

Eight new species of the genus *Agrilus* from Asia (Coleoptera: Buprestidae)

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JENDEK, E. 2000. Eight new species of the genus *Agrilus* from Asia (Coleoptera: Buprestidae). *Entomol. Probl.* 31(2): 149-154. Eight new species of the genus *Agrilus* (Coleoptera, Buprestidae) are described: *A. champasak* sp.nov., *A. myopic* sp.nov., *A. robustipennis* sp.nov., *A. pseudostrinus* sp.nov., *A. gaoligong* sp.nov., *A. notoclavus* sp.nov., *A. charismaticus* sp.nov., *A. horaki* sp.nov.

Key words: Taxonomy, Coleoptera, Buprestidae, *Agrilus*, Palaearctic region, Oriental region.

Introduction

Recent collecting trips of Czech and Slovak entomologists to Asian countries brought extensive material of undiscovered *Agrilus* species. This paper freely follows up the paper of JENDEK (1994) and presents the descriptions of eight new species from China, Laos, Vietnam, India and Indonesia.

Material and methods

The material used for this study is deposited in the following collections (abbreviations are used to refer to collections in the text):

- EJCB Collection E. Jendek, Slovak Academy of Sciences, Bratislava, Slovakia
EKCS Collection E. Kučera, Soběslav, Czech Republic
NMPC Národní Muzeum v Praze, Prague, Czech Republic

Other abbreviations used: DV, dorsal view; FV, frontal view; LV, lateral view; PDV, postero-dorsal view. The backslash “\” is used to separate data from different labels; square brackets “[]” are used for my remarks and complementation; [p], preceding data printed; l : w, proportional rate between maximal length (l) and maximal width (w). The body size is formulated as minimal – maximal length minimal – maximal width.

Vague localities are made more precise using the GEONet Names Server (GNS), which provides access to the database of foreign geographic feature names of the National Imagery and Mapping Agency (NIMA).

Agrilus champasak sp.nov. (Figs. 1, 8)

Type material. Holotype ♂, EJCB: “S LAOS, Cham Pasak pr., 10 – 50 km S of PAKSE [= Pakxe, 15°07'N, 105°47'E], 23-25. v. 1996, 50 – 100 m, C. Holzschuh leg.”

Description. Size 4.9 × 1.3 mm. Body robust, cuneiform, purplish-bronze with bluish tinge; frons golden-green. Frons finely granulate; upper part of frons and vertex (PDV) convex, with distinct medial sulcus. Vertex protruding, longitudinally rugose, 1.9 wider than width of eye. Eyes large, strongly convex, distinctly protruding behind head outline. Antennae very short, barely reaching to anterior pronotal angles; antennomeres 4-10 distinctly wider than long.

Pronotum (l : w = 0.6) widest in anterior third; anterior pronotal lobe only weakly indicated; disk feebly convex, medially with two oval, superficial impressions; lateral impressions narrow, with white sparse pubescence in anterior angles. Prehumerus arcuate, reaching behind basal third of pronotum, rib-like basally, diminishing in pronotal texture apically, not joined with pronotal margin. Marginal and submarginal carinae subparallel, not conjoined in basal part. Scutellum robust; transverse carina present; hind projection long and sharp.

Elytra (l : w = 2.8) in humeral part distinctly wider than pronotal base; apices very narrowly jointly arcuate. Disk with white pubescence apically, adsutural part finely impressed, with yellowish dense V-shaped ornamental pubescence. Metatarsi distinctly shorter than metatibiae; basal metatarsomere shorter than following tarsomeres together.

Lateral thoracic and abdominal portions with patches of white or yellow toment; medial sternal part with dense, erect, white pubescence. Mentonniere robust, regularly arcuate. Prosternal process narrowing between coxae; apex of last ventrite subtruncate, with faint indication of medial incurvation. Aedeagus (Fig. 1).

Differential diagnosis. Very closely related to *A. viduus* KERREMANS, 1914 from which it differs mainly by distinctly smaller and less prolonged body, by less protruding anterior pronotal angles and by form of aedeagus.

Etymology. Substantive in nominative derived from the type locality.



Figs 1 - 7 Aedeagi (dorsal aspect) of: 1) *Agrilus champasak* sp.nov. (1.25 mm); 2) *A. myopic* sp.nov. (1.2 mm); 3) *A. robustipennis* sp.nov. (2.15 mm); 4) *A. gaoligong* sp.nov. (2.8 mm); 5) *A. notoclavus* sp.nov. (1.8 mm); 6) *A. charismaticus* sp.nov. (2.3 mm); 7) *A. horaki* sp.nov. (2.1 mm).

***Agrilus myopic* sp.nov.** (Figs 2, 9)

Type material. **Holotype** ♂, EJC: "CHINA – Sichuan: Paß zw[ischen]. Zhangla [32°48'N, 103°40'E] u[nd]. Huanglong, 4000 m, 27. 6. [19] 96, ERBER [leg.].". **Paratypes:** 1 ♂, 2 ♀♀, EJC, with the same locality data as holotype; 2 ♂♂, EJC: "China (Sichuan) Paß zw[ischen]. Zhangla [32°48'N, 103°40'E] u[nd]. Huanglong, 34 / 3500 m, 30. VI. 1996, Heinz leg."; 1 ♂, EJC: "China, N. Sichuan prov., 60 km S of HONGYUAN [= Qiongx, 32°47'N, 102°32'E], 27-29. 6. 1991, ca 4200 m".

Description. Size 5.4–6.0 × 1.4–1.5 mm. Holotype: Length 5.8 mm, body subparallel, rather flat ventrally; elytra brightly cupreous; head and pronotum darker; underside bronze. Frons flat (DV), rugoso-punctate; vertex convex, with medial sulcus (PDV), roughly spirally rugose; eyes feebly convex, very small, vertex 3.3 as wide as width of eye.

Pronotum (l : w = 0.8) widest at middle; sides incurved before basal angles; anterior lobe weak, not projecting behind anterior angles. Disk flat, roughly rugose; medial sulcus present; lateral impressions wide. Prehumerus rib-like, sharp, feebly arcuate, reaching to basal pronotal third, not approached to pronotal margin. Scutellum with anterior margin strongly arcuate, transverse carina distinct; hind projection sharp and long.

Elytra (l : w = 3) subparallel; apices very widely separately arcuate; disk sparsely, shortly, white pubescent, with distinct adsutural impression in apical third. Metatarsi about as long as metatibiae; basal metatarsomere distinctly shorter than following tarsomeres together.

Mentonniere feebly, arcuately emarginate medially; prosternal process subparallel between coxae, erectly

pubescent; apex of last ventrite very wide; on tip widely, deeply, arcuately emarginate. Aedeagus (Fig. 2).

Sexual dimorphism. Female with last ventrite only with feeble emargination medially; prosternal process without erect pubescence.

Differential diagnosis. By general appearance, small eyes and spiral structure of vertex somewhat resembles *A. integerrimus* (RATZEBURG, 1837), differs from it chiefly by smaller size, body flattened dorsally, sharp prehumera and weak pronotal anterior lobe.

Etymology. Pertaining to or having myopia; near-sighted. Referring to very small eyes.

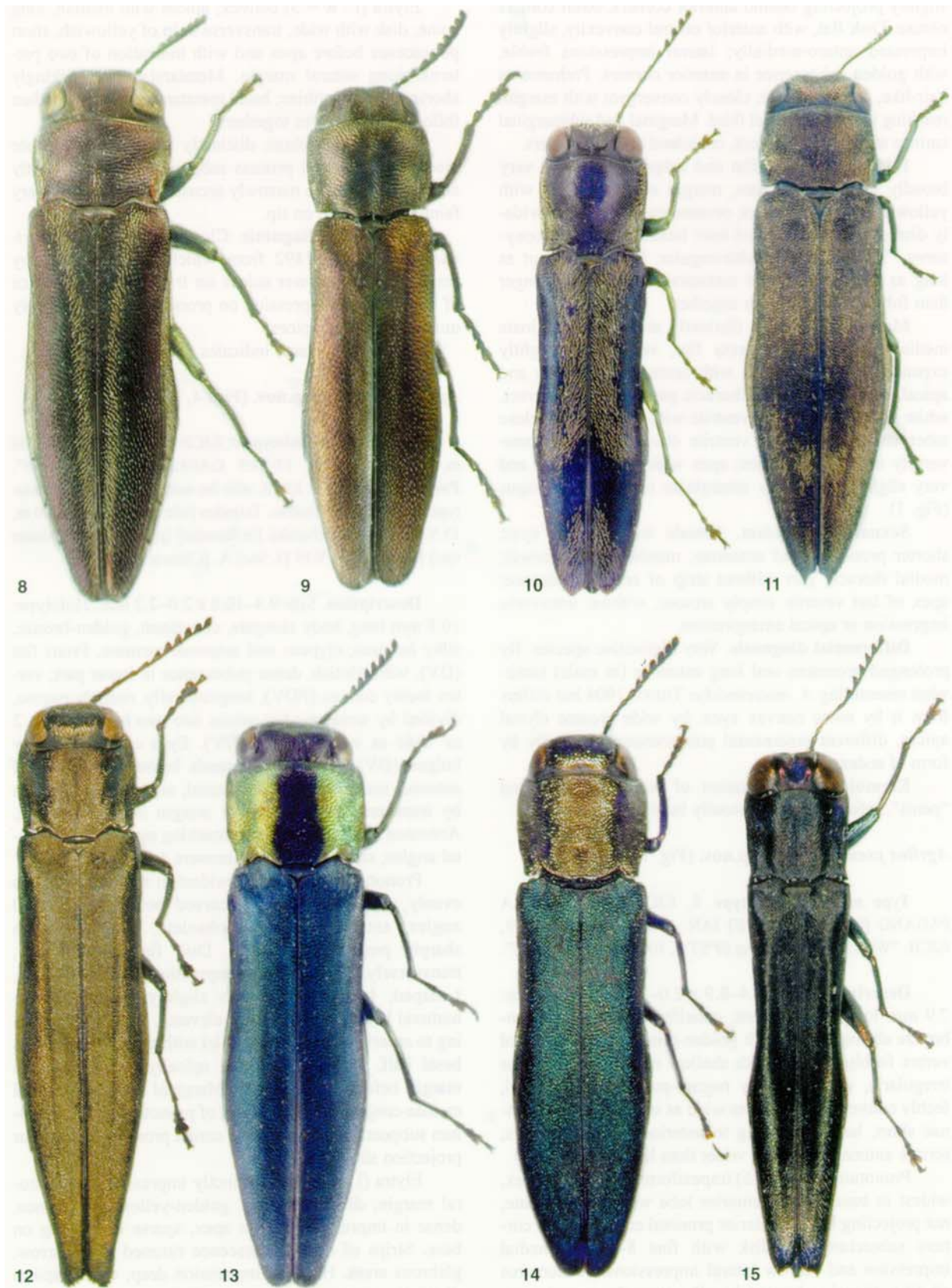
***Agrilus robustipennis* sp.nov.** (Figs. 3, 10)

Type material. **Holotype** ♂, EJC: "S VIETNAM, 14.10N – 108.30E, 40 km NW Ankhe, Buon Luoi, 620-750 m, 28. 3. – 12. 4. 1995, Pacholátko & Dembický leg.". **Paratypes:** 4 ♂♂, 6 ♀♀, EJC, with the same locality data as holotype; 1 ♀, EJC: "S VIETNAM Gia Lai-Kon Tum pr., 40 km N Ankhé [= An Khe, 13°57'N, 108°39'E], 800 m, Buon Loi, 15. VI. 1983".

Description. Size 5.8–7.2 × 1.3–1.7 mm. Holotype: 6.9 mm long, body subparallel, flattened ventrally; head black; pronotum black, with greenish sides; elytra olivaceous-brown; ventrally black with green tinge.

Head large; frons flat (DV), lower part with dense, golden pubescence; vertex deeply impressed; finely, sparsely, spirally rugose; eyes large, strongly convex; vertex 1.9 as wide as width of eye. Antennae very long and gracile, reaching to half of pronotum; antennomeres 4-11 filamentary-serrate, distinctly longer than wide.

Pronotum (l : w = 0.9) visually with shamming prolong appearance, widest on apex, sides almost linearly expanded to anterior margin; anterior lobe prominent,



Figs 8 - 15 Habitus of: 8) *Agrilus champasak* sp.nov. (holotype ♂, 4.9 mm); 9) *A. myopic* sp.nov. (holotype ♂, 5.8 mm); 10) *A. robustipennis* sp.nov. (holotype ♂, 6.9 mm); 11) *A. pseudostrinus* sp.nov. (holotype ♀, 7.9 mm); 12) *A. gaoligong* sp.nov. (holotype ♂, 10.8 mm); 13) *A. notoclavus* sp.nov. (holotype ♂, 7.7 mm); 14) *A. charismaticus* sp.nov. (holotype ♂, 8.4 mm); 15) *A. horaki* sp.nov. (holotype ♂, 7.8 mm).

slightly projecting behind anterior corners; basal corners obtuse. Disk flat, with anterior central convexity, slightly impressed antero-medially; lateral impressions feeble, with golden pubescence in anterior corners. Prehumerus hair-like, feebly arcuate, closely convergent with margin, reaching to basal pronotal third. Marginal and submarginal carinae strongly convergent, conjoined at basal corners.

Elytra (1 : w = 3) flat and subparallel; apices very broadly separately arcuate, margin serrulate. Disk with yellowish, long, semierect, ornamental pubescence widely disrupted in apical third into: basal, in form of topsy-turvy "Y" and apical, subtriangular. Metatarsi about as long as metatibiae; basal metatarsomere slightly longer than following tarsomeres together.

Mentonniere robust, distinctly arcuately emarginate medially; prosternal process flat, very wide, slightly expanded between coxae, with acute lateral angles and apical projection. Medial thoracic part with strip of erect, white pubescence. Basal ventrite with two prolong, close tubercles medially; last ventrite obviously wide, transversely impressed at apex; apex widely subtruncate and very slightly angulately emarginate medially. Aedeagus (Fig. 3).

Sexual dimorphism. Female with smaller eyes; shorter pronotum and antennae; mentonniere narrower; medial thoracic part without strip of erect pubescence; apex of last ventrite simply arcuate, without transverse impression or apical emargination.

Differential diagnosis. Very distinctive species. By prolonged pronotum and long antennae (in male) somewhat resembling *A. moischulskyi* THÉRY, 1904 but differs from it by more convex eyes, by wide arcuate elytral apices, different ornamental pubescence and chiefly by form of aedeagus.

Etymology. Combination of words "robust" and "penis", referring to very stoutly built aedeagus.

Agrilus pseudoostrinus sp.nov. (Fig. 11)

Type material. Holotype ♀, EJC: "W SUMATRA PADANG [0°57'S, 100°21'E] JAN. 1995". Paratypes: 1 ♀, EJC: "West Sumatra Padang [0°57'S, 100°21'E] FEB. 1995".

Description. Size 7.4–8.9 × 2.0–2.4 mm. Holotype: 7.9 mm long, body robust, cuneiform, convex; golden-bronze above; below with golden-green tinge. Frons and vertex feebly convex, with shallow medial sulcus; frons irregularly, vertex spirally rugoso-punctate; eyes small, feebly convex, vertex 2.8 as wide as width of eye. Antennae short, hardly reaching to anterior pronotal corners; serrate antennomere 4-11 wider than long.

Pronotum (1 : w = 0.6) trapeziform, strongly convex, widest in basal fourth; anterior lobe weak, subangulate, not projecting behind anterior pronotal corners; basal corners subrectangular; disk with fine 8-shaped medial impression and narrow lateral impressions. Prehumerus rib-like, sharply elevated basally, strongly curved, conjoined with margin in apical pronotal third. Marginal and submarginal carinae strongly convergent, conjoined at basal corners. Scutellum large, with well-developed transverse carina and long, acute hind projection.

Elytra (1 : w = 3) convex; apices with median, long spine; disk with wide, transverse strip of yellowish, short pubescence before apex and with indication of two patterns along sutural margin. Metatarsi short, strikingly shorter than metatibiae; basal metatarsomere shorter than following tarsomeres together.

Mentonniere robust, distinctly arcuately emarginate medially; prosternal process subparallel, apex distinctly abated; last ventrite narrowly arcuate, almost acute, very faintly emarginate on tip.

Differential diagnosis. Closely related to *A. ostrinus* KERREMANS, 1892 from which differs chiefly by smaller size; shallower sulcus on fronto-vertex; absence of deep, medial impression on pronotum and by sharply unispinate elytral apices.

Etymology. Name indicates relation to *A. ostrinus*.

Agrilus gaoligong sp.nov. (Figs 4, 12)

Type material. Holotype ♂, EJC: "YUNNAN 1500-2500 m, 25.22N 98.49E, 17-24/5 GAOLIGONG mts. 1995".

Paratypes: 2 ♂♂, 1 ♀, EJC, with the same locality data as holotype; 1 ♀, NMPC: "Yunnan, Tszindun [site unallocated], 1200 m, 15.V.1957. A. Monchadskii [in Russian] [p] \ [1. line] [Chinese text] [2. line] 1957 V.15 [3. line] A. [Chinese text] [p]".

Description. Size 9.4–10.8 × 2.0–2.2 mm. Holotype: 10.8 mm long, body elongate, cuneiform, golden-bronze, silky lustrous; clypeus and antennae carmine. Frons flat (DV), with whitish, dense pubescence in lower part; vertex feebly convex (PDV), longitudinally, roughly rugose, divided by weak, medial sulcus into two hemispheres, 2 as wide as width of eye (DV). Eyes convex, slightly bulged (DV), lower part extends below upper side of antennal sockets. Clypeus elevated, separated from frons by transverse carina; anterior margin deeply incurved. Antennae slender, very long, reaching up to basal pronotal angles; serrate from antennomere 4.

Pronotum (1 : w = 0.8) widest in the middle; sides evenly arcuate, distinctly incurved before acute basal angles; anteromedial lobe obsolete; anterior angles sharply projecting forwards. Disk fine, superficially, transversely, rugose; medial impression prominent, deep, I-shaped; lateral impressions slightly indicated. Prehumeral keels smooth, feebly elevated, very long, reaching to anterior angles, subparallel with pronotal margin in basal half, strongly diverging apically, conjoined with margin before apical angles. Marginal and submarginal carinae conjoined in basal third of pronotal length. Scutellum subpentagonal; transverse carina prominent; scutellar projection short, acute on tip.

Elytra (1 : w = 3.8) distinctly impressed along sutural margin; disk with short, golden-yellow pubescence, dense in impression and on apex, sparse or missing on base. Strips of dense pubescence rimmed with narrow, glabrous areas. Humeral impression deep; elytral apices distinctly, separately arcuately-acuminate; tips slightly shift outside; margins obviously serrate. Tarsi long and slender; metatarsi as long as metatibiae; basal metatarsomere 1.5 as long as following two together; tarsal claws bifid, inner tooth somewhat shorter than outer.

Ventral margins with patches of white or yellowish toment. Prosternum and prosternal process with medial, longitudinal strip of reddish, erect setae. Mentonniere robust, feebly incurved on margin. Prosternal process flat, arcuately enlarged between coxae; apex long and acute. Last ventrite regularly rounded apically. Aedeagus (Fig. 4).

Sexual dimorphism. Female differs from male chiefly by prosternum and prosternal process not possessing strip of reddish, erect setae.

Differential diagnosis. Somewhat resembles *A. orestes* KERREMANS, 1913, from which differs chiefly by deep, medial, pronotal impression; straighten prehumeral keels; arcuately-acuminate elytral apices; different coloration and pubescence.

Etymology. Substantive in nominative derived from the type locality.

Agrilus notoclavus sp.nov. (Figs 5, 13)

Type material. **Holotype** ♂, EJC: "CHINA, 1000 – 1300 m, Shanxi [prov.], Qinling mts., XUNYANGBA (6 km E) [33°33'N – 108°37'E], 23. v. – 13. vi. 1998, I. H. Marshal leg.". **Paratypes:** 1 ♀, EJC, with the same locality data as holotype; 1 ♂, 3 ♀♀, EJC; "CHINA, 1150 – 1300 m, Shanxi [prov.], Qinling mts., FOPING [= Yuanjiazhuang, 33°34'N, 107°59'E] (6 km N), 20 – 21. vi. 1998, I. H. Marshal leg."; 1 ♂, EJC: "CHINA S – SHAANXI, QINLING Mts. – S slope, XUNYANGBA – S + W env. 33°28-37' [N] / 108°23-33' [E] 1400-2100m, 5.-9.6. [19]95"; 3 exs. EJC, 4 exs. EKCS: "CHINA – SHAANXI, LÜEANG 33°07'N 106°05'E, 18.6 – 24.6 [19]97 lgt. E. Kučera"; 1 ex. EJC: "C. CHINA SW-Shaanxi, Houzhenzi [33°51'N, 107°50'E] env. 1600m, Qinling mts. VI-1996, Lgt. Dr. M. Häckel".

Description. Size 7.2–9.1 x 1.8–2.4 mm. Holotype: 7.7 mm long, body robust, cuneiform; frons and pronotum golden-green with metallic tinge, except from black, medial strip on pronotum; vertex and elytra black-blue, silky lustrous. Ventral side metallic black-green. Upper surface glabrous, lower with very short, whitish pubescence. Frons feebly convex (DV), very densely, coarsely punctate (FV); vertex elevated, longitudinally densely rugose, with large medial impression (PDV). Vertex 3.2 as wide as width of eye (DV). Eyes small, bulged; lower part extends below upper side of antennal sockets. Antennae reaching nearly to half of pronotal length.

Pronotum (l : w = 0.7) widest in anterior two thirds, with subparallel sides, sides in basal third strongly incurved, with sharp basal angles; anteromedial lobe wide and weak; anterior angles distinctly projecting forwards. Pronotal disk roughly, transversely rugose in middle; medial impression very fine, 8-shaped; lateral impressions large and deep. Prehumeral keels smooth, short, knoll-like, distinctly curved, reaching to one fifth of pronotal length. Marginal and submarginal carinae not joined before basal angles (LV). Scutellum cuneiform; anterior margin arcuate; transverse carina highly elevated; hind projection acute and long.

Elytra rather short (l : w = 2.9); apices widely, evenly, separately rounded, finely denticulate on margin.

Metatarsi shorter than metatibiae; basal metatarsomere as long as three following together. Claws bifid; inner tooth about as long as outer one.

Mentonniere large, deeply arcuately emarginate; prosternal process transversely convex; apex abated (LV); sides subparallel between coxae, regularly tapering to acute tip; surface obviously, transversely rugose. Last ventrite broadly, regularly curved on apex. Aedeagus (Fig. 5).

Sexual dimorphism. Without obvious sexual characters.

Differential diagnosis. Somewhat resembling *Agrilus fareastensis* JENDEK, 1995, but differs from it chiefly by wider head; subparallel pronotal sides; shorter prehumeral keels; widely rounded elytral apices and coloration.

Etymology. Name is combination of "notum" (a dorsal plate or sclerite of the thorax of an insect) and "clavus" (a vertical stripe or band), which refers to the obvious black strip on the pronotum of this species.

Agrilus charismaticus sp.nov. (Figs 6, 14)

Type material. **Holotype** ♂, EJC: "China, Fujian prov [ince]. SHAOWU [27°18'N, 117°30'E] env. 23.-27.6.1991 leg. [M.] Nikodým".

Description. Size 8.4 x 2.1 mm. Body robust, subparallel; head and pronotum metallic-golden; elytra greenish-blue, silky lustrous. Dorsal side metallic green. Frons densely punctate (FV), convex (DV); vertex sparsely, coarsely punctate, feebly convex, without medial sulcus (PDV), 2.8 wider as width of eye. Eyes convex, slightly bulged, lower part extends below upper side of antennal sockets. Clypeus and antennal sockets separated from frons by glabrous bisinuate carina bordered from frontal side by deep depression; clypeus slightly elevated; anterior margin arcuately emarginate. Antennae reaching behind half of pronotal length, serrate from antennomere 4; antennomeres 4-5 subtriangular, 6-10 subpentagonal.

Pronotum (l : w = 0.8) widest before apex; sides arcuate more backwards than forwards, incurved before subrectangular basal angles; anteromedial lobe broad, projecting to apical angles. Disk deeply, coarsely transversely rugose; medial impression obvious, 8-shaped, basal part deeper; lateral impressions large and deep; structure in pronotal impressions sparser and finer to that on disk. Prehumeral keels absent. Marginal and submarginal carinae not joined basally; submarginal carina obliterate on distal end. Scutellum subpentagonal, anteriorly broadly arcuate, with distinct transverse carina and short, acute hind projection.

Elytra (l : w = 3.0) glabrous, except from two oval spots of white pubescence near sutural margin in apical fourth. Apices with smooth edges, widely, evenly, separately arcuate. Tarsi short; metatarsi distinctly shorter as metatibiae; basal metatarsomere as long as three following together. Claws bifid, inner tooth slightly shorter as outer one.

Mentonniere very large, broadly, shallowly, subtriangularly emarginate. Prosternal process flat, sparsely white

pubescent, subparallel between coxae; angles arcuate; apex subtriangular with acute tip. Last ventrite subangulately emarginate apically. Aedeagus (Fig. 6).

Differential diagnosis. Related to *A. notoclavus* sp. nov. from which it differs chiefly by punctate vertex; longer and subpentagonally serrate antennae; by deep, 8-shaped medial, pronotal impression; lack of black strip on pronotum; absence of prehumeral carinae and by white pubescent spot on each elytron.

Etymology. Charismatic (adjective) = of, having, or characteristic of charisma.

Agrilus horaki sp. nov. (Figs 7, 15)

Type material. Holotype ♂, EJCB: "MALUKU, Seram, 12 km SE Wahai, Solea [2°52'S, 129°34'E], 16.-21.10.1998, J. Horák leg.". Paratypes: 3 ♀♀, EJCB: "MALUKU, Seram, Unit O, 35 km E Pasahari, 24.-30.X.1998, S. Bílý leg."; 1 ♀, EJCB: "MALUKU, SERAM, Solea [2°52'S, 129°34'E] 12 km SE Wahai, 17.1.-6.2.1997, S. Bílý leg."

Description. Size 6.9–8.0 × 1.4–1.7 mm. Holotype: 7.8 mm long, upper side silky-black, with greenish or bluish tinge; vertex purplish-black; lower side golden-cupreous. Frons flat (DV), microreticulate (FV); lower part and clypeus covered with dense golden hairs. Vertex 1.28 as wide as width of eye, elevated, with very deep medial sulcus; hemispheres rugoso-punctate. Eyes very large, convex and bulged; lower part extends below upper side of antennal sockets. Antennae very long, reaching to basal pronotal angles, serrate from antennomere 4.

Pronotum (l : w = 0.87) widest on apex; sides feebly rectilinearly divergent from base to apex; basal angles strongly acute. Disk distinctly convex; medial longitudinal impression entire and very deep; lateral impressions weak and narrow; anteromedial lobe obvious, projecting behind apical pronotal angles. Prehumeral keels arcuate, reaching to basal third, elevated and glabrous basally, abated apically. Marginal and submarginal carinae convergent and joined at basal angles (LV). Scutellum with anterior margin strongly arcuate; transverse carina present; hind projection sharp.

Elytra (l : w = 3.74) with white and greenish ornamental pubescence (better preserved in paratypes). Pubescence more obvious and denser in apical half. Disk with distinct humeral and sutural impressions, deeper and larger in basal part. Apices with sharp, projecting spine on outer angles; inner angles bisinuate. Metatarsi somewhat shorter than metatibiae; basal metatarsomere longer than following three together.

Ventral side with narrow, medial strip of white erect hairs on prosternal process, metasternum and basal ven-

trite. Mentoniere very large, broadly arcuate, uniplanar with prosternum; borderline between them obsolete. Prosternal process large, subparallel between coxae, rectilinearly sharply pointed on tip; sides with narrow glabrous rim. Last ventrite deeply, subtriangularly emarginate. Aedeagus (Fig. 7).

Sexual dimorphism. Females without strip of white, erect hairs ventrally, emargination on last ventrite less prominent.

Differential diagnosis. Related to *A. rectus* DEYROLLE, 1864 from which differs mainly by lacking prehumeral impression and by having elytral apices less sharply spinate.

Etymology. Dedicated to my friend Jan Horák, Prague, Czech Republic, specialist in Mordelidae and collector of the holotype.

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