

Two new species of *Bolbostetha* Fairmaire, 1896 (Coleoptera: Tenebrionidae: Alleculinae: Alleculini) from North Vietnam

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Abstract. Two new species of the genus *Bolbostetha* Fairmaire, 1896 from North Vietnam are described as follows: *Bolbostetha caobangica* sp. nov. and *Bolbostetha piaocica* sp. nov. The new species are illustrated including male genitalia and compared with similar species.

INTRODUCTION

The genus *Bolbostetha* Fairmaire 1896 with the type species *Bolbostetha soleata* Fairmaire 1896 was established by Fairmaire (1896). Borchmann (1910) knew only two species worldwide, Novák & Pettersson (2008) five species and Novák (2020a) six species from the Palearctic Region. The genus comprises 53 species today (Novák 2008, 2020b, 2022, 2024, 2025a, b, 2026); 43 species living in the Oriental Region (most of them were described from Indonesia and Malaysia). Four species were described from Vietnam (Novák 2022 and 2025b), four species described from the Southern parts of China increased the species known from the Palearctic Region to 10.

Two new species from North Vietnam, *Bolbostetha caobangica* sp. nov. and *Bolbostetha piaocica* sp. nov., are described, illustrated including male genitalia and compared with the most similar species *Bolbostetha minfongica* Novák, 2024 from China (Hainan Island) with a pale dorsal surface.

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 $(100 \times \text{length of pronotum along midline}) / (\text{width across basal angles of pronotum})$.

‘Type material’ information is taken from recent locality labels.

In the list of type material, a slash (/) separates data in separate rows, a double slash separates data (//) on different labels.

The following collection code is used:
ASGG private collection of Andre Skale, Gera, Germany;
MNFI collection of Museo di Storia Naturale, Firenze, Italy.

Measurements of body parts and corresponding abbreviations used in 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 an Olympus SZ 40 stereoscopic microscope with continuous magnification and with the Soft Imaging System AnalySIS. Snapshots were taken and processed by using a Canon EOS 550 D camera and Canon Macro Photo Lens MP-E and Helicon Focus 8.3.11 software.

TAXONOMY

Genus *Bolbostetha* Fairmaire, 1896

Type species: *Bolbostetha soleata* Fairmaire, 1896.

Bolbostetha caobangica sp. nov.

(Figs. 1-4)

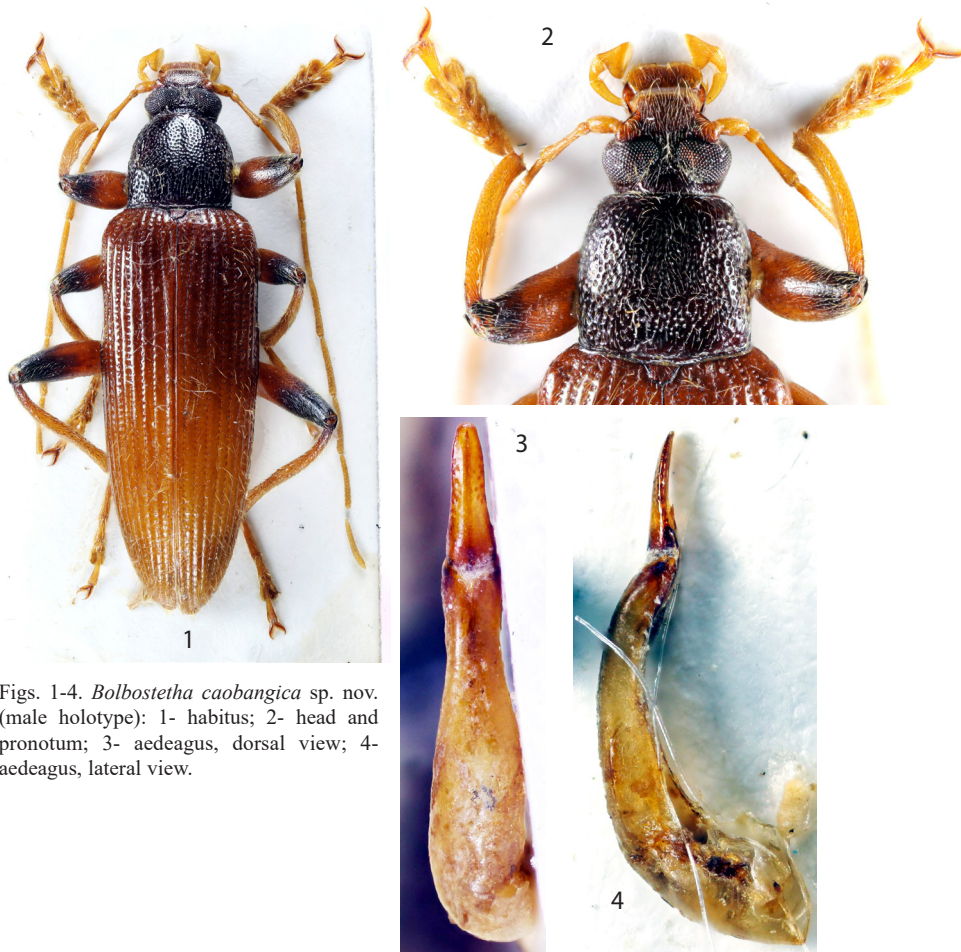
Type locality. North Vietnam, Cao Bang Province, vicinity Vin Den, Nui Pia Oac Nature Reserve, 22°33'53"N, 105°52'53"E, 900-1300 m.

Type material. Holotype (♂): N-VIETNAM Cao Bang Prov., vic. / Vin Den, Nui Pia Oac Nat. Res. / 06.-10.V.2013, 22°33'53"N, 105° / 52'53" E, 900-1300m A. Skale, (ASGG). The type is provided with a printed red label: 'Bolbostetha / caobangica sp. nov. / HOLOTYPUS / V. Novák det. 2026'.

Description of holotype. Habitus as in Fig. 1, narrow, elongate, *Leptura*-shaped, shiny, from ochre yellow to blackish brown, dorsal surface with pale setae, punctures and fine microgranulation, BL 10.75 mm. Widest near elytral humeri; BL/EW 3.71.

Head (Fig. 2) approximately as long as wide through the eyes, slightly wider than anterior margin and narrower than base of pronotum. Dorsal surface shiny with dense punctures and long, pale setae. Blackish brown posterior part distinctly darker than brown anterior half. Clypeus pale reddish brown, transverse, half-heart shaped, surface with long pale setae, shallow punctures and fine microgranulation, slightly excised in middle of yellow apex. HW 1.45 mm; HW/PW 0.76; HL (visible part) 1.38 mm. Eyes large, transverse, excised, space between eyes very narrow, distinctly narrower than diameter of one eye, slightly narrower than length of antennomere 2; OI equal to 12.15.

Antenna long, (AL(1-11) 9.53 mm, distinctly exceeding three quarters body length, AL(1-11)/BL 0.89), antennomeres ochre yellow, narrow. Dorsal surface with recumbent,



Figs. 1-4. *Bolbostetha caobangica* sp. nov. (male holotype): 1- habitus; 2- head and pronotum; 3- aedeagus, dorsal view; 4- aedeagus, lateral view.

pale setae and microgranulation. Antennomeres 1-3 semi-matte, antennomeres 4-11 matte, distinctly longer than antennomere 3. Antennomere 2 shortest.

RLA: 0.63 : 0.31 : 1.00 : 1.51 : 1.54 : 1.74 : 1.74 : 1.74 : 1.71 : 1.57 : 1.46.

RL/WA: 2.00 : 1.38 : 4.38 : 5.89 : 6.00 : 8.71 : 7.63 : 7.63 : 8.57 : 9.17 : 7.29.

Maxillary palpus yellow, semi-matte, with pale setae and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere triangular.

Pronotum (Fig. 2) blackish brown, bell-shaped, shiny, convex, widest in basal half, very slightly wider than long, distinctly narrower than elytra at humeri. Dorsal surface with long, pale setae, large, dense and coarse punctures, fine microgranulation not clearly distinct everywhere. PL 1.74 mm; PW 1.91 mm; PI equal to 91.10. Border lines narrow, margins conspicuous from dorsal view. Base slightly rounded, anterior margin almost straight, lateral margins slightly arcuate in apical half, anterior and posterior angles obtuse.

Elytra. Pale reddish brown, narrow, elongate, slightly convex, shiny, widest near humera. Dorsal surface with long, pale setae. EL 7.63 mm; EW 2.90 mm; EL/EW 2.63. Elytral striae

with rows of coarse punctures, elytral intervals slightly convex, with microgranulation and very small, very sparse punctures.

Scutellum. Pale reddish brown with sides darker, triangular.

Elytral epipleura well-developed, reddish brown with punctures in basal half narrowing to ventrite 1, then narrow, pale reddish brown becoming parallel on apical part.

Legs long. Dorsal surface with pale setae, microgranulation and small, shallow punctures. Protibiae and protarsi ochre yellow, meso- and metatibiae and tarsi pale reddish brown, femora reddish brown in basal part and blackish brown in apical part. Protibiae slightly excised in apical half on inner side. Profemora slightly wider than meso- and metafemora. Protarsomeres 1-4, mesotarsomeres 3 and 4 and penultimate metatarsomeres widened and lobed. RLT: 1.00 : 0.87 : 0.87 : 1.30 : 2.39 (protarsus); 1.00 : 0.63 : 0.63 : 0.81 : 1.38 (mesotarsus); 1.00 : 0.56 : 0.56 : 0.90 (metatarsus).

Protarsal claws relatively small, pale reddish brown, both with more than 20 teeth.

Ventral side of body reddish brown with small punctures and short, pale setae. Abdomen blackish brown, shiny with pale setae, dense punctures and microgranulation. Ultimate ventrite with large, shallow impression in middle of apex.

Aedeagus (Figs. 3, 4) ochre yellow, shiny. Basal piece rounded laterally and narrowing in dorsal view. Apical piece triangular dorsally, beak-shaped in both views. Ratio of length of apical piece to length of basal piece in dorsal view 1: 3.10.

Female. Unknown.

Differential diagnosis. The most similar species with a pale dorsal surface are *Bolbostetha minfongica* Novák, 2024 from China (Hainan Island) and *Bolbostetha piaocica* sp. nov.

The new species *Bolbostetha caobangica* sp. nov. clearly differs from the similar species *B. minfongica* mainly by the head and pronotum blackish brown, by the space between the eyes slightly narrower than the length of antennomere 2, by the blackish brown abdomen and by the shape of the aedeagus as in Figs. 3 and 4; while *B. minfongica* has the head and pronotum reddish brown, the space between the eyes is distinctly wider than the length of antennomere 2, the abdomen is reddish brown and the shape of the aedeagus is as in Novák (2024: 73: figs. 15 and 16).

The new species *Bolbostetha caobangica* sp. nov. is distinctly different from the similar species *B. piaocica* mainly by the head and pronotum blackish brown, by the space between the eyes slightly narrower than the length of antennomere 2, by the distinct angle on the inner side of the protibia, the blackish brown abdomen and by the shape of the aedeagus as in Figs. 3 and 4; while *B. piaocica* has the head and pronotum reddish brown, the space between the eyes is distinctly wider than the length of antennomere 2, the protibiae are widened apically without an angle on the inner side, the abdomen is reddish brown and the shape of the aedeagus is as in Figs. 7 and 8.

Etymology. Toponymic, named after the Cao Bang Province (North Vietnam).

Distribution. North Vietnam (Cao Bang Province).

***Bolbostetha piaocica* sp. nov.**

(Figs. 5-8)

Type locality. North Vietnam, Cao Bang Province, Mount Pia Oac, 1600-2000 m.

Type material. Holotype (♂): N VIETNAM: Cao Bang Prov. / Mt. Pia Oac (1600-2000 m) / 14-16.VI.2012 // L. Bartolozzi, S. Bambi / F. Fabiano, E. Orbach! / (numero Mag. 2924); (MNFI). The type is provided with a printed red label: 'Bolbostetha / piaocica sp. nov. / HOLOTYPE / V. Novák det. 2026'.

Description of holotype. Habitus as in Fig. 5, narrow, elongate, *Leptura*-shaped, shiny, from ochre yellow to brown, dorsal surface with pale setae, punctures and fine microgranulation, BL 12.18 mm. Widest near elytral humeri; BL/EW 3.65.

Head (Fig. 6) through the eyes slightly wider than long, approximately as wide as anterior margin and slightly narrower than base of pronotum. Dorsal surface shiny with small punctures, long, pale setae and microgranulation. Posterior part brown, darker than reddish brown anterior half. Clypeus transverse, half-heart shaped, surface with long pale setae, small, shallow punctures and microgranulation, excised in middle of apex. HW 1.67 mm; HW/PW 0.88; HL (visible part) 1.54 mm. Eyes large, transverse, excised, space between eyes narrow, distinctly narrower than diameter of one eye, slightly wider than length of antennomere 2; OI equal to 20.02.

Antenna ochre yellow, elongate, (AL(1-11) 10.32 mm, distinctly exceeding three quarters body length, AL(1-11)/BL 0.85), antennomeres narrow. Dorsal surface with pale setae, microgranulation and small punctures. Antennomeres 1-5 semi-matte, antennomeres 6-11 matte, antennomeres 4-11 distinctly longer than antennomere 3. Antennomere 2 shortest.

RLA: 0.58 : 0.29 : 1.00 : 1.50 : 1.53 : 1.50 : 1.55 : 1.47 : 1.47 : 1.37 : 1.40.

RL/WA: 2.00 : 1.38 : 4.22 : 6.33 : 7.25 : 7.13 : 7.38 : 7.00 : 8.00 : 7.43 : 7.13.

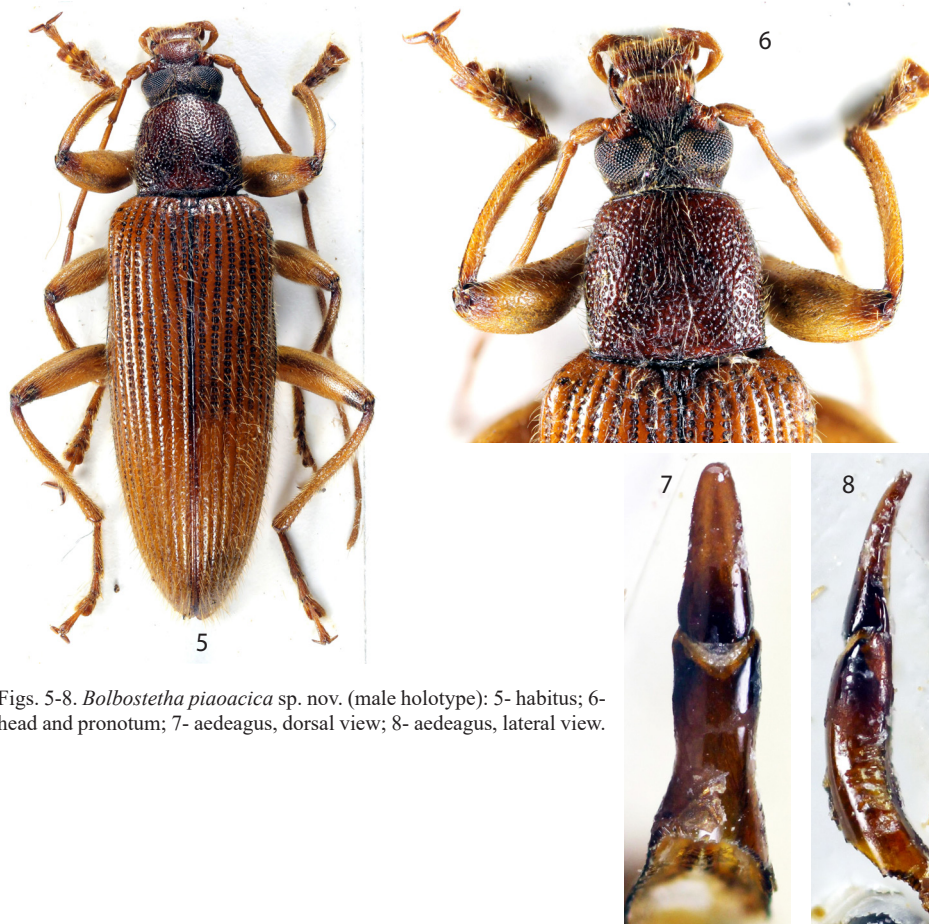
Maxillary palpus pale reddish brown, shiny, with pale setae, very small punctures and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere darker than penultimate, triangular.

Pronotum (Fig. 6) reddish brown, bell-shaped, shiny, convex, widest near middle of lateral margins, slightly wider than long, distinctly narrower than elytra at humeri. Dorsal surface with long, pale setae, dense, coarse punctures, microgranulation not clearly distinct everywhere. PL 2.00 mm; PW 2.18 mm; PI equal to 91.74. Border lines narrow, margins conspicuous from dorsal view. Base and anterior margin finely rounded, lateral margins very slightly arcuate, anterior and posterior angles obtuse.

Elytra. Pale reddish brown, suture narrowly dark brown, narrow, elongate, slightly convex, shiny, widest near humeri. Dorsal surface with long, pale setae. EL 8.64 mm; EW 3.34 mm; EL/EW 2.59. Elytral striae with rows of coarse punctures, elytral intervals slightly convex, with very fine microgranulation.

Scutellum. Pale reddish brown with sides darker, pentagonal shaped, slightly elevated under level of elytron, surface with microgranulation.

Elytral epipleura well-developed, pale reddish brown with pale setae, and large punctures in basal half narrowing to ventrite 1, then narrow becoming parallel on apical part.



Figs. 5-8. *Bolbostetha piaoacica* sp. nov. (male holotype): 5- habitus; 6- head and pronotum; 7- aedeagus, dorsal view; 8- aedeagus, lateral view.

Legs. Long, ochre yellow, apex of femora narrowly darker. Dorsal surface with pale setae, dense punctures and microgranulation. Protibiae slightly rounded and distinctly widened before apex. Profemora distinctly wider than meso- and metafemora. Protarsomeres 2-4, mesotarsomeres 3 and 4 and penultimate metatarsomeres widened and lobed. RLT: 1.00 : 0.70 : 0.70 : 1.07 : 1.93 (protarsus); 1.00 : 0.60 : 0.60 : 0.60 : 1.35 (mesotarsus); 1.00 : 0.40 : 0.40 : 0.90 (metatarsus).

Protarsal claws pale brown, both with more than 30 teeth.

Ventral side of body reddish brown with punctures and pale setae. Abdomen pale reddish brown, shiny with punctures and microgranulation. Ultimate ventrite with large, shallow impression in the middle of apex.

Aedeagus (Figs. 7, 8) strong, pale brown, shiny. Basal piece slightly rounded laterally and narrowing in dorsal view. Apical piece triangular dorsally, beak-shaped in both views. Ratio of length of apical piece to length of basal piece in dorsal view 1 : 3.90.

Female. Unknown.

Differential diagnosis. The most similar species with a dorsal surface pale are *Bolbostetha minfongica* Novák, 2024 from China (Hainan Island) and *Bolbostetha caobangica* sp. nov.

The new species *Bolbostetha piaoacica* sp. nov. clearly differs from similar species mainly by the protibiae widened apically without an angle on the inner side, by the scutellum slightly elevated under the level of the elytra and by the shape of the aedeagus as in Figs. 7 and 8; while *B. minfongica* has the protibiae with a distinct angle on the inner side, the scutellum is not elevated under the level of the elytra and the shape of the aedeagus is as in Novák (2024: 73: figs. 15 and 16).

The new species *Bolbostetha piaoacica* sp. nov. is distinctly different from the similar species *B. caobangica* mainly by the head and pronotum reddish brown, by the space between the eyes distinctly wider than the length of antennomere 2, by the protibiae widened apically without an angle on the inner side, by the abdomen reddish brown and by the shape of the aedeagus as in Figs. 7 and 8; while *B. caobangica* has the head and pronotum blackish brown, the space between the eyes is slightly narrower than the length of antennomere 2, the protibiae have a distinct angle on the inner side, the abdomen is blackish brown and the shape of the aedeagus is as in Figs. 3 and 4.

Etymology. Toponymic, named after Mount Pia Oac in North Vietnam (Cao Bang Province).

Distribution. North Vietnam (Cao Bang Province).

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