

**New genera of Alleculinae (Coleoptera: Tenebrionidae: Alleculinae: Alleculini)  
from Laos (*Barbora* gen. nov. and *Houaphanica* gen. nov.)**

Vladimír NOVÁK

Nepasické náměstí 796, CZ-190 14 Praha 9 - Klánovice, Czech Republic,  
e-mail: alleculinae.vn@centrum.cz

**Taxonomy, new genera, new species, descriptions, Coleoptera, Tenebrionidae, Alleculinae, Alleculini,  
*Barbora*, *Houaphanica*, Laos**

**Abstract.** Two new genera of Alleculinae from Laos - *Barbora* gen. nov. with the species *Barbora castanea* sp. nov. (type species) from Houaphan Province and *Barbora filia* sp. nov. from Xiangkhouang Province; *Houaphanica* gen. nov. with the type species *Houaphanica fera* sp. nov. and *Houaphanica magica* sp. nov. both from Houaphan Province are described, illustrated and compared with each other and with similar genera *Borborella* Novák, 2020, *Borboresthes* Fairmaire, 1897 and *Mycetocula* Novák, 2015.

## INTRODUCTION

Two new genera - *Barbora* gen. nov. and *Houaphanica* gen. nov. are described to include the new species *Barbora castanea* sp. nov. (as a type species), *Barbora filia* sp. nov., *Houaphanica fera* sp. nov. (as a type species) and *Houaphanica magica* sp. nov., respectively, all from Laos.

The new genera are described and compared with similar genera *Borborella* Novák, 2020, *Borboresthes* Fairmaire, 1897 and *Mycetocula* Novák, 2015. The differentiating characters are mainly long and narrow legs, filiform antenna, ultimate palpomere triangular, narrow, elongate, only slightly oval body (BL/EW more than 3), with lateral margins of elytra almost parallel in basal half and pronotum in base distinctly narrower than elytral base (in *Barbora* gen. nov.) and shorter legs, ultimate palpomere widely triangular, shoe-shaped, elongate, only slightly oval body (BL/EW more than 2.8-3), with lateral margins of elytra almost parallel in basal half and pronotum in base distinctly narrower than elytral base and protarsal claws not longer than mesotarsal claws (in *Houaphanica* gen. nov.).

New species are described, illustrated and compared.

## MATERIAL AND METHODS

Two important morphometric characteristics used for the descriptions of species of the subfamily Alleculinae, the ‘ocular index’ dorsally (Campbell & Marshall 1964) and ‘pronotal index’ (Campbell 1965), are used in this paper as well. The ocular index equals  $(100 \times \text{minimum dorsal distance between eyes}) / (\text{maximum width of head across eyes})$ . The pronotal index is calculated as  $(100 \times \text{length of pronotum along midline}) / (\text{width across basal angles of pronotum})$ . In the list of type or examined material, a slash (/) separates data in separate rows.

The following collection codens are used:

DHBC private collection of David Hauck, Brno, Czech Republic;

KMTJ private collection of Kimio Masumoto, Tokio, Japan;

NMEG Naturkundemuseum, Erfurt, Germany;

NMTJ National Museum, Tokio, Japan;

VNPC private collection of Vladimír Novák, Praha, Czech Republic.

Measurements of body parts and corresponding abbreviations used in the text are as follows: AL - total antennae length, BL - maximum body length, EL - maximum elytral length, EW - maximum elytral width, HL - maximum length of head (visible part), HW - maximum width of head, OI - ocular index dorsally, PI - pronotal index dorsally, PL - maximum pronotal length, PW - pronotal width at base, RLA - ratios of relative lengths of antennomeres 1-11 from base to apex ( $3=1.00$ ), RL/WA - ratios of length / maximum width of antennomeres 1-11 from base to apex, RLT - ratios of relative lengths of tarsomeres 1-5 respectively 1-4 from base to apex ( $1=1.00$ ).

Measurements were made with Olympus SZ 40 stereoscopic microscope with continuous magnification and with Soft Imaging System AnalySIS. Snapshots were taken by using camera Canon EOS 550 D, and Canon Macro Photo Lens MP-E and software Helicon Focus 5.2.

## TAXONOMY

### ***Barbora* gen. nov.**

(Figs. 1-11)

**Type species:** *Barbora castanea* sp. nov.

**Description.** Habitus as in Figs. 1 and 7, body outline as in Fig. 2, body narrow, elongate, parallel, dorsal surface with punctuation, microgranulation and pale setation, BL in range 9-10 mm. Widest in basal half of elytra length; BL/EW more than 3. Head (Figs. 3 and 8) relatively small, slightly wider than long, with fine microgranulation, long setae and dense punctuation, punctures small sized. Clypeus wide, with very small, shallow punctures, apex finely excised in middle. Mandibles strong, with sparse microgranulation, glabrous, shiny. Eyes large, transverse, excised, space between eyes distinctly narrower than diameter of one eye, approximately as wide as length of antennomere 1 and distinctly narrower than length of antennomere 3; OI in range 26-29. Antenna (Figs. 4 and 9) long and narrow, filiform, reaching approximately two thirds body length, antennomeres with relatively long, dense setation, microgranulation and shallow punctures. Antennomeres 1-3 slightly shiny, antennomeres 4-11 rather matte. Antennomere 2 shortest, antennomere 4 longest, each of antennomeres 7-11 shorter than antennomere 3. Ultimate antennomere arcuate, half drop shaped, widest near middle. Maxillary palpus matte, with setation and fine microgranulation. Ultimate palpomere widely triangular, palpomeres 2 and 3 distinctly dilated anteriorly. Pronotum (Figs. 3 and 8) relatively narrow, distinctly longer than semicircular, dorsal surface with long, semierect setation, dense punctuation, punctures medium sized, interspaces between punctures very narrow, with fine microgranulation, shiny. Border lines narrow, distinct and

complete. Lateral margins straight or slightly narrowing in basal half, arcuate in apical part. Anterior margin arcuate, posterior margin bisinuate, with short, narrow impression from both sides between antescutellar area and posterior angles, anterior angles indistinct, posterior angles rectangular or obtuse. PI in range 68-74. Elytron narrow, parallel, elongate or slightly elongate oval. Dorsal surface with long setation, shiny. Elytral striae with distinct rows of small punctures distinctly smaller than those in disc of pronotum, elytral interspaces slightly convex, with microgranulation and sparse, shallow punctures, approximately as large as those in elytral striae. Scutellum roundly triangular with microgranulation, microrugosities, few shallow punctures and a few setae. Elytral epipleura well developed, with a few setae and large punctures in basal part, regularly narrowing to ventrite 1, then leads parallel. Legs long and narrow, with setation, fine microgranulation and very small punctures. Protibiae very slightly excised in inner side of anterior part, pro- and mesotarsomeres 3 and 4 and penultimate metatarsomeres widened and lobed. Both anterior tarsal claws with 13 or 14 visible teeth. Ventral side of body with punctuation and short and sparse setae. Punctures of prothorax sparser and smaller than those in meso- and metaventrite. Abdomen with sparse setation, microgranulation and dense, shallow punctuation, punctures small, shiny. Aedeagus (Figs. 5, 6 and 10, 11) large and robust, slightly shiny. Basal piece straight in lateral view and slightly narrowing dorsally. Apical piece short, roundly triangular in dorsal view, beak-shaped dorsally and laterally.

**Females** have space between eyes wider than in male. Protibiae have no excision on inner side. Anterior tarsal claws have less teeth than in male.

**Differential diagnosis.** Similar genera are *Borborella* Novák, 2020, *Borboresthes* Fairmaire, 1897, *Houaphanica* gen. nov. and *Mycetocula* Novák, 2015.

Species of *Barbora* gen. nov. differ from similar species of *Borboresthes* mainly by body narrow, more flat, elongate oval (BL/EW more than 3), mesotibiae slightly arcuate, pronotum in base distinctly narrower than elytral base; while *Borboresthes* species have body convex, oval, egg-shaped (BL/EW is almost lower than 3), mesotibiae almost straight, base of pronotum is approximately as wide as base of elytra.

Species of *Barbora* is clearly different from similar species of *Borborella* mainly by protarsal claws small, as large as meso- or metatarsal claws, by protarsomeres 3 and 4 not strongly widened, by protibiae narrow; while species of *Borborella* have protarsal claws large, distinctly longer than meso- or metatarsal claws, protarsomeres 3 and 4 are strongly widened (often transverse) and protibiae are widened anteriorly.

Species of *Barbora* distinctly differs from similar species of *Houaphanica* gen. nov. mainly by long legs, by each of antennomeres 7-11 shorter than antennomere 3, by space between eyes narrower than diameter of one eye in males (OI 26-29) and by ultimate palpomere triangular; while *Houaphanica* species have legs shorter, each of antennomeres 7-11 is longer than antennomere 3, space between eyes in males is slightly wider than diameter of one eye and ultimate palpomere is widely triangular, shoe-shaped.

Species of *Barbora* is clearly different from similar species *Mycetocula* mainly by body widest at humeri, elytra slightly narrowing from base to apex, by pronotum widest in base,

antenna filiform, antennomeres narrow, antennomeres 3-11 more than 4 times longer than wide; while *Mycetocula* species have body widest near middle of elytra, elytra are more parallel, pronotum is almost widest near middle, antennomeres 3-10 are wider, slightly serrate, 2-4 times longer than wide.

**Etymology.** Name of the new genus is dedicated to my older daughter Barbora. Gender: feminine.

**Distribution.** Laos.

***Barbora castanea* sp. nov.**

(Figs. 1-6)

**Type locality.** Northeast Laos, Hua Phan province, environ of Ban Saluei, Mount Phu Pane, 20°12-15'N, 103°59'-104°02'E, 1200-1900 m.

**Type material.** Holotype (♂): NE LAOS: Hua Phan prov. / Ban Saluei env. / MT. PHU PANE / 1200-1600m / 6.-20.5.2014 / P. Viktora et local coll. lgt., (VNPC). Paratypes: (1 ♂, 1 ♀): same data as holotype, (VNPC); (1 ♂): NE LAOS, Huaphanne Pr. / MT. PHU PANE, 1200-1900 / m Ban Saluei env., 1.-20.v. / 2014; 20°12'N 103°59'E / St. Jakl + Lao collector leg., (VNPC); (1 ♀): LAOS - NE; HUA PHAN prov.; / BAN SALUEI; Phu Phan Mt.; / 20°15'N 104°02'E; 1500-2000m; D. Hauck leg.; 26.iv.-11.v.2001, (DHBC); (1 ♂, 3 ♀♀): LAOS, NE, P: Hua Phan / Ban Saleui, Phou Pan / (Mt.), 1300-1900m, 03.- / 30.IV.2014, 20°12'N / 104°01'E, Ig. Holzschuh, (NMEG, VNPC). The types are provided with a printed red label: 'Barbora / castanea sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2020'.

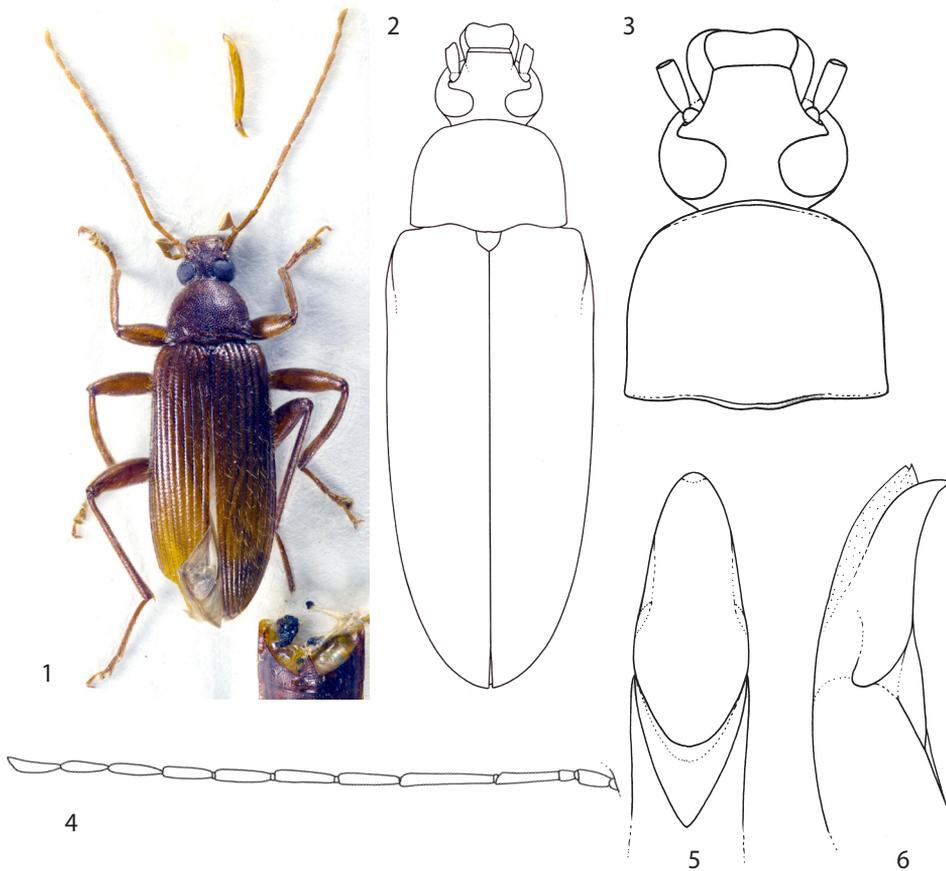
**Description of holotype.** Habitus as in Fig. 1, body outline as in Fig. 2, body narrow, elongate, parallel, dorsal surface reddish brown, with punctuation, microgranulation and pale setation, BL 9.27 mm. Widest in basal half of elytra length; BL/EW 3.40.

Head (Fig. 3) relatively small, slightly wider than long, with fine microgranulation, long, pale setae and dense punctuation, punctures small sized. Posterior part reddish brown slightly darker than pale reddish brown anterior part and clypeus. Clypeus wide, with very small, shallow punctures, apex finely excised in middle. Mandibles strong, pale reddish brown, with sparse microgranulation, glabrous, with a few pale setae near lateral margins, shiny. HW 1.53 mm; HW/PW 0.70. HL (visible part) 1.35 mm. Eyes large, transverse, excised, space between eyes distinctly narrower than diameter of one eye, approximately as wide as length of antennomere 1 and distinctly narrower than length of antennomere 3; OI equal to 28.57.

Antenna (Fig. 4). Long and narrow, filiform, pale brown (AL 6.09 mm, almost reaching two thirds body length, AL/BL 0.60), antennomeres with relatively long, dense, pale brown setation, microgranulation and shallow punctures. Antennomeres 1-3 slightly shiny, antennomeres 4-11 rather matte. Antennomere 2 shortest, antennomere 4 longest, each of antennomeres 7-11 is shorter than antennomere 3. Ultimate antennomere arcuate, half drop shaped, widest near middle.

RLA(1-11): 0.57 : 0.32 : 1.00 : 1.61 : 1.02 : 1.10 : 0.94 : 0.83 : 0.89 : 0.78 : 0.89.

RL/WA(1-11): 2.11 : 1.65 : 5.50 : 6.80 : 7.27 : 5.94 : 5.56 : 4.46 : 4.52 : 4.68 : 4.27.



Figs. 1-6: *Barbora castanea* sp. nov. (male holotype): 1- habitus; 2- body outline; 3- head and pronotum; 4- antenna; 5- aedeagus, dorsal view; 6- aedeagus, lateral view.

Maxillary palpus pale brown, rather matte, with pale brown setation and fine microgranulation. Ultimate palpomere widely triangular, palpomeres 2 and 3 distinctly dilated anteriorly.

Pronotum (Fig. 3). Reddish brown, relatively narrow, distinctly longer than semicircular, dorsal surface with long, semierect, pale setation, dense punctuation, punctures medium sized, distinctly larger than those on posterior part of head, interspaces between punctures very narrow, with fine microgranulation, shiny. Border lines narrow, distinct and complete. Lateral margins straight in basal half, arcuate in apical part. Anterior margin arcuate, posterior margin bisinuate, with short, narrow impression from both sides between antescutellar area and posterior angles, anterior angles indistinct, posterior angles rectangular or very slightly obtuse. PL 1.41 mm; PW 1.91 mm; PI equal to 73.82.

Elytron reddish brown, narrow, parallel, elongate, widest in posterior half elytra length. Dorsal surface with long, pale setation, shiny. Elytral striae with distinct rows of small

punctures distinctly smaller than those in disc of pronotum, elytral interspaces slightly convex, with microgranulation and sparse, shallow punctures, approximately as large as those in elytral striae. EL 6.51 mm; EW 2.73 mm. EL/EW 2.39.

Scutellum. Reddish brown, roundly triangular with microgranulation, microrugosities, few shallow punctures and a few pale setae.

Elytral epipleura well developed, reddish brown, with a few pale setae and large punctures in basal part, regularly narrowing to ventrite 1, then slightly paler and relatively wide with denser pale setation leads parallel.

Legs long and narrow, pale reddish brown, distinctly paler than pronotum, with pale brown setation, very small punctures and fine microgranulation. Protibiae slightly excised in inner side of anterior part, pro- and mesotarsomeres 3 and 4 and penultimate metatarsomeres widened and lobed. RLT: 1.00 : 0.48 : 0.36 : 0.48 : 0.99 (protarsus), 1.00 : 0.35 : 0.35 : 0.31 : 0.71 (mesotarsus), 1.00 : 0.32 : 0.20 : 0.33 (metatarsus).

Both anterior tarsal claws with 14 visible teeth.

Ventral side of body reddish brown with punctuation and short, sparse, pale setae. Punctures of prothorax sparser and smaller than those in meso- and metaventrite. Abdomen reddish brown with sparse, pale setation, microgranulation and dense shallow punctuation, punctures small, shiny. Ultimate ventrite distinctly paler than penultimate one.

Aedeagus (Figs. 5 and 6). Large and robust, pale brown, slightly shiny. Basal piece approximately straight in lateral view and slightly narrowing dorsally. Apical piece short, roundly triangular in dorsal view, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 4.64.

**Female** has space between eyes wider (OI in range 36-42), protibiae have no excision in inner side. Anterior tarsal claws have 8-10 visible teeth.

Measurements. BL 9.84 mm; HL 1.30 mm; HW 1.48 mm; OI 41.35; PL 1.55 mm; PW 2.38 mm; PI 65.13; EL 6.99 mm; EW 3.22 mm; AL(1-10) 5.65 mm; AL(1-10)/BL 0.57; BL/EW 3.06; HW/PW 0.62; EL/EW 2.17.

RLA(1-10): 0.48 : 0.24 : 1.00 : 1.57 : 1.14 : 0.99 : 0.98 : 1.05 : 0.93 : 0.88.

RL/WA(1-10): 1.86 : 1.50 : 5.06 : 7.94 : 4.90 : 5.00 : 4.94 : 4.50 : 4.00 : 4.47.

RLT: 1.00 : 0.36 : 0.37 : 0.58 : 1.14 (protarsus); 1.00 : 0.32 : 0.27 : 0.31 : 0.66 (mesotarsus); 1.00 : 0.28 : 0.21 : 0.45 (metatarsus).

**Variability.** The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=4). BL 9.29 mm (9.02-9.57 mm); HL 1.27 mm (1.23-1.35 mm); HW 1.45 mm (1.40-1.53 mm); OI 27.35 (26.13-28.57); PL 1.45 mm (1.41-1.50 mm); PW 2.04 mm (1.91-2.10 mm); PI 71.27 (68.57-73.82); EL 6.56 mm (6.35-6.83 mm); EW 2.81 mm (2.73-2.90 mm). Females (n=5). BL 9.20 mm (8.54-9.84 mm); HL 1.19 mm (1.12-1.30 mm); HW 1.35 mm (1.27-1.48 mm); OI 39.39 (36.55-41.35); PL 1.44 mm (1.30-1.58 mm); PW 2.17 mm (1.97-2.38 mm); PI 66.29 (61.67-71.49); EL 6.57 mm (6.12-6.99 mm); EW 2.96 mm (2.75-3.22 mm).

**Differential diagnosis.** The most similar species is *Barbora filia* sp. nov. from Laos (Xieng Khouang Province). *Barbora castanea* sp. nov. clearly differs from similar species *B. filia*

mainly by dorsal surface of body and femora reddish brown, by body narrower and more parallel (BL/EW 3.40), by posterior angles of pronotum rectangular or very slightly obtuse and by shape of aedeagus (as in Figs. 5 and 6); while *B. filia* has dorsal surface of body and femora blackish brown, body wider and very slightly elongate oval (BL/EW 3.19), posterior angles of pronotum are distinctly obtuse, aedeagus is as in Figs. 10 and 11.

**Etymology.** From Latin *castanea* (it means ‘chestnut’), reflecting its colour.

**Distribution.** Laos (Houaphan Province).

***Barbora filia* sp. nov.**

(Figs. 7-11)

**Type locality.** Laos, Xiangkhouang province, Phou Sam Soum, N 19.142740°, E 103.780480°, 2026 m.

**Type material.** Holotype (♂): [LAOS] XIENG KHOUANG, / Phou Sam Soum, alt. 2026 m / 19.142740° 103.780480° / April 27-May 11, 2018 / leg. T. HIGURASHI, N. KANEKO / & Y. NAKASE / FIT / Permit No. 09-05-2018, (NMTJ). Paratypes: (2 ♀♀): same data as holotype, (KMTJ, VNPC); (1 ♀): same data as holotype, but May 11-14, 2018 and leg. T. HIGURASHI, (VNPC). The types are provided with a printed red label: ‘*Barbora filia* sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2020’.

**Description of holotype.** Habitus as in Fig. 7, body narrow, elongate, almost parallel, dorsal surface blackish brown, with punctuation, microgranulation and pale setation, shiny, BL 9.35 mm. Widest near middle elytra length; BL/EW 3.19.

Head (Fig. 8) relatively small, slightly wider than long, with fine microgranulation, long, pale setae and dense punctuation, punctures small sized. Posterior part blackish brown distinctly darker than reddish brown anterior part and pale reddish brown clypeus. Clypeus wide, with very small, shallow punctures, apex finely excised in middle. Mandibles strong, pale reddish brown, with sparse microgranulation, glabrous, shiny. HW 1.36 mm; HW/PW 0.65. HL (visible part) 1.21 mm. Eyes large, transverse, excised, space between eyes distinctly narrower than diameter of one eye, approximately as wide as length of antennomere 1 and distinctly narrower than length of antennomere 3; OI equal to 27.18.

Antenna (Fig. 9). Long and narrow, filiform, pale reddish brown (AL 6.24 mm, reaching two thirds body length, AL/BL 0.67), antennomeres with relatively long, dense, pale brown setation, microgranulation and shallow punctures. Antennomeres 1-3 slightly shiny, antennomeres 4-11 rather matte. Antennomere 2 shortest, antennomere 4 longest, each of antennomeres 5-11 shorter than antennomere 3. Ultimate antennomere arcuate, half drop shaped, widest near middle.

RLA(1-11): 0.58 : 0.22 : 1.00 : 1.42 : 0.94 : 0.88 : 0.95 : 0.85 : 0.86 : 0.80 : 0.88.

RL/WA(1-11): 2.62 : 1.40 : 6.33 : 6.43 : 4.48 : 4.20 : 4.29 : 3.68 : 4.10 : 3.46 : 4.20.

Maxillary palpus pale brown, rather matte, with pale brown setation and fine microgranulation. Ultimate and penultimate palpomeres reddish brown, slightly darker than palpomere 2, ultimate palpomere widely triangular, palpomeres 2 and 3 distinctly dilated anteriorly.

Pronotum (Fig. 8). Blackish brown, relatively narrow, distinctly longer than semicircular, dorsal surface with long, semierect, pale setation, dense punctuation, punctures medium sized, approximately as large as those on posterior part of head, interspaces between punctures very narrow, with fine microgranulation, shiny. Border lines narrow, distinct and complete. Lateral margins very slightly narrowing in basal half, arcuate in apical part. Anterior margin arcuate, posterior margin bisinuate, with short, narrow impression from both sides between antescutellar area and posterior angles, anterior angles indistinct, posterior angles distinctly obtuse. PL 1.50 mm; PW 2.08 mm; PI equal to 72.12.

Elytron blackish brown, narrow, parallel, very slightly elongate oval, widest near half elytra length. Dorsal surface with long, pale setation, shiny. Elytral striae with distinct rows of small punctures distinctly smaller than those in disc of pronotum, elytral interspaces slightly convex, with microgranulation and sparse, shallow punctures, approximately as large as those in elytral striae. EL 6.64 mm; EW 2.93 mm. EL/EW 2.27.

Scutellum. Blackish brown, roundly triangular with microgranulation, few shallow punctures and a few setae.

Elytral epipleura well developed, blackish brown, with a few pale setae and large punctures in basal part, regularly narrowing to ventrite 1, then slightly paler and relatively wide leads parallel.

Legs long and narrow, femora blackish brown, tibiae, tarsi and apex of femora reddish brown, with pale brown setation, very small punctures and fine microgranulation. Protibiae very slightly excised in inner side of anterior part, pro- and mesotarsomeres 3 and 4 and penultimate metatarsomeres widened and lobed. RLT: 1.00 : 0.50 : 0.50 : 0.53 : 1.13 (protarsus), 1.00 : 0.30 : 0.29 : 0.35 : 0.54 (mesotarsus), 1.00 : 0.35 : 0.23 : 0.41 (metatarsus).

Both anterior tarsal claws with 13 visible teeth.

Ventral side of body blackish brown with punctuation and short, sparse, pale setae. Punctures of prothorax sparser and smaller than those in meso- and metaventrite. Abdomen blackish brown with sparse, pale setation, microgranulation and dense shallow punctuation, punctures small, shiny. Ultimate ventrite reddish brown, distinctly paler than penultimate one.

Aedeagus (Figs. 10 and 11). Large and robust, pale brown, slightly shiny. Basal piece approximately straight in lateral view and slightly narrowing dorsally. Apical piece short, roundly triangular in dorsal view, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 5.77.

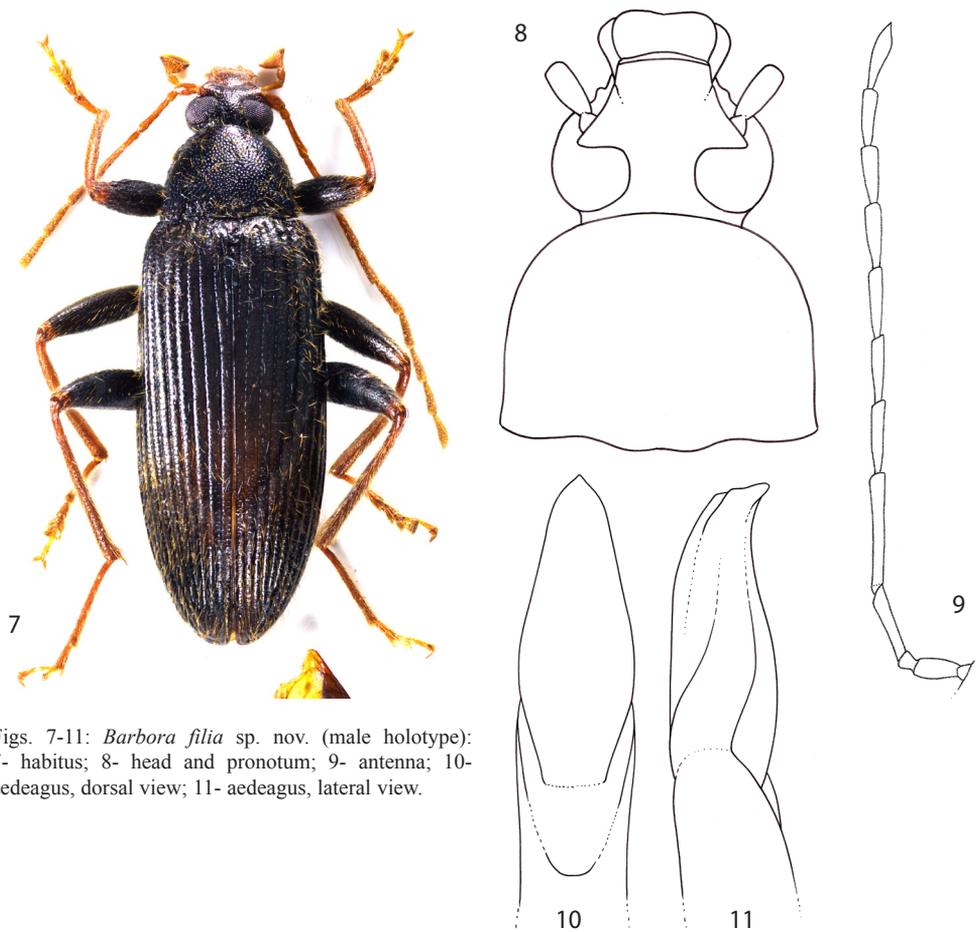
**Female** has space between eyes wider (OI in range 36-42), protibiae have no excision in inner side. Anterior tarsal claws have 8 or 9 visible teeth.

Measurements. BL 9.58 mm; HL 1.20 mm; HW 1.35 mm; OI 39.69; PL 1.45 mm; PW 2.09 mm; PI 69.38; EL 6.83 mm; EW 3.08 mm; AL(1-9) 5.30 mm; AL(1-9)/BL 0.55; BL/EW 3.11; HW/PW 0.65; EL/EW 2.22.

RLA(1-9): 0.66 : 0.31 : 1.00 : 1.58 : 1.08 : 1.17 : 1.12 : 1.10 : 1.07.

RL/WA(1-9): 2.90 : 1.73 : 5.60 : 6.65 : 6.79 : 5.44 : 4.95 : 5.11 : 5.29.

RLT: 1.00 : 0.63 : 0.52 : 0.57 : 1.16 (protarsus); 1.00 : 0.31 : 0.31 : 0.28 : 0.79 (mesotarsus); 1.00 : 0.29 : 0.25 : 0.44 (metatarsus).



Figs. 7-11: *Barbora filia* sp. nov. (male holotype): 7- habitus; 8- head and pronotum; 9- antenna; 10- aedeagus, dorsal view; 11- aedeagus, lateral view.

**Variability.** The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Females (n=3). BL 9.66 mm (9.58-9.77 mm); HL 1.20 mm (1.17-1.22 mm); HW 1.34 mm (1.31-1.37 mm); OI 39.62 (37.04-42.13); PL 1.46 mm (1.45-1.47 mm); PW 2.19 mm (2.09-2.26 mm); PI 66.88 (65.04-69.38); EL 6.97 mm (6.83-7.13 mm); EW 3.27 mm (3.08-3.40 mm).

**Differential diagnosis.** The most similar species is *Barbora castanea* sp. nov. from Laos (Houaphan Province). *Barbora filia* sp. nov. clearly differs from similar species *B. castanea* mainly by dorsal surface of body and femora blackish brown, by body wider and very slightly elongate oval (BL/EW 3.19), by posterior angles of pronotum distinctly obtuse and by shape of aedeagus as in Figs. 10 and 11; while *B. castanea* has dorsal surface of body and femora reddish brown, body narrower and more parallel (BL/EW 3.40), posterior angles of pronotum are rectangular or very slightly obtuse and shape of aedeagus is as in Figs. 5 and 6.

**Etymology.** From Latin *filia* (it means ‘daughter’).

**Distribution.** Laos (Xieng Khouang).

***Houaphanica* gen. nov.**

(Figs. 12-22)

**Type species:** *Houaphanica fera* sp. nov.

**Description.** Habitus as in Figs. 12 and 18, body outline as in Fig. 13, body small, elongate, very slightly oval, slightly convex, dorsal surface with punctuation, microgranulation and setation, BL 6-7 mm. Widest near middle elytra length; BL/EW in range 2.8-3. Head (Figs. 14 and 19) relatively small, slightly wider than long, with fine microgranulation, sparse setae and dense punctuation, punctures medium sized. Mandibles glabrous, shiny. Eyes large, transverse, excised, space between eyes slightly wider than diameter of one eye. OI in range 34-39. Antenna (Figs. 15 and 20) long, narrow, filiform, reaching two thirds body length, with relatively long setation, fine microgranulation and punctures. Antennomeres 1-3 slightly shiny, antennomeres 4-11 rather matte. Antennomere 2 shortest, antennomere 4 longest, each of antennomeres 4-11 distinctly longer than antennomere 3. Maxillary palpus rather matte, with setation and fine microgranulation. Ultimate palpomere widely triangular, shoe-shaped, palpomeres 2 and 3 distinctly dilated anteriorly. Pronotum (Figs. 14 and 19) transverse, narrower than elytra, dorsal surface with long and sparse setae, dense punctuation, punctures medium sized, slightly larger or as large as those in head, interspaces between punctures narrow, shiny. Border lines narrow, lateral margins straight in posterior part, arcuate in anterior half, anterior margin slightly arcuate, posterior margin bisinuate, anterior angles indistinct, posterior angles obtuse. PI in range 56-63. Elytron elongate oval, widest near middle. Dorsal surface with sparse, long setae, shiny. Elytral striae with distinct rows of medium sized punctures, elytral interspaces convex, with shallow punctures only. Elytral epipleura well developed, with setae and punctures in basal part, regularly narrowing to ventrite 1, then relatively wide leads parallel. Legs narrow, with relatively dense and long setation, very small punctures and microgranulation. Pro- and mesotarsomeres 3, 4 and metatarsomere 3 widened and lobed. Both anterior tarsal claws with 9-11 visible teeth. Ventral side of body with punctuation and short setation. Abdomen with microgranulation and punctures. Aedeagus (Figs. 16, 17 and 21, 22) narrow. Basal piece arcuate laterally and narrowing dorsally. Apical piece elongate triangular in dorsal view.

**Females** without distinct differences, only anterior tarsal claws have less teeth than in male.

**Differential diagnosis.** Similar genera are *Barbora* sp. nov., *Borborella* Novák, 2020 and *Borboresthes* Fairmaire, 1897.

Species of *Houaphanica* gen. nov. clearly differs from similar species of *Barbora* mainly by ultimate palpomere widely triangular, shoe-shaped, by each of antennomeres 7-11 longer than antennomere 3, by space between eyes in males wider than diameter of one eye and by short legs, distinctly shorter than have species of *Barbora* with ultimate palpomere

triangular, not shoe-shaped, each of antennomeres 7-11 is shorter than antennomere 3 and space between eyes in males is narrower than diameter of one eye.

Species of *Houaphanica* is distinctly different from species of genus *Borboresthes* mainly by body narrow, more flat, elongate oval (BL/EW 2.8-3), elytra almost parallel, pronotum in base distinctly narrower than elytral base; while *Borboresthes* species have body convex, oval, egg-shaped (BL/EW is almost lower than 2.8), elytra arcuate, base of pronotum is approximately as wide as base of elytra.

Species of *Houaphanica* clearly differs from similar species of *Borborella* mainly by protarsal claws small, as large as meso- or metatarsal claws, by protarsomeres 3 and 4 not strongly widened, by protibiae narrow and by ultimate palpomere shoe-shaped; while species of *Borborella* have protarsal claws large, distinctly longer than meso- or metatarsal claws, protarsomeres 3 and 4 are strongly widened (often transverse) and protibiae are widened anteriorly and ultimate palpomere is triangular.

**Etymology.** Toponymic name, derived from name of Houaphan province. Gender: feminine.

**Distribution.** Laos.

***Houaphanica fera* sp. nov.**

(Figs. 12-17)

**Type locality.** Northeastern Laos, Houaphan Province, Ban Saluei, Phou Pane Mountain, 20°12'N, 103°59'-104°01' E, 1200-1900 m.

**Type material.** Holotype (♂): LAOS, NE, P: Hua Phan / Ban Saleui, Phou Pan / (Mt.), 1300-1900m, 03.- / 30.IV.2014, 20°12'N / 104°01' E, lg. Holzschuh, (NMEG). Paratypes: (7 ♂♂, 3 ♀♀): same data as holotype, (NMEG, VNPC); (1 ♂): NE LAOS, Huaphanne Prov. / Mt. PHU PANE, 1200-1900 / m, Ban Saluei env., 1.-20.v. / 2014; 20°12'N 103°59' E / St. Jakl + Lao collector leg., (VNPC). The types are provided with a printed red label: 'Houaphanica / fera sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2020'.

**Description of holotype.** Habitus as in Fig. 12, body outline as in Fig. 13, body small, elongate, very slightly oval, slightly convex, dorsal surface from pale reddish brown to reddish brown, shiny, with punctuation, microgranulation and pale setae, BL 6.72 mm. Widest near half elytra length; BL/EW 3.00.

Head (Fig. 14) relatively small, shiny, slightly wider than long, with very fine microgranulation, sparse, pale setae and dense punctuation, punctures medium sized. Posterior part slightly darker than anterior part. Clypeus ochre yellow, with relatively dense, short, ochre yellow setation and microrugosities, apex almost straight. Mandibles strong, ochre yellow with sides and apex slightly darker, glabrous, shiny. HW 1.06 mm; HW/PW 0.66. HL (visible part) 0.97 mm. Eyes large, transverse, excised, space between eyes slightly wider than diameter of one eye, slightly wider than length of antennomere 3; OI equal to 38.55.

Antenna (Fig. 15). Long, ochre yellow, narrow, filiform (AL 4.54 mm, slightly exceeding two thirds body length AL/BL 0.68), with relatively long, dense, ochre yellow setation, fine microgranulation and shallow punctures. Antennomeres 1-3 slightly shiny, antennomeres

4-11 matte. Antennomere 2 shortest, antennomere 4 longest, each of antennomeres 4-11 distinctly longer than antennomere 3.

RLA(1-11): 0.80 : 0.52 : 1.00 : 1.62 : 1.32 : 1.33 : 1.24 : 1.24 : 1.15 : 1.29 : 1.43.

RL/WA(1-11): 2.08 : 1.55 : 3.25 : 4.86 : 3.91 : 4.43 : 4.14 : 4.33 : 3.95 : 4.20 : 4.65.

Maxillary palpus ochre yellow, rather matte, with ochre yellow setation and fine microgranulation. Ultimate palpomere widely triangular, shoe-shaped, palpomeres 2 and 3 distinctly dilated anteriorly.

Pronotum (Fig. 14). Reddish brown, transverse, slightly narrower than elytra, dorsal surface with long and sparse, ochre yellow setae, dense punctuation, punctures medium sized, slightly larger than those in posterior part of head, interspaces between punctures narrow, microgranulation not clearly distinct, shiny. Border lines narrow, but distinct and complete. Lateral margins straight in posterior part, arcuate in anterior half, anterior margin slightly arcuate, posterior margin bisinuate, anterior angles indistinct, posterior angles obtuse. PL 0.94 mm; PW 1.60 mm; PI equal to 58.75.

Elytron reddish brown, elongate oval, widest near middle. Dorsal surface with sparse, long, ochre yellow setae, shiny. Elytral striae with distinct rows of medium sized punctures distinctly smaller than those in disc of pronotum, elytral interspaces slightly convex, with not clearly distinct microgranulation and shallow punctures only slightly smaller than those in striae. EL 4.81 mm; EW 2.24 mm; EL/EW 2.15.

Scutellum. Reddish brown, broadly triangular with shallow punctures, shiny.

Elytral epipleura well developed, reddish brown, with pale setae and punctures in basal part, regularly narrowing to ventrite 1, then relatively wide and pale reddish brown leads parallel.

Legs narrow, ochre yellow, with relatively dense and long, ochre yellow setation, very small punctures and microgranulation. Pro- and mesotarsomeres 3, 4 and metatarsomere 3 widened and lobed. RLT: 1.00 : 0.38 : 0.41 : 0.45 : 1.10 (protarsus), 1.00 : 0.39 : 0.26 : 0.33 : 0.57 (mesotarsus), 1.00 : 0.29 : 0.15 : 0.38 (metatarsus).

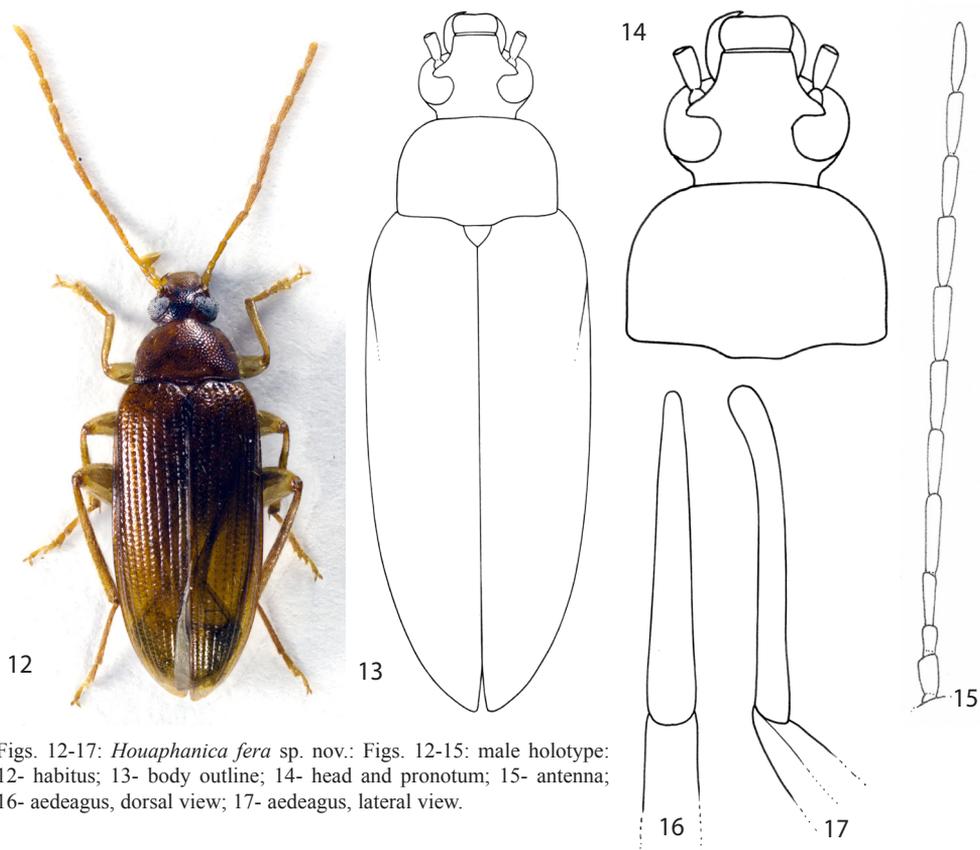
Both anterior tarsal claws with 9-11 visible teeth.

Ventral side of body dark reddish brown with punctuation and short pale setation. Abdomen reddish brown with microgranulation and punctures.

Aedeagus (Figs. 16 and 17). Narrow and shiny, ochre yellow. Basal piece strongly arcuate laterally and distinctly narrowing dorsally. Apical piece very thin and very narrow from both - dorsal and lateral views. Ratio of length of apical piece to length of basal piece from dorsal view 1: 3.59.

**Female** without distinct differences, only both anterior tarsal claws with 8 visible teeth.

**Variability.** The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=9). BL 6.75 mm (6.63-6.87 mm); HL 1.00 mm (0.97-1.01 mm); HW 1.09 mm (1.06-1.10 mm); OI 35.82 (34.50-38.55); PL 0.97 mm (0.91-1.02 mm); PW 1.62 mm (1.54-1.69 mm); PI 59.91 (58.75-61.25); EL 4.79 mm (4.74-4.87 mm); EW 2.28 mm (2.20-2.37 mm). Females (n=3). BL 6.58 mm (5.99-7.21 mm); HL 0.96 mm (0.87-1.04 mm); HW 1.04 mm (0.95-1.13 mm); OI 38.24 (38.33-39.73); PL 0.92



Figs. 12-17: *Houaphanica fera* sp. nov.: Figs. 12-15: male holotype: 12- habitus; 13- body outline; 14- head and pronotum; 15- antenna; 16- aedeagus, dorsal view; 17- aedeagus, lateral view.

mm (0.83-1.04 mm); PW 1.61 mm (1.53-1.75 mm); PI 56.70 (54.25-59.43); EL 4.71 mm (4.29-5.13 mm); EW 2.25 mm (2.05-2.49 mm).

**Differential diagnosis.** Similar species is *Houaphanica magica* sp. nov. also from Houaphan Province in Laos.

*Houaphanica fera* sp. nov. is clearly different from similar species *H. magica* mainly by dorsal surface of body paler and shiny (head, pronotum and elytra reddish brown) and by very narrow apical piece of aedeagus (as in Figs. 16 and 17); while *H. magica* has dorsal surface of body dark reddish brown, pronotum is rather matte and aedeagus is as in Figs. 21 and 22.

**Etymology.** From Latin *fera* (it means ‘wild’).

**Distribution.** Laos (Houaphan Province).

***Houaphanica magica* sp. nov.**

(Figs. 18-22)

**Type locality.** Northeast Laos, Hua Phan province, Ban Saleui, Phou Pane Mountain, 20°12'N, 104°01'E, 1300-1900 m.

**Type material.** Holotype (♂): LAOS, NE, P: Hua Phan / Ban Saleui, Phou Pan / (Mt.), 1300-1900m, 03.- / 30.IV.2014, 20°12'N / 104°01'E, lg. Holzschuh, (NMEG). Paratype: (1 ♂): same data as holotype, (VNPC). The types are provided with a printed red label: 'Houaphanica / magica sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2020'.

**Description of holotype.** Habitus as in Fig. 18, body relatively small, elongate oval, slightly convex, dorsal surface from pale reddish brown to dark reddish brown, with punctuation, microgranulation and pale setation, BL 6.64 mm. Widest near middle elytra length; BL/EW 2.81.

Head (Fig. 19) relatively small, slightly wider than long, with fine microgranulation, long, relatively sparse, pale setation and dense punctuation, punctures medium sized. Posterior part dark reddish brown, distinctly darker than reddish brown anterior part or pale reddish brown clypeus. Clypeus with very small punctures, dense, pale setae and fine microgranulation, apex slightly excised in middle. Mandibles pale brown, glabrous, shiny. HW 1.12 mm; HW/PW 0.66; HL (visible part) 0.95 mm. Eyes large, transverse, excised, space between eyes slightly wider than diameter of one eye, slightly wider than length of antennomere 1 and slightly narrower than length of antennomere 3; OI equal to 36.69.

Antenna (Fig. 20). Long, ochre yellow, narrow, filiform (AL 4.35 mm, reaching two thirds body length AL/BL 0.66), with relatively long, recumbent, pale setation, fine microgranulation and small punctures. Antennomeres 1-3 slightly shiny, antennomeres 4-11 rather matte and distinctly longer than antennomere 3. Antennomere 2 shortest, antennomere 4 longest, each of antennomeres 4-11 longer than antennomere 3.

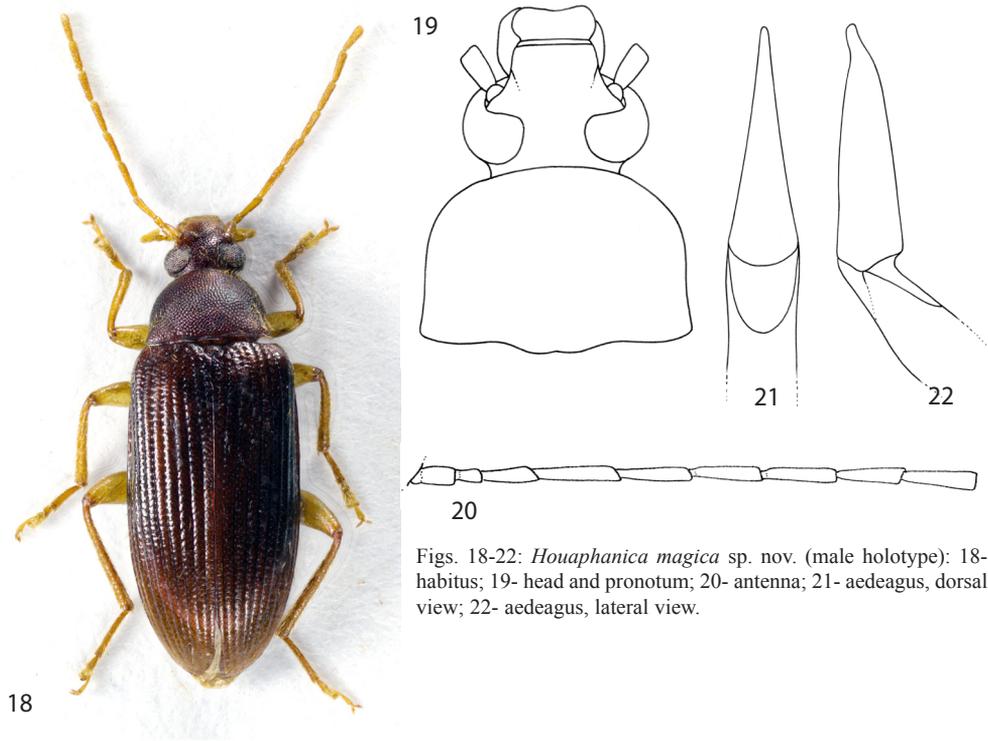
RLA(1-11): 0.72 : 0.43 : 1.00 : 1.43 : 1.19 : 1.19 : 1.12 : 1.11 : 1.03 : 1.22 : 1.17.

RL/WA(1-11): 2.04 : 2.13 : 4.63 : 6.24 : 5.50 : 4.63 : 4.37 : 3.91 : 3.80 : 4.17 : 4.36.

Maxillary palpus pale brown, rather matte, with pale setation, fine microgranulation and punctuation, punctures small. Ultimate palpomere widely triangular, shoe-shaped, palpomeres 2 and 3 distinctly dilated anteriorly.

Pronotum (Fig. 19). Dark reddish brown, slightly transverse, distinctly narrower than elytra, with sparse, long, pale setation, dense punctuation, punctures medium sized, approximately as large as those in head, interspaces between punctures very narrow, with microgranulation, shiny. Border lines narrow, but distinct and complete, only in the middle of anterior margin not clearly conspicuous. Lateral margins straight in posterior half, slightly excised before posterior angles, arcuate in apical part, anterior margin slightly arcuate, posterior margin bisinuate, anterior angles indistinct, posterior angles obtuse. PL 0.96 mm; PW 1.61 mm; PI equal to 59.63.

Elytron dark reddish brown, elongate oval, widest near middle. Dorsal surface with sparse, pale, relatively long setae, shiny. Elytral striae with distinct rows of medium sized, coarse punctures, slightly larger than those in disc of pronotum, elytral interspaces convex, with microgranulation and sparse shallow punctures distinctly smaller than those in striae. EL 4.73 mm; EW 2.36 mm. EL/EW 2.00.



Figs. 18-22: *Houaphanica magica* sp. nov. (male holotype): 18- habitus; 19- head and pronotum; 20- antenna; 21- aedeagus, dorsal view; 22- aedeagus, lateral view.

Scutellum. Dark reddish brown pentagon with microgranulation, matte.

Elytral epipleura well developed, reddish brown, with pale setae and punctures in basal part, regularly narrowing to ventrite 1, then relatively wide leads parallel.

Legs narrow, ochre yellow, apex of femora narrowly darker. Dorsal surface with relatively dense and long, pale setation, very small punctures and fine microgranulation. Pro- and mesotarsomeres 3, 4 and metatarsomere 3 widened and lobed. RLT: 1.00 : 0.43 : 0.43 : 0.64 : 1.34 (protarsus), 1.00 : 0.39 : 0.33 : 0.41 : 0.81 (mesotarsus), 1.00 : 0.28 : 0.30 : 0.46 (metatarsus).

Both anterior tarsal claws with 10-11 visible teeth.

Ventral side of body dark reddish brown with punctuation and short pale setation. Abdomen reddish brown, with short and sparse, pale setae, microgranulation and dense shallow punctuation, punctures small, shiny. Ultimate and penultimate ventrites pale reddish brown, punctuation of ultimate ventrite indistinct.

Aedeagus (Figs. 21 and 22). Ochre yellow, narrow, rather matte. Basal piece arcuate laterally and slightly narrowing dorsally. Apical piece short, elongate triangular in dorsal view, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 5.17.

**Female unknown.**

**Variability.** The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=2). BL 6.65 mm (6.58-6.72 mm); HL 0.93 mm (0.90-0.95 mm); HW 1.09 mm (1.06-1.11 mm); OI 36.42 (36.15-36.69); PL 1.00 mm (0.96-1.04 mm); PW 1.63 mm (1.61-1.65 mm); PI 61.33 (59.63-63.03); EL 4.71 mm (4.68-4.73 mm); EW 2.31 mm (2.25-2.36 mm).

**Differential diagnosis.** Similar species is *Houaphanica fera* sp. nov. also from Houaphan Province in Laos.

*Houaphanica magica* sp. nov. is clearly different from similar species *H. fera* mainly by dorsal surface of body dark reddish brown, by rather matte pronotum and wider apical piece of aedeagus (Figs. 21 and 22); while *H. fera* has dorsal surface of body paler and shiny (head, pronotum and elytra reddish brown) and apical piece of aedeagus is very narrow as in Figs. 16 and 17.

**Etymology.** From Latin *magica* (it means ‘magic’).

**Distribution.** Laos (Houaphan Province).

ACKNOWLEDGEMENTS. Sincere thanks are due to Matthias Hartmann (NMEG) for loaning me a material under his care. Thanks are due also to David Hauck (DHBC), Stanislav Jákl (Praha, Czech Republic), Kimio Masumoto (KMTJ) and Petr Viktora (Kutná Hora, Czech Republic) for bringing me a new material. Special thanks are due to Zuzana Čadová (Liberec, Czech Republic) for excellent drawings.

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Received: 25.5.2020

Accepted: 20.6.2020

Printed: 5.10.2020