Comb-clawed beetles (Coleoptera: Tenebrionidae: Alleculinae: Alleculini) from Lam Dong Province (South Vietnam)

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Abstract. A new species of the tribe Alleculini Laporte, 1840 from South Vietnam (Lam Dong Province) are described as follows: *Borboresthes nuibaensis* sp. nov., *Borboresthes parvulus* sp. nov., *Borboresthes skalei* sp. nov., *Dioxycula lamdongica* sp. nov., *Kombacula vietnamica* sp. nov., *Makicula augusta* sp. nov., *Spinecula bidoupica* sp. nov. and *Paracistela dalatica* sp. nov. New species are illustrated including male genitalia and compared with habitually similar species.

INTRODUCTION

The genus *Borboresthes* Fairmaire, 1897 with the type species *Allecula cruralis* Marseul, 1876 was established by Fairmaire (1897). Borchmann (1910) knew only two species worldwide, in present we know 190 species of this genus, 115 of them living in the Palaearctic Region (Masumoto et al. 2024, Novák 2020, 2021a). Only two species are presently known from southern parts of Vietnam (Novák 2015, Pic 1930). Three new species: *Borboresthes nuibaensis* sp. nov., *Borboresthes parvulus* sp. nov. and *Borboresthes skalei* sp. nov. from South Vietnam (Lam Dong Province) are described and illustrated including male genitalia.

The genus *Dioxycula* Fairmaire, 1896 with the type species *Dioxycula aranea* Fairmaire, 1896 was established by Fairmaire (1896). Borchmann (1910) knew only one species worldwide, in present we know 7 species of this genus living in the Oriental Region (Novák 2021b). New species *Dioxycula lamdongica* sp. nov. from South Vietnam (Lam Dong Province) is described and illustrated including male genitalia.

The genus *Kombacula* Novák, 2012 with the type species *Kombacula kantneri* Novák, 2012 was established by Novák (2012). Presently we know 2 species of this genus living in the Oriental Region (Novák 2012). New species *Kombacula vietnamica* sp. nov. from South Vietnam (Lam Dong Province) is described and illustrated including male genitalia.

The genus *Makicula* Novák, 2012 with the type species *Makicula phoupaneica* Novák, 2012 was established by Novák (2012). Presently we know 18 species of this genus, two of them are living in the Palaearctic Region and two of them are known from the territory of Vietnam (Novák 2012, 2020, 2021c and 2022a). One species was transferred from the genus *Spinecula* Novák, 2019 (Novák 2024) as *Makicula cechovskyi* (Novák, 2019). New species *Makicula angusta* sp. nov. from South Vietnam (Lam Dong Province) is described and illustrated including male genitalia.

The genus *Spinecula* Novák, 2019 with the type species *Spinecula houaphanica* Novák, 2019 was established by Novák (2019). Presently we know 8 species, three of them are known from the Palaearctic Region, five living in the Oriental Region (Novák 2019, 2020). New species *Spinecula bidoupica* sp. nov. from South Vietnam (Lam Dong Province) is described and illustrated including male genitalia.

The genus *Paracistela* Borchmann, 1941 with the type species *Paracistela variabilis* Borchmann, 1941 was established by Borchmann (1941). Presently we know 22 species, five of them are known from the Palaearctic Region, further 17 living in the Oriental Region (Novák 2011, 2022c). New species *Paracistela dalatica* sp. nov. from South Vietnam (Lam Dong Province) is described and illustrated including male genitalia.

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).

'Type material' information is taken from locality labels.

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

The following collection codes are used:

ASGG private collection of André Skale, Gera, Germany;
NMEG Naturkundemuseum, Erfurt, Germany;
VNPC private collection of Vladimír Novák, 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 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

Tribe Alleculini Laporte, 1840

Subtribe Alleculina Laporte, 1840

Genus *Borboresthes* Fairmaire, 1897

Type species: *Allecula cruralis* Marseul, 1876.

Borboresthes nuibaensis sp. nov.

(Figs. 1-4)

Type locality. South Vietnam Lam Dong Province, District Lac Doung, Bidoup Nui Ba National Preserve, Lang Biang Mountains, primary forest, 12°02′17″N, 108°25′32″E, 1850-2100 m.

Type material. Holotype (♂): S-Vietnam, Pr. Lam Dong , / D. Lac Doung, Bidoup Nui / Ba NP, Lang Biang Mts./primary forest / 27.04.2024, Lf leg. D. Mattern // 12°02′17″N, / 108°25′32″E / 1850-2100 mNM, (NMEG). Paratypes: (3 spec.): same data as holotype, but 23.-26.04.2024, (NMEG, VNPC); (6 spec.): S-Vietnam, Lam Dong Pr., Lac / Doung Distr., Bidoup Nui Ba / National park, vic. Station at Song Da Nhim river // 12°10′58″N, 108°40′48″E to / Deo Khane Pass (12°11′11″N, 108°42′53″E), / 1450- 1650m, leg. A. Weigel prim. forest LF, (NMEG, VNPC); (1 spec.): S-Vietnam, Lam Dong Pr., / Lac Doung Distr., Bidoup / Nui Ba NP, 1450-1650m, / 22.-28.4.2024 leg. A. Skale, (ASGG). The types are provided with a printed red label: 'Borboresthes / nuibaensis sp. nov. / HOLOTYPUS or PARATYPUS / V. Novák det. 2025'.

Description of holotype. Habitus as in Fig. 1, body small-sized, elongate-oval, semi-matte, from ochre yellow to blackish brown, dorsal surface with pale setae, punctures and microgranulation, BL 4.88 mm. Widest near middle of elytra length; BL/EW 2.82.

Head (Fig. 2) approximately as wide as long, through the eyes wider than anterior margin, narrower than base of pronotum. Dorsal surface semi-matte, with dense, coarse punctures, long, pale setae and microgranulation. Anterior part pale reddish brown, distinctly paler than reddish brown posterior part. Clypeus pale reddish brown, transverse, surface with long, pale setae, sparse, small and shallow punctures and microgranulation. Mandibles glabrous, shiny, pale reddish brown, sides and apex darker. HW 0.82 mm; HW/PW 0.64; HL (visible part) 0.83 mm. Eyes large, transverse, excised, space between eyes narrow, approximately as wide as diameter of one eye; OI equal to 31.47.

Figs. 1-4. *Borboresthes nuibaensis* sp. nov.: 1- habitus; 2- head and pronotum; 3- aedeagus, dorsal view; 4- aedeagus, lateral view.

Antenna ochre yellow, exceeding half body length (AL 2.99 mm, AL/BL 0.61). Antennomeres long and narrow. Dorsal surface matte, with recumbent, pale setae, shallow punctures and microgranulation. Antennomere 2 shortest, antennomeres 4-11 longer than antennomere 3.

RLA(1-11): 0.84 : 0.44 : 1.00 : 1.15 : 1.19 : 1.19 : 1.44 : 1.42 : 1.29 : 1.31 : 1.29.

RL/WA(1-11): 2.57 : 1.42 : 3.27 : 3.63 : 3.48 : 3.26 : 4.36 : 5.04 : 3.79 : 4.11 : 4.07.

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

Pronotum (Fig. 2) reddish brown, almost semi-circular, semi-matte, convex, widest at base, approximately as wide as elytra at humeri. Dorsal surface with long, semi-erect, pale setae, dense, coarse punctures and microgranulation. Interspaces between punctures narrower than diameter of punctures. PL 0.77 mm; PW 1.28 mm; PI equal to 60.16. Border lines narrow, margins distinct dorsally. Base slightly bisinuate, lateral margins rounded, anterior margin slightly rounded, anterior angles indistinct, posterior angles roundly obtuse.

Elytra. Blackish brown with suture and apex pale reddish brown, elongate-oval, shiny, widest near middle. Dorsal surface with dense and long, semi-erect, pale setae. EL 3.28 mm; EW 1.73 mm; EL/EW 1.90. Elytral striae with rows of coarse punctures, elytral intervals with very fine microgranulation and small punctures.

Scutellum. Pale reddish brown pentagon, shiny, surface with microgranulation.

Elytral epipleura well-developed, pale reddish brown, with punctures in basal part narrowing to ventrite 1, then with sparse pale setae leads parallel on apical part.

Legs. Ochre yellow, long and narrow. Dorsal surface with dense, pale setae, very small punctures and fine microgranulation. Pro- and mesotarsomeres 3, 4 and penultimate metatarsomeres widened and lobed. RLT: 1.00 : 0.57 : 0.59 : 0.86 : 1.45 (protarsus), 1.00 : 0.42 : 0.24 : 0.35 : 0.73 (mesotarsus), 1.00 : 0.30 : 0.14 : 0.31 (metatarsus).

Both protarsal claws ochre yellow, with 11 visible teeth.

Ventral side of body pale reddish brown, with punctures. Abdomen pale reddish brown, shiny, with sparse, pale setae, shallow punctures and microgranulation. Ultimate and penultimate ventrites matte.

Aedeagus (Figs. 3, 4) pale brown, shiny. Basal piece rounded laterally and narrowing in dorsal view. Apical piece elongate, beak-shaped from dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1: 2.10.

Female without distinct differences, protarsal claws have only 5 teeth.

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Specimens (n=11). BL 5.24 mm (4.87-5.64 mm); HL 0.86 mm (0.80-0.97 mm); HW 0.87 mm (0.81-0.98 mm); OI 36.89 (33.67-39.93); PL 0.91 mm (0.77-1.04 mm); PW 1.51 mm (1.28-1.69 mm); PI 61.82 (55.90-65.07); EL 3.44 mm (3.11-3.68 mm); EW 1.90 mm (1.73-2.14 mm).

Differential diagnosis. This species is similar to *Borboresthes bartolozzii* Novák, 2015 from Central Vietnam (Thua Thien Hue Province) and to *Borboresthes parvulus* sp. nov. from the same locality as *Borboresthes nuibaensis* sp. nov.; maybe too *Borboresthes saigonensis* Pic, 1930 from South Vietnam (Saigon), which is reddish after Pic´s description (Pic 1930).

The new species *Borboresthes nuibaensis* sp. nov. clearly differs from the similar species *B. bartolozzii* mainly by dorsal surface blackish brown with suture and apex pale reddish brown (elytra) and by shape of aedeagus as in Figs. 3 and 4; while *B. bartolozzii* has elytra pale reddish brown and apical piece of aedeagus is as in Novák (2015: 76: figs. 3 and 4).

New species *B. nuibaensis* is disticty different from the similar species *B. parvulus* mainly by pronotum reddish brown, by blackish brown elytron with suture and apex pale reddish brown,

by antennomeres 5-11 ochre yellow and by the shape of aedeagus as in Figs. 3 and 4; while *B. parvulus* has pronotum blackish brown, elytra unicolored brown and antennomeres 5-11 are brown, shape of aedeagus is as in Figs. 7 and 8.

Etymology. Toponymic, named after the type locality Bidoup Nui Ba National Park (Vietnam, Lam Dong Province).

Distribution. South Vietnam (Bidoup Nui Ba National park in Lam Dong Province).

Borboresthes parvulus sp. nov.
(Figs. 5-8)

Type locality. South Vietnam, Lam Dong Province, Lac Doung District, Bidoup Nui Ba National park, Station at Song Da Nhim river (12°10´58´´N, 108°40´48´´E) to Deo Khane Pass (12°11´11´´N, 108°42´53´´E), 1450- 1650 m.

Type material. Holotype (♂): S-Vietnam, Lam Dong Pr., Lac / Doung Distr., Bidoup Nui Ba / National park, vic. Station at Song Da Nhim river // 12°10´58´´N, 108°40´48´´E to / Deo Khane Pass (12°11´11´´N, 108°42´53´´E), / 1450- 1650m, leg. A. Weigel prim. forest LF, (NMEG). Paratypes: (6 spec.): same data as holotype, (NMEG, VNPC); (3 spec.): same data as holotype, but 22.-26.IV.2024, (NMEG); (6 spec.): S-Vietnam, Pr. Lam Dong , / D. Lac Doung, Bidoup Nui / Ba NP, Lang Biang Mts./primary forest / 27.04.2024, Lf leg. D. Mattern // 12°02´17´´N, / 108°25´32´´E / 1850-21000mNM, (NMEG, VNPC); (19 spec.): same data as penultimate, but 23.-26.04.2024, (NMEG, VNPC); (1 spec.): S-Vietnam, Lam Dong Pr., / Lac Doung Distr., Bidoup / Nui Ba NP, 1450-1650m, / 22.-28.4.2024 leg. A. Skale, (ASGG); (2 spec.): S-Vietnam, Lam Dong, / Pr., D: Lac Doung / Da Nimh Town, 22.-28 / IV. 2024. Leg. A. Skale / LF 1400m, (ASGG). The types are provided with a printed red label: 'Borboresthes / parvulus sp. nov. / HOLOTYPUS or PARATYPUS / V. Novák det. 2025'.

Description of holotype. Habitus as in Fig. 5, body small-sized, elongate-oval, semi-matte, from ochre yellow to blackish brown, dorsal surface with pale setae, punctures and microgranulation, BL 10.65 mm. Widest near middle of elytra length; BL/EW 3.80.

Head (Fig. 6) brown, slightly wider than long, through the eyes wider than anterior margin, narrower than base of pronotum. Dorsal surface with dense, coarse punctures, long, pale setae and fine microgranulation. Posterior part dark brown, shiny, anterior part reddish brown, semi-matte. Clypeus pale brown, transverse, surface with long, pale setae and microgranulation. Mandibles glabrous, shiny, pale reddish brown, sides and apex darker. HW 1.50 mm; HW/PW 0.81; HL (visible part) 1.39 mm. Eyes large, transverse, excised, space between eyes narrow, slightly narrower than diameter of one eye; OI equal to 28.97.

Antenna exceeding three quarters body length (AL 8.35 mm, AL/BL 0.78). Antennomeres long and narrow, matte. Antennomeres 1-4 ochre yellow, antennomeres 5-11 brown. Dorsal surface matte, with pale setae, punctures and microgranulation. Antennomere 2 shortest, antennomeres 4-11 longer than antennomere 3.

RLA(1-11): 0.59 : 0.23 : 1.00 : 1.32 : 1.29 : 1.29 : 1.26 : 1.31 :1.26 : 1.17 : 1.16.

RL/WA(1-11): 2.39 : 1.38 : 5.00 : 5.69 : 7.00 : 7.32 : 6.87 : 7.13 : 7.18 : 6.95 : 6.59.

Maxillary palpus pale brown, matte, with microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere brown, darker than penultimate, widely triangular.

Pronotum (Fig. 5) blackish brown, semi-circular, semi-matte, convex, widest at base, approximately as wide as elytra at humeri. Dorsal surface with long, pale setae, dense punctures and microgranulation. Interspaces between punctures narrower than diameter of punctures. PL 1.60 mm; PW 1.85 mm; PI equal to 86.49. Border lines narrow, margins distinct dorsally. Base slightly bisinuate, lateral and anterior margins rounded, anterior angles indistinct, posterior angles slightly obtuse.

Elytra. Brown, elongate-oval, shiny, widest near middle elytra length. Dorsal surface with long, recumbent, pale setae. EL 7.66 mm; EW 2.80 mm; EL/EW 2.74. Elytral striae with rows of

relatively large, coarse punctures, elytral intervals with very fine microgranulation and small punctures.

Scutellum. Blackish brown pentagon, shiny, surface with microgranulation, few shallow punctures and a few pale setae.

Elytral epipleura well-developed, reddish brown, with punctures and pale setae, narrowing to ventrite 1, then relatively wide leads parallel on apical part.

Legs. Ochre yellow, long and narrow. Dorsal surface with pale setae, very small punctures and fine microgranulation. Pro- and mesotarsomeres 3, 4 and penultimate metatarsomeres widened and lobed. RLT: 1.00 : 0.88 : 0.81 : 1.00 : 1.91 (protarsus), 1.00 : 0.48 : 0.48 : 0.70 : 1.08 (mesotarsus), 1.00 : 0.39 : 0.46 : 0.65 (metatarsus).

Both protarsal claws ochre yellow, with 7 visible teeth.

Figs. 5-8. *Borboresthes parvulus* sp. nov.: 5- habitus; 6- head and pronotum; 7- aedeagus, dorsal view; 8- aedeagus, lateral view.

Ventral side of body dark brown, with short pale setae and punctures. Abdomen brown, shiny with pale setae, dense, small punctures and microgranulation. Ultimate ventrite ochre yellow.

Aedeagus (Figs. 7, 8) pale brown, shiny. Basal piece rounded laterally and slightly narrowing in dorsal view. Apical piece narrow, elongate dorsally, elongate triangular from lateral view. Ratio of length of apical piece to length of basal piece in dorsal view 1: 2.74.

Female without distinct differences, only protarsal claws have 5 or 6 teeth.

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Specimens (n=38). BL 4.33 mm (3.82-4.93 mm); HL 0.69 mm (0.62-0.74 mm); HW 0.76 mm (0.70-0.85 mm); OI 32.29 (28.15-36.07); PL 0.83 mm (0.74-0.94 mm); PW 1.25 mm (1.13-1.45 mm); PI 66.45 (64.80-68.07); EL 2.82 mm (2.41-3.26 mm); EW 1.68 mm (1.50-1.96 mm).

Differential diagnosis. This species is similar to *Borboresthes bartolozzii* Novák, 2015 from Central Vietnam (Thua Thien Hue Province) and to *Borboresthes nuibaensis* sp. nov. from the same locality as *Borboresthes parvulus* sp. nov.; maybe too *Borboresthes saigonensis* Pic, 1930 from South Vietnam (Saigon), which is reddish after Pic´s description (Pic 1930).

The new species *Borboresthes parvulus* sp. nov. clearly differs from the similar species *B. bartolozzii* mainly by dorsal surface brown (elytra) or blackish brown (pronotum), by antennomeres 5-11 brown and by shape of aedeagus as in Figs. 7 and 8; while *B. bartolozzii* has pronotum reddish brown, elytra pale reddish brown and antennomeres 5-11 are ochre yellow and apical piece of aedeagus is as in Novák (2015: 76: figs. 3 and 4).

New species *B. parvulus* is distinctly different from the similar species *B. nuibaensis* mainly by pronotum blackish brown, by elytra unicolored brown, by antennomeres 5-11 brown and by shape of aedeagus as in Figs. 7 and 8; while *B. nuibaensis* has pronotum reddish brown, blackish brown elytron has suture and apex pale reddish brown, antennomeres 5-11 are ochre yellow and the shape of aedeagus is as in Figs. 3 and 4.

Etymology. From Latin „*parvulus*" it means little one.

Distribution. South Vietnam (Bidoup Nui Ba National park in Lam Dong Province).

Borborsthes skalei sp. nov.
(Figs. 9-12)

Type locality. Sourh Vietnam, Lam Dong Province, Lac Doung District, Bidoup Nui Ba National Park, 1450-1650 m.

Type material. Holotype (♂): S-Vietnam, Lam Dong Pr., / Lac Doung Distr., Bidoup / Nui Ba NP, 1450-1650m, / 22.-28.4.2024 leg. A. Skale, (ASGG). The type is provided with a printed red label: 'Borboresthes / skalei sp. nov. / HOLOTYPUS / V. Novák det. 2025'.

Description of holotype. Habitus as in Fig. 9, body medium-sized, elongate-oval, shiny, dorsal surface black, with pale setae, punctures and microgranulation, BL 9.63 mm. Widest near middle of elytral length; BL/EW 2.78.

Head (Fig. 10) black, approximately as wide as long, through the eyes as wide as anterior margin, narrower than base of pronotum. Dorsal surface shiny, with dense, coarse punctures, long, pale setae and microgranulation. Clypeus reddish brown, transverse, surface with pale setae, small punctures and microgranulation. Mandibles glabrous, shiny, pale reddish brown, sides and apex darker. HW 1.37 mm; HW/PW 0.51; HL (visible part) 1.36 mm. Eyes large,

transverse, excised, space between eyes narrow, approximately as wide as diameter of one eye; OI equal to 31.93.

Antenna brown, matte, exceeding half body length (AL 5.92 mm, AL/BL 0.62). Antennomeres long and narrow. Dorsal surface with recumbent, pale setae, punctures and microgranulation. Antennomere 2 shortest, antennomeres 4-11 longer than antennomere 3.

RLA(1-11): 0.83 : 0.31 : 1.00 : 1.67 : 1.46 : 1.52 : 1.39 : 1.48 : 1.39 : 1.39 : 1.44.

RL/WA(1-11): 2.21 : 1.19 : 3.25 : 5.61 : 5.42 : 5.66 : 5.14 : 5.50 : 4.97 : 4.80 : 6.25.

Figs. 9-12. *Borboresthes skalei* sp. nov.: 9- habitus; 10- head and pronotum; 11- aedeagus, dorsal view; 12- aedeagus, lateral view.

Maxillary palpus pale brown, palpomeres with pale apex, semi-matte, with pale setae, sparse, small, shallow punctures and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere widely triangular.

Pronotum (Fig. 10) black, shiny, convex, almost semi-circular, widest at base, approximately as wide as elytra at humeri. Dorsal surface with long, erect, pale setae, dense punctures and microgranulation. PL 1.65 mm; PW 2.70 mm; PI equal to 61.11. Border lines narrow, margins distinct dorsally. Base slightly bisinuate, apical half of lateral and anterior margins rounded, anterior angles indistinct, posterior angles rectangular.

Elytra. Black, elongate-oval, shiny, widest near middle elytral length. Dorsal surface with long, pale setae. EL 6.62 mm; EW 3.46 mm; EL/EW 1.91. Elytral striae with rows of coarse punctures, elytral intervals slightly convex, with microgranulation and very small punctures.

Scutellum. Black, semi-elliptical, shiny, surface with microgranulation, few shallow punctures and a few pale setae.

Elytral epipleura well-developed, blackish brown, with punctures and pale setae, narrowing to ventrite 1, then relatively wide leads parallel on apical part.

Legs. Blackish brown, long and narrow. Dorsal surface with pale setae, small, shallow punctures and microgranulation. Protarsomeres 2-4, mesotarsomeres 3, 4 and penultimate metatarsomeres widened and lobed. RLT: 1.00 : 0.42 : 0.61 : 0.54 : 1.35 (protarsus), 1.00 : 0.32 : 0.40 : 0.50 : 0.93 (mesotarsus), 1.00 : 0.24 : 0.28 : 0.52 (metatarsus).

Both protarsal claws pale brown, with 11 visible teeth.

Ventral side of body black, with punctures. Abdomen black, shiny with pale setae, dense, small and shallow punctures and microgranulation.

Aedeagus (Figs. 11, 12) pale brown, shiny. Basal piece long, rounded laterally and slightly narrowing in dorsal view. Apical piece narrow, elongate from dorsal view, beak-shaped from lateral view. Ratio of length of apical piece to length of basal piece in dorsal view 1: 4.18.

Female unknown.

Differential diagnosis. No similar species living in southern parts of Vietnam.

Etymology. Patronymic, named after the colletor of the holotype André Skale - expert on beetle family Cerambycidae (ASGG) and collector of the type species.

Distribution. South Vietnam (Bidoup Nui Ba National park in Lam Dong Province).

Genus *Dioxycula* Fairmaire, 1896

Type species: *Dioxycula aranea* Fairmaire, 1896.

Dioxycula lamdongica sp. nov.
(Figs. 13-16)

Type locality. South Vietnam, Lam Dong Province, Lac Doung District, Bidoup Nui Ba National Park, Mount Lang Biang, 2100 m.

Type material. Holotype (♂): S-Vietnam, Lam Dong Pr., / Lac Doung Distr., Bidoup / Nui Ba NP, S-Vietnam, Lam Dong Pr., / Lac Doung, Bidoup Nui Ba / NP, Mt. Lang Biang, -2100 / m, 27.4.2024, leg. A. Skale, (ASGG); Paratypes: (2 ♂♂, 1 ♀): S-VIETNAM, Lam Dong Pr., / Lac Doung Distr., Bidoup Nui / Ba NP Liang Biang Mts., 27. / 4.2024, N12°2´17´´, E 108°25´// 32´´, *Pinus* / *kesiya* forest,primary forest / Beaten from vegetation / leg. R.Gerstmeier #3, (NMEG, VNPC); (1 ♂): S-Vietnam, Lam Dong Pr., Lac / Doung Distr., Bidoup Nui Ba / National park, vic. Station at Song Da Nhim river // (12°10´58´´N, 108°40´48´´E) to / Deo Khane Pass (12°11´11´´N, 108°42´53´´E), 22.-28.IV.2024 / 1450-1650m,leg.A.Weigel KL, (NMEG). The types are provided with a printed red label: 'Dioxycula / lamdongica sp. nov. / HOLOTYPUS or PARATYPUS / V. Novák det. 2025'.

Description of holotype. Habitus as in Fig. 13, body medium-sized, elongate, narrow, *Leptura*-shaped, semi-matte, from yellow to blackish brown, dorsal surface with long, semi-erect setae, punctures and microgranulation, BL 9.21 mm. Widest near middle elytral length; BL/EW 3.66.

Head (Fig. 14) approximately as wide as long, through the eyes distinctly wider than anterior margin and approximately as wide as base of pronotum. Dorsal surface semi-matte, with sparse pale setae, large and coarse punctures and fine microgranulation. Anterior part reddish brown, posterior part blackish brown. Clypeus pale reddish brown, transverse, half-heart shaped, surface with long, pale setae, sparse, shallow punctures and microgranulation. Mandibles pale reddish brown, with sides and apex darker, glabrous, semi-matte. HW 1.45 mm; HW/PW 0.90; HL (visible part) 1.44 mm. Eyes large, transverse, excised, space between eyes very narrow, slightly narrower than length of antennomere 1; OI equal to 12.87.

Antenna long and narrow, almost reaching three quarters body length (AL 6.64 mm, AL/BL 0.72). Antennomeres 1-4 ochre yellow with long, pale setae, rest pale brown with short pale setae. Dorsal surface matte, with small punctures and microgranulation. Antennomere 2 shortest, antennomeres 4-11 longer than antennomere 3.

RLA(1-11): 0.52 : 0.32 : 1.00 : 1.12 : 1.03 : 1.03 : 1.06 : 1.05 : 1.10 : 1.09 : 1.10.

RL/WA(1-11): 2.62 : 1.75 : 5.24 : 5.84 : 4.21 : 4.29 : 4.55 : 4.45 : 5.76 : 5.50 : 5.76.

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

Pronotum (Fig. 14) blackish brown, matte, short and narrow, slightly convex, widest at base, slightly narrower than elytra at humeri. Dorsal surface with long, erect setae, coarse punctures and microgranulation. Interspaces between punctures narrower than diameter of punctures. PL 1.45 mm; PW 1.61 mm; PI equal to 90.06. Border lines narrow, margins not clearly distinct everywhere dorsally. Base slightly bisinuate, side margines regularly narrowng in basal half, in apical part rounded, anterior margin rounded, anterior angles indistinct, posterior angles sharp.

Elytra. From brown to blackish brown, elongate, narrow, shiny, widest near middle. Dorsal surface with erect, dark and pale setae. EL 6.32 mm; EW 2.52 mm; EL/EW 2.51. Elytral striae with rows of coarse punctures, elytral intervals slightly convex, with fine microgranulation and sparse punctures smaller than those in striae.

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

Elytral epipleura well-developed, dark brown, with punctures and sparse pale setae, narrowing to ventrite 1 on basal part, then relatively narrow slightly widened apically on apical part.

Legs. Long and very narrow, yellow or ochre yellow. Dorsal surface with pale setae, small, shallow punctures and microgranulation. Pro- and mesotarsomeres 3, 4 and penultimate metatarsomeres widened and lobed. RLT: 1.00 : 0.59 : 0.57 : 0.78 : 1.15 (protarsus), 1.00 : 0.58 : 0.41 : 0.46 : 0.79 (mesotarsus), 1.00 : 0.38 : 0.30 : 0.64 (metatarsus).

Both protarsal claws long, pale brown, with more than 30 teeth.

Ventral side of body blackish brown, with pale setae and small punctures. Abdomen blackish brown, shiny, with sparse, pale setae, sparse, small punctures and fine microgranulation.

Aedeagus (Figs. 15, 16) shiny. Basal piece ochre yellow, slightly rounded laterally and narrowing in dorsal view. Apical piece darker, elongate triangular, beak-shaped from dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1: 2.06.

Female has space between eyes distinctly wider (OI 27), antenna is shorter (AL/BL 0.54), antennomeres 3-11 are wider than in male. Protarsal claws have only 11 teeth.

Figs. 13-16. *Dioxycula lamdongica* sp. nov.: 13- habitus; 14- head and pronotum; 15- aedeagus, dorsal view; 16- aedeagus, lateral view.

Measurements of female body. BL 7.74 mm; HL 1.06 mm; HW 1.15 mm; OI 27.21; PL 1.17 mm; PW 1.29 mm; PI 90.70; EL 5.41 mm; EW 2.20 mm; AL(1-11) 4.16 mm; AL(1-11)/BL 0.54; HW/PW 0.89; BL/EW 3.52; EL/EW 2.46.
RLA(1-11): 0.66 : 0.30 : 1.00 : 1.01 : 0.83 : 1.02 : 1.18 : 1.04 : 1.03 : 1.17 : 1.34.
RL/WA(1-11): 1.54 : 1.12 : 2.55 : 2.58 : 1.86 : 2.06 : 2.06 : 1.87 : 2.17 : 3.23 : 3.51.
RLT: 1.00 : 0.80 : 0.67 : 0.80 : 1.73 (protarsus), 1.00 : 0.42 : 0.31 : 0.49 : 1.08 (mesotarsus), 1.00 : 0.40 : 0.38 : 0.69 (metatarsus).

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=6). BL 8.28 mm (7.91-9.21 mm); HL 1.29 mm (1.23-1.44 mm); HW 1.30 mm (1.24-1.45 mm); OI 14.47 (12.45-16.28); PL 1.33 mm (1.22-1.45 mm); PW 1.53 mm (1.36-1.70 mm); PI 90.70 (89.71-92.65); EL 5.85 mm (5.52-6.35 mm); EW 2.28 mm (2.11-2.66 mm).

Differential diagnosis. This species is similar to *Dioxycula laosica* Novák, 2021 from northern Laos, *Dioxycula subvirida* Novák, 2021 and *Dioxycula tenua* Novák, 2021, both from northern Thailand. The species *D. laosica* and *D. tenua* have apex of femora dark.

The new species *Dioxycula lamdongica* sp. nov. clearly differs from the similar species *D. subvirida* mainly by the dorsal surface of elytra and pronotum with dark setae, pronotum semi-matte, elytra brownish and by the shape of aedeagus as in Figs. 15 and 16; while *D. subvirida* has dorsal surface of elytra and pronotum with pale setae, pronotum is shiny, elytra are greenish and shape of the aedeagus is as in Novák (2021: 410: figs. 26 and 27).

Etymology. Toponymic, named after the type locality Lam Dong Province in SouthVietnam.

Distribution. South Vietnam (Bidoup Nui Ba National park in Lam Dong Province).

Genus *Kombacula* Novák, 2012

Type species: *Kombacula kantneri* Novák, 2012.

Kombacula vietnamica sp. nov.
(Figs. 17-21)

Type locality. SouthVietnam, Lam Dong Province, Lac Doung District, Bidoup Nui Ba National park, vic. Station at Song Da Nhim river (12°10′58″N, 108°40′48″E) to Deo Khane Pass (12°11′11″N, 108°42′53″E), 1450-1650m.

Type material. Holotype (♂): S-Vietnam, Lam Dong Pr., Lac / Doung Distr., Bidoup Nui Ba / National park, vic. Station at Song Da Nhim river // (12°10′58″N, 108°40′48″E) to / Deo Khane Pass (12°11′11″N, 108°42′53″E), 22.-28.IV.2024 / 1450-1650m,leg.A.Weigel KL, (NMEG). Paratypes: (3 ♂♂): same data as holotype, (NMEG, VNPC). The types are provided with a printed red label: 'Kombacula / vietnamica sp. nov. / HOLOTYPUS or PARATYPUS / V. Novák det. 2025'.

Description of holotype. Habitus as in Fig. 17, body large-sized, elongate, narrow, *Leptura*-shaped, shiny, from pale brown to dark brown, dorsal surface with very sparse, pale setae, punctures and fine microgranulation, BL 14.40 mm. Widest near elytral humera; BL/EW 3.79.

Head (Fig. 18) approximately as wide as long, through the eyes slightly wider than anterior margin, narrower than base of pronotum. Dorsal surface shiny, with dense, small and coarse punctures, long pale setae and sparse microgranulation. Anterior part reddish brown, paler than dark brown posterior part. Clypeus reddish brown, transverse, surface with long, pale setae, punctures and fine microgranulation, distinctly excised in middle of anterior margin. Mandibles reddish brown, glabrous, shiny with dark brown sides and apex. Dorsal surface with sparse microgranulation, sides with pale setae. HW 1.87 mm; HW/PW 0.73; HL (visible part) 1.81 mm. Eyes large, transverse, excised, space between eyes narrow, approximately as wide as length of antennomere 1; OI equal to 29.61.

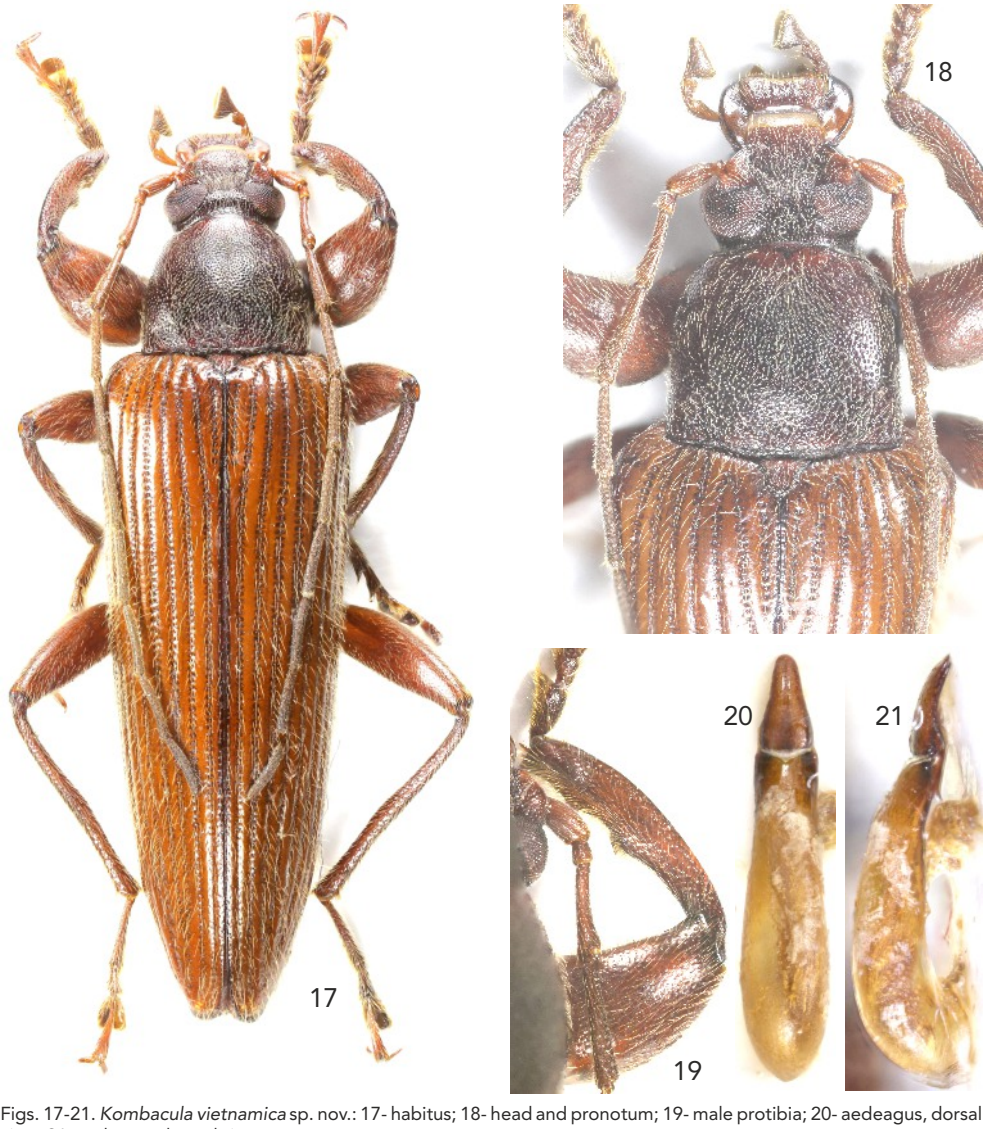
Antenna exceeding three quarters body length (AL 11.53 mm; AL/BL 0.80). Antennomeres long and narrow. Antennomeres 1-3 pale brown, shiny, rest dark brown, matte. Dorsal surface with short, pale setae, dense, small punctures and microgranulation. Antennomere 2 shortest, antennomeres 4-11 longer or as long as antennomere 3.

RLA(1-11): 0.46 : 0.24 : 1.00 : 1.17 : 1.21 : 1.16 : 1.21 : 1.17 : 1.22 : 0.96 : 1.00.

RL/WA(1-11): 2.15 : 1.13 : 4.15 : 4.45 : 6.52 : 6.54 : 5.00 : 4.43 : 4.32 : 5.30 : 6.02.

Maxillary palpus pale brown, semi-matte, with long pale setae, small, shallow punctures and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere (brown) - darker than penultimate, widely triangular.

Pronotum (Fig. 18) dark brown, shiny, convex, bell-shaped, widest at base, slightly narrower than elytra at humeri. Dorsal surface with long, pale setae, dense punctures and sparse, fine microgranulation. Interspaces between punctures mostly narrower than diameter of punctures. PL 2.32 mm; PW 2.55 mm; PI equal to 90.55. Border lines narrow, margins not clearly distinct dorsally everywhere. Base slightly bisinuate, anterior margin slightly rounded, anterior angles indistinct, posterior angles roundly obtuse.



Figs. 17-21. *Kombacula vietnamica* sp. nov.: 17- habitus; 18- head and pronotum; 19- male protibia; 20- aedeagus, dorsal view; 21- aedeagus, lateral view.

Elytra. Pale brown, elongate, narrow, shiny, widest near humera. Dorsal surface with long, pale setae. EL 10.27 mm; EW 3.80 mm; EL/EW 2.70. Elytral striae with rows of coarse punctures, intervals between punctures narrower than diameter of punctures. Elytral intervals with very fine microgranulation and very sparse, small punctures.

Scutellum. Pale brown with sides narrowly brown, shiny, raised above the level of the elytra, with pale setae and fine microgranulation.

Elytral epipleura well-developed, pale brown, shiny, with punctures and pale setae, narrowing to ventrite 1 on basal part, then narrow leads parallel on apical part.

Legs (Fig. 19). Long, brown, apex of femora reddish brown. Dorsal surface with long and dense, pale setae, small punctures and microgranulation, protibiae with sharp margin on upper side, shaped as in Fig. 19. Meso- and metatibiae long and narrow, normally shaped. Protarsomeres 1-4, mesotarsomeres 2-4 and penultimate metatarsomeres widened and lobed. RLT: 1.00 : 0.86 : 0.76 : 1.05 : 1.73 (protarsus), 1.00 : 0.65 : 0.88 : 0.77 : 1.22 (mesotarsus), 1.00 : 0.36 : 0.47 : 0.73 (metatarsus).

Both protarsal claws reddish brown, with more than 30 teeth.

Ventral side of body reddish brown, with pale setae and punctures. Abdomen reddish brown, shiny, with long, pale setae, very small punctures and fine microgranulation. Ultimate and penultimate ventrites with large, shallow impression.

Aedeagus (Figs. 20, 21) large, shiny. Basal piece ochre yellow, rounded laterally and narrowing in dorsal view. Apical piece darker, triangular dorsally, beak-shaped from dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1: 2.94.

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=4). BL 13.06 mm (11.34-14.40 mm); HL 1.72 mm (1.41-1.82 mm); HW 1.77 mm (1.67-1.87 mm); OI 25.50 (22.18-29.61); PL 2.06 mm (1.81-2.32 mm); PW 2.31 mm (2.03-2.55 mm); PI 89.97 (89.16-90.98); EL 9.29 mm (8.12-10.27 mm); EW 3.45 mm (3.02-3.80 mm).

Differential diagnosis. No species of *Kombacula* Novák is presently known from Vietnam. Only 2 species of this genus are known: *Kombacula kantneri* Novák, 2012 from Laos (Houa Phanh Province) and *Kombacula tortipes* (Borchmann, 1934) from Indonesia (Sumatra Island).

The new species *Kombacula vietnamica* sp. nov. clearly differs from the similar species *K. kantneri* and *K. tortipes* mainly by the profemora strongly widened, by the legs and antenna brown or reddish brown, by the shape of protibiae (Fig. 19) and by the shape of aedeagus as in Figs. 20 and 21; while *K. kantneri* and *K. tortipes* have profemora distinctly but slightly wider than meso- and metafemora, legs and antenna are mostly ochre yellow, shape of protibiae are as in Novák (2012: 273: protibia: fig. 4; aedeagus: figs. 5 and 6 for *K. kantneri* and 2012: 275: protibia: fig. 9; aedeagus: figs. 10 and 11 for *K. tortipes*).

Etymology. Toponymic, named after the country of its origin - Vietnam.

Distribution. South Vietnam (Bidoup Nui Ba National park in Lam Dong Province).

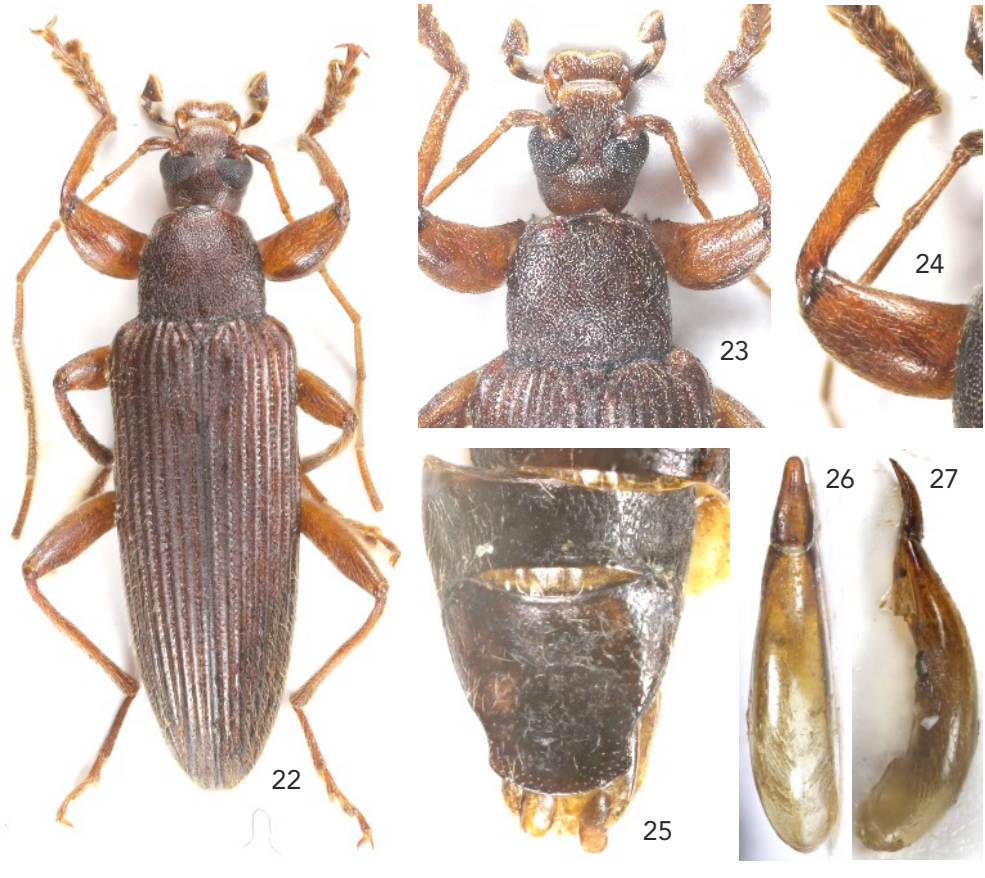
Genus *Makicula* Novák, 2012

Type species: *Makicula phoupaneica* Novák, 2012.

Makicula angusta sp. nov.
(Figs. 22-27)

Type locality. South Vietnam, Lam Dong province, Lac Duong District, Bidoup Nui Ba National Park, 1450-1650 m.

Type material. Holotype (♂): S-Vietnam, Lam Dong Pr., / Lac Doung Distr., Bidoup / Nui Ba NP, 1450-1650m, / 22.-28.4.2024 leg. A. Skale, (VNPC). Paratypes: (1 ♂, 1 ♀): same data as holotype, (ASGG); (1 ♀): same data as penultimate, but -2100 m 27.4.2024, (ASGG). (2 ♂♂, 1 ♀): S-Vietnam, Lam Dong Pr., Lac / Doung Distr., Bidoup Nui Ba / National park, vic. Station at Song Da Nhim river // (12°10´58´´N, 108°40´48´´E) to / Deo Khane Pass (12°11´11´´N, 108°42´53´´E), 22.-26.IV.2024 / 1450-1650m,leg.A.Weigel FL, (NMEG, VNPC); (1 ♂): S-Vietnam, Pr. Lam Dong , / D. Lac Doung, Bidoup Nui / Ba NP, vic. station at Song / Da Nhim river to Deo Khane Pass Lang Biang Mts. / 28.04.2024, Lf, leg. D. Mattern // 12°10´58´´N, 108°40´48´´ to / 12°11´11´´N, 108°42´53´´E / 1450-1650mNM, (NMEG). The types are provided with a printed red label: 'Makicula / angusta sp. nov. / HOLOTYPUS or PARATYPUS / V. Novák det. 2025'.



Figs. 22-27. *Makicula angusta* sp. nov.: 22- habitus; 23- head and pronotum; 24- male protibia; 25- abdomen; 26- aedeagus, dorsal view; 27- aedeagus, lateral view.

Description of holotype. Habitus as in Fig. 22, body medium-sized, elongate, narrow, *Leptura*-shaped, semi-matte, from ochre yellow to dark reddish brown, dorsal surface with pale setae, punctures and very fine microgranulation, BL 10.99 mm. Widest near elytral humera; BL/EW 3.93.

Head (Fig. 23) brown, slightly longer than wide, through the eyes approximately as wide as anterior margin, narrower than base of pronotum. Dorsal surface shiny, reddish brown, with small, dense, coarse punctures, recumbent, long, pale setae and fine microgranulation. Clypeus reddish brown, transverse, half heart-shaped, surface with long, pale setae, shallow punctures and fine microgranulation, apex excised in middle. Mandibles glabrous, shiny, reddish brown. HW 1.40 mm; HW/PW 0.75; HL (visible part) 1.55 mm. Eyes large, transverse, excised, space between eyes narrow, distinctly narrower than length of antennomere 1; OI equal to 16.60.

Antenna ochre yellow or pale brown, exceeding three quarters body length (AL 9.02 mm, AL/BL 0.82). Antennomeres long and very narrow. Dorsal surface rather matte, with short, pale setae, small punctures and microgranulation. Antennomere 2 shortest, antennomeres 4-11 longer than antennomere 3.

RLA(1-11): 0.59 : 0.23 : 1.00 : 1.50 : 1.46 : 1.43 : 1.55 : 1.50 :1.41 : 1.36 : 1.30.

RL/WA(1-11): 2.39 : 1.41 : 6.14 : 9.19 : 8.92 : 9.85 : 10.64 : 10.30 : 9.70 : 9.33 : 8.97.

Maxillary palpus dark brown, with apex of palpomeres ochre yellow, dorsal surface semi-matte, with pale setae, sparse, small punctures and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere widely triangular.

Pronotum (Fig. 23) dark reddish brown, bell-shaped, semi-matte, convex, widest near middle, narrower than elytra at humeri. Dorsal surface with relatively sparse, pale setae, dense, coarse punctures and microgranulation. Interspaces between punctures narrower than diameter of punctures. PL 1.61 mm; PW 1.87 mm; PI equal to 86.10. Border lines very narrow, lateral margins not clearly distinct dorsally. Base very slightly bisinuate, apical half of lateral and anterior margins rounded, anterior angles indistinct, posterior angles roundly obtuse.

Elytra. Reddish brown, elongate, narrow, matte, widest near humera. Dorsal surface with long, pale setae. EL 7.83 mm; EW 2.80 mm; EL/EW 2.80. Elytral striae with rows of coarse, small punctures, elytral intervals with very fine microgranulation.

Scutellum. Reddish brown, triangular, with sides dark brown, matte, slightly raised above the level of the elytra, surface with microgranulation, few shallow punctures and a few setae.

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

Legs. Pale reddish brown, long and narrow. Dorsal surface with pale setae, very small and shallow punctures and fine microgranulation, protibiae (Fig. 24) with distinct angle near middle of inner side. Protarsomeres 1-4, mesotarsomeres 3, 4 and penultimate metatarsomeres widened and lobed. RLT: 1.00 : 0.63 : 0.53 : 0.58 : 1.21 (protarsus), 1.00 : 0.29 : 0.47 : 0.77 : 1.29 (mesotarsus), 1.00 : 0.57 : 0.43 : 0.57 (metatarsus).

Both protarsal claws pale brown, with 22 visible teeth.

Ventral side of body reddish brown, with pale setae and punctures. Abdomen shiny, dark reddish brown with pale setae, dense, small punctures and microgranulation. Ultimate and penultimate ventrites blackish brown, ultimate ventrite with large impression in middle and excised as in Fig. 25.

Aedeagus (Figs. 26, 27) ochre yellow, shiny. Basal piece rounded laterally and slightly narrowing in dorsal view. Apical piece triangular dorsally, beak-shaped from dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1: 3.47.

Female has body more robust, longer and wider (BL/EW approximately 3.5), space between eyes is wider (OI approximately 31), protibiae are without sharp thorn on inner side. Both protarsal claws have 11 teeth.

Measurements of female body. BL 11.74 mm; HL 1.60 mm; HW 2.00 mm; OI 30.0; PL 1.82 mm; PW 2.18 mm; PI 83.49; EL 8.32 mm; EW 3.36 mm; AL(1-11) 9.28 mm; AL(1-11)/BL 0.79; HW/PW 0.92; BL/EW 2.49; EL/EW 2.48.

RLA(1-11): 0.58 : 0.21 : 1.00 : 1.42 : 1.25 : 1.38 : 1.42 : 1.25 : 1.29 : 1.17 : 1.13.
RL/WA(1-11): 2.50 : 1.25 : 6.0 : 8.50 : 8.57 : 9.43 : 9.71 : 8.57 : 8.86 : 9.33 : 9.0.
RLT: 1.00 : 0.69 : 0.69 : 0.92 : 1.23 (protarsus), 1.00 : 0.36 : 0.50 : 0.68 : 1.00 (mesotarsus), 1.00 : 0.37 : 0.50 : 0.75 (metatarsus).

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 10.75 mm (10.08-11.84 mm); HL 1.35 mm (1.26-1.48 mm); HW 1.42 mm (1.31-1.54 mm); OI 18.28 (16.60-20.41); PL 1.61 mm (1.50-1.77 mm); PW 1.87 mm (1.75-2.05 mm); PI 87.52 (85.38-90.77); EL 7.77 mm (7.32-8.41 mm); EW 2.80 mm (2.62-3.02 mm). Females (n=3). BL 11.97 mm (10.62-13.39 mm); HL 1.48 mm (1.17-1.60 mm); HW 1.77 mm (1.59-2.00 mm); OI 30.89 (28.26-34.40); PL 1.96 mm (1.82-2.21 mm); PW 2.27 mm (2.00-2.62 mm); PI 83.65 (83.12-84.35); EL 8.37 mm (7.59-9.80 mm); EW 3.40 mm (3.04-3.80 mm).

Differential diagnosis. This species is similar to *Makicula danangica* Novák, 2021 from Da Nang Province and *Makicula gailaiica* Novák, 2022 from Gai-lai Kontum Province, both from Vietnam.

The new species *Makicula angusta* sp. nov. clearly differs from the similar species *M. danangica* and *M. gailaiica* mainly by narrower space between eyes (OI approximately 18 in males), by male mesotibia without distinct angle in the middle of inner side and by antenna unicolor; while males of *M. danangica* and *M. gailaiica* have space between eyes wider (OI 25 in *M. danangica* and 30 in *M. gailaiica*), male mesotibiae have distinct angle in the middle of inner side, and antenna is bicolor.

The new species *Makicula angusta* sp. nov. is sligtly similar to the species *Spinecula bidoupica* sp. nov. from the same locality. It differs mainly by matte elytra, males have angle (Fig. 24) in the middle of inner side of protibiae, male profemora are distinctly wider than meso- or metafemora; while *S. bidoupica* has elytra shiny, males have sharp teeth (Fig. 30) in the middle of inner side of protibiae and profemora are approximately as wide as meso- or metafemora.

Etymology. Named after narrow shape of body - from Latin *angusta* (it means narrow).

Distribution. South Vietnam (Bidoup Nui Ba National park in Lam Dong Province).

Genus *Spinecula* Novák, 2019

Type species: *Spinecula houaphanica* Novák, 2019

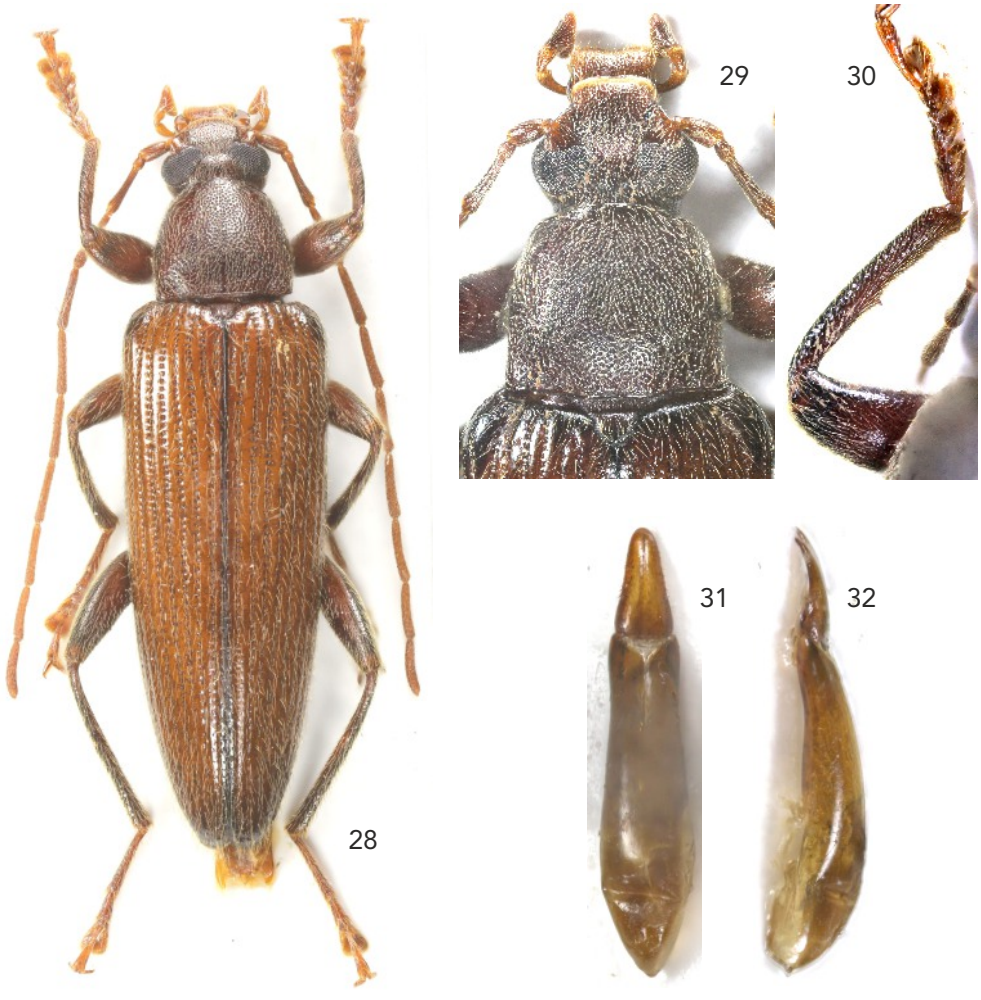
Spinecula bidoupica sp. nov.
(Figs. 28-32)

Type locality. South Vietnam, Lam Dong province, Lac Duong District, Bidoup Nui Ba National Park, 1450-1650 m.

Type material. Holotype (♂): S-Vietnam, Lam Dong Pr., / Lac Doung Distr., Bidoup / Nui Ba NP, 1450-1650m, / 22.-28.4.2024 leg. A. Skale, (ASGG). Paratypes: (1 ♂): same data as holotype, (VNPC); (2 ♂♂, 4 ♀♀): S-VIETNAM, Lam Dong Pr., / Lac Doung Distr., Bidoup Nui / Ba NP Liang Biang Mts., 27. / 4.2024, N12°2´17´´, E 108°25´/ 32´´, 1850-1950m, *Pinus / kesiya* forest,primary forest / Beaten from vegetation / leg. R.Gerstmeier #3, (NMEG, VNPC); (1 ♀): S-Vietnam, Lam Dong Pr., / Lac Doung, Bidoup Nui Ba / NP, Mt. Lang Biang, -2100 / m, 27.4.2024, leg. A. Skale, (ASGG). The types are provided with a printed red label: 'Spinecula / bidoupica sp. nov. / HOLOTYPUS or PARATYPUS / V. Novák det. 2025'.

Description of holotype. Habitus as in Fig. 28, body medium-sized, elongate, narrow, *Leptura*-shaped, shiny, from pale brown to brown, dorsal surface with pale setae, punctures and fine microgranulation, BL 10.65 mm. Widest near elytral humera; BL/EW 3.80.

Head (Fig. 29) brown, slightly wider than long, through the eyes wider than anterior margin, narrower than base of pronotum. Dorsal surface shiny, with dense, coarse punctures, long, pale setae and very fine microgranulation not clearly distinct everywhere. Clypeus pale reddish brown, transverse, surface with long, pale setae, punctures and fine microgranulation, apex excised in middle. Mandibles glabrous, pale reddish brown, sides and apex darker. HW 1.50 mm; HW/PW 0.81; HL (visible part) 1.39 mm. Eyes large, transverse, excised, space between eyes narrow, slightly narrower than length of antennomere 1; OI equal to 26.97.



Figs. 28-32. *Spinecula bidoupica* sp. nov.: 28- habitus; 29- head and pronotum; 30- male protibia; 31- aedeagus, dorsal view; 32- aedeagus, lateral view.

Antenna pale brown, exceeding three quarters body length (AL 8.35 mm, AL/BL 0.78). Antennomeres long and narrow. Dorsal surface semi-matte, with pale setae, shallow punctures and microgranulation. Antennomere 2 shortest, antennomeres 4-11 longer than antennomere 3.

RLA(1-11): 0.59 : 0.23 : 1.00 : 1.32 : 1.29 : 1.29 : 1.26 : 1.31 :1.26 : 1.17 : 1.16.
RL/WA(1-11): 2.39 : 1.38 : 5.00 : 5.69 : 7.00 : 7.32 : 6.87 : 7.13 : 7.18 : 6.95 : 6.59.

Maxillary palpus pale brown, shiny, with long pale setae, sparse, shallow punctures and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere long, widely triangular.

Pronotum (Fig. 29) brown, bell-shaped, shiny, convex, widest at base, narrower than elytra at humeri. Dorsal surface with long, pale setae, dense, coarse punctures and microgranulation. Interspaces between punctures narrower than diameter of punctures. PL 1.60 mm; PW 1.85 mm; PI equal to 86.49. Border lines narrow, margins distinct dorsally. Base slightly bisinuate, apical half of lateral and anterior margins rounded, anterior angles indistinct, posterior angles roundly obtuse.

Elytra. Pale brown, elongate, narrow, shiny, widest near humera. Dorsal surface with long, pale setae. EL 7.66 mm; EW 2.80 mm; EL/EW 2.74. Elytral striae with rows of coarse punctures, elytral intervals with very fine microgranulation and very small, sparse punctures.

Scutellum. Brown pentagon with sides dark brown, matte, raised above the level of the elytra, surface with microgranulation, few shallow punctures and a few pale setae.

Elytral epipleura well-developed, basal part pale brown, with punctures and pale setae, narrowing to ventrite 1, then brown, narrow, with dense pale setae leads parallel on apical part.

Legs (Fig. 30). Brown, long and narrow. Dorsal surface with pale setae, small punctures and microgranulation, protibiae with short, sharp thorn near middle of inner side. Protarsomeres 1-4, mesotarsomeres 3, 4 and penultimate metatarsomeres widened and lobed. RLT: 1.00 : 0.88 : 0.81 : 1.00 : 1.91 (protarsus), 1.00 : 0.48 : 0.48 : 0.70 : 1.08 (mesotarsus), 1.00 : 0.39 : 0.46 : 0.65 (metatarsus).

Both protarsal claws pale brown, with more than 20 visible teeth.

Ventral side of body brown, with pale setae and punctures. Abdomen brown with dense, pale setae.

Aedeagus (Figs. 31, 32) brown, shiny. Basal piece slightly rounded laterally and slightly narrowing in dorsal view. Apical piece triangular dorsally, beak-shaped from dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1: 2.74.

Female has body wider (BL/EW is approximately 3.50), space between eyes has distinctly wider than in male. Protarsal claws have only 12 or 13 teeth.
Measurements of female body. BL 12.67 mm; HL 1.40 mm; HW 1.74 mm; OI 34.74; PL 2.00 mm; PW 2.51 mm; PI 79.68; EL 9.27 mm; EW 3.71 mm; AL(1-11) 9.08 mm; AL(1-11)/BL 0.72; HW/PW 0.87; BL/EW 3.42; EL/EW 2.50.
RLA(1-11): 0.59 : 0.21 : 1.00 : 1.23 : 1.19 : 1.15 : 1.13 : 1.29 : 1.26 : 1.17 : 1.09.
RL/WA(1-11): 2.58 : 1.04 : 6.55 : 7.76 : 6.78 : 6.57 : 7.40 : 7.68 : 7.86 : 6.65 : 6.81.
RLT: 1.00 : 0.72 : 1.05 : 1.31 : 2.00 (protarsus), 1.00 : 0.36 : 0.68 : 0.82 : 1.24 (mesotarsus), 1.00 : 0.33 : 0.27 : 0.66 (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 9.87 mm (7.92-10.71 mm); HL 1.36 mm (1.30-1.44 mm); HW 1.50 mm (1.45-1.60 mm); OI 24.78 (22.11-26.97); PL 1.62 mm (1.46-1.83 mm); PW 1.84 mm (1.64-2.09 mm); PI 87.90 (85.86-90.27); EL 6.90 mm (5.12-7.66 mm); EW 2.73 mm (2.31-5.12 mm). Females (n=5). BL 11.43 mm (10.70-12.67 mm); HL 1.27 mm (1.18-1.40 mm); HW 1.59 mm (1.48-1.74 mm); OI 33.80 (31.82-35.77); PL 1.77 mm (1.56-2.00 mm); PW 2.18 mm (1.72-2.51 mm); PI 81.19 (76.29-82.87); EL 8.41 mm (7.96-9.96 mm); EW 3.26 mm (2.85-3.71 mm).

Differential diagnosis. This species is similar to *Spinecula aenea* (Pic, 1914) and *Spinecula jeanvoinei* (Pic, 1927), both from northern Vietnam.

The new species *Spinecula bidoupica* sp. nov. clearly differs from the similar species *S. aenea* and *S. jeanvoinei* mainly by dorsal surface without metallic lustre (elytron shiny, mostly pale reddish brown, pronotum brown); while *S. aenea* and *S. jeanvoinei* have dorsal surface goldenish green, with metallic lustre.

The new species *Spinecula bidoupica* sp. nov. is slightly similar to the species *Makicula angusta* sp. nov.

S. bidoupica has elytra shiny, males have sharp teeth (Fig. 30) in the middle of inner side of protibiae and profemora are approximately as wide as meso- or metafemora; while *M. angusta* from the same locality has matte elytra, males have angle (Fig. 24) in the middle of inner side of protibiae and male profemora are distinctly wider than meso- or metafemora.

Etymology. Toponymic, named after the type locality Bidoup Nui Ba Nature Preserve (Vietnam, Lam Dong Province), after the first name.

Distribution. South Vietnam (Bidoup Nui Ba National park in Lam Dong Province).

Subtribe Gonoderina Seidlitz, 1896

Genus *Paracistela* Borchmann, 1941

Type species: *Paracistela variabilis* Borchmann, 1941.

Paracistela dalatica sp. nov.
(Figs. 33-36)

Type locality. South Vietnam, Lam Dong Province, Lac Doung District, ~5 km north of Da Lat, 12°01′8″N, 108°28′7″E, 1500 m.

Type material. Holotype (♂): S-Vietnam, Lam Dong Pr., / Lac Doung Distr., ~5 km north / of Da Lat, 27.IV.2024, 1500 m / 12°01′8″N, 108°28′7″E, pinus / forest, LFF, leg. A. Weigel KL, (NMEG); Paratypes: (5 ♂♂, 1 ♀, 6 spec.): same data as holotype, (NMEG, VNPC); (1 ♂): S-Vietnam, Lam Dong Pr., Lac / Doung Distr., Bidoup Nui Ba / National park, vic. Station at Song Da Nhim river // 12°10′58″N, 108°40′48″E to / Deo Khane Pass (12°11′11″N, 108°42′53″E), / 1450- 1650m, leg. A. Weigel prim. forest LF, (VNPC); (1 ♂): S-Vietnam, Lam Dong Pr., / Lac Doung , Bidoup Nui Ba / NP, Mt, Lang Biang, - 2100 / m, 27.4.2024 leg. A. Skale, (ASGG). The types are provided with a printed red label: 'Paracistela / dalatica sp. nov. / HOLOTYPUS or PARATYPUS / V. Novák det. 2025'.

Description of holotype. Habitus as in Fig. 33, body medium-sized, elongate oval, convex, semi-matte, brown, dorsal surface with dense, recumbent, pale setae, punctures and microgranulation, BL 8.86 mm. Widest near two thirds elytral length; BL/EW 2.56.

Head (Fig. 34) brown, slightly wider than long, through the eyes slightly wider than anterior margin, distinctly narrower than base of pronotum. Dorsal surface shiny, with dense and coarse punctures, long, pale setae and microgranulation, not clearly distinct in basal half. Clypeus brown, transverse, surface with long, pale setae, shallow punctures and microgranulation. Mandibles glabrous, brown with sides and apex darker. HW 1.35 mm; HW/PW 0.56; HL (visible part) 1.18 mm. Eyes large, transverse, excised, space between eyes narrow, slightly wider than diameter of one eye or length of antennomeres 3 or 4; OI equal to 38.08.

Antenna relatively short, matte (AL 4.27 mm, almost reaching half body length - AL/BL 0.48). Dorsal surface with recumbent, pale setae, punctures and microgranulation. Antenomeres 1-3 and apex of ultimate antennomere paler than rest antennomeres. Antennomere 2 shortest, antennomeres 4-11 longer than antennomere 3, antennomeres 3-10 slightly widened apically.

RLA(1-11): 0.71 : 0.33 : 1.00 : 1.07 : 1.12 : 1.10 : 1.14 : 1.14 : 1.07 : 1.14 : 1.22.
RL/WA(1-11): 1.89 : 1.29 : 3.29 : 3.09 : 3.34 : 3.68 : 3.79 : 3.62 : 3.57 : 2.85 : 2.70.

Maxillary palpus brown, semi-matte, with pale setae, shallow punctures and microgranulation. Palpomeres 2 and 3 narrowest at base and slightly widened apically, ultimate palpomere long, longer than penultimate, knife-shaped.

Pronotum (Fig. 34) pale brown, semi-matte, convex, semi-circular, widest at base, approximately as wide as elytra at humeri. Dorsal surface with dense, recumbent, pale setae, microgranulation and dense, small punctures. PL 1.42 mm; PW 2.43 mm; PI equal to 58.44. Border lines narrow, distinct dorsally. Base slightly bisinuate, lateral and anterior margins rounded, anterior angles indistinct, posterior angles roundly obtuse.

Elytra. Brown, oval, relatively wide, convex, semi-matte, widest near two thirds elytra length. Dorsal surface with dense, recumbent, pale setae. EL 6.26 mm; EW 3.46 mm; EL/EW 1.81. Elytral striae with rows of small, coarse punctures, elytral intervals with microgranulation and dense, very small punctures distinctly smaller than those in striae.

Scutellum. Pale brown with sides brown, roundly triangular, semi-matte, with microgranulation, small, shallow punctures and long, pale setae.

Elytral epipleura well-developed, pale brown, with small punctures and sparse, pale setae, regularly narrowing from base to apex, then relatively narrow and distinctly paler leads parallel on apical part.

Legs. Long and narrow, brown. Dorsal surface with dense pale setae, small punctures and fine microgranulation, protibiae with rows of minute spinules in margin of inner side. Penultimate tarsomeres not widened and lobed. RLT: 1.00 : 0.54 : 0.49 : 0.38 : 1.53 (protarsus), 1.00 : 0.46 : 0.41 : 0.27 : 0.94 (mesotarsus), 1.00 : 0.33 : 0.17 : 0.50 (metatarsus).

Both protarsal claws pale brown, with 8 visible teeth.

Ventral side of body brown, prothorax pale brown, shiny, with short pale setae and small punctures. Abdomen brown, semi-matte, with dense, recumbent, pale setae, dense, small punctures and fine microgranulation.

Aedeagus (Figs. 35, 36) shiny. Basal piece slightly rounded laterally and slightly narrowing in dorsal view. Apical piece darker than basal piece, triangular dorsally, beak-shaped from dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1: 3.00.

Female without distinct differences, only protarsal claws with 6 teeth.

Variability. Some specimen are ochre yellow, some dark brown. Type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Specimens (n=14). BL 8.42 mm (7.77-8.95 mm); HL 1.06 mm (1.00-1.18 mm); HW 1.22 mm (1.15-1.35 mm); OI 34.92 (32.71-38.11); PL 1.34 mm (1.22-1.45 mm); PW 2.43 mm (2.25-2.66 mm); PI 55.19 (51.88-58.44); EL 6.02 mm (5.52-6.47 mm); EW 3.31 mm (3.02-3.66 mm).

Differential diagnosis. This species is similar to *Paracistela daknongica* Novák, 2022 from Dak Nong Province (South Vietnam).

The new species *Paracistela dalataica* sp. nov. clearly differs from the similar species *P. daknongica* mainly by the antennomeres 5-11 longer than antennomere 3 and by the shape of aedeagus as in Figs. 35 and 36; while *P. daknongica* has antennomeres 5-11 shorter than antennomere 3 and the shape of aedeagus is as in Novák (2022: 422: figs. 7 and 8).

Etymology. Toponymic, named after the type locality Da Lat in Lac Doung (Vietnam, Lam Dong Province).

Distribution. South Vietnam (Lam Dong Province).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Figs. 33-36. *Paracistela dalatica* sp. nov.: 33- habitus; 34- head and pronotum; 35- aedeagus, dorsal view; 36- aedeagus, lateral view.

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REFERENCES

Borchmann F. 1910: Coleopterorum Catalogus. Pars 3: Alleculidae. In: Junk W. & Schenkling S. (eds.): *Coleopterorum Catalogus*. Berlin: W. Junk, 80 pp.

Borchmann F. 1941: Entomological Results from the Swedish Expedition 1934 to Burma and British India. Coleoptera: Lagriidae und Alleculidae. Gesammelt von René Malaise. *Arkiv för Zoologi* 33A (9): 1-32

Campbell J. M. 1965: A revision of the genus *Charisius* (Coleoptera: Alleculidae). *The Coleopterist´s Bulletin* 19: 43-56.

Campbell J. M. & Marshall J. D. 1964: The ocular index and its applications to the taxonomy of the Alleculidae (Coleoptera). *The Coleopterist´s Bulletin* 18: 42.

Fairmaire L. 1896: Note XII. Coléoptères de l´Inde boréale, Chine et Malaise. *Notes from the Leyden Museum* 18: 81-129.

Fairmaire L. 1897: Coléoptères du Szé-tchouen et de Koui-Tchéou (Chine). *Notes of the Leyden Museum* 19: 241-255.

Masumoto K., Novák V., Akita K. & Lee Ch.-F. 2024: A Revisional Study of the Subfamily Alleculinae (Coleoptera: Tenebrionidae) from Taiwan (Part 5). New Species of Genera *Allecula*, *Angusthes*, *Borbonalia* and *Borboresthes*. *Folia Heyrovskyana*, *Series A* 32(1): 23-57.

Novák V. 2011: Revision of the genus *Paracistela* Borchmann, 1941 (Coleoptera: Tenebrionidae: Alleculinae). *Studies and Reports, Taxonomical Series* 7(1-2): 347-382.

Novák V. 2012: New genera of Alleculinae (Coleoptera: Tenebrionidae: Alleculinae) from Palaearctic and Oriental Regions. *Studies and Reports, Taxonomical Series* 8(1-2): 269-293.

NOVÁK V. 2015: New *Borboresthes* species (Coleoptera: Tenebrionidae: Alleculinae) from Palaearctic and Oriental Regions. *Folia Heyrovskyana, Series A* 22(2-4) (2014): 74-98.
NOVÁK V. 2019: New genera of Alleculinae (Coleoptera: Tenebrionidae) from Palaearctic and Oriental Regions. Part X - *Spinecula* gen. nov. *Studies and Reports, Taxonomical Series* 15(2): 435-457.
NOVÁK V. 2020: Subfamily Alleculinae Laporte, 1840, pp. 417-453. In: IWAN D. & LÖBL I. (eds): *Catalogue of Palaearctic Coleoptera. Volume 5. Tenebrionoidea. Revised and Updated Second Edition*. Leiden/Boston: Brill, 945 pp.
NOVÁK V. 2021a: Check-list of Alleculinae (Insecta: Coleoptera: Tenebrionidae) of Nepal, with description of a new species. Pp. 545-566. In: HARTMANN, M., BARCLAY, M. & WEIPERT, J. (eds.): *Biodiversität und Naturausstattung im Himalaya VII. Verein der Freunde & Förderer des Naturkundemuseums Erfurt e. v.*, Erfurt, 615 pp.
NOVÁK V. 2021b: Review on the genus *Dioxycula* Fairmaire, 1896 (Coleoptera: Tenebrionidae: Alleculinae: Alleculini) with descriptions of five new species. *Studies and Reports, Taxonomical Series* 17(2): 395-414.
NOVÁK V. 2021c: New species of *Makicula* Novák, 2012 from the Oriental Region (Coleoptera: Tenebrionidae: Alleculinae: Alleculini). *Folia Heyrovskyana, Series A* 29(1): 57-75.
NOVÁK V. 2022a: New *Makicula* Novák, 2012 species from the Oriental Region (Coleoptera: Tenebrionidae: Alleculinae: Alleculini). *Folia Heyrovskyana, Series A* 30(2): 51-67.
NOVÁK V. 2022b: New species of *Paracistela* Borchmann from the Oriental Region (Coleoptera: Tenebrionidae: Alleculinae: Alleculini: Gonoderina). *Studies and Reports, Taxonomical Series* 18(2): 417-435.
NOVÁK V. 2024: Comb-clawed beetles of Peninsular Malaysia (Coleoptera: Tenebrionidae: Alleculinae). List with descriptions of several new species and *Fujfiala* gen. nov. *Folia Heyrovskyana, Series A* 32(1): 85-136.
PIC M. 1930: Nouveautés diverses. *Mélanges Exotico-entomologiques* 55: 1-36.

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