New Asian species of *Xylotrechus* Chevrolat, 1860 (Coleoptera: Cerambycidae: Cerambycinae: Clytini)

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Abstract. *Xylotrechus draconigena* sp. nov. from Vietnam (Yen Bai), *Xylotrechus havai* sp. nov. from Laos (Houaphanh), *Xylotrechus haveli* sp. nov. from Vietnam (Lai Chau), *Xylotrechus hergovitsi* sp. nov. from Malaysia (Sabah), *Xylotrechus jakli* sp. nov. from Laos (Attapeu), *Xylotrechus kryli* sp. nov. from the Philippines (Ifugao), and *Xylotrechus kucerai* sp. nov. from China (Shaanxi) are described. All the habitus and male genitalia are illustrated.

### INTRODUCTION

Tribus Clytini Mulsant, 1839 is one of the most numerous - in terms of species - tribus of Cerambycidae. Species of tribus Clytini are known from all biogeographic zones of the Earth except the Antarctic Region. Tribus Clytini is currently divided into approximately 70 genera. From the Palaearctic, Oriental and Australian biogeographic Regions about 1500 species have been described so far. Within these regions, there are the most numerous genera *Demonax J. Thomson*, 1861, *Chlorophorus Chevrolat*, 1863, *Xylotrechus Chevrolat*, 1860 and *Rhaphuma Pascoe*, 1858.

The genus *Xylotrechus* was established by Chevrolat (1860) with the type species *Clytus sartorii* Chevrolat, 1860. The genus currently contains approximately 270 valid species and subspecies with the greatest species richness in Southeastern Asia. In the present paper, I describe new species of the genus *Xylotrechus* from materials which were recently collected in different parts of Asia. Descriptions of seven new *Xylotrechus* species are given as follows: *Xylotrechus draconigena* sp. nov. from Vietnam (Yen Bai), *Xylotrechus havai* sp. nov. from Laos (Houaphanh), *Xylotrechus haveli* sp. nov. from Vietnam (Lai Chau), *Xylotrechus hergovitsi* sp. nov. from Malaysia (Sabah), *Xylotrechus jakli* sp. nov. from Laos (Attapeu), *Xylotrechus kryli* sp. nov. from the Philippines (Ifugao), and *Xylotrechus kucerai* sp. nov. from China (Shaanxi). All the habitus and male genitalia are illustrated. The new species are compared to the congeners (*Xylotrechus affinis* Gahan, 1906, *Xylotrechus animosus* Viktora, 2019, *Xylotrechus goetzi* Heyrovský, 1970, *Xylotrechus grayii* (White, 1855), *Xylotrechus latefasciatus* Pic, 1936, *Xylotrechus majeri* Holzschuh, 2003, *Xylotrechus mehli* Dauber, 2004, *Xylotrechus mucidulus* Holzschuh, 2009 and *Xylotrechus vinnulus* Holzschuh, 1993), which are also illustrated in most cases.

### MATERIAL AND METHODS

Observation and photography. The habitus of specimens (except type specimens of *Xylotrechus majeri* Holzschuh, 2003 and *Xylotrechus mucidulus* Holzschuh, 2009 - photographs of Luboš Dembický) were taken by the Canon EOS 350D digital camera with the Sigma 105 mm macro lens. Composite images were created using the software Image Stacking Software Combine ZP. The genitalia photographs were taken with a Canon MP-E 65mm/2.8 1–5× Macrolens on bellows attached to a Canon EOS 550D camera. Each photograph was taken as several partially focused images and afterwards composed in the Helicon Focus 3.20.2 Pro software. The photographs were modified using Adobe Photoshop CC.

Specimens examined including type materials are deposited in the following collections:

CCH collection of Carolus Holzschuh, Villach, Austria;

CLD collection of Luboš Dembický, Brno, Czech Republic;

CPV collection of Petr Viktora, Kutná Hora, Czech Republic;

CRH collection of Roman Hergovits, Bratislava, Slovakia.

Slash (/) separates data in different lines on locality and determination labels.

### **TAXONOMY**

### Tribe Clytini Mulsant, 1839

### Genus Xylotrechus Chevrolat, 1860

Type species. Clytus sartorii Chevrolat, 1860.

### Xylotrechus draconigena sp. nov.

(Fig. 1)

Type locality. Vietnam, Yen Bai.

Type material. Holotype ( $\prescript{\diamondsuit}$ ): 'Vietnam' / 'Yen Bai' / '5/2020' / 'local collector', (CPV). The type is provided with a printed red label: 'Xylotrechus draconigena sp. nov.' / 'HOLOTYPUS' / 'P. Viktora det., 2021'.

**Description.** Habitus of female holotype as in Fig. 1. Body from pale ochre yellow to black, elongate, punctate, with pubescence. Body length from head to elytral apex 14.83 mm, widest in humeral part of elytra (3.83 mm), 3.87 times longer than wide.

Head black (blackish brown in anterior margin), short, widest through the eyes, narrower than pronotum at widest point, interspace between antennal insertions wide. Head with irregular punctation. Posterior margin narrowly with coarse reticulate punctation, between eyes with granulate punctation including small-sized microgranulation, frons with granulation and very dense small-sized microgranulation, anterior margin with distinct punctation. Antennal insertions with distinct longitudinal keel on inner side. Frons with irregular longitudinal carina. Head partly covered by long yellow pubescence, anterior margin with



Fig. 1. Xylotrechus draconigena sp. nov.: female holotype.

long yellowish setation. Eyes dark brown, distinctly emarginate. Clypeus and labrum pale brown, shiny, with long yellowish setation. Mandibles blackish brown with black tip, shiny, with long yellow setation on edges.

Maxillary palpus pale brown with darker lateral margins, shiny, with indistinct punctation and long sparse yellowish setation. Ultimate palpomere longest, only slightly widened apically, with longitudinal semielliptical depression, apex rounded.

Antennae relatively short (reaching basal part of elytra as in Fig. 1), filiform, antennomeres widened apically, rounded in inner side of apex. Antennomeres without spines. Antennae pale reddish brown, antennomeres 1-4 with darker lateral margins. Antennomeres with small-sized punctation (denser in antennomeres 5-11), antennomeres 1-4 shiny, antennomeres 5-11 semi-matt. Antennomeres 1-4 with long yellow pubescence, antennomeres 5-11 with dense, very short indistinct pale pubescence. Antennomeres 1-5 with very long yellowish setation. Antennomere 2 shortest, antennomere 1 longest. Ratios of relative lengths of antennomeres 1-11 equal to: 1.25: 0.38: 1.00: 1.05: 1.01: 0.88: 0.65: 0.61: 0.53: 0.48: 0.77.

Pronotum black, elongate, shape of pronotum as in Fig. 1. Pronotum 1.3 times longer than wide at base and 1.07 times longer than wide at widest point (two fifths pronotal length from base to apex). Lateral margins arcuate, anterior margin and base almost straight. Pronotum slightly narrower than elytra at humeri. Dorsal surface irregular, pronotal disc with depressions in lateral margins and distinct elavation in middle of basal half. Pronotum with dense small-sized granulation, granules with microgranulation inside. Pronotum covered by short yellow recumbent pubescence except three spots in pronotal disc (as in Fig. 1). Pronotum with colorless setation in basal half.

Scutellum black, shield-shaped with rounded apex, punctured by dense small-sized punctation, almost completely covered by yellow recumbent pubescence.

Elytra 10.0 mm long and 3.83 mm wide (2.61 times longer than wide); black with ochre yellow spots, slightly narrowing apically, punctured by dense small-sized punctation, shiny, covered by yellow and black recumbent pubescence (as in Fig. 1). Suture black. Each elytron with two elevations in basal part (at humeri and near scutellum). Elytral apex cut, slightly undulate, sutural angle with spine, lateral angle without spine. Apical part of elytra and apical margin with long yellowish setation.

Pygidium blackish, punctured by distinct irregular punctation, covered by sparse yellow recumbent pubescence, margins with long yellowish setation. Apex distinctly arcuate.

Legs long and narrow, pale reddish brown (femora and protibiae slightly darker), punctured by distinct punctation, partly covered by long yellow pubescence and long yellowish setation (densest in apical part of tibiae). Tibiae widened apically. Metatibiae and metafemora longer than pro- and mesotibiae and pro- and mesofemora. Tarsi pale reddish brown (tarsomeres narrowly with darker apex), claws long. Pro- and mesotarsi relatively wide. Metatarsi long. Tarsi punctured by coarse irregular punctation, covered by long and sparse yellowish setation. Metatarsomere 1 2.45 times longer than metatarsomeres 2 and 3 together.

Ventral side of body from pale brown to black (largely black), punctured by dense smallsized punctation, almost completely covered by dense recumbent pale yellow pubescence (paler than those in elytra), partly with erect yellowish setation. Elytral epipleura from dark brown to black in basal third, undulate, punctured by dense distinct punctation, covered by yellow and goldenish pubescence.

Male. Unknown.

**Differential diagnosis.** The most similar species is *Xylotrechus goetzi* Heyrovský, 1970, described from China (Gansu).

*Xylotrechus draconigena* sp. nov. differs from the similar species *X. goetzi* by elytra more narrowing apically, by different shape of pronotum (pronotum widest at two fifths pronotal length from base to apex, while almost symmetrical cylindrical pronotum widest at middle in *X. goetzi*), by different shape of dark spots on elytra in basal and apical third (*X. goetzi* has longitudinal dark spot on suture below scutellum and dark spot near apex of each elytron, which are missing in *X. draconigena*), by longer metatarsomere 1 (metatarsomere 1 2.45 times longer than metatarsomeres 2 and 3 together in *X. draconigena*, while 2.03 times longer in *X. goetzi*), and mainly by different placement of three dark spots on pronotum (central spot closer to pronotal base, other two spots closer anterior margin and breadthwise closer to middle of pronotal disc in *X. draconigena*, while *X. goetzi* has all three spots in one line and smaller lateral spots are significantly situated to the lateral edges of pronotum).

**Etymology.** From Latin *draconigena* (it means "born of a dragon").

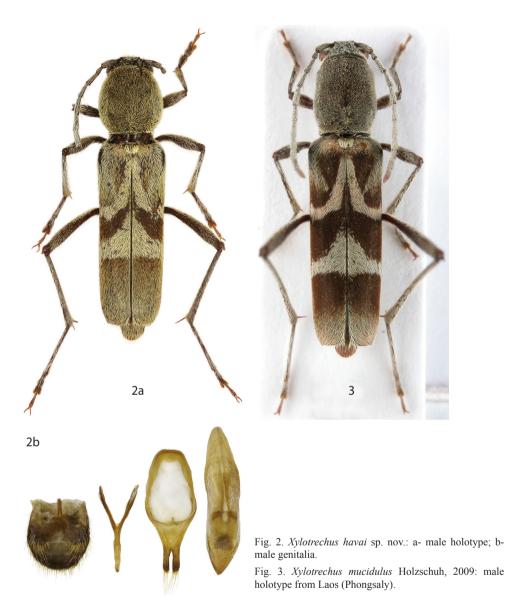
**Distribution.** Vietnam (Yen Bai).

*Xylotrechus havai* sp. nov. (Fig. 2)

Type locality. Laos, Houaphanh, Mt. Phu Pane, 20°12′N 103°59′E.

Type material. Holotype ( $\circlearrowleft$ ): 'NE LAOS, Hua Phan Prov.,' / 'MT. PHU PANE' / '1200-1600m, 10.-22.v.2011' / '20,12N 103,59E' / 'St. Jakl and Lao collectors lgt.', (CPV).

The type is provided with a printed red label: 'Xylotrechus havai sp. nov.' / 'HOLOTYPUS' / 'P. Viktora det., 2021'.



**Description.** Habitus of male holotype as in Fig. 2a. Body from pale brown to black, elongate, narrow, parallel, punctate, with pubescence. Body length from head to elytral apex 10.26 mm, widest in humeral part of elytra (2.6 mm), 3.94 times longer than wide.

Head black, short, widest through the eyes, narrower than pronotum at widest point. Head with coarse irregular granulation in posterior part, between eyes punctured by dense coarse punctation, from between antennal insertions with small distinct arrow-shape furrow, from between eyes with longitudinal, irregular, largely shallow carina. Antennal insertions

with distinct longitudinal keel in inner side (keel with shiny, sharp upper edge). Head partly covered by sparse yellowish pubescence, anterior part with a few long erect pale setae. Eyes goldenish, emarginate. Clypeus and labrum pale ochre yellow, shiny, with yellowish setation in margins. Mandibles black, shiny, with long yellowish setation on edges.

Maxillary palpus pale brown, semi-shiny, palpomeres short, with a few long yellowish setae. Ultimate palpomere longest, slightly widened apically, with large longitudinal depression, apical angles slightly rounded.

Antennae relatively short (reaching basal part of elytra), the exact length cannot be determined, antennomeres 8-11 are missing in type specimen (antennomeres 8-11 distinctly shorter than antennomeres 3-7 in related *Xylotrechus* species). Antennae narrow, filiform (antennomeres slightly widened apically), punctured by shallow punctation, covered by long whitish pubescence and long yellowish setation in inner side. Antennomeres blackish brown with narrowly pale apex. Antennomeres without spines. Antennomere 2 shortest, antennomere 1 longest. Ratios of relative lengths of antennomeres 1-11 equal to: 1.19: 0.44: 1.00: 0.91: 1.11: 1.00: 1.05: --: --: --: --: --:

Pronotum black, approximately as long as wide, shape of pronotum as in Fig. 2a. Pronotum 1.48 times longer than wide at base and 1.03 times longer than wide at widest point (before middle of pronotum from base to apex). Lateral margins distinctly arcuate, anterior margin slightly arcuate, base slightly undulate. Pronotum only slightly, indistinctly narrower than elytra at humeri. Dorsal surface with very dense small-sized granulation, granules with microgranulation inside. Pronotum completely covered by yellowish pubescence (as in Fig. 2a), pronotal surface with a few erect colorless setae.

Scutellum black, semielliptical, punctured by dense punctation, covered by recumbent yellowish pubescence.

Elytra 6.94 mm long and 2.6 mm wide (2.67 times longer than wide); from pale yellowish brown to blackish brown, parallel, punctured by very dense small-sized punctation in apical two thirds, basal third with small-sized punctation (interspaces between punctures large). Elytra semi-matt in basal half, apical half shiny. Elytra covered by yellowish pubescence, partly with admixture of darker pubescence (as in Fig. 2a). Each elytron with two elevations in basal part (at humeri and near scutellum). Suture black. Elytral apex undulate, sutural and lateral angle with short spine. Apical margin with long yellowish setation.

Pygidium dark brown, punctured by distinct shallow punctation, covered by long, relatively sparse yellowish pubescence, apex distinctly rounded. Margins with pale setation.

Legs very long and narrow, from brown to blackish brown, punctured by distinct, relatively shallow punctation, covered by long yellowish pubescence and long pale setation (meso- and metafemora partly bald in inner side). Tarsi long, dark brown (ultimate tarsomeres and claws distinctly paler), punctured by dense punctation, covered by long whitish setation. Metatibiae and metafemora distinctly longer than pro- and mesotibiae and pro- and mesofemora. Metatarsomere 1 2.57 times longer than metatarsomeres 2 and 3 together.

Ventral side of body from blackish brown to black, punctured, almost completely covered by whitish recumbent pubescence and long erect colorless setation. Elytral epipleura from brown to black in basal part, narrow, covered by sparse yellowish pubescence.

Genitalia as in Fig. 2b.

Female, Unknown.

**Differential diagnosis.** The most similar species are *Xylotrechus kucerai* sp. nov. (Fig. 16) and *Xylotrechus mucidulus* Holzschuh, 2009 with holotype described from Laos (Phongsaly province) (Fig. 3).

Xylotrechus havai sp. nov. differs from the similar species X. kucerai by less emarginate eyes (eyes strongly emarginate in X. kucerai), by different shape of pronotum, which is approximately as long as wide with distinctly arcuate lateral margins in full length (ratio pronotal length / pronotal width 1.03), while X. kucerai has more elongate pronotum (ratio pronotal length / pronotal width 1.09). X. havai sp. nov. has different structure of the head surface (coarse irregular granulation in posterior part, between eyes punctured by dense coarse punctation, frons between antennal insertions with small distinct arrow-shape furrow, frons between eyes with longitudinal, irregular, largely shallow carina), while X. kucerai has small-sized granulation in posterior part, frons with irregular carinae forming small-sized reticulation. X. havai sp. nov. has less hairy head, pronotal disc with finer granulation, and distinctly longer metatarsi than in X. kucerai (as in Figs. 2a and 16a). Significant differences can also be seen in the shape of tegmen, mainly in basal (basal margin distinctly wider in X. havai) and apical part (as in Figs. 2b and 16b).

*Xylotrechus havai* sp. nov. differs from the similar species *X. mucidulus* by different shape of pronotum, which is approximately as long as wide (ratio pronotal length / pronotal width 1.03), while *X. mucidulus* has distinctly more elongate pronotum (ratio pronotal length / pronotal width 1.24). *X. havai* sp. nov. has pronotum with distinctly arcuate lateral margins in full length (as in Fig. 2a), while *X. mucidulus* has only slightly arcuate lateral margins in one third pronotal length from base to apex (as in Fig. 3). *X. havai* sp. nov. has distinctly longer tarsi than in *X. mucidulus* (as in Figs. 2a and 3).

**Etymology.** This new species is dedicated to my friend Jiří Háva (Únětice u Prahy, Czech Republic), a specialist in Dermestidae (Coleoptera).

**Distribution.** Laos (Houaphanh).

# *Xylotrechus haveli* sp. nov. (Fig. 4)

Type locality. Vietnam, Lai Chau.

Type material. Holotype ( $\$ ): 'Vietnam' / 'Lai Chau' / '6/2020' / 'local collector', (CPV). The type is provided with a printed red label: 'Xylotrechus haveli sp. nov.' / 'HOLOTYPUS' / 'P. Viktora det., 2021'.

**Description.** Habitus of female holotype as in Fig. 4. Body from pale ochre yellow to black, elongate, robust, punctate, with pubescence. Body length from head to elytral apex 17.06 mm, widest in humeral part of elytra (5.62 mm), 3.03 times longer than wide.

Head reddish brown, short, distinctly narrower than pronotum. Head with coarse irregular granulation (anterior part with small-sized punctation below eyes), frons with irregular

longitudinal carina. Antennal insertions with distinct longitudinal keel in inner side (darker than rest of head). Head partly covered by small tufts of yellow pubescence (mainly near eyes and near anterior margin), and sparse erect setation. Eyes goldenish, emarginate. Clypeus and labrum pale ochre yellow, shiny, with yellowish setation. Mandibles reddish brown with darker margins and black tips, with long dense yellowish setation on edges.

Maxillary palpus pale reddish brown, palpomeres short, with long yellowish setation on edges. Ultimate palpomere longest, widened apically, apical angles rounded.

Antennae short (reaching basal part of elytra as in Fig. 4), wide, antennomeres widened apically, antennomeres 5-10 serrate in outer side of apex. Antennae from pale reddish brown to dark brown (antennomeres 1-4 distinctly paler). Antennae punctured by dense small-sized punctation, covered by yellowish and dark pubescence (pubescence longer and sparser in antennomeres 1-5), antennomeres 1-6 shiny, antennomeres 7-11 matte. Antennomeres without spines. Antennomeres 1-6 with yellowish setation in inner side. Antennomere 2 shortest, antennomere 1 longest. Ratios of relative lengths of antennomeres 1-11 equal to: 1.89: 0.57: 1.00: 0.94: 1.39: 1.32: 1.29: 1.26: 1.29: 1.17: 1.62.

Pronotum brown (black in anterior margin, in basal fifth, in large spots in lateral sides and in ventral side), large, robust, convex, shape of pronotum as in Fig. 4. Lateral margins distinctly arcuate, anterior margin and base almost straight. Pronotum 1.24 times longer than wide at base and 1.12 times wider than long at widest point (two fifths pronotal length from base to apex). Pronotum slightly narrower than elytra at humeri. Dorsal surface with coarse irregular granulation and reticulation (granulation largest and coarsest in middle of pronotal disc, reticulation forms large irregular honeycombs). Pronotum covered by relatively dense yellow pubescence in margins and ventral side, and sparse dark setae in rest of pronotal surface (as in Fig. 4). Pronotum completely covered by very long dense pale erect setation.

Scutellum blackish, shield-shaped with rounded apex, with small-sized punctation, completely covered by dense yellow recumbent pubescence.

Elytra 11.64 mm long and 5.62 mm wide (2.07 times longer than wide); from pale brown to black (brown in humeral part, apical part and lateral margins - invisible in dorsal view), robust, distinctly widened apically. Basal part of elytra semi-matt with coarse granulation, rest of elytra shiny with dense small-sized punctation. Elytra covered by yellow, black and goldenish recumbent pubescence, yellow pubescence densest (as in Fig. 4). Each elytron with two distinct elevations in basal part (at humeri and near scutellum). Elytra significantly stretched apart in apical part. Apical margin undulate, sutural and lateral angles with short sharp spines. Apical margin with long yellowish setation.

Pygidium blackish brown, with dense punctation, covered by sparse dark setae, margins with long yellowish setation, apex rounded.

Legs long, tibiae and femora flat. Legs from pale reddish brown to black (darker in femora), punctured by distinct shallow punctation. Tibiae distinctly widened apically. Legs partly covered by long yellow pubescence (mainly in pro- and mesofemora), partly by darker shiny pubescence and very long whitish and yellowish setation. Metatibiae and metafemora distinctly longer than pro- and mesotibiae and pro- and mesofemora. Tarsi punctured by dense punctation, covered by long yellowish setation. Protarsi short and wide. Metatarsomere 1 1.4 times longer than metatarsomeres 2 and 3 together.

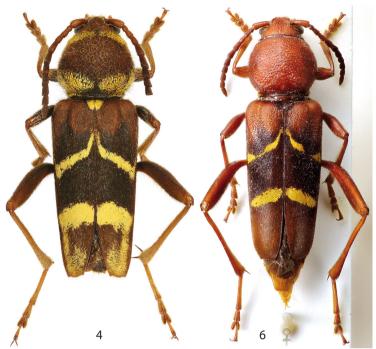


Fig. 4. *Xylotrechus haveli* sp. nov.: female holotype.
Fig. 5. *Xylotrechus latefasciatus* Pic, 1936: female from Vietnam (Yen Bai).
Fig. 6. *Xylotrechus majeri* Holzschuh, 2003: female paratype from India (Meghalaya).



Ventral side of body black, punctured by distinct irregular punctation, completely covered by very long erect colorless setation. Mesepisternum covered by dense yellow pubescence in apical half, metepisternum covered by dense yellow pubescence except basal and apical fifths, metasternum covered by dense yellow pubescence in basal third and narrowly in apex, ventrites covered by dense yellow pubescence except large spots in basal parts. Elytral epipleura brown, undulate in basal part, punctured by small-sized punctation, covered by dark sparse pubescence.

Male. Unknown.

**Differential diagnosis.** The most similar species are *Xylotrechus latefasciatus* Pic, 1936 (Fig. 5), described from China (Jiangxi) and *Xylotrechus majeri* Holzschuh, 2003 (Fig. 6), described from India (Meghalaya).

Xylotrechus haveli sp. nov. differs from the similar species X. latefasciatus by different structure of pronotal reticulation (reticulation forms very large irregular honeycombs in X. haveli, while distinctly smaller-sized and dense reticules in X. latefasciatus), by significantly more hairy pronotum (dense yellow pubescence in margins and ventral side in X. haveli, while small spots of yellow pubescence near anterior margin and in basal angles only in X. latefasciatus) (as in Figs. 4 and 5), by distinctly denser setation of pronotum, by distinct yellow pubescence in apical third of elytra (elytral apex sometimes with a few yellowish setae only in X. latefasciatus), by mesepisternum covered by dense yellow pubescence in apical half (mesepisternum with indistinct narrow stripe of yellow pubescence in apical margin in X. latefasciatus), by ventrites 1-4 covered by dense yellow pubescence except large spots in basal parts (yellow pubescence in ventrites 1-2 and indistinctly narrowly in apex of ventrite 3 only in X. latefasciatus). At first glance, both species can be easily distinguished by pubescence of scutellum (dense yellow pubescence in X. haveli, while sparse black pubescence with goldenish lustre in X. latefasciatus).

*Xylotrechus haveli* sp. nov. differs from *X. majeri* by wider pronotum, by different structure of pronotal disc (reticulation forms very large irregular honeycombs in *X. haveli*, while sparse coarse punctation in *X. majeri*), by significantly more hairy pronotum (dense yellow pubescence in margins and ventral side in *X. haveli*, while indistinct spots of yellow pubescence in basal angles only in *X. majeri*) (as in Figs. 4 and 6), by different shape of elytra (more robust with wider base and more narrowing apically in *X. haveli*), and by pubescence of scutellum (dense yellow pubescence in *X. haveli*, while almost bald scutellum with indistinct pubescence in *X. majeri*).

**Etymology.** This new species is dedicated to Václav Havel (1936 - 2011), writer, playwright, Defender of Human and Civil Rights, the last President of Czechoslovakia and the first President of the Czech Republic.

**Distribution.** Vietnam (Lai Chau).

### *Xylotrechus hergovitsi* sp. nov. (Fig. 7)

Type locality. Malaysia, Sabah, Banjaran Crocker Mts., Gunung Alab Mt.

**Type material.** Holotype (3): 'MALAYSIA - Sabah prov.' / 'Banjaran Crocker Mts.' / 'GUNUNG ALAB peak' / '30.iv.-27.v.1996, 1650-1800m' / 'M. Štrba & R. Hergovits leg.', (CPV); Paratype: (1 3): same data as holotype, (CRH).

The types are provided with a printed red label: 'Xylotrechus hergovitsi sp. nov.' / 'HOLOTYPUS [respective PARATYPUS]' / 'P. Viktora det., 2021'.

**Description.** Habitus of male holotype as in Fig. 7a. Body from blackish brown to black, elongate, narrow, parallel, punctate, with pubescence. Body length from head to elytral apex 13.56 mm (male paratype 14.0 mm), widest in humeral part of elytra (2.75 mm), 4.93 times longer than wide.

Head black, widest through the eyes, as wide as pronotum. Head with relatively coarse

granulate punctation, punctures with microgranulation inside. Anterior margin with small-sized punctation, between eyes with dense small-sized granulation, frons with irregular longitudinal carinae forming reticulation (three carinae more distinct). Head covered by long pale grey pubescence, margins with long erect colorless setation. Antennal insertions with distinct, shiny, longitudinal parallel keels in inner sides. Eyes goldenish, strongly transversally emarginate. Clypeus and labrum pale brown, semi-matt, with yellowish setation. Mandibles blackish brown, semi-matt, with long grey pubescence and yellowish setation on edges.

Maxillary palpus brown (palpomeres with pale ochre yellow apex), palpomeres slightly widened apically, with long pale erect setae in margins. Ultimate palpomere longest, apex rounded.

Antennae long (reaching more than three fifths elytral length), narrow, filiform, blackish brown (antennomeres 8-11 brown), punctured by small-sized shallow punctation, antennomeres 1-4 covered by long, relatively sparse grey pubescence, antennomeres 5-11 covered by shorter and denser grey pubescence. Antennomeres 2-7 with long pale setation in inner side. Antennomeres slightly widened apically, without spines. Antennomeres 2 shortest, antennomere 11 longest. Ratios of relative lengths of antennomeres 1-11 equal to: 0.99: 0.45: 1.00: 1.02: 1.37: 1.24: 1.26: 1.12: 1.18: 1.16: 1.67.

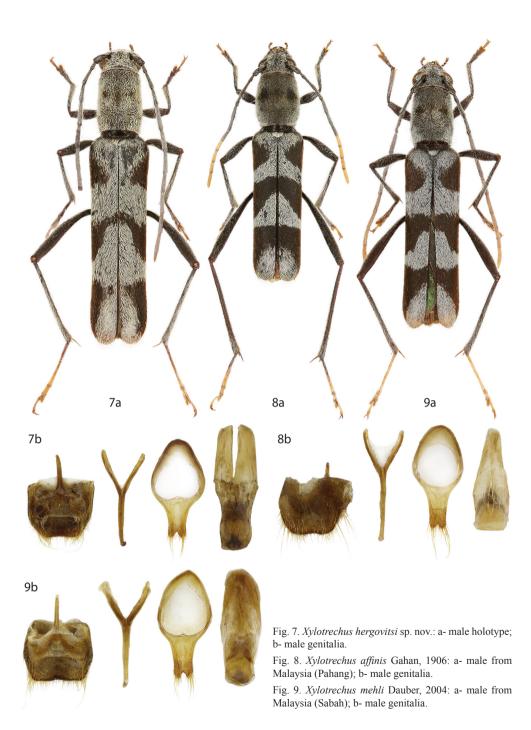
Pronotum black, elongate, narrow, shape of pronotum as in Fig. 7a. Pronotum 1.58 times longer than wide at base and 1.39 times longer than wide at widest point (two sevenths pronotal length from base to apex). Pronotum distinctly narrower than elytra. Lateral margins indistinctly arcuate, anterior margin and base almost straight. Dorsal surface irregular with elevation in middle of pronotal disc, with dense small-sized granulation. Pronotum almost completely covered by grey pubescence, small darker places in pronotal disc with darker pubescence (as in Fig. 7a). Pronotum almost completely covered by dense erect colorless setation.

Scutellum black, semi-matt, wide, semielliptical, with very fine granulation, covered by grey recumbent pubescence.

Elytra 9.5 mm long and 2.75 mm wide (3.45 times longer than wide); parallel, slightly extended in apex, black with pale brown apex. Elytra punctured by small-sized punctation, basal fifth semi-matt, rest of elytra shiny. Elytra covered by long grey and dark shiny recumbent pubescence (as in Fig. 7a). Elytral apex distinctly rounded, sutural angles with very short spines. Apical margin with very long colorless setation. Each elytron with two indistinct elevations in basal part (at humeri and near scutellum).

Legs very long and narrow, femora and tibiae blackish brown, pro- and mesotarsi dark brown with paler tarsomeres 3, metatarsomere 1 brown in basal third (rest of metatarsomere 1 pale yellowish with narrowly darker apex), metatarsomeres 2 and 3 pale yellowish with narrowly darker apex, claws pale brown. Legs punctured by shallow punctation, partly covered by long, sparse grey pubescence and long erect colorless setation (setation longest in meso- and metafemora). Tibiae widened apically. Tarsi with irregular surface, covered by very sparse, long pale setation. Protarsi relatively short, metatarsi extremely long. Metatibiae and metafemora distinctly longer than pro- and mesotibiae and pro- and mesofemora. Metatarsomere 1 2.73 times longer than metatarsomeres 2 and 3 together.

Ventral side of body black (coxae and apical margins of ventrites paler - brown), punctured



by distinct punctation, almost completely covered by dense whitish recumbent pubescence and long erect colorless setation. Elytral epipleura black, narrow, semi-matt, covered by sparse shiny pubescence.

Genitalia as in Fig. 7b.

Female, Unknown.

**Differential diagnosis.** The most similar species are *Xylotrechus affinis* Gahan, 1906 (Fig. 8), described from Malaysia (Selangor), and *Xylotrechus mehli* Dauber, 2004 (Fig. 9), described from Malaysia (Sabah).

*Xylotrechus hergovitsi* sp. nov. differs from the similar species *X. affinis* by more elongate body, by narrower pronotum of different shape, by more elongate elytra (3.45 times longer than wide in *X. hergovitsi*, while 2.9 times longer than wide in *X. affinis*), by distinctly longer antennae, by darker antennomeres 8-11 and by distinctly longer metatarsi. *X. hergovitsi* has different shape of tegmen and distinctly longer median lobe in proportion to the length of the tegmen (as in Figs. 7b and 8b).

*Xylotrechus hergovitsi* sp. nov. differs from the similar species *X. mehli* by more elongate body, by narrower and distinctly more elongate pronotum of different shape, by more elongate elytra (3.45 times longer than wide in *X. hergovitsi*, while 3.2 times longer than wide in *X. mehli*). *X. hergovitsi* has different shape of tergite 8 and tegmen, and distinctly longer median lobe in proportion to the length of the tegmen (as in Figs. 7b and 9b).

**Etymology.** This new species is dedicated to my friend Roman Hergovits (Bratislava, Slovakia), a specialist in Cerambycidae and collector of this new species.

**Distribution.** Malaysia (Sabah).

## *Xylotrechus jakli sp. nov.* (Figs. 10-11)

**Type locality.** Laos, Attapeu, Annam Highlands, Dong Amphan NBCA, Nong Fa (crater lake) env., 15°05.09′N 107°25.06′E.

**Type material.** Holotype ( $\circlearrowleft$ ): 'LAOS, Attapeau prov.' / 'Annam Highlands Mts Dong Amphan' / 'NBCA, ca 1160 m NONG FA (crater lake) env.' / '15° 05 9'N, 107° 25 6'E' / 'St Jakl lgt, 30.iv.-6.v.2010', (CPV). Paratype: (1  $\updownarrow$ ): same data as holotype, (CPV).

The types are provided with a printed red label: 'Xylotrechus jakli sp. nov.' / 'HOLOTYPUS [respective PARATYPUS]' / 'P. Viktora det., 2021'.

**Description.** Habitus of male holotype as in Fig. 10a. Body from pale brown to black, elongate, parallel, punctate, with pubescence. Body length from head to elytral apex 8.48 mm, widest in humeral part of elytra (2.03 mm), 4.17 times longer than wide.

Head black, short, widest through the eyes, narrower than pronotum at widest point. Head with relatively coarse granulate punctation, punctures with microgranulation inside. Anterior margin with small-sized punctation, between eyes with dense small-sized granulation, frons

with irregular longitudinal carinae forming reticulation. Head partly covered by long yellow pubescence, margins with long erect pale setation. Antennal insertions with distinct, shiny longitudinal keel in inner sides pointing slightly towards the centre of head. Eyes goldenish, strongly transversally emarginate. Clypeus and labrum pale ochre yellow, shiny, with yellowish setation in edges. Mandibles dark brown with black tip, shiny, with long yellowish setation on edges.

Maxillary palpus pale ochre yellow, shiny, palpomeres slightly widened apically, with erect yellowish setae in edges. Ultimate palpomere longest, apex rounded.

Antennae short (reaching basal part of elytra as in Fig. 10a), narrow, filiform, pale yellowish brown, punctured by shallow punctation, antennomeres 1-5 covered by long, relatively sparse yellowish pubescence, antennomeres 6-11 covered by shorter and denser pale pubescence. Antennomeres 2-5 with very long yellowish setation in inner side. Antennomeres widened apically, without spines. Antennomeres 5-11 distinctly wider than antennomeres 2-4. Antennomere 2 shortest, antennomere 1 longest. Ratios of relative lengths of antennomeres 1-11 equal to: 1.07: 0.37: 1.00: 0.91: 0.88: 0.64: 0.61: 0.44: 0.41: 0.42: 0.58.

Pronotum black, slightly elongate, shape of pronotum as in Fig. 10a. Pronotum 1.56 times longer than wide at base and 1.11 times longer than wide at widest point (two fifths pronotal length from base to apex). Pronotum almost as wide as elytra at humeri. Lateral margins slightly arcuate, anterior margin and base indistinctly undulate (almost straight). Dorsal surface irregular with elevations (darker places on pronotal disc as in Fig. 10a), with coarse small-sized granulation, granules with microgranulation inside. Pronotum almost completely covered by yellow recumbent pubescence and darker pubescence in dark places (as in Fig. 10a), basal third of pronotum with erect colorless setation.

Scutellum black, wide, semielliptical, covered by recumbent yellow pubescence.

Elytra 5.59 mm long and 2.03 mm wide (2.75 times longer than wide); parallel, black with yellowish brown spots in base and pale brown apical part, punctured by dense small-sized punctation. Elytra covered by yellow and blackish recumbent pubescence (as in Fig. 10a). Elytral apex cut, undulate, lateral angles sharp, sutural angles with short spines. Apical margin with long yellowish setation. Each elytron with two indistinct elevations in basal part (at humeri and near scutellum).

Pygidium pale brown, with distinct dense punctation, covered by sparse recumbent yellow pubescence, apex distinctly rounded.

Legs very long and narrow, from yellowish brown to dark brown in meso- and metafemora, punctured by large-sized shallow punctation, partly covered by long sparse yellowish pubescence and long yellowish setation (meso- and metafemora partly bald in inner side of basal part). Setation in apical parts of tibiae dense and long. Tarsi yellowish brown (tarsomeres narrowly darker in apex), punctured by shallow punctation, covered by sparse yellowish setation. Tibiae widened apically. Metatibiae and metafemora distinctly longer than pro- and mesotibiae and pro- and mesofemora. Metatarsomere 1 2.29 times longer than metatarsomeres 2 and 3 together.

Ventral side of body from brown to black (paler in coxae and ultimate ventrites), punctured by small-sized punctation. Mesepisternum with triangular spot of dense yellow pubescence in apex, rest of mesepisternum with very dense, long pale setation. Metepisternum almost

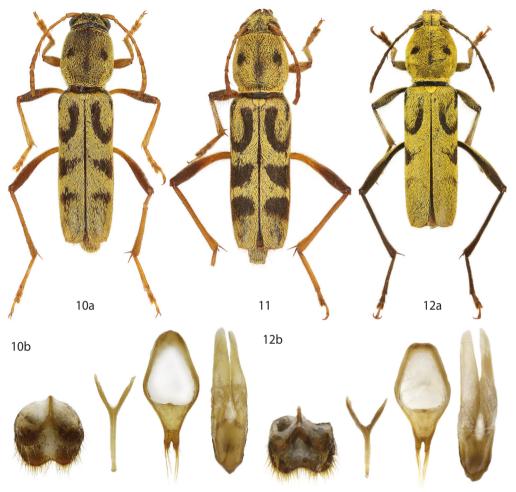


Fig. 10. Xylotrechus jakli sp. nov.: a- male holotype; b- male genitalia.

Fig. 11. Xylotrechus jakli sp. nov.: female paratype.

Fig. 12. Xylotrechus animosus Viktora, 2019: a- male holotype from Vietnam (Kon Tum); b- male genitalia.

completely covered by dense yellow pubescence, metasternum largely covered by dense yellow pubescence. Ventrites covered by yellow pubescence, ventrites 1-3 with large spots without pubescence in middle of basal part. Ventral side of body with erect colorless setation. Elytral epipleura pale brown, covered by dark, very sparse recumbent pubescence.

Genitalia as in Fig. 10b.

**Female.** Habitus of female paratype as in Fig. 11. Body length from head to elytral apex 11.5 mm. Colour of female similar to male. Female without distinct differences, body more robust than in male

**Differential diagnosis.** The most similar species are Xvlotrechus animosus Viktora, 2019 (Fig. 12), described from Vietnam (Kon Tum), and Xylotrechus vinnulus Holzschuh, 1993 (Fig. 13), described from Thailand (Nan). *Xvlotrechus jakli* sp. nov. differs from the similar species X. animosus by more elongate body, by different shape of pronotum, by more elongate elytra (2.75 times longer than wide in X. jakli, while 2.66 times longer than wide in X. animosus), by different colour of legs and antennae (yellowish brown in *X. jakli*, while blackish brown in *X*. animosus), by shorter metatarsomere 1 (metatarsomere 1 2.29 times longer than metatarsomeres 2 and 3 together in X. jakli, while 2.66 times longer than wide in X. animosus). X. jakli has different shape of tegmen (basal margin distinctly rounded in X. jakli, while straight with slightly rounded angles in X. animosus) and different shape of tergite 8 (apical margin more excised than in X. animosus) (as in Figs. 10b and 12b).

*Xylotrechus jakli* sp. nov. has similar pattern of pubescence on elytra as *X. vinnulus*, but distinctly differs from *X. vinnulus* by shorter antennae with wider ultimate antennomeres, by blackish curve-shaped spots in basal third of elytra distinctly rounded in the bottom part (angularly curved in *X. vinnulus*), and mainly by different shape of dark spots on the sides of pronotal disc (more or less only in the shape of small dots in *X. jakli*, while large longitudinal curved spots in *X. vinnulus*).



Fig. 13. *Xylotrechus vinnulus* Holzschuh, 1993: female from China (Yunnan).

**Etymology.** This new species is dedicated to my friend Stanislav Jákl (Praha, Czech Republic), a specialist in Cetoniinae and collector of this new species.

Distribution. Laos (Attapeu).

# *Xylotrechus kryli* sp. nov. (Fig. 14)

Type locality. The Philippines, N Luzon, Ifugao province, Banaue.

**Type material.** Holotype (3): 'Philippines' / 'North Luzon' / 'Banaue, Ifugao' / 'vii. 2016', (CPV). The type is provided with a printed red label: 'Xylotrechus kryli sp. nov.' / 'HOLOTYPUS' / 'P. Viktora det., 2021'.

**Description.** Habitus of male holotype as in Fig. 14a. Body from blackish brown to black, elongate, punctate, with pubescence. Body length from head to elytral apex 13.79 mm, widest in humeral part of elytra (3.66 mm), 3.76 times longer than wide.

Head black, short, widest through the eyes, narrower than pronotum. Head with irregular granulation (coarser with larger granules in posterior part), frons with very dense small-sized granulation. Antennal insertion with distinct shiny longitudinal keel in inner side. Frons with longitudinal carina with narrow furrow in middle. Head partly covered by long yellow pubescence. Eyes goldenish brown, distinctly transversally emarginate. Clypeus and labrum partly ochre yellow, shiny, with yellowish setation. Mandibles black, shiny, with yellowish pubescence and setation on edges.

Maxillary palpus from pale brown to brown, palpomeres short. Ultimate palpomere longest, apex rounded.

Antennae relatively long (reaching one half elytral length), filiform, antennomeres slightly widened apically, rounded in inner side of apex. Antennomeres without spines. Antennomeres 1-6 blackish brown, antennomere 7 blackish brown in basal half, apical half of antennomere 7 and antennomeres 8-11 pale yellowish. Antennae with very dense small-sized punctation. Antennomeres 1-4 partly with longer, relatively sparse yellowish pubescence and long yellowish setation in inner side. Antennomeres 8-11 and apical part of antennomere 7 covered by very dense recumbent whitish pubescence. Antennomere 2 shortest, antennomeres 3 and 5 longest. Ratios of relative lengths of antennomeres 1-11 equal to: 0.95:0.34:1.00:0.88:1.00:0.97:0.91:0.87:0.85:0.80:0.81.

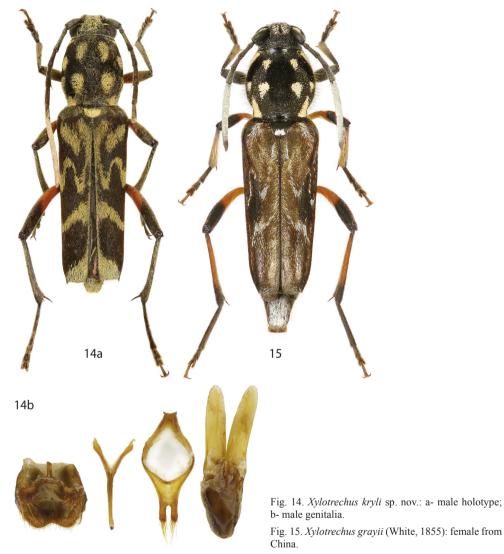
Pronotum black, elongate, shape of pronotum as in Fig. 14a. Pronotum 1.44 times longer than wide at base and 1.15 times longer than wide at widest point (one third pronotal length from base to apex). Lateral margins slightly arcuate, anterior margin and base almost straight. Pronotum narrower than elytra at humeri. Dorsal surface irregular with indistinct elevations. Pronotum with dense small-sized granulation, granules with microgranulation inside. Pronotum covered by yellow and black short pubescence (as in Fig. 14a), surface with a few erect colorless setae.

Scutellum black, wide, semielliptical, completely covered by dense pale yellow recumbent pubescence.

Elytra 9.07 mm long and 3.66 mm wide (2.47 times longer than wide); black, slightly narrowing apically, punctured by dense small-sized punctation, semi-matt, covered by yellow and black recumbent pubescence (as in Fig. 14a). Each elytron with two elevations in basal part (at humeri and less pronounced elevation near scutellum). Elytral apex cut, slightly undulate, sutural and lateral angles with distinct sharp spines (spines in lateral angles longer). Apical margin with long yellowish setation.

Pygidium blackish, punctured by distinct punctation, completely covered by recumbent yellow pubescence, margins with pale setation.

Legs long and narrow, tibiae blackish brown, femora from reddish brown to black (darker in apical parts), tarsi blackish brown. Tibiae and femora flat, tibiae distinctly widened apically. Legs punctured by dense shallow punctation, partly covered by long and sparse yellow pubescence and long yellowish setation (densest in apical part of tibiae). Tarsi punctured by dense punctation, covered by long yellowish setation, claws long. Metatibiae and metafemora longer than pro- and mesotibiae and pro- and mesofemora. Metatarsomere 1 2.6 times longer than metatarsomeres 2 and 3 together.



Ventral side of body black (coxae and two ultimate ventrites brown), punctured by dense small-sized punctation. Mesepisternum largely covered by dense recumbent pale yellow pubescence except basal and apical margin, metepisternum partly covered by dense pale yellow pubescence (basal third and apical margin without pubescence), metasternum largely covered by dense pale yellow pubescence, ventrites covered by dense pale yellow pubescence except stripes in base. Ventral side with long erect colorless setation. Elytral epipleura black, narrow, punctured by dense small-sized punctation, covered by recumbent yellowish pubescence.

Genitalia as in Fig. 14b.

Female, Unknown.

**Differential diagnosis.** *Xylotrechus kryli* sp. nov. hasn't any similar species in the Philippines. The most similar species is *Xylotrechus grayii* (White, 1855) (Fig. 15), described from northern China.

*Xylotrechus kryli* sp. nov. differs from the similar species *X. grayii* by more elongate body, by distinctly narrower elytra and pronotum, by scutellum completely covered by dense pale yellow recumbent pubescence (scutellum bald with tuft of white pubescence in apex in *X. grayii*), by distinctly narrower and longer antennae, by different shape and colour of pubescence on elytra and by blackish brown metatibiae (reddish in *X. grayii*).

**Etymology.** This new species is dedicated to Karel Kryl (1944 - 1994), Czech singer and poet, one of the most important representatives of the Czech protest song in 1968–1989.

**Distribution.** Philippines (Ifugao).

### *Xylotrechus kucerai* sp. nov. (Fig. 16)

Type locality. China, Shaanxi, Lueyang.

**Type material.** Holotype (3): label 1: 'CHINA-SHAANXI' / 'Lueyang' / '23. - 30. v. 2009' / 'lgt. E. Kučera'; label 2: 'ex *Lonicera*', (CPV).

The type is provided with a printed red label: 'Xylotrechus kucerai sp. nov.' / 'HOLOTYPUS' / 'P. Viktora det., 2021'.

**Description.** Habitus of male holotype as in Fig. 16a. Body from pale brown to black, elongate, narrow, parallel, punctate, with pubescence. Body length from head to elytral apex 10.83 mm, widest in humeral part of elytra (2.7 mm), 4 times longer than wide.

Head black, short, widest through the eyes, slightly narrower than pronotum at widest point. Head with small-sized granulation in posterior part, frons with irregular carinae forming small-sized reticulation. Antennal insertions with distinct longitudinal keel on inner side (keel with shiny sharp upper edge). Head largely covered by long recumbent pale yellow pubescence, anterior part with a few long erect pale setae. Eyes goldenish, strongly emarginate. Clypeus and labrum brown, shiny. Mandibles black, shiny, with long yellowish setation on edges.

Maxillary palpus pale brown, semi-matt, palpomeres short, with very long erect yellowish setae. Ultimate palpomere longest, cylindrical, with large longitudinal depression, apex indistinctly rounded.

Antennae relatively short (reaching one quarter elytral length), filiform, narrow, antennomeres slightly widened apically. Antennomeres without spines. Antennomeres from dark brown to blackish brown, antennomeres 1 and 2 with narrowly paler apex. Antennomere 11 paler than rest of antennomeres (brown). Antennomeres punctured by shallow punctation, antennomeres 1-7 covered by long yellowish and whitish pubescence, antennomeres 8-10 covered by shorter pale pubescence, antennomere 11 with very short colorless setation.

Antennomeres 1-5 with very long yellowish setation in inner side. Antennomere 2 shortest, antennomere 5 longest. Ratios of relative lengths of antennomeres 1-11 equal to: 0.97 : 0.43 : 1.00 : 0.83 : 1.09 : 0.80 : 0.70 : 0.60 : 0.63 : 0.57 : 0.78.

Pronotum black, slightly elongate, shape of pronotum as in Fig. 16a. Pronotum 1.5 times longer than wide at base and 1.09 times longer than wide at widest point (two thirds pronotal length from base to apex). Lateral margins arcuate, anterior margin and base indistinctly undulate. Pronotum slightly narrower than elytra at humeri. Dorsal surface with dense small-sized granulation, granules with microgranulation inside. Pronotal disc with distinct elevation in middle near base. Granules in elevation larger than in rest of pronotal surface. Pronotum partly covered by recumbent yellowish pubescence, pubescence sparser in middle of pronotal disc, elevation in middle of pronotal disc near base almost without pubescence (as in Fig. 16a). Pronotum with erect colorless setae mainly in basal third.

Scutellum black, semielliptical, punctured, covered by recumbent yellowish pubescence. Elytra 7.1 mm long and 2.7 mm wide (2.63 times longer than wide); from pale yellowish brown to black, parallel, punctured by very dense small-sized punctation in apical two thirds, basal third with small-sized punctation (interspaces between punctures large). Elytra semi-matt in basal half, apical half shiny. Elytra covered by yellowish pubescence, partly with admixture of darker pubescence (as in Fig. 16a). Each elytron with two elevations in basal part (at humeri and near scutellum). Suture black. Elytral apex undulate, sutural angle with very short indistinct spine, lateral angle sharp without spine. Apical margin with long yellowish setation.

Pygidium dark brown, punctured by distinct shallow punctation, covered by long, relatively sparse yellowish pubescence, apex distinctly rounded. Margins with pale setation.

Legs long and narrow, from brown to dark brown, tarsi paler. Legs with distinct punctation, covered by sparse yellowish pubescence and denser pale setation (meso- and metafemora partly bald in inner side). Tarsi long, unicolored brown including claws, punctured by dense punctation, covered by long yellowish setation. Metatibiae and metafemora distinctly longer than pro- and mesotibiae and pro- and mesofemora. Metatarsomere 1 2.25 times longer than metatarsomeres 2 and 3 together.

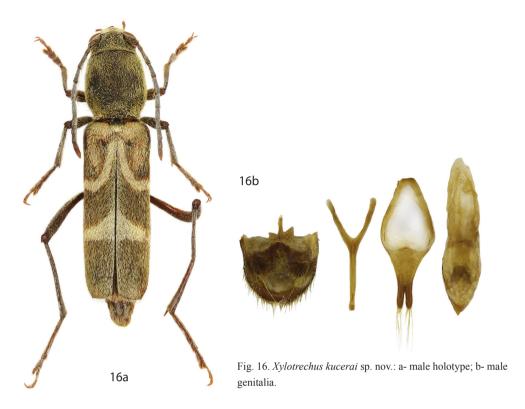
Ventral side of body from dark brown to black, punctured, almost completely covered by very dense recumbent yellowish pubescence and long erect colorless setation. Elytral epipleura brown, narrow, covered by very sparse yellowish pubescence.

Genitalia as in Fig. 16b.

### Female. Unknown.

**Differential diagnosis.** The most similar species are *Xylotrechus havai* sp. nov. (Fig. 2) and *Xylotrechus mucidulus* Holzschuh, 2009 with holotype described from Laos (Phongsaly province) (Fig. 3).

*Xylotrechus kucerai* sp. nov. differs from the similar species *X. havai* by more emarginate eyes, by different shape of pronotum, which is more elongate with less arcuate lateral margins (ratio pronotal length / pronotal width 1.09), while *X. havai* has pronotum approximately as long as wide with distinctly arcuate lateral margins in full length (ratio pronotal length / pronotal width 1.03). *X. kucerai* sp. nov. has different structure of the head surface



(small-sized granulation in posterior part, frons with irregular carinae forming small-sized reticulation), while *X. havai* has coarse irregular granulation in posterior part, between eyes punctured by dense coarse punctation, frons between antennal insertions with small distinct arrow-shape furrow, frons between eyes with longitudinal, irregular, largely shallow carina. *X. kucerai* sp. nov. has more hairy head, pronotal disc with coarser granulation, and distinctly shorter metatarsi than in *X. havai* (as in Figs. 2a and 16a). Significant differences can also be seen in the shape of tegmen, mainly in basal (basal margin distinctly narrower in *X. kucerai*) and apical part (as in Figs. 2b and 16b).

*Xylotrechus kucerai* sp. nov. differs from the similar species *X. mucidulus* by different shape of pronotum, which is less elongate (ratio pronotal length / pronotal width 1.09), while *X. mucidulus* has distinctly more elongate pronotum (ratio pronotal length / pronotal width 1.24). *X. kucerai* sp. nov. has pronotum with arcuate lateral margins in full length (as in Fig. 16a), while *X. mucidulus* has only slightly arcuate lateral margins in one third pronotal length from base to apex (as in Fig. 3). *X. kucerai* sp. nov. has distinctly longer protarsi than *X. mucidulus* (as in Figs. 3 and 16a).

**Etymology.** This new species is dedicated to my friend Emil Kučera (Soběslav, Czech Republic), a collector of this new species.

### **Distribution.** China (Shaanxi).

ACKNOWLEDGEMENTS. My sincere thanks are due to Roman Hergovits (Bratislava, Slovakia) and Stanislav Jákl (Praha, Czech Republic) for providing me with material from their collections, Luboš Dembický (Brno, Czech Republic) for providing me with photos of *Xylotrechus majeri* and *Xylotrechus mucidulus*, and Richard Sehnal (Czech University of Life Sciences Prague, FAPPZ, Praha, Czech Republic) for help with taking pictures of genitalia.

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