

New species of Alleculini (Coleoptera: Tenebrionidae: Alleculinae: Alleculini) from the Palearctic Region V - genus *Houaphanica* Novák, 2020

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Abstract. Two new species of the genus *Houaphanica* Novák, 2020 from China (Fujian Province) are described as follows: *Houaphanica wuyishanica* sp. nov. and *Houaphanica ziyungdongica* sp. nov. These are the first records of *Houaphanica* species from the Palearctic Region. The new species are described, illustrated (including male genitalia) and compared with one another.

INTRODUCTION

The genus *Houaphanica* Novák, 2020 was introduced by Novák (2020a) for *Houaphanica fera* Novák, 2020 as a type species. Novák (2020a) described two species from Laos (Houaphanh Province) in this article. Species of the genus *Houaphanica* have the body more parallel and elongate than species of the genus *Borboresthes* Fairmaire, 1897, the pronotum is slightly narrower than the elytra at the humeri, the ultimate maxillary palpomere is shoe-shaped, each of the antennomeres 4-11 is longer than antennomere 3 and the space between eyes in males is as wide or wider than the diameter of one eye. This genus was not known from the Palearctic Region until now (Novák 2020b). Two new species are described below: *Houaphanica wuyishanica* sp. nov. and *Houaphanica ziyungdongica* sp. nov. These species represent the first record of the genus *Houaphanica* from China (Fujian Province) and from the Palearctic Region. The new species are illustrated including male genitalia and compared with one another.

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 material, a slash (/) separates data in separate rows.

The following collection codes are used:
NMPC National Museum, Praha, Czech Republic;
VNPC private collection of Vladimír Novák, Praha, Czech Republic.

Measurements of body parts and corresponding abbreviations used in text are as follows: AL - total antennal 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 an Olympus SZ 40 stereoscopic microscope with continuous magnification and with the 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 7.7.5.

TAXONOMY

Genus *Houaphanica* Novák, 2020

Type species: *Houaphanica fera* Novák, 2020.

Houaphanica wuyishanica sp. nov.

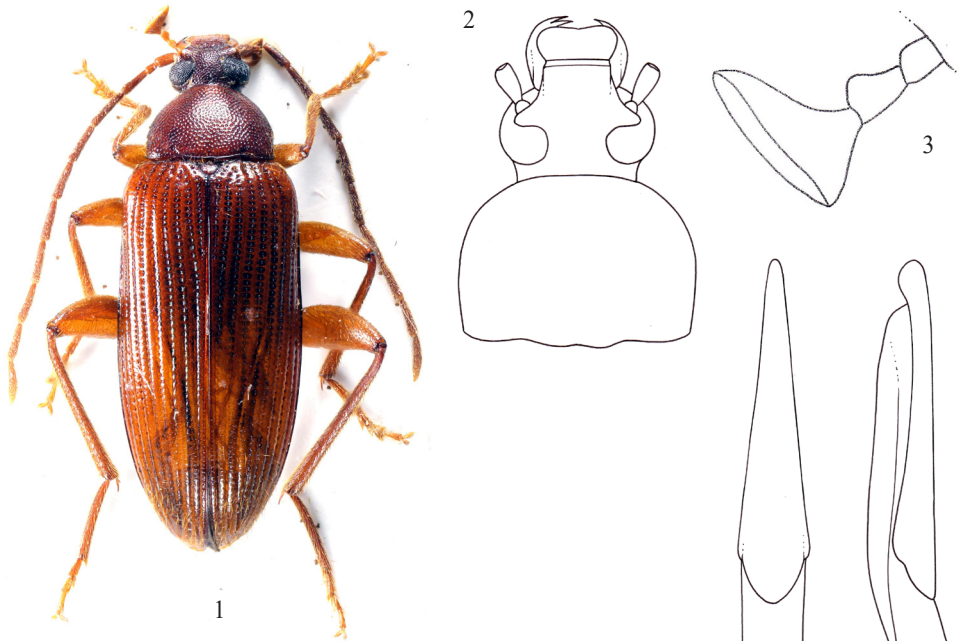
(Figs. 1-4)

Type locality. China, Fujian Province, Wuyishan Mountains National Nature Reserve, environ of Sangang village, 27°45.0'N, 117°45.0'E, 720 m.

Type material. Holotype (♂): CHINA: FUJIAN Province / Wuyishan Mts. NNR, Sangang / vill. env., 24.v.-3.vi.2018 / 27°45.0'N, 117°40.7'E, 720 m / river valley, wet rock along road / J. Hájek, D. Král, J. Růžička & / L. Sekerka lgt., (NMPC). Paratypes: (1 ♂, 1 ♀): same data as holotype, (NMPC, VNPC); (1 ♀): CHINA: FUJIAN prov. 27.v.+1.vi.2018 / Wuyishan Mts. NNR: Dazhulan / 27°41.8'N, 117°38.6-9'E, / 880-915 m; mixed forest + / bamboo; on vegetation / Hájek, Král, Růžička & Sekerka lgt., (VNPC); (2 ♀♀): CHINA: FUJIAN Prov. / Wuyishan Mts. NNR: Dazhulan / 27°42.1'N, 117°38.9'E, 915 m / river valley, mixed forest + bamboo, / tea plantation; 27.v.+1.vi.2018 / J. Hájek, D. Král, J. Růžička & / L. Sekerka lgt., (VNPC). The types are provided with a printed red label: 'Houaphanica / wuyishanica sp. nov. / HOLOTYPUS or PARATYPUS / V. Novák det. 2023'.

Description of holotype. Habitus as in Fig. 1, body medium-sized, slightly convex, elongate, rather parallel, shiny, from pale reddish brown to brown, dorsal surface with pale setae, punctures and very fine microgranulation, BL 8.91 mm. Widest near middle elytra length; BL/EW 3.04.

Head (Fig. 2) reddish brown, slightly wider than long, across the eyes narrower than base of pronotum. Dorsal surface with sparse pale setae, dense punctures and fine microgranulation, posterior half rather matte, anterior part slightly shiny. Clypeus wide, transverse, half heart shaped, pale reddish brown, with apex finely excised in middle. Dorsal surface with long, pale setae and fine microgranulation. Mandibles glabrous, semi-matte,



Figs. 1-5: *Houaphanica wuyishanica* sp. nov.: (male holotype): 1- habitus; 2- head and pronotum; 3- maxillary palpus; 4- apical piece of aedeagus, dorsal view; 5- apical piece of aedeagus, lateral view.

pale brown with darker sides and apex and pale setae on sides. HW 1.30 mm; HW/PW 0.65; HL (visible part) 1.22 mm. Eyes large, transverse, excised, space between eyes slightly narrower than diameter of one eye, OI equal to 35.24.

Antenna. Long and narrow, brown, (AL 6.41 mm, reaching half body length - AL/BL 0.72). Surface of antennomeres with pale setation, microgranulation and small, shallow punctures. Antennomeres 1 and 2 reddish brown, shiny, paler than rather matte antennomeres 3-11. Antennomere 2 shortest, antennomeres 4-11 longer than antennomere 3. Ultimate antennomere widest before apex.

RLA(1-11): 0.56 : 0.38 : 1.00 : 1.33 : 1.29 : 1.24 : 1.33 : 1.35 : 1.28 : 1.20 : 1.32.

RL/WA(1-11): 2.13 : 1.61 : 4.62 : 5.68 : 4.43 : 4.81 : 4.68 : 5.79 : 4.97 : 4.97 : 5.45.

Maxillary palpus (Fig. 3) pale brown, rather matte, with pale setae and fine microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate maxillary palpomere shoe-shaped.

Pronotum (Fig. 2) reddish brown, shiny, slightly convex, widest near middle, slightly narrower than elytra at humeri. Base with small, shallow almost indistinct oblique impressions between middle and posterior angles from both sides. Dorsal surface with sparse, pale setae and dense punctures with very fine microgranulation inside punctures. PL 1.53 mm; PW 2.01 mm; PI equal to 76.12. Border lines narrow, margins conspicuous from dorsal view. Base finely bisinuate, anterior and lateral margins arcuate, anterior angles indistinct, rounded, posterior angles obtuse.

Elytra. Pale reddish brown, elongate, rather parallel, slightly convex, shiny, widest near middle. Dorsal surface almost glabrous with very sparse, pale setae denser near apex. EL 6.16 mm; EW 2.93 mm; EL/EW 2.10. Elytral striae with rows of coarse punctures, intervals between punctures in rows narrower than diameter of punctures. Elytral intervals slightly convex, with shallow punctures smaller than those in striae.

Scutellum. Reddish brown, semi-elliptical, semi-matte, with a few small, shallow punctures and fine microgranulation.

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

Legs. Long and narrow, pale reddish brown, dorsal surface with dense, pale setae, fine microgranulation and small, shallow punctures. Pro- and mesotarsomeres 3, 4 and metatarsomere 3 widened and lobed. Metatarsomere 1 distinctly longer than metatarsomeres 2-4 together. RLT: 1.00 : 0.43 : 0.37 : 0.52 : 1.36 (protarsus), 1.00 : 0.34 : 0.24 : 0.31 : 0.61 (mesotarsus), 1.00 : 0.31 : 0.14 : 0.43 (metatarsus).

Both protarsal claws with 12 visible teeth.

Ventral side of body reddish brown with sparse, pale setae and dense punctures. Abdomen reddish brown, shiny with fine microgranulation, sparse, pale setae and dense punctures. Ultimate and penultimate ventrites paler (pale reddish brown) and rather matte.

Aedeagus (Figs. 4, 5) pale brown, slightly shiny, long and narrow. Basal piece rounded laterally and narrowing in dorsal view in basal third, then straight and narrow. Apical piece elongate triangular from dorsal view, beak-shaped from lateral view. Ratio of length of apical piece to length of basal piece from dorsal view 1: 4.49.

Female. Without distinct differences only space between eyes a little wider than in male (OI approximately 42). Both protarsal claws with only 7 visible teeth.

Measurements of female body. BL 7.47 mm; HL 1.02 mm; HW 1.08 mm; OI 41.80; PL 1.18 mm; PW 1.70 mm; PI 69.41; EL 5.27 mm; EW 2.55 mm; AL 4.82 mm; AL/BL 0.65; HW/PW 0.64; BL/EW 2.93; EL/EW 2.07.

RLA(1-11): 0.86 : 0.46 : 1.00 : 1.60 : 1.47 : 1.67 : 1.49 : 1.65 : 1.58 : 1.60 : 1.65.

RL/WA(1-11): 2.23 : 1.73 : 3.35 : 4.55 : 4.42 : 5.00 : 4.47 : 5.22 : 5.00 : 4.55 : 4.85.

RLT: 1.00 : 0.54 : 0.59 : 0.66 : 1.31 (protarsus), ---- : ---- : ---- : ---- : ---- (mesotarsus), 1.00 : 0.41 : 0.35 : 0.58 (metatarsus).

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 8.02 mm (7.13-8.91 mm); HL 1.10 mm (0.97-1.22 mm); HW 1.17 mm (1.03-1.30 mm); OI 35.77 (35.24-36.29); PL 1.35 mm (1.16-1.53 mm); PW 1.79 mm (1.57-2.01 mm); PI 75.01 (73.89-76.12); EL 5.58 mm (5.00-6.16 mm); EW 2.66 mm (2.38-2.93 mm). Females (n= 4). BL 7.85 mm (7.47-8.22 mm); HL 1.08 mm (1.02-1.17 mm); HW 1.15 mm (1.08-1.24 mm); OI 42.25 (41.80-42.57); PL 1.23 mm (1.18-1.29 mm); PW 1.80 mm (1.70-1.91 mm); PI 68.51 (67.54-69.41); EL 5.53 mm (5.27-5.85 mm); EW 2.66 mm (2.55-2.80 mm).

Differential diagnosis. (Based on males). Similar species from Fujian Province (China) is *Houaphanica ziyungdongica* sp. nov.

Houaphanica wuyishanica sp. nov. clearly differs from the similar species *H. ziyungdongica* mainly by the dorsal surface of the body unicolored, covered by sparse setae, by the shape of the pronotum (widest near middle of lateral margins as in Fig. 2), by antennomeres 4-11 1.2-1.35 times longer than antennomere 3, by antennomeres 1 and 2 distinctly paler than antennomeres 3-11; while *H. ziyungdongica* has the dorsal surface of the body bicolored, covered by denser setation, the pronotum is almost semicircular (as in Fig. 7), antennomeres 4-11 1.3-1.7 times longer than antennomere 3 and the antenna is unicolorous.

Etymology. Toponymic, named after the type locality - Wuyishan Mountains in Fujian Province (China).

Distribution. China (Fujian Province).

***Houaphanica ziyungdongica* sp. nov.**
(Figs. 6-9)

Type locality. China, Fujian Province, Ziyungdongshan, 25°46'N, 117°20'E, 700-1100 m.

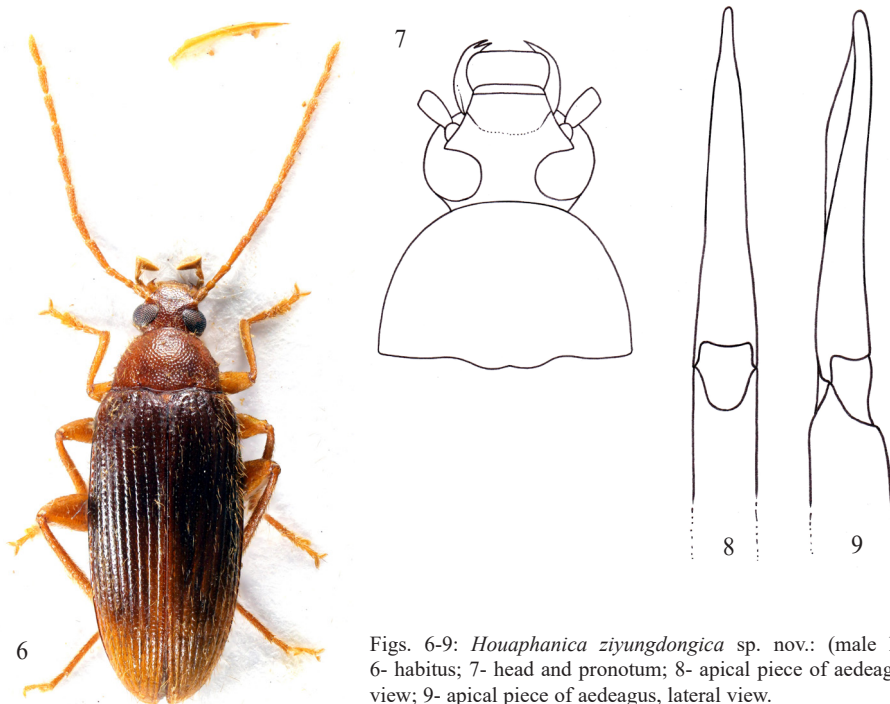
Type material. Holotype (♂): China: Fujian c., 700-1100m / Ziyungdongshan, NW slopes / 25°46'N, 117°20'E, 29.IV. / Jaroslav Turna leg., 2008, (VNPC). The type is provided with a printed red label: 'Houaphanica / ziyungdongica sp. nov. / HOLOTYPUS / V. Novák det. 2023'.

Description of holotype. Habitus as in Fig. 6, body slightly convex, narrow, elongate, rather parallel, shiny, from ochre yellow to dark reddish brown, dorsal surface with pale setation, punctures and fine microgranulation, BL 6.52 mm. Widest near middle elytra length; BL/EW 2.90.

Head (Fig. 7) pale reddish brown, a little wider than long, across the eyes narrower than base of pronotum. Dorsal surface shiny with long, pale setae, dense punctures and fine microgranulation. Clypeus wide, transverse, pale brown, with apex almost straight. Dorsal surface with shallow punctures, microgranulation and long, pale setae, semi-matte. Mandibles glabrous, shiny, ochre yellow or pale brown with darker sides and apex and pale setae in sides. HW 1.06 mm; HW/PW 0.68; HL (visible part) 0.94 mm. Eyes large, transverse, excised, space between eyes slightly wider than diameter of one eye, OI equal to 34.59.

Antenna. Long, narrow, ochre yellow, rather matte (AL 4.39 mm, reaching two thirds body length - AL/BL 0.67). Surface of antennomeres with long, pale setation, microgranulation and small, shallow punctures. Antennomeres 4-11 distinctly longer than antennomere 3. Antennomere 2 shortest, antennomere 4 longest, ultimate antennomere widest near middle. RLA(1-11): 0.76 : 0.49 : 1.00 : 1.68 : 1.47 : 1.39 : 1.42 : 1.43 : 1.44 : 1.29 : 1.56. RL/WA(1-11): 2.04 : 1.46 : 2.67 : 4.84 : 4.24 : 3.57 : 3.52 : 3.68 : 3.47 : 3.32 : 4.00.

Maxillary palpus pale brown, rather matte, with pale setae and fine microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate maxillary palpomere shoe-shaped.



Figs. 6-9: *Houaphanica ziyungdongica* sp. nov.: (male holotype): 6- habitus; 7- head and pronotum; 8- apical piece of aedeagus, dorsal view; 9- apical piece of aedeagus, lateral view.

Pronotum (Fig. 7) pale reddish brown, shiny, slightly convex, almost semicircular, widest at base, very slightly narrower than elytra at humeri. Dorsal surface with long, pale setae, very fine microgranulation and dense, larger, relatively shallow punctures. PL 1.03 mm; PW 1.57 mm; PI equal to 65.61. Border lines narrow, margins conspicuous from dorsal view. Base finely bisinuate, anterior and lateral margins arcuate, posterior angles distinct, almost rectangular.

Elytra. Dark reddish brown, narrow, elongate, rather parallel, slightly convex, shiny, widest near middle, suture and apex distinctly paler. Dorsal surface with long, pale setae. EL 4.55 mm; EW 2.25 mm; EL/EW 2.02. Elytral striae with rows of coarse punctures, smaller than those in pronotum. Elytral intervals slightly convex, with very fine microgranulation and punctures distinctly smaller than those in striae.

Scutellum. Pale reddish brown with darker sides, roundly triangular, matte, with a few small, shallow punctures and fine microgranulation.

Elytral epipleura well-developed, pale reddish brown, with punctures in basal part, narrowing to ventrite 1, then relatively wide and parallel in apical half.

Legs. Long and narrow, ochre yellow, dorsal surface with dense, pale setation and fine microgranulation. Pro- and mesotarsomeres 3, 4 and metatarsomere 3 widened and lobed. RLT: 1.00 : 0.40 : 0.29 : 0.60 : 1.07 (protarsus), 1.00 : 0.19 : 0.17 : 0.21 : 0.54 (mesotarsus), 1.00 : 0.28 : 0.18 : 0.32 (metatarsus).

Protarsal claws with 16 and 18 visible teeth.

Ventral side of body reddish brown with sparse, short, pale setae and punctures. Abdomen pale brown, shiny with very fine microgranulation, very sparse, pale setae and sparser, small punctures. Ultimate ventrite with distinct impression in the middle of apex.

Aedeagus (Figs. 8, 9) narrow, pale brown, rather matte. Basal piece very finely rounded laterally and very finely narrowing in dorsal view. Apical piece elongate, triangular from dorsal view, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 3.88.

Female. Unknown.

Differential diagnosis. (Based on males). Similar species from Fujian Province (China) is *Houaphanica wuyishanica* sp. nov.

Houaphanica ziyungdongica sp. nov. clearly differs from the similar species *H. wuyishanica* mainly by the dorsal surface of body bicolored, covered by denser setation, by almost semicircular pronotum (as in Fig. 7), by antennomeres 4-11 1.3-1.7 times longer than antennomere 3 and by unicolorous antenna; while *H. wuyishanica* has dorsal surface of body unicolorous, covered by sparse setae, pronotum is widest near middle of lateral margins as in Fig. 2, antennomeres 4-11 are 1.2-1.35 times longer than antennomere 3 and antennomeres 1 and 2 are distinctly paler than antennomeres 3-11.

Etymology. Toponymic, named after the type locality - Ziyungdong Mountains in Fujian Province (China).

Distribution. China (Fujian Province).

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