Revision of the *Agrilus spectabilis* species-group (Coleoptera: Buprestidae: Agrilinae)

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Taxonomy, new species, synonymy, lectotype designation, key

**Abstract.** The *Agrilus occipitalis* species-group, with seventeen included species, is defined and diagnosed. A complete list of references, examined type and non-type material, known host plants and distribution overview are given for each taxon. A key and a table with selected diagnostic characters are given for all the taxa to facilitate their determination. Habitus and aedeagi of all taxa are pictured. The following new taxonomic and nomenclatural acts are proposed. Eight new species are described as follows: *Agrilus calcarifer* sp. nov., *A. capricornus* sp. nov., *A. fasciatus* sp. nov., *A. imitor* sp. nov., *A. lampros* sp. nov., *A. magnificus* sp. nov., *A. montanus* sp. nov. and *A. tricoloris* sp. nov. Proposed synonym: one new synonym is proposed: *motobuanus* Fukutomi, 2006 syn. nov. (synonym of *obscurecinctus* Obenberger, 1935). New lectotype designation: one lectotype is designated: *Agrilus amulius* Obenberger, 1936.

**INTRODUCTION**

The newly established *A. spectabilis* species-group comprises species with a contrasting dark pattern on the pronotum and elytra which rarely occurs in *Agrilus*. Some species of this group were included by Jendek & Grebennikov (2011) in the *A. smaragdinus* species-group, based on the similar body shape and reduced or missing prehumerus. However, different trends in the dorsal coloration (contrasting dark striae) and pubescence (elytral spots), as well as the unique sexual modifications in male (clusters of setae on basal ventrite, modifications of tibiae) qualify a separate group for these splendid and striking species.

Two species from *A. smaragdinus* species-group, *A. peregrinus* Kiesenwetter, 1879 and *A. notoclavus* Jendek, 2000, are intermediate species which can also be included in *A. spectabilis* species-group, mostly due to the similar dark patterns of the dorsal side. Both species were retained in the original group because of their presumed closer relation to *A. smaragdinus* Solsky, 1876. The *spectabilis* species-group consists of seventeen taxa from East Palaearctic and Oriental Regions. Despite the striking appearance, some species are very similar and can be reliably determined only from the male characters on the ventral side and aedeagus. For this reason, the key to species is exclusively based on the male characters. The female sexual modifications are mentioned in each species.

**MATERIAL AND METHODS**

The format of the taxonomic part, style of the new species descriptions and morphological terms follow those used in Jendek & Grebennikov (2011). According to Article 74.7.3 of the
ICZN (1999), lectotype designations after 1999 “must contain an express statement of the taxonomic purpose of the designation”. Lectotype designation herein is provided in order to preserve the stability of nomenclature by fixing the status of the specimen as the sole name-bearing type of a particular nominal taxon. Annotations, addenda or comments are cited in square brackets [ ].

Abbreviations for collections
EJCB  Collection of E. Jendek, Bratislava, Slovak Republic [currently in Ottawa, Canada];
EKCS  Collection of E. Kučera, Soběslav, Czech Republic;
MHN B  Muséum d’histoire naturelle, Béziers, France;
MNHN  Muséum national d’Histoire Naturelle, Paris, France;
NMPC  National Museum (Natural History), Prague, Czech Republic;
NMW  Naturhistorisches Museum Wien, Wien, Austria;
NSMT  National Science Museum (Natural History), Tokyo, Japan;
PMCL  Collection of P. Moravec, Litoměřice, Czech Republic;
ZIN  Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia.

TAXONOMY

Agrilus spectabilis species-group
Figs 1-18 (habitus) Figs 19-35 (aedeagi)

Diagnosis. Size: 5.7-13 mm Body with a contrasting dark medial stripe along the pronotum and/or elytra. Prehumerus absent, rarely indicated in the form of short carina or tuberculus at posterior pronatal angles. Elytra without extensive and discernible pubescence; sometimes with 1-3 pairs of pubescent or tomentose spots or patches. Elytral apices separately arcuate, rarely separately subangulate or cuspidate. Sexual modifications in male are expressed by modifications of legs (bent mesotibia with spur-like apex); prosternal process (shape, protuberances, pubescence) and basal ventrite (1-2 medial clusters of setae). Female with markedly elongate ovipositor.

Distribution. East Asia: CHINA (Fujian, Guizhou, Hunan, Jiangxi, Taiwan, Yunnan); JAPAN (Ryukyu islands). South Asia: INDIA (Arunachal Pradesh, Meghalaya, Sikkim, West Bengal); NEPAL. Southeast Asia: LAOS, MYANMAR, THAILAND and VIETNAM.

Host plants. Alnus nepalensis D. Don (Betulaceae); Acer oblongum itoanum Hayata (Sapindaceae).

KEY TO MALES

Larger species (8.2-13.0 mm), pronotum unicolored or with single dark medial fascia; elytra with dark perisutural fascia, glabrous, rarely with whitish strip of pubescence in apical fourth; prosternal process narrowed rarely subparallel, disk glabrous with medial carina or medial protuberance, rarely disk flat, with dense pubescence; basal ventrite medially with single or two small clusters of setae (Figs 1-6) ..................2

- Smaller species (4.8-10.0 mm), body rarely over 8 mm; pronotum unicolored or with single or double dark
medial fascia; elytra with dark perisutural fascia or whole apex, rarely the whole elytra unicolored; elytra with 1-3 pairs of pubescent or tomentose spots, which are rarely obscure or absent; prosternal process flat or convex on disk, very rarely with medial carina; basal ventrite without discernible sexual modifications (Figs 7-18) .......................................................... 7

2 Eyes small, distinctly smaller than half width of vertex; frons markedly convex and protruding beyond head outline; elytra with whitish, elongate perisutural strip of pubescence in apical part; basal ventrite with a single medial cluster of setae; body size: 8.6-10.4 mm .......................................................... A. capricornus sp. nov. (Fig. 1 habitus, Fig. 19 aedeagus)

- Eyes larger, about as large as or larger than half width of vertex; frons flat or convex but not protruding beyond head outline; elytra glabrous; basal ventrite with two medial clusters of setae (Figs 2-6) .......................................................... 3

3 Pronotum unicolored; prosternal process subparallel on disk, with obvious dense, erect, white pubescence; body size: 8.4-10.2 mm .......................................................... A. lampros sp. nov. (Fig. 2 habitus, Fig. 20 aedeagus)

- Pronotum with single dark medial fascia; prosternal process narrowed and glabrous on disk, with medial carina or protuberance .......................................................... 4

4 Prosternal process with elongate medial protuberance; dark medial strip on vertex obvious................5

- Prosternal process with sharp medial carina; dark medial strip on vertex missing or obscure ........6

5 Elytral apices narrowly subangulate; aedeagus slender, long and widest at apex; body size 9.5-11.4 mm .......... A. loosdregti (Fig. 3 habitus, Fig. 21 aedeagus)

- Elytral apices subcarinate; aedeagus shorter and subparallel; body size: 9.4-11.6 mm .......................................................... A. fasciatus sp. nov. (Fig. 4 habitus, Fig. 22 aedeagus)

6 Elytral apices cuspidate; pronotal sides feebly arcuate or almost subparallel; pronotal disk with narrow lateral impressions; aedeagus subparallel; body size: 8.2-11 mm .......................................................... A. calcarifer sp. nov. (Fig. 5 habitus, Fig. 23 aedeagus)

- Elytral apices arcuate or subangulate; pronotal sides distinctly arcuate; pronotal disk without lateral impressions; aedeagus widest at apex; body size: 10.0-13.0 mm .......................................................... A. priamus (Fig. 6 habitus, Fig. 24 aedeagus)

7 Elytra unicolored, black or brown-violet; pronotum bicolor with golden sides; elytra with 2-3 pairs of tomentose or pubescent spots (Figs 7-8) .......................................................... 8

- Elytra bicolor with dark medial fascia; pronotum bicolor, rarely unicolored; elytra with or without spots (Figs 9-18) .......................................................... 9

8 Pronotal disk with two medial fasciae; eyes larger, almost as wide as half of vertex; body size: 6.2-8.6 mm ... A. montanus sp. nov. (Fig. 7 habitus, Fig. 25 aedeagus)

- Pronotal disk with single wide medial fascia; sides golden; eyes distinctly smaller than half of vertex; body size 8.8 mm .......................................................... A. aurinotus (Fig. 8 habitus, Fig. 26 aedeagus)

9 Prosternal process strikingly dilated.......................................................... 10

- Prosternal process deeply impressed on disk, with sides distinctly exerted; pronotum and vertex carmine or golden-orange without dark fascia, elytral apices arcuate; body size: 6.2-9.4 mm .......................................................... A. tricoloris sp. nov. (Fig. 9 habitus, Fig. 27 aedeagus)

- Pronotum flat on disk, with sides faintly exerted; pronotum with obvious dark, medial fascia, Elytral apices subangulate; body size 7.5-10 mm .......................................................... A. obscurecinctus (Fig. 10 habitus, Fig. 28 aedeagus)

10 Elytra with dark apical third or half; body size 6.1-8.6 mm .......................................................... A. fusciapex (Figs 11-12 habitus, Fig. 29 aedeagus)

- Elytra with dark perisutural fascia .......................................................... 12

11 Elytra with dark perisutural fascia not extending to anterior elytral margin; body smaller, rarely larger than 6 mm; body size 4.2-7.1 mm .......................................................... A. lacrima (Fig. 13 habitus, Fig. 30 aedeagus)

- Elytra with dark perisutural fascia extending to anterior elytral margin; body larger, rarely smaller than 6 mm .......................................................... A. spectabilis (Fig. 14 habitus, Fig. 31 aedeagus)

12 Frons markedly protruding beyond head outline, body slender, body size 6.5-9.8 mm .......................................................... A. speculifera (Fig. 15 habitus, Fig. 32 aedeagus)

- Frons not protruding beyond head outline, body normal or robust ...................... 14

13 Elytra with medial and apical pairs of spots; dark perisutural fascia behind medial pair of spots abruptly expanded; body size: 5.7-7.5 mm .......................................................... A. initiator sp. nov. (Fig. 16 habitus, Fig. 33 aedeagus)

- Elytra with only apical pair of spots; dark perisutural fascia gradually expanded .......................................................... 15
<table>
<thead>
<tr>
<th>Species</th>
<th>Fasciae on pronotum</th>
<th>Dark pattern on elytra</th>
<th>Apex of elytra</th>
<th>Prosternal process</th>
<th>Eyes</th>
<th>Frons</th>
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<tr>
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<td>arcuate</td>
<td>markedly dilated, impressed</td>
<td>medium</td>
<td>frons not protruding</td>
</tr>
</tbody>
</table>

Table 1. Selected diagnostic characters for species of the A. spectabilis species-group.

15 Pronotum with two obvious, dark, medial fasciae; interspace between fasciae not wider than width of fascia.
16 Pronotum with two obvious, dark, medial fasciae; interspace between fasciae narrower than width of fascia; aedeagus robust, sometimes slightly asymmetric, widest before apex; body size 6.3-8.6 mm.

A. odetteae (Fig. 16 habitus, Fig. 33 aedeagus)
A. magnificus (sp. nov. (Fig. 17 habitus, Fig. 34 aedeagus)
A. amulius (Fig. 18 habitus, Fig. 35 aedeagus)

16 Pronotum unicolored, with single or two obscure fasciae; interspace between fasciae subequal to or wider than width of fascia; aedeagus subparallel or widest before apex; body size 5.9-8.8 mm.

A. lacrima (Fig. 17 habitus, Fig. 34 aedeagus)
A. amulius (Fig. 18 habitus, Fig. 35 aedeagus)
Figs 1-6. Habitus of *Agrilus*: 1- *A. capricornus* sp. nov., holotype, 9.4 mm; 2- *A. lampros* sp. nov., holotype, 8.4 mm; 3- *A. loosdregti* Baudon, 1965, holotype, 9.5 mm; 4- *A. fasciatus* sp. nov., holotype, 9.4 mm; 5- *A. calcarifer* sp. nov., holotype, 9.6 mm; 6- *A. priamus* Kerremans, 1912, lectotype, 11.5 mm.
Figs 7-12. Habitus of *Agrilus*: 7- *A. montanus* sp. nov., holotype, 6.8 mm; 8- *A. aurinotus* Jendek, 2011, holotype, 8.8 mm; 9- *A. tricoloris* sp. nov., holotype, 8.2 mm; 10- *A. obscurecinctus* Obenberger, 1935 (displayed is the lectotype of *nigricinctus* Kerremans, 1912); 11- *A. fusciapex* Jendek, 2011, holotype, 7.7 mm; 12- *A. fusciapex* Jendek, 2011, variety, 7.2 mm.
Figs 13-18. Habitus of *Agrilus*: 13- *A. lacrima* Jendek, 2011, holotype, 7.1 mm; 14- *A. spectabilis* Kerremans, 1895, 8.4 mm; 15- *A. imitor* sp. nov., holotype, 6.7 mm; 16- *A. odetteae* Baudon, 1968, holotype, 6.5 mm; 17- *A. magnificus* sp. nov., holotype, 6.4 mm; 18- *A. amulius* Obenberger, 1936, lectotype, 7.0 mm.
**Agrilus amulius** Obenberger, 1936
Fig. 18 (habitus) Fig. 35 (aedeagus)

*amulius* Obenberger, 1936 (*Agrilus*)

**Type locality.** Formosa.

**Type specimens.** Lectotype by present designation, ♂ (NMPC): “Formosa: Musha [h] \ Agrilus Amulius m. Type [h] Det. Dr. Obenberger [p] \ Typus [p] [red label] \ Mus. Nat. Pragae Inv. [p] 26861 [h] [orange label]”. Described from unknown number of syntypes.

**Specimens examined.** The species is known only from the lectotype.

**Sexual modifications.** Unknown.

**Variability.** Unknown.

**Differential diagnosis.** Size 7.0 mm. The taxonomic concept of this species remains unclear (see Remarks). The size of eyes, shape of pronotum, shape of elytral apices and ventral side characters (prosternal lobe; prosternal process) are similar to those of *A. odettae* Baudon, 1968 and *A. magnificus* sp. nov., but *A. amulius* is distinctive by the short vestigial prehumerus, unicolored pronotum and by the form of aedeagus.

**Distribution.** CHINA: Taiwan.

**Remarks.** The lectotype was not available for this study. It was briefly studied and photographed by the author in 1999. Characters, type label data and type image were provided by the NMP curator Vit Kubáň who kindly remounted and examined the lectotype, especially ventral side characters and genitalia. The dark perisutural fascia on elytra is not clear from the latest picture (Fig. 18) but it is present as discernible on the image from 1999.

**Agrilus aurinotus** Jendek, 2011
Fig. 8 (habitus) Fig. 26 (aedeagus)

*aurinotus* Jendek, 2011 (*Agrilus*)

**Type locality.** China, Guizhou province, Leishan Co., southeastern Kaili, 15 km eastern Leishan, Leigong Shan, eastern slope, 26°23.39’N, 108°13.33’E, about 2.5 km eastern of pass between Leishan and Fangxiang village, altitude about 1600 m.


**Specimens examined.** The species is known only from the holotype.
Sexual modifications. Unknown.

Variability. Unknown.

Differential diagnosis. Size 8.8 mm. *Agrilus aurinotus* and *A. montanus* sp. nov. are the only species of the *A. spectabilis* species-group having elytra dark unicolored with medial and apical pair of obscure spots. The species can be distinguished by characters given in the key.

Distribution. CHINA: Guizhou.

*Agrilus calcarifer* sp. nov.

Fig. 5 (habitus) Fig. 23 (aedeagus)

Type locality. Laos central, Bolikhamxai province, Ban Nape - Kaew Nua Pass, altitude 600±100 m, N 18°22.3, E 105°09.1.


Legs. Metatarsus. Length to mesotarsus: obviously longer than mesotarsus, Length to metatibia: about as long as or longer than metatibia. Tarsomere 1. Length to following tarsomeres: subequal or longer than 2-4.

**Sexual modifications.** ♂: antennae somewhat longer; apex of protibiae and mesotibiae with obvious spur-like projection; metatibia longer than mesotibia; prosternal process with sharp medial carina; basal ventrite medially with two clusters of setae. ♀: prosternal process flat; basal ventrite glabrous.

**Variability.** Not apparent except for the size.

**Differential diagnosis.** Size: 8.2-11 mm. *Agrilus calcarifer* sp. nov. is very similar to *A. priamus*, *A. loosdregti* and *A. fasciatus* sp. nov by the size, general appearance and mainly by the presence of small, oval, reddish clusters of setae in the middle of basal abdominal ventrite in male. It differs from *A. loosdregti* and *A. fasciatus* by the prosternal process armed with a sharp medial carina similarly to that of *A. priamus*. It can be distinguished from *A. priamus* by the characters given in the key.

**Distribution.** LAOS: Bolikhamxai.

**Etymology.** The specific name is derived from the Latin noun *calcar* (spur) and the verb *fero* (carry, bear); it refers to the obviously modified, spur-like distal end of mesotibia in male.

*Agrilus capricornus* sp. nov.

Fig. 1 (habitus) Fig. 19 (aedeagus)

**Type locality.** Laos central, Bolikhamsai province, Ban Nape - Kaew Nua Pass, altitude 600±100 m, N 18°22.3, E 105°09.1.

**Type specimens.** Holotype (♂, 1 ♀, paratype) (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.”; (8 paratypes) (EJCB): “Laos-CE., 1-18.v.2001, Bolikhamsai prov., 18°21'n, 105°08'E, Ban Nape (8 km NE), ~600 m, Pacholatko leg.”.

**Description of holotype.** (Size 9.4 mm). Body. Shape: cuneiform, Build: robust, Profile: convex, Colour (dorsally): bicolor.


Legs. Metatarsus. Length to mesotarsus: obviously longer than mesotarsus, Length to metatibia: about as long or longer than metatibia. Tarsomere 1. Length to following tarsomeres: subequal to or longer than 2-4.


Sexual modifications. ♂: body usually more slender; prosternal process with sharp medial carina and basal ventrite with single cluster of setae. ♀: prosternal process flat; basal ventrite glabrous.

Variability. Not apparent except for the size.

Differential diagnosis. Size: 8.6-10.4 mm. Agrilus capricornus sp. nov. belongs to species with clusters of setae on the basal ventrite in male. The species is very distinctive by having only a single cluster of setae in the middle of basal ventrite and by having the frons obviously protruding beyond the head outline.

Distribution. LAOS: Bolikhamxai.

Etymology. The specific name is the Latin noun capricornus (goat) in apposition; it refers to the obviously protruding vertex of this species.

Agrilus fasciatus sp. nov.

Fig. 4 (habitus) Fig. 22 (aedeagus)

Type locality. China, Yunnan province, Xishuangbanna, Ganlanba, altitude 570 m.

Type specimens. Holotype (♂) (EJCB): “Yun’nan’. Ganlanba, 570 m, 16.iv.1957, Van Shu-yun [in Russian]

\ Yunnan: Xishuangbanna, Ganlanba, 570 m, 1957.iv.16, Shu-Yong Wang leg. [in Chinese]”; (1 ♀ paratype)

(USNM): “Thailand: Doi Suthep; Chiang Mai, 1 July 1987, A. Cotton”; (1 ♀ paratype) (EJCB): “Laos centr.,

3.v.1997, 95 km N Vientiane (road 13), N 18°46.0, E 102°24.3, 260 m, E. Jendek & O. Šauša leg.”.


Legs. Metatarsus. Length to mesotarsus: obviously longer than mesotarsus, Length to metatibia: about as long as or longer than metatibia. Tarsomere 1. Length to following tarsomeres: subequal to or longer than 2:4.


**Sexual modifications.** ♂: characters as those in *A. calcarifer* sp. nov. but prosternal process with medial protuberance. ♀: prosternal process flat; basal ventrite glabrous.

**Variability.** Not apparent except for the size.

**Differential diagnosis.** Size: 9.4-11.6 mm. *Agrilus fasciatus* sp. nov. and *A. loosdregti* have the prosternal process with the elongate protuberance which distinguishes them from other similar species with the small, oval, reddish clusters of setae on basal abdominal ventrite in male. Both species can be distinguished by the characters given in the key. The type specimen of this species from Yunnan was cited by Jendek & Grebennikov (2011) as *A. loosdregti*. Remounting of the specimen revealed distinctive characters on the aedeagus and ventral side.

**Distribution.** CHINA: Yunnan. LAOS: Vientiane. THAILAND: Chiang Mai.

**Etymology.** The specific name is the Latin adjective *fasciatus* (marked with a band or bands). It refers to the obvious medial fascia on the dorsal side of this species.

*Agrilus fusciapex* Jendek, 2011

Fig. 11-12 (habitus) Fig. 29 (aedeagus)

*fusciapex* Jendek, 2011 (*Agrilus*)

**Type locality.** China, Guizhou province, Leishan Co., southeastern Kaili, 15 km E of Leishan, Leigong Shan, eastern slope, 26°23.39'N, 108°13.33'E, about 2.5 km E of pass between Leishan and Fangxiang village, altitude about 1600 m.


2 (EJCB), 2 (USNM): LAOS-NE, Hua Phan Province, Ban Saleui, Phou Pan (Mt), 20°12’N, 104°01’E, 7.iv-25.v.2010, 1300-1900m, leg. C. Holzschuh”; 4 (EJCB), 6 (USNM): “LAOS-NE, Hua Phan Province, Ban Saleui, Phou Pan (Mt), 20°12’N, 104°01’E, 1-31.v.2011, 1300-1900m, leg. C. Holzschuh”; 2 (EJCB), 2 (NMPC): “LAOS-NE, Hua Phan prov., 20°12-13.5’N, 103°59’.5-104°01’E, Ban Saleuy → Phou Pan Mt., 1340-1870m, 22.vi.2011, Vit. Kubáň & Lao coll. leg.”;


**Sexual modifications.** ♂: prosternal process convex on the disk; ♀ prosternal process flat.

**Variability.** Two dark pronotal stripes sometimes obscure; green colour on elytra from brown-green to blue-green; dark colour on apex of elytra from blackish to brown-red; perisutural dark fascia in anterior half of elytra from wide and obvious to narrow and obscure.

**Differential diagnosis.** Size 6.1-8.6 mm. *Agrilus fusciapex* is very distinctive by its elytral pattern. It is the only species with the whole apical half of elytra dark.


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**Agrilus imitor sp. nov.**

Fig. 15 (habitus) Fig. 32 (aedeagus)

**Type locality.** Central Laos, Bolikhamsai province, Ban Nape - Kaew Nua Pass, altitude 600±100 m, N 18°22.3, E 105°09.1.

**Type specimens.** Holotype (♂, 3 paratypes) (EJCB): “Laos centr., Bolikhamsai prov., Ban Nape - Kaew Nua Pass, 18.iv.-1.v.1998, alt. 600±100 m, N 18°22.3, E 105°09.1 (GPS), E. Jendek & O. Šauša leg.”;

1 ♀ (EJCB): “Laos-CE., 1-18.v.2001, Boli Kham Xai prov., 18°21’N, 105°08’E, Ban Nape (8 km NE), ~600 m, Kubáň leg.”;

1 ♂ (EJCB): “Laos-CE., 1-18.v.2001, Boli Kham Xai prov., 18°21’N, 105°08’E, Ban Nape (8 km NE), ~600 m, Pacholátko leg.”.


Legs. Metatarsus. Length to mesotarsus: obviously longer than mesotarsus, Length to metatibia: somewhat shorter than metatibia. Tarsomere 1. Length to following tarsomeres: subequal to or longer than 2-4.


Sexual modifications. ♂: frons golden-green; prosternal process more convex on the disk; ♀: frons blackish; prosternal process less convex or flat.

Variability. Not apparent except for the size.

Differential diagnosis. Size: 5.7-7.5 mm. Agrilus imitor sp. nov. is very similar to A. odetteae and A. magnificus sp. nov. by the size, colour, general appearance and characters on ventral side. It can be distinguished from them by the form of aedeagus (Fig. 32) and by having two pairs of elytral spots (medial and apical) unlike A. odetteae and A. magnificus sp. nov. with only apical spots.

Distribution. LAOS: Bolikhamxai.

Etymology. The specific name is the Latin noun imitor (mimic) in apposition; it refers to the uniform appearance of this species with other species of the A. spectabilis species-group.

Agrilus lacrima Jendek, 2011
Fig. 13 (habitus) Fig. 30 (aedeagus)
lacrima Jendek, 2011 (Agrilus)

Type locality. China, Yunnan province, Gaoligong mts., 24°57’N, 98°45’E, altitude 2200-2500 m.

Type specimens. Holotype (♀) (EJCB): “Yunnan, 2200-2500 m, 24°57’N, 98°45’E, 8-16/5 Gaoligong mts, Vit Kubáň leg., 1995”. Described from holotype.

Sexual modifications. ♂: prosternal process with short medial carina on disk; ♀: prosternal process flat.

Variability. Two dark pronotal fasciae vary from obvious to obscure.

Differential diagnosis. Size 4.2-7.1 mm. Agrilus lacrima is distinctive by the small body; elytra with markedly narrow apex and by the dark elytral fascia not reaching to the humeral margin. From species with the similar size and shape of the body (A. magnificus sp. nov. and A. imitor sp. nov.), it can be easily distinguished by the prosternal process in male, which is armed with a sharp medial carina.


Agrilus lampros sp. nov.

Type locality. North Eastern India, Meghalaya state, altitude 1400 m, Nokrek National Park, 3 km south Daribokgiri, 25°27’N, 90°19’E.


Legs. Metatarsus. Length to mesotarsus: obviously longer than mesotarsus, Length to metatibia: about as long as or longer than metatibia. Tarsomere 1. Length to following tarsomeres: subequal to or longer than 2-4.


Sexual modifications. ♂: ventral side with medial strip of obvious pubescence from prosternum to basal ventrite; basal ventrite with two clusters of white setae; ♀: ventral side without obvious pubescence; basal ventrite glabrous.

Variability. Not apparent except for the size.

Differential diagnosis. Size: 8.4-10.2 mm. *Agrilus lampros* sp. nov. belongs to the species with clusters of setae on the basal ventrite in male. The clusters in this species are whitish and transversely elongate unlike those reddish and oval in other species. The species is also distinctive by an indication of prehumerus at posterior pronotal angles; by lacking dark pronotal fasciae and by the prosternal process which is flat and densely pubescent.

Distribution. INDIA: Meghalaya.

Etymology. The specific name is the Greek adjective *lampros* (bright). It refers to the shiny golden-green elytra of the species.

*Agrilus loosdregti* Baudon, 1965
Fig. 3 (habitus) Fig. 21 (aedeagus)


Type locality. Laos, Paklay.


Specimens examined. See Jendek & Grebennikov (2011).

Sexual modifications. ♂: characters as those of *A. calcarifer* sp. nov. but prosternal process with medial protuberance. ♀: prosternal process flat; basal ventrite glabrous.

Variability. Not apparent except for the size.

Differential diagnosis. Size 9.5-11.4 mm. *Agrilus loosdregti* is very similar to *A. fasciatus* sp. nov. from which it can be distinguished by characters given in the key. The shape of aedeagus is the most reliable character to separate these two species. See also diagnostic at *A. fasciatus* sp. nov.
**Distribution.** LAOS: Xaignabouri. MYANMAR: Shan State.

**Remarks.** The specimen cited by Jendek & Grebennikov (2011) as *A. loosdregti* from Yunnan belongs to *A. fasciatus* sp. nov. See also remarks at *A. fasciatus* sp. nov.

*Agrilus magnificus* sp. nov.

Fig. 17 (habitus) Fig. 34 (aedeagus)

**Type locality.** North Laos, Phongsaly province, 21°41'-2'N, 102°06'-08'E, Phongsaly env., altitude 1500 m.


**Description of holotype.** Size 6.4 mm. Body. Shape: fusiform, Posterior tapering part: long with narrow apex, Profile: convex.


**Sexual modifications.** ♂: frons golden green; prosternal process convex or with a medial protuberance on the disk; ♀: frons golden-orange; prosternal process flat.

**Variability.** Two dark pronotal fasciae missing, rarely slightly indicated.
Differential diagnosis. Size: 5.9-8.8 mm. *Agrilus magnificus* sp. nov. is similar to *A. odetteae*. It can be distinguished from it by medial fasciae on pronotum obscure or absent; by smaller eyes; by more transverse and flat pronotum with markedly arcuate sides and by the shape of aedeagus (Fig. 34).

Distribution. LAOS: Phôngsali.

Etymology. The specific name is the Latin adjective *magnificus* (magnificent; imposing, grandiose). It refers to the appearance of the species.

*Agrilus montanus* sp. nov.

**Type locality.** North-eastern Laos, Hua Phan province, 20°13’N, 103°59’E, Ban Saluei, Phu Phan Mt. env., altitude 1300-2000 m.


**Description of holotype.** Size 6.8 mm. Body. Shape: cuneiform, Colour (dorsally): bicolored.


Legs. Metatarsus. Length to metatibia: somewhat shorter as metatibia. Tarsomere 1. Length to following tarsomeres: subequal to or longer than 2-4.


Sexual modifications. ♂: prosternal process with denser pubescence.

Variability. Elytra in humeral part sometimes with hue of lighter colour.

Differential diagnosis. Size: 6.2-8.6 mm. *Agrilus montanus* sp. nov. and *A. aurinotus* are the only species of the *A. spectabilis* species-group having elytra dark unicolored with medial and apical pair of obscure spots. The species can be distinguished be characters given in the key.


Etymology. The specific name is the Latin adjective *montanus* (pertaining to mountains). It refers to the montane distribution of the species.

*Agrilus obscurecinctus* Obenberger, 1935

Fig. 10 (habitus) Fig. 28 (aedeagus)

= *nigricinctus* Kerremans, 1912 (*Agrilus*; [note: Preoccupied]


*obscurecinctus* Obenberger, 1935 (*Agrilus*; replacement name for *nigricinctus* Kerremans not Saunders)


= *motobuanus* Fukutomi, 2006 (*Agrilus*) syn. nov.


Type material. *Agrilus nigricinctus* Kerremans, 1912. Type locality. [Formosa] Taihorin. Type specimens. Lectotype designated by Jendek (2012). *Agrilus motobuanus* Fukutomi, 2006. Type locality. Oppa-dake, Tamashiro, Nakijin-son, Okinawa-ken. Type specimens. Described from 7 specimens (Holotype, Paratypes). Type specimens preserved in NSMT were not available for this study. The taxonomic concept of *A. motobuanus* was judged from the species description. See also remarks.

Sexual modifications. ♂: prosternal process sparsely pubescent; ♀: prosternal process glabrous.

Variability. Not apparent except for the size.

Differential diagnosis. Size 7.5-10 mm. Agrilus obscurecinctus resembles A. odetteae; A. magnificus sp. nov. and A. imitator sp. nov. by the general appearance, size and elytral patterns, but it is distinctive by having only a single, dark pronotal fascia and by the prosternal process obviously dilated. From A. tricoloris sp. nov. which has the prosternal process similarly dilated, it can be distinguished by the characters given in the key.

Host plants. Acer oblongum itoanum (see Fukutomi 2006).

Distribution. CHINA: Taiwan. JAPAN: Ryukyu isl. (Okinawa incl.).

Remarks. The name nigrinctus Kerremans, 1912 is preoccupied by nigrocinctus [sic!] Saunders, 1874. The names are homonymic and represent identical variant spellings (ICZN Article 58.12).

The specimens of A. obscurecinctus from Taiwan (see specimens examined) were misdetermined by K. Akiyama in 1994 as A. amulis. This misdetermination could be the cause, why Fukutomi (2006) overlooked that his A. motobuanus is conspecific with A. obscurecinctus.

Agrilus odetteae Baudon, 1968

Fig. 16 (habitus) Fig. 33 (aedeagus)

odetteae Baudon, 1968 (Agrilus)

Baudon, 1968: 90, 96-97 (description) - Bellamy, 2008: 2214 (world catalog) - Jendek & Grebennikov, 2011: 145 (references; types; diagnosis; faunal records; distributional summary; East Asia).

Type locality. Laos, Muong-Panh.

Type specimens. Holotype (♀) (MHNB): “Muong Panh 1.iv.64 [h] Laos (Baudon) [p] \ Type [p] [red label] \ Agrilus odetteae Type mihi [h] A. Baudon det. [p]”. Described from holotype.


Sexual modifications. ♂: frons golden-green; prosternal process convex on disk; ♀: frons black; prosternal process flat.
Variability. Dorsal side colour from dark brown-green to golden green or golden-blue; widest part of pronotum between middle and anterior margin; interspace between pronotal fasciae sometimes narrow and obscure; shape of apical pair of elytral spots from oval to subtriangular.

Differential diagnosis. Size 6.3-8.6 mm. *Agrilus odetteae* resembles *A. imitor* sp. nov. and *A. magnificus* sp. nov. by a general appearance. The species is distinctive by obvious, dark, pronotal fasciae with very narrow interspace; by apical pair of elytral spots and by its robust, flat, medially enlarged aedeagus (Fig. 33).

Distribution. CHINA: Fujian; Hunan; Jiangxi; Taiwan. INDIA: Arunachal Pradesh. LAOS: Bolikhamxai; Houaphan; Xiangkhoang. VIETNAM: Cao Bang.

Remarks. The specimen cited as *A. odetteae* by Jendek & Grebennikov (2011) from Vietnam: Fan-ci-pan pertains to *A. montanus* sp. nov.

**Agrilus priamus** Kerremans, 1912

Fig. 6 (habitus) Fig. 24 (aedeagus)

*priamus* Kerremans, 1912 (*Agrilus*)


Type locality. Kosempo et Alikang. [Remark: The type locality “Kosempo Formosa” was determined by the lectotype (ICZN, Article 76.2)].

Type specimens. Lectotype designated by Jendek & Grebennikov (2011).


Sexual modifications. ♂: antennae somewhat longer; apex of protibia and mesotibia with obvious spur-like projection; metatibia longer than mesotibia; prosternal process with sharp medial carina; basal ventrite medially with two clusters of setae. ♀: prosternal process flat; basal ventrite glabrous.

Variability. Not apparent except for the size.

Diagnosis. Size: 10.0 - 13.0 mm. *Agrilus priamus*, together with *A. calcarifer* sp. nov., are the only species with the prosternal process armed with sharp, medial carina, unlike the very similar *A. loosdregti* and *A. fasciatus* sp. nov. which have prosternal process with an elongate protuberance. See also diagnosis at *A. calcarifer* sp. nov.

Distribution. CHINA: Taiwan.
**Agrilus spectabilis** Kerremans, 1895

Fig. 14 (habitus) Fig. 31 (aedeagus)


**Type locality.** Pedong; Sikkim: Kurseong. [Remark: The type locality “Pedong” was determined by the lectotype (ICZN, Article 76.2)].

**Type specimens.** Lectotype designated by Jendek (2005)


**Sexual modifications.** ♂: prosternal process sparsely pubescent; ♀: prosternal process almost glabrous.

**Variability.** Two dark pronotal fasciae vary from obvious to obscure; apical pair of elytral spots sometimes obscure.

**Diagnosis.** Size 6.5-9.8 mm. *Agrilus spectabilis* resembles *A. capricornus* sp. nov. by having the frons and vertex markedly protruding but it differs from it by the body very slender and by two dark pronotal fasciae.

**Host plants.** *Alnus nepalensis* (see examined specimens).

**Distribution.** INDIA: Meghalaya; Sikkim; West Bengal. NEPAL.

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**Agrilus tricoloris** sp. nov.

Fig. 9 (habitus) Fig. 27 (aedeagus)

**Type locality.** North-eastern Laos, Houa Phan province, 20°12-13.5’N, 103°59’.5-104°01’E, Ban Saluei → Phou Pane Mt., 1340-1870 m.


Legs. Metatarsus. Length to metatibia: about as long as or longer than metatibia. Tarsomere 1. Length to following tarsomeres: subequal or longer than 2-4.


Sexual modifications. ♂: frons green; prosternal process obviously dilated and impressed on disk; ♀: frons golden-orange; prosternal process subparallel or slightly dilated, flat on disk.

Variability. Elytra from golden-green to golden-blue.

Diagnosis. Size: 6.2-9.4 mm. Agrilus tricoloris sp. nov. is the only species with the strikingly golden-orange pronotum without dark medial fasciae. The dark perisutural elytral fascia is best visible from the oblique posterior view. The most distinctive character of this species is the shape of prosternal process in male, which is wide and obviously dilated and impressed.
on the disk with acute, exserted angles. See also diagnostic of *A. montanus* sp. nov.

**Distribution.** LAOS: Houaphan. VIETNAM: Cao Bang, Vinh Phuc.

**Etymology.** The specific name is the Latin adjective *tricoloris* (of three colours); it refers to the ventral side colour of the species.

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