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New *Borbonalia* species (Coleoptera: Tenebrionidae: Alleculinae) from China

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Abstract. Four new species, *Borbonalia becvari* sp. nov., *Borbonalia diaolinica* sp. nov. and *Borbonalia yunfengica* sp. nov., all from China (Yunnan) and *Borbonalia gongashanica* sp. nov. from China (Sichuan) are described and illustrated.

Key words. Taxonomy, new species, description, Coleoptera, Tenebrionidae, Alleculinae, Alleculini, *Borbonalia*, China, Palaearctic region.

INTRODUCTION

Novák (2014) described the genus *Borbonalia* in 2014 with seven species from the Palaearctic Region with *Borbonalia brancuccii* Novák, 2014 as a type species. This genus belongs to the subtribe Alleculina. Similar genera are *Borboresthes* Fairmaire, 1897 and *Hymenalia* Mulsant, 1856. Species of *Borbonalia* distinctly differ from the species of *Borboresthes* by apically widened elytra (widest at two thirds elytra length) and transverse, square-shaped pronotum (species of *Borboresthes* have egg-shaped body and pronotum more or less semicircular). From the species of *Hymenalia* is clearly different by narrow and filiform antenna, wide space between eyes in males and antennomere 3 long in both sexes (species of *Hymenalia* in most similar *H. bocaki* species group have slightly serrate antenna, narrow space between eyes in males and antennomere 3 short in both sexes).

Masumoto et al. (2017) described three new species of *Borbonalia* from Taiwan.

Four new species from China (Yunnan) are described as *Borbonalia becvari* sp. nov., *Borbonalia diaolinica* sp. nov., *Borbonalia yunfengica* sp. nov. from China (Yunnan) and *Borbonalia gongashanica* sp. nov. from China (Sichuan), all are illustrated and keyed with other *Borbonalia* species known from China (Sichuan and Yunnan).

List of *Borbonalia* species from China (Sichuan and Yunnan) is added.

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× minimum dorsal distance between eyes) / (maximum width of head across eyes). The pronotal index is calculated as (100× length of pronotum along midline) / (width across basal angles of pronotum).

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

The following collection codens are used:
NHMB – Naturhistorisches Museum Basel, Switzerland;
VNPC – Vladimír Novák private collection, Praha, Czech Republic.

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 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

Borbonalia becvari sp. nov.
(Figs. 1–4)

Type locality. China, Yunnan province, Lijiang, 1800 m.

Type material. **Holotype** (♂): "CHINA, YUNNAN pr. / LIJIANG, 1800 m. / 23. 6. – 21. 7. / 26,53°N, 100,18°E / lgt. S. BECVAR, 1992", (VNPC). **Paratype** (1 ♂): same data as holotype, (VNPC). The types are provided with one printed red label: Borbonalia becvari sp. nov. / HOLOTYPUS [resp. PARATYPUS] / V. Novák det. 2018.

Description of holotype. Habitus as in Fig. 1, body elongate oval, from yellow to blackish brown, with punctuation, fine microgranulation and pale setation, shiny, BL 6.84 mm. Widest near two thirds of elytra length; BL/EW 2.85.

Head (Fig. 2) slightly longer than wide, slightly narrower than anterior margin of pronotum, with sparse and long, pale setation, shiny. Posterior part blackish brown, with punctuation and distinct microgranulation inside larger, medium sized punctures. Anterior part reddish brown, interspaces between punctures with microgranulation, clypeus pale brown with microgranulation, dense, pale setation, punctures indistinct. HW 1.07 mm; HW/PW 0.63. HL (visible part) 1.17 mm. Eyes relatively large, transverse, excised, space between eyes wide, distinctly wider than diameter of eye, approximately as wide as length of antennomere 4; OI equal to 44.59.

Antennae. Long, filiform, bicolorous, with sparse punctures, microgranulation and dense, pale setation, AL 4.05 mm, AL/BL 0.59. Antennomeres 1 and 2 ochre yellow and slightly shiny, antennomere 3, base of antennomere 4 and narrow strip in apex of antennomeres 4–11 pale brown, rest of antennomeres 4–11 distinctly darker – blackish brown. Antennomere 2 shortest, antennomere 4 longest, antennomere 3 distinctly longer than each of antennomeres 5–11.

RLA (1–11) equal to: 0.59 : 0.33 : 1.00 : 1.17 : 0.97 : 0.97 : 0.96 : 0.94 : 0.96 : 0.96 : 0.91.

RL/WA (1–11) equal to: 2.12 : 1.67 : 5.29 : 5.25 : 4.58 : 4.58 : 4.10 : 3.86 : 4.30 : 4.30 : 4.56.

Maxillary palpus pale brown, with pale setation. Ultimate palpomere broadly triangular. Palpomeres 2 and 3 distinctly narrowest at base and widest in apex. Apex with long pale setae.

Pronotum (Fig. 2). Transverse, blackish brown with long, pale setation, dense punctuation, punctures larger medium sized and coarse, with microgranulation inside punctures and relatively coarse, interspaces between punctures narrow. Margins distinct and complete, only in the middle of anterior margin not clearly conspicuous. Lateral margins straight in basal half, slightly arcuate in apical half. Anterior margin finely rounded, posterior margin bisinuate, anterior angles indistinct, posterior angles slightly obtuse. PL 1.01 mm; PW 1.70 mm; PI 59.41.

Ventral side. Prothorax blackish brown, meso- and metathorax reddish brown with blackish brown parts and a few small punctures and pale setae. Abdomen blackish brown, with denser and longer pale setation than in thorax. Ultimate ventrite with pale brown spot in middle.

Elytron. Dark blackish brown with long, pale setation, distinctly denser near lateral margins, widest near two thirds of elytral length. Dorsal surface with rows of medium sized punctures in

elytral striae, interspaces between punctures very narrow. Elytral intervals with very small, sparse punctures and microgranulation. EL 4.66 mm; EW 2.40 mm; EL/EW 1.94.

Scutellum pentagonally shaped, reddish brown, sides darker, with microgranulation and few pale setae.

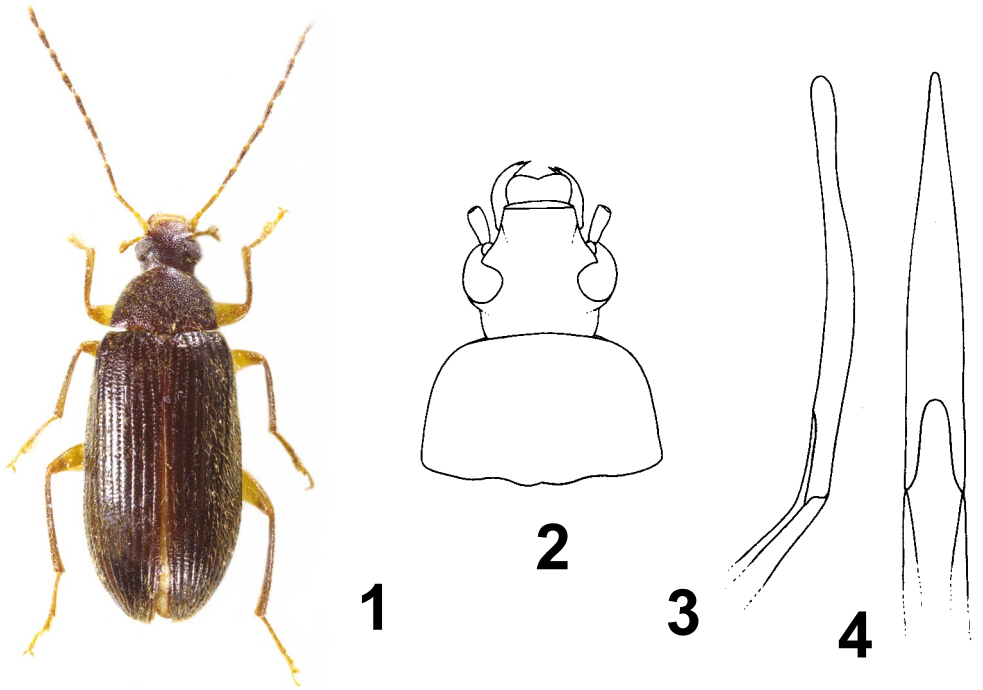
Elytral epipleura well developed, blackish brown, relatively broad in basal half with punctures and few pale setae, regularly narrowing to ventrite 1, then in apical half with denser pale setation relatively wide leading parallel.

Legs narrow, with dense and longer pale setation and fine microgranulation. Femora ochre yellow with narrowly darker apex, tarsi ochre yellow, protibia pale brown, meso- and metatibia dark brown. Pro- and mesotarsomeres 3, 4 and metatarsomere 3 broadened and lobed. RLT (1–5 or 1–4) equal to: 1.00 : 0.37 : 0.56 : 0.69 : 1.48 (protarsus), 1.00 : 0.32 : 0.25 : 0.32 : 0.89 (mesotarsus); 1.00 : 0.39 : 0.24 : 0.66 (metatarsus).

Both anterior tarsal claws with 11 visible teeth.

Aedeagus (Figs. 3 and 4). Ochre yellow, slightly shiny. Basal piece strongly arcuate laterally and slightly narrowing dorsally. Apical piece long and narrow with rounded top laterally, narrowly elongate and beak shaped dorsally. Ratio of length of apical piece to length of basal piece 1: 4.19.

Female unknown.



Figs. 1–4. *Borbonalia becvari* sp. nov.: 1 – habitus of male holotype; 2 – head and pronotum of male holotype; 3 – aedeagus, lateral view; 4 – aedeagus, dorsal view.

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 6.81 mm (6.77–6.84 mm); HL 1.14 mm (1.11–1.17 mm); HW 1.06 mm (1.05–1.07 mm); OI 46.97 (44.59–49.34), PL 0.98 mm (0.95–1.01 mm); PW 1.67 mm (1.64–1.70 mm); PI 58.67 (57.93–59.41); EL 4.69 mm (4.66–4.71 mm); EW 2.41 mm (2.40–2.41 mm).

Differential diagnosis. *Borbonalia becvari* sp. nov. distinctly differs from similar species *B. brancuccii* Novák, 2014 and *B. murzini* Novák, 2014 mainly by unicolored dorsal surface of elytra; while *B. brancuccii* and *B. murzini* have dorsal surface of elytra bicolour. *Borbonalia becvari* sp. nov. is clearly different from similar species *B. jizuica* Novák, 2014 and *B. schneideri* Novák, 2014 mainly by dorsal surface of elytra without green metallic lustre; while *B. jizuica* and *B. schneideri* have dorsal surface of elytra with green metallic lustre. *Borbonalia becvari* sp. nov. clearly differs from the similar species *B. yunfengica* sp. nov. mainly by broad space between eyes (OI almost 45 in male); while space between eyes of *B. yunfengica* is narrow (OI 26 in male). *Borbonalia becvari* sp. nov. distinctly differs from the similar species *B. diaolinica* sp. nov. mainly by dorsal surface of elytra dark brown and antenna bicolour; while *B. diaolinica* has dorsal surface pale reddish brown and antenna is unicolored. *Borbonalia becvari* sp. nov. is clearly different from the similar species *B. gongashanica* sp. nov. mainly by dorsal surface of elytra with dense setation and meso- and metatibiae are dark brown; while *B. gongashanica* has dorsal surface of elytra with dense setation and meso- and metatibiae are ochre yellow.

B. becvari distinctly differs from similar species *B. wrasei* Novák, 2014 mainly by narrow and long body (BL/EW 2.85) and each of antennomeres 5–11 is slightly shorter than length antennomere 3; while *B. wrasei* has body broad and short (BL/EW 2.56) and each of antennomeres 5–11 is slightly longer than length antennomere 3.

Name derivation. New species is dedicated to the collector – Stanislav Bečvář (České Budějovice, Czech Republic).

Distribution. China (Yunnan).

Borbonalia diaolinica **sp. nov.**

(Figs. 5–8)

Type locality. China, Yunnan province, Diaolin Shan Mts. near Guangtonzhen, northeastern of Chuxiong, 25°07.415'N, 101°47.073'E, 1880 m a. s. l.

Type material. **Holotype** (♂): "SW CHINA, Yunnan, Diaolin Shan / near Guangtonzhen NE Chuxiong / N 25°07.415', E 101°47.073', 1880m / 23. V. 2013, P. Viktora lgt." (VNPC). **Paratypes** (4 ♂♂, 1 ♀): same data as holotype, (VNPC). The types are provided with one printed red label: Borbonalia diaolinica sp. nov. / HOLOTYPUS [resp. PARATYPUS] / V. Novák det. 2018.

Description of holotype. Habitus as in Fig. 5, body elongate oval, from ochre yellow to reddish brown, with punctuation, very fine microgranulation and pale setation, slightly shiny, BL 6.98 mm. Widest near two thirds elytra length; BL/EW 2.87.

Head (Fig. 6) broad, approximately as long as wide, as wide as anterior margin of pronotum, with long, pale setation, shiny. Posterior part reddish brown, with punctuation, very fine microgranulation and dense medium sized punctuation. Anterior part pale reddish brown, punctures distincly smaller than those in posterior part, interspaces between punctures with distinct microgranulation, clypeus pale brown with microgranulation, dense, pale setation, punctures almost indistinct. HW 1.10 mm; HW/PW 0.65. HL (visible part) 1.07 mm. Eyes relatively large, transverse, slightly excised, space between eyes wide, slightly wider than diameter of one eye, slightly narrower than length of antennomere 4; OI equal to 40.76.

Antennae. Long, filiform, unicolored pale brown, with punctures, microgranulation and partly errected, long, pale setation, AL 4.56 mm, AL/BL 0.65. Antennomeres 1–3 slightly shiny, antennomeres 4–11 rather matte. Antennomere 2 shortest, antennomere 4 longest, antennomere 3 distinctly shorter than each of antennomeres 4–11.

RLA (1–11) equal to: 0.86 : 0.42 : 1.00 : 1.40 : 1.23 : 1.33 : 1.26 : 1.27 : 1.31 : 1.22 : 1.31.

RL/WA (1–11) equal to: 2.39 : 1.65 : 3.55 : 4.54 : 4.00 : 4.52 : 4.26 : 4.30 : 4.44 : 4.32 : 4.86.

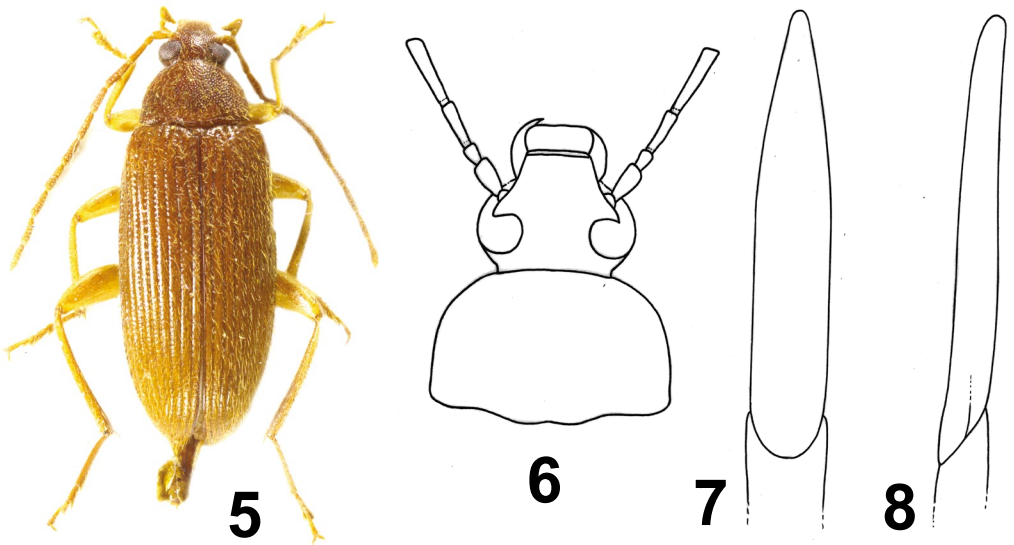
Maxillary palpus pale brown, with yellow setation, microgranulation and small punctures. Ultimate palpomere widely triangular. Palpomeres 2 and 3 distinctly narrowest at base and widest in apex. Apex with long pale setae.

Pronotum (Fig. 6). Transverse, quadratish, reddish brown, with long, yellow, partly errected setation, dense punctuation, punctures medium sized and coarse, with microgranulation inside punctures, interspaces between punctures narrow. Margins distinct and complete, only in the middle of anterior margin not clearly conspicuous. Lateral margins straight in basal half, slightly arcuate in apical half. Anterior margin slightly rounded, posterior margin bisinuate, anterior angles indistinct, posterior angles roundly obtuse. PL 0.99 mm; PW 1.69 mm; PI 58.58.

Ventral side of body with punctuation and short yellow setation. Prothorax, mesothorax and abdomen reddish brown, metathorax distincty darker, dark brown.

Elytron. Pale reddish brown with long and dense, yellow, partly errected setation, widest near two thirds elytra length. Dorsal surface with rows of small sized punctures in elytral striae, interspaces between punctures very narrow. Elytral intervals slightly convex, with fine microgranulation and very small, very sparse punctures. EL 4.92 mm; EW 2.43 mm; EL/EW 2.03.

Scutellum roundly triangular, reddish brown, with fine microgranulation and few, long pale setae.



Figs. 5–8. *Borbonalia diaolinica* sp. nov.: 5 – habitus of male holotype; 6 – head and pronotum of male holotype; 7 – aedeagus, dorsal view; 8 – aedeagus, lateral view.

Elytral epipleura well developed, pale reddish brown, relatively wide in basal half with punctures and few pale setae, regularly narrowing to ventrite 1, then in apical half with denser pale setation relatively wide leading parallel.

Legs narrow, ochre yellow, with dense pale setation, shallow punctures and very fine microgranulation. Pro- and mesotarsomeres 3, 4 and metatarsomere 3 broadened and lobed. RLT (1–5 or 1–4) equal to: 1.00 : 0.48 : 0.53 : 0.61 : 1.45 (protarsus), 1.00 : 0.38 : 0.33 : 0.39 : 0.72 (mesotarsus); 1.00 : 0.27 : 0.24 : 0.41 (metatarsus).

Both anterior tarsal claws with 15 visible teeth.

Aedeagus (Figs. 7 and 8). Pale brown, long, narrow. Basal piece almost straight laterally, very narrow finely narrowing dorsally. Apical piece narrow, elongate with rounded top, beak shaped laterally and dorsally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 5.60.

Female. Without distinct differences, anterior tarsal claws with 6 visible teeth.

Measurements of female body: BL 6.65 mm; HL 1.05 mm; HW 1.08 mm; OI 42.25; PL 0.98 mm; PW 1.61 mm; PI 60.87; EL 4.62 mm; EW 2.29 mm; AL 4.18 mm; AL/BL 0.66.

RLA (1–11) equal to: 0.95 : 0.47 : 1.00 : 1.45 : 1.23 : 1.28 : 1.31 : 1.32 : 1.32 : 1.24 : 1.38.

RL/WA (1–11) equal to: 2.59 : 1.75 : 3.52 : 4.46 : 3.50 : 3.28 : 3.35 : 3.88 : 3.50 : 3.68 : 4.25.

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=5). BL 6.97 mm (6.52–7.20 mm); HL 1.01 mm (0.93–1.07 mm); HW 1.11 mm (1.10–1.15 mm); OI 39.79 (38.74–40.76), PL 1.02 mm (0.89–1.12 mm); PW 1.64 mm (1.56–1.74 mm); PI 61.49 (57.05–64.37); EL 4.95 mm (4.65–5.09 mm); EW 2.40 mm (2.19–2.50 mm).

Differential diagnosis. *Borbonalia diaolinica* sp. nov. distinctly differs from similar species *B. brancuccii* Novák, 2014 and *B. murzini* Novák, 2014 mainly by unicolored dorsal surface of elytra; while *B. brancuccii* and *B. murzini* have dorsal surface of elytra bicolour. *Borbonalia diaolinica* sp. nov. is clearly different from similar species *B. jizuica* Novák, 2014 and *B. schneideri* Novák, 2014 mainly by dorsal surface of elytra without green metallic lustre; while *B. jizuica* and *B. schneideri* have dorsal surface of elytra with green metallic lustre. *Borbonalia diaolinica* sp. nov. distinctly differs from similar species *B. yunfengica* sp. nov. mainly by wide space between eyes (OI 41 in male); while *B. yunfengica* has space between eyes narrow (OI 26 in male). *Borbonalia diaolinica* sp. nov.is distinctly different from the similar species *B. becvari* sp. nov., *B. gongashanica* sp. nov. and *B. wrasei* Novák, 2014 mainly by unicolored antenna and pale reddish brown dorsal surface of elytra; while *B. becvari*, *B. gongashanica* and *B. wrasei* have antenna bicolour and dorsal surface of elytra dark brown or blackish brown.

Name derivation. Toponymic, named after the type locality – Diaolin Shan Mts. in Yunnan (China).

Distribution. China (Yunnan).

Borbonalia gongashanica sp. nov.

(Figs. 9–12)

Type locality. China, Sichuan province, Gonga Shan Mts. near Moxi, 1650 m a. s. l.

Type material. **Holotype** (♂): "SICHUAN, MOXI / GONGASHAN MTS. / 28. VI. – 2. VII. 1994 / BOLM lgt., 1650 m" (NHMB). **Paratypes** (2 ♀♀): same data as holotype, (NHMB, VNPC). The types are provided with one printed red label: Borbonalia gongashanica sp. nov. / HOLOTYPUS [resp. PARATYPUS] / V. Novák det. 2018.

Description of holotype. Habitus as in Fig. 9, body elongate oval, slightly convex, from ochre yellow to brown, with punctuation, fine microgranulation and pale setation, shiny, BL 8.34 mm. Widest near two thirds elytra length; BL/EW 2.87.

Head (Fig. 10) approximately as long as wide, slightly narrower than anterior margin of pronotum, with pale setation, slightly shiny. Posterior part reddish brown, with dense punctuation, very fine microgranulation, somewhere indistinct, punctures medium sized. Anterior part pale reddish brown, dorsal surface with dense punctuation, interspaces between punctures with distinct microgranulation, clypeus pale brown with long, yellow setation, microgranulation, punctures very small and shallow, not clearly distinct. Mandibles pale brown, shiny with dark margins. HW 1.30 mm; HW/PW 0.64. HL (visible part) 1.29 mm. Eyes relatively large, transverse, excised, space between eyes wide, distinctly wider than diameter of one eye, slightly wider than length of antennomere 4; OI equal to 52.70.

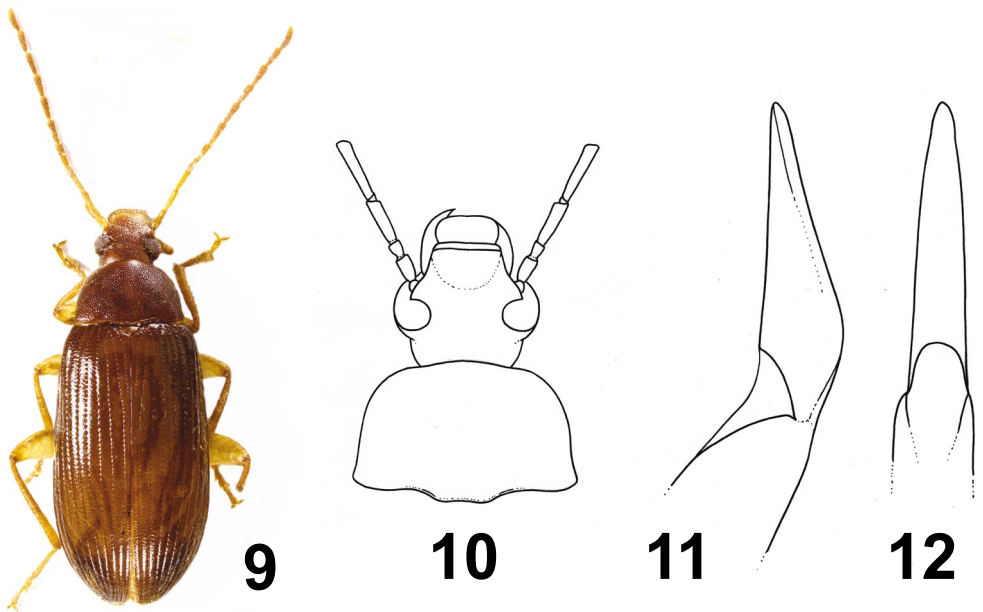
Antennae. Long, filiform, with sparse punctures, microgranulation and yellow setation, AL 4.85 mm, AL/BL 0.58. Antennomeres 1–4 ochre yellow and slightly shiny, antennomere 5 and apex of antennomere 4 pale brown, antennomeres 6–11 brown, rather matte. Antennomere 2 shortest, antennomere 4 longest, antennomere 3 distinctly shorter than each of antennomeres 4–11.

RLA (1–11) equal to: 0.55 : 0.45 : 1.00 : 1.36 : 1.12 : 1.11 : 1.08 : 1.01 : 1.03 : 1.08 : 1.09.

RL/WA (1–11) equal to: 1.75 : 2.00 : 4.22 : 6.06 : 4.05 : 3.65 : 3.72 : 3.35 : 3.55 : 3.91 : 4.44.

Maxillary palpus pale brown, with pale setation, fine microgranulation and shallow, small-sized punctuation. Ultimate palpomere widely triangular. Palpomeres 2 and 3 distinctly narrowest at base and widest in apex. Apex with long pale setae.

Pronotum (Fig. 10). Transverse, quadratish, brown with sparse, long, pale setation, slightly denser near lateral margins, dense punctuation, punctures coarse and medium sized, interspaces between punctures very narrow. Margins distinct and complete, only in the middle of anterior margin not clearly conspicuous. Lateral margins straight in basal half, slightly arcuate in apical



Figs. 9–12. *Borbonalia gongashanica* sp. nov.: 9 – habitus of male holotype; 10 – head and pronotum of male holotype; 11 – aedeagus, lateral view; 12 – aedeagus, dorsal view.

half. Anterior margin finely rounded, posterior margin bisinuate, anterior angles indistinct, posterior angles slightly obtuse. PL 1.29 mm; PW 2.02 mm; PI equal to 63.86.

Ventral side of body reddish brown, with relatively coarse punctuation and sparse pale setation. Abdomen dark brown, with long pale setation, dense shallow punctuation, punctures small, shiny. Apex of ultimate ventrite and ventrite 1 at middle pale brown.

Elytron. Brown, shiny with sparse, long, pale setation, distinctly denser near lateral margins, widest near two thirds of elytral length, slightly convex. Dorsal surface with rows of medium sized punctures in elytral striae, interspaces between punctures very narrow. Elytral intervals slightly convex, with small punctures and very fine microgranulation. EL 5.76 mm; EW 2.91 mm; EL/EW 1.98.

Scutellum widely triangular, pale brown with sides darker, with microgranulation and microrugosities, distinctly paler than elytron itself.

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

Legs narrow, ochre yellow, with dense and longer pale setation, fine microgranulation and very small punctuation. Protarsomeres and mesotarsomeres 3, 4 and metatarsomere 3 broadened and lobed. RLT (1–5 or 1–4) equal to: 1.00 : 0.70 : 0.60 : 0.81 : 2.03 (protarsus), 1.00 : 0.31 : 0.23 : 0.62 (metatarsus).

Both anterior tarsal claws with 15 visible teeth.

Aedeagus (Figs. 11 and 12). Ochre yellow, rather matte. Basal piece rounded laterally and slightly narrowing dorsally. Apical piece narrowly elongate dorsally, beak shaped laterally and dorsally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 3.57.

Female. Without distinct differences, anterior tarsal claws with 7 visible teeth. AL 3.99 mm; AL/BL 0.57.

RLA (1–11) equal to: 0.86 : 0.37 : 1.00 : 1.63 : 1.32 : 1.16 : 1.21 : 1.13 : 1.12 : 1.18 : 1.16.

RL/WA (1–11) equal to: 2.17 : 1.27 : 3.62 : 4.77 : 4.17 : 3.67 : 4.00 : 3.91 : 3.40 : 3.91 : 3.39.

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Females (n=2). BL 7.19 mm (7.19–7.19 mm); HL 1.03 mm (1.02–1.03 mm); HW 1.23 mm (1.18–1.28 mm); OI 52.68 (52.21–53.14), PL 1.12 mm (1.08–1.16 mm); PW 1.92 mm (1.87–1.97 mm); PI 58.42 (57.75–58.88); EL 5.55 mm (5.00–5.09 mm); EW 2.74 mm (2.70–2.77 mm).

Differential diagnosis. *Borbonalia gongashanica* sp. nov. distinctly differs from similar species *B. brancuccii* Novák, 2014 and *B. murzini* Novák, 2014 mainly by unicolored dorsal surface of elytra; while *B. brancuccii* and *B. murzini* have dorsal surface of elytra bicolour. *Borbonalia gongashanica* sp. nov. is clearly different from similar species *B. jizuica* Novák, 2014 and *B. schneideri* Novák, 2014 mainly by dorsal surface of elytra without green metallic lustre; while *B. jizuica* and *B. schneideri* have dorsal surface of elytra with green metallic lustre. *Borbonalia gongashanica* sp. nov.clearly differs from the similar species *B. yunfengica* sp. nov. mainly by broad space between eyes (OI almost 53 in male); while space between eyes of *B. yunfengica* is narrow (OI 26 in male). *Borbonalia gongashanica* sp. nov.distinctly differs from the similar species *B. diaolinica* sp. nov. mainly by dorsal surface of elytra dark brown and antenna bicolour; while *B. diaolinica* has dorsal surface pale reddish brown and antenna is unicolored. *Borbonalia gongashanica* sp. nov.is clearly different from the similar species *B. becvari* sp. nov. and *B. wrasei* Novák, 2014 mainly by dorsal surface of elytra with sparse setation and legs are completaly ochre yellow; while *B. becvari* and *B. wrasei* have dorsal surface of elytra covered by dense setation and tibiae are dark brown or blackish brown.

Name derivation. Toponymic, named after the type locality – Gonga Shan Mts. in Sichuan (China).

Distribution. China (Sichuan).

***Borbonalia yunfengica* sp. nov.**
(Figs. 13–16)

Type locality. Southwestern China, Yunnan province, Yunfeng Shan Mts., west of Gudong, environ of Tenchong, – 25°22.623'N, – 98°24.351'E, 1400–2400 m a. s. l.

Type material. **Holotype** (♂): "SW CHINA, Yunnan, Yunfeng Shan / W Gudong, Tenchong env. / N 25°22.623', E 98°24.351', 2400–1400 m / 1.–2. VI. 2013, P. Viktora lgt." (VNPC). **Paratype** (1 ♀): "SW CHINA, Yunnan, / Gaoligong Shan Mts., Pianme env., / pass to N 25°58.538', E 98°42.613', 2469 m / 5. VI. 2013, P. Viktora lgt." (VNPC). The types are provided with one printed red label: Borbonalia yunfengica sp. nov. / HOLOTYPUS [resp. PARATYPUS] / V. Novák det. 2018.

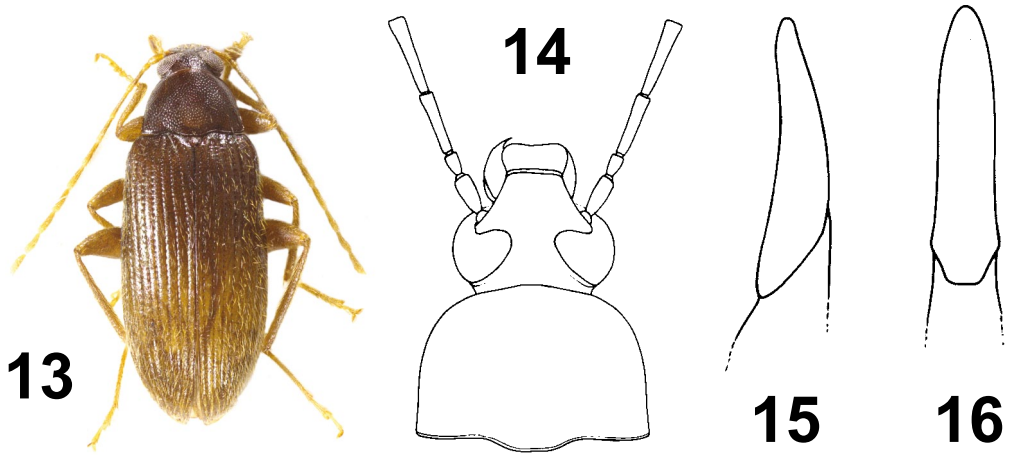
Description of holotype. Habitus as in Fig. 13, body elongate oval, from pale brown to dark brown, dorsal surface with punctuation, fine microgranulation and yellow setation, slightly shiny, BL 6.57 mm. Widest near three fourth elytra length; BL/EW 3.04.

Head (Fig. 14) slightly longer than wide, approximately as wide as anterior margin of pronotum, slightly shiny. Posterior part blackish brown, with medium sized punctuation, distinct microgranulation and sparse, long, yellow setae, behind eyes with a few dark setae. Anterior part distinctly paler than posterior part, with distinct microgranulation and microrugosities and sparse shallow punctures. Clypeus pale brown with long and dense, yellow setation, punctures and microgranulation not clearly distinct. HW 1.03 mm; HW/PW 0.67. HL (visible part) 1.06 mm. Eyes large, transverse, excised, space between eyes narrow, distinctly narrower than diameter of one eye, approximately as wide as length of antennomere 1; OI equal to 26.01.

Antennae. Long, filiform, unicolored ochre yellow, with fine microgranulation and long, yellow setation, AL 3.75 mm, AL/BL 0.57. Antennomere 2 shortest, antennomere 4 longest, antennomere 3 slightly longer than each of antennomeres 9–11.

RLA (1–11) equal to: 0.56 : 0.32 : 1.00 : 1.23 : 1.03 : 0.98 : 1.02 : 1.00 : 0.98 : 0.93 : 0.96.

RL/WA (1–11) equal to: 2.08 : 1.53 : 4.50 : 6.17 : 4.65 : 4.19 : 4.60 : 4.09 : 4.19 : 4.20 : 3.59.



Figs. 13–16. *Borbonalia yunfengica* sp. nov.: 13 – habitus of male holotype; 14 – head and pronotum of male holotype; 15 – aedeagus, lateral view; 16 – aedeagus, dorsal view.

Maxillary palpus pale brown, with short, pale setation an fine microgranulation. Ultimate palpomere widely triangular. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex.

Pronotum (Fig. 14). Slighly transverse, almost glabrous, with only few pale setae, blackish brown with dense punctuation, punctures large, inside with microgranulation, interspaces between punctures very narrow. Margins distinct and complete, only in middle of anterior margin not clearly conspicuous. Lateral margins straight in basal half, slightly arcuate near in apical half. Anterior margin slightly rounded, posterior margin bisinuate, anterior angles indistinct, posterior angles slightly obtuse. PL 0.98 mm; PW 1.53 mm; PI equal to 64.05.

Ventral side of body dark reddish brown with sparse punctures and very sparse pale setae. Abdomen pale brown, with few long, pale setae, fine microgranulation and small, shallow punctures. Ultimate ventrite slightly paler than penultimate.

Elytron. Brown with dense and long, yellow setation, distinctly denser near lateral margins and at apex than near suture, widest near three fourth elytral length. Dorsal surface with rows of medium sized punctures in elytral striae, interspaces between punctures very narrow. Elytral intervals slightly convex, with very small, sparse punctures and microgranulation. EL 4.53 mm; EW 2.16 mm; EL/EW 2.10.

Scutellum brown, roundly triangular, with microgranulation and shallow punctures.

Elytral epipleura with a few long, pale setae well developed, basal half dark brown with punctures regularly narrowing to ventrite 1, then in apical half pale brown relatively wide leads parallel.

Legs narrow, with dense and long pale setation, fine microgranulation and very small punctures. Pro- and mesotarsomeres 3, 4 and metatarsomere 3 broadened and lobed. RLT (1–5 or 1–4) equal to: 1.00 : 0.44 : 0.41 : 0.39 : 1.05 (protarsus), 1.00 : 0.29 : 0.19 : 0.37 (metatarsus).

Both anterior tarsal claws with 18 visible teeth.

Aedeagus (Figs 15 and 16). Yellow, shiny. Basal piece rounded laterally. Apical piece elongate with sides parallel dorsally, beak shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 3.55.

Female. Body more robust than in male, anterior tarsal claws with 9 visible teeth.

Measurements of female body: BL 7.20 mm; HL 1.03 mm; HW 1.13 mm; OI 36.57; PL 1.12 mm; PW 1.73 mm; PI 64.74; EL 5.05 mm; EW 2.27 mm; AL(1–9) 3.71 mm; AL(1–9)/BL 0.54.

RLA (1–11) equal to: 0.95 : 0.47 : 1.00 : 1.45 : 1.23 : 1.28 : 1.31 : 1.32 : 1.32 : 1.24 : 1.38.

RL/WA (1–11) equal to: 2.59 : 1.75 : 3.52 : 4.46 : 3.50 : 3.28 : 3.35 : 3.88 : 3.50 : 3.68 : 4.25.

Differential diagnosis. *Borbonalia yunfengica* sp. nov. distinctly differs from similar species *B. brancuccii* Novák, 2014 and *B. murzini* Novák, 2014 mainly by unicolored dorsal surface of elytra; while *B. brancuccii* and *B. murzini* have dorsal surface of elytra bicolour. *Borbonalia yunfengica* sp. nov. is clearly different from similar species *B. jizuica* Novák, 2014 and *B. schneideri* Novák, 2014 mainly by dorsal surface of elytra without green metallic lustre; while *B. jizuica* and *B. schneideri* have dorsal surface of elytra with green metallic lustre. *Borbonalia yunfengica* sp. nov. clearly differs from all other similar species *B. becvari* sp. nov., *B. diaolinica* sp. nov., *B. gongashanica* sp. nov. and *B. wrasei* Novák, 2014 mainly by narrow space between eyes, distinctly narrower in male then diameter of one eye (OI male equal to 26); while *B. becvari*, *B. diaolinica*, *B. gongashanica* and *B. wrasei* have space between eyes of males wider than diameter of one eye (OI 41–53).

Name derivation. Toponymic, named after the type locality – Yunfeng Shan Mts. in Yunnan (China).

Distribution. China (Yunnan).

Key to the *Borbonalia* species from Sichuan and Yunnan province in China

1 (2) Elytron bicolorous. 3
2 (1) Elytron unicolorous. 5
3 (4) Disc of pronotum without microgranulation, dorsal surface with only few setae. ..... *Borbonalia brancuccii* Novák, 2014
4 (3) Disc of pronotum with distinct microgranulation, dorsal surface near lateral margins with relatively dense setation. ..... *Borbonalia murzini* Novák, 2014
5 (6) Elytron with green metallic lustre. 7
6 (5) Elytron without green metallic lustre. 9
7 (8) Antennomeres 5–11 only 0.88–1.26 times longer than antennomere 3; metatarsomere 1 distinctly shorter than lengths of metatarsomeres 2–4 together; anterior tarsal claws with 12 and 13 teeth. ..... *Borbonalia jizuica* Novák, 2014
8 (7) Antennomeres 5–11 1.30–1.55 times longer than antennomere 3; metatarsomere 1 almost as long as metatarsomeres 2–4 together; anterior tarsal claws with 14 and 16 teeth. ..... *Borbonalia schneideri* Novák, 2014
9 (10) Space between eyes distinctly narrower than diameter of one eye (OI male equal 26). Habius as in Fig. 13; head and pronotum (Fig. 14); aedeagus (Figs 15 and 16). China (Yunnan). ..... *Borbonalia yunfengica* sp. nov.
10 (9) Space between eyes in both sexes wider than diameter of one eye. 11
11 (12) Antenna unicolorous. Dorsal surface of elytra pale reddish brown. Habitus as in Fig. 5; head and pronotum (Fig. 6); aedeagus (Figs 7 and 8). China (Yunnan). ..... *Borbonalia diaolinica* sp. nov.
12 (11) Antenna bicolorous. Dorsal surface brown or blackish brown. 13
13 (14) Elytra with sparse setation, legs ochre yellow. Habitus as in Fig. 9; head and pronotum (Fig. 10); aedeagus (Figs. 11 and 12). China (Sichuan). ..... *Borbonalia gongashanica* sp. nov.
14 (13) Elytra with dense setation. Meso- and metatibia dark brown or blackish brown. 15
15 (16) Body narrow and long (BL/EW 2.85), each of antennomeres 5–11 slightly shorter than antennomere 3 long. Habitus as in Fig. 1; head and pronotum (Fig. 2); aedeagus (Figs 3 and 4). China (Yunnan). ..... *Borbonalia becvari* sp. nov.
16 (15) Body wide and short (BL/EW 2.56), each of antennomeres 5–11 slightly longer than antennomere 3 long. ..... *Borbonalia wrasei* Novák, 2014

List of *Borbonalia* species from Sichuan and Yunnan province in China

Borbonalia brancuccii Novák, 2014: 138.	Jizu Mts. (Yunnan)
Borbonalia becvari sp. nov.	Lijiang (Yunnan)
Borbonalia diaolinica sp. nov.	Diaolin Shan (Yunnan)
Borbonalia gongashanica sp. nov.	Gonga Shan (Sichuan)
Borbonalia jizuica Novák, 2014: 141.	Jizu Mts. (Yunann)
Borbonalia murzini Novák, 2014: 144.	Haba Xueshan Mts.; Diqin; Meili Xue Shan; Zhongdian (Yunnan); Daxue Shan (Sichuan)
Borbonalia schneideri Novák, 2014: 150.	Gongga Shan (Sichuan)
Borbonalia wrasei Novák, 2014: 155.	Diancang Shan (Yunnan)
Borbonalia yunfengica sp. nov.	Yunfeng Shan (Yunnan)

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