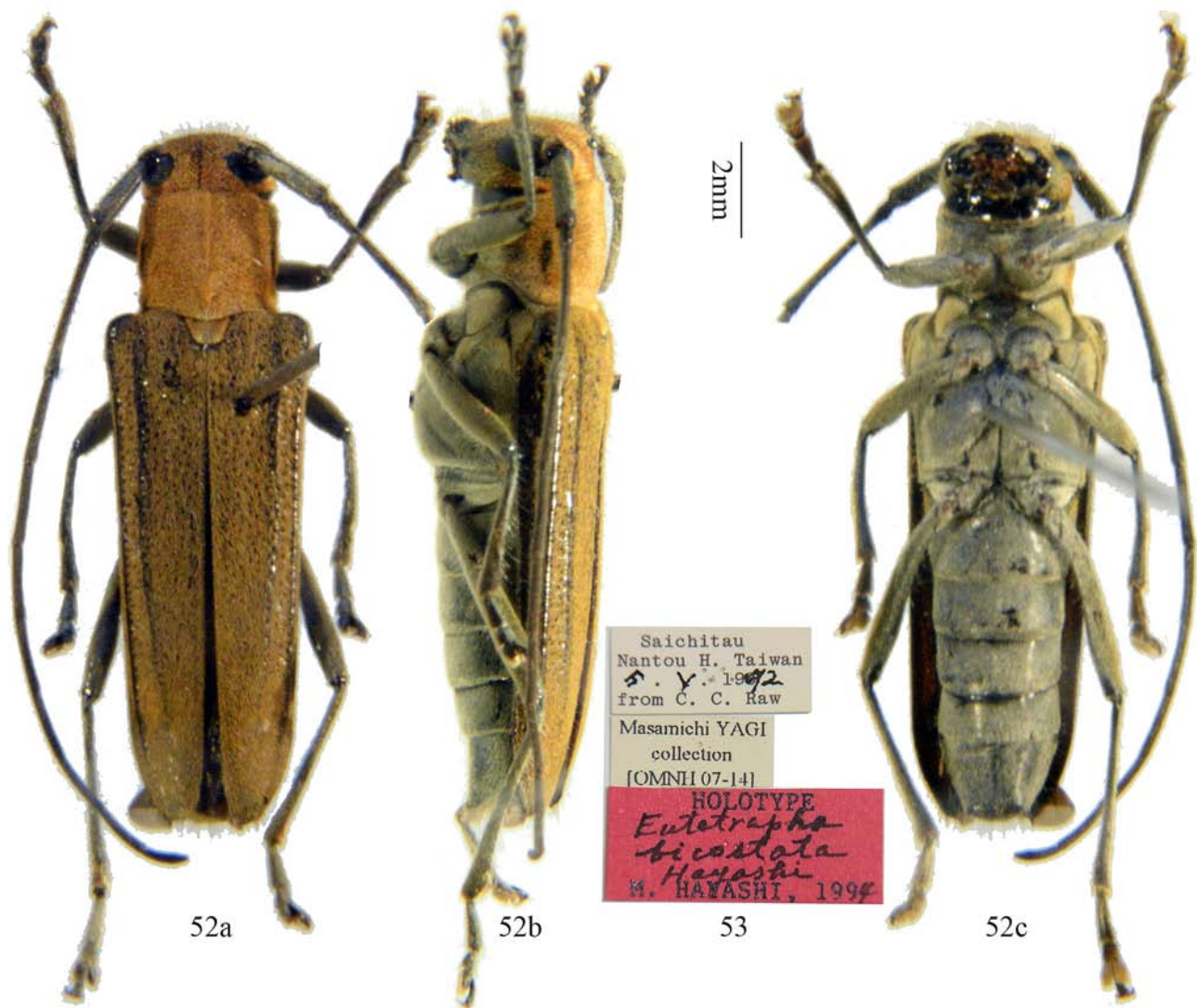
*Eutetrappa bicostata*; Yu *et al.*, 2002: 68, 119, pl. 25, fig. 3; Hua *et al.*, 2009: 213, 354, pl. LXXVIII, 895; Löbl & Smetana, 2010: 323; Nakamura *et al.*, 2014: 170.

**Diagnosis.** This species differs from all known congeners by having no punctuate black markings on elytra but only two pairs of longitudinal narrow black vittae (Hayashi 1994).

**Remarks.** We did not examine any additional specimens of this species during this study. The two dorsal habitus photographs presented by Yu *et al.* (2002) and Hua *et al.* (2009), were both same photograph of the holotype. The holotype is a female instead of a male (as reported in the original description), with the last visible sternite grooved (Fig. 52c) and claws simple. The male claws are unknown.

**Distribution.** China: Taiwan.

**Type specimens examined** (through seven photographs taken by Shigehiko Shiyake). Holotype, female (not male as reported by Hayashi 1994), Taiwan, Nantou H., Saichitau, 1972.V.8, leg. C. C. Raw (Fig. 53, not C. C. La as reported by Hayashi 1994), deposited in Osaka Museum of Natural History, ex Collection Masamichi Yagi, Japan.



**FIGURES 52–53.** *Eutetrappa bicostata* Hayashi, 1994, habitus, photographed by Shigehiko Shiyake. 52. Holotype, male, from China, Taiwan; a. Dorsal view. b. Lateral view. c. Ventral view. Scale 2 mm. 53. Holotype labels, not to scale.

***Eutetrappa velutinofasciata* Pic, 1939**

Figs. 54–62

*Eutetrappa velutinofasciata* Pic, 1939: 2. Type locality: China, environs de Péking, Trappe (= China, Hebei, Zhuolu County, Yangjiaping). Type depository: MNHN.

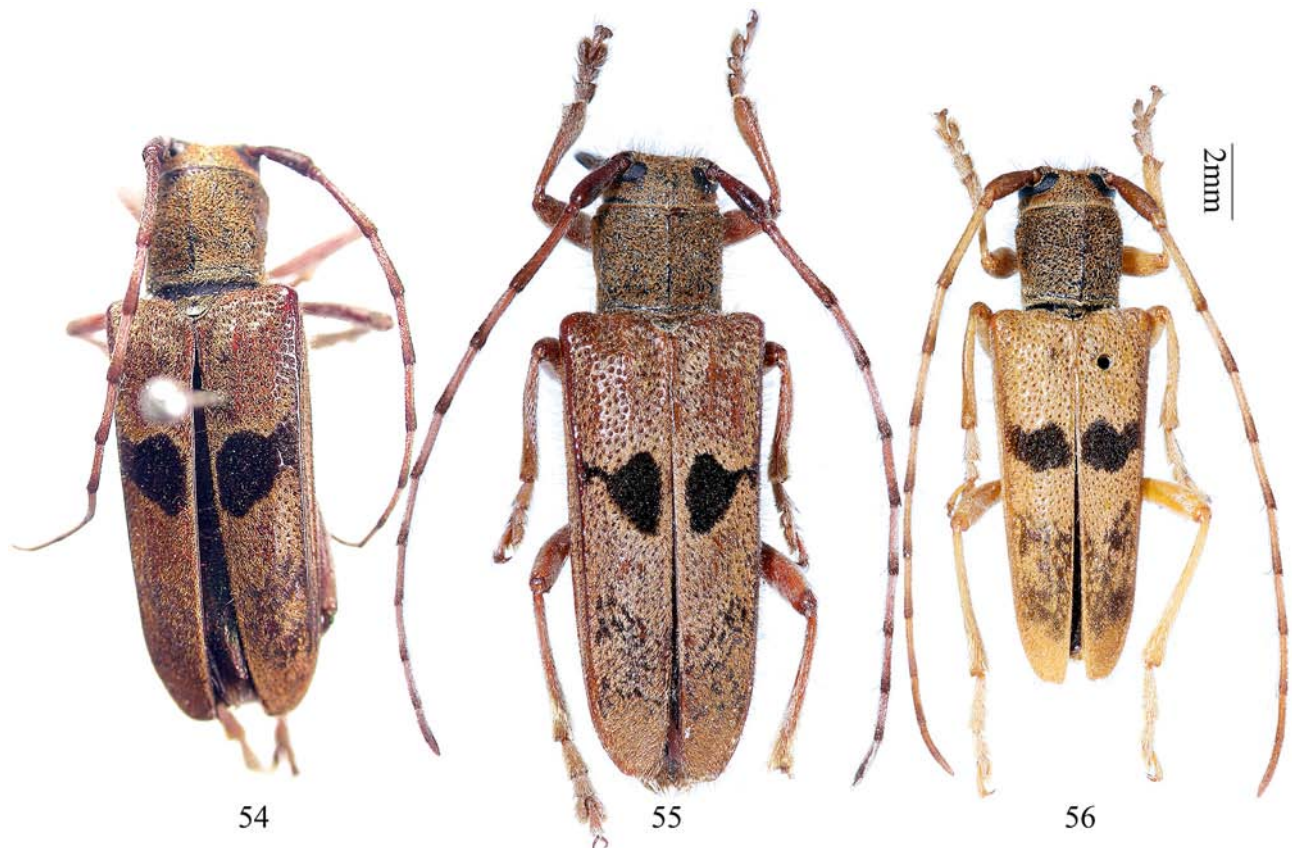
*Paraglenea velutinofasciata*: Breuning, 1952: 130; Hua, 2002: 222; Hua *et al.*, 2009: 463.

*Eutetrappa velutinofasciata*; Gressitt, 1951: 556; Lin *et al.*, 2006: 65, figs. 1–14; Löbl & Smetana, 2010: 324; Lin, 2015: 280, fig. 1859437.

*Saperda velutinofasciata*: Abdullah & Abdullah, 1966: 90.

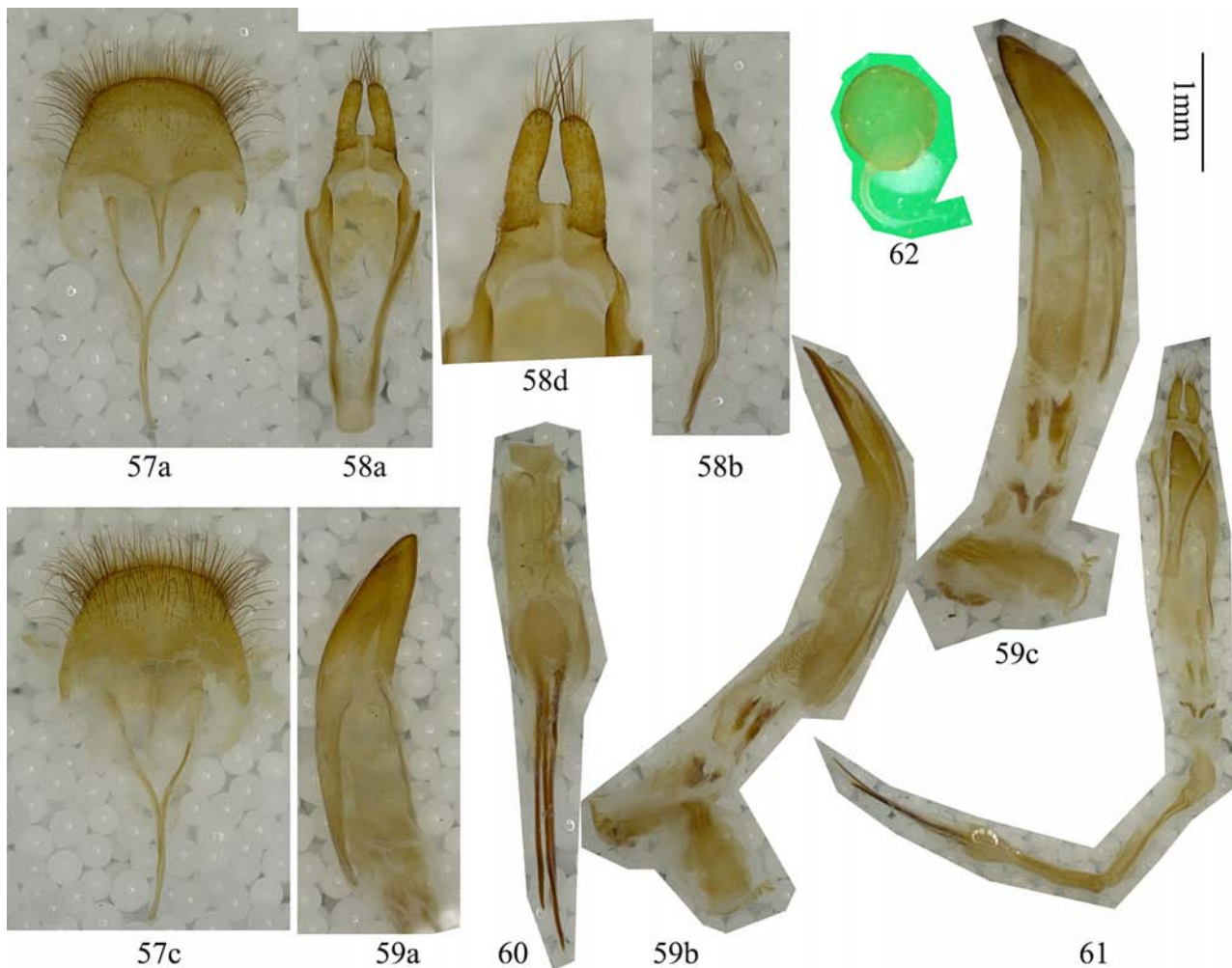
*Paraglenea nigromaculata* Wang & Chiang, 2002: 145, 146, figs. 1–4. Type locality: China, Shaanxi, Yan'an. Type depository: SWU. Synonymized by Lin *et al.*, 2006: 65.

**Supplementary description.** For descriptions, see paper by Lin *et al.* (2006), genitalia are described in more detail herein. **Male genitalia** (Figs. 57–61): Tergite VIII (Figs. 57a, 57c) as broad as long, apex rounded, with setae which are moderate long at sides, and shorter but not sparser at middle. Spiculum gastrale subequal to length of ringed part of tegmen, spiculum relictum shorter than a half-length of spiculum gastrale. Tegmen (Figs. 58a–d) about 2.8 mm in length; lateral lobes stout, each about 0.5 mm long and 0.2 mm wide; apex with fine setae longer than half of lateral lobes; median lobe slightly curved (Fig. 59b) in lateral view, slightly longer than tegmen (15:14); median struts subequal to half-length of median lobe (Fig. 59c); apex of ventral plate (Fig. 59a) pointed; endophallus with triple length of median lobe, with four pieces of basal plate-like sclerites (located behind apex of median struts), two bands of supporting armature, and three rod-like sclerites at end (Fig. 60), which are about 2.2 mm, much shorter than tegmen. **Female genitalia**: spermathecal capsule (Fig. 62) composed of an apical orb and a short but strongly curved stalk. Spiculum ventrale longer than abdomen. In our observation, spiculum ventrale measured 8.0 mm for an adult compared with abdomen which measured 7.2 mm in ventral view.



**FIGURES 54–56.** *Eutetrappa velutinofasciata* Pic, 1939, habitus. 54. Holotype, female, from China, Hebei. 55. Female, from China, Beijing. 56. Male, from China, Hebei. Scale 2 mm.





**FIGURES 57–62.** Terminalia of *Eutetrappa velutinofasciata* Pic, 1939. 57–60. Male from China, Inner Mongolia. 57. Tergite VIII and sternites VIII & IX. 58. Tegmen. 59. Median lobe with median struts and part of endophallus. 60. Last part of endophallus, with the rod-like sclerites. a. Ventral view, b. Lateral view, c. Dorsal view. 58d. The finely setose ridge at base of lateral lobes of tegmen. 61. Male from China, Hebei. 62. Female from China, Beijing, showing the spermathecal capsule. Scale 1 mm, 58d and 61–62: not to scale.

**Remarks.** The type locality was reported as “environs de Péking” (Pic 1939) and simply treated as Beijing (Lin *et al.* 2006). However, the “Trappe” written on the label (Fig. 1 in Lin *et al.* 2006) was ignored. In the “Etapes des Voyages du P. Licent (1914–1937)”, under the year 1930, “7 VI la Trappe (2 journées 1/2 à l’ouest de Péking)” was explained as “Yangjiaping (Hebei, SE. Huailai County); “21 VI Retour à la Trappe” was explained as “return to Yangjiaping”; under the June of 1931, Licent’s records including “1 VI Kao kia yingze” (NE. Zhangjiakou), “12 VI Kalgan” (Zhangjiakou), “13 VI Tien tsin” (Tianjin), “26 VI Takou (en bateau)”, “27 VI Tcheu fou” (Qufu, Yantai), “30 VI ile des Français (Excur.)” Therefore, the “Trappe” indicates that the type locality should be Yangjiaping, which is located west of Beijing, belonging to Hebei Province, Zhuolu County, which is part of Xiaowutaishan Nature Reserve, and the date of collection should be between 2 June 1931 to 13 June 1931. Two females from the exact type locality “Yangjiaping” were examined for this study.

Two specimens from Liaoning, Jinzhou were reported by Wang (2003: 329) as *Monochamus bimaculatus*, and they were reported again by Wang (2014: 832) as *Monochamus bimaculatus* and mislabeled the female as “Guangxi, Liuzhou”. Obviously they are same pair of specimens and Liaoning is the probable locality.

**Host Plant:** *Populus* sp. (Salicaceae).

**Distribution.** China: Heilongjiang, Liaoning, Inner Mongolia, Beijing, Hebei, Shanxi, Shaanxi.

**Type specimens examined.** Holotype (of *Eutetrappa velutinofasciata* Pic), female (Fig. 54), China, environs de Péking, Trappe (= Hebei, Zhuolu County, Yangjiaping), 1931.VI, leg. E. Licent (MNHN). Holotype (of *Paraglenea nigromaculata* Wang & Jiang), male, China, Shaanxi, Yan’an [36°35'N, 109°28'E], 1980, leg. Yizhi

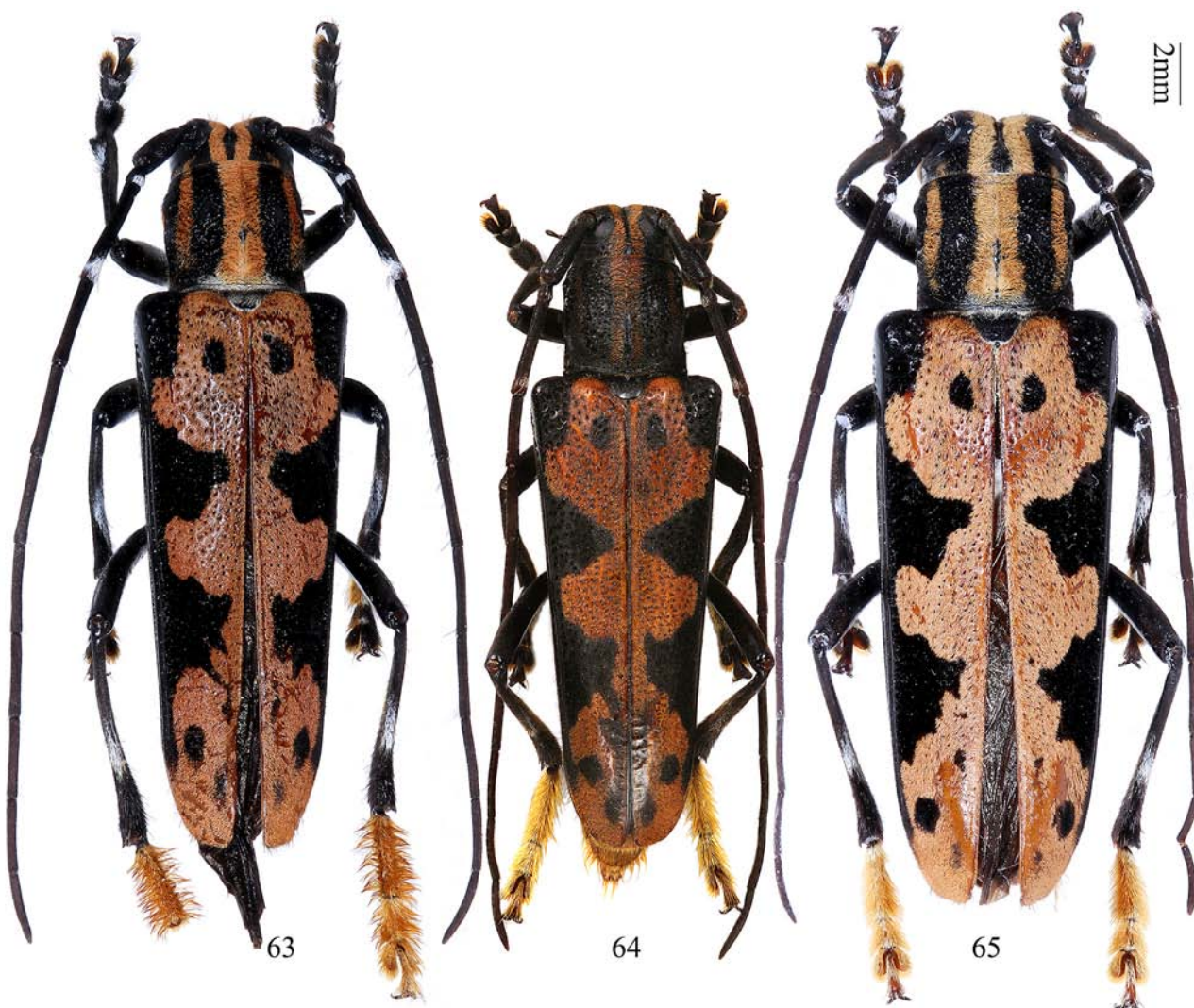
Sun (SWU); paratype (of *Paraglenea nigromaculata* Wang & Jiang), 1 female, China: Inner Mongolia, Huhhot [40°52'N, 111°39'E]., Datai, 1964.VI. 21, leg. Xinhua Liu (IZAS, IOZ(E)1859437 ex SWU).

**Other specimens examined. Heilongjiang:** 1 male, Wuying, 1980.VII.18 (IZAS). **Inner Mongolia:** 1 female, Huhhot, 1961.VIII.4 (host plant: *Populus*) (IZAS); 1 male, Chayouzhongqi, 1981.VII.15 (IZAS); 1 male, Wumeng, 1981.VII.14 (host plant: *Populus*) (IZAS); **Beijing:** 1 female, Beijing, Badaling, alt. 700 m, 1961.VIII.3, leg. Xue-Zhong Zhang (IZAS); 1 female, Beijing, Badaling, alt. 700 m, 1964.VII.23, leg. Su-Bai Liao (IZAS); 1 female (Fig. 55), Beijing, Miyun County, Wuzoloulinchang (Shichengzhen, Lishugoucun), 2015.VIII.15, leg. Chao Wu (IZAS); 1 male, Beijing, Yanqing County, Songshan Nature Reserve, Linxiyuan, alt. 778 m, 40.50806°N, 115.79111°E, 2013.VIII.12, leg. Bo Liu by light trap (BJFU); 1 male, 60 km NE Peking, Qinglongqiao, 1990.VII.27, leg. S. Becvár (CCH, examined by Carolus Holzschuh). **Hebei:** 2 females, Xiaowutaishan Nature Reserve, Yangjiaping, alt. 820 m, 2011.VIII.3–4, leg. Jian Yao by light trap (IZAS); 1 male (Fig. 56), Hebei, Mt. Xiaowutaishan, Huichuan, alt. 1400 m, 1964.VII.14, leg. Yin-Heng Han (IZAS, IOZ(E) 1904751); 1 female, Hebei, Xuanhua, alt. 640 m, 1964.IX.17, leg. You-Heng Heng (IZAS).

*Eutetrappa weni* Huang & Lin, 2016

Figs. 63–65

*Eutetrappa weni* Huang & Lin, 2016: 590, figs. 1–23.



**FIGURES 63–65.** *Eutetrappa weni* Huang & Lin, 2016. habitus. 63. Holotype, male, from China, Guizhou. 64. Male, from China, Guizhou, photographed by Petr Viktora. 65. Female, from China, Guizhou. Scale 2 mm.



**Diagnosis.** This species can be separated from congeners by the unique brick red brown pubescence and unique elytral markings, larger body size, and unique golden brown metatarsi.

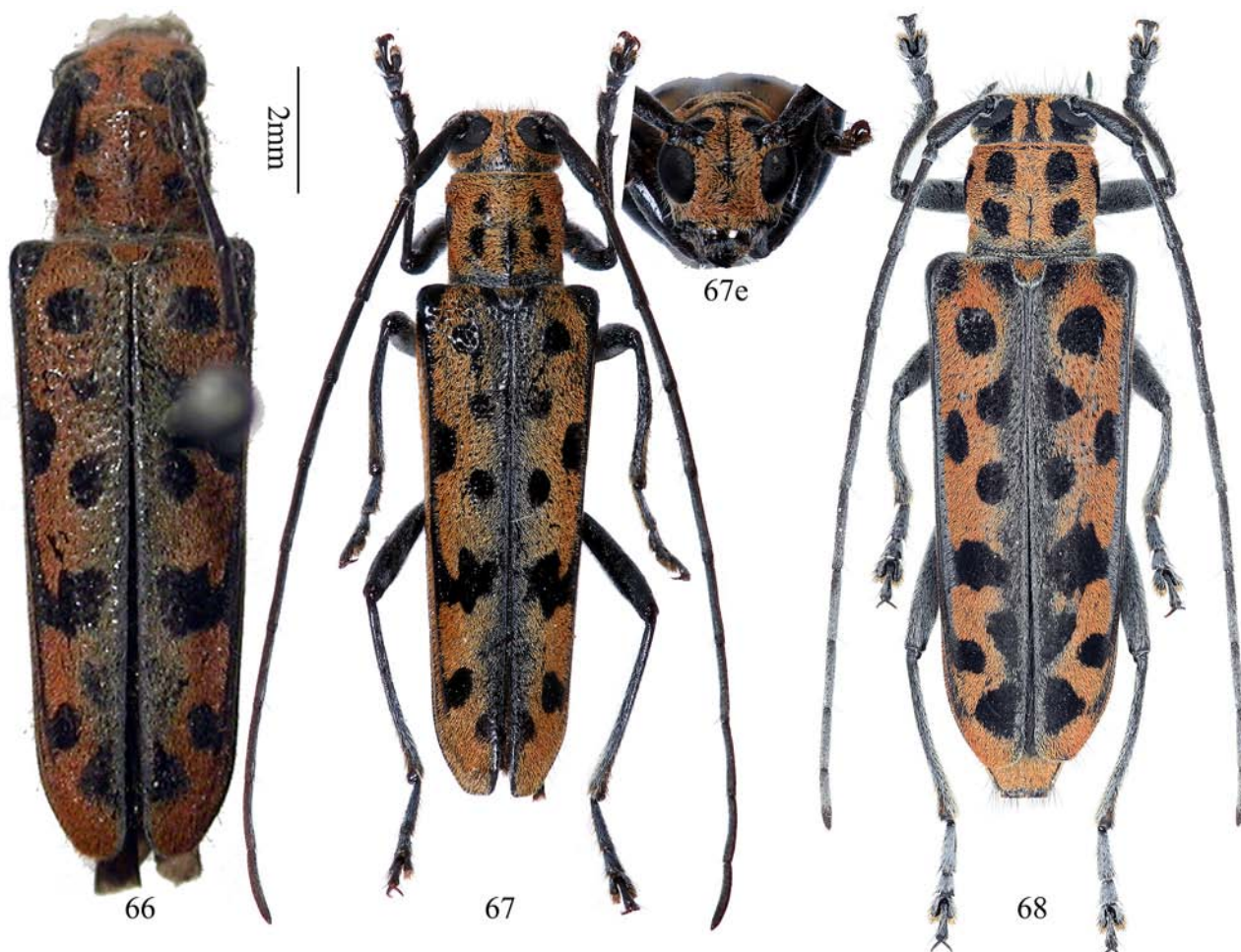
**Remarks.** For descriptions, see paper by Huang & Lin (2016). The description of male genitalia was in older style (Huang & Lin 2016) and some terminology terms are changed in this work: median lobe plus median struts = median lobe; internal sac = endophallus; basal armature = basal plate-like sclerites; rods of endophallus = rod-like sclerites.

**Distribution.** China: Guizhou.

**Material examined.** Holotype, male (Fig. 62, and Figs. 1a & 1b in Huang & Lin 2016), China, Guizhou, Leishan, Mt. Leigongshan, Lianhuaping, N26°22', E108°12', alt. 1631 m, 2014.VI.18, leg. Jing Yang (IZAS, IOZ(E) 1905306, ex KLUC). Paratypes: 1 female, same data to holotype but deposited in (KLUC); 1 female, same data to holotype but 2014.VI.16 and deposited in (KLUC); 1 male (Fig. 13 in Huang & Lin 2016) 1 female (Figs. 8a, 8b & 14 in Huang & Lin 2016), same data to holotype but 2014.VI.21, leg. Yang Li (IZAS, IOZ(E) 1905304–05, ex KLUC); 1 female (Fig. 65), same data to holotype but, 2011.VIII.11, leg. Jian-Yue Qiu & Hao Xu (CWD); 1 female, same data to holotype, but 2015.VII.12, leg. Bo-Yan Li (CGQH); 1 male (Fig. 64), S. China, SE. Guizhou, Dushan County, Gengdingshan env., N25°52.5', E107°38', alt. 1445 m, 2009.VI, leg. Sehnal et Hackel (CPV).

### *Eutetrappa elegans* Hayashi, 1966

Figs. 66–73



**FIGURES 66–68.** *Eutetrappa elegans* Hayashi, 1966. habitus. 66. Holotype, female, from China, Taiwan, photographed by Li-Jie Zhang. 67. Male, from China, Taiwan. 67e. Head, in frontal view. 68. Female, from China, Yunnan, photographed by Wen-Xuan Bi, not to scale. Scale 2 mm.



*Eutetrappa elegans* Hayashi, 1966: 9, pl. 1, fig. 6. Type locality: China, Taiwan, Hosakei. Type depository: NSMT.  
*Eutetrappa elegans*; Pu & Jin, 1991: 190; Nakamura *et al.*, 1992: 102; Yu *et al.*, 2002: 68, 119, pl. 25, fig. 2; Hua, 2002: 208;  
 Chou, 2004: 345, figs.; Chou, 2008: 345, figs.; Hua *et al.*, 2009: 213, 354, pl. LXXVIII, 897; Löbl & Smetana, 2010: 323;  
 Nakamura *et al.*, 2014: 170.

**Supplementary description.** Male (Fig. 67, described for first time) matches female quite well, with antennae slightly longer, body slender, anterior claw of pro- and mesotarsi appendiculate with short tooth (Figs. 146a–c). Male (n = 3): length 10.8–12.4 mm, width 3.0–3.5 mm. **Male genitalia** (Figs. 69–73): Tergite VIII (Figs. 69a, 69c) as broad as long, apex emarginate in middle, with setae which are moderate long at sides, and much shorter and sparser at middle. Spiculum gastrale subequal to ringed part of tegmen in length, spiculum relictum less than a half-length of spiculum gastrale. Tegmen (Figs. 70a–c) length about 2.7 mm; lateral lobes slender, each about 0.8 mm long and 0.2 mm wide; apex, with fine setae which are shorter than one fifth of length of lateral lobes; median lobe slightly curved (Fig. 72b) in lateral view, slightly shorter than tegmen (23:27); median struts slightly shorter than half-length of median lobe (Fig. 72c); apex of ventral plate (Fig. 72a) pointed; endophallus more than triple length of median lobe, with four pieces of basal plate-like sclerites (located behind apex of median struts), two bands of supporting armature, and three rod-like sclerites at end (Fig. 73), which are about 2.2 mm, shorter than tegmen.



**FIGURES 69–73.** Terminalia of *Eutetrappa elegans* Hayashi, 1966, from China, Taiwan. 69. Tergite VIII and sternites VIII & IX. 70. Tegmen. 71. Lateral lobes in ventral view, showing the ridge at base. 72. Median lobe with median struts. 73. Last part of endophallus, with the rod-like sclerites. a. Ventral view, b. Lateral view, c. Dorsal view. Scale 1 mm, 72b and 72c. not to scale.

**Remarks.** The black spots lack reddish pubescence and are variable in shape from those located at apical half of elytral. The female specimen from Yunnan matches the holotype from Taiwan quite well except for lacking pubescence behind the upper eye lobes and middle line of occiput. It could be a new species, however, until more

material from Yunnan and Taiwan become available, we consider it as an individual whose pubescence was strongly rubbed.

**Distribution.** China: Taiwan, Yunnan (new province record).

**Type specimen examined.** Holotype, female (Fig. 66), Formosa, leg. T. Kano (National Science Museum of Tokyo, Japan, NSMT-I-C 37607, examined through photographs taken by Li-Jie Zhang).

**Other specimens examined. Taiwan:** 1 male (Fig. 67), Taiwan, Yilan County, Datongxiang, Nanshancun, 1999.VIII.15, leg. Chang-Chin Chen (CCCC); 1 male, Taiwan, Hsinchu (=Xinzhu) County, Wufengxiang, Taoshancun, 1993.IX.19, leg. Chang-Chin Chen (CCCC); 1 male, Taiwan, Hsinchu (=Xinzhu) County, Chienshih (=Jianshixiang), Mamei Cun, alt. 1400 m, leg. Hui-Neng Huang (CCCC); 1 male, Taiwan, Hsinchu, Chienshih, Mamei, 1200 m, 2000.V.27, leg. Tzu-W Chen (CCH, ex CCCC); 1 female, Taiwan, Nantou County, Ren'aixiang, Hewang, Beidongyanshan, 1992, leg. Jin-Ji Luo (CCCC, only elytra); 1 male, Taitung County, Haiduan Township, Siangyang, alt. Ca. 2100–2300 m, 2013.VI.7–9, leg. J. Yamasako (IZAS, ex Collection of Junsuke Yamasako); 1 male 1 female, same data but deposited in CNO. **Yunnan:** 1 female (Fig. 68), Nujiang, Gongshan, Xiongdang, alt. 2000 m, 2015.VII.7, leg. Wen-Xuan Bi (CBWX).

### *Eutetrappa cinnabarina* Pu, 1986

Figs. 74–86

*Eutetrappa cinnabarina* Pu, 1986: 201, 202, fig. 1. Type locality: China, Hubei, Shennongjia, Hongpinglinchang. Type depository: IZAS.

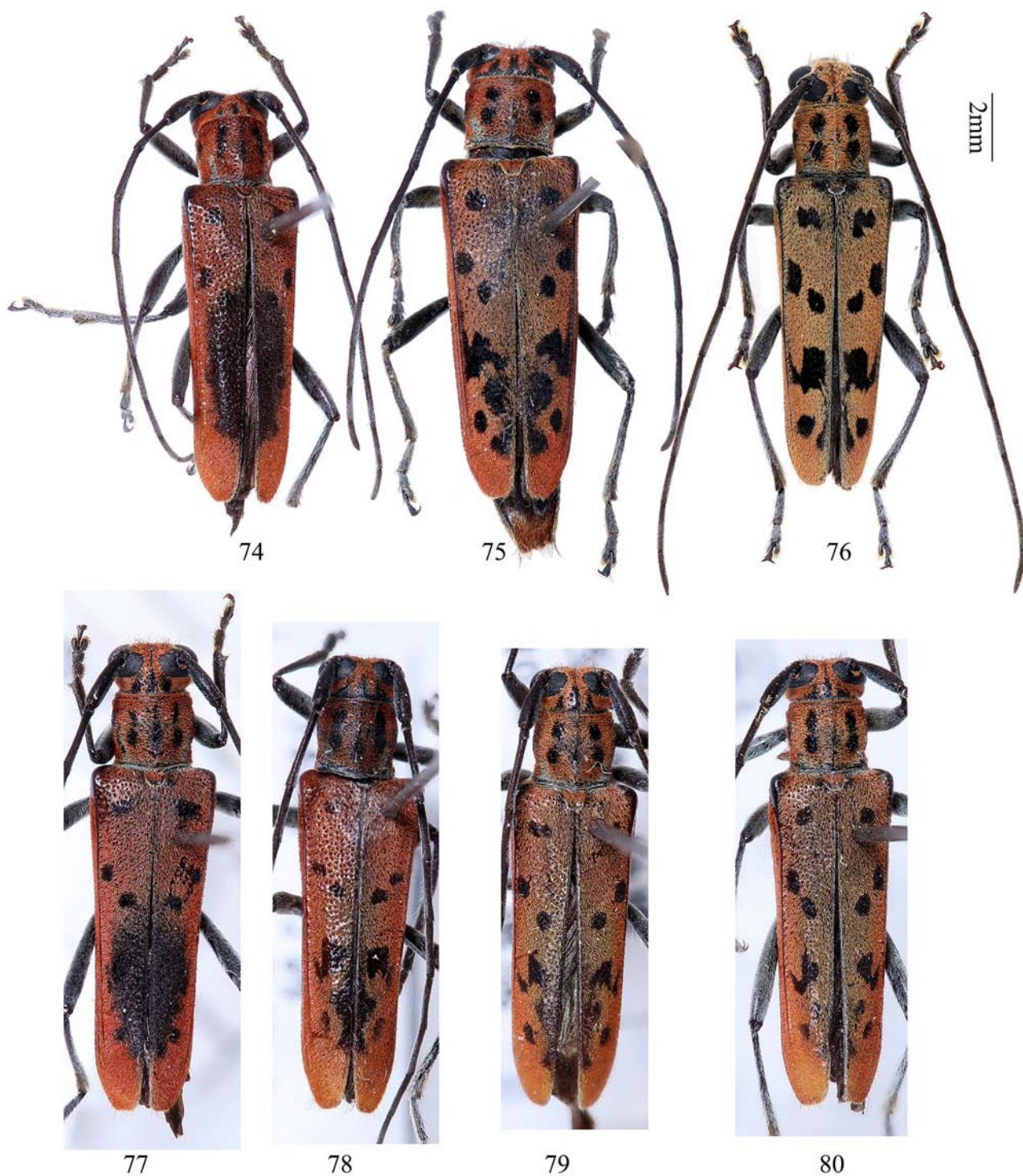
*Eutetrappa cinnabarina*; Pu & Jin, 1991: 190; Hua, 2002: 208; Hua *et al.*, 2009: 455; Löbl & Smetana, 2010: 323; Lin, 2015: 274, fig. 217581, 217582.

**Supplementary description.** Black spots in dorsal view lack pubescence, indicating a highly variable character, because pubescence can be rubbed off in many different ways. According to our observations, three spots on occiput and six spots on basal half of elytra are more or less stable in quantity, though size and shape are variable, while pronotal black spots are variable among four separated rounded spots (Figs. 75, 76, 79, 80) to two longitudinal stripes (Figs. 74, 77, 78), and black spots on apical half of elytra variable among one large patch (Figs. 74, 77), five to eight separated spots (Figs. 75, 76, 78–80). **Male genitalia** (Figs. 81–85): Tergite VIII (Figs. 81a, 81c) as broad as long, apex emarginate at middle, with setae which are long at sides, shorter and sparser at middle. Spiculum gastrale slightly shorter than ringed part of tegmen, spiculum relictum about a half-length of spiculum gastrale. Tegmen (Figs. 82a, 82c, 82d) length about 2.9 mm; lateral lobes slender, each about 0.8 mm long and 0.2 mm wide (Fig. 82d); apex with fine setae which are shorter than half of lateral lobes; median lobe slightly curved (Figs. 82b, 85) in lateral view, shorter than tegmen; median struts shorter than half-length of median lobe; apex of ventral plate (Fig. 82a) pointed; endophallus nearly four times as long as median lobe, with two pairs of basal plate-like sclerites (located behind apex of median struts), two bands of indistinct supporting armature, and three rod-like sclerites at end (Fig. 83), two longer ones each about 2.5 mm, shorter than tegmen, short one about 2.2 mm. **Female genitalia:** spermathecal capsule (Fig. 86) composed of an apical orb and a short and strongly curved stalk. Spiculum ventrale slightly longer than abdomen. In our observation, spiculum ventrale measured 8.5 mm for an adult compared with abdomen which measured 8.0 mm in ventral view.

**Diagnosis.** This species is similar to *E. elegans* Hayashi, 1966 from Taiwan, but can be separated by the elytron lacking a black spot between the middle spot and the first spot just after scutellum. The appendiculate tooth of claws of pro- and mesotarsi are more developed (four males of *E. elegans* Hayashi, 1966 had been observed). The black spots before elytra apex are variable in shape and quantity in both species, which is not a good diagnostic character.

**Remarks.** One photograph was reported by Wang (2014: 722, fig. 3418+1) from Guangxi, but the locality should be wrong. This species doesn't distribute in Guangxi. Gansu and Shandong were reported by Wang (2014: 722, fig. 3419 and fig. 3419+1) as *E. elegans*, which were obviously *E. cinnabarina* and the localities could be correct.

**Distribution.** China: Hebei (new province record), Henan (new province record), Shaanxi (new province record), Hubei, Gansu, Shandong.



**FIGURES 74–80.** *Eutetrappa cinnabarina* Pu, 1986. habitus. 74. Holotype, male, from China, Hubei. 75. Female, from China, Shaanxi. 76. Male, from China, Hebei. 77–79. Males from China, Shaanxi, showing the variable blacking markings on pronotum and elytra. 80. Male from China, Henan. Scale 2 mm.

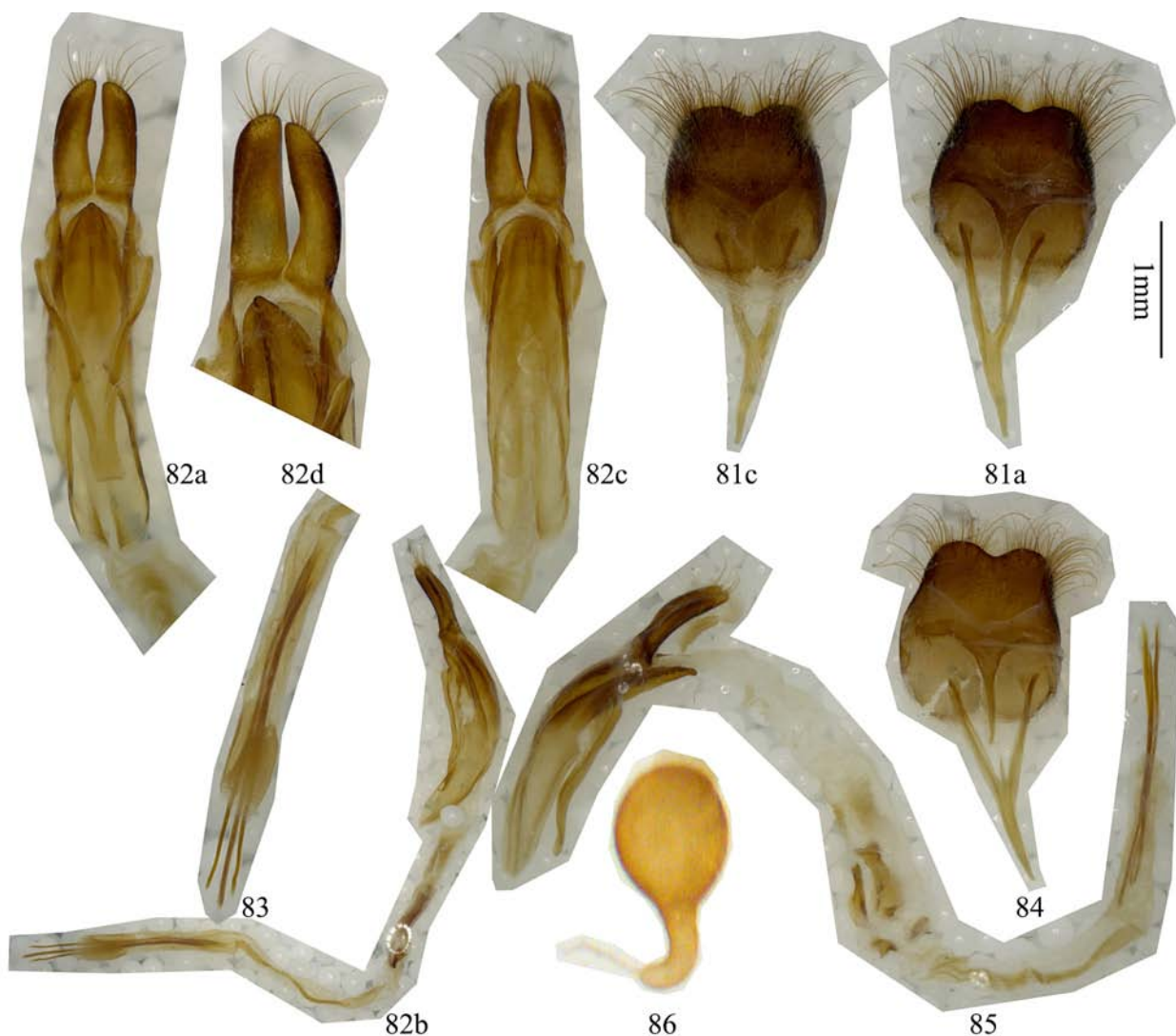
**Type specimens examined.** Holotype, male (Fig. 74), Hubei, Shennongjia [31°26'N, 110°16'E], Hongpinglinchang, alt. 1660 m, 1981.VII.19, leg. Yin-Heng Han (IZAS, IOZ(E) 217581); allotype, female, Hubei, Shennongjia, Juhulinchang, alt. 1640 m, 1981.VII.8, leg. Yin-Heng Han (IZAS, IOZ(E) 217582).

**Other specimens examined. Shaanxi:** 1 female, Ankangshi, Ningshan County, Guanghuojiezhèn, alt. 1227 m, 33.779527°N, 108.790894°E, 2014.VII.26, leg. Yuan-Yuan Lu by light trap (IZAS, Ceram-218); 1 female, Qinling, Huoditang, 2012.VI.30, YQ09-G1 (BJFU); 1 male (Fig. 77), Ningshan, Huoditang, 1580–1650 m,



1999.VI.26, leg. De-Cheng Yuan (IZAS); 1 male (Fig. 79), Ningshan, Huoditang, 1580 m, 1998.VII.27, leg. De-Cheng Yuan (IZAS), 1 male (Fig. 78) 1 female, same data but 1998.VIII.14, leg De-Cheng Yuan by light trap (IZAS); 2 females, Ningshan, 2003.VIII, leg. Song-Yun Lang (IZAS, ex Collection of Song-Yun Lang); 1 male 1 female, Zhouzhi, Houzhenzi, 1350 m, 1999.VI.21,24, leg. Jian Yao, You-Wei Zhang (IZAS); 1 female (Fig. 75), Zhouzhi County, Houzhenzi, Qinlingliang, 2021 m, 33.81491°N, 107.74357°E, 2007.V.27, leg. Mei-Ying Lin (IZAS); 1 male, Liuba, Miaotaizi, 1350 m, 1998.VII.21, leg. Jian Yao (IZAS); 1 female, Qinling Mts., S. slope, Xunyangba - S+W env., 33°28–37'N, 108°23–33'E, 1400–2100 m, 1995.VI.5–9, leg. L. & R. Businský (CCH, examined by Carolus Holzschuh). **Hebei:** 1 male (Fig. 76), Chengde City, Xinglong County, Wulingshan, 2008.VII.15, leg. C. Wu (CCCC); 2 male, Fengning, Dengzhazi, 1999.VII.13, leg Ming Bai (HBU); 2 females, Fengning, Dengzhazilinchang, 2000.VII.20, leg. Ai-Min Shi etc (HBU). **Henan:** 1 male (Fig. 80), Songxian, Baiyunshan, 1600 m, 2002.VII.25, leg. Li-Jie Zhang (IZAS). **Hubei:** 1 female, W-Hubei, Dashennongjia massif - E slope, 31°24–30'N, 110°21–24'E, 1300–2000 m, 1995.VI.28–VII.5, leg. L.+R. Businský (CCH, examined by Carolus Holzschuh).

One special and doubtful sample: 1 female, Tianjin, Jixian, Xiaying, Huanghuashan, 2008.V.25, leg. Shi-Chun Chen (CCCC). This specimen has the black spot between the middle spot and the first spot just after scutellum.



**FIGURES 81–86.** Terminalia of *Eutetrappa cinnabarina* Pu, 1986. 81–83. Male from China, Shaanxi. 81. Tergite VIII and sternites VIII & IX. 82. Tegmen and median lobe. 82d. Lateral lobes and apex of ventral plate of median lobe in ventral view, showing the finely setose ridge at base. 83. Last part of endophallus, with the rod-like sclerites. a. Ventral view, b. Lateral view, c. Dorsal view. 84–85. Male from China, Henan. 84. Tergite VIII and sternites VIII & IX, in ventral view. 85. Genitalia with the endophallus reversed, which is the situation during copulation. 86. Female from China, Shaanxi, showing the spermathecal capsule. Scale 1 mm, 82b, 82d, 83 and 85. not to scale.

***Eutetrappa chlorotica* Pu & Jin, 1991**

Figs. 87–91

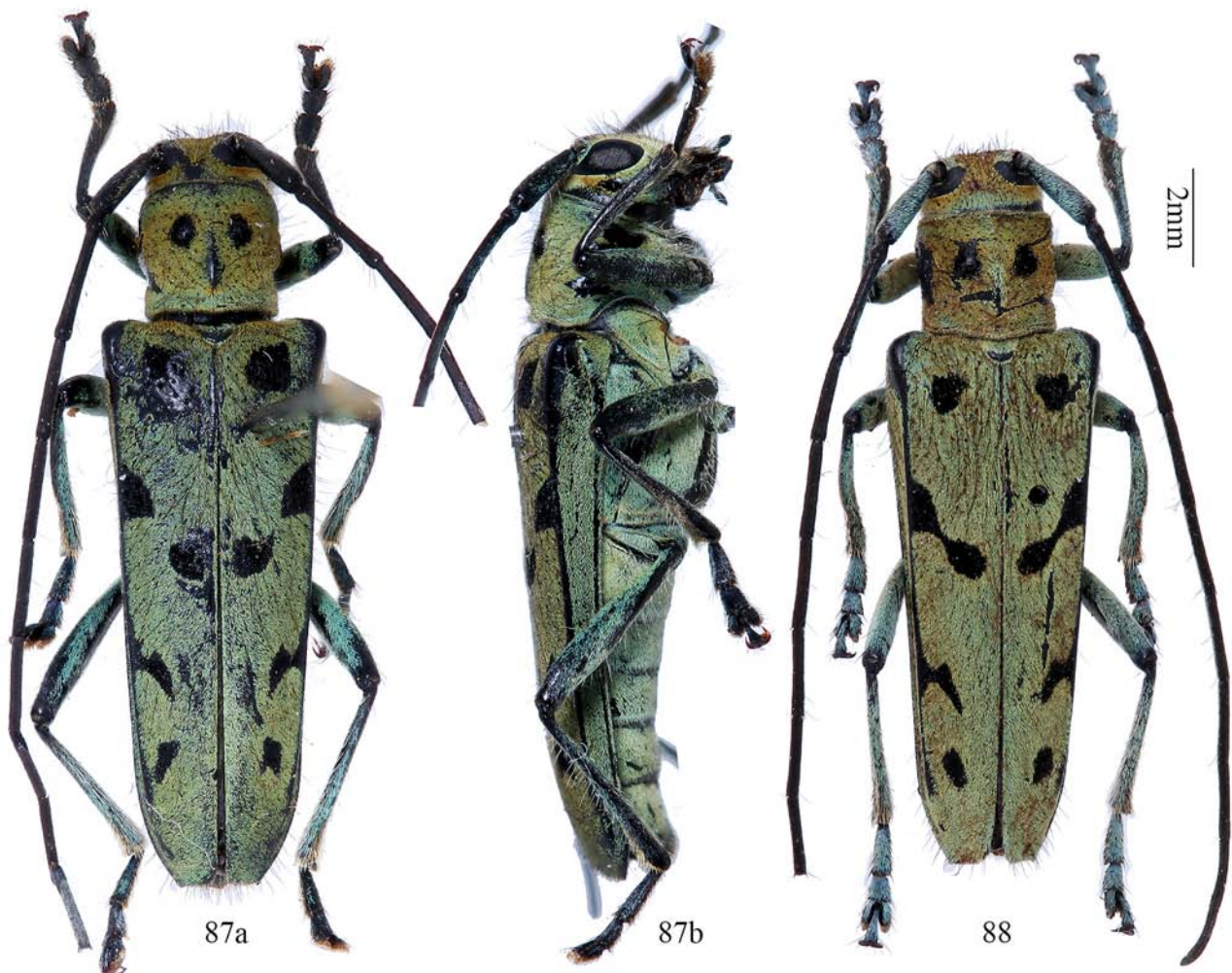
*Eutetrappa chlorotica* Pu & Jin, 1991: 192, 197, pl. IIIB: 5. Type locality: China, Yunnan, Lijiang, Yulongxueshan. Type locality: IZAS.

*Eutetrappa chlorofia*; Hua *et al.*, 2009: 455. [misspelling]

*Eutetrappa chlorotica*; Löbl & Smetana, 2010: 323; Lin, 2015: 272, fig. 217692.

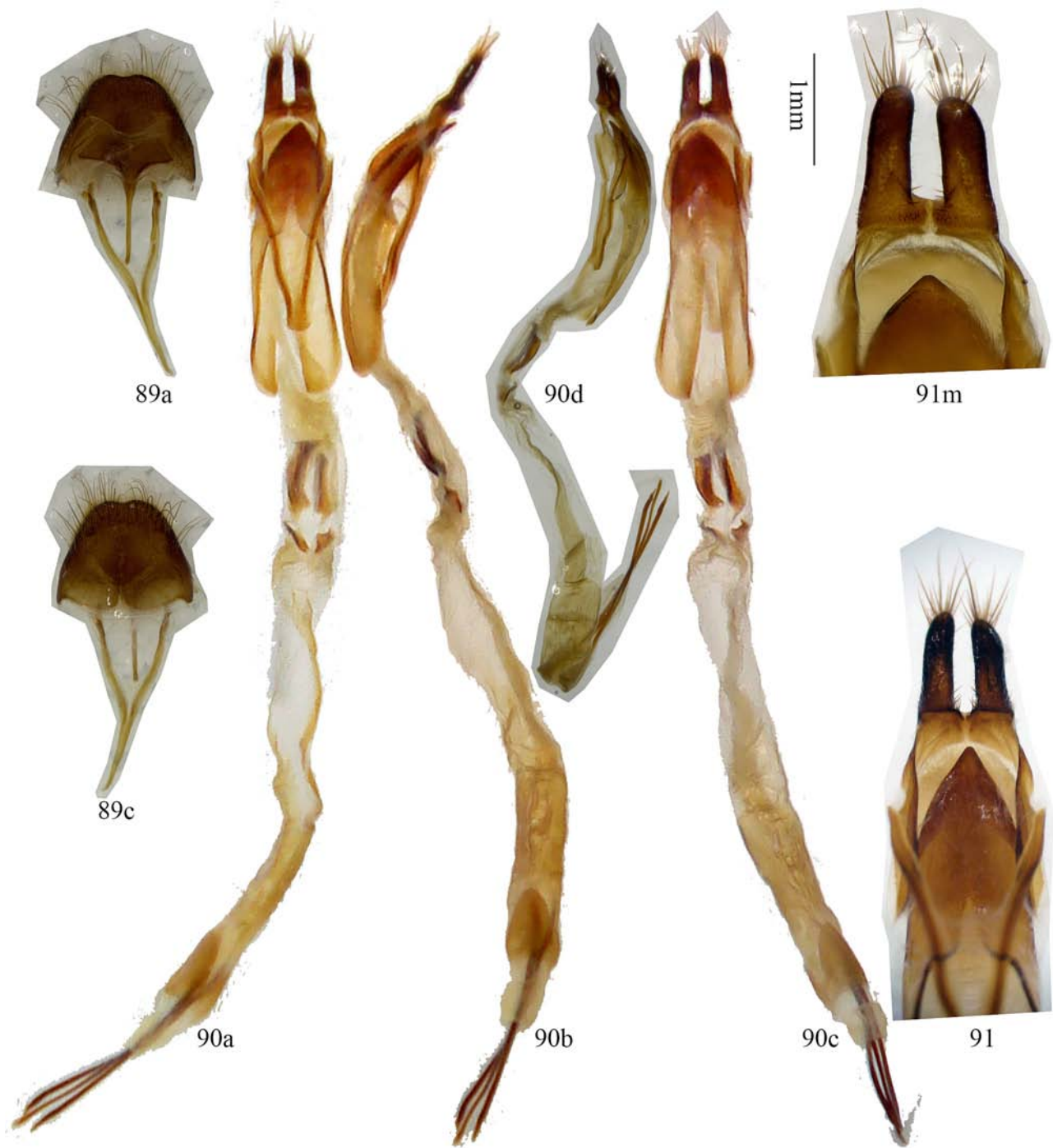
**Supplementary description.** Males ( $n = 2$ ): length 14.4–15.5 mm, width 4.3–4.5 mm. All claws appendiculate but anterior appendiculate tooth much longer and larger than posterior one (Figs. 147a, b), same situation to pro-, meso- and metatarsi. **Male genitalia** (Figs. 89–92): Tergite VIII (Figs. 89a, 89c) slightly broader than long, apex almost rounded with a small notch in middle, with setae which are long at sides, and shorter and sparser at middle. Spiculum gastrale subequal to ringed part of tegmen, spiculum relictum about a half-length of spiculum gastrale. Tegmen (Figs. 90, 91m) about 3.0 mm in length; lateral lobes slender, each about 0.6 mm long and 0.15 mm wide (Fig. 92); apex with fine setae which are longer than half of lateral lobes; median lobe slightly curved (Fig. 90b), subequal to tegmen in length; median struts slightly more than half-length of median lobe (Fig. 90c); apex of ventral plate (Fig. 91) bluntly pointed; endophallus nearly four times as long as median lobe plus median struts, with two pairs of basal plate-like sclerites (located behind apex of median struts), two bands of indistinct supporting armature, and three rod-like sclerites at end (Fig. 90), two longer ones each about 3.1 mm, subequal to tegmen, short one about 2.5 mm.

**Diagnosis.** This species can be easily distinguished from other congeners by the distinct male claws and the lack of metallic scales.



**FIGURES 87–88.** *Eutetrappa chlorotica* Pu & Jin, 1991, habitus. 87. Holotype, male, from China, Yunnan. a. Dorsal view. B. Lateral view. 88. Male, from China, Sichuan. Scale 2 mm.





**FIGURES 89–91.** Terminalia of *Eutetrappa chlorotica* Pu & Jin, 1991, male from China, Sichuan. 89. Tergite VIII and sternites VIII & IX. 90. Male genitalia. a. Ventral view, b. Lateral view, c. Dorsal view, d. Lateral view in another side. 91. Lateral lobes and apex of ventral plate of median lobe in ventral view. 91m. Lateral lobes of tegmen, showing the setose ridge at base. Scale 1 mm, 90d, 91 and 92: not to scale.

**Remarks.** The male claws of this species are distinct (Figs. 147a & 147b), exhibiting a combination of characters from the genera *Eutetrappa* and *Paraglenea*. Until a generic system of the tribe Saperdini is reconstructed based on further systematic study, we have decided to keep this species in the original genus *Eutetrappa*. Females are unknown but we predict that they should have simple claws.

**Distribution.** China: Sichuan (new province record), Yunnan.

**Type specimen examined.** Holotype, male (Fig. 87), Yunnan, Lijiang, Yulongxueshan, 1986.VI.13, leg. Zai-Quan Pan (IZAS, IOZ(E)217692).

**Other specimen examined. Sichuan:** 1 male (Fig. 88), Jiulong, 29°00.591'N, 101°32.966'E, alt. 3211 m, 2006.VI.10, leg. Ai-Min Li (CCCC, 06L0037)

***Eutetrappa chrysochloris chrysochloris* (Bates, 1879)**

Figs. 92–95, 148f–148j

*Glenea chrysochloris* Bates, 1879: 467. Type locality: Japan, Yezo (= Hokkaido). Type depository: MNHN.

*Paraglenea chrysochloris*: Bates, 1884: 256.

*Paraglenea chrysochloris* v. *bruningi* Pic, 1952: 13. Type locality: Japan. Type depository: MNHN.

*Paraglenea chrysochloris* ab. *breuningi* Podaný, 1953: 52, fig. 22. [infrasubspecies from Japan, Gifu]

*Paraglenea chrysochloris* v. *podanyi* Pic, 1953: 9. Type locality: Japan. Type depository: Collection C. Podaný, Muséum de Benátky n. Jiz. [new name for *Paraglenea chrysochloris* ab. *breuningi* Podaný, 1953]

*Paraglenea chrysochloris* ab. *omissa* Pic, 1953: 9. [infrasubspecies from Japan, Yokohama]

*Glenea* (*Glenea*) *chrysochloris*; Breuning, 1956a: 17; Breuning, 1956b: 815.

*Glenea* (*Glenea*) *chrysochloris piciella* Breuning, 1956a: 17. [Without type information and treated as an infrasubspecies by Breuning, 1956b: 815, 816.]

*Glenea* (*Glenea*) *chrysochloris* m. *podanyi*; Breuning, 1956b: 816.

*Glenea* (*Glenea*) *chrysochloris* m. *breuningi*; Breuning, 1956b: 816.

*Saperda chrysochloris*: Abdullah & Abdullah, 1966: 89.

*Eutetrappa chrysochloris*: K. Ohbayashi, 1959: 10; K. Ohbayashi, 1963: 316, pl. 158, figs. 10a & 10b; Breuning, 1966: 676.

*Eutetrappa chrysochloris chrysochloris*; Kusama & Takakuwa, 1984 *In: the Japanese Society of Coleopterology* (ed.) 1984: 518, pl. 90, figs. 620 & 620a; N. Ohbayashi, Satô & Kojima, 1992: 635, fig. 4 in page 59 and fig. 6 in page 257; Kurihara & A. Saito, *In: N. Ohbayashi & Niisato*, 2007: 654, pl. 73, fig. 15; Chou *et al.*, 2010: 315, figs. 17–23; Löbl & Smetana, 2010: 323.

**Diagnosis.** This subspecies is close to *E. chrysochloris chrysargyrea*, but differs by the larger black elytral maculae; outer angle of elytral apex angulate and apparently becoming more strongly angulate in specimens collected further north. Frons of male about twice width of inferior eye-lobe.

In the original description of *Glenea chrysochloris*, Bates (1879) compared it with two species in the note as follows: “Differs from the allied *G. swinhoei* by the metallic-coloured clothing of the body. In this respect it agrees with the East-Siberian *G. metallescens* (*Saperda id.*, Motsch.), from which its large black markings conspicuously distinguish it. The elytral spots are, on each side two large and angular, placed in succession on the disk before the middle, and one describing nearly an oval between the middle and the apex; the shoulders and lateral carinae of the elytra are also black. The elytra are briefly truncated at the apex, with a short tooth at the external angle of the truncature. The apex of the tibiae is black, the tarsi above pale blue. The antennae are black, with the basal joints more or less marked with blue.” Also in Bates (1884), he distinguished it from *E. chrysargyrea* by the following note: “Resembles *E. chrysargyrea* in its black markings and the form and colour of the elytral carinae; the spots are, however, much larger, the elytra have the external angle of the truncature briefly spinose.”

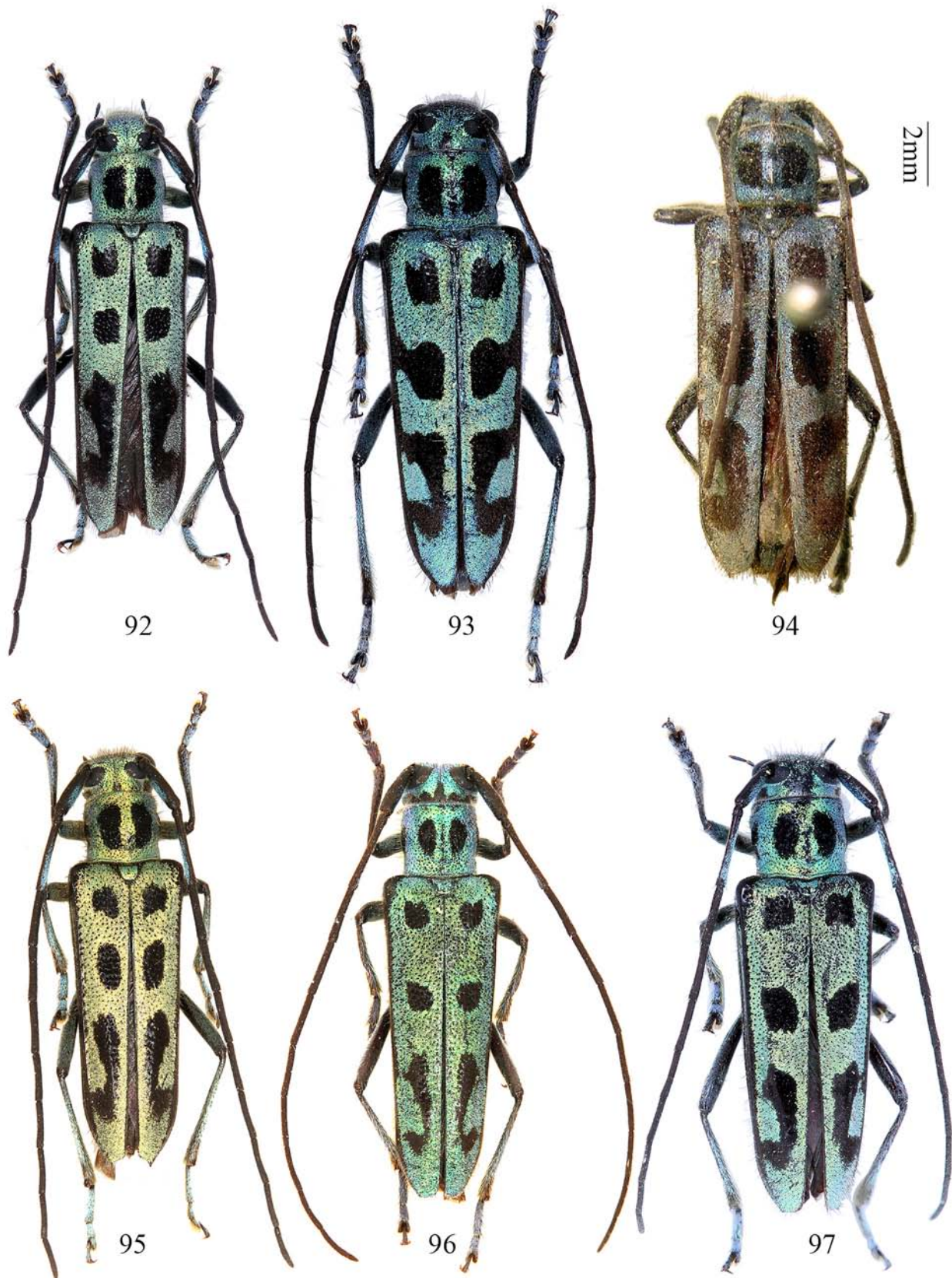
**Host plants.** *Alnus* sp. (Betulaceae), *Pinus tabulaeformis* Hort. ex C. Koch (Pinaceae), *Populus* sp. (Salicaceae), *Tilia japonica* (Miquel) Simonkai (Tiliaceae).

**Remarks.** One male figured by Wang (2014: 721, fig. 3417.1) from Hunan, Nanyue looks quite similar to *Eutetrappa chrysochloris chrysochloris* (Bates, 1879), especially due to the elongated black maculae on the pronotum and the black arc on the apical half of the elytron. But no conclusion can be made without studying specimens. The records from Henan and Sichuan could not be clarified without available specimens.

The records from Shaanxi, Hubei and Gansu should be based on *E. shaanxiana* Lin & Yang, **sp. nov.** However, the record from Zhejiang would be *E. tianmushana* Lin & Bi, **sp. nov.** The record from Taiwan appeared in Hua (2002) and was repeated by Löbl & Smetana (2010), but it was not included in the Taiwanese faunal books (Yu & Nara 1988; Yu *et al.* 2002; Chou 2004; Chou 2008) or catalogue (Nakamura *et al.* 1992; Nakamura *et al.* 2014). We agree with the latter authors and do not believe that this species occurs in Taiwan.

**Distribution.** Japan, Russia.

**Specimens examined. Japan:** 1 female (Fig. 94), type of *Paraglenea chrysochloris* v. *bruningi* Pic, 1952, Japan (MNHN, ex Collection M. Pic); 1 female, Fukushima Pref., Tateiwa-mura, Noshito, 2000.VI.11, leg. Toshihito Ito (IZAS, ex. CNO); 3 males 3 females (Fig. 93), same data but 2000.VII.29; 1 male, same data but 2000.VII.30; 1 male (Fig. 92) 1 female, Fukushima Pref., Aizu-gun, Hinoemata-mura, 2000.VI.16–17, leg. Kiichi



**FIGURES 92–97.** *Eutetrappa chrysochloris*. habitus. 92–95. *Eutetrappa chrysochloris chrysochloris* (Bates, 1879), from Japan. 92. Male. 93. Female. 94. Female, type of *Paraglenea chrysochloris* v. *bruningi* Pic, 1952. 95. Male, showing the elytral apical tooth at outer angle. 96–97. *Eutetrappa chrysochloris chrysargyrea* Bates, 1884, from Japan. 96. Male. 97. Female. Scale 2 mm. 95 and 96: photographed by Nobuo Ohbayashi, not to scale.



Shimizu (IZAS, ex. CNO); 1 male (Fig. 95), Fukushima Pref., Aizu-gun, Tateiwa-mura, Noshito, 2000.VI.16, leg. S. Maru (CNO); 1 female, same data but 2000.VI.10, leg. T. Ito (CNO); 1 female, Naganuma, Maoi, Hokkaido, 1996.VIII.10, leg. K. Mizota (IZAS).

### ***Eutetrappa chrysochloris chrysargyrea* Bates, 1884**

Figs. 96–97, 149f–149k

*Eutetrappa chrysargyrea* Bates, 1884: 256. Type locality: Japan, Higo (= Kumamoto Pref.), Oyayama. Type depository: MNHN.

*Eutetrappa metallescens* var. *chrysargyrea*; Matsushita, 1933: 404.

*Eutetrappa chrysargyrea*; K. Ohbayashi, 1963: 315, pl. 158, figs. 9a & 9b; Kojima & Hayashi, 1969: 156, pl. 49, fig. 7.

*Saperda chrysargyrea*: Abdullah & Abdullah, 1966: 89

*Eutetrappa chrysochloris chrysargyrea*; Kusama & Takakuwa, 1984 *In: the Japanese Society of Coleopterology* (ed.) 1984: 518, pl. 90, figs. 620 b–c; N. Ohbayashi *et al.*, 1992: 635; Kurihara & A. Saito, *In: N. Ohbayashi & Niisato*, 2007: 654, pl. 73, fig. 16; Chou *et al.*, 2010: 316, figs 21–23, 25; Löbl & Smetana, 2010: 323.

*Eutetrappa chrysochloris*; Pu & Jin, 1991: 190 (part); Hua, 2002: 208 (part); Hua *et al.*, 2009: 213, 354 (part), pl. LXXXVIII, 896.

**Supplementary description.** Length 12–17 mm. Body black, furnished with golden-green scales and with white to brown erect hairs. Inner below of first and 3rd antennal segments, each tibia and dorsum of tibiae furnished with feeble silver-blue hairs, posterior tarsi with white hairs, especially at sides (Fig. 149j); pronotum provided with black maculae on each lateral side and a pair on dorsum. Elytra with lateral sides black with narrow or short green longitudinal stripe (Fig. 149h); each dorsum with three black maculae, apical one elongated and curved like a hook. Frons in male narrower than twice width of inferior eye-lobe.

**Diagnosis.** This subspecies is distinguishable from *Eutetrappa chrysochloris chrysochloris* (Bates) by outer angle of elytral apex quadrate or with minute spine; elytral maculae more or less smaller and an apical hook-like maculae sometimes separate into two ones; antennae slightly longer (N. Ohbayashi, January 2016, personal communication).

In the original description, Bates (1884) noted as follows: “Approaches *Glenea* more nearly than any of the other species, the first ventral segment being somewhat longer than other either of the three following; the apices of the elytra are, however, very obtusely and narrowly truncated.”

**Remarks.** According to N. Ohbayashi (2016, personal communication), the black maculae on the pronotum or elytra are rather variable though it shows the tendency for two groups in Japanese population. The most important difference of these two subspecies is the spine of elytral outer apex. But this spine of nominotypical subspecies seems to show the cline on the degree. That of the Hokkaido population (type locality) is most developed, but getting shorter toward southwest of Honshu, and the population of extreme western Honshu cannot be distinguished from *E. c. chrysargyrea* of Shikoku and Kyushu. Therefore, these two subspecies could be synonymized. We refrain from proposing any synonymies in this work since colleagues in Japan are better positioned to study and assess the situation in Japan.

**Distribution.** Japan (Shikoku, Kyushu and Chugoku district (extreme western) of Honshu).

**Specimens examined. Japan:** 1 female (Fig. 97), Ehime Pref. Imabari, Mt. Narabara, 2010.VIII.8, leg. N. Ohbayashi (IZAS, ex. CNO); 1 male (Fig. 96), Ehime Pref., Odamiyama, Hōnomata forest road, 1995.VII.1, leg. N. Ohbayashi (CNO); 1 female, Ehime Pref., Mt. Ishizuchi, Tsuchigoya, 1997.VI.21, leg. N. Ohbayashi (CNO).

### ***Eutetrappa shaanxiana* Lin & Yang, sp. nov.**

Figs. 98–106, 150f–150k

*Eutetrappa metallescens*; Zhou *et al.*, 1988: 105, pl. XV, fig. 143. (*nec* Motschulsky, 1860)

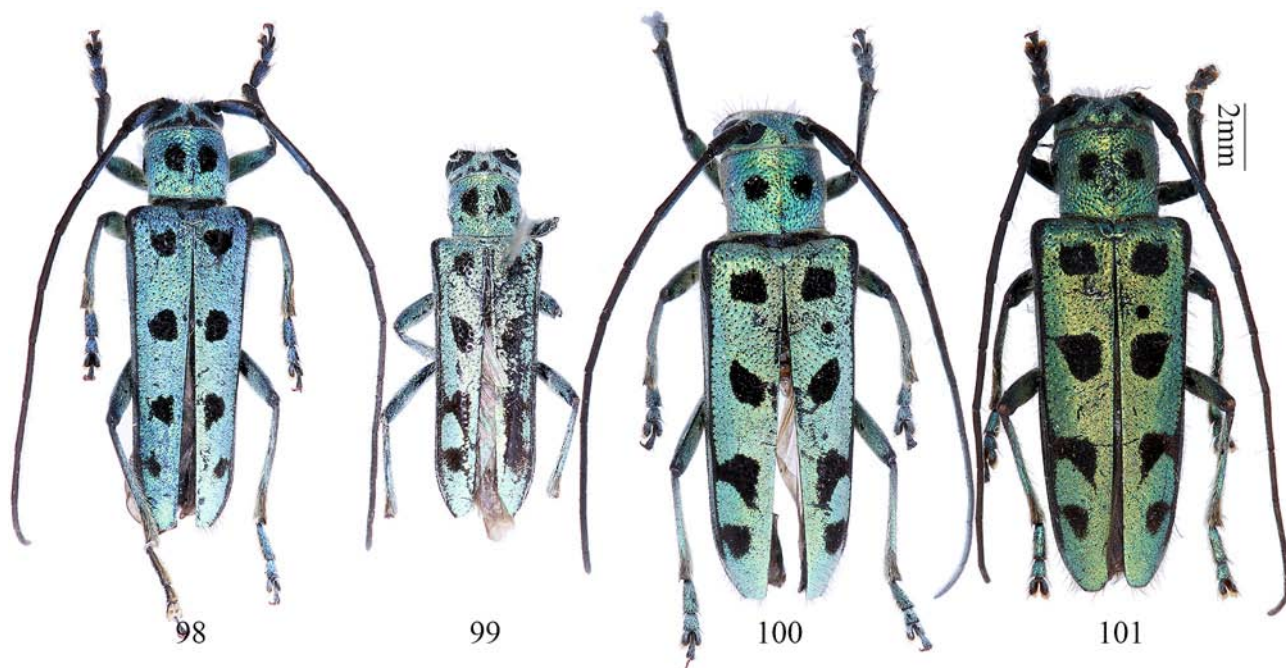
*Eutetrappa chrysochloris*; Pu & Jin, 1991: 190 (part); Hua, 2002: 208 (part); Hua *et al.*, 2009: 213, 354 (part). (*nec* Bates, 1879)

*Eutetrappa chrysochloris chrysargyrea*; Chou *et al.*, 2010: 316, fig. 24. (*nec* Bates, 1884)

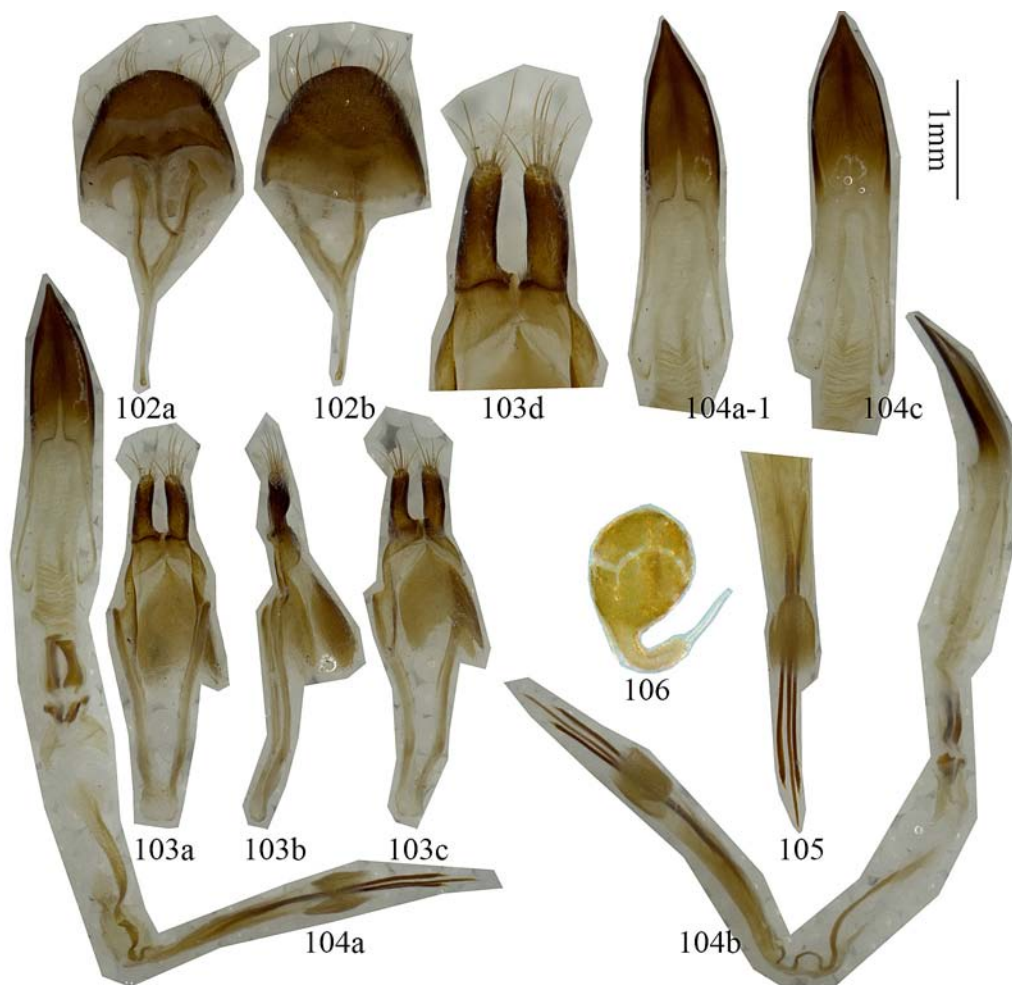
**Description.** Male: length: 11.5–14.0 mm, humeral width: 3.4–4.2 mm. Female: length: 14.6–16.5 mm, humeral

width: 4.5–5.3 mm. Body black, covered with metallic green (Figs. 98–101) scales except some black markings. Antennae black, sparsely pilose below, underside of basal three antennomeres covered with metallic green scales. Sometimes there are several black spots on occiput (Figs. 98, 99). Prothorax with four black maculae: two rounded spots on disc, which may be elliptical (Fig. 99) due to lack of scales, a small one on each lateral side. Whole scutellum covered with metallic green scales. Each elytron with four black markings: a square one located on basal 1/5; second being an round to elliptical one located before middle of elytron; third being a rounded (Fig. 98) to stout arcuate, transverse vitta (Figs. 99–101), reaching or not reaching lateral margin; fourth being a rounded to inverted trapezoidal (Fig. 100) one before apex. Third and fourth may be confluent to form an arc (Fig. 99) opening to lateral margin, located on middle of apical half. Side of elytra covered by metallic green scales except carinae (Figs. 150h-1 & 150h-2). Ventral surface densely clothed with metallic scales, with few black spots. Legs black, covered with metallic green scales except underside of tarsi, posterior tarsi with black hairs especially at sides (Fig. 150j).

Inferior eye lobe four times as long as gena in male, or slightly longer than gena in female. Antennae longer than body, male longer than female. Antennomere ratio: male: 16: 2: 21: 17: 18: 17: 16: 16: 15: 14: 16; female: 16: 2: 22: 17: 18: 16: 15.5: 15: 14: 13: 13. Elytron with punctures larger and sparser than that of pronotum, rounded apically. Male claws: only anterior claws of pro- and mesotarsi appendiculate with small teeth (Figs. 146a–c), posterior claws of pro- and mesotarsi without teeth, and claws of metatarsi simple (Fig. 143). Females claws simple (Fig. 143). **Male genitalia** (Figs. 102–105): Tergite VIII (Figs. 102a, 102c) slightly broader than long, apex rounded, with sparse and moderate long setae at sides. Spiculum gastrale slightly shorter than ringed part of tegmen, spiculum relictum shorter than a half of spiculum gastrale. Tegmen (Figs. 103a–c) about 2.8 mm in length; lateral lobes slender, each about 0.5 mm long and 0.15 mm wide (Fig. 103d), apex with fine setae which are longer than half of lateral lobes; median lobe slightly curved (Fig. 104b), slightly longer than tegmen; median struts about half-length of median lobe (Fig. 104c); apex of ventral plate (Fig. 104a-1) sharply pointed; endophallus more than triple length of median lobe, with two pairs of basal plate-like sclerites (located behind apex of median struts), two bands of indistinct supporting armature, and three rod-like sclerites at end (Fig. 105), two longer ones each about 2.5 mm, slightly shorter than tegmen, short one about 2.4 mm. **Female genitalia**: spermathecal capsule (Fig. 106) composed of an apical orb and a short but strongly curved stalk, strongly sclerotized part of stalk shorter than apical orb in length. Spiculum ventrale longer than abdomen. In our observation, spiculum ventrale measured 8.0 mm for an adult compared with abdomen which measured 7.5 mm in ventral view.



**FIGURES 98–101.** *Eutetrappa shaanxiana* Lin & Yang, **sp. nov.** habitus. 98. Male, from China, Shaanxi. 99. Male, from China, Shaanxi, showing the variety of blacking maculae on elytra. 100. Female, from China, Shaanxi. 101. Female, from China, Hubei. Scale 2 mm.



**FIGURES 102–106.** Terminalia of *Eutetrappa shaanxiana* Lin & Yang, **sp. nov.**, from China, Shaanxi. 102. Tergite VIII and sternites VIII & IX. 103. Tegmen. 103d. Lateral lobes in ventral view, showing the ridge at base. 104. Median lobe with median struts, including the endophallus. 105. Last part of endophallus, showing the rod-like sclerites. A. Ventral view, b. Lateral view, c. Dorsal view. 106. Female from China, Shaanxi, showing the spermathecal capsule. Scale 1 mm, 103d, 104a, 104b, 105 and 106: not to scale.

**Diagnosis.** This species is similar to *Eutetrappa chrysochloris chrysargyrea* Bates, 1884, but can be distinguished by the elytral apex rounded at the outer angle (Fig. 150i); black spots on disc of pronotum rounded, and small spots on sides; apical half of elytron with two black spots instead of an arc; side of elytra covered by metallic green scales (Figs. 150h-1 & 150h-2); scales much denser (Figs. 150f, 150g & 150k); punctures in the four basal black spots on elytra bigger and less numerous; and posterior tarsi with blackish hairs especially at sides and broader because more depressed (Fig. 150j).

**Etymology.** It is named after the type locality Shaanxi Province, China.

**Distribution.** China: Shaanxi, Gansu, Hubei.

**Type material.** Holotype, male (Fig. 98), Ningshan, Huoditang, 2010.VII, Youyu07 (IZAS, IOZ(E)1905307); Paratypes: **China: Shaanxi:** 1 male, Ningshan, Huoditang, alt. 1620 m, 1979.VII.30, leg. Yin-Heng Han (IZAS, IOZ(E)1905308); 1 male, Ningshan County, Huoditanglinchang, Changbu, alt. 1554 m, 33.26023°N, 108.26539°E, 2015.VII.10, leg. Yi-Zhou Liu (IZAS, IOZ(E)1905449); 1 male (Fig. 99), Ningshan, 1980.VII.1–10, leg. Li-Sheng Chu (IZAS, IOZ(E)1905309); 1 male, Ningshan, Yaquegou, alt. 1580–1850 m, 1999.VII.2, leg. De-Cheng Yuan (IZAS, IOZ(E)1905310); 1 male, Shiquan (IZAS, IOZ(E)1905311); 1 female (Fig. 100), Huayinshi, Huashan, alt. 1618 m, 34.4934°N, 110.0812°E, 2007.VI.6, leg. Mei-Ying Lin (IZAS, IOZ(E)1905312); 1 male, Qinling Zhiwuyuan, Daxiagu, 893 m, 33.9303°N, 108.3523°E, 2012.VII.6, leg. Wan-Gang Liu (IZAS, IOZ(E)1905448, Ceram-142 for molecular study); 1 male, Taibai Shan, Tsinling Mts., Houzhenzi vill., 33°53'N, 107°49'E, alt. 1500 m, 2000.IX, leg. Siniayev & Plutenko (CCH); 1 female, S. slope, Xunyangba S+W env., 33°28–



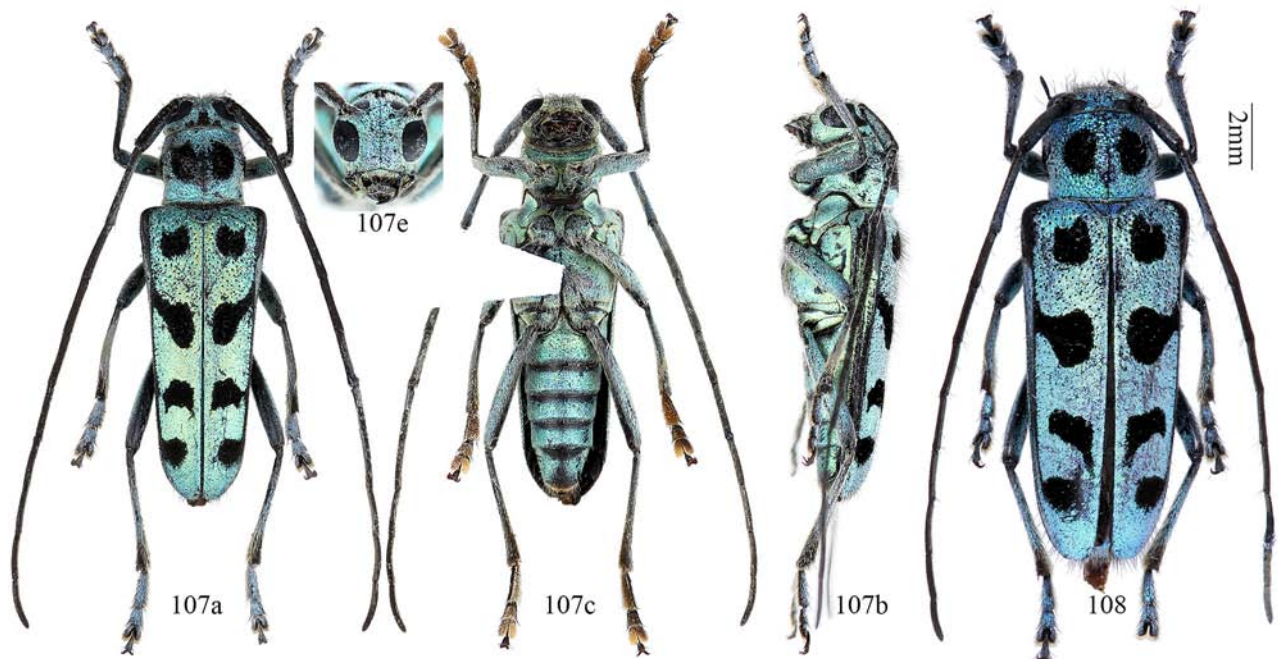
37°N, 108°23–33°E, alt. 1400–2100 m, 1995.VI. 5–9, leg. L. & R. Businský (CCH); 8 females, 6 km E of Xunyangba, 1000–1300 m, 2000.V.23–VI.13, leg. C. Holzschuh (CCH). **Gansu:** 1 female, Zhouqu County, Tiebalinchang, Tiangangou, 2015.VII.26, leg. Guo-Xi Xue (IZAS, IOZ(E)1905450, Ceram-285 for molecular, ex collection of Guo-Xi Xue, Henan, China). **Hubei:** 1 female (Fig. 101), Shennongjia, Juhulinchang, alt. 1640 m, 1981.VII.8, leg. Yin-Heng Han (IZAS, IOZ(E)1905313).

***Eutetrappa tianmushana* Lin & Bi, sp. nov.**

Figs. 107–114, 151f–151k

*Eutetrappa chrysochloris*; Pu & Jin, 1991: 190 (part); Hua, 2002: 208; Hua *et al.*, 2009: 213, 354. (*nec* Bates, 1879)

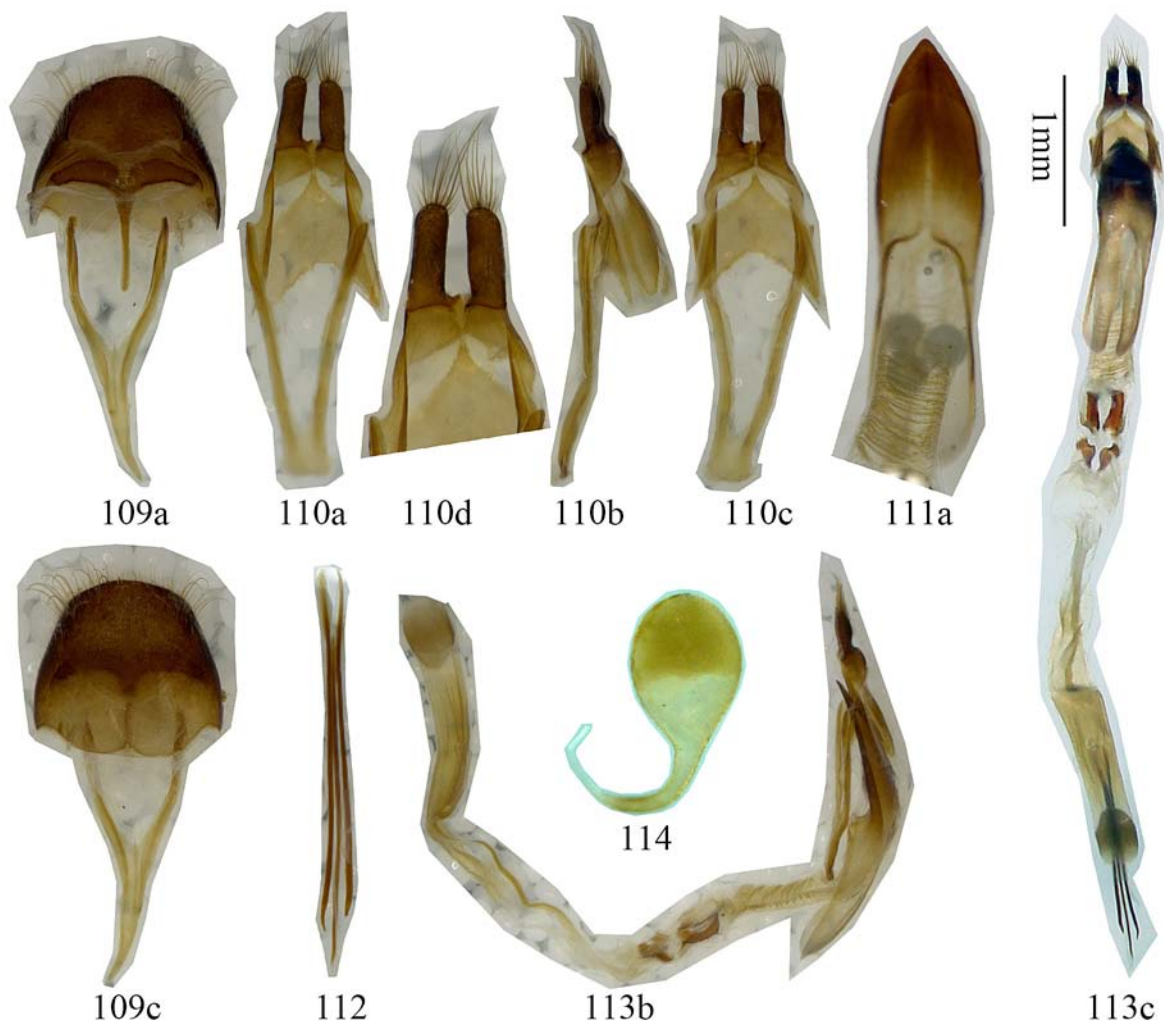
**Description.** Male: length: 12.0–12.5 mm, humeral width: 3.7–4.0 mm. Female: length: 13.5–14.0 mm, humeral width: 4.5–4.8 mm. Body black, covered by metallic blue or green (Figs. 107–108) scales except some black markings. Antennae black, sparsely pilose below, underside of basal three antennomeres covered with metallic blue or green scales. Occasionally with five black spots on occiput. Prothorax with four black markings: two elliptical ones on the disc, a rounded one on each lateral side. Whole scutellum covered with metallic blue or green scales. Each elytron with four black markings: a square one located on basal 1/5; second being an elliptical one with a stalk reaching lateral carina, located before middle of elytron; third being a stout arcuate, transverse vitta; fourth rounded one before apex. Third and fourth could be confluent to be an arc opening to lateral margin, located on middle of apical half. Side of elytra covered by metallic blue to green scales except the carinae and basal eighth. Ventral surface densely clothed with metallic scales, with some black spots (Fig. 107c). Legs black, covered with metallic blue or green scales except underside of tarsi, posterior tarsi with black hairs especially at sides (Fig. 151j).



**FIGURES 107–108.** *Eutetrappa tianmushana* Lin & Bi, sp. nov., habitus. 107. Holotype, male, from China, Zhejiang; a. Dorsal view, b. Lateral view. c. Ventral view. e. Head, in frontal view. 108. Paratype, female, from China, Zhejiang. Scale 2 mm.

The inferior eye lobe three times as long as gena in male (Fig. 107e), or slightly longer than gena in female. Antennae longer than body, male longer than female. Antennomere ratio: male: 18: 3: 22: 17: 18: 17: 17: 16: 15: 14: 15; female: 17: 3: 22: 17: 18: 16: 16: 15: 14: 13: 14. Elytron with punctures larger and sparser than that of pronotum, rounded apically. Male claws distinct (Figs. 147a & 147b), combining characters seen in the genera *Eutetrappa* and *Paraglenea*. Some individuals with posterior claw of mesotarsi simple, or tooth not visible.

Females claws simple. **Male genitalia** (Figs. 109–113): Tergite VIII (Figs. 109a, 109c) slightly broader than long, apex rounded, with sparse and short setae at sides. Spiculum gastrale subequal to ringed part of tegmen in length, spiculum relictum shorter than a half of spiculum gastrale. Tegmen (Figs. 110a–c) 2.6 mm in length; lateral lobes stout, about 0.4 mm long and 0.1 mm wide, with one finely setose ridge basally (in ventral view, Fig. 110d), apex rounded, with setae which are subequal to length of lateral lobes; median lobe with median struts slightly curved and slightly longer than tegmen (14: 13); median struts slightly longer than a half of whole median lobe; apex of ventral plate bluntly pointed; median foramen narrowly elongated; endophallus more than triple length of median lobe, with four pieces of basal plate-like sclerites, two bands of creating armature, and three rod-like sclerites at end, the two longer ones about 2.4 mm, slightly shorter than tegmen, the shorter one about 2.1 mm long. **Female genitalia**: spermathecal capsule (Fig. 114) composed of an apical orb and a curved stalk, strongly sclerotized part of stalk shorter than apical orb. Spiculum ventrale longer than abdomen. In our observation, spiculum ventrale measured 8.3 mm for an adult compared with abdomen which measured 6.5 mm in ventral view.



**FIGURES 109–114.** Terminalia of *Eutetrappa tianmushana* Lin & Bi, **sp. nov.**, from China, Zhejiang. 109. Tergite VIII and sternites VIII & IX. 110. Tegmen. 110d. Lateral lobes in ventral view, showing the ridge at base. 111. Median lobe with median struts. 112. Rod-like sclerites. 113. Male genitalia, before tegmen and median lobes separated. a. Ventral view, b. Lateral view, c. Dorsal view. 114. Female from China, Zhejiang, showing the spermathecal capsule. Scale 1 mm, 110d, 113b, 113c and 114: not to scale.

**Diagnosis.** This species is similar to *E. chrysochloris chrysochloris* (Bates, 1879), *E. chrysochloris chrysargyrea* Bates, 1884 and *E. shaanxiana* Lin & Yang, **sp. nov.**, but can be distinguished by the distinct male claws, the metallic scales more blue (Figs. 151f, 151g & 151k). It differs from *E. chrysochloris chrysochloris* (Bates, 1879) and *E. chrysochloris chrysargyrea* Bates, 1884 also by the elytral apex rounded, apical half of elytron without a black arc and posterior tarsi with blackish hairs especially at sides (Fig. 151j). It differs from *E.*

*shaanxiana* Lin & Yang, **sp. nov.** also by the larger pronotal and elytral black maculae, and the second one of elytral black marking reaching lateral carina, scales more blue and more sparse. It is similar to *Paraglenea virides* (Pu & Jin, 1991) **comb. nov.**, but can be distinguished by the different male claws and the third elytral black marking not reaching lateral carina.

**Remarks.** The male claws of this species are unusual (Figs. 147a & 147b for pro- and mesotarsi and Fig. 144 for metatarsi usually), and highly variable; it appears to be a combination of *Eutetrappa* and *Paraglenea*. Some individuals with claws of mesotarsi as in Figs. 146a–c, which supports inclusion of this species in the genus *Eutetrappa*. Some individuals have claws of pro- and metatarsi as in Fig. 144, which supports a close relationship with the genus *Paraglenea*.

**Etymology.** It is named after the type locality Tianmushan, which is located in Zhejiang Province, China.

**Distribution.** China: Zhejiang.

**Type material.** Holotype: male (Figs. 107a–c, 12.0 mm long), Zhejiang, Xitianmushan, alt. 1200 m, 2010.VII.3, leg. Ming Jin (IZAS, IOZ(E)1905314, ex CJM). Paratypes: **China:Zhejiang:** 1 male, same data to holotype but leg. Li Jin (IZAS, IOZ(E)1905445, ex CBWX); 1 female, same to holotype but leg. Peng-Fei Xu (IZAS, IOZ(E)1905446, ex CBWX); 1 female (Fig. 108), same data to holotype but leg. Dong-Dong Fang (personal collection of Dong-Dong Fang, Zhejiang, China); 1 male, Tienmushan, 1927.VII.17 (IZAS, IOZ(E)1905315); 1 female, Xitianmushan, 2008.VI.29, leg. Yong-Xiang Wu (personal collection of Yong-Xiang Wu, Shanghai, China); 1 male, Xitianmushan, alt. 1200 m, 2012.V.18, leg. Wen-Xuan Bi (CBWX); 1 male, same data but alt. 1400 m (CBWX); 1 female, Xitianmushan, alt. 1100 m, 2016.VII.24, leg. Wen-Xuan Bi (CBWX); 1 male, Xitianmushan, alt. 1250 m, 2016.VII.26, leg. Wen-Xuan Bi (CBWX); 1 male, Tianmushan Nature Reserve, alt. 1300 m, 2010.VII.3, leg. Ming Jin (CCCC, ex CJM); 1 male 1 female, same date but (CJM).

### *Eutetrappa metallescens* (Motschulsky, 1860)

Figs. 115–121, 152f & 152g

*Saperda metallescens* Motschulsky, 1860: 150, pl. X. fig. 2. Type locality: Russia, Siberia. Type depository: ZMUM.

*Eutetrappa metallescens*: Bates, 1884: 256; Heyden, 1885: 310; Okamoto, 1927: 83; Plavilstshikov, 1930: 55; Wu, 1937: 761; Matsushita, 1933: 403; Gressitt, 1951: 555; Breuning, 1966: 676; Pu, 1980: 107, pl. XI, fig. 148; Pu & Jin, 1991: 189; Lee, 1987: 198, pl. 24, fig. 271; Hua, 2002: 208; Hua *et al.*, 2009: 213, 354, pl. LXXVIII, 898; Löbl & Smetana, 2010: 323; Jang *et al.*, 2015: 358, figs.; Hwang, 2015: 450, figs.

*Saperda metallescens*; Abdullah & Abdullah, 1966: 89.

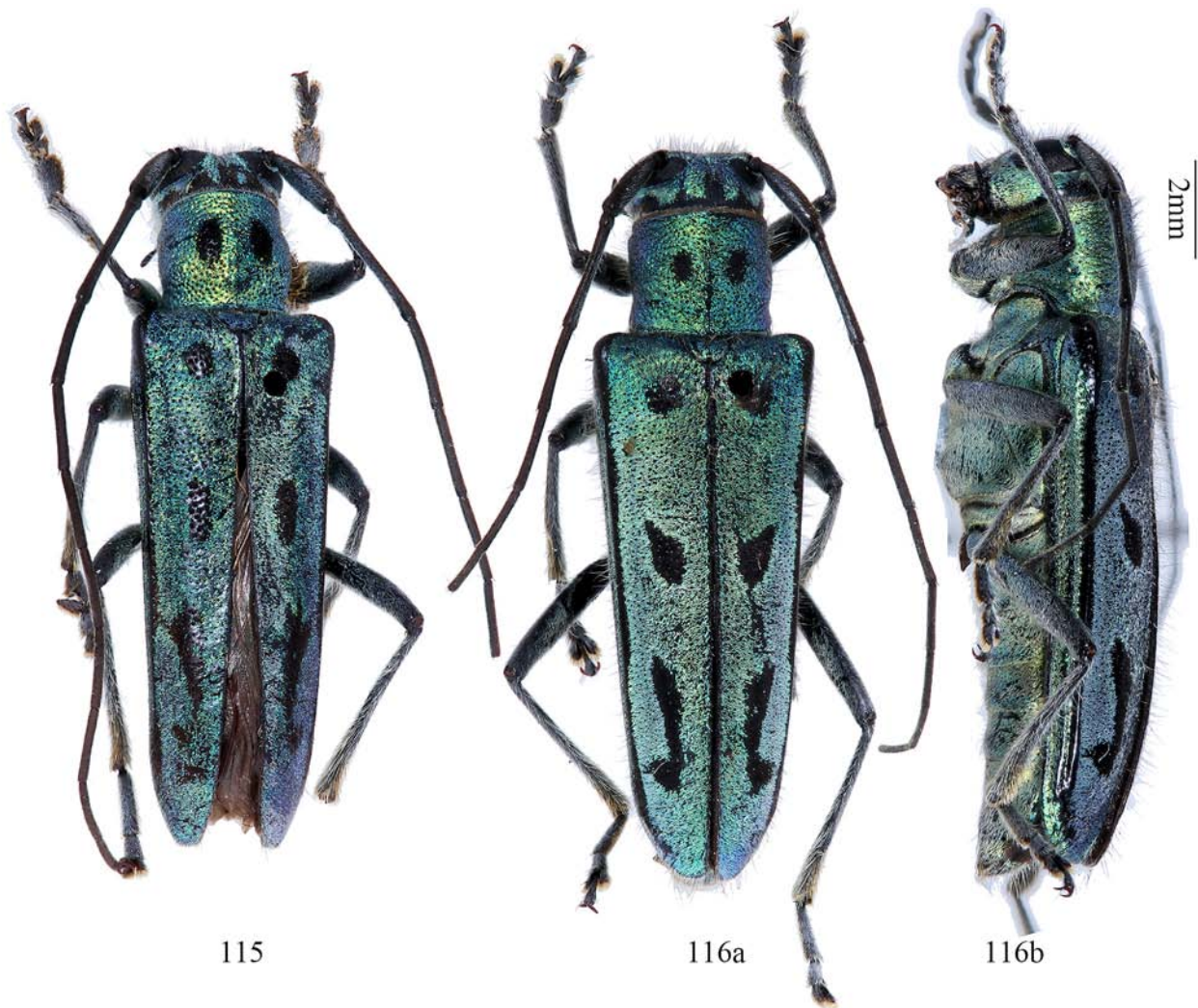
**Supplementary description. Male genitalia** (Figs. 117–120): Tergite VIII (Figs. 117a, 117c) broader than long, apex rounded, with sparse and short setae. Spiculum gastrale much shorter than ringed part of tegmen in length, spiculum relictum shorter than a half of spiculum gastrale. Tegmen (Figs. 118a–c) length about 3.4 mm; lateral lobes stout, each about 0.4 mm long and 0.2 mm wide (Fig. 118d), apex truncated and with fine setae which are as long as or shorter than lateral lobes, basal 2/3 strongly expanded in lateral view (Fig. 118); median lobe slightly curved (Fig. 119b), much longer than tegmen (9:7); median struts about half-length of median lobe (Fig. 119c); apex of ventral plate (Fig. 119a) sharply pointed; endophallus two times as long as median lobe, with two pairs of basal plate-like sclerites (located right behind apex of median struts), two bands of indistinct supporting armature, and three rod-like sclerites at end (Fig. 120), two longer ones each about 2.4 mm, much shorter than tegmen, short one about 1.9 mm. **Female genitalia**: spermathecal capsule (Fig. 121) composed of an apical orb and a strongly curved stalk, strongly sclerotized part of stalk shorter than apical orb in length. Spiculum ventrale subequal to abdomen in length. In our observation, spiculum ventrale measured 8.0 mm for an adult compared with abdomen which measured 7.8 mm in ventral view.

**Diagnosis.** Among the congeners with metallic scales, this species can be easily distinguished by the smaller black maculae on both pronotum and elytra, especially the narrow black hook on apical half of elytra, and the distinct apex of lateral lobes of tegmen (Figs. 118a–e).

**Host plants.** *Prunus armeniaca* Linnaeus (Rosaceae), *Salix* sp. (Salicaceae).

**Remarks.** Shaanxi was first reported by Zhou *et al.* (1988) but we believe that was a misidentification of *E. shaanxiana* Lin & Yang **sp. nov.**, which may be confirmed by the figure 143 in that book. Therefore, we remove it from that locality list in this work.





**FIGURES 115–116.** *Eutetrappa metallescens* (Motschulsky, 1860), habitus. 115. Male, from China, Jilin. 108. Female, from China, Jilin; a. Dorsal view, b. Lateral view. Scale 2 mm.

**Distribution.** China: Heilongjiang, Jilin, Liaoning, Hebei, Shandong; Russia (Amur, E. Siberia), North Korea, South Korea.

**Other specimens examined. Heilongjiang:** 1 female, Maoershan, 1931.VIII.19 (IZAS); 1 female, Dailing, 1957.VII.9 (IZAS); 1 female, Dailing, Liangshuigou, 1957.VII.25 (IZAS); 1 female, Dailing, alt. 390 m, 1957.VIII.22, leg. Zhong He (IZAS); 1 female, Hengdaohezi, 1939.VII.15 (IZAS); 1 female, Ercengdianzi, 1938.VI.5 (IZAS); 1 female, Ercengdianzi, 1941.VI.15 (IZAS). **Jilin:** 1 female, Fusong, 1955.VI.5 (IZAS); 1 male, Changbaishan, 1982.VII.17, leg. Bao-Lin Zhang (IZAS); 2 females, Changbaishan, alt. 740 m, 1991.VII.17–26, leg. Pei-Yu Yu (IZAS); 1 female, Changbaishan, alt. 740 m, 1993.VII.4–7, leg. Pei-Yu Yu (IZAS). **Liaoning:** 2 females, Gaolingzi, 1937.VII.3 (IZAS); 2 males 3 females, Gaolingzi (IZAS). **Hebei:** 4 females, Zunhua, E. Tomb (IZAS). **Shandong:** 1 female, Qingdao, 1937.VIII, leg. V. J. Tolmachow (IZAS).

***Eutetrappa lini* Chou, Chung & Lin, 2010**

Figs. 122, 153f & 153g

*Eutetrappa lini* Chou, Chung & Lin, 2010: 313, figs. 1–16. Type locality: China, Taiwan, Taitung County, Soca. Type depository: NMNST.

*Eutetrappa lini*; Lin, 2015: 276, figs. 1859432–434.



**FIGURES 117–121.** Terminalia of *Eutetrappa metallescens* (Motschulsky, 1860), from China, Jilin. 117. Tergite VIII and sternites VIII & IX. 118. Tegmen. 118d. Lateral lobes in ventral view, showing the ridge at base and the expanded apex. 118e. Lateral lobes in lateral view, showing the hairs on ventral side of the expanded base. 119. Median lobe plus endophallus. 120. Rod-like sclerites. a. Ventral view, b. Lateral view, c. Dorsal view. 114. Female from China, Jilin, showing the spermatheca. Scale 1 mm, 118d, 118, 119b, 119c and 121: not to scale.

**Description.** Male: length: 13.2–14.0 mm, humeral width: 4.2–4.4 mm. Female: length: 13.8–16.0 mm, humeral width: 4.7–5.3 mm. Details refer to Chou *et al.* (2010).

**Diagnosis.** This species differs from *Paraglenea* spp. by male with only anterior claws of pro- and mesotarsi appendiculate, remainders all simple (all male claws in *Paraglenea* appendiculate). It is similar to *Eutetrappa chrysochloris* (Bates, 1879), but can be distinguished by metallic blue to purple blue scales, larger and sparser elytral punctures, almost rounded black arc on apical half of elytra, hardly visible elytral apical tooth at the outer angle, etc., and on genitalia distinguished by stouter lateral lobes of tegmen, nearly rounded apex of ventral plate etc.

**Remarks.** *Eutetrappa lini* is a nocturnal species, being attracted by light trap. We believe it is probably monophagous (Chou *et al.* 2010).

**Distribution.** China: Taiwan.

**Type specimens:** Holotype male, Taiwan, Taitung county, Soca, 22°15'N, 120°50'E, 2009.V.16, leg. Yi-Ting Chung (NMNST). Paratypes: 1 female, Taitung county, Soca, 1999.VII.7, leg. Wenhsin Lin (NMNST, ex CWSL); 1 female, Taitung county, Soca, Da-Ren Hsiang (township), alt. 500 m, 2006.VI.30, leg. WenI Chou (CWIC); 3 males 3 females, Taitung county, Soca, 2009.V.16, leg. Yiting Chung (1 female in CYTC, 1 male 2 females in IZAS, 1 male in CWIC, 1 male in CWSL); 2 females, same data but 2009.IV.29 (1 female in CCCC, 1 female in NMNST); 1 male, same data but 2009.IV.23 (CCCC); 1 male, same data but 2009.IV.2 (CYTC).





122



123



124a



124b



125

2mm

**FIGURES 122–125.** *Eutetrappa lini* & *gui*, habitus. 122. *Eutetrappa lini* Chou, Chung & Lin, 2010, male, from China, Taiwan. 123–125. *Eutetrappa gui* Lin & Yang, **sp. nov.**, male, from China, Hainan. 123. Paratype, male, from China, Hainan, photographed by Wen-Xuan Bi, not to scale. 124. Holotype, male, from China, Hainan; a. Dorsal view. b. Lateral view. 125. Female, from China, Hainan. Scale 2 mm.



*Eutetrappa gui* Lin & Yang, sp. nov.

Figs. 123–130, 154f, 154g & 154k

**Description.** Male: length (n=2): 9.8–12.2 mm, humeral width: 3.3–4.0 mm. Female (n=1): length: 14.2 mm, humeral width: 4.8 mm. Body black, covered by metallic blue (Figs. 123–124) scales except some black markings, under scales is gray pubescence (Fig. 125). Antennae black, sparsely pilose below, basal three antennomeres covered with metallic blue scales except dorsal side. Occiput black except a narrow line surrounding eyes. Prothorax with four black markings: two rounded or square ones on disc, a rounded one on each lateral side. Whole scutellum covered with metallic scales. Each elytron with three black markings: a triangular one located on basal 1/5, reaching lateral carina but not reaching suture and scutellum; second being a transverse vitta reaching both lateral carina and suture, located before middle of elytron; third being a black arc, opening to lateral margin, reaching both lateral carina and suture, located on middle of apical half. Side of elytra covered by metallic blue scales except carinae and basal fifth. Ventral surface densely clothed with metallic scales, with some black spots (Fig. 124b). Legs black, covered with metallic blue scales except ventral side of tarsi.



**FIGURES 126–130.** Terminalia of *Eutetrappa gui* Lin & Yang, sp. nov., male from China, Hainan. 126. Tergite VIII and sternites VIII & IX. 127. Tegmen. 127d. Lateral lobes in ventral view, showing the fine hairs at base. 128. Median lobe with median struts. 129. Last part of endophallus, including rod-like sclerites. 128b+129 = complete median lobe and endophallus. a. Ventral view, b. Lateral view, c. Dorsal view. 130. Female from China, Hainan, showing the spermathecal capsule. Scale 1 mm, 127d, 128d & 130: not to scale.

The inferior eye lobe two times as long as gena in male, or slightly longer than gena in female. Antennae longer than body, male slightly longer than female. Antennomere ratio: male: 16: 3: 19: 15: 16: 15: 14.5: 14: 13: 12: 15; female: 16: 4: 19: 16: 17: 16: 15: 14: 13: 12: 12. Elytron with punctures larger and sparser than that of pronotum, truncated apically, with a small tooth at outer angle. Male claws: only anterior claws of pro- and mesotarsi appendiculate with small teeth (Figs. 146a–c), posterior claws of pro- and mesotarsi without teeth, and claws of metatarsi simple (Fig. 143). **Male genitalia** (Figs. 126–129): Tergite VIII (Figs. 126a, 126c) broader than long, apex emarginate, with moderate long and denser setae, sparser in middle. Spiculum gastrale much shorter than ringed part of tegmen in length, spiculum relictum shorter than a half of spiculum gastrale. Tegmen (Figs.

127a–c) 2.4 mm in length; lateral lobes stout, about 0.25 mm long and 0.1 mm wide, with one finely setose ridge basally (in ventral view, Fig. 127d), apex rounded, with setae which are longer than lateral lobes; median lobe slightly curved and slightly longer than tegmen (9: 8); median struts about two thirds of whole length of median lobe; apex of ventral plate sharply pointed; median foramen strongly elongated; endophallus about triple length of median lobe, with four pieces of basal plate-like sclerites, two bands of creating armature, a strongly sclerotized part (at the apical 1/3) and three rod-like sclerites at end (Fig. 129), two longer ones each about 2.5 mm, subequal to tegmen in length, short one about 2.2 mm. **Female genitalia:** spermathecal capsule (Fig. 130) composed of an apical orb and a curved stalk, stalk longer than apical orb but less than twice of it in length. Spiculum ventrale much longer than abdomen. In our observation, spiculum ventrale measured 9.0 mm for an adult compared with abdomen which measured 6.5 mm in ventral view.

**Diagnosis.** This species is similar to *Eutetrappa lini* Chou, Chung & Lin, 2010, especially by the metallic blue scales, two similar size black pronotal maculae and three black elytral markings, but can be distinguished by the following characters: black maculae on pronotum larger, the width of the median metallic blue stripe less than one third of the width of each black macula; the basal two black elytral black markings reaching lateral carina, and the second one before middle also reaching suture; black arc on apical half of elytra reaching suture and the metallic blue spot inside the arc much smaller, less than one third of the arc in width; elytral apical tooth at the outer angle more developed; apex of tergite VIII emarginate and apex of ventral plate of median lobe sharply pointed.

**Etymology.** This species is named after Mr. Mao-Bin Gu, who collected the holotype specimen and who had collected many insects in Hainan Island. The epithet is a noun in the genitive case.

**Distribution.** China: Hainan.

**Type specimens:** Holotype, male, Hainan, Ledong County, Jianfengling, 1984.V.16, leg. Mao-Bin Gu (IZAS, IOZ(E)1905337, with numbers T-160 & A-7453). Paratypes: 1 male, Hainan, Qiongzong County, Yinggeling Nature Reserve, Yinggezui, alt. 600 m, 2011.IV.28, leg. Yi-Ting Chung (CCCC); 1 female, Hainan, Bawangling, Dongyilinchang, 1981.VII.10, coll. no. 7-Ba [= Bawangling]-141 (SYSU, En-366120).

### ***Eutetrappa flavoguttata* Pu & Jin, 1991**

Figs. 131–134, 156f, 156g-1, 156g-2, 156k & 156-elytron

*Eutetrappa flavoguttata* Pu & Jin, 1991: 190, 196, pl. IIIB: 1. Type locality: China, Xizang, Mêdog. Type depository: SHEM. *Eutetrappa flavoguttata*; Hua *et al.*, 2009: 455; Löbl & Smetana, 2010: 323.

**Supplementary description.** Females (n = 5): length 21.0–25.0 mm, width 6.5–8.0 mm. Claws simple. Female genitalia: Setae of sternite VIII dense and long. Spiculum ventrale (Fig. 133) slightly shorter than abdomen (103 to 110 and 90 to 97 we observed). Spermathecal capsule (Fig. 134) strongly sclerotized, composed of an apical orb and a long basal stalk, with length of basal stalk more than three times of diameter of apical orb.

**Diagnosis.** This species can be easily distinguished from other congeners by the rugose pronotum (Figs. 156g–1 & 156g–2), green body (not green pubescence or scales) and red-brown legs.

It resembles *Glenea viridescens* Pic, 1927 by the rugose pronotum and green body, but can be distinguished by the slightly truncate or nearly round elytral apex (without distinct teeth), red-brown legs (not blue-green legs), and four pubescent spots on elytron.

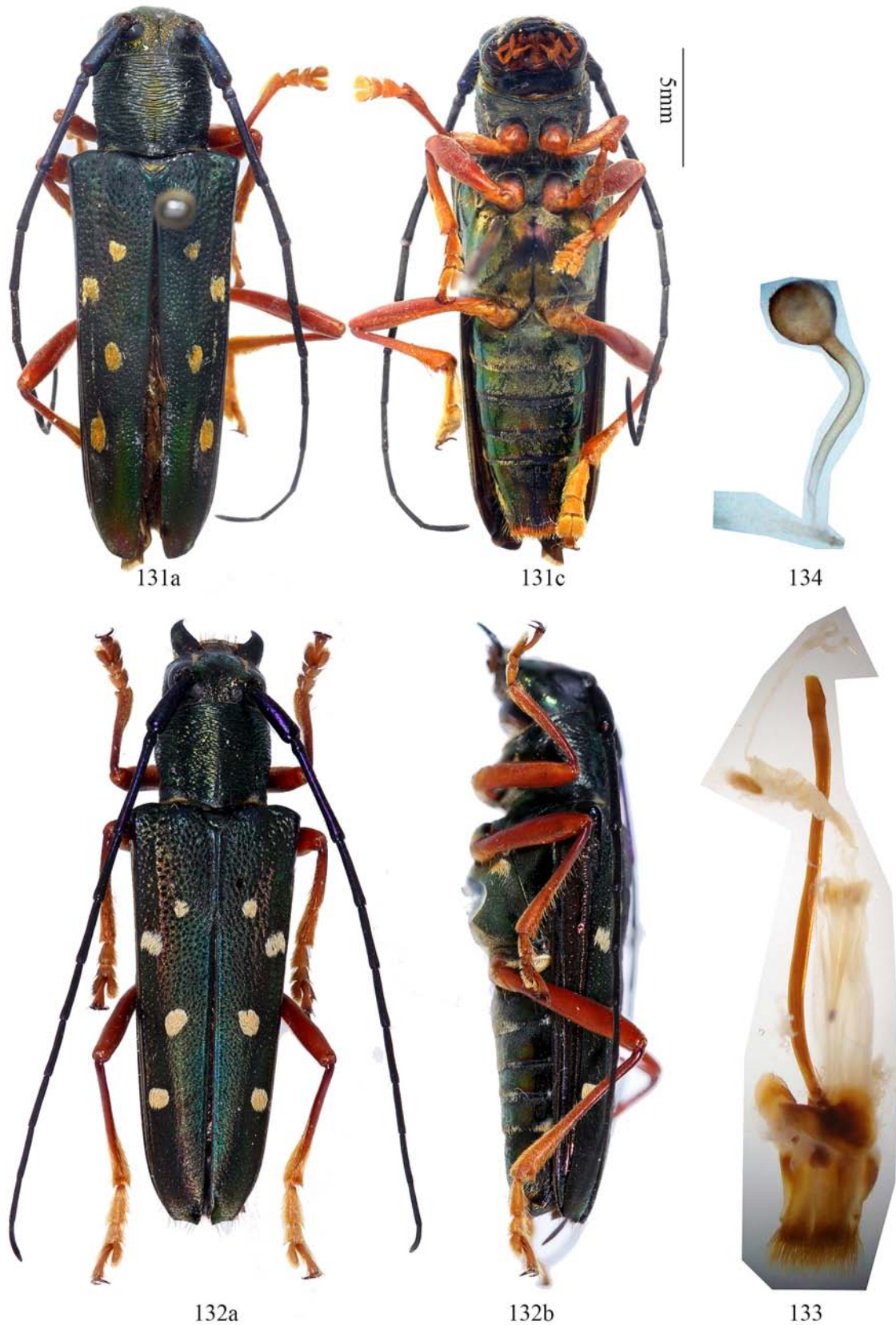
**Remarks.** Males are unknown but we predict that the male claws should be similar to *Glenea viridescens* Pic, 1927; that is: the anterior claw of the pro- and mesotarsi is toothed at the base, others simple (Viktora & Lin 2012). If this is confirmed, then it is reasonable to keep this species in the genus *Eutetrappa*. However, we do not transfer *Glenea viridescens* Pic, 1927 to *Eutetrappa* because of its distinctly emarginate elytral apex, and we believe it is reasonable to keep this species in the large genus *Glenea*. The morphology of male claws in the genus *Glenea* is diverse (Gahan 1897).

This species is recorded from Myanmar for the first time.

**Distribution.** China: Xizang; Myanmar (new country record): Mt. Shan Guang.

**Type specimen examined.** Holotype (Figs. 131 a & c), female, Xizang, Mêdog, 1979.VIII.16, leg. Gen-Tao Jin, Jian-Yi Wu (SHEM, 24201680).

**Other specimens examined.** Myanmar: 4 females, North Myanmar, Mt. Shan Guang, alt. 1400 m, near Putao Kachin, 2000.VIII.20, leg. Hiroshi Miyama (EUMJ, with one female deposited in IZAS).



**FIGURES 131–134.** *Eutetrappa flavoguttata* Pu & Jin, 1991, habitus and female genitalia. 131. Holotype, female, from China, Xizang. 132. Female, from Myanmar, Mt. Shan Guang. a. Dorsal view, b. Lateral view, c. Ventral view. 133. Female terminalia, lateroventral view, showing setae of sternites VII–VIII and speculum ventrale. 134. Spermathecal capsule. Scale = 5 mm, 126m, 127am, 131 and 132: not to scale.



## Key to species of *Eutetrappa* Bates

- 1 Pronotum without transverse ridges; body mostly covered with scales or pubescence ..... 2  
 - Pronotum with fine transverse ridges (Figs. 156g–1 & 156g–2); body not covered with scales or pubescence (except some spots on elytra); body large, metallic green; elytron with four yellowish pubescent spots; legs brown. .... *E. flavoguttata* Pu & Jin
- 2 Body not covered with scales, but covered with pubescence ..... 3  
 - Body covered with metallic green or blue scales ..... 14
- 3 Body covered with reddish pubescence ..... 4  
 - Body covered with grayish, khaki, grass green or light blue pubescence. .... 5
- 4 Basal half of elytron with four black maculae (not including the humeral angle); apical half of elytron without a large black macula (combination of several small maculae) ..... *E. elegans* Hayashi  
 - Basal half of elytron with three black maculae (not including the humeral angle); apical half of elytron sometimes with a large black macula (combination of several small maculae) ..... *E. cinnabarina* Pu
- 5 Pronotal disc without maculae ..... 6  
 - Pronotal disc with maculae ..... 7
- 6 Prothorax with black macula on each side; elytron with one black longitudinal stripe ..... *E. bicostata* Hayashi  
 - Prothorax without black macula on each side; elytron with one median transverse black macula and one indistinct black transverse vitta in middle of apical half, sometimes with a small spot at basal 1/5 ..... *E. velutinofasciata* Pic
- 7 Pronotum without distinct black maculae and elytra trimmed with narrow black stripes decorated with several grayish-white pubescent spots ..... 8  
 - Pronotum with distinct black maculae and elytra not trimmed with narrow stripes. .... 9
- 8 Elytral black trim has six grayish-white pubescent spots ..... *E. stigmosa* Pu & Jin  
 - Elytral black trim has seven grayish-white pubescent spots. .... *E. parastigmosa* Lin & Yang, **sp. nov.**
- 9 Pronotal disc with four somewhat rounded black spots ..... 10  
 - Pronotal disc with only two longitudinal black markings. .... 11
- 10 Elytron with two rows of punctures between the two humeral carinae; elytral black spots smaller and equal to or less than eight ..... *E. sedecimpunctata* (Motschulsky) [subspecies not separated]  
 - Elytron with a row of punctures between the two humeral carinae; elytral black markings larger, irregular in shape and more than eight. .... *E. complexa* Pu & Jin
- 11 Body covered with brick red brown pubescence; metatarsi with golden brown long hairs ..... *E. weni* Huang & Lin  
 - Body covered with green to blue pubescence; metatarsi without golden brown long hairs ..... 12
- 12 Pronotum with one pair of round spots; elytron with five black maculae; body covered with grass green pubescence, somewhat yellowish. .... *E. chlorotica* Pu & Jin  
 - Pronotum with one pair of elongated maculae; elytron with four large black maculae ..... 13
- 13 Elytral maculae large and subquadrate, all four maculae reaching lateral margin; sides of each abdominal segment with black maculae ..... *E. laosensis* Breuning  
 - Elytral maculae smaller and unregularly shaped, the first and fourth maculae not reaching lateral margin (the fourth sometimes reaching lateral margin); sides of each abdominal segment without black maculae ..... *E. shiqianensis* Pu & Jin
- 14 Elytron with metallic blue scales; pronotal black maculae large, length subequal to width, or length less than twice of width  
 - Elytron with metallic green scales; pronotal black maculae smaller, or length subequal to or more than twice of width when large. .... 17
- 15 Scales stout (length less than twice of width, Fig. 151k); pronotal black maculae longer than broad but with length less than twice of width; apical half of elytron without a black arc. .... *E. tianmushana* Lin & Bi, **sp. nov.**  
 - Scales slender (length more than triple of width, Fig. 154k); pronotal black maculae with length subequal to width; apical half of elytron with a black arc. .... 16
- 16 The two black markings on basal half of elytron reaching neither lateral carina nor suture; the black arc on apical half of elytron not reaching suture and the metallic blue spot wider than the width of the arc ..... *E. lini* Chou, Chung & Lin  
 - The two black markings on basal half of elytron both reaching lateral carina and the second one before middle also reaching suture; the black arc on apical half of elytron reaching suture and the metallic blue spot narrower than the width of the arc . . .  
 ..... *E. gui* Lin & Yang, **sp. nov.**
- 17 Elytral disc has three black markings, including an arc on apical half ..... 18  
 - Elytral disc has four black markings, without an arc on apical half ..... 20
- 18 Elytral apex rounded; the arc on apical half of elytron thinner, narrower than the width from black arc to suture; pronotal black spots smaller, narrower than the width between the two black spots ..... *E. metallescens* (Motschulsky)  
 - Elytral apex with tooth at the outer angle; the arc on apical half of elytron thicker, wider than the width from black arc to suture; pronotal black spots larger, wider than the width between the two black spots ..... 19
- 19 Elytral apex with a longer tooth at the outer angle; elytral maculae larger. .... *E. chrysochloris chrysochloris* (Bates)  
 - Elytral apex with a shorter tooth at the outer angle; elytral maculae more or less smaller. ....  
 ..... *E. chrysochloroides chrysochloris* Bates
- 20 Elytral apex with tooth at the outer angle; sides of metatarsi with white hairs. . . part of *E. chrysochloroides chrysochloris* Bates  
 - Elytral apex rounded; sides of metatarsi with black hairs. .... 21
- 21 Pronotal black spots larger, wider than the width between two spots; anterior claw of metatarsi of male appendiculate with a tooth. .... *E. tianmushana* Lin & Bi, **sp. nov.**

- Pronotal black spots smaller, narrower than the width between two spots; claws of metatarsi of male simple. . . . .  
 . . . . . *E. shaanxiana* Lin & Yang, **sp. nov.**

***Paraglenea virides* (Pu & Jin, 1991) comb. nov.**

Figs. 135a & 135c, 155f, 155g & 155k

*Eutetrappa virides* Pu & Jin, 1991: 191, 196, pl. IIIB: 2. Type locality: China, Sichuan, Qingchuan, Tangjiahe. Type depository: IZAS.

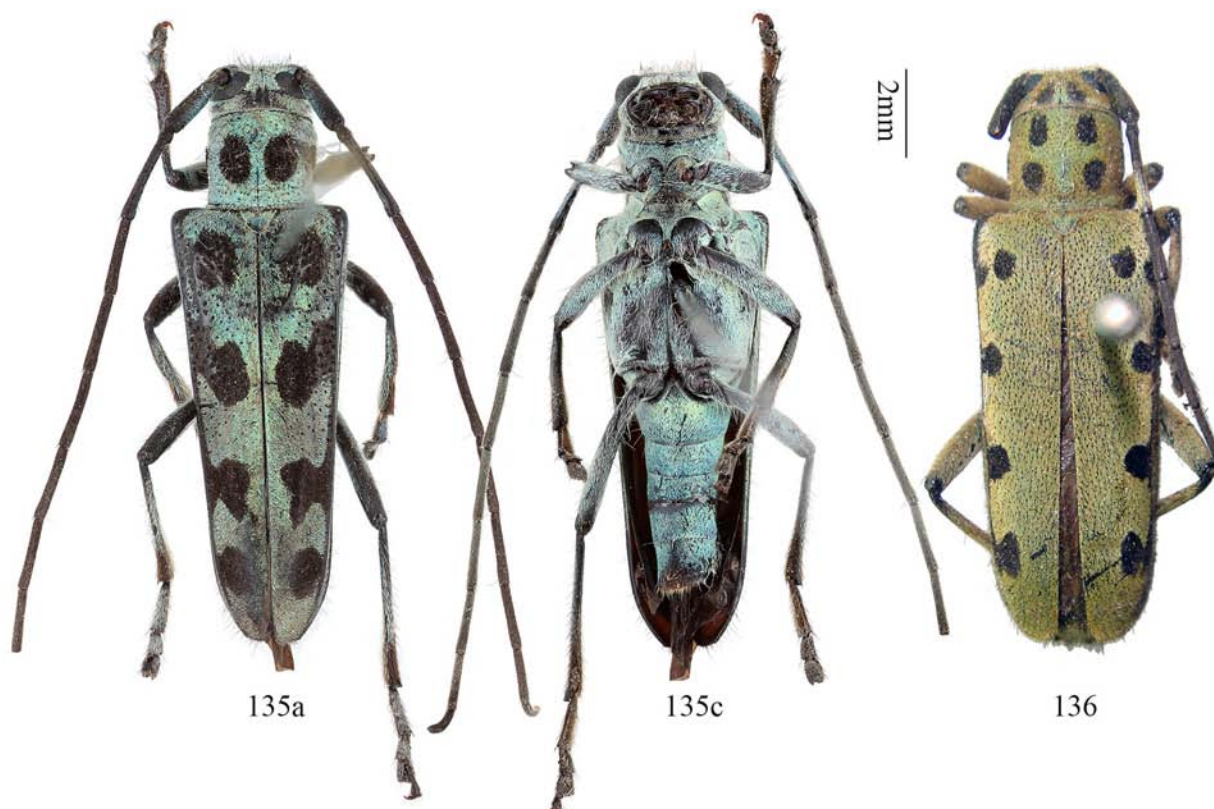
*Eutetrappa virides*; Hua *et al.*, 2009: 455; Löbl & Smetana, 2010: 324; Lin, 2015: 280, fig. 217697.

**Diagnosis.** According to Pu & Jin (1991), this species is “related to *E. chrysochloris* Bates, but easily distinguished by the frons sparsely punctuate, posterior margin of pronotum straight, not sinuate, scutellum tongue-shaped; the second macula of elytra obliquely elongate, contact with humeral carina”. In fact, the male claws allow these two species to be separated into two genera.

**Remarks.** *Eutetrappa virides* Pu & Jin, 1991 is transferred to the genus *Paraglenea* Bates, 1866, due to the appendiculate claws in males (Fig. 144). Though we did not examine any females, the claws of females should be simple. This species is quite similar to *Paraglenea fortunei* (Saunders, 1853) and *P. cinereonigra* Pesarini & Sabbadini, 1996 due to the color pattern, but with metallic scales and with different black markings.

**Distribution.** China: Sichuan.

**Type specimen examined.** Holotype (Figs. 135 a & c), male, Sichuan, Qingchuan, Tangjiahe, 1980.VII.30, leg. Ming-Li Lan (IZAS, IOZ(E) 217697).



**FIGURES 135–136.** Two species transferred out of *Eutetrappa*, habitus. 135. *Paraglenea virides* (Pu & Jin, 1991) **comb. nov.**, holotype, male, from China, Sichuan. a. Dorsal view. c. Ventral view. 136. *Saperda (Lopezcolonia) ocelota* (Bates, 1873) **comb. nov.**, holotype of *Saperda maculithorax* Pic, 1900, female, from Japan. Scale 2 mm, 136: not to scale.

***Saperda (Lopezcolonia) ocelota* (Bates, 1873) comb. nov.**

Figs. 136–142

*Glenea ocelota* Bates, 1873: 387. Type locality: Japan, Honshu, Hiogo. Type depository: MNHN.

*Glenea ocelota*; Gahan, 1889: 225.

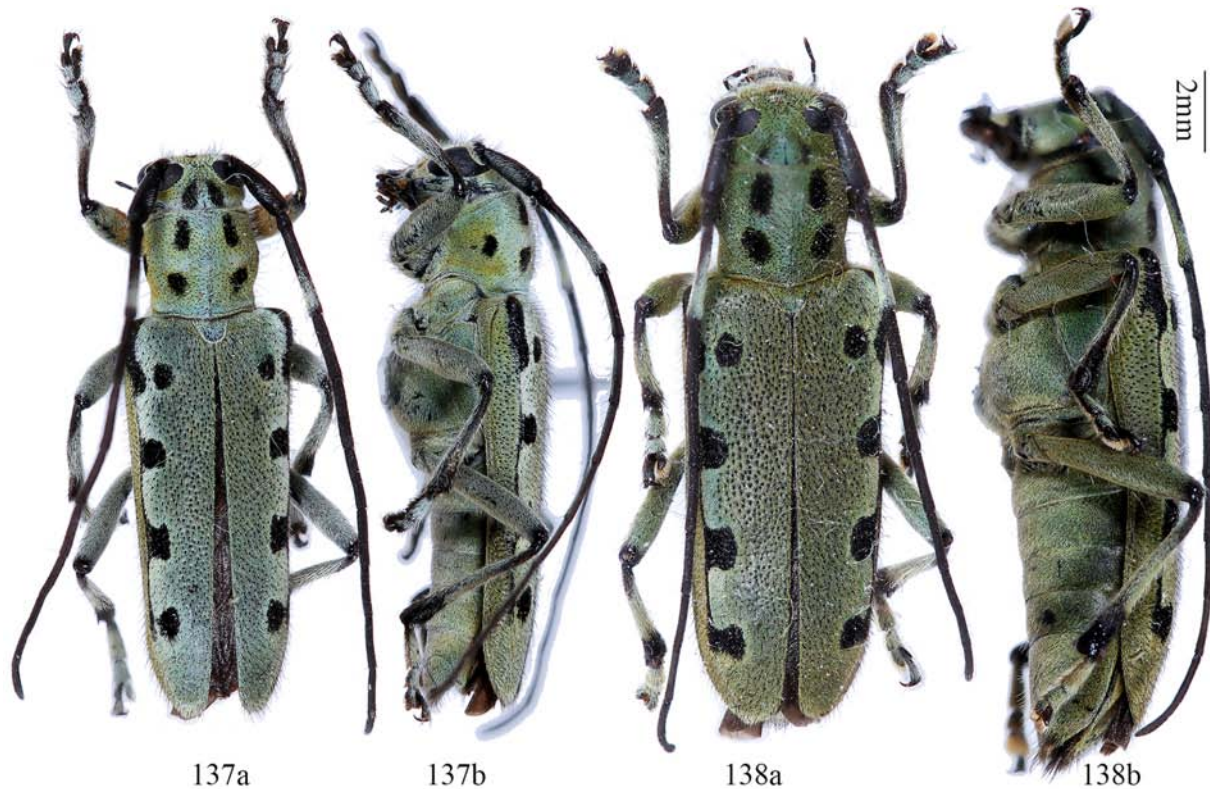
*Saperda maculithorax* Pic, 1900: 19. Type locality: Japan, Honshu, Yokohama. Type depository: MNHN.

*Eutetrappa ocelota*: Aurivillius, 1923: 488; Matsushita, 1933: 403, 404; Gressitt, 1951: 555; Breuning, 1952: 132, 134, pl. III, fig. 8; Samuelson, 1965: 127; Breuning, 1966: 676; Pu & Jin, 1991: 190; N. Ohbayashi *et al.*, 1992: 635, fig. 3 in page 59 and fig. 5 in page 257; Hua, 2002: 208; Kurihara & A. Saito, *In*: N. Ohbayashi & Niisato, 2007: 654, pl. 73, fig. 14; Hua *et al.*, 2009: 213, 354, pl. LXXVIII, 899; Löbl & Smetana, 2010: 323; Jang *et al.*, 2015: 359.

*Eutetrappa ocelota* m. *maculithorax*: Breuning, 1952: 135.

*Eutetrappa ocellota* ab. *breuningi* Podaný, 1962: 27. [infrasubspecies from Japan, Mont Kazuayama].

*Saperda ocelota*: Abdullah & Abdullah, 1966: 89.



**FIGURES 137–138.** *Saperda (Lopezcolonia) ocelota* (Bates, 1873) **comb. nov.** habitus. 137. Male, from Japan. 138. Female, from Japan. a. Dorsal view, b. Lateral view. Scale 2 mm.

**Supplementary description.** Male claws: anterior claw of pro- and mesotarsi is toothed at base (Fig. 146), others simple. Female claws simple. **Male genitalia** (Figs. 139–141): Tergite VIII (Figs. 139a, 139c) slightly broader than long, apex rounded, with setae which are long and dense at sides, and shorter at middle. Spiculum gastrale subequal to ringed part of tegmen in length, spiculum relictum about one half-length of spiculum gastrale. Tegmen (Fig. 140d) about 2.7 mm in length; lateral lobes stout, slightly tapering apically, each about 0.5 mm long and 0.2 mm wide; apex with fine setae which are longer than lateral lobes; median lobe slightly curved (Fig. 140b) in lateral view, slightly longer than tegmen (29:27); median struts more than half-length of median lobe (Fig. 140c); apex of ventral plate (Fig. 140d) rounded; endophallus more than triple length of median lobe, with four pieces of basal plate-like sclerites (located behind apex of median struts), two bands of supporting armature, and three rod-like sclerites at end, which are about 2.9 mm in length, slightly longer than tegmen. **Female genitalia:** spermathecal capsule (Fig. 142) composed of an apical orb and a curved stalk, stalk only a little longer than apical orb. Spiculum ventrale longer than abdomen. In our observation, spiculum ventrale measured 6.2 mm for an adult compared with abdomen which measured 5.8 mm in ventral view.

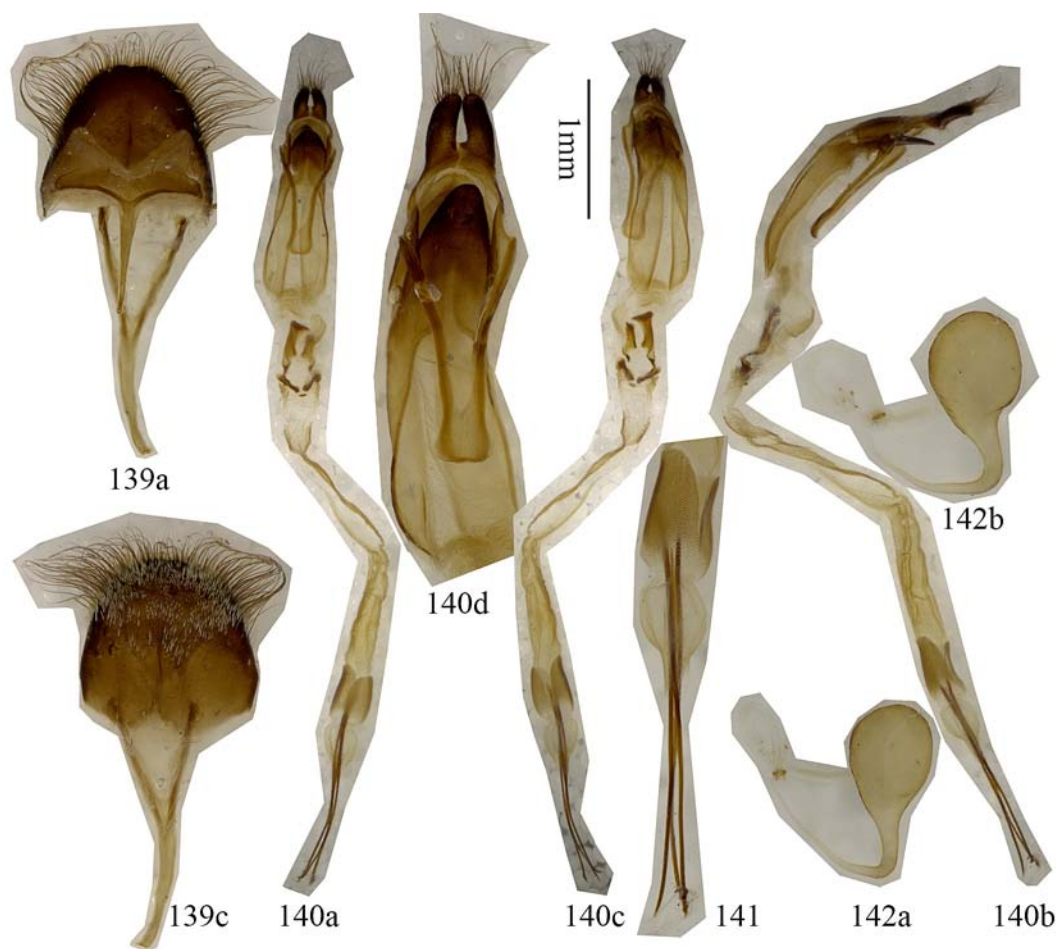
**Remarks.** Matsushi (1933) first reported “Formosa” in the distribution list of this species, mentioning Formosa (Taihoku, Kankô) as the exact locality. Later, Breuning (1952), Hua (2002), Hua *et al.*, (2009) and Löbl



& Smetana (2010) followed him to list Formosa or Taiwan as one of the localities. However, other authors considered it as a species endemic to Japan (Gressitt 1951; Samuelson 1965; Kurihara & A. Saito 2007), and Chou (2008) did not mention this species in his Taiwanese fauna list. We failed to find any specimens from Taiwan to confirm the report during this study. Lee (1987) did not mention this species in his Korean faunal list, while Jang, Lee & Choi (2015) listed it without photographs or specimens. Hua (2002) included Korea and this was followed by Hua *et al.* (2009) and Löbl & Smetana (2010). We could not confirm this locality either.

The first author believes that the Taiwan and South Korea records were based on misidentifications of *Saperda* (*Lopezcolonia*) *tetrastigma* Bates, 1879 or other species with four black spots on pronotum and four black spots on each elytron. Therefore, the distribution of this species is endemic to Japan.

This species does not belong in the genus *Eutetrappa* because of the absence of distinct lateral elytral carinae and may instead belong in the genus *Saperda* (*Lopezcolonia*). Actually, the elytral lateral margins are quite similar to that of *Saperda* (*Lopezcolonia*) *alberti* Plavilstshikov, 1916 and *Saperda* (*Lopezcolonia*) *perforata* (Pallas, 1773). Although a systematic study of all Saperdini has not yet been undertaken, we propose the new combination based on the morphological study conducted by the first author and a preliminary molecular analysis conducted by Dr. Nonaka Masaru. We believe this species is sister to *Saperda* (*Lopezcolonia*) *octomaculata* Blessig, 1872 and *Saperda* (*Lopezcolonia*) *subobliterata* Pic, 1910, while quite far from *E. sedecimpunctata* (Motschulsky) (Dr. Nonaka Masaru, 2015.VI.25, personal communication).

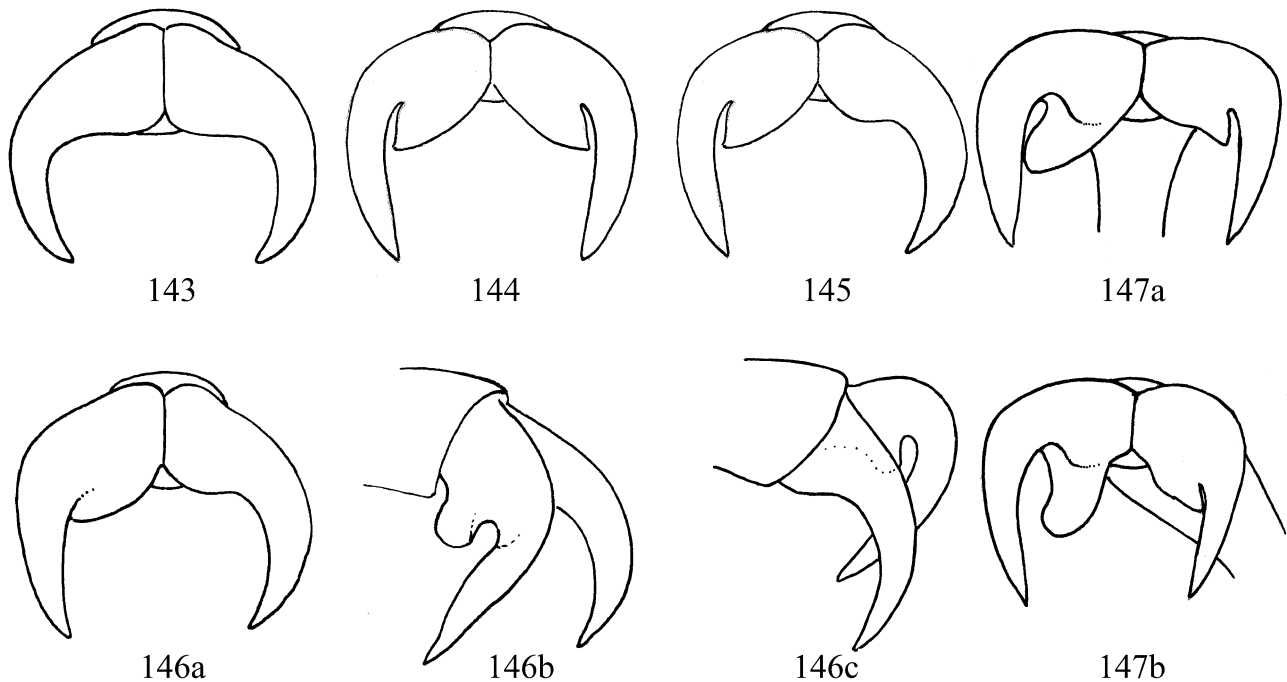


**FIGURES 139–142.** Terminalia of *Saperda* (*Lopezcolonia*) *ocelota* (Bates, 1873) **comb. nov.** 139–141. Male genitalia. 139. Tergite VIII and sternites VIII & IX. 140. Male genitalia. a. Ventral view, b. Lateral view, c. Dorsal view. d. Lateral lobes of tegmen and apex of ventral plate. 141. Rod-like sclerites. 142. Female spermathecal, especially showing the spermathecal capsule, a & b in different view. Scale 1 mm, 140a, b, c and 142: not to scale.

**Distribution.** Japan.

**Type specimen examined.** Syntypes, 1 male 1 female, Japan (MNHN, ex collection H.W. Bates). Holotype of *Saperda maculithorax* Pic, 1900, female, Japan, Honshu (Kanagawa), Yokohama (MNHN).

**Other specimens examined. Japan:** 1 male, Japan, Ehime, Matsuyama-city, Sugitate, 2004.VI.18, leg. J. Yamasako (IZAS, ex Collection of Junsuke Yamasako); 1 female, Ehime, Matsuyama-shi, Komeno-machi, alt. 500 m, 2003.VII.8, leg. T. Kurihara (IZAS, ex Collection of Junsuke Yamasako); 1 male, Fukushima Pref., Hinoemata-mura, Aizu-gun, 2000.VI.16-17, leg. Kiichi Shimizu (IZAS, ex EUMJ); 1 male, Chiba Pref., Sasa, Kimitsu-shi, Chiba Pref., 2001.V.20, leg. Toshihito Ito (IZAS, ex EUMJ); 1 female, Fukushima Pref., Noshito, Tateiwa-mura, 2000.VI.11, Toshihito Ito (IZAS, ex EUMJ); 1 male 1 female, Fukushima Pref., Nittabara, Tateiwa-mura, 1994.VII.9, leg. Satoshi Maru (IZAS, ex EUMJ); 2 males 1 female, Nagano Pref., Kawakami-mura, Minamisaku-gun, Mt. Azusa-yama, 2004.VII.14, leg. Toshihito Ito (IZAS, ex EUMJ).

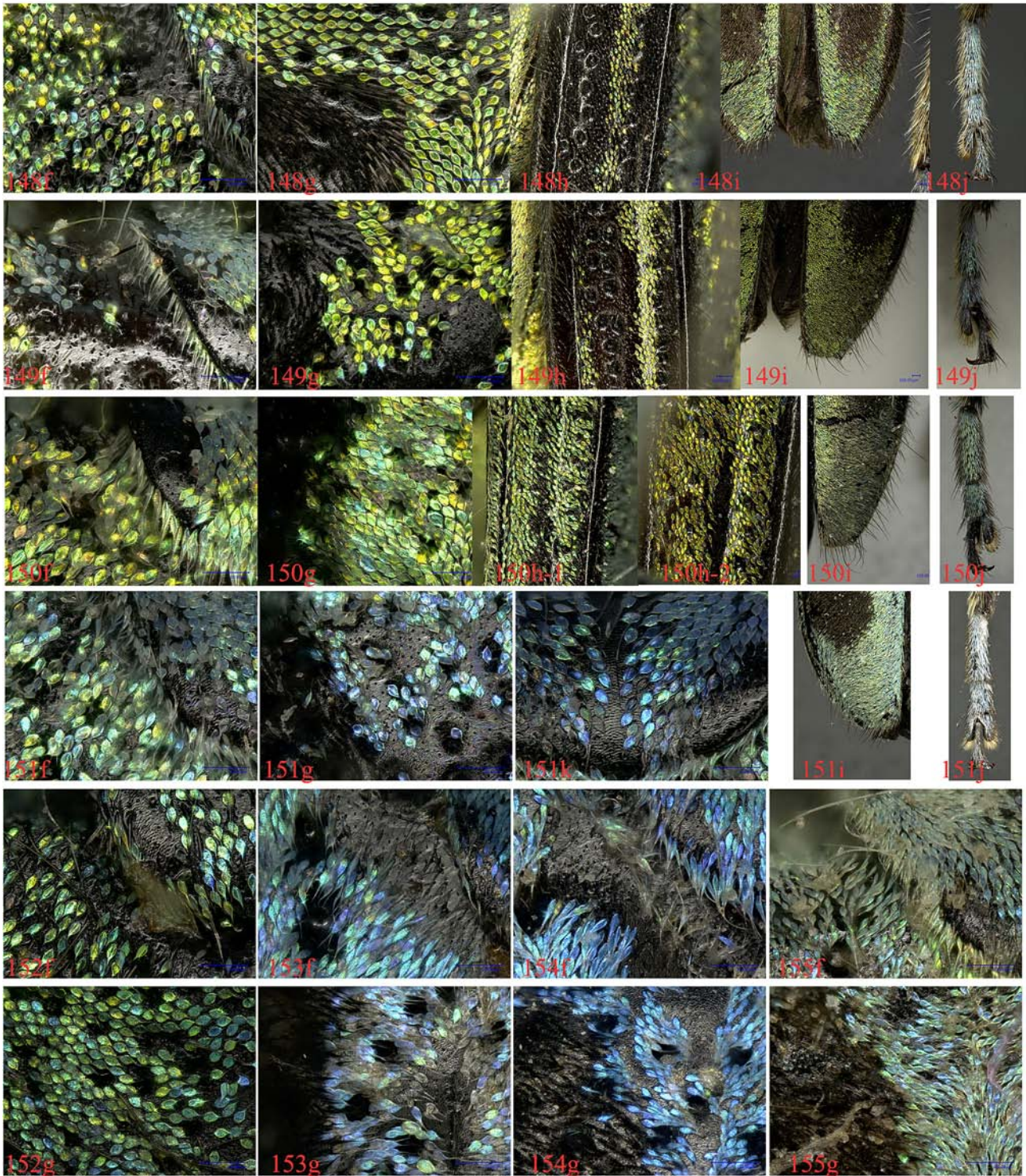


**FIGURES 143–147. Claw types.** 143. Simple. 144. Appendiculate. 145. Only anterior claw appendiculate. 146. Only anterior claw appendiculate at outer side (left mesotarsus of male *Eutetrappa*). 147. Anterior claw appendiculate at outer side and posterior claw appendiculate normally (left mesotarsus of male *Eutetrappa chlorotica* Pu & Jin, 1991 and *E. tianmushana* Lin & Bi, sp. nov.). a. Frontal view. b. Lateral view. c. Lateral view in another side.

## Acknowledgments

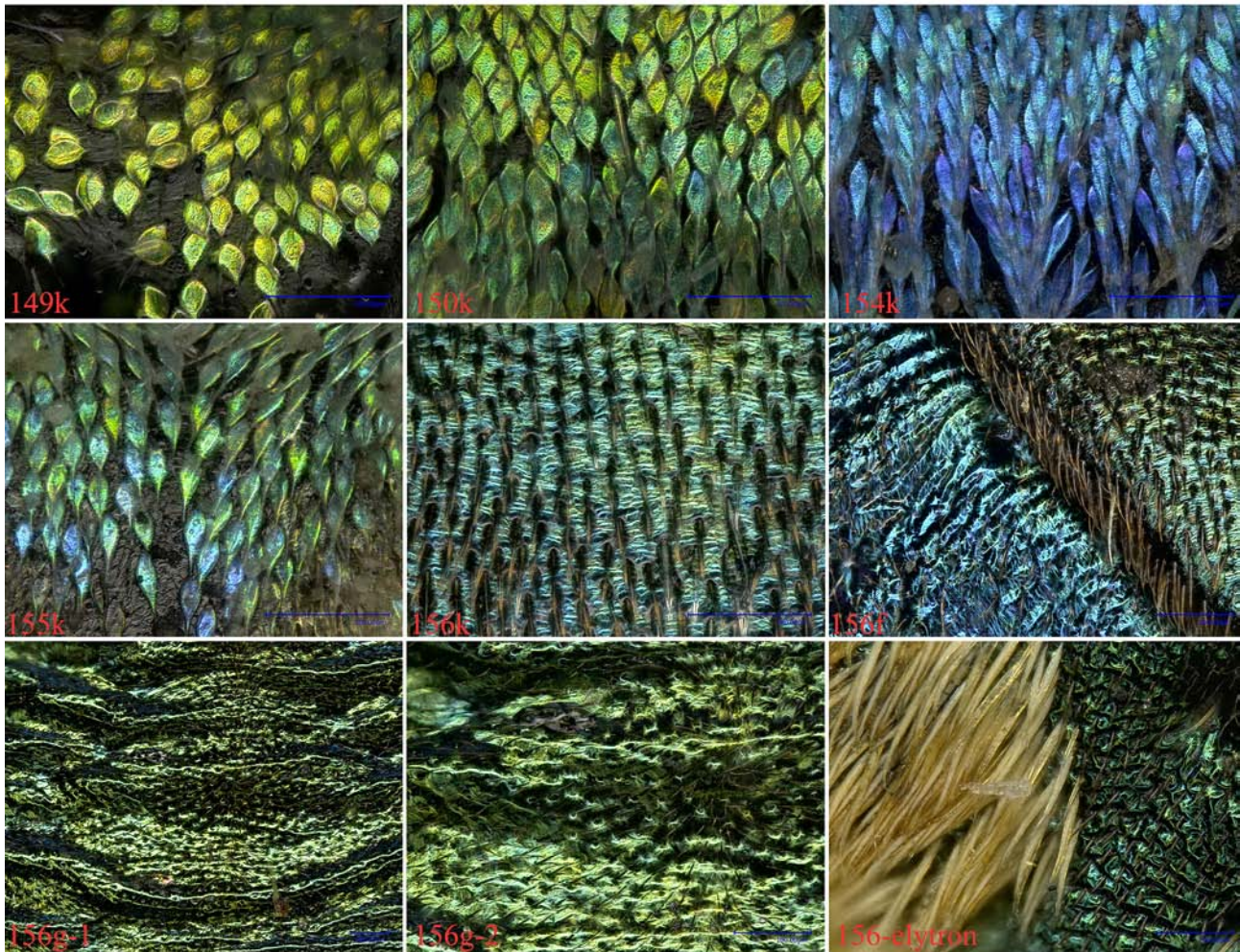
We are grateful to Olivier Montreuil and Gérard Tavakilian (MNHN); Alain Drumont and Patrick Grootaert (IRSNB); Giulio Cuccodoro and Bernard Landry (MHNG); Chang-Chin Chen (CCCC); Hong Pang, Li-Zhong Hua, Feng-Long Jia and Bing-Lan Zhang (SYSU); Guo-Dong Ren (HBU); Isabelle Zürcher-Pfander, Eva Sprecher and the late Michel Brancucci (NHMB); Petr Viktora (CPV); Shepherd Myers (BPBM); Nobuo Ohbayashi (Miura City, Japan); Junsuke Yamasako (Japan); Virgile Marengo (MHNL); Hai-Sheng Yin (SHEM); Yi-Zhou Liu and Hong-Liang Shi (BJFU); Ming Jin and Yong-Xiang Wu (Shanghai, China); Dong-Dong Fang, Li Jin and Peng-Fei Xu (Hangzhou, Zhejiang, China) and Wen-I Chou (CWIC) for access to collections and loans of specimens. We thank Kyohei Watanabe (Kanagawa Prefectural Museum of Natural History, Odawara, Japan) for offering type photographs of *Eutetrappa sedecimpunctata australis*, and Shigehiko Shiyake (OSAKA) for assistance with *Eutetrappa bicostata*. We wish to express our sincere thanks to Nobuo Ohbayashi (Miura City, Japan), Carolus Holzschuh (Villach, Austria), Eugenio H. Nearn (Purdue University, West Lafayette, Indiana, USA) and Steven W. Lingafelter (Arizona, USA) for improving this manuscript. The first author thanks Li-Jie Zhang for help taking photographs of the holotype of *Eutetrappa elegans* during her visit Japan in 2007, and also thanks Yu-Long Lin (Taiwan) for assistance with her study related to the Taiwanese fauna. This research was supported by NSFC programs 31472029 and J1210002, partly by a special fiscal fund (No. 2013-19) from Shaanxi Province for “Insect fauna of Qinling Mountains Region”, and partly by a grant (No. O529YX5105) from the Key Laboratory of the Zoological Systematics and Evolution of the Chinese Academy of Sciences.





**FIGURES 148–155. Scales, elytral apex and tarsus.** f. Scales on scutellum and elytron (left of scutellum). g. Scales on pronotum (nearly middle, besides the left black spot). h. Lateral view of left elytron. i. Elytral apex. j. Hind tarsus, showing the hairs at sides. k. Scales on scutellum. 148. *Eutetrappa chrysochloris chrysochloris* (Bates, 1879). 149. *E. chrysochloris chrysargyrea* Bates, 1884. 150. *E. shaanxiana* Lin & Yang, **sp. nov.**; h-1, male; h-2; female. 151. *E. tianmushana* Lin & Bi, **sp. nov.** 152. *E. metallescens* (Motschulsky, 1860). 153. *E. lini* Chou, Chung & Lin, 2010. 154. *E. gui* Lin & Yang, **sp. nov.** 155. *Paraglenea virides* (Pu & Jin, 1991) **comb. nov.** Scale 100µm.





**FIGURES 149–156. Scutellum and pronotum.** f. Scutellum and elytron (left of scutellum). g. Pronotum. k. Scales on scutellum, showing different shapes and colours. 149. *E. chrysochloris chrysargyrea* Bates, 1884. 150. *E. shaanxiana* Lin & Yang, **sp. nov.**; 154. *E. gui* Lin & Yang, **sp. nov.** 155. *Paraglenea virides* (Pu & Jin, 1991) **comb. nov.** 156. *Eutetrappa flavoguttata* Pu & Jin, 1991. Scale 100µm.

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