

Revision of the *Gonioctena flavoplagiata* species-group (Coleoptera: Chrysomelidae: Chrysomelinae), with descriptions of two new species from China and Laos

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Abstract. The *Gonioctena flavoplagiata* species-group of the subgenus *Asiphytodecta* Chen, 1935 is defined and reviewed. Two new species are described and illustrated: *G. (A.) jindrai* sp. nov. (southwestern China) and *G. (A.) truncaticornis* sp. nov. (northeastern Laos). *Gonioctena (A.) eburoides* (Achard, 1924) stat. restit. is resurrected from synonymy with *G. (A.) flavoplagiata* (Jacoby, 1890). Lectotype is designated for *G. (A.) flavoplagiata*. A key to the species, diagnostic characters and illustrations are provided. Ovoviviparity is newly recorded in *G. (A.) flavoplagiata* and *G. (A.) jindrai* sp. nov.

Key words. Coleoptera, Chrysomelidae, Chrysomelinae, *Gonioctena*, *Asiphytodecta*, taxonomy, new species, lectotype, ovoviviparity, China, Laos, Vietnam

Introduction

The genus *Gonioctena* Chevrolat, 1836 is widely distributed in the Holarctic and Oriental Regions. Members of the genus are characterized by the presence of a tooth-like projection near the apex of all or mid and hind tibiae, well-developed hind wings and appendiculate tarsal claws. Currently *Gonioctena* comprises more than 100 species divided into nine subgenera, the largest of which is the nominotypical subgenus with 47 species (CHO 2016). *Asiphytodecta* Chen, 1935 is the second largest subgenus and contains 25 species distributed in the Oriental Region and Palearctic China. Members of *Asiphytodecta* are distinguished from other subgenera by the following characters: spots or stripes present on dorsal surface, if absent, elytral punctures irregular; anterior margin of labrum almost straight or with a tooth-like projection; last four antennomeres strongly widened and flattened or not modified; pronotal trichobothria absent; spermatheca present. So far only the *Gonioctena (A.) tredecimmaculata* species-group has been defined within the subgenus *Asiphytodecta* by BEZDĚK (2002). It is characterized by spots or stripes on dorsal surface, anterior margin of labrum with a tooth-like projection and irregular elytral punctures.

Gonioctena (*A.*) *flavoplagiata* (Jacoby, 1890) was described from Changyang, China. Later, *Gonioctena* (*A.*) *eburoides* (Achard, 1924) was described from Annam and Guizhou, but was synonymized with *G. (A.) flavoplagiata* by CHEN (1934). Recently, CHO & BOROWIEC (2016) described its closely related species, *G. (A.) mausonensis* Cho & Borowiec, 2016 from Northern Vietnam. All these taxa are easily recognized by their strongly widened and flattened last four antennomeres and two pairs of yellowish brown spots on dark elytra. Here, we propose the *Gonioctena* (*A.*) *flavoplagiata* species-group for these taxa. Examination of types and many other specimens from China, Laos and Vietnam reveals another two new species of this group that we describe below.

Material and methods

The specimens were examined with a Nikon SMZ800 microscope. Male genitalia were dissected from adult specimens softened in a closed Petri dish with wet tissue paper for 12–24 hours, cleared in 10% sodium hydroxide solution, and rinsed in distilled water. Photographs were taken by a Nikon D5200 digital camera attached to a Nikon SMZ1500 microscope, and were edited in Helicon Focus 5.3.12 and Adobe Photoshop CS5.

The specimens examined in the study are deposited in the following collections:

AWCW	Andrzej Warchałowski collection, Wrocław, Poland;
BMNH	The National History Museum, London, UK;
BPBM	Bernice Pauahi Bishop Museum, Hawaii, USA;
FKCC	František Kantner collection, České Budějovice, Czech Republic;
HCCA	Hee-Wook Cho collection, Andong, South Korea;
LMCM	Lev N. Medvedev collection, Moscow, Russia;
MCZ	Museum of Comparative Zoology, Harvard University, Cambridge, USA;
NHMB	Naturhistorisches Museum Basel, Basel, Switzerland;
NMPC	Národní Muzeum, Prague, Czech Republic;
TLMF	Horst Kippenberg collection, Tiroler Landesmuseum Ferdinandeum, Innsbruck, Austria;
ZMHB	Museum für Naturkunde der Humboldt-Universität, Berlin, Germany.

Taxonomy

Gonioctena (*Asiphytodecta*) *flavoplagiata* species-group

Diagnosis. Body length 6.2–7.6 mm. Dorsum brown to blackish brown with two pairs of yellowish brown spots on elytra. Anterior margin of labrum with tooth-like projection. Antennae reaching pronotal base, with last four antennomeres strongly widened and flattened. Elytral surface mostly covered with irregular, coarse and large punctures except humeri, elytral suture and lateral margins. Aedeagus variable in shape, very thin or thick with narrow or broad apical process, setose apicolaterally. Spermatheca C-shaped and very thin.

Key to the species of the *Gonioctena flavoplagiata* species-group

- 1 Venter largely black to dark brown. 2
- Venter largely reddish-brown. *G. (A.) mausonensis* Cho & Borowiec, 2016
- 2 Apical antennomere widely rounded at apex (Figs 13, 19, 25). 3
- Apical antennomere rather truncate at apex (Fig. 27). ... *G. (A.) truncaticornis* sp. nov.

- 3 Aedeagus strongly narrowed before short apical process (Figs 20, 23). 4
 – Aedeagus moderately narrowed from apical 1/3 to apex (Figs 14–17).
 *G. (A.) eburoides* (Achard, 1924)
 4 Apical process of aedeagus thin and elongate-oval (Fig. 23). *G. (A.) jindrai* sp. nov.
 – Apical process of aedeagus very thin and parallel-sided (Fig. 20).
 *G. (A.) flavoplagiata* (Jacoby, 1890)

***Goniectena (Asiphytodecta) eburoides* (Achard, 1924) stat. restit.**

(Figs 1, 6, 13–18, 29)

Phytodecta eburoides Achard, 1924: 34 (original description).

Phytodecta (Phytodecta) eburoides: WINKLER (1930): 1296 (catalogue).

Phytodecta eburoides [sic!]: CHEN (1934): 76 (synonymy with *G. flavoplagiata*).

Goniectena (Asiphytodecta) flavoplagiata: MEDVEDEV (1987): 76 (misidentification).

Type locality. ‘Annam, Pak-Lang’.

Type material examined. LECTOTYPE (designated by YANG et al. 2014): ♀, ‘Annam Pak Lang // *eburoides* n. sp. type // TYPE // *Goniectena (Asiphytodecta) eburoides* (A.) Det. S. GE 2004 // *Goniectena eburoides* (Achard, 1924) det. H.W. Cho 2014’ (NMPC). PARALECTOTYPE: 1 ♀, ‘Kouy-Tchéou [= Guizhou] CHINE // *eburoides* n. sp. type // TYPE // *Goniectena (Asiphytodecta) eburoides* (A.) Det. S. GE 2004 // *Goniectena eburoides* (Achard, 1924) det. H.W. Cho 2014’ (NMPC).

Additional material examined. VIETNAM: LANG SON: Montes Mauson [= Mt. Mau Son], April–Mai, 2–3000 ft., 1 ♂ 2 ♀♀, H. Fruhstorfer [leg.] (ZMHB). LAO CAI: Sa Pa, 11.–19.vi.1990, 1500 m, 2 ♂♂, Jan Strnad leg. (HCCA, NHMB); Sa Pa, 11.–16.vi.1990, 1 ♂, A. Olexa leg. (LMCM); Sa Pa, 11.–18.vi.1990, 2 ♀♀, A. Olexa leg. (NHMB); Sa Pa, 11.–19.vi.1990, 1 ♂, Brantlová leg. (AWCW); Sa Pa, 15.iv.1962, 1 ♀, A. Warchałowski leg. (AWCW). VINH PHUC: Tam Dao, v.1990, 1 ♂, M. Jančíková leg. (FKCC).

Description. Measurements in mm ($n = 4$): length of body: 6.90–7.55 (mean 7.24); width of body: 4.75–4.95 (mean 4.89); height of body: 3.30–3.60 (mean 3.49); width of head: 2.00–2.05 (mean 2.03); interocular distance: 1.40–1.45 (mean 1.42); width of apex of pronotum: 2.35–2.45 (mean 2.38); width of base of pronotum: 4.07–4.32 (mean 4.24); length of pronotum along midline: 1.85–1.90 (mean 1.89); length of elytra along suture: 5.10–5.70 (mean 5.46).

Body oval and strongly convex (Fig. 1). Head dark reddish-brown to dark brown. Mandibles reddish-brown, apex black. Maxillary palps reddish-brown, with apical palpomere dark brown. Antennomeres I–V yellowish-brown, VI–VII blackish-brown, VIII–XI black. Pronotum brown to blackish-brown, margins black. Scutellum dark brown, basal margin black. Elytra brown to blackish-brown, with two pairs of yellowish-brown spots. Venter dark brown to black, with hypomera and last abdominal ventrite partially dark reddish brown. Legs dark reddish brown, with basal half or more of femora darkened.

Head. Vertex weakly convex, covered with sparse punctures, becoming coarser and denser toward sides. Frontal suture V-shaped, reaching anterior margin, coronal suture rather long. Frons flat, suddenly depressed at anterior margin, covered with dense punctures. Clypeus very narrow and trapezoidal. Anterior margin of labrum with tooth-like projection. Mandibles with two sharp apical teeth and deep excavation for apical maxillary palpomere on outer side. Maxillary palps 4-segmented, with apical palpomere slightly widened, truncate apically. Antennae reaching pronotal base; antennomere I robust, longest; II as long as III; III longer than IV; VIII–XI strongly widened and flattened, VIII–X each distinctly wider than long, XI about 0.94 times as long as wide (Fig. 13).

Pronotum. Lateral sides rounded, widest at base, thence strongly narrowed anteriorly; anterior angles strongly produced (Fig. 6). Anterior and lateral margins bordered, lateral margins well visible in dorsal view. Trichobothria absent on both, anterior and posterior, angles. Disc covered with sparse or moderately dense punctures; lateral sides covered with much larger and denser punctures; interspaces covered with fine and sparse punctures. Scutellum distinctly wider than long, narrowed posteriorly.

Elytra. Lateral sides slightly widened posteriorly, widest beyond middle, thence roundly narrowed posteriorly. Humeral calli well developed. Disc covered with irregular, coarse and large punctures except humeri, elytral suture and lateral margins; punctures partially arranged in double rows; interspaces covered with fine and sparse punctures. Epipleura visible in lateral view except near base. Hind wings well developed.

Venter. Hypomera weakly rugose, with a few punctures near anterolateral corners of prosternum. Prosternum covered with coarse and dense punctures bearing long setae; prosternal process enlarged apically, bordered laterally, with sparse punctures. Metasternum covered with small and sparse punctures in median region, large and dense punctures in lateral region. Abdominal ventrites covered with sparse or dense punctures bearing short setae.

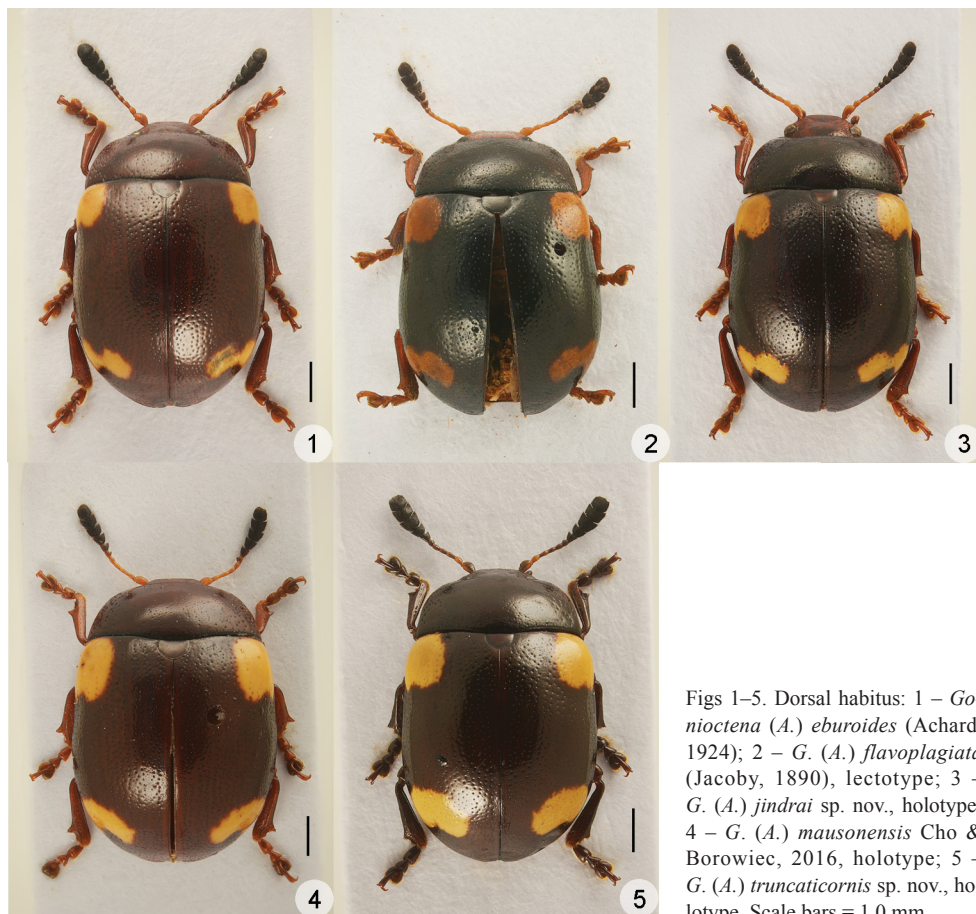
Legs. Moderately robust. Tibiae widened apically, with tooth-like projection. Fore legs with tarsomere I slightly narrower than III in male; distinctly narrower than III in female. Tarsal claws appendiculate.

Genitalia. Aedeagus rather thin, subparallel-sided in middle, moderately narrowed from apical 1/3 to blunt apex, setose apicolaterally in dorsal view; strongly curved, with apical process weakly recurved in lateral view (Figs 14–17). Spermatheca C-shaped, thin and apex blunt (Fig. 18).

Differential diagnosis. *Gonioctena* (*A.*) *ebuioides* is very similar to *G.* (*A.*) *flavoplagiata* and *G.* (*A.*) *jindrai* sp. nov. in body coloration and shape of antennomeres. From these two species, *G.* (*A.*) *ebuioides* can be distinguished only by aedeagus with apical process broad and moderately narrowed apically (short, very thin and parallel-sided in *G.* *flavoplagiata* and short, thin and elongate-oval in *G.* (*A.*) *jindrai* sp. nov.). *Gonioctena* (*A.*) *mausonensis* differs in reddish brown venter while *G.* (*A.*) *truncaticornis* sp. nov. differs in rather truncate apex of last antennomere.

Distribution. Vietnam: Lang Son, Lao Cai, and Vinh Phuc (Fig. 29); the record from China is doubtful.

Remarks. *Gonioctena* (*A.*) *ebuioides* (Achard, 1924) was described from Annam and Guizhou and later synonymized with *G.* (*A.*) *flavoplagiata* (Jacoby, 1890) by CHEN (1934). This synonymy was followed by many authors (CHEN 1935, 1936, 1938; GRESSITT & KIMOTO 1963; KIMOTO & GRESSITT 1981; KIPPENBERG 2010; YANG et al. 2014; YANG et al. 2015). Recently, YANG et al. (2014) designated a lectotype of *G.* (*A.*) *ebuioides* and the restricted type locality became ‘Annam: Pak-Lang’ [Vietnam; however, we did not locate Pak-Lang in any recent gazetteers] (ICZN 1999: Recommendation 74E). After examining types and many other specimens from Northern Vietnam, we found clear differences between the two taxa (see Diagnosis). Therefore, *G.* (*A.*) *ebuioides* is removed from synonymy with *G.* (*A.*) *flavoplagiata* and its specific status is restored. The paralectotype of *G.* (*A.*) *ebuioides* collected in Guizhou is a female, but we have not examined any male specimens from China. Thus its conspecificity with true *G.* *ebuioides* is doubtful. The occurrence of *G.* (*A.*) *ebuioides* in China should be confirmed by new material.



Figs 1–5. Dorsal habitus: 1 – *Gonioctena* (*A.*) *eburoides* (Achard, 1924); 2 – *G. (A.) flavoplagiata* (Jacoby, 1890), lectotype; 3 – *G. (A.) jindrai* sp. nov., holotype; 4 – *G. (A.) mausonensis* Cho & Borowiec, 2016, holotype; 5 – *G. (A.) truncaticornis* sp. nov., holotype. Scale bars = 1.0 mm.

Gonioctena (Asiphytodecta) flavoplagiata (Jacoby, 1890)

(Figs 2, 7, 11, 19–21, 29)

Phytodecta flavoplagiata Jacoby, 1890: 117 (original description).

Phytodecta (Phytodecta) flavoplagiatus: WEISE (1916): 181 (catalogue); WINKLER (1930): 1296 (catalogue).

Phytodecta flavoplagiatus: CHEN (1934): 71, 76 (monograph), CHEN (1938): 290, 295 (monograph).

Phytodecta (Asiphytodecta) flavoplagiatus: CHEN (1935): 130 (catalogue), CHEN (1936): 87 (catalogue).

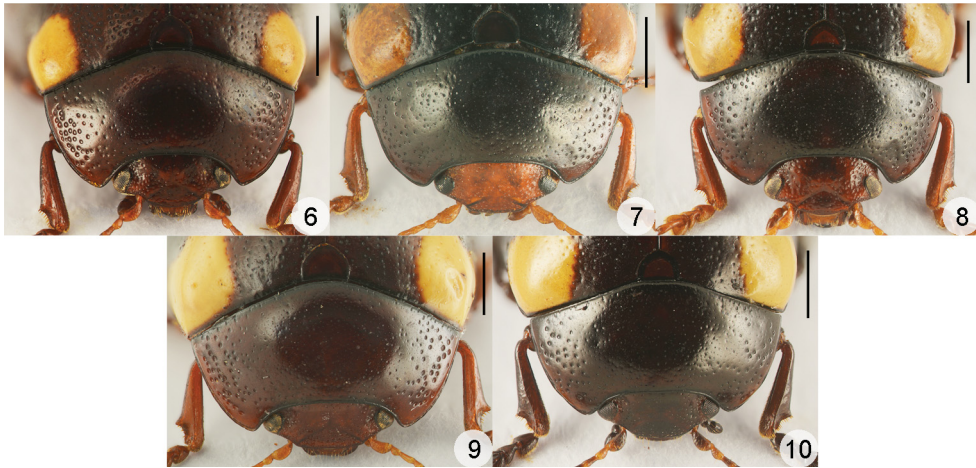
Asiphytodecta flavoplagiatus: CHEN & YOUNG (1941): 207 (key).

Gonioctena (Asiphytodecta) flavoplagiata: GRESSITT & KIMOTO (1963): 359, 365 (taxonomy); KIMOTO & GRESSITT (1981): 385 (taxonomy); KIPPENBERG (2010): 432 (catalogue); CHO & BOROWIEC (2016): 174 (male genitalia).

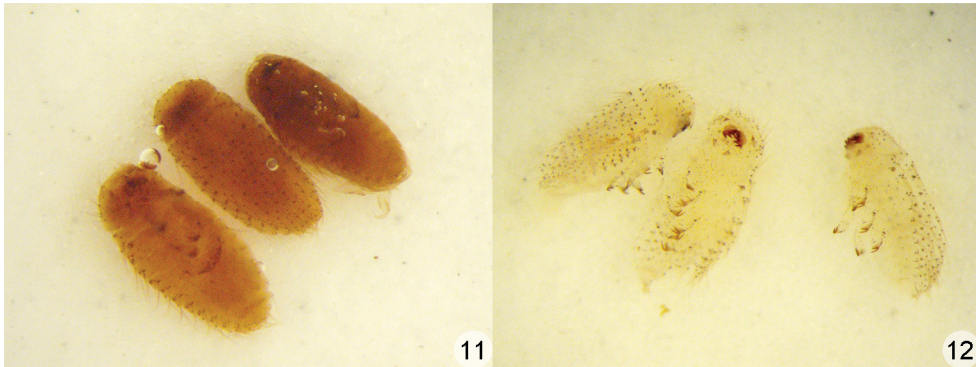
Gonioctena (Asiphytodecta) flavoplagiata (partim): YANG et al. (2014): 384 (taxonomy); YANG et al. (2015): 54 (catalogue).

Type locality. China, Hubei Province, Changyang.

Type material examined. LECTOTYPE (here designated): ♂, 'Chang Yang, near Ichang, 4–6000 ft., VI // *Phytodecta flavoplagiata* Jac. // LECTOTYPUS *Phytodecta flavoplagiata* Jacoby, 1890 des. H.W. Cho 2014 // *Gonioctena flavoplagiata* (Jacoby, 1890) det. H.W. Cho 2014' (MCZ). PARALECTOTYPES: 1 ♂, '*P. flavoplagiata* Jac // Type 17506



Figs 6–10. Head and pronotum: 6 – *Goniocтена* (*A.*) *eburoides* (Achard, 1924); 7 – *G.* (*A.*) *flavoplagiata* (Jacoby, 1890), lectotype; 8 – *G.* (*A.*) *jindraia* sp. nov., holotype; 9 – *G.* (*A.*) *mausonensis* Cho & Borowiec, 2016, holotype; 10 – *G.* (*A.*) *truncaticornis* sp. nov., holotype. Scale bars = 1.0 mm.



Figs 11–12. Larvae dissected from the female specimen: 11 – *Goniocтена* (*A.*) *flavoplagiata* (Jacoby, 1890); 12 – *G.* (*A.*) *jindraia* sp. nov.

// 1st Jacoby Coll.' (MCZ); 1 ♂, 'Chang Yang, China // 1st Jacoby Coll.' (MCZ); 1 ♀, 'Chang Yang, near Ichang, 6000 ft., VII.' (MCZ).

Additional material examined. CHINA: HUBEI: Changyang, 1 ♀ (MCZ, 2nd Jacoby Coll.); Lichuan District, Leong-ho-kow, 4.ix.1948, 1 ♀, Gressitt & Djou leg. (BPBM); Lichuan District, Suisapa, 1000 m, 22.vii.1948, 1 ♀ (BPBM). The two latter specimens were identified and published by GRESSITT & KIMOTO (1963).

Diagnosis. See diagnosis of *G.* (*A.*) *eburoides*.

Description. Measurements in mm (n = 4): length of body: 6.20–7.30 (mean 6.73); width of body: 4.20–5.10 (mean 4.65); height of body: 2.90–3.70 (mean 3.30); width of head: 1.80–2.10 (mean 1.93); interocular distance: 1.25–1.45 (mean 1.33); width of apex of pronotum:

2.12–2.45 (mean 2.27); width of base of pronotum: 3.75–4.27 (mean 3.99); length of pronotum along midline: 1.70–1.90 (mean 1.78); length of elytra along suture: 4.50–5.50 (mean 4.98).

Body oval and strongly convex (Fig. 2). Head reddish brown, with apex of mandibles black. Antennomeres I–V yellowish-brown, VI–VII partially darkened, VIII–XI black. Pronotum brown to blackish-brown, margins black. Scutellum dark brown, basal margin black. Elytra brown to blackish-brown, with two pairs of yellowish brown spots. Venter dark brown to black, with hypomera and last abdominal ventrite partially brown. Legs reddish-brown, with basal half or more of femora darkened.

Head. Vertex weakly convex, covered with sparse punctures, becoming coarser and denser toward sides. Frontal suture V-shaped, reaching anterior margin, coronal suture rather long. Frons flat, suddenly depressed at anterior margin, covered with dense punctures. Clypeus very narrow and trapezoidal. Anterior margin of labrum with tooth-like projection. Mandibles with two sharp apical teeth and deep excavation for apical maxillary palpomere on outer side. Maxillary palps 4-segmented, with apical palpomere slightly widened, truncate apically. Antennae reaching pronotal base; antennomere I robust, longest; II as long as III; III longer than IV; VIII–XI strongly widened and flattened, VIII–X each distinctly wider than long, XI about 1.1 times as long as wide (Fig. 19).

Pronotum. Lateral sides rounded, widest at base, thence strongly narrowed anteriorly; anterior angles strongly produced (Fig. 7). Anterior and lateral margins bordered, lateral margins well visible in dorsal view. Trichobothria absent on both anterior and posterior angles. Disc covered with sparse or moderately dense punctures; lateral sides covered with much larger and denser punctures; interspaces covered with fine and sparse punctures. Scutellum distinctly wider than long, narrowed posteriorly.

Elytra. Lateral sides slightly widened posteriorly, widest beyond middle, thence roundly narrowed posteriorly. Humeral calli well developed. Disc covered with irregular, coarse and large punctures except humeri, elytral suture and lateral margins; punctures partially arranged in double rows; interspaces covered with fine and sparse punctures. Epipleura visible in lateral view except near base. Hind wings well developed.

Venter. Hypomera weakly rugose, with a few punctures near anterolateral corners of prosternum. Prosternum covered with coarse and dense punctures bearing long setae; prosternal process enlarged apically, bordered laterally, with sparse punctures. Metasternum covered with small and sparse punctures in median region, large and dense punctures in lateral region. Abdominal ventrites covered with sparse or dense punctures bearing short setae.

Legs. Moderately robust. Tibiae widened apically, with tooth-like projection. Fore legs with tarsomere I distinctly narrower than III in both sexes. Tarsal claws appendiculate.

Genitalia. Aedeagus rather thick, truncate before apex, setose apicolaterally, with apical process very thin in dorsal view; strongly curved, with apical process short in lateral view (Fig. 20). Spermatheca C-shaped, thin and apex rounded (Fig. 21).

Distribution. China: Hubei (Fig. 29).

Remarks. A lectotype and paralectotype were designated by YANG et al. (2014). However, they designated a specimen from Tonkin as the lectotype, which does not belong to the type series of *Phytodecta flavoplagiata*, thus loses its status of lectotype (ICZN 1999: Article 74.2), and refers to *G. (A.) mausonensis*. JACOBY (1890) gave ‘Chang Yang, China’ as the

type locality and used four specimens for the description; however, there are five specimens in MCZC. Probably, some of them belong to the type series. A lectotype and paralectotypes are designated for *G. (A.) flavoplagiata* to avoid further misapplication. Several larvae were dissected from the female specimen, therefore this species is ovoviviparous (Fig. 11).

***Goniocтена (Asiphytodecta) jindrai* sp. nov.**

(Figs 3, 8, 12, 22–24, 29)

Type locality. China, Sichuan Province, Baoxing, 100 km north of Yean.

Type material examined. HOLOTYPE: ♂, 'China, Sichuan, 12–14.vii.1995, Baoxing, 100 km N of Yean, Z.d. Jindra lgt. // HOLOTYPE *Goniocтена (A.) jindrai* sp. n. Cho & Borowiec 2014' (NMPC). PARATYPES: 3 ♂♂ 2 ♀♀, 'China, Sichuan, Emei-Shan, 1300–1400 m, Umg. Jingshui, 9–13.vii.1995, Heinz leg. // PARATYPUS *Goniocтена (A.) jindrai* sp. n. Cho & Borowiec 2014' (TLMF); 2 ♂♂ 1 ♀, 'China (Sichuan), montes Quingcheng Hou, 70 km spt. de Chengu, 8–14.vi.2005, leg. S. Murzin // PARATYPUS *Goniocтена (A.) jindrai* sp. n. Cho & Borowiec 2014' (AWCW).

Description. Measurements in mm ($n = 4$): length of body: 7.00–7.60 (mean 7.23); width of body: 4.70–5.10 (mean 4.84); height of body: 3.20–3.50 (mean 3.30); width of head: 1.97–2.07 (mean 2.02); interocular distance: 1.40–1.45 (mean 1.43); width of apex of pronotum: 2.30–2.40 (mean 2.36); width of base of pronotum: 4.02–4.12 (mean 4.09); length of pronotum along midline: 1.80–1.85 (mean 1.83); length of elytra along suture: 5.10–5.60 (mean 5.30).

Body oval and strongly convex (Fig. 3). Head dark reddish brown to dark brown. Mandibles reddish-brown, apex black. Maxillary palps reddish-brown, with apical palpomere dark brown. Antennomeres I–V yellowish-brown, sometimes IV–V partially darkened, VI–VII blackish-brown, VIII–XI black. Pronotum brown to blackish-brown, margins black. Scutellum dark brown, basal margin black. Elytra dark brown to blackish-brown, with two pairs of yellowish-brown spots. Venter dark brown to black, with hypomera and last abdominal ventrite partially brown. Legs reddish-brown, with at least basal half of femora dark brown.

Head. Vertex weakly convex, covered with sparse punctures, becoming coarser and denser toward sides. Frontal suture V-shaped, reaching anterior margin, coronal suture rather long. Frons flat, suddenly depressed at anterior margin, covered with dense punctures. Clypeus very narrow and trapezoidal. Anterior margin of labrum with tooth-like projection. Mandibles with two sharp apical teeth and deep excavation for apical maxillary palpomere on outer side. Maxillary palps 4-segmented, with apical palpomere slightly widened, truncate apically. Antennae reaching pronotal base; antennomere I robust, longest; II shorter than III; III longer than IV; VIII–XI strongly widened and flattened, each distinctly wider than long, XI about 1.24 times as long as wide (Fig. 22).

Pronotum. Lateral sides rounded, widest at base, thence strongly narrowed anteriorly; anterior angles strongly produced (Fig. 8). Anterior and lateral margins bordered, lateral margins well visible in dorsal view. Trichobothria absent on both anterior and posterior angles. Disc covered with sparse or moderately dense punctures; lateral sides covered with much larger and denser punctures; interspaces covered with fine and sparse punctures. Scutellum distinctly wider than long, narrowed posteriorly.

Elytra. Lateral sides slightly widened posteriorly, widest beyond middle, thence roundly narrowed posteriorly. Humeral calli well developed. Disc covered with irregular, coarse and large punctures except humeri, elytral suture and lateral margins; punctures partially arranged

in double rows; interspaces covered with fine and sparse punctures. Epipleura visible in lateral view except near base. Hind wings well developed.

Venter. Hypomera weakly rugose, with a few punctures near anterolateral corners of prosternum. Prosternum covered with coarse and dense punctures bearing long setae; prosternal process enlarged apically, bordered laterally, with sparse punctures. Metasternum covered with small and sparse punctures in median region, large and dense punctures in lateral region. Abdominal ventrites covered with sparse or dense punctures bearing short setae.

Legs. Moderately robust. Tibiae widened apically, with tooth-like projection. Fore legs with tarsomere I distinctly narrower than III in both sexes. Tarsal claws appendiculate.

Genitalia. Aedeagus rather thick, parallel-sided, strongly narrowed before apex, setose apicolaterally, with apical process short and elongate-oval in dorsal view; strongly curved, with apical process short in lateral view (Fig. 23). Spermatheca C-shaped, thin and apex rounded (Fig. 24).

Differential diagnosis. *Gonioctena* (*A.*) *jindra* sp. nov. is similar to *G.* (*A.*) *eburoides*, *G.* (*A.*) *flavoplagiata*, *G.* (*A.*) *mausonensis*, and *G.* (*A.*) *truncaticornis* sp. nov. in strongly widened and flattened last four antennomeres and two pairs of yellowish brown spots on dark elytra. However, it can be distinguished from *G.* (*A.*) *eburoides* and *G.* (*A.*) *flavoplagiata* by aedeagus with apical process short and elongate-oval (moderately narrowed to blunt apex in *G.* (*A.*) *eburoides* and very thin and parallel-sided in *G.* (*A.*) *flavoplagiata*). *Gonioctena* (*A.*) *mausonensis* differs in reddish brown venter while *G.* (*A.*) *truncaticornis* sp. nov. differs in rather truncate apex of last antennomere.

Etymology. The species is named after its collector, Zdeněk Jindra (Prague, Czech Republic).

Distribution. China: Sichuan (Fig. 29).

Remarks. Several larvae were dissected from the female specimen (Fig. 12), therefore this species is ovoviviparous.

Gonioctena (*Asiphytodecta*) *mausonensis* Cho & Borowiec, 2016

(Figs 4, 9, 25–26, 29)

Gonioctena (*Asiphytodecta*) *flavoplagiata* (partim): YANG et al. (2014): 384 (taxonomy, misidentification); YANG et al. (2015): 54 (catalogue, misidentification).

Gonioctena (*Asiphytodecta*) *mausonensis* Cho & Borowiec, 2016: 169 (original description).

Type locality. Vietnam, Lang Son Province, Loc Binh, Mt. Mau Son.

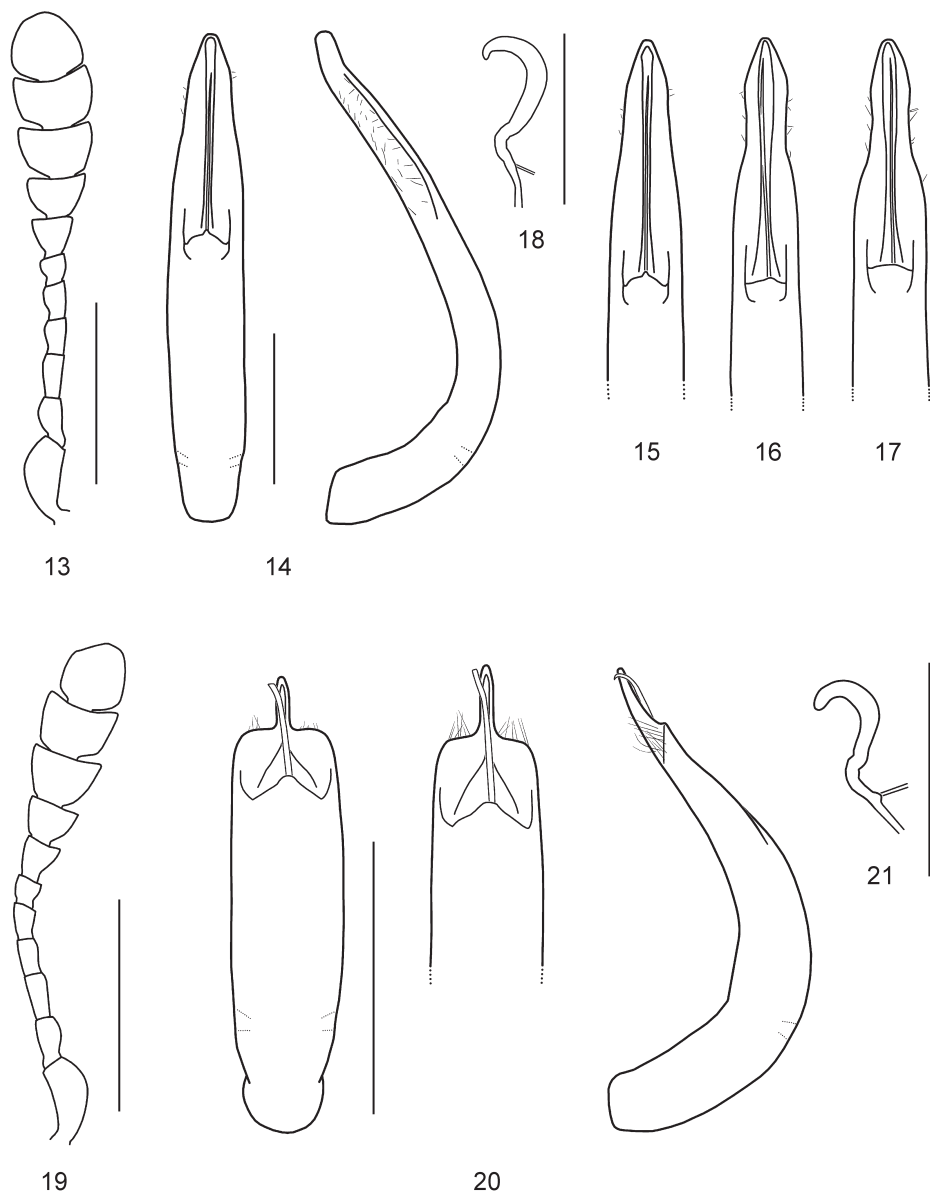
Type material examined. HOLOTYPE: ♂, ‘Tonkin, Montes Mauson, April, Mai 2-3000’, H. Fruhstorfer // 24 // Jacoby Coll. 1909-28a. // *flavoplagiata* Jac. // HOLOTYPE *Gonioctena* (*Asiphy.*) *mausonensis* sp. n. Cho & Borowiec 2014’ (BMNH). PARATYPE: 1 ♂, ‘Tonkin, Montes Mauson, April, Mai 2-3000’, H. Fruhstorfer // PARATYPE *Gonioctena* (*Asiphy.*) *mausonensis* sp. n. Cho & Borowiec 2014’ (LMCM).

Description. See CHO & BOROWIEC (2016).

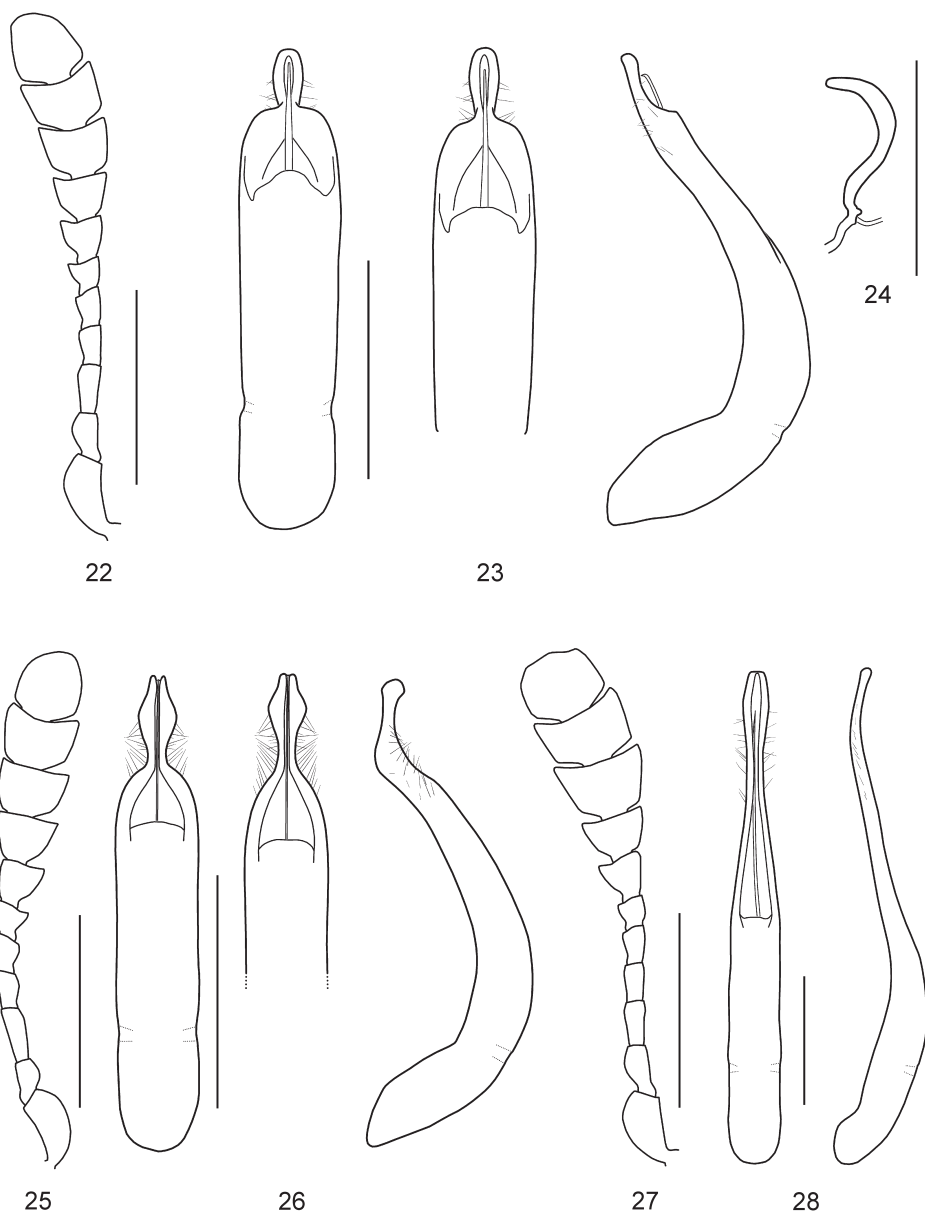
Differential diagnosis. *Gonioctena* (*A.*) *mausonensis* can be easily distinguished from *G.* (*A.*) *eburoides*, *G.* (*A.*) *flavoplagiata*, *G.* (*A.*) *jindra* sp. nov. and *G.* (*A.*) *truncaticornis* sp. nov. by its reddish-brown venter and subdiamond-shaped apical process of aedeagus (Fig. 26).

Distribution. Vietnam: Lang Son (Fig. 29).

Remarks. The male genitalia of *Gonioctena* (*A.*) *flavoplagiata* illustrated by YANG et al. (2014) without any doubts refer to *G.* (*A.*) *mausonensis*. The correct drawings of male genitalia of *G.* (*A.*) *flavoplagiata* were provided by CHO & BOROWIEC (2016).



Figs 13–21. 13–18 – *Gonioctena (A.) eburoides* (Achard, 1924): 13 – antenna; 14 – aedeagus (dorsal and lateral views); 15–17 – variation of apex of aedeagus (15–16 – Sa Pa; 17 – Tam Dao); 18 – spermatheca. 19–21 – *G. (A.) flavoplagiata* (Jacoby, 1890): 19 – antenna; 20 – aedeagus, paralectotype (dorsal view, detail of apex in dorsal view and lateral view); 21 – spermatheca. Scale bars = 1.0 mm (except Figs 18, 21 = 0.5 mm).



Figs 22–28. 22–24 – *Gonioctena (A.) jindrai* sp. nov.: 22 – antenna; 23 – aedeagus, holotype (dorsal view, detail of apex in dorsal view and lateral view); 24 – spermatheca. 25–26 – *G. (A.) mausonensis* Cho & Borowiec, 2016 (after CHO & BOROWIEC 2016): 25 – antenna; 26 – aedeagus, holotype (dorsal view, detail of apex in dorsal view and lateral view). 27–28 – *G. (A.) truncaticornis* sp. nov.: 27 – antenna; 28 – aedeagus, holotype (dorsal and lateral views). Scale bars = 1.0 mm (except Fig 24 = 0.5 mm).

***Gonioctena (Asiphytodecta) truncaticornis* sp. nov.**

(Figs 5, 10, 27–29)

Gonioctena (Asiphytodecta) flavoplagiata: SPRECHER-UEBERSAX & DACCORDI (2016): 476 (misidentification).**Type locality.** Laos, Xiengkhouang Province, Nong Haet, 19°30'N 104°03'E.**Type material examined.** HOLOTYPE: ♂, 'Laos-N, Xieng Khuang prov., Nong Haet, 19°30'N 104°03'E, J Bezděk leg., 29–31.v.2001 // HOLOTYPE *Gonioctena (A.) truncaticornis* sp. n., Cho & Borowiec 2014' (NMPC).**Description.** Measurements in mm ($n = 1$): length of body: 6.80; width of body: 4.50; height of body: 3.10; width of head: 1.90; interocular distance: 1.32; width of apex of pronotum: 2.20; width of base of pronotum: 3.92; maximum width of pronotum: 3.92; length of pronotum along midline: 1.80; length of elytra along suture: 5.05.

Body oval and strongly convex (Fig. 5). Head largely blackish-brown. Mandibles dark reddish-brown, apex black. Maxillary palps blackish-brown. Antennomeres I–VI yellowish-brown to dark brown, VII blackish-brown, VIII–XI black. Pronotum dark brown to blackish-brown, margins black. Scutellum dark brown, basal margin black. Elytra dark brown to blackish-brown, with two pairs of yellowish-brown spots. Venter blackish-brown to black, with hypomera and last abdominal ventrite dark brown. Legs dark brown, with femora largely blackish-brown.

Head. Vertex weakly convex, covered with sparse punctures, becoming coarser and denser toward sides. Frontal suture V-shaped, reaching anterior margin, coronal suture rather long. Frons flat, suddenly depressed at anterior margin, covered with dense punctures. Clypeus very narrow and trapezoidal. Anterior margin of labrum with tooth-like projection. Mandibles with two sharp apical teeth and deep excavation for apical maxillary palpomere on outer side. Maxillary palps 4-segmented, with apical palpomere slightly widened, truncate apically. Antennae reaching pronotal base; antennomere I robust, longest; II as long as III; III longer than IV; antennomeres VIII–XI strongly widened and flattened, VIII–X each distinctly wider than long, XI rather truncate apically, about 0.84 times as long as wide (Fig. 27).

Pronotum. Lateral sides rounded, widest at base, thence strongly narrowed anteriorly; anterior angles strongly produced (Fig. 10). Anterior and lateral margins bordered, lateral margins barely visible in dorsal view. Trichobothria absent on both anterior and posterior angles. Disc covered with sparse or moderately dense punctures; lateral sides covered with much larger and denser punctures; interspaces covered with fine and sparse punctures. Scutellum distinctly wider than long, narrowed posteriorly.

Elytra. Lateral sides slightly widened posteriorly, widest beyond middle, thence roundly narrowed posteriorly. Humeral calli well developed. Disc covered with irregular, coarse and large punctures except humeri, elytral suture and lateral margins; punctures partially arranged in double rows; interspaces covered with fine and sparse punctures. Epipleura visible in lateral view except near base. Hind wings well developed.

Venter. Hypomera weakly rugose, with several punctures near anterolateral corners of prosternum. Prosternum covered with coarse and dense punctures bearing long setae; prosternal process enlarged apically, bordered laterally, with sparse punctures. Metasternum covered with small and sparse punctures in median region, large and dense punctures in lateral region. Abdominal ventrites covered with sparse or dense punctures bearing short setae.

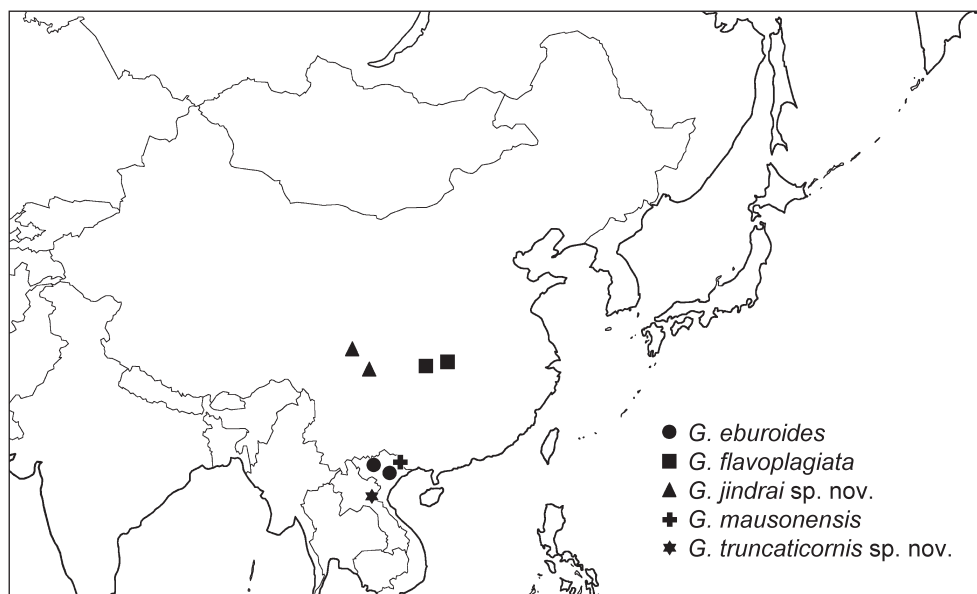


Fig. 29. Distribution of *Gonioctena* (*A.*) *flavoplagiata* species-group.

Legs. Moderately robust. Tibiae widened apically, with tooth-like projection. Fore legs with tarsomere I slightly narrower than III. Tarsal claws appendiculate.

Genitalia. Aedeagus very long and thin, moderately narrowed from middle to apical 1/5, setose apicolaterally, with apical process long, weakly widened before apex in dorsal view; moderately sinuate in lateral view (Fig. 28).

Differential diagnosis. *Gonioctena* (*A.*) *truncaticornis* sp. nov. is similar to *G.* (*A.*) *eburoides*, *G.* (*A.*) *flavoplagiata*, *G.* (*A.*) *jindrai* sp. nov., and *G.* (*A.*) *mausonensis* in strongly widened and flattened last four antennomeres and two pairs of yellowish brown spots on dark elytra. However, the new species can be easily distinguished by truncate apex of last antennomere and very long and thin aedeagus.

Etymology. The species is named after the truncate apex of its apical antennomere.

Distribution. Laos: Xiengkhouang (Fig. 29).

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