



## Revision of the *Agrilus muscarius* species-group (Coleoptera: Buprestidae) with description of thirteen new species from Palaearctic and Oriental regions

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## Abstract

The *Agrilus muscarius* species-group (Coleoptera, Buprestidae, Agrilinae) is defined to include twenty-nine species, thirteen of which are described herein: *A. apicaureus* Jendek, **sp. nov.** (north Laos); *A. carinelytratus* Jendek, **sp. nov.** (mainland Malaysia); *A. cuneatus* Jendek, **sp. nov.** (Thailand); *A. dilatipenis* Jendek, **sp. nov.** (Thailand); *A. haucki* Jendek, **sp. nov.** (Malaysia: Pahang); *A. hunanus* Jendek, **sp. nov.** (China: Hunan); *A. madanensis* Jendek, **sp. nov.** (south Vietnam); *A. pseudoharlequin* Jendek, **sp. nov.** (Indonesia: Java); *A. rolciki* Jendek, **sp. nov.** (India: Assam); *A. semicaducus* Jendek, **sp. nov.** (north Laos); *A. spiculipenis* Jendek, **sp. nov.** (Thailand, Vietnam); *A. tiomanensis* Jendek, **sp. nov.** (Malaysia: Tioman island); *A. ventrituber* Jendek, **sp. nov.** (Myanmar, north Thailand). *Agrilus aurarius* (Kerremans, 1892) **comb. nov.** is transferred from the genus *Meliboeus*. Two new synonyms are proposed for *A. aurarius* (Kerremans, 1892) **comb. nov.** (= *A. bocae* Descarpentries & Villiers, 1963 **syn. nov.**) and *A. muscarius* Kerremans, 1895 (= *A. seladon* Obenberger, 1940 **syn. nov.**). A lectotype is designated for *A. muscarius* Kerremans, 1895. Members of the group are illustrated and an identification key is provided.

**Key words:** Taxonomy, new species, Coleoptera, Buprestidae, *Agrilus*, Palaearctic and Oriental regions

## Introduction

Species from the *Agrilus muscarius* species-group are strikingly, often bichromatically or trichromatically, pubescent in the form of intricate mosaic patterns. Each pubescence color is usually combined with a different colored elytral background, making it visually more contrasting. This character of elytral pubescence and color is similar to that of species related to *A. angulatus* (Fabricius, 1798) and *A. occipitalis* (Eschscholtz, 1822), from which members of the *A. muscarius* species-group can be distinguished by the smaller head and eyes, the different shape and sculpture of the pronotum and by the diverse elytral patterns. Members of the *A. muscarius* species-group are distributed in the Palaearctic and Oriental parts of south and east Asia (Fig. 77).

This study is the first comprehensive revision of this group as a whole. It provides descriptions of thirteen new taxa, two new synonyms, one new generic combination, one lectotype designation, diagnosis of the group and a key to the species, illustrations, taxonomic history and synoptic catalog for all included species.

## Material and methods

The following abbreviations are used in the text: [p], preceding data 'printed'; [h], preceding data 'handwritten'. Square brackets [ ] are used for remarks and addenda; the backslash \ separates data from different labels. Codens for museums and collections are:

DEI	Deutsches Entomologisches Institut, Eberswalde Finow, Germany;
EJCB	Collection of E. Jendek, Slovak Academy of Sciences, Bratislava, Slovakia;
ISNB	Institut royal des Sciences naturelles de Belgique, Brussels, Belgium;
MHNB	Muséum d'histoire naturelle, Béziers, France;
MNHN	Muséum national d'Histoire naturelle, Paris, France;
NMPC	Národní muzeum, Prague, Czech Republic;
NSMT	National Science Museum (Natural History), Tokyo, Japan;
USNM	National Museum of Natural History, Washington, D.C., U.S.A.;
ZIN	Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia.

All taxonomic acts proposed herein should be attributed to the first author. All primary types belonging to *A. muscarius* species-group were studied, except for *A. palii* Baudon, 1968 (MHNB) which was unavailable.

Synonyms are cited in the following format: *specific name*, author, year: pages. The valid name is cited first, then chronologically by invalid names that are preceded by an equal sign (=). Taxonomic and/or

nomenclatural information, where necessary, is cited in square brackets at the end. Generic combinations are cited only if other than of *Agrilus*. Subsequent references for each particular name are provided on a new line.

The type locality is quoted exactly as originally published, although the order of type locality data is sometimes altered from the original sequence.

Data on material examined are ordered alphabetically with the following format COUNTRY: Lower administration unit: number of specimens, sex (collection): “verbatim data from locality label”. The summarized distribution data follows the format: Country (Lower administration unit). Distributional data taken from the published sources are cited with the corresponding reference.

## Diagnosis

Members of the *Agrilus muscarius* species-group are small to medium sized (3.5–7.2 mm), with fusiform (Figs. 8–33) or cuneate body (Figs. 1–7) covered with ornamental pubescence dorsally. Head and eyes small, distinctly narrower than basal part of pronotum (Figs. 8–33), rarely large (Figs. 1–7). Pronotum widest in basal half, with sides subrectilinearly (Fig. 28) or arcuately (e.g. Figs. 19–24) convergent apicad, rarely with subparallel sides (Fig. 1). Pronotal disk markedly convex, with prebasal impression; lateral impressions absent; marginal and submarginal pronotal carinae strikingly convergent and conjoined in basal third, distant from hind pronotal angles. Prehumerus costate or carinate, rectilinear or arcuate laterally, extending to basal third or basal half of pronotal length, apex distant from marginal carina.

Elytra bichromatic (e.g. Figs. 18–20), rarely monochromatic (Fig. 1) or trichromatic (Figs. 25–27) combined with monochromatic (Figs. 7, 24, 33), bichromatic (Figs. 8–16) or trichromatic (Figs. 25, 27) pubescence. Elytra in apical adsutural  $\frac{3}{4}$  with striking, contrasting, subtriangular or V-shaped pubescent pattern surrounded by glabrous (Figs. 1–15, 17–33), or diversely colored (Fig. 16) areas. Humeri sometimes with short, or long humeral carinae. Elytral apices separately (Fig. 5, 30) or conjointly (Fig. 25–29) arcuate. Prosternal lobe large with apical margin entire (Figs. 40, 51, 53), emarginated (Figs. 49, 55) or incised (Figs. 35–37). Prosternal process tricuspidate with sides subparallel (Figs. 42), rectilinearly (Figs. 39) or sinuately (Figs. 35, 51, 52) divergent. Basal abdominal ventrite in male sometimes with tubercles. Apex of last abdominal ventrite with an emargination, which is sometimes very obsolete and scarcely visible.

There are two trends in body part development within the *Agrilus muscarius* species-group. The first consists of species with a wider head, larger eyes, pronotum less convergent apicad with a deeply bisinuate anterior margin, slender body and with long, narrow elytral apices (*A. nalandae* Théry, 1904; *A. aurosus* Descarpentries & Villiers, 1963; *A. rolciki* Jendek, **sp. nov.**; *A. cuneatus* Jendek, **sp. nov.**; Figs. 1–5). The second group (all remaining species, Figs. 6–33) is distinctive by the smaller eyes and head, pronotum strikingly convergent apicad with a less bisinuate or subtruncate anterior margin, a more robust body and by the shorter and wider elytral apices.

## Key to species

- 1 Body slender with elytral apices narrow (Figs. 1–5); anterior pronotal margin deeply bisinuate; margin of prosternal lobe incised or angulately emarginate medially (Figs. 34–37) ..... 2
- Body robust with elytral apices wider (Figs. 6–33); anterior pronotal margin moderately bisinuate to subtruncate; margin of prosternal lobe subtruncate, emarginate or incised medially (Figs. 38–57) ..... 5
- 2 Elytral apices without distinct pubescence (Figs. 1–3) ..... 3
- Elytral apices with whitish or golden pubescence (Figs. 4–5) ..... 4
- 3 Body smaller (4.9 mm); prehumerus filamentose apically, not reaching to half of pronotal length (lateral view); post-scutellar adsutural elytral pubescence narrowly subtriangular; elytra monochromatic black; male unknown; Sri Lanka (Figs. 1, 34) ..... *A. nalandae* Théry, 1904
- Body larger (5.0–7.2 mm); prehumerus costate, reaching to half of pronotal length (lateral view); postscutellar adsutural elytral pubescence in shape of letter Lamda ( $\Lambda$ ); elytra bichromatic with apex golden or carmine, rarely black;

	male with two tubercles on basal abdominal ventrite; India (Assam), Laos, Vietnam (Figs. 2–3, 35, 58) .....	
	..... <i>A. aurosus</i> Descarpentries & Villiers, 1963	
4	Body smaller (4.9 mm); pronotal sides subparallel, convergent just before apex; prosternal process feebly impressed with angles in one plane; apex of last abdominal ventrite without emargination; Thailand (Figs. 5, 37, 60) .....	
	..... <i>A. cuneatus</i> Jendek, <b>sp. nov.</b>	
-	Body larger (5.9–6.3 mm); pronotal sides convergent from base; prosternal process impressed with angles protruding ventrad; apex of last abdominal ventrite feebly arcuately emarginate; India (Assam) (Figs. 4, 36, 59) .....	
	..... <i>A. rolciki</i> Jendek, <b>sp. nov.</b>	
5	Pronotal sides slightly convergent apicad (Figs. 6–7); anterior pronotal margin somewhat narrower than posterior one; head and eyes large; prehumeral shorter, not extending to half of pronotal length (lateral view) .....	6
-	Pronotal sides markedly convergent apicad (Figs. 8–33); anterior pronotal margin strikingly narrower than posterior one; head and eyes small; prehumeral longer, extending to half of pronotal length (lateral view) .....	7
6	Posterior pronotal angles rectangular; apex of last abdominal ventrite distinctly emarginate; male without tubercles on basal abdominal ventrite; aedeagus styliiform (Fig. 62); size 3.9–4.6 mm; Thailand, Vietnam (Figs. 7, 39, 62) .....	
	..... <i>A. spiculipenis</i> Jendek, <b>sp. nov.</b>	
-	Posterior pronotal angles obtuse; apex of last abdominal ventrite obsoletely emarginate; male with two tubercles on basal abdominal ventrite; aedeagus stout (Fig. 61); size 3.9–4.4 mm; north Thailand, Myanmar (Mandalay) (Figs. 6, 38, 61) .....	
	..... <i>A. ventrituber</i> Jendek, <b>sp. nov.</b>	
7	Apex of last abdominal ventrite deeply, arcuately emarginate .....	8
-	Apex of last abdominal ventrite entire, or shallowly arcuately emarginate .....	9
8	Elytral apices conjointly arcuate; elytral humeri without carinae; size 4.0 mm; Sumatra (Figs. 14, 45) .....	
	..... <i>A. coraeoides</i> Kerremans, 1900	
-	Elytral apices broadly separately arcuate; elytral humeri with short carinae; size 4.0 mm; Borneo (Fig. 15) .....	
	..... <i>A. samboides</i> Fisher, 1930	
9	Apical margin of prosternal lobe subtruncate or weakly inflected (Figs. 40, 43, 51–53, 55) .....	10
-	Apical margin of prosternal lobe distinctly emarginate or incised (Figs. 42, 44, 46–50, 54, 56–57) .....	17
10	Elytral pubescence distinctly trichromatic (golden, white, carmine or reddish) (Figs. 25, 27) .....	11
-	Elytral pubescence monochromatic, bichromatic or vaguely trichromatic .....	12
11	Prehumeral rising from posterior pronotal angles, bisinuate; eyes larger and more convex; elytral humeri without carinae; body more robust; size 4.5 mm; Malaysia (Borneo: Sabah) (Figs. 25, 70) ... <i>A. harlequin</i> Obenberger, 1924	
-	Prehumeral rising mediad of posterior pronotal angles, closer to medial part of pronotum, almost straight except for apical parts; eyes smaller and less convex; elytral humeri with carinae; body more elongate; size 5.2–5.3 mm; north Thailand (Figs. 27, 52) .....	
	..... <i>A. siamensis</i> Tôyama, 1987	
12	Elytra with humeral carinae .....	13
-	Elytra without humeral carinae .....	15
13	Elytra with long humeral carinae extending beyond distal part of epipleuron (lateral view); size 3.9–4.0 mm; mainland Malaysia (Melaka, Pahang) (Figs. 31, 55, 74) .....	
	..... <i>A. carinelytratus</i> Jendek, <b>sp. nov.</b>	
-	Elytra with very short humeral carinae not extending to distal part of epipleuron (lateral view) .....	14
14	Prosternal process with sides slightly expanded or subparallel (Fig. 53); size 4.1–4.9 mm; Malaysia (island Tioman) (Figs. 28–29, 53, 72) .....	
	..... <i>A. tiomanensis</i> Jendek, <b>sp. nov.</b>	
-	Prosternal process with sides markedly expanded (Fig. 51); size 5.0 mm; Indonesia (Java) (Figs. 26, 51, 71) .....	
	..... <i>A. pseudoharlequin</i> Jendek, <b>sp. nov.</b>	
15	Apex of last abdominal ventrite entire; prosternal process with sides obviously expanded (Fig. 43); size 4.0 mm; mainland Malaysia (Pahang) .....	
	..... <i>A. haucki</i> Jendek, <b>sp. nov.</b> (Figs. 11, 43, 64)	
-	Apex of last abdominal ventrite feebly arcuately emarginate; prosternal process with sides subparallel or weakly expanded .....	16
16	Prosternal lobe larger (Fig. 40), trapezoid, with subangulate angles and subtruncate margin; body larger, 4.5–5.3 mm; Myanmar, north Vietnam (Figs. 8, 40) .....	
	..... <i>A. aurarius</i> (Kerremans, 1892)	
-	Prosternal lobe narrower (Fig. 41), with arcuate angles and inflected margin; body smaller, 3.9–4.7 mm; Japan (Figs. 9, 41, 63) .....	
	..... <i>A. mallotiellus</i> Kurosawa, 1985	
17	Sides of pronotum slightly, arcuately emarginate above acute posterior corners; elytral apices prominent, widely, separately, subangulately arcuate; aedeagus obviously expanded apically (Fig. 73) size 4.8–5.6 mm; north Thailand (Figs. 30, 54, 73) .....	
	..... <i>A. dilatipenis</i> Jendek, <b>sp. nov.</b>	
-	Sides of pronotum without emargination, posterior corners rectangular or obtuse; elytral apices not widely separately arcuate; aedeagus not obviously expanded apically .....	18
18	Elytral pubescence monochromatic (whitish or yellowish) (Figs. 24, 33) .....	19
-	Elytral pubescence bichromatic .....	20
19	Body larger, elongate; pronotal sides markedly arcuate; elytral pubescence inconspicuous; size 4.5–5.0 mm; north Vietnam (Figs. 33, 57, 76) .....	
	..... <i>A. mirei</i> Descarpentries & Villiers, 1963	

- Body smaller, stout; pronotal sides less arcuate; elytral pubescence conspicuous; size 3.9–4.0 mm; south India (Karnataka), Sri Lanka (Figs. 24, 50) ..... *A. ventripotens* Kerremans, 1900
- 20 Elytra with very short humeral carinae; size 4.9 mm; north Laos (Figs. 18, 47, 67) . *A. apicaureus* Jendek, **sp. nov.**
- Elytra without humeral carinae..... 21
- 21 Apical margin of prosternal lobe incised, or angulately emarginate (Figs. 42, 44, 46, 56)..... 22
- Apical margin of prosternal lobe distinctly, arcuately emarginate (Figs. 48, 49) ..... 25
- 22 Elytra evenly pubescent; size 5.6 mm; south Vietnam (Figs. 10, 42)..... *A. madanensis* Jendek, **sp. nov.**
- Elytra unevenly pubescent (Figs. 12, 13, 16, 17, 19–21, 22–23, 32) ..... 23
- 23 Elytra, except for apices, bichromatic (combination of blackish with green or golden); body more prolonged; size 4.1–5.0 mm; China: Shaanxi, Japan, Russia: Primorye (Figs. 32, 56, 75) ..... *A. kurumi* Kurosawa, 1957
- Elytra, except of apices, monochromatic black; body stout ... 24
- 24 Apex of elytra with dense golden pubescence; prosternal process subparallel sided; size 5.0–5.2 mm; north Vietnam, China: Fujian (Figs. 12, 44) ..... *A. liscapia* Jendek, 2003
- Apex of elytra without distinct pubescence, except for adsutural part; prosternal process slightly expanded laterally; size 4.1 mm; China (Hunnan) (Figs. 17, 46, 66)..... *A. hunanus* Jendek, **sp. nov.**
- 25 Entire apical half of elytra with even, dense golden pubescence; size 7.0 mm; mainland Malaysia (Fig. 16) ..... *A. gunjii* Tôyama, 1987
- Apical half of elytra with mosaic pubescence ..... 26
- 26 Prosternal process slightly expanded laterally, disk deeply impressed; size 4.0–4.6 mm; Taiwan (Figs. 13, 65)..... *A. acastus* Kerremans, 1913
- Prosternal process distinctly expanded laterally, disk flat or feebly impressed ..... 27
- 27 Body robust; sides of pronotum subparallel or feebly arcuate except for anterior, markedly arcuate part; adhumeral elytral portion with sparse, white pubescence; size 3.5–4.9 mm; eastern and south Asia (Figs. 19–21, 48, 68) ..... *A. muscarius* Kerremans, 1895
- Body slender; sides of pronotum strikingly convergent except for basal third; adhumeral elytral portion with sparse golden pubescence; size 4.0–4.9 mm; north Laos (Figs. 22–23, 49, 69)..... *A. semicaducus* Jendek, **sp. nov.**

## Taxonomy of the *Agrilus muscarius* species-group

### *Agrilus nalandae* Théry

(Figs. 1, 34)

*nalandae* Théry, 1904: 162–163. Obenberger, 1936: 1093.

**Diagnosis.** This species resembles species related to *A. livens* Kerremans, 1892 by the color and elytral patterns, but it differs from them by the large eyes, presence of prehumeral, the markedly attenuate elytral apices and by the robust prosternal lobe and prosternal process. *Agrilus nalandae* is similar to *A. aurosus* by the body shape, elytral pubescence, and incised prosternal lobe, although it differs from it by the characters given in the key.

**Length.** 4.9 mm.

**Type series.** *Agrilus nalandae* Théry, 1904. Holotype by monotypy ♀, MNHN: “Nalanda Ceylan Horn [h] \ Type [p][red ink] \ Agrilus Nalanda [h] Type [p][red ink] Thery [h] \ Muséum Paris Coll. Générale [p] [yellow label]”. Described from a single specimen. **Type locality.** Ceylan, Nalanda.

**Specimens examined.** Known only from the holotype.

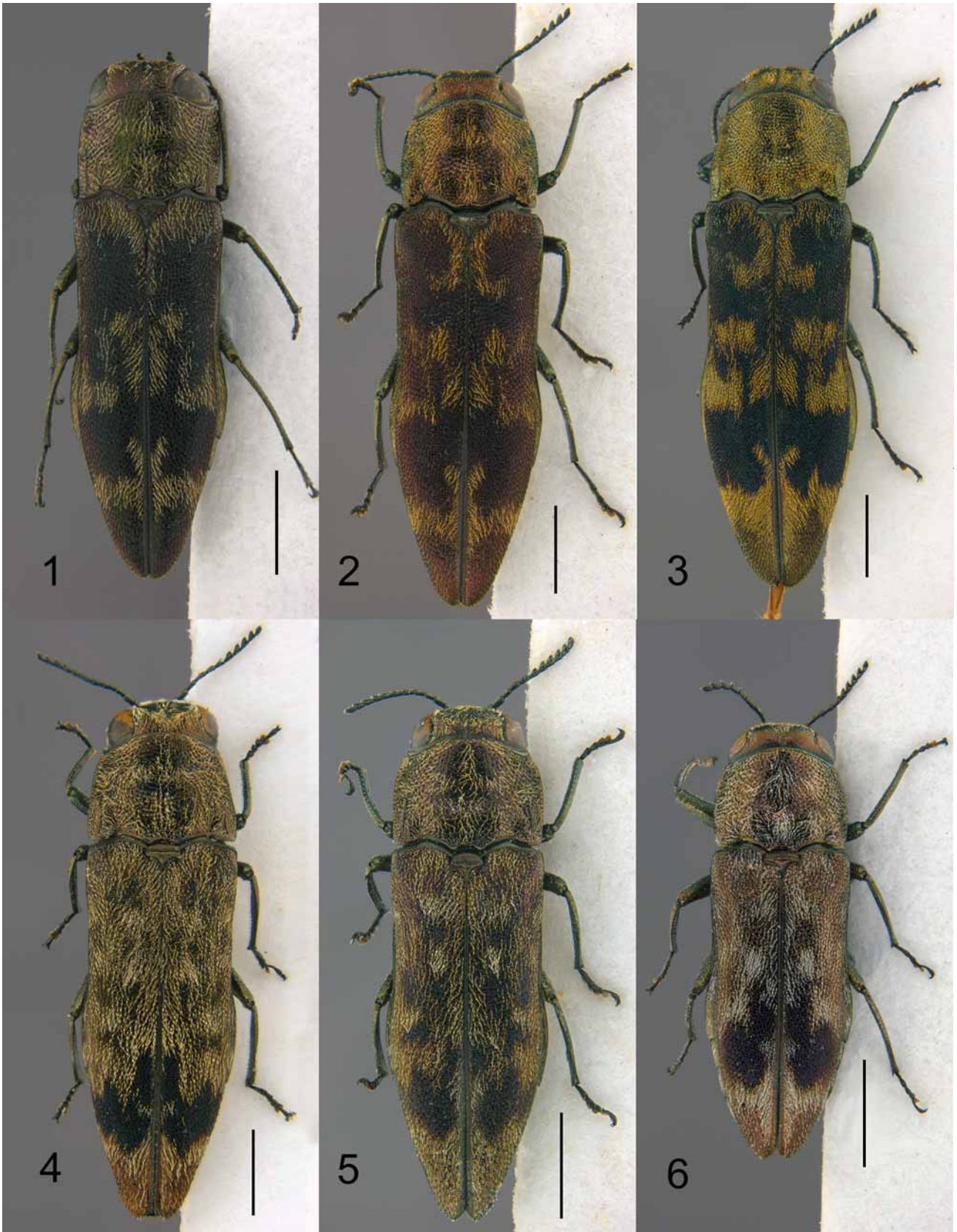
**Distribution.** Sri Lanka.

**Remarks.** Male unknown.

### *Agrilus aurosus* Descarpentries & Villiers

Figs. 2–3, 35, 58

*aurosus* Descarpentries & Villiers, 1963: 105, 110.



**FIGURES 1–6.** Habitus of 1) *A. nalandae*, Holotype; 2) *A. aurosus*–south Vietnam; 3) *A. aurosus*–Laos; 4) *A. rolciki* Jendek **sp. nov.**, Holotype; 5) *A. cuneatus* Jendek **sp. nov.**, Holotype; 6) *A. ventrituber* Jendek **sp. nov.**, Holotype. Scale bar = 1 mm.

**Diagnosis.** This species belongs to the group of species having a slender body, larger head and narrow elytral apices (*A. nalandae*, *A. rolciki*, *A. cuneatus*). It is similar to *A. nalandae* by the elytral patterns and to *A. ventrituber* by having tubercles on the basal abdominal ventrite in males.

**Length.** 5.0–7.2 mm.

**Variability.** Elytra bichromatic, with black (Fig. 2) or bronze (Fig. 3) background blended with golden-green or golden-violet patterns. Elytral pubescence monochromatic gold, or a bichromatic combination of gold and white. The basal part of body with the pubescence often caducous.

**Type series.** *Agrilus aurosus* Descarpentries & Villiers, 1963. Holotype: ♂, MNHN: “Muséum Paris Tonkin Région De Hoa Binh A. De Cooman 1927 [p] \ Agrilus aurosus n. sp. Holotype ♂ nob. A. Descarpentries et [h] A. Villiers det. 19 [p] 62 [h] \ Muséum Paris Coll. générale [p] [yellow label]”. Paratypes: 8 exs MNHN, 1 ex ISNB, 1 ex MHNG, 1 ex NMPC. The exact number of paratypes was not specified. **Type locality.** Tonkin: Hoa Binh.

**Specimens examined.** **INDIA: Assam:** 1 ♂ 1 ♀ (EJCB): “NE INDIA, ASSAM, 1999, 5 km N of UMRONGSO 700m, 25°27'N, 92°43'E, 17.–25.v., Dembický & Pacholátko leg.”. **LAOS: Borikhamxai:** 1 ♂ 1 ♀ (EJCB): “LAOS centr., Bolikhamsai prov., BAN NAPE - Kaew Nua Pass, 18.4.–1.5.1998, alt. 600±100 m, N 18°22.3, E 105°09.1 (GPS), E. Jendek & O. Šauša leg.”; 1 ♂ (EJCB): “LAOS C., Bolikhamsai pr., BAN NAPE env., 7–16.V.2004, alt., 400±100 m, 18°20'N, 105°08'E, E. Jendek & O. Šauša leg.”. **VIETNAM:** 1 ♀ (EJCB): “S Vietnam Gia Lai-Kon Tum, 60 km N Ankhé, 900 m, Con Hanung 19–27.vi., Kannack”; 1 ex (EJCB): “S VIETNAM, Gia Lai-Kon Tum pr., 40 km N Ankhé, 800 m, Buon Luoi, 15. VI. 1983”; 35 exs (EJCB): “S VIETNAM, 14.10N - 108.30E, 40 km NW Ankhe, Buon Luoi, 620–750m, 28.3.–12.4.1995, Pacholátko & Dembický leg.”; **Dong Nai:** 1 ♂ (EJCB): “S Vietnam, Ma Da, 24.VI.1991”; **Hoa Binh:** 1 ♂ 2 ♀ (EJCB): “Tonkin, Région de Hoa Binh”.

**Distribution.** Northeast India (Assam), Laos, Vietnam.

#### *Agrilus rolciki* Jendek, sp. nov.

Figs. 4, 36, 59

**Diagnosis.** This species is similar to *A. cuneatus* by the dense, long pubescence, but it differs by the larger size (5.9–6.3 mm) and by the sides of pronotum convergent from base to apex.

**Description** (Holotype): Body form, color and pubescence as in Fig. 4. Head and eyes distinctly convex; eyes protruding from head outline. Sides of pronotum rectilinear, distinctly convergent from base to apex; apical margin clearly narrower than basal margin; anterior pronotal lobe prominent, distinctly projecting beyond anterior pronotal angles; disk markedly convex with wide basal impression and very narrow lateral impressions; prehumeral long, extending almost to half of pronotal length, sharply costate, feebly arcuate sideward, with apex distant from marginal carina (lateral view).

Elytra without humeral carinae, slender, markedly attenuate apically; apices narrowly, separately arcuate; elytra slightly trichromatic with golden-green, black and carmine (on apices) patterns combined with trichromatic golden, whitish and reddish (on apices) pubescence.

Prosternum (Fig. 36): Prosternal lobe large, incised medially; prosternal process tricuspidate, with sides expanded, deeply impressed on disk with sharp, protruding ventrad angles. Basal abdominal ventrite without tubercles. Apex of last abdominal ventrite with weak emargination.

Aedeagus (Fig. 59).

**Length.** 5.9–6.3 mm, Holotype 6.0 mm.

**Sexual dimorphism.** Without apparent sexual differences.

**Variability.** Paratypes have less obvious carmine color and reddish pubescence on elytral apices.

**Type series.** Holotype ♂ (EJCB): “NE India, Assam, 1999, 5 km N of Umrongsso 700m, 25°27'N, 92°43'E, 17.–25.v., J. Rolčík leg.”. Paratypes (2 exs): 1 ♀ (EJCB): “NE India, Assam, 1999, 5 km N of Umrongsso 700m, 25°27'N, 92°43'E, 17.–25.v. Dembický & Pacholátko leg.”; 1 ex (EJCB): “NE India,

Assam, 1999, 5 km N of Umrongso 700m, 25°27'N, 92°43'E, 17.–25.v., Zd. Košťál lgt.”. **Type locality.** Northeastern India, Assam, 5 km N of Umrongso 700 m, 25°27'N, 92°43'E.

**Distribution.** India (Assam).

**Etymology.** Patronymic, dedicated to Jakub Rolčík, the collector of this species.

***Agrilus cuneatus* Jendek, sp. nov.**

Figs. 5, 37, 60

**Diagnosis.** This species is similar to the species with narrow elytral apices (*A. nalandae*, *A. aurosus* and *A. rolciki*). It may be distinguished by its smaller size (4.9 mm) and by the apex of last abdominal ventrite not emarginate.

**Description** (Holotype): Body form, color and pubescence as in Fig. 5. Head and eyes distinctly convex; eyes not protruding from head outline. Pronotum with subparallel sides, distinctly narrowed just before apical margin; apical margin narrower than basal margin; anterior pronotal lobe prominent, distinctly projecting beyond anterior pronotal angles; pronotal disk markedly convex, distinctly impressed at base; prehumeral long, extending almost to half of pronotal length, sharply costate, straight with apex arcuate downward and markedly distant from marginal carina (lateral view).

Elytra without humeral carinae, short, markedly attenuate apically, bichromatic with bronze and violet patterns combined with golden and whitish pubescence; apices narrowly separately arcuate. Prosternum (Fig. 37): Prosternal lobe large with apical margin distinctly arcuate and incised medially; prosternal process tricuspidate, with sides expanded and with sharp uniplanar angles and weakly impressed disk. Basal abdominal ventrite without tubercles. Apex of last abdominal ventrite without emargination.

Aedeagus (Fig. 60).

**Length.** Holotype 4.9 mm.

**Sexual dimorphism.** Female unknown.

**Variability.** Unknown.

**Type series.** Holotype ♂ (EJCB): “THAI, 18–24.IV.1991, Lansang n. p. 500 m, 16°48'N, 98°57'E, Vít Kubáň leg.”. **Type locality.** Thailand, Lansang n. p. 500 m, 16°48'N, 98°57'E.

**Distribution.** Thailand.

**Etymology.** *Cuneatus* (= wedge-shaped, Latin). The name refers to the strikingly cuneate shape of the body.

***Agrilus ventrituber* Jendek, sp. nov.**

Figs. 6, 38, 61

**Diagnosis.** This species is similar to *A. spiculipennis*, from which it may be distinguished by the characters given in the key. Males of *A. ventrituber* possess tubercles on the basal abdominal ventrite, which are absent in *A. spiculipennis*. Females may be distinguished by the shape of emargination of the apex of the last abdominal ventrite, which is shallow and scarcely visible in *A. ventrituber*, but deeper and clearly visible in *A. spiculipennis*.

**Description** (Holotype): Body form, color and pubescence as in Fig. 6. Head large, distinctly convex; eyes feebly protruding from head outline. Sides of pronotum moderately arcuate, apical pronotal margin slightly narrower than basal margin; anterior pronotal lobe wide, projecting beyond anterior pronotal angles, posterior angles slightly obtuse; pronotal disk markedly convex, feebly impressed at base, without lateral impressions; prehumeral short, extending to basal third of pronotal length, feebly costate, moderately arcuate, with apex distinctly distant from marginal carina (lateral view).

Elytra without humeral carinae, moderately attenuate apically, bichromatic bronze and black-violet patterns combined with monochromatic whitish pubescence; apices narrowly separately angulately-arcuate.



Prosternum (Fig. 38): Prosternal lobe large, with apical margin deeply incised medially; prosternal process sharply tricuspidate, sides expanded in straight line, disk feebly impressed. Basal abdominal ventrite with obvious, median tubercles in proximal third. Apex of last abdominal ventrite faintly emarginate.

Aedeagus (Fig. 61).

**Length.** 3.9–4.4 mm, Holotype 4.1 mm.

**Sexual dimorphism.** Female without tubercles on basal abdominal ventrite, and with very obsolete emargination at apex of last abdominal ventrite.

**Variability.** Pronotal sides in some paratypes are less arcuate or almost subparallel in basal two thirds. Elytral pubescence is sometimes slightly bichromatic, combining golden and white hairs.

**Type series.** Holotype ♂ (EJCB): “THAI, 18–24.IV.1991, Lansang n. p. 500 m, 16°48'N, 98°57'E, Vít Kubáň leg.” Paratypes (4 exs): 2 ♀ (EJCB) with the same locality label; 1 ♂ (EJCB): “Thailand 7–8.V.1992, Huai Sua Tao [near Mae Hong Son], Dembický leg.”; 1 ♂ (EJCB): “Burma, 22–24.vi.1997, N Mandalay division, PWE Kauk falls env. (8 km NE Pyin Oo Lwin), J. Kaláb leg.”. **Type locality.** Thailand, Lansang national park, 500 m, 16°48'N, 98°57'E.

**Distribution.** North Thailand, Myanmar (Mandalay).

**Etymology.** Derived from the Latin words *ventral* (situated on the lower, abdominal plane of the body) and *tuber* (a rounded swelling or protuberance; a tuberosity; a tubercle), which refers to the presence of the two tubercles on the basal abdominal ventrite in the male.

### ***Agrilus spiculipenis* Jendek, sp. nov.**

Figs. 7, 39, 62

**Diagnosis.** This species differs from the very similar *A. ventrituber* mainly by the male sexual characters: by the absence of tubercles on basal abdominal ventrite and by the shape of aedeagus.

**Description** (Holotype): Body form, color and pubescence as in Fig. 7. Head distinctly convex; eyes feebly protruding from head outline. Pronotum with subparallel sides, slightly attenuate at apex; apical pronotal margin narrower than basal margin; anterior pronotal lobe prominent, distinctly projecting beyond anterior pronotal angles, posterior angles rectangular; pronotal disk markedly convex, distinctly impressed at base; lateral impressions missing; prehumeral not extending to half of pronotal length, costate basally, filamentous apically, straight with apex feebly arcuate to pronotal margin and distinctly distant from marginal carina (lateral view).

Elytra without humeral carinae, short, moderately attenuate apically, apices narrowly separately angulately-arcuate; elytra bichromatic with bronze and violet patterns combined with monochromatic whitish pubescence.

Prosternum (Fig. 39): Prosternal lobe large with apical margin broadly subangulately emarginate medially; prosternal process sharply tricuspidate, sides expanded in straight line, disk feebly impressed. Basal abdominal ventrite without tubercles. Apex of last abdominal ventrite distinctly emarginate.

Aedeagus (Fig. 62).

**Length.** 3.9–4.6 mm, Holotype 4.1 mm.

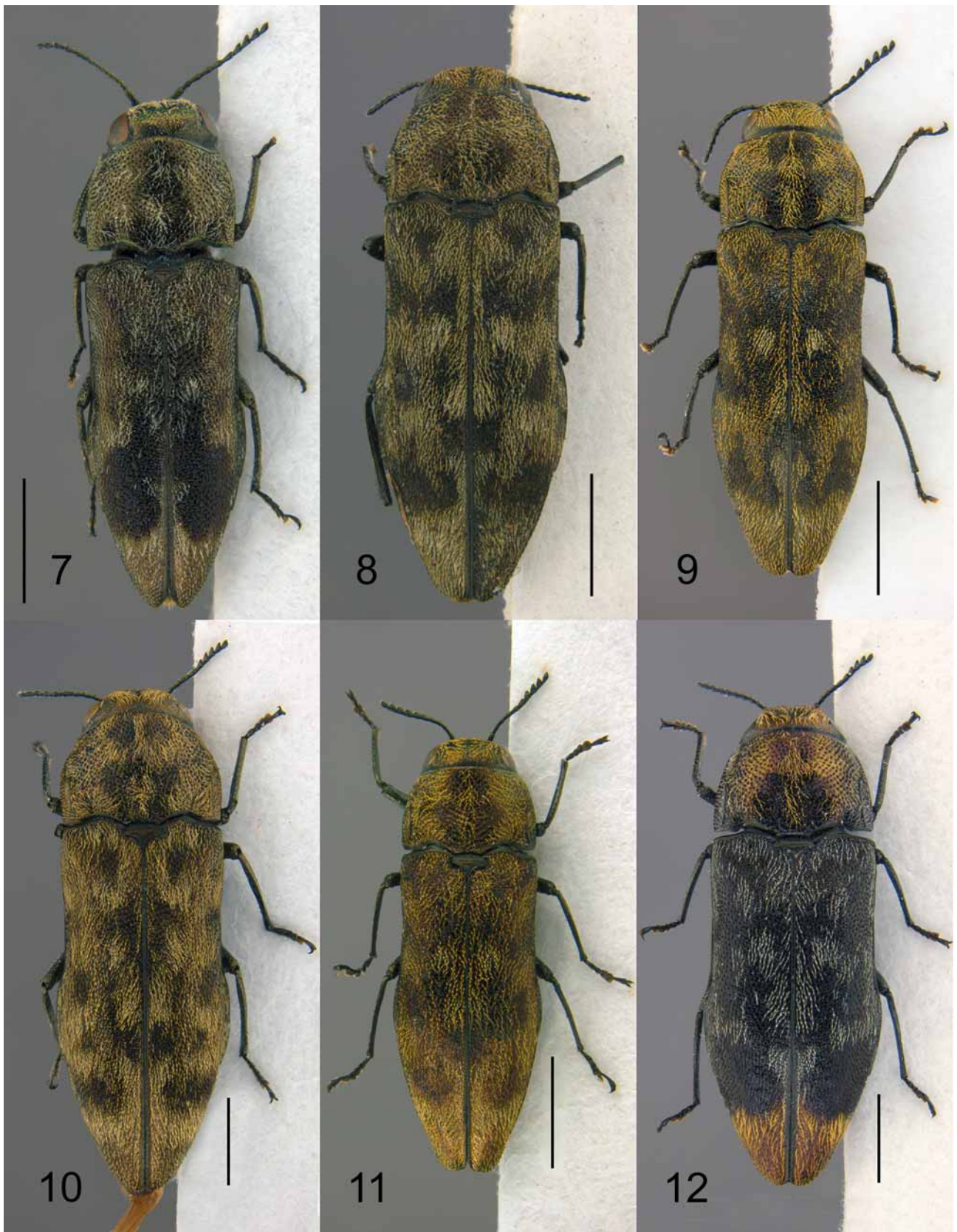
**Sexual dimorphism.** Without apparent sexual differences.

**Variability.** Eyes sometimes less convex, not protruding from head outline. Sides of pronotum sometimes faintly arcuate and slightly emarginate before posterior pronotal angles.

**Type series.** Holotype ♂, (EJCB): “S Vietnam, 1–15.V.1994, Nam Cat Tien Nat. Park, P. Pacholátka & L. Dembický leg.” Paratypes (11 exs): 9 ♂, 1 ♀ (EJCB): with the same locality label; 1 ♂ (EJCB): “THAI, 18–24.IV.1991, Lansang n. p. 500 m, 16°48'N, 98°57'E, Vít Kubáň leg.”. **Type locality.** South Vietnam, Nam Cat Tien National Park, 107°19'E, 11°27'N [precised by collectors].

**Distribution.** Thailand, Vietnam.

**Etymology.** Derived from the words *spiculum* (a small, needlelike body, part, process, or the like) and *penis* (the male organ of copulation). The name refers to the spike-like shape of the aedeagus.



**FIGURES 7–12.** Habitus of 7) *A. spiculipenis* Jendek **sp. nov.**, Holotype; 8) *A. aurarius*, Holotype; 9) *A. mallotiellus*–Japan, Yakushima; 10) *A. madanensis* Jendek **sp. nov.**, Holotype; 11) *A. haucki* Jendek **sp. nov.**, Holotype; 12) *A. liscapia*–China, Fujian. Scale bar = 1 mm.

***Agrilus aurarius* (Kerremans) comb. nov.**

Figs. 8, 40

*aurarius* Kerremans, 1892: 205–206 [*Meliboeus* cited as *Melybaeus*].

Kerremans, 1903: 236 [*Meliboeus*; cited as *Melibaeus*]. Obenberger, 1935: 895 [*Meliboeus*].  
= *bocae* Descarpentries & Villiers, 1963:105, 110 **syn. nov.**

**Diagnosis.** This species, together with *A. mallotiellus*, *A. madanensis*, *A. haucki* and *A. semicaducus* (in well preserved specimens), is distinctive by having a larger area covered with ornamental elytral pubescence and also by less contrasting bichromatic elytra. It can be distinguished by the subtruncate prosternal lobe (Fig. 40), which in *A. madanensis* is markedly incised (Fig. 42).

**Length.** 4.5–5.25 mm.

**Type series.** *Meliboeus aurarius* Kerremans, 1892. Holotype by monotypy: ♀, MNHN: “Hte Birmanie Mines des Rubis 1200m 2300m Doherty 1890 [p] \ *aurarius* Kerr. Type [h] \ Kerremans vidit 1892 [p] \ Muséum Paris Coll. Générale [p] [yellow label]”. **Type locality.** Haute Birmanie, Mines des Rubis, 1200–2300 m [Note: Type locality was complemented by lectotype label data (ICZN, Article 76.2.)]. Originally published locality: Haute Birmanie.

*Agrilus bocae* Descarpentries & Villiers, 1963. Holotype: ♀, MNHN: “Tonkin Région De Hoa-Binh [p] \ Muséum Paris 1934 A. De Cooman [p] \ *Agrilus bocae* n. sp. Holotype ♀ nob. A. Descarpentries et [h] A. Villiers det. 19 [p] 62 [h] \ Muséum Paris Coll. générale [p] [yellow label]”. Described from a single female. **Type locality.** Tonkin: Hoa Binh.

**Specimens examined.** Known only from the type specimens.

**Distribution.** Myanmar, northern Vietnam.

**Remarks.** Male unknown.

***Agrilus mallotiellus* Kurosawa**

Figs. 9, 41, 63

*mallotiellus* Kurosawa, 1985: 162 [replacement name for *malloti* Kurosawa, 1957 not Théry, 1930].

Tôyama, 1985: 20. Hirashima, 1989: 323. Morimoto & Tadauchi, 1995: 231. Akiyama & Ohmomo, 1997: 35. Alexeev, 1998: 374 [subgenus *Austragrilus*; cited as *malotiellus*]. Jendek, 2006: 390 [subgenus *Austragrilus*].  
= *malloti* Kurosawa, 1957: 189–190. [preoccupied].

Kurosawa, 1963b: 154. Kurosawa, 1974b: 2. Akiyama, 1975: 4. Kurosawa, 1985: 162 [synonym of *mallotiellus*].  
Akiyama & Ohmomo, 1997: 35 [synonym of *mallotiellus*]. Jendek, 2006: 390 [synonym of *malotiellus*].

**Diagnosis.** This species is similar to *A. aurarius*, *A. madanensis* and *A. haucki* in the arrangement of the elytral pubescence (Figs. 8, 10, 11). It differs from the similar *A. aurarius* by the characters given in the key.

**Length.** 3.9–4.7 mm.

**Type series.** *Agrilus malloti* Kurosawa, 1957. Holotype: ♂, NSMT: “(Yakushima) Onoaida [p] 23. [h] VII, 1952 Y. Kurosawa [p] \ HOLOTYPE [p] *Agrilus malloti* Y. Kurosawa, 1957 [h] [red label]”. Described from eight males and seven females. **Type locality.** Japan, S. Kyûshû, Yakushima, Onoaida.

**Specimens examined.** 1 ♂ (EJCB): “Yakushima Is. 6.vii.1989 H. Akiyama \ Funayuki”.

**Distribution.** JAPAN (Kyushu, Shikoku, Honshu, Ryukyu island (Yaku-shima Island, Amami-oshima Island, Tokuno-oshima Island, Tokaranakanoshima Island) (Akiyama & Ohmomo 1997)).

***Agrilus madanensis* Jendek, sp. nov.**

Figs. 10, 42

**Diagnosis.** This species is by the body form, color and by the ornamental pubescence very similar to *A. aurarius*, from which it differs by the incised margin of prosternal lobe (Fig. 42). Both species are known only from females.

**Description** (Holotype): Body form, color and pubescence as in Fig. 10. Head small, distinctly convex; eyes slightly protruding from head outline.

Pronotum markedly convergent apically, with sides in basal half subparallel, in apical half strikingly arcuate; apical pronotal margin clearly narrower than basal margin; anterior pronotal lobe large and prominent, distinctly projecting beyond anterior pronotal angles; posterior pronotal angles rectangular; pronotal disk conspicuously convex, feebly impressed at base; lateral impressions absent; prehumeral extending to half of pronotal length, sharply costate, bisinuate, with apex markedly distant from marginal carina (lateral view).

Elytra without humeral carinae, bichromatic with bronze and golden-bronze patterns combined with bichromatic golden and whitish pubescence; apices very narrowly conjointly arcuate.

Prosternum (Fig. 42): Prosternal lobe large, with apical margin broadly subtriangularly incised medially; prosternal process sharply tricuspidate, sides somewhat expanded, disk deeply impressed, lateral corners distinctly protruding ventrad. Apex of last abdominal ventrite weakly emarginate.

**Length.** Holotype 5.6 mm.

**Sexual dimorphism.** Male unknown.

**Variability.** Unknown.

**Type series.** Holotype ♀ (EJCB): "S Vietnam, Ma Da, 24.VI.1991". **Type locality.** South Vietnam, Dong Nai province, Ma Da [approximate coordinates 106°55'E, 11°14'N].

**Distribution.** south Vietnam.

**Etymology.** The name is derived from the name of the type locality.

***Agrilus haucki* Jendek, sp. nov.**

Figs. 11, 43, 64

**Diagnosis.** This species differs from the similarly pubescent species (*A. aurarius*, *A. malotiellus*, *A. madanensis*) by having the anterior pronotal margin subtruncate (Fig. 11).

**Description** (Holotype): Body form, color and pubescence as in Fig. 11. Head convex; eyes slightly protruding from head outline.

Pronotum markedly convergent apically, with sides subparallel in basal third and then distinctly arcuate; apical pronotal margin markedly narrower than basal margin, subtruncate, without anterior pronotal lobe; posterior angles obtusely rectangular; pronotal disk convex, feebly impressed at base; lateral impressions absent; prehumeral extending about to half of pronotal length, sharply costate, arcuate, with apex markedly distant from marginal carina (lateral view).

Elytra without humeral carinae, short, apices widely, separately subangulately-arcuate; elytra bichromatic with golden-bronze and dark violet patterns combined with golden and golden-whitish pubescence.

Prosternum (Fig. 43): Prosternal lobe large, with apical margin arcuate, entire, without emargination or incision; prosternal process sharply tricuspidate, sides distinctly expanded in straight line, disk impressed, with lateral corners distinctly protruding ventrad. Apex of last abdominal ventrite very finely emarginate.

Aedeagus (Fig. 64).

**Length.** Holotype 4.0 mm.

**Sexual dimorphism.** Female unknown.

**Variability.** Unknown.

**Type series.** Holotype ♂ (EJCB): “W Malaysia, Pahang, Baniaran Benom Mts., 10–15 km SSE K. Ulu Dong, D. Hauck leg.”. **Type locality.** Malaysia, Pahang, Baniaran Benom Mts., 10–15 km SSE of Kampung Ulu Dong [102°03'E, 03°53'N].

**Distribution.** Malaysia (Pahang).

**Etymology.** Patronymic, dedicated to David Hauck (Czech Republic), the collector of this species.

### *Agrilus liscapia* Jendek

Figs. 12, 44

*liscapia* Jendek, 2003: 182 [replacement name for *apicalis* Bourgoïn, 1923 not Waterhouse, 1889].

= *apicalis* Bourgoïn, 1923: 261 [*Sambus*].

Descarpentries & Villiers, 1967: 1008 [*Therysambus*]. Jendek, 2000: 502–503. Jendek, 2003: 182 [synonym of *liscapia*].

**Diagnosis.** This species, together with *A. acastus*, *A. coraeboïdes*, *A. samboïdes*, *A. gunjii*, *A. hunanus* and *A. apicaureus*, is distinctive by having the apical elytral pubescence more contrasting than on the remaining parts. It differs from *A. apicaureus*, by lacking humeral carinae, and from *A. hunanus*, by having the elytral apex more densely pubescent.

**Sexual dimorphism.** Male unknown.

**Length.** 5.0–5.2 mm.

**Type series.** *Sambus apicalis* Bourgoïn, 1923. Lectotype, designated by Descarpentries & Villiers (1967): ♀, MNHN: “Tonkin Pho-Vi 6–07 Cap, Fouquet [h] Type [p] [red label] \ *Sambus apicalis* Bourgoïn Type [Bourgoïn’s MS] \ *Therysambus apicalis* n. gen. Bourgoïn A. Descarpentries et [h] A. Villiers det. 19 [p] 66 [h]”. The exact number of syntypes was not specified. **Type locality.** Tonkin: Pho Vi.

**Material examined.** 1 ♀ (EJCB): “China prov. Fujian centr., Yongan env. [117°21'E, 25°28'N] 21.6., Fujian Shilin, R. Červenka lgt. 1991”

**Distribution.** north Vietnam, China (Fujian).

**Remarks.** *Agrilus apicalis* was described in the genus *Sambus*. Descarpentries & Villiers (1967) proposed the new genus *Therysambus*. Jendek (2000) considered *Therysambus* to be congeneric with *Agrilus* and proposed (Jendek 2003) the new replacement name *liscapia* for the name *apicalis*, preoccupied in *Agrilus*.

### *Agrilus acastus* Kerremans

Figs. 13, 65

*acastus* Kerremans, 1913: 114.

Miwa, 1931: 125. Obenberger, 1936: 1069. Miwa & Chûjô, 1936: 15. Kurosawa, 1963b: 154. Kurosawa, 1974a: 2. Peng Zhongliang, 1987: 354. Jendek, 2000: 502. Hua Li Zhong, 2002: 89. Mühle, 2003: 46. Jendek, 2005: 3–4. Jendek, 2006: 396.

= *horni* Kerremans, 1914: 104–105 [*Sambus*].

Jendek, 2000: 502 [synonym of *acastus*]. Jendek, 2006: 396 [synonym of *acastus*].

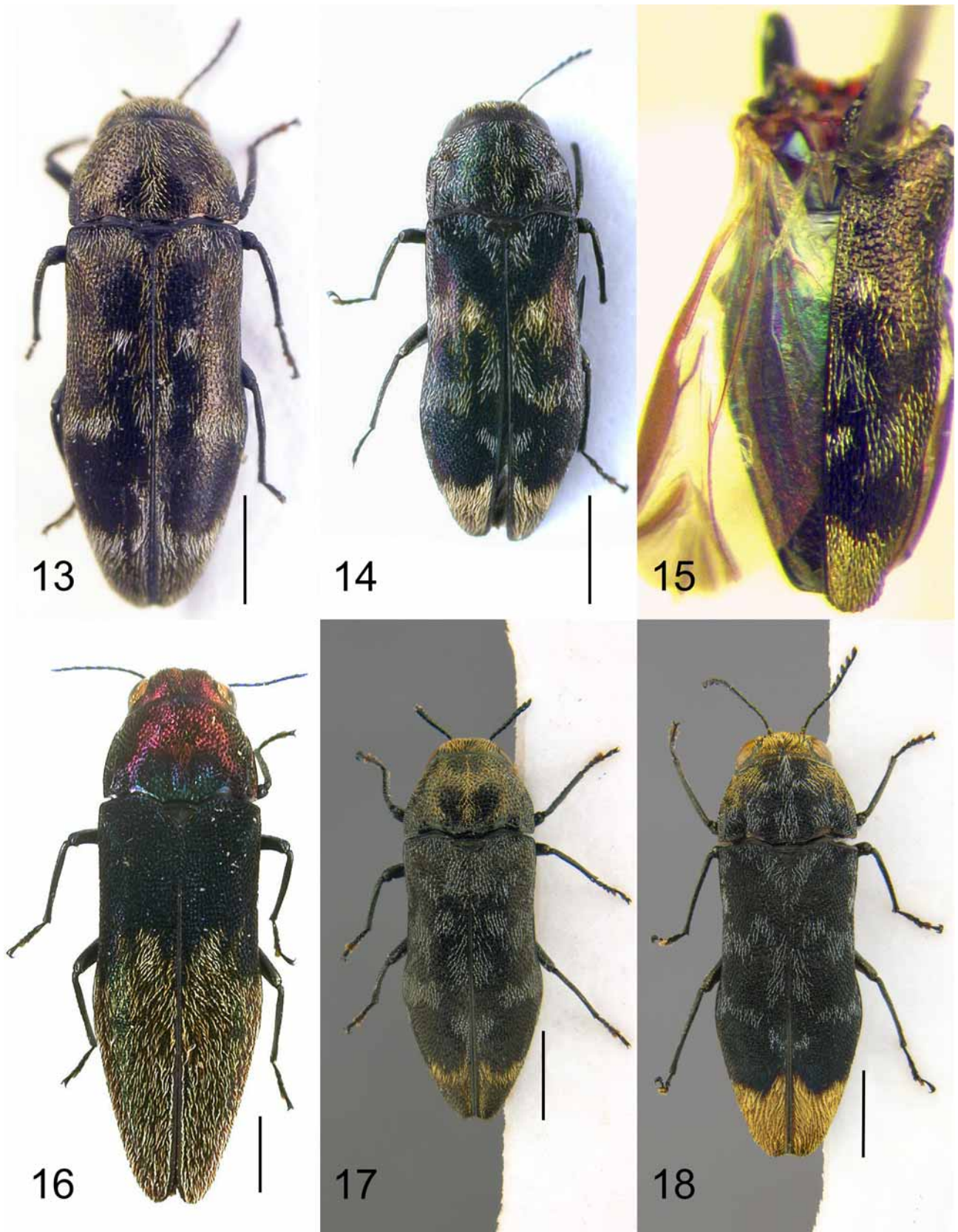
= *ohbayashii* Tôyama, 1987: 308.

Hua Li Zhong, 2002: 90. Jendek, 2005: 3–4 [synonym of *acastus*]. Jendek, 2006: 396 [synonym of *acastus*].

**Diagnosis.** This species is distinctive by the large extent of white elytral pubescence (Fig. 13) and mainly by the robust, apically expanded aedeagus (Fig. 65).

**Length.** 4.0–4.6 mm.

**Type series.** *Agrilus acastus* Kerremans, 1913. Lectotype, designated by Jendek (2000): ♀, DEI: “Kankau (Formosa) H. Sauter VII. [number strikethrough] 1912 [p] \ 7.IV. [p] \ Syntypus [p] [red label] \ Kerremans [sic!] det. [p] \ *Agrilus acastus* Kerr. Type [h] [Kerremans' MS] \ Coll. DEI Eberswalde [p]”. The exact number of syntypes is unknown. **Type locality.** Formosa, Kankau.



**FIGURES 13–18.** Habitus of 13) *A. acastus*, Holotype of junior subjective synonym *A. ohbayashii*; 14) *A. coraeoides*, Lectotype; 15) *A. samboides*, Holotype; 16) *A. gunjii*, Holotype; 17) *A. hunanus* Jendek **sp. nov.**, Holotype; 18) *A. apicaureus* Jendek **sp. nov.**, Holotype. Scale bar = 1 mm.

*Sambus horni* Kerremans, 1914. Lectotype, designated by Jendek (2000): ♂, DEI: “Kankau (Koshun) Formosa H. Sauter V.1912 [p] \ Syntypus [p] [red label] \ Kerremans [sic!] det. [p] \ Sambus Horni Kerr. Type [h] [Kerremans' MS] \ Coll. DEI Eberswalde [p]”. The exact number of syntypes is unknown. **Type locality.** Formosa, Kankau: Koshun.

*Agrilus ohbayashii* Tôyama, 1987. Holotype: ♂, NSMT: “Sengpei Formosa 30. VII. 1976 K. Matsuda [h] [blue label] \ HOLOTYPE [p] *Agrilus ohbayashii* Tôyama, 1986 [h] [red label]”. Described from 7 specimens. **Type locality.** Formosa Sengpei [Note: Type locality determined by lectotype (ICZN, Article 76.2.)]. Original published locality: Taiwan, Kaohsiung Hsien, Shanping near Liukuei.

**Remarks.** Kurosawa (1963a) described two subspecies: *A. acastus tsushmanus* and *A. acastus nakanei*, which are currently considered to be different species not belonging to the *A. muscarius* species-group. The name *horni* Kerremans, 1914 is a junior secondary homonym of *horni* Kerremans, 1900 (*Agrilus*) and *horni* Théry, 1904 (*Agrilus*).

**Specimens examined.** This species is known to us only from the type specimens.

**Distribution.** Taiwan.

### *Agrilus coraeoides* Kerremans

Figs. 14, 45

*coraeoides* Kerremans, 1900b: 5, 22, 28.

Kerremans, 1903: 279. Obenberger, 1936: 1078. Jendek, 2003: 181.

**Diagnosis.** This species is very similar to *A. samboides* by the body size and by the pattern of elytral pubescence; see diagnosis of *A. samboides*.

**Length.** 4.0 mm.

**Type series.** *Agrilus coraeoides* Kerremans, 1900. Lectotype, designated by Jendek (2003): ♀, BMNH: “SYNTYPE [p] [round label with blue border] \ Sumatra Weyers [Kerremans' MS] \ coraeoides Kerr. Type [Kerremans' MS] \ Kerremans 1903–59 [p]”. Paralectotypes: 2 ♀ (BMNH). Described from three specimens.

**Type locality.** Sumatra, Hindrapoera et dans les environs.

**Specimens examined.** Known only from the type specimens.

**Distribution.** Sumatra.

**Remarks.** Male is unknown.

### *Agrilus samboides* Fisher

Fig. 15

*samboides* Fisher, 1930: 86–87.

Obenberger, 1936: 1101. Bellamy, 1994: 362.

**Diagnosis.** This species is similar to *A. coraeoides* by having a deeply emarginate apex on the last abdominal ventrite, but it differs from it by the shape of the elytral apices which are broadly, separately arcuate (Fig. 15), unlike those in *A. coraeoides* that are conjointly arcuate (Fig. 14).

**Length.** 4.0 mm.

**Type series.** *Agrilus samboides* Fisher, 1930. Holotype: sex not examined, USNM: “N. Borneo Kudat [p] 13th [h] Sept. 1927 C.B.K. & H.M.P.F.M.S. Museums [p] [pink label] \ *Agrilus samboides* Fisher [p] \ TypeNo [p] 57439 [h] U.S.N.M. [p]”. Described from a single female. **Type locality.** North Borneo, Kudat.

**Specimens examined.** Known only from the holotype.

**Distribution.** North Borneo.

**Remarks.** The holotype is badly damaged, only the right elytron, part of the thorax and abdomen are preserved (Fig. 15).

### *Agrilus palii* Baudon

*palii* Baudon, 1968: 132, 148–149.

**Diagnosis.** Based solely on the description, this species very probably belongs to the *A. muscarius* species-group by having a fusiform body, apically narrowed pronotum and bichromatic ornamental pubescence. A more precise identification is impossible due to the absence of the important taxonomic characters on ventral body side (prosternal lobe, prosternal process, apex of last abdominal ventrite).

**Type series.** Holotype ♀ preserved in MHNB was not examined. This species was described from a single female. **Type locality.** Laos: Sayaboury.

**Distribution.** Laos.

**Length.** 6.0 mm.

**Remarks.** This species is unknown to us and, therefore, it is not included in the key.

### *Agrilus gunjii* Tôyama

Fig. 16

*gunjii* Tôyama, 1987: 311–312.

**Diagnosis.** This species is very distinctive by the strikingly bicolored dorsal side of the body and by the dense, golden pubescence on the apical half of elytra.

**Length.** 7.0 mm.

**Type series.** *Agrilus gunjii* Tôyama, 1987. Holotype, ♂, NSMT: “Cameron Highlands, Malaya [p] 18. V. [h] 19 [p] 86, Y. Gunji [p] \ HOLOTYPE [p] *Agrilus gunjii* Tôyama, 1986 [h] [red label]”. Described from a single male. **Type locality.** West Malaysia, Cameron Highlands.

**Specimens examined.** Known only from the holotype.

**Distribution.** Peninsular Malaysia.

### *Agrilus hunanus* Jendek, sp. nov.

Figs. 17, 46, 66

**Diagnosis.** This species is similar to *A. apicaureus* by the body shape and the arrangement of elytral pubescence, but it is easily distinguishable by the shape of the aedeagus.

**Description** (Holotype): Body form, color and pubescence as in Fig. 17. Head small, convex; eyes slightly protruding from head outline.

Pronotum conspicuously convergent apicad, sides subparallel in basal third, then conspicuously arcuately convergent to apex; apical pronotal margin subtruncate, distinctly narrower than basal margin; posterior angles obtusely rectangular; pronotal disk strikingly convex, vaguely impressed at base; lateral impressions absent; prehumeral extending to about half of pronotal length, sharply costate, arcuate, with apex distinctly distant from marginal carina (lateral view).

Elytra without humeral carinae; elytra faintly bichromatic, black with bronze apex combined with white and golden–reddish ornamental pubescence; apices widely separately arcuate.



Prosternum (Fig. 46): Prosternal lobe large, with apical margin distinctly incised medially; prosternal process sharply tricuspidate, sides distinctly arcuately expanded, disk feebly impressed, with lateral corners somewhat protruding ventrad. Apex of last abdominal ventrite vaguely emarginate.

Aedeagus (Fig. 66).

**Length.** Holotype 4.1 mm.

**Sexual dimorphism.** Female unknown.

**Variability.** Unknown.

**Type series.** Holotype ♂ (EJCB): “China: Hunnan province, Huitong, 400–600 m”. **Type locality.** China, Hunan province, Huitong [= Lincheng, 109°42'E, 26°52'N], 400–600 m.

**Distribution.** China: Hunan.

**Etymology.** The name is derived from the name of Chinese province Hunan, where the holotype of this species was collected.

### *Agrilus apicaureus* Jendek, sp. nov.

Figs. 18, 47, 67

**Diagnosis.** This species is very distinctive by the strikingly contrasting elytra which are black except for the golden-bronze elytral apices covered with dense, golden pubescence. The head and anterior part of pronotum are covered with golden pubescence similar to that on elytral apices.

**Description** (Holotype): Body form, color and pubescence as in Fig. 18. Head large, frons and vertex feebly convex; eyes markedly protruding from head outline.

Pronotum conspicuously convergent apicad, with sides subparallel in basal third and then strongly, almost rectilinearly convergent to apex; apical pronotal margin distinctly narrower than basal margin; anterior pronotal lobe distinctly projecting beyond anterior pronotal angles; posterior angles rectangular; pronotal disk conspicuously convex, distinctly impressed at base; lateral impressions absent; prehumeral extending to about half of pronotal length, sharply costate, arcuate, with apex strikingly arcuate to pronotal margin but distant from marginal carina (lateral view).

Elytra with feeble and short humeral carinae, bichromatic, black except for golden-bronze apex, combined with white and golden ornamental pubescence; apices separately arcuate.

Prosternum (Fig. 47): Prosternal lobe large, with apical margin distinctly incised medially; prosternal process sharply tricuspidate, sides obviously, arcuately expanded; disk deeply impressed, with lateral corners distinctly protruding ventrad. Apex of last abdominal ventrite distinctly emarginate.

Aedeagus (Fig. 67).

**Length.** Holotype 4.9 mm.

**Sexual dimorphism.** Female unknown.

**Variability.** Unknown.

**Type series.** Holotype ♂ (EJCB): “LAO-N, Phongsaly prov., 21°41'–2°N, 102°06'–08'E, Phongsaly env., 28.v.–20.vi.2003, 1500 m, P. Pacholátko leg.”. **Type locality.** north Laos, Phongsaly province, Phongsaly env., 1500 m, 21°41'–2°N, 102°06'–08'E.

**Distribution.** North Laos (Phongsali).

**Etymology.** The name is derived from the Latin noun *apex*, -icis (a combining shape of apex or apical) and *aureus* (golden) to stress the strikingly golden elytral apices of this species.

### *Agrilus muscarius* Kerremans

Figs. 19–21, 48, 68

*muscarius* Kerremans, 1895: 224.

Kerremans, 1903: 279. Obenberger, 1936: 1092. Baudon, 1961: 73. Descarpentries & Villiers, 1963: 105, 110. Baudon, 1968: 132, 149.

= *seladon* Obenberger, 1940: 174–175. **syn. nov.**

Peng Zhongliang, 1987: 358 [cited as *seladom*]. Hua Li Zhong, 2002: 90. Jendek, 2005: 18. Jendek, 2006: 401.

= *komiyai* Tôyama, 1987: 305–306.

Jendek, 2005: 18 [synonym of *seladon*]. Jendek, 2006: 401 [synonym of *seladon*].

**Diagnosis.** This species (Figs. 19–21) is distinctive by its strikingly bichromatic elytra with the dark violet and golden-bronze, or golden-green pattern; pronotal sides subparallel or feebly arcuate except for the conspicuously arcuate anterior part; apical pronotal margin narrower than basal margin; anterior pronotal lobe wide, slightly projecting beyond anterior pronotal angles; pronotal disk conspicuously convex; prehumeral feebly costate, moderately arcuate, with apex distinctly distant from marginal carina (lateral view); prosternal lobe arcuately or subangulately emarginate; prosternal process (Fig. 48) tricuspidate with sides expanded in straight line and weakly impressed. Apex of last abdominal ventrite with distinct emargination. Aedeagus as in Fig. 68.

**Length.** 3.5–4.9 mm.

**Sexual dimorphism.** Without apparent sexual differences.

**Type series.** *Agrilus muscarius* Kerremans, 1895. **Lectotype by present designation:** ♂, MNHN: “Meliboeus muscarus nov. s. Fairm. Ht. Tonkin [h] \ Ha-Lang Tonkin N. Lamey \ muscarius Kerr. [h] PARATYPE [p] [red label] \ MUSÉUM PARIS 1935 Coll. A. Théry [p] \ Muséum Paris Coll. Générale [p] [yellow label]”. Paralectotype: 1 ♂, MNHN: with the same locality data as lectotype. The exact number of syntypes is unknown. **Type locality.** Ht. Tonkin, Ha Lang [Note: Type locality complemented by lectotype (ICZN, Article 76.2.)]. Originally published locality: Tonkin.

*Agrilus seladon* Obenberger, 1940. Lectotype, designated by Jendek (2005): sex not examined, NMPC: “Vallis flumin. Soling-ho, Yun. [p] \ TYPUS [p] [red label with black border] \ Mus. Nat. Pragae Inv. [p] 24926 [h] [orange label] \ Agrilus Seladon m. Type [h] Det. Dr. Obenberger [p]”. The exact number of syntypes is unknown. **Type locality.** China: Yunnan, vallis fluminis Soling-Ho.

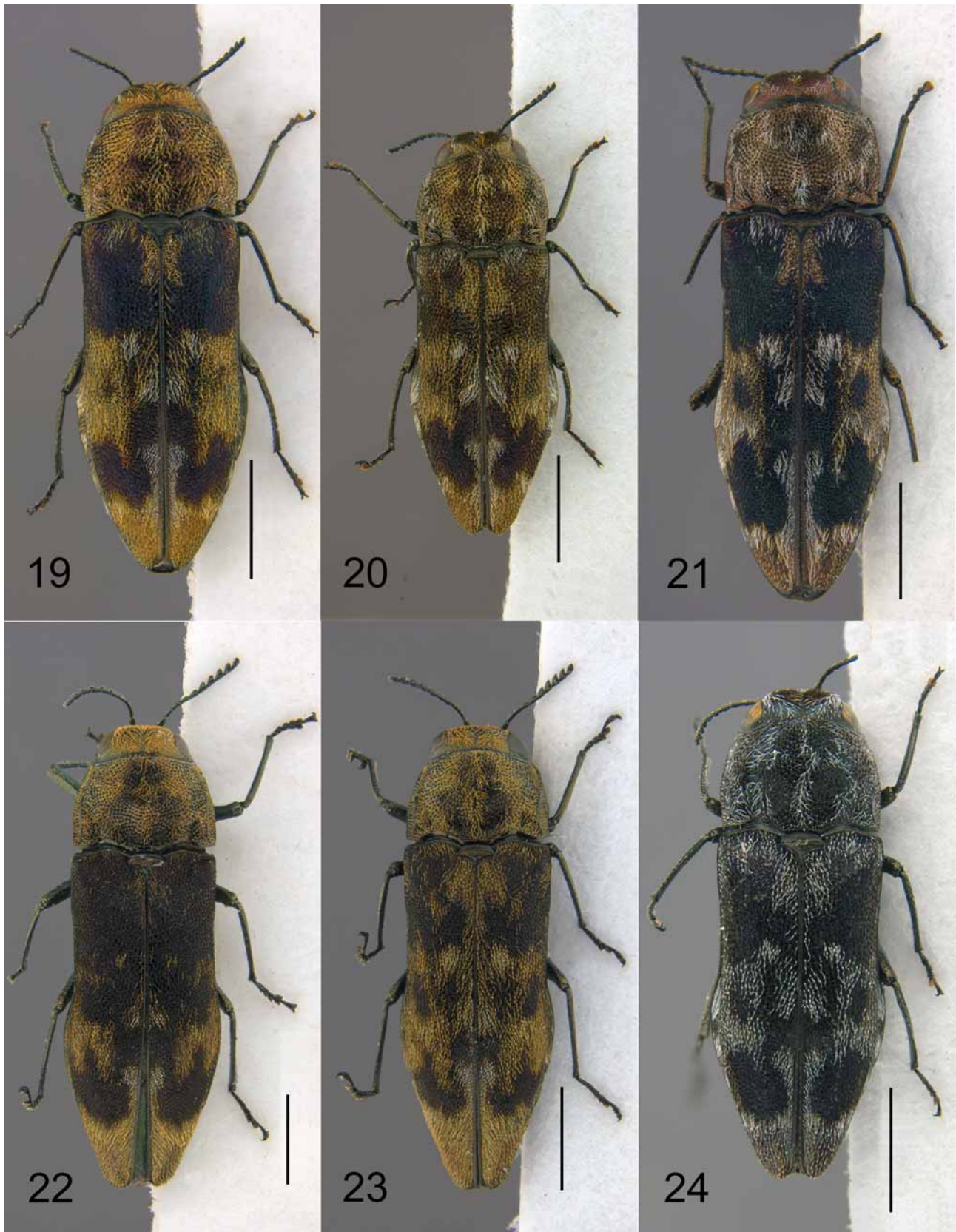
*Agrilus komiyai* Tôyama, 1987. Holotype, sex not determined, NSMT: Doi Pui N. Thailand 4–7.v.1983 M. Takakuwa [p] \ HOLOTYPE *Agrilus komiyai* Tôyama, 1983 [h]”. Described from seven type specimens. **Type locality.** NW Thailand, Doi Pui near Chiang Mai.

**Specimens examined.** **CHINA: Shaanxi:** 1 ex (EJCB): “China-Shaanxi, Lüeyang, 8.6.–14.6.1996, lgt. E. Kučera”; **Sichuan:** 1 ♂ (EJCB): “China-N, Sechuan, Nanjiang, 21–23.5.2002, lgt. E. Kučera”; **Yunnan:** 1 ♂ (EJCB): “China, Yunnan, Loc. 9., Road 214, Dali - Lijiang, 65th-71st km NNW of Xiaguan, 26°03' N, 100°01'-09' E, 2350–2528 m, 24.05.2002, Konstantinov & Volkovitsh leg.”; 1 ex (EJCB): “Yun'nan'. Syaomon'yan. 810 m, 27.iii.1957, Pu Fu-di leg. [in Russian]”; 2 ♂ 1 ♀ (EJCB): “China, Yunnan, 22.V.–2.VI., 100 km W of Kunming, 1993, Diaolin Nat. Reservation, E. Jendek & O. Šauša leg.”. **INDIA: Assam:** 6 exs (EJCB): “NE India, Assam, 1999, 5 km N of Umrongso, 700m, 25°27'N, 92°43'E, 17.–25.v., Dembický & Pacholátko leg.”; **Meghalaya:** 1 ♂ (EJCB): “NE INDIA, MEGHALAYA, 1999, 9 km NW of Jowai, 1400 m, 25°30'N, 92°10'E, 11–15.v., Dembický & Pacholátko leg.”; 1 ♂ (EJCB): “NE INDIA, MEGHALAYA, 1400 m, NOKREK N.P., 3 km S Daribokgiri, 25°27'N, 90°19'E, 26.iv.1999, Dembický & Pacholátko leg.”; 10 exs (EJCB): “NE India, Meghalaya state, West Garo Hills, NOKREK Nat. Park, 9–17.V.1996 alt. 1100±150m, GPS N25°29.6', E90°19.5' (WGS 84), E. Jendek & O. Šauša leg.”; **Tamil Nadu:** 1 ♂ (EJCB): “S India, Tamil Nadu, 17–22.V.1997, 15 km SE Kotagiri, 11°22'N, 76°56'E, Kunchappanai, Dembický & Pacholátko leg.”; **Uttar Pradesh:** 1 ex (EJCB): “India, Kumaon Himalaya, U.P., Nainital, Bhimtal, 20–23.5.1981, 1500 m leg. C. Holzschuh”; 1 ♀ (EJCB): “N-India, Uttaranchal state, ca 13 km NW of Nainital, Khairna bridge env., 900–1000 m, 13–17.vii.2003, Z. Kejval & M. Trýzna leg.”. **LAOS: Borikhamxai:** 7 exs (EJCB): “LAOS centr., Bolikhamsai prov., BAN NAPE - Kaew Nua Pass, 18.4.-1.5.1998, alt. 600±100 m, N 18°22.3, E 105°09.1 (GPS), E. Jendek & O. Šauša leg.”; **Louang Namtha:** 2 ♂ (EJCB): “LAOS, Louang Namtha pr., 21°09'N, 101°19'E, Namtha - Muang Sing, 5–31.v.1997, 900–1200 m, Vit Kubáň leg.”; **Louangphrabang:** 2 ♂ (EJCB): “LAOS-N, 23. iv. 1999, Louangphrabang prov. 20°42' N 102°54'E, 25 km E Muang Ngoy, 1000

m, Vít Kubáň leg.”; **Phongsali**: 1 ♂ (EJCB): “LAO-N, Phongsaly prov., 21°41'–2°N, 102°06'–08'E, 28.v.–20.vi.2003 PHONGSALY env., ~1500m, Vít Kubáň leg.”; **Vientiane**: 1 ♀ (EJCB): “Laos centr., 27.IV.–1.V.1997, 70 km NE Vientiane, Ban Phabat env., 150 m, N 18°16.1, E 103°10.9, E. Jendek & O. Šauša leg.”. **MYANMAR: Shan State**: 1 ♂ (EJCB): “Burma (Myanmar), SW Shan State, Taunggyi, J. Rejsek 1–18.6.1997”. **NEPAL**: 1 ♂ (EJCB): “W Nepal, NW Pokhara, Khali Gandaki Kholā, 1100–1300 m, Tatopani, 12–14.V.1994, leg. C. Holzschuh”; 1 ex (EJCB): “E-Nepal, Dhankuta, Arun-Valley, Lamobagar Gola, 27.5.–3.6.1980, 1000–1400 m, leg. C. Holzschuh”. **SRI LANKA**: 6 exs (EJCB): “SRI LANKA, -300m, DAMBULLA env., 19.IV.–9.V.1991, leg. J. Kolibáč”. **THAILAND: Chiang Mai**: 1 ♂ 1 ♀ (EJCB): “NW Thailand, 19–23.iv.1991, Doi Suthep, P.Pacholátko leg.”; 2 ♂ (EJCB): “NW THAI, 7–14.V.1992, Chiang Mai, Doi Suthep Pui, P.Pacholátko leg.”; 1 ♂ (EJCB): “Thailand, 1000–1600 m, Chiang Mai prov., 20 km NW from Fang, 2–5.v.1996, lgt. S. & E. Becvar”; 1 ♂ (EJCB): “NW Thailand, 25.iv., Chiang Mai prov., 7.v., Ban San Pakia 1996, Sv. Bílý leg. 1700 m”; 1 ♂ (EJCB): “THAI, 17–24. V. 1991, Chiang Dao, 1000 m, 19°25'N, 98°52'E, Vít Kubáň leg.”; 1 ex (EJCB): “THAI, 15/5.1993, 19°12'N, 98°42'E, Mae Sae, 750 m, Vít Kubáň leg.”; 1 ♂ 2 ♀ (EJCB): “Thailand, Chiang Mai prov., 19°19'N, 98°50'E, 1400 m, Sanpakia vill., 1–15.V.1998, Vít Kubáň leg.”; **Kanchanaburi**: 3 ♂ (EJCB): “THAI, 4–7. iv. 1991, Erawan n.p., 300 m, 14°16'N, 99°12'E, Vít Kubáň leg.”; 1 ♀ (EJCB): “Thai, 9–13.IV.1991, Thimonghta, 350 m, 15°02'N, 98°35'E, Vít Kubáň leg.”; **Loei**: 1 ♀ (EJCB): “Thailand-NE, Loei prov., Phu Rua N. P., 17°30'N, 101°21'E, 6–9.v.1999, 1100m, D. Hauck leg.”; **Mae Hong Son**: 20 exs (EJCB): “NW Thailand 28.iv.–3.v.1992, Mae Hong Son, P. Pacholátko leg.”; 2 exs (EJCB): “NW Thailand, 9–16.5. Mae Hong Son, 1991, Ban Huai Po, 1600–2000 m, J. Horák leg.”; 2 ♂, 3 ♀ (EJCB): “NW Thailand, 9–16.5.1991, Mae Hong Son, Ban Huai Po, 1600 m, leg. Pacholátko”; 1 ♂ (EJCB): “NW Thai, 30.iv.–4.v., Mae Hong Son, 1991, Ban Huai Po, 1600–2000, L. Dembický leg.”; 2 exs (EJCB): “NW Thailand, 19°19'N, 97°59'E, Mae Hong Son, 1991, Ban Huai Po, 1600–2000 m, 9–16.5., L. Dembický leg.”; 16 exs (EJCB): “NW THAI, 25.4.–5.5.1992, Soppong-Pai pass, P. Pacholátko leg.”; 1 ♀ (EJCB): “NW Thailand, 1–6.5.1991, Soppong-Pai, 1800 m, Leg. Pacholátko”; 2 exs (EJCB): “NW Thailand, 17–23.5. Mae Hong Son, 1991, Ban Huai Po, 1600–2000 m, J. Horák”; 1 ♀ (EJCB): “THAI, 1–5.V.1992, Ban Huai Po, L. Dembický leg.”; 4 ♂ (EJCB): “Thailand, 7–8.v.1992, Nupa-ah, L. Dembický leg.”; 1 ♂ 1 ♀ (EJCB): “Thailand, 7–8.v.1992, Suan-Pu, L. Dembický leg.”; 8 exs (EJCB): “NW Thailand, 8–18.V., Mae Hong Son, 1992, Ban Si Lang, 1200 m, J. Horák leg.”; 1 ♀ (EJCB): “NW Thailand, 1–8.V., Mae Hong Son, 1992, Ban Si Lang, 1200 m, J. Horák leg.”; 9 exs (EJCB): “THAI 10–13/5.1993, 19°27'N, 98°20'E, SOPPONG, 1550 m, Vít Kubáň leg.”; 5 exs (EJCB): “THAI Mae Hong Son prov., 19°27'N, 98°20'E, 1500 m, Soppong, 7–12.v., Vít Kubáň leg. 1996”; 1 ♀ (EJCB): “Thailand, 1–8.5.1993, Soppong-Pai, 1800 m, Pacholátko & Dembický leg.”; 2 exs (EJCB): “Thailand, 7–12.5.1996, Mae Hong Son prov., SOPPONG, 1500 m, 19°27'N, 98°20'E, S. Bečvář leg.”; 1 ex (EJCB): “Thailand 13.5.1993, 19°29'N, 98°18'E, Soppong, 750 m”; **Nan**: 1 ♂ (EJCB): “Thailand-N, Nan prov., Bo Klua 700 m, 19°03'N, 101°10'E, 28.iv.–1.v.1999, D. Hauck”; **Tak**: 2 ♂ (EJCB): “THAI, 18–24.IV.1991, Lansang n. p., 500 m, 16°48'N, 98°57'E, Vít Kubáň leg.”; 1 ♀ (EJCB): “THAI, 28.IV.–6.V.1991, Umphang riv., 1000 m, 16°07'N, 99°00'E, Vít Kubáň leg.”. **VIETNAM**: 2 ♂ 1 ♀ (EJCB): “S Vietnam, 14.10N-108.30E, 40 km NW Ankhe, Buon Luoi, 620–750 m, 28.3.–12.4.1995, Pacholátko & Dembický leg.”; 9 exs (EJCB): “S Vietnam, 11.54N-108.27E, 10 km S of Dalat, 1500 m, 16.IV.1995 Pacholátko & Dembický leg.”.

**Distribution.** China: Shaanxi, Sichuan, Yunnan; India: Assam, Meghalaya, Tamil Nadu, Uttar Pradesh, West Bengal (paratype of *A. komiyai*); Laos: Borikhamxai, Louang Namtha, Louangphrabang, Phongsali, Vientiane; Myanmar: Shan State; Nepal; Sri Lanka; Thailand: Chiang Mai, Kanchanaburi, Loei, Mae Hong Son, Nan, Tak; Vietnam.

**Remarks.** *Agrilus muscarius* is the most common and most widely distributed species of the *A. muscarius* species-group. Baudon (1968) reported the capture of this species from foliage of *Indigofera galegoides* (Fabaceae). Based on the altitude data from locality labels of the examined specimens, this species was collected at altitude range between 500 m (Laos) and 2528 m (China: Yunnan).



**FIGURES 19–24.** Habitus of 19) *A. muscarius*–India (Assam); 20) *A. muscarius*–south Vietnam; 21) *A. muscarius*–China (Yunnan); 22) *A. semicaducus* Jendek **sp. nov.**, Holotype; 23) *A. semicaducus* Jendek **sp. nov.**, Paratype; 24) *A. ventripotens*–Sri Lanka. Scale bar = 1 mm.

***Agrilus semicaducus* Jendek, sp. nov.**

Figs. 22–23, 49, 69

**Diagnosis.** This species is similar to *A. muscarius* in general appearance, but it differs mainly by the larger, more prolonged body, the longer elytral apex and by the trapezoid pronotum.

**Description** (Holotype): Body form, color and pubescence as in Fig. 22. Head moderately convex; eyes flat, not protruding from head outline.

Pronotum distinctly convergent apicad, sides subparallel in basal third and then obviously, subrectilinearly convergent to apex; apical pronotal margin distinctly narrower than basal margin; anterior pronotal lobe faint, not projecting beyond apical pronotal angles; posterior angles obtusely rectangular; pronotal disk obviously convex, with distinct prescutellar impression; lateral impressions absent; prehumeral extending to about half of the pronotal length, sharply costate, arcuate, subparallel with marginal carina (lateral view).

Elytra without humeral carinae, brightly bichromatic with golden and dark-violet patterns combined with whitish and golden ornamental pubescence; apices separately, shallowly arcuate.

Prosternum (Fig. 49): Prosternal lobe large, with apical margin arcuately emarginate; prosternal process with subparallel sides, disk impressed, lateral corners protruding ventrad. Basal abdominal ventrite without tubercles; apex of last abdominal ventrite slightly emarginate.

Aedeagus (Fig. 69).

**Length.** 4.0–4.9 mm, Holotype 4.9 mm.

**Sexual dimorphism.** Female without apparent sexual differences.

**Variability.** Pronotal sides in basal third are sometimes divergent. Elytral pubescence in paratypes from the locality “Ban Saluei” is present also on humeral part (Fig. 23).

**Type series.** Holotype ♂ (EJCB): “Laos north, 13–24.V.1997, 15 km NW Louang Namtha, N 21°07.5, E 101°21.0, alt. 750±100 m, E. Jendek & O. Šauša leg.”. Paratypes 7 exs: 2 ♀ (EJCB): with the same locality label as holotype; 2 ♂, 3 ♀ (EJCB): “LAOS-NE, Houa Phan prov., 20°12–13.5'N, 103°59'.5–104°01'E, Ban Saluei → Phou Pane Mt., 1340–1870m, 15.iv.–15.v.2008, Lao collectors leg.” **Type locality.** Laos north, 15 km NW Louang Namtha, N 21°07.5, E 101°21.0, alt. 750±100 m.

**Distribution.** north Laos: Louang Namtha, Houa Phan.

**Etymology.** The name is derived from the prefix *semi-* (Latin, partially, incompletely, somewhat) and *caducus* (Latin, subject to shedding), to indicate the variability in the extent of elytral pubescence (Figs. 22–23).

***Agrilus ventripotens* Kerremans**

Figs. 24, 50

*ventripotens* Kerremans, 1900a: 342 [replacement name for *ventralis* Kerremans, 1893 not Horn, 1891]

Kerremans, 1903: 279 [cited as *ventripoteus*]. Obenberger, 1936: 1107.

= *ventralis* Kerremans, 1893 [preoccupied by *ventralis* Horn, 1891]

Kerremans, 1900a: 342 [synonym of *ventripotens*]. Kerremans, 1903: 279 [synonym of *ventripotens*]. Obenberger, 1936: 1107 [synonym of *ventripotens*].

**Diagnosis.** This species is very distinctive by the unichromatic, black with violet tinged elytral color combined with a unichromatic whitish mosaic pubescence. Sides of pronotum arcuate, apical margin somewhat narrower than basal margin; anterior pronotal lobe wide but not extending beyond anterior angles; disk conspicuously convex; prehumeral costate, feebly arcuate, extending to about half the pronotal length, with apex distant from margin (lateral view); prosternal lobe distinctly incised (Fig. 50); prosternal process expanded in straight line (Fig. 50), disk flat; apex of last abdominal ventrite markedly emarginate.

**Length.** 3.9–4.0 mm.

**Type series.** *Agrilus ventralis* Kerremans, 1893. Holotype by monotypy: sex not examined, BMNH: “Type H. T. [p] [round label with red border] \ Kanara Andrewes [h] \ ventralis Type [h] \ A. ventralis Kerrem. Inde [h] \ Kerremans. 1903–59 [p]”. **Type locality.** Kanara.

**Specimens examined.** **INDIA: Karnataka:** 1 ♀ (EJCB): “Fraserpet [= Kushalnagar], Coorg., F.R.I. Sandal Insect Survey, 15.III.[19]30”. **SRI LANKA:** 1 ♀ (EJCB): “Sri Lanka: Anu. Dist., Padaviya Antiquities site, 20–23 July 1978”.

**Distribution.** south India: Karnataka; Sri Lanka.

### *Agrilus harlequin* Obenberger

Figs. 25, 70

*harlequin* Obenberger, 1924: 556, 564, 592–593.

Obenberger, 1936: 1085. Jendek, 2005: 11–12.

**Diagnosis.** This species is distinctive by the strikingly fusiform body; trichromatic color of elytral pubescence; large, apically subtruncate prosternal lobe; wide prosternal process with sides sinuately expanded; absence of humeral carinae and by the presence of tubercles on the basal abdominal ventrite. Aedeagus (Fig. 70).

**Length.** 4.5 mm.

**Type series.** *Agrilus harlequin* Obenberger, 1924. Lectotype, designated by Jendek (2005): ♂, NMPC: “Kinabalu [h] \ TYPUS [p] [red label with black border] \ Agrilus harlequin Type m. [h] Det. Dr. Obenberger [p]”. The exact number of syntypes is unknown. **Type locality.** Malaysia, Borneo, Kinabalu.

**Specimens examined.** Known only from the holotype.

**Distribution.** Malaysia: Sabah.

### *Agrilus pseudoharlequin* Jendek, sp. nov.

Figs. 26, 51, 71

**Diagnosis.** This species is similar to *A. harlequin* (Fig. 25) in the ornamental pubescence, and by the shape of the prosternal lobe and prosternal process. It differs by the more prolonged body, by the presence of a short humeral carina and by the shape of the aedeagus (Fig. 71).

**Description** (Holotype): Body form, color and pubescence as in Fig. 26. Head markedly convex; eyes flat, not protruding from head outline.

Pronotum convergent apicad, with sides in subparallel basal third and then slightly, arcuately convergent to apex; apical pronotal margin narrower than basal margin; anterior pronotal lobe wide and somewhat projecting beyond apical pronotal angles; posterior angles rectangular; pronotal disk obviously convex, with vague prescutellar impression; lateral impressions absent; prehumeral extending almost to half of pronotal length, moderately costate, straight, except for apex which is arcuate to pronotal margin but distant from marginal carina (lateral view).

Elytra longer with short humeral carinae; bichromatic, with black and greenish patterns combined with whitish and golden, sparse, ornamental pubescence; apices conjointly arcuate.

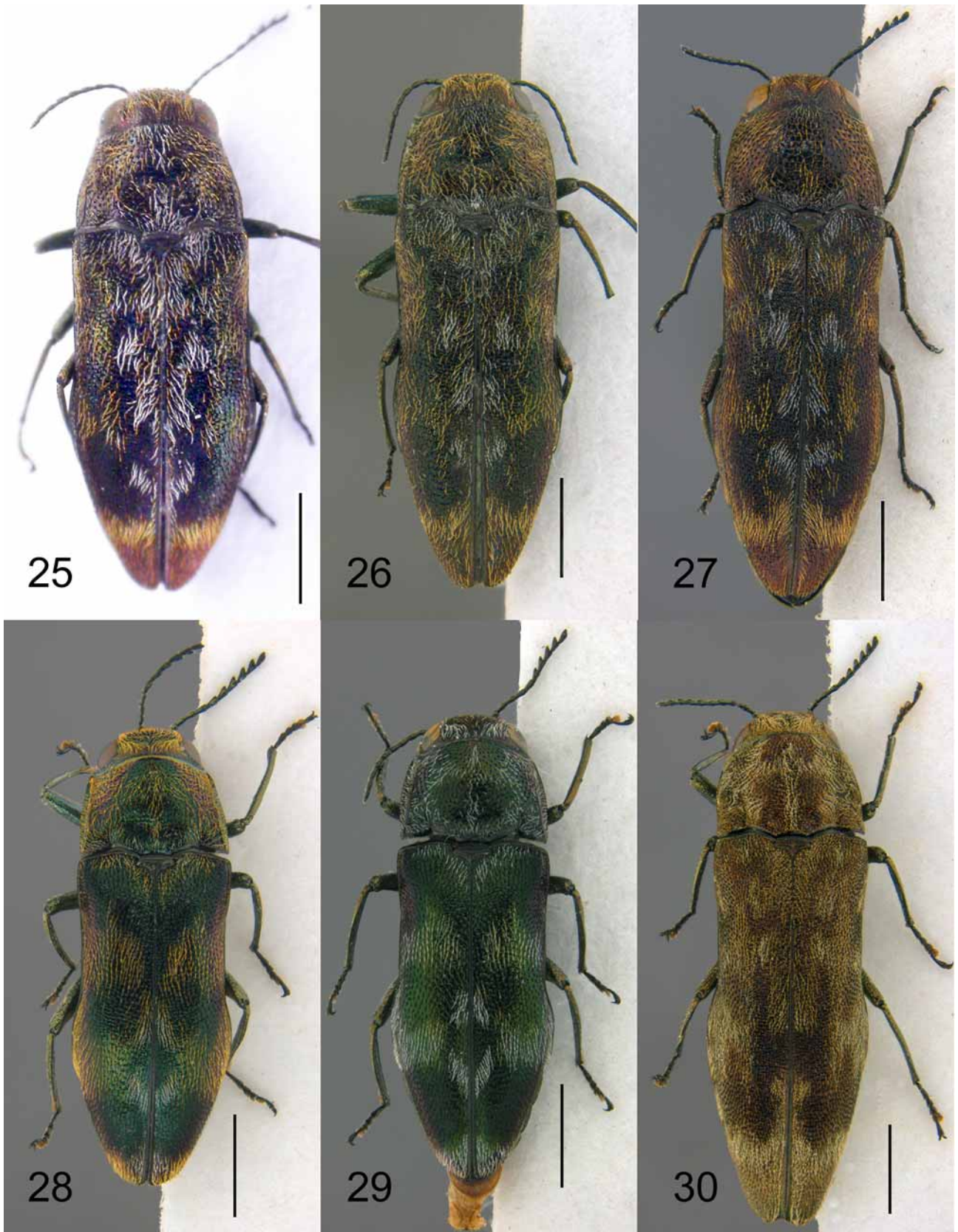
Prosternum (Fig. 51): Prosternal lobe very large, apical margin subtruncate; prosternal process sharply tricuspidate, sides strikingly, sinuately expanded; disk flat; lateral corners uniplanar. Basal abdominal ventrite without tubercles; apex of last abdominal ventrite slightly emarginate.

Aedeagus (Fig. 71).

**Length.** Holotype 5.0 mm.

**Sexual dimorphism.** Female unknown.

**Variability.** Unknown.



**FIGURES 25–30.** Habitus of 25) *A. harlequin*, Lectotype; 26) *A. pseudoharlequin*, Jendek **sp. nov.**, Holotype; 27) *A. siamensis* - Thailand; 28) *A. tiomanensis* Jendek **sp. nov.**, Holotype; 29) *A. tiomanensis* Jendek **sp. nov.**, Paratype; 30) *A. dilatipenis* Jendek **sp. nov.**, Holotype. Scale bar = 1 mm.

**Type series.** Holotype ♂ (EJCB): “Palaboehan Ratoe, Wijnkoopsbaai”. **Type locality.** Indonesia, West Java, Palaboehan Ratoe [= Pelabuhanratu, 106°32'E, 06°59'S], Wijnkoopsbaai.

**Distribution.** Indonesia: Java.

**Etymology.** The name is a combination of the prefix *pseudo-* (not actually but having the appearance of) and *harlequin*, to stress similarity of this species with *A. harlequin*.

### *Agrilus siamensis* Tôyama

Figs. 27, 52

*siamensis* Tôyama, 1987: 308.

**Diagnosis.** This species is very similar to *A. pseudoharlequin* (Fig. 26) by the body size and shape, the arrangement of dorsal pubescence, and by the presence of a short humeral elytral carina; it differs from it by the prosternal lobe with faint emargination at the apex, by the prosternal process less wide, with sides expanded almost in a straight line (Fig. 52), and by the more distinctly arcuate apex of the last abdominal ventrite.

**Length.** 5.2–5.3 mm.

**Type series.** *Agrilus siamensis* Tôyama, 1987. Holotype, ♀, NSMT: “1983.4.27 Chiang Dao Thailand (Northarn) [sic!] Col. A. Nishiyama [p] \ HOLOTYPE [p] *Agrilus siamensis* Tôyama, 1986 [h] [red label]”. Described from single female. **Type locality.** NW Thailand, Chiang Dao.

**Specimens examined. THAILAND: Chiang Mai:** 1 ♀ (EJCB): “THAI, 10. –16. V. 1991, Chiang Dao, 600 m, 19°24'N, 98°55'E, Vít Kubáň leg.”

**Distribution.** North Thailand: Chiang Mai.

**Remarks.** Male unknown.

### *Agrilus tiomanensis* Jendek, sp. nov.

Figs. 28–29, 53, 72

**Diagnosis.** This species is very distinctive by the arrangement of elytral pubescence combined with the presence of humeral elytral carina and the tubercles on basal abdominal ventrite in males.

**Description** (Holotype): Body form, color and pubescence as in Fig. 28. Head and eyes larger; eyes not protruding from head outline. Pronotum distinctly convergent apicad, widest at base, with sides convergent from base to apex in almost straight line; apical pronotal margin distinctly narrower than basal margin, deeply bisinuate, with obvious anterior pronotal lobe, not projecting beyond anterior pronotal angles; posterior angles acute; pronotal disk conspicuously convex, with deep, oval, prescutellar impression; lateral impressions absent; prehumeral long, extending beyond half the pronotal length, sharply costate, evenly arcuate, with apex distant from marginal carina (lateral view).

Elytra with short humeral carinae, faintly bichromatic, with black and green-black pattern combined with white and golden-reddish ornamental pubescence; apices widely, conjointly arcuate.

Prosternum (Fig. 53): Prosternal lobe large, apical margin subtruncate, without emargination or incision; prosternal process feebly expanded, disk feebly impressed, lateral corners somewhat protruding ventrad. Basal abdominal ventrite with two obvious tubercles medially; apex of last abdominal ventrite distinctly emarginate.

Aedeagus (Fig. 72).

**Length.** 4.1–4.9 mm, Holotype 4.8 mm.

**Sexual dimorphism.** Female without apparent sexual differences, except for the absence of tubercles on the basal abdominal ventrite.



**Variability.** In some paratypes, the sides of pronotum are diverging arcuately, not sublinearly. The extent of white and golden-reddish elytral pubescence varies considerably among specimens (Fig. 29).

**Type series.** Holotype ♂ (EJCB): “Malaysia, Tioman, rd. Kampong Tekek - K.Juara, 4–16.iii.1998, alt. 0–400 m, 2.48° N, 104.11°E, Dembický & Pacholátko leg.”. Paratypes (52 exs): 26 exs (EJCB) with the same locality labels as holotype; 10 exs (EJCB): “Malaysia, Tioman, rd. Kampong Tekek - K.Juara, 4–16.iii.1998, alt. 0–400 m, 2.48° N, 104.11°E, D. Hauck leg.”; 6 exs (EJCB): “Malaysia: Tioman isl., K. Tekek - K. Juara, 2.48° N, 104.11°E, 5–295 m, 7–25.II.2000, leg. Štrba”; 8 exs (EJCB): “Malaysia: Tioman isl., Kampung Tekek env., 6–26.ii.2000, R. Hergovits leg.”; 1 ♂ (EJCB): “Malaysia: Pahang, Tioman Island, Kg. Tekek Umgebung, 15–26.7.1992 (7), leg. R. Schuh”; 1 ex (EJCB): “Malaysia Pahang Pulau Tioman trail between Juara and Tekek, lowland rainforest, swept & beaten, 10–17.III.1995, No 9, O. Merkl”. **Type locality.** Malaysia, Pahang, Tioman Island, road Kampong Tekek - Kampong Juara, alt. 0–400 m, 2.48° N, 104.11°E.

**Distribution.** Malaysia: Tioman Island.

**Etymology.** The name of this species refers to the name of Malayan island Tioman, to which this species is probably endemic.

### *Agrilus dilatipenis* Jendek, sp. nov.

Figs. 30, 54, 73

**Diagnosis.** This species is very distinctive by the bell-shaped pronotum with acute basal angles and by the aedeagus conspicuously expanded apically.

**Description** (Holotype): Body form, color and pubescence as in Fig. 30. Head small, moderately convex; eyes not protruding from head outline. Pronotum bell-shaped, with sides slightly bisinuate, emarginate at base and then arcuately convergent apicad; apical pronotal margin distinctly narrower than basal margin; anterior pronotal lobe large and distinctly projecting beyond apical pronotal angles; basal angles acute; pronotal disk obviously convex, with distinct basal impression; lateral impressions absent; prehumeral extending to about half of pronotal length, sharply costate, feebly arcuate, with apex clearly distant from marginal carina (lateral view).

Elytra elongate, without humeral carinae, faintly bichromatic, with golden-bronze and golden-violet patterns, combined with golden and golden-whitish ornamental pubescence; apices widely, separately, shallowly arcuate.

Prosternum (Fig. 54): Prosternal lobe large, with apical margin distinctly incised medially; prosternal process with faintly expanded sides; disk flat with uniplanar lateral corners. Basal abdominal ventrite without tubercles; apex of last abdominal ventrite slightly, but distinctly emarginate.

Aedeagus (Fig. 73).

**Length.** 4.8–5.7 mm, Holotype 5.7 mm.

**Sexual dimorphism.** Female without apparent sexual differences.

**Variability.** Some paratypes have basal pronotal impression deeper; elytra more contrastly bichromatic and elytral apices more markedly arcuate.

**Type series.** Holotype ♂ (EJCB): “Thailand bor., 19–21.5.1997, Chiang Dao, lgt. M. Snížek”. Paratypes: 15 exs (EJCB): **Thailand: Chiang Mai:** 1 ♀ (EJCB): with the same locality label as holotype; 1 ♂ (EJCB): “THAI, 17–24.V.1991, Chiang Dao, 1000 m, 19°25'N, 98°52'E, Vít Kubáň leg.”; 2 exs (EJCB): “Thailand bor., Chiang Dao, 21.5.–4.6.1995, lgt. M. Snížek”; **Mae Hong Son:** 1 ♀ (EJCB): “18.4.–1.5.1997, Pai, Thailand, M. Zyka lgt.”; 1 ♀ (EJCB): “NW Thailand, 1–15.5., 1991, Mae Hong Son, Ban Huai Po, 800–1600 m, S. Bílý leg.”; 1 ♂ (EJCB): “NW Thailand, 1–7.V.1992, Mae Hong Son, Ban Si Lang, 1000 m, S. Bílý leg.”; 2 exs (EJCB): “NW Thailand, 19.19N, 97.59E, Mae Hong Son, 1991, Ban Huai Po, 1600–2000m, 30.4.–4.5. L. Dembický leg.”; 3 ♂ (EJCB): “NW Thailand, 8–18.V., Mae Hong Son, 1992, Ban Si Lang, 1200 m, J. Horák leg.”; 1 ♀ (EJCB): “NW THAI, 8–18.V.1992, Mae Hong Son, 1991, Ban Huai Po, J. Horák leg.”; 1 ♂, 1 ♀ (EJCB): “NW Thai, 30.iv.–4.v., Mae Hong Son, 1991, Ban Huai Po, 1600–2000, L. Dembický leg.”.

**Type locality.** Thailand borealis, Chiang Mai province, Chiang Dao [19°24'N, 98°55'E]

**Distribution.** Thailand: Chiang Mai, Mae Hong Son.

**Etymology.** The name is a combination of Latin verb dilato, -are (to make wider or larger, cause to expand) and the noun penis (the male organ of copulation), to stress the peculiar shape of the aedeagus of this species.

***Agrilus carinelytratus* Jendek, sp. nov.**

Figs. 31, 55, 74

**Diagnosis.** This species is very distinctive by the very long humeral carinae extending to the epipleural apex.

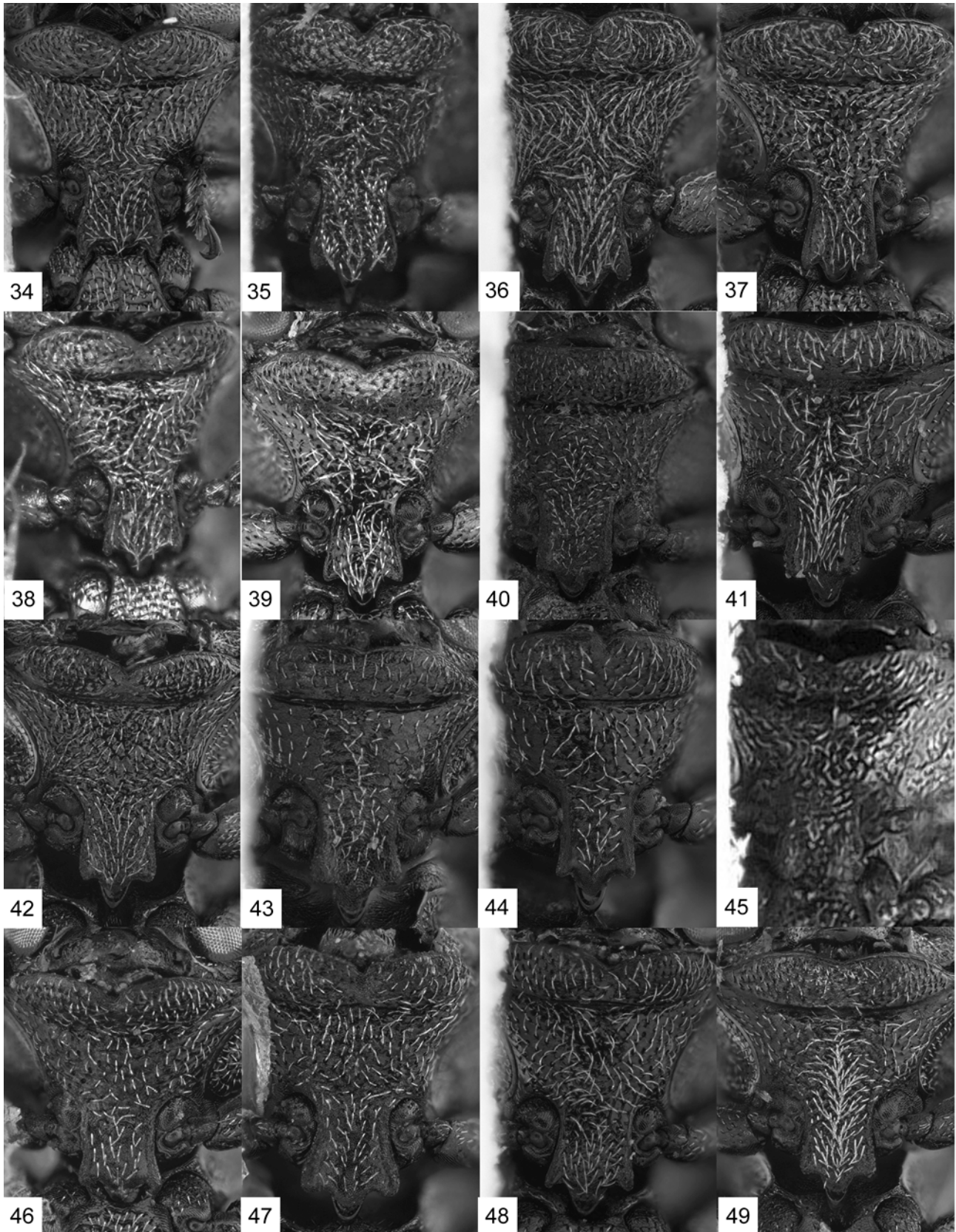
**Description (Holotype):** Body form, color and pubescence as in Fig. 31. Head and eyes feebly convex; eyes not protruding from head outline. Pronotum markedly convergent apically, widest at basal half, sides subparallel in basal half, arcuately convergent in apical half; apical pronotal margin distinctly narrower than basal margin; anterior pronotal lobe large and slightly projecting beyond anterior pronotal angles; posterior angles subrectangular; pronotal disk markedly convex, with distinct, oval, prescutellar impression; lateral impressions absent; prehumeral long, extending beyond half of pronotal length, sharply costate, rectilinear in basal half, feebly arcuate to margin in apical half, apex distant from marginal carina (lateral view).



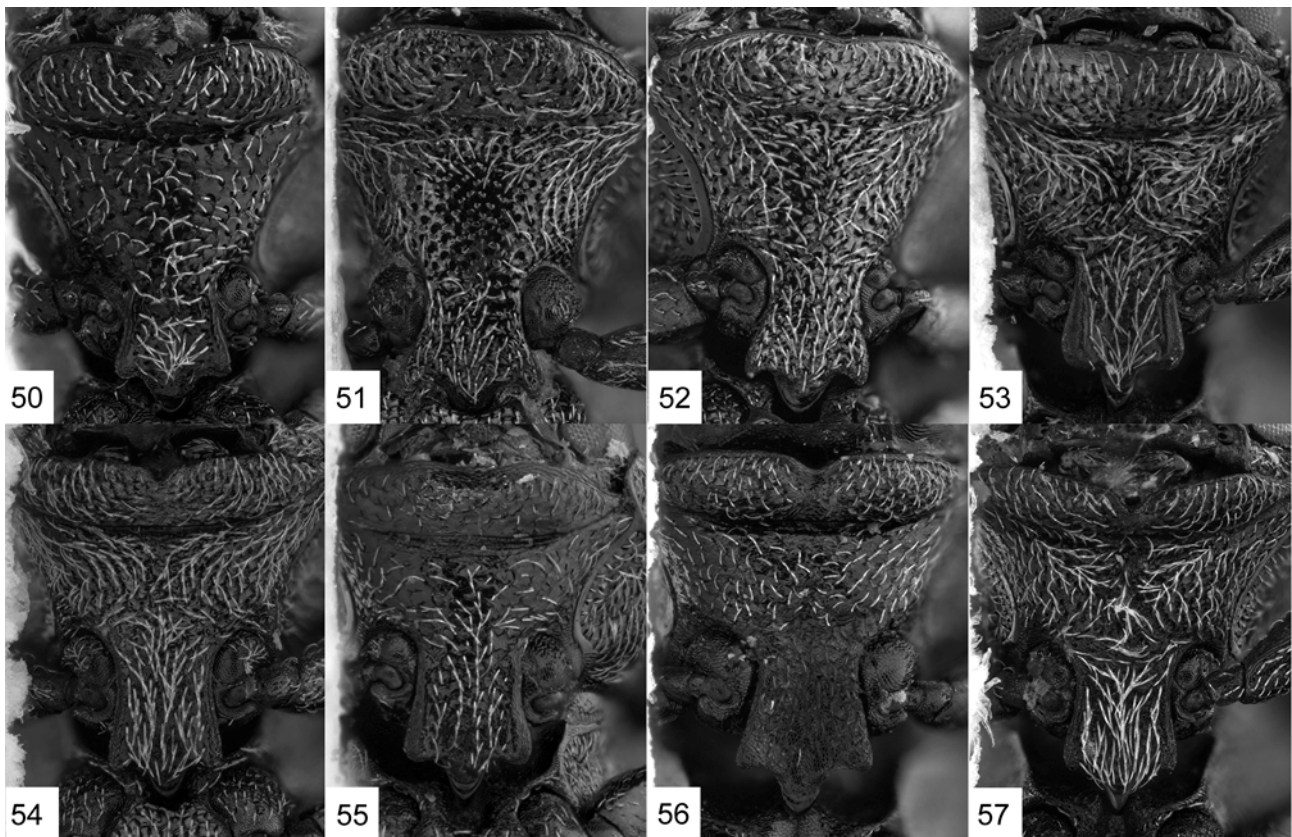
**FIGURES 31–33.** Habitus of 31) *A. carinelytratus* Jendek **sp. nov.**, Paratype; 32) *A. kurumi*–Japan (Ibaraki); 33) *A. mirei*–North Vietnam. Scale bar = 1 mm.

Elytra with obvious humeral carinae extending to apical end of epipleuron, monochromatic golden-green combined with bichromatic yellowish and white ornamental pubescence; apices narrowly, separately, subangulately arcuate.

Prosternum (Fig. 55): Prosternal lobe large, subtruncate, slightly bent at margin; prosternal process broad, with moderately, rectilinearly expanded sides, disk faintly impressed, lateral corners somewhat protruding



**FIGURES 34–49.** Prosternum of 34) *A. nalandae*; 35) *A. aurosus*; 36) *A. rolciki* Jendek **sp. nov.**; 37) *A. cuneatus* Jendek **sp. nov.**; 38) *A. ventrituber* Jendek **sp. nov.**; 39) *A. spiculipenis* Jendek **sp. nov.** 40) *A. aurarius*; 41) *A. mallotiellus*; 42) *A. madanensis* Jendek **sp. nov.**; 43) *A. haucki* Jendek **sp. nov.**; 44) *A. liscapia*; 45) *A. coraeoides*; 46) *A. hunanus* Jendek **sp. nov.**; 47) *A. apicaureus* Jendek **sp. nov.**; 48) *A. muscarius*; 49) *A. semicaducus* Jendek **sp. nov.**



**FIGURES 50–57.** Prosternum of 50) *A. ventripotens*; 51) *A. pseudoharlequin*, Jendek **sp. nov.**; 52) *A. siamensis*; 53) *A. tiomanensis* Jendek **sp. nov.**; 54) *A. dilatipenis* Jendek **sp. nov.**; 55) *A. carinelytratus* Jendek **sp. nov.** 56) *A. kurumi*; 57) *A. mirei*.

ventrad. Basal part of intercoxal process with spinuliform protrusion medially; basal abdominal ventrite without tubercles; apex of last abdominal ventrite distinctly emarginate.

Aedeagus (Fig. 74).

**Length.** 3.9–4.0 mm, Holotype 3.9 mm.

**Sexual dimorphism.** Female has prosternal process flat with uniplanar lateral angles, lacking spinuliform protrusion on intercoxal process.

**Variability.** Paratypes are golden-bronze, with pronotal sides slightly emarginate before subacute basal angles.

**Type series.** Holotype ♂ (EJCB): “Malacca Perak W. Doherty”. Paratypes (2 exs): 1 ♀ (EJCB): “Perak Malacca (Doherty)”; 1 ♀ (EJCB): “Malaysia, Pahang distr., 30km NE Raub, Lata Lembik, 3°56'N,; 101°38'E, 200–400 m, 22.IV.–1.V., 8–15.V.2002, E. Jendek & O. Šauša leg.”. **Type locality.** Malaysia, Melaka state, Malacca [= Melaka, 102°15'E, 02°12'N].

**Distribution.** Mainland Malaysia: Melaka, Pahang.

**Etymology.** The name is a compound word derived from the Latin word *carina* (keel-like part or ridge) and Greek *elytra* (one of the pair of hardened forewings of certain insects) to stress the very long humeral carinae of this species.

### *Agrilus kurumi* Kurosawa

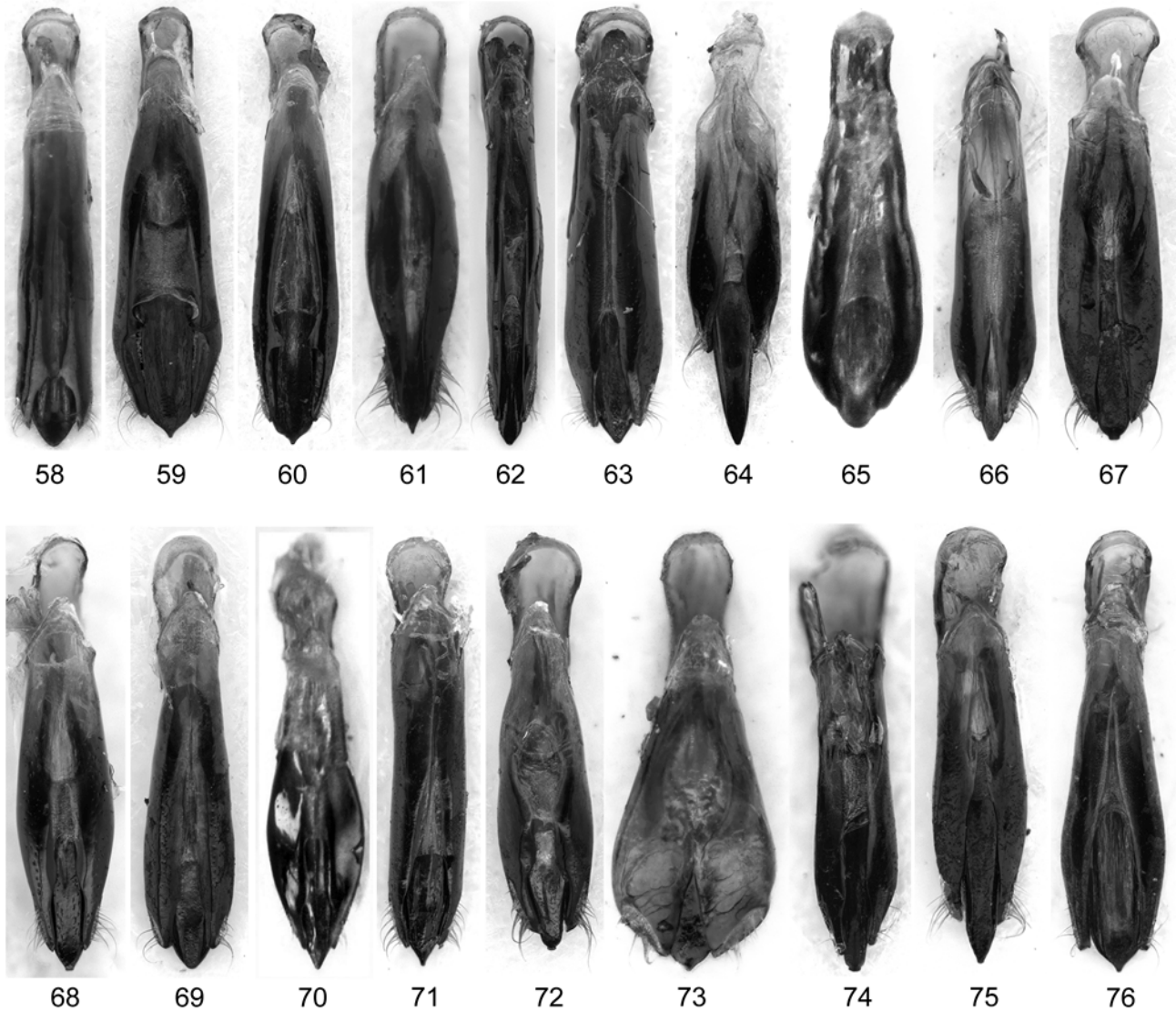
Figs. 32, 56, 75

*kurumi* Kurosawa, 1957: 187–189.

Kurosawa, 1963b: 154. Kurosawa, 1974b: 1, 2. Alexeev, 1979: 136–137 [subgenus *Austragrilus*]. Tōyama, 1985: 20. Hirashima, 1989: 323. Alexeev, 1989: 482. Li Jingke, 1992: 92 [cited as *kulumi*]. Morimoto & Tadauchi, 1995:

231. Akiyama & Ohmomo, 1997: 35. Alexeev, 1998: 374. [subgenus *Austragrilus*]. Fukutomi & Hori, 2004: 5–6. Jendek, 2006: 390 [subgenus *Austragrilus*].

**Diagnosis.** This species (Fig. 32), together with *A. mirei* (Fig. 33), is characteristic by the obsolete elytral pubescence in comparison with other members of *A. muscarius* species-group. *Agrilus kurumi* may be distinguished from *A. mirei* by the flat pronotum with the less arcuate sides.



**FIGURES 58–76.** Aedeagus of 58) *A. aurosus*; 59) *A. rolciki* Jendek **sp. nov.**; 60) *A. cuneatus* Jendek **sp. nov.**; 61) *A. ventrituber* Jendek **sp. nov.**; 62) *A. spiculipenis* Jendek **sp. nov.**; 63) *A. mallotiellus*; 64) *A. haucki* Jendek **sp. nov.**; 65) *A. acastus*; 66) *A. hunanus* Jendek **sp. nov.** (basal piece missing); 67) *A. apicaureus* Jendek **sp. nov.**; 68) *A. muscarius*; 69) *A. semicaducus* Jendek **sp. nov.**; 70) *A. harlequin*; 71) *A. pseudoharlequin* Jendek **sp. nov.**; 72) *A. tiomanensis* Jendek **sp. nov.**; 73) *A. dilatipenis* Jendek **sp. nov.**; 74) *A. carinelytratus* Jendek **sp. nov.**; 75) *A. kurumi*; 76) *A. mirei*.

**Length.** 4.1–5.0 mm.

**Variability.** Specimens vary in body shape (robust–elongate), color of elytra (combination of blackish with gold or green patterns), prosternal lobe (arcuately emarginate or incised) and sides of prosternal process (expanded arcuately or rectilinearly).

**Type series.** *Agrilus kurumi* Kurosawa, 1957. Holotype: sex not examined, NSMT: “[Japanese script] Kiso 5.VII.1947 T. Nakane [h] \ HOLOTYPE [p] *Agrilus kurumi* Y. Kurosawa, 1957 [h] [red label]”.

Described from eight males and six females. **Type locality.** Japan, Nagano Pref., Komanoyu, near Kiso-Fukushima.

**Specimens examined.** **CHINA: Shaanxi:** 1 ex (EJCB): “China, Shaanxi prov., 21–23. June 1998 // Qin Ling Shan mts, 1000 m road Baoji-Taibai vill., pass 40 km S Baoji, Zd. Jindra lgt.”; **JAPAN: Honshu:** 1 ♂ 1 ♀ (EJCB): “Mt. Hanazono, Ibaraki Pref., Japan, 23.VII.1977, A. Nishiyama leg.”; **RUSSIA: Primorye:** 1 ♂ (EJCB): “SSSR, Primorskij k., Kajmanovka, 10–22.vii.1993, Z. Kletečka leg.”; 1 ♀ (EJCB): “Sib. or. -m., Primorje, Ussuri res. 20.7.1990, Kadlec + Voříšek lg.”; 1 ♀ (EJCB): “Russia, Primorskij k., Kajmanovka, 10–22.vii.1993, Z. Kletečka leg.”; 1 ex (EJCB): “SSR, Primorsk, Pogranichnyi, Pisarenko”; 1 ex (EJCB): “Prim. kr. Chuguevskii r-n., s. Zavetnoe, kedrovo-shirokol. les, 26.8.76g, V. Kuznetsov [in Russian]”; 1 ex (EJCB) “SE Maritime Prov., Lazovsky dist., Lazo env., 10.07.04 leg. M. & L. Smirnov's”.

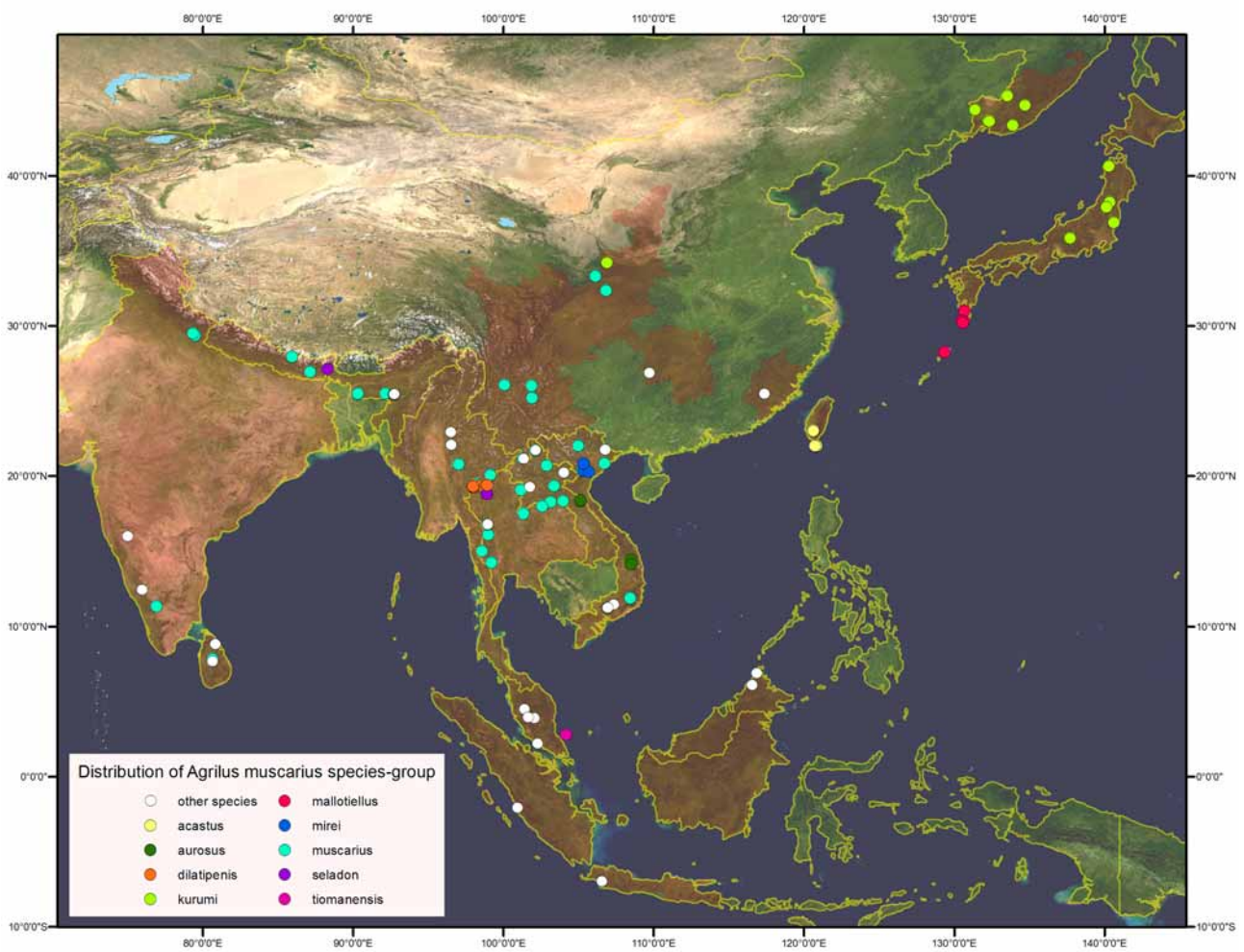
**Distribution.** Northern China: Shaanxi; Japan: Hokkaido, Honshu; Eastern Russia: Primorye.

**Remarks.** Alexeev (1979) reported *Juglans mandshurica* and Akiyama & Ohmomo (1997) reported *Juglans sieboldiana* as host plants of this species.

### *Agrilus mirei* Descarpentries & Villiers

Figs. 33, 57, 76

*mirei* Descarpentries & Villiers, 1963: 108, 117.



77

**FIGURE 77.** Distribution of the *Agrilus muscarius* species-group.

**Diagnosis.** This species (Fig. 33) is distinctive by the flatter pronotum, which is widest in the middle and with sides markedly arcuate. Elytra uniformly black; prosternal lobe deeply incised (Fig. 57); prosternal process expanded, sides rectilinear (Fig. 57); basal abdominal ventrite with tubercles in male and apex of last abdominal ventrite subtruncate or faintly emarginate. Aedeagus (Fig. 76).

**Length.** 4.5–5.0 mm.

**Type series.** *Agrilus mirei* Descarpentries & Villiers, 1963. Holotype: ♂, MNHN: “TONKIN [p] VII [h] Hoa-Binh leg. A de Cooman [p][orange label] \ *Agrilus mirei* n. sp. Holotype ♂ nob[is]. A. Descarpentries et [h] A. Villiers det. 19 [p] 62 [h] \ Muséum Paris Coll. générale [p] [yellow label]”. The exact number of paratypes was not specified. **Type locality.** Tonkin: Hoa Binh.

**Specimens examined. VIETNAM: Hoa Binh:** 1 ex (EJCB): “Tonkin, Région de Hoa Binh”; **Ninh Binh:** 1 ♀ (EJCB): “Vietnam N, Tonkin, Cuc-Phuong nat.park, 2–12.V.1991, E. Jendek leg.”; 2 ♂ (EJCB): “N Vietnam, 20°15N, 105°42E, 75 km SW of Hanoi, 21–22.v.1996, Cuc Phuong, Dembický & Pacholátko leg.”.

**Distribution.** northern Vietnam: Hoa Binh, Ninh Binh.

### Synoptic catalog of the *Agrilus muscarius*–species group

*acastus* Kerremans, 1913

= *horni* (Kerremans, 1914)

= *ohbayashii* Tôyama, 1987

*apicaureus* Jendek, **sp. nov.**

*aurarius* (Kerremans, 1892) **comb. nov.**

= *bocae* Descarpentries & Villiers, 1963 **syn. nov.**

*aurosus* Descarpentries & Villiers, 1963

*carinelytratus* Jendek, **sp. nov.**

*coraeboides* Kerremans, 1900

*cuneatus* Jendek, **sp. nov.**

*dilatipenis* Jendek, **sp. nov.**

*gunjii* Tôyama, 1987

*harlequin* Obenberger, 1924

*haucki* Jendek, **sp. nov.**

*hunanus* Jendek, **sp. nov.**

*kurumi* Kurosawa, 1957

*liscapia* Jendek, 2003

= *apicalis* (Bourgoin, 1923)

*madanensis* Jendek, **sp. nov.**

*mallotiellus* Kurosawa, 1985

= *malloti* Kurosawa, 1957

*mirei* Descarpentries & Villiers, 1963

*muscarius* Kerremans, 1895

= *seladon* Obenberger, 1940 **syn. nov.**

= *komiyai* Tôyama, 1987

*nalandae* Théry, 1904

*palii* Baudon, 1968

*pseudoharlequin* Jendek, **sp. nov.**

*rolciki* Jendek, **sp. nov.**

*samboides* Fisher, 1930

*semicaducus* Jendek, **sp. nov.**

*siamensis* Tôyama, 1987

*spiculipenis* Jendek, **sp. nov.**  
*tiomanensis* Jendek, **sp. nov.**  
*ventripotens* Kerremans, 1900  
= *ventralis* Kerremans, 1893  
*ventrituber* Jendek, **sp. nov.**

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