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New genera of Alleculinae (Coleoptera: Tenebrionidae: Alleculinae: Alleculini) from the Oriental Region. Part XI—*Vietnalia* gen. nov.

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Abstract

A new genus of Alleculinae (tribe Alleculini Laporte, 1840, subtribe Alleculina Laporte, 1840), *Vietnalia* **gen. nov.** with the species *Vietnalia catcatica* **sp. nov.** as a type species from the Oriental Region (Vietnam, Lao Cai Province), is described, illustrated and compared with similar (shape of body) genera *Doranalia* Novák, 2020 and *Nikomenalia* Dubrovina, 1975. *Vietnalia catcatica* **gen. nov.** and **sp. nov.** distinctly differs from *Doranalia* and *Nikomenalia* species particularly by antennomere 3 approximately as long as antennomere 4 in males and slightly longer than antennomere 4 in females, by ultimate maxillary palpomere widely triangular, transverse, strongly widened apically, female has antenna shorter than half body length, male abdomen has 6 visible ventrites, male ultimate and penultimate abdominal ventrites have impressions, male ultimate abdominal ventrite is excised in middle of apex. Male space between eyes is distinctly wider than in males of *Doranalia* species.

Key words: Coleoptera, Tenebrionidae, Alleculinae, Alleculini, Alleculina, taxonomy, new genus, new species, descriptions, *Vietnalia*, Oriental Region, Vietnam

Introduction

Borchmann (1910) listed species in 13 Alleculine genera living in the Oriental Region. Further genera were described later by Borchmann (1932, 1941) and Pic (1909, 1915, 1922, 1930, 1956). Many different species have been described in the same genera. The diversity of species in the Oriental Region is high, making it possible to still find and describe species belonging to new genera. New genera of Alleculinae of the Oriental Region in this century were described by Novák (2008a, b, 2009, 2010, 2011, 2012, 2013, 2015a, b, 2016a, b, c, 2017, 2018a, b, c, d, 2019a, b, c, d, e, 2020a, b, c, d, e). We currently know representatives of 63 Alleculinae genera from the Oriental Region.

A new genus of Alleculinae (tribe Alleculini, subtribe Alleculina) is described and illustrated here as *Vietnalia* **gen. nov.** for the type species *Vietnalia catcatica* **sp. nov.** from Vietnam (Lao Cai Province).

Material and methods

The following collection codes are used:

HNHM—Hungarian Natural History Museum, Budapest, Hungary;

VNPC—private collection of Vladimír Novák, Prague, Czech Republic.

In the label information of type material, a slash (/) separates data in separate rows, a double slash (//) separates different labels. Moreover, the following abbreviation was used to describe labels: wl—white label.

Some important morphometric characteristics used in this study were adopted from the previous alpha-taxonomic works on the subfamily Alleculinae, i.e. the ocular index (OI) (Campbell & Marshall 1964) and pronotal index (PI) (Campbell 1965). The ocular index equals (100 × minimum dorsal distance between eyes) / (maximum width of head across eyes), while the pronotal index is calculated as (100 × length of pronotum along midline) / (width across basal angles of pronotum).

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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), UPW/L—ultimate palpomere width/length.

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

Description of the genus *Vietnalia* gen. nov.

***Vietnalia* gen. nov.**
(Figs 1–11)

Type species. *Vietnalia catcatica* **sp. nov.**

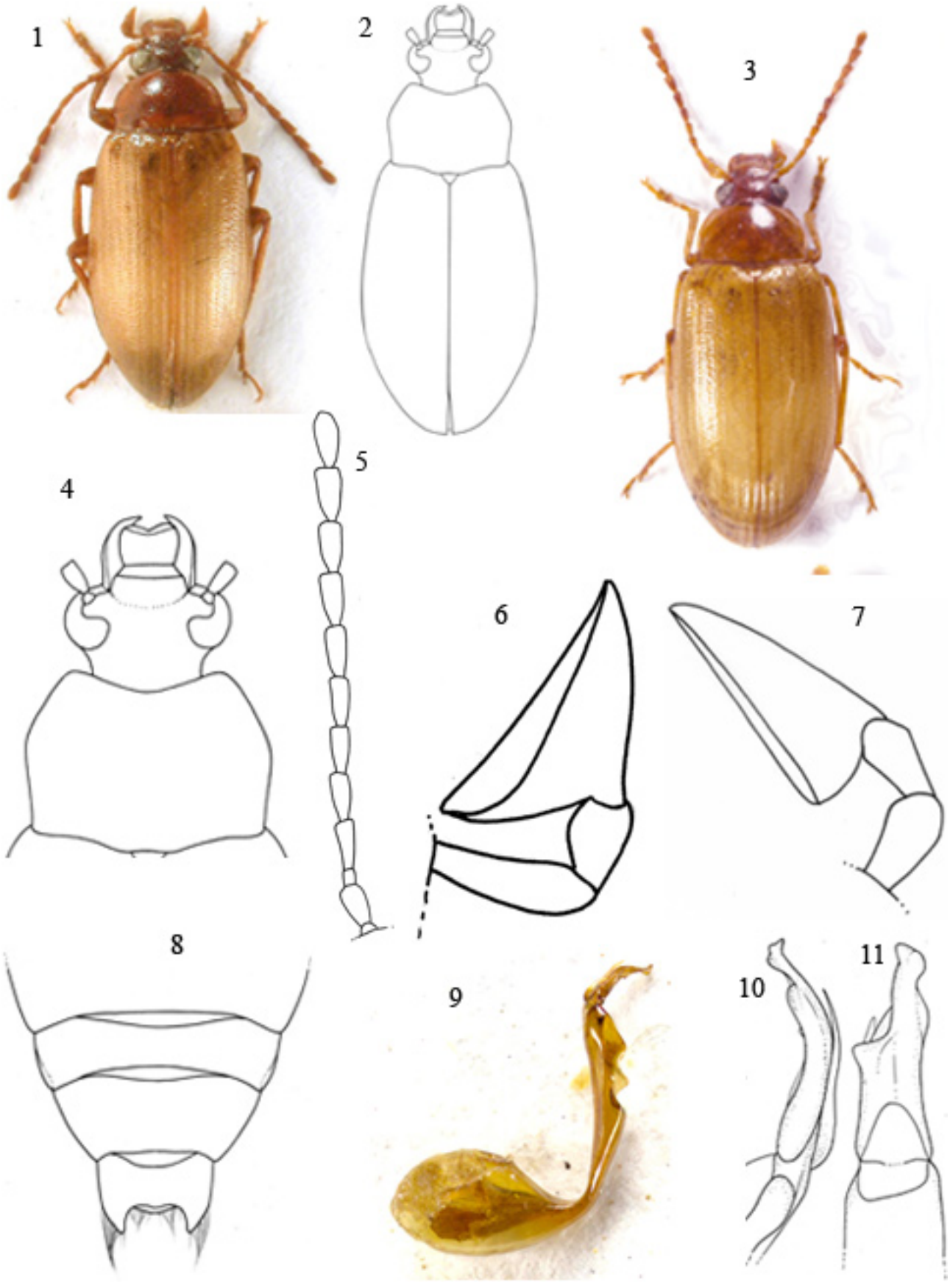
Description. Habitus as in Fig. 1, body outline (Fig. 2), oval, slightly convex, shiny, dorsal surface almost glabrous with punctation, widest near two thirds of elytral length. Head (as in Fig. 4) slightly wider than long. Eyes moderately large, transverse, distinctly excised, space between eyes wider than diameter of one eye, wider than length of each antennomere, approximately as wide as width of ultimate maxillary palpomere. Antennae (as in Fig. 5) slightly exceeding half body length, ultimate antennomere longest, antennomere 4 approximately as long as antennomere 3. Maxillary palpus (as in Fig. 6), ultimate palpomere transverse, strongly widened apically, widely triangular. Pronotum (as in Fig. 4) glabrous, wide, transverse, widest in middle, lateral margins with angle in middle. Elytra glabrous, oval, widest near two thirds elytra length. Legs narrow, protarsomeres 3, 4, mesotarsomeres 4 and metatarsomeres 3 widened and lobed. Tarsal claws with visible teeth in inner side. Abdomen with 6 visible ventrites, penultimate ventrite with large, triangular impression in middle, ultimate ventrite with rounded impression and roundly excised in middle of apex (as in Fig. 8). Aedeagus unusually shaped as in Fig. 9, apical piece as in Figs 10, 11.

Female (Figs 3, 7) has pronotum wider and shorter than in male, antenna not reaching half body length, ultimate maxillary palpomere slightly narrower and shorter than in male, abdomen with only 5 visible ventrites, penultimate ventrite without impression in middle, ultimate ventrite with shallow impression in middle and straight in apex.

Differential diagnosis. The new Alleculine genus (tribe Alleculini, subtribe Alleculina) *Vietnalia* **gen. nov.** including the species *Vietnalia catcatica* **sp. nov.** from Vietnam (Lao Cai Province) is similar (shape of body) to the species of the genus *Doranalia* Novák, 2020 and *Nikomenalia* Dubrovina, 1975 from Southeastern or Eastern Asia. *Vietnalia catcatica* distinctly differs from *Doranalia* and *Nikomenalia* species particularly by antennomere 3 approximately as long as antennomere 4 in males and slightly longer than antennomere 4 in females, by ultimate maxillary palpomere widely triangular, transverse, strongly widened apically, female has antenna shorter than half body length, male abdomen has 6 visible ventrites, male ultimate and penultimate abdominal ventrites have impressions, male ultimate abdominal ventrite is excised. Male space between eyes is distinctly wider than in males of *Doranalia* spp. *Doranalia* and *Nikomenalia* species have antennomere 4 distinctly longer than antennomere 3, ultimate palpomere is axe shaped or knife shaped, antennae of females almost exceeding half body length, male abdomen has 5 visible ventrites, male ultimate and penultimate abdominal ventrites have no impressions, male ultimate abdominal ventrite is not excised. Males of *Doranalia* spp. have space between eyes very narrow.

Etymology. The compound name formed by "Viet" marking abbreviation of the place of its distribution (Vietnam) and the ending "nalia" marking similarity to the genus *Doranalia* Mulsant, 1856. Gender: feminine.

Distribution. Vietnam.



FIGURES 1–11: *Vietnalia catcatica* **sp. nov.** (Figs 1, 2, 4–6, 8–11: male holotype): 1—Habitus; 2—body outline; 3—habitus of female; 4—head and pronotum; 5—antenna; 6—maxillary palpus; 7—female maxillary palpus; 8—abdomen; 9—aedeagus; 10—apical piece of aedeagus, dorsal view; 11—apical piece of aedeagus, lateral view.

***Vietnalia catcatica* sp. nov.**
(Figs 1–11)

Type locality. Vietnam, Lao Cai province, 4 km southwest of Cat Cat, 1920 m, montane rainforest.

Type material. Holotype (♂): wl: VIETNAM, Lao Cai prov., / 4 km SW of Cat Cat, / 1920m,montane rainforest, // 13.III.1998, No. 8. / at light, L.Peregovits&T.Vásárhelyi (HNHM).

Paratypes: (1 ♂, 9 ♀♀): same data as holotype, (HNHM, VNPC); (2 ♀♀): wl: VIETNAM, Lao Cai prov., / 5 km W of Cat, 2050 m, / 22°18.337´N, 103°49.291´E // 15.III.1998, No. 17 / at light, L.Peregovits&T.Vásárhelyi (HNHM, VNPC).

The types are provided with a printed red label: "Vietnalia / catcatica sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2020".

Description. Habitus as in Fig. 1, body outline (Fig. 2), oval, slightly convex, from ochre yellow to reddish brown, shiny, dorsal surface almost glabrous with punctation, BL 5.95 mm. Body widest near two thirds elytra length; BL/EW 2.39.

Head (Fig. 4) reddish brown, shiny, slightly wider than long, through the eyes approximately as wide as anterior margin of pronotum. Dorsal surface almost glabrous, with punctation, punctures slightly larger and denser than those on pronotum. Anterior part slightly paler than posterior part. Mandibles ochre yellow, shiny, glabrous dorsally, with fine microrugosities, apex dark. Epistoma pale reddish brown with pale setation, shallow, almost indistinct punctures, with microgranulation, slightly excised in middle of apex. HW 1.14 mm; HW/PW 0.70; HL (visible part) 1.00 mm. Eyes moderately large, transverse, distinctly excised, space between eyes wide, distinctly wider than diameter of one eye, distinctly wider than length of each antennomere, approximately as wide as width of ultimate maxillary palpomere; OI equal to 47.66.

Antenna (Fig. 5) slightly exceeding half body length, AL 3.56 mm; AL/BL 0.60, antennomeres with short, pale setation, fine microgranulation and small punctures. Antennomeres 1–5 ochre yellow, 6–11 brown, antennomeres 1–3 slightly shiny, 4–11 rather matte, antennomeres 3–10 slightly widened apically. Antennomere 2 shortest, ultimate antennomere longest, antennomeres 4–11 slightly longer than antennomere 3.

RLA(1–11): 0.92 : 0.49 : 1.00 : 1.04 : 1.10 : 1.04 : 1.14 : 1.23 : 1.19 : 1.22 : 1.29.

RL/WA(1–11): 1.76 : 1.33 : 2.70 : 2.53 : 2.67: 2.92 : 3.07 : 2.31 : 2.35 : 2.34 : 2.54.

Maxillary palpus (Fig. 6) ochre yellow, slightly shiny, with pale setation and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere transverse, strongly widened apically, widely triangular, pale brown, slightly darker than penultimate. UPW/L 3.19.

Pronotum (Fig. 4) pale reddish brown, wide, transverse, shiny, distinctly narrower than elytra at humeral level, widest near middle of lateral margins; PW1/2 1.92 mm. Dorsal surface glabrous, with punctation, punctures small. Intervals between punctures distinctly wider than diameter of punctures. PL 0.98 mm; PW 1.62 mm; PI equal to 60.49. Border lines distinct, narrow. Lateral margins with angle in middle, anterior margin finely excised, base slightly bisinuate. Posterior and anterior angles obtuse.

Scutellum. Ochre yellow, roundly triangular, with sides darker and a few small punctures, shiny.

Elytra. Ochre yellow, glabrous, shiny, oval, widest near middle, microgranulation very fine or indistinct. EL 3.97 mm; EW 2.49 mm; EL/EW 1.59. Elytral striae with distinct rows of punctures slightly larger than those in pronotum. Elytral interspaces with double punctation (punctures smaller than those in elytral striae on the one hand and punctures as large as those in elytral striae on the other hand).

Elytral epipleura well-developed, ochre yellow as elytron itself, widest near base, finely narrowing to ventrite 1, with a few very small punctures in basal half, then relatively wide and parallel in apical part.

Legs. Narrow, pale brown or pale reddish brown, with fine microgranulation, pale setation and small punctures. Protarsomeres 3, 4, mesotarsomeres 4 and metatarsomeres 3 widened and lobed. RLT: 1.00 : 0.81 : 0.73 : 0.64 : 1.18 (protarsus), 1.00 : 0.52 : 0.48 : 0.62 : 1.22 (mesotarsus), 1.00 : 0.46 : 0.35 : 0.75 (metatarsus).

Both anterior tarsal claws with 6 visible teeth.

Ventral side of body with very short, pale setation and dense punctation, punctures small. Abdomen pale brown with 6 visible ventrites, shiny with sparse, pale setation, fine microgranulation and sparse punctation, punctures small. Ventrite 5 with large, triangulary shaped impression in middle, ultimate ventrite with rounded impression and roundly excised in middle of apex (as in Fig. 8).

Aedeagus ochre yellow, unusually shaped as in Fig. 9, apical piece asymmetrical (Figs 10, 11), slightly darker, pale brown.

Female (Figs 3, 7) has pronotum wider and shorter than in male (PI approximately 57), antenna not reaching half body length (AL/BL 0.42), ultimate maxillary palpomere slightly narrower and shorter than in male, abdomen with only 5 visible ventrites, ventrite 4 without impression, ventrite 5 with shallow impression in middle, apex straight.

Measurements of female body. BL 6.22 mm; HL 0.99 mm; HW 1.12 mm; OI 47.06; PL 0.87 mm; PW 1.61 mm; PI 54.40; EL 4.36 mm; EW 2.61 mm; AL 2.60 mm; AL/BL 0.42; HW/PW 0.70; BL/EW 2.38; EL/EW 1.67; UPW/L 2.15.

RLA(1–11): 0.75 : 0.54 : 1.00 : 0.83 : 0.86 : 0.96 : 1.04 : 1.12 : 1.07 : 1.12 : 1.16.

RL/WA(1–11): 1.84 : 1.37 : 3.04 : 2.03 : 2.24: 2.81 : 2.72 : 2.66 : 2.25 : 2.36 : 2.59.

RLT: 1.00 : 0.69 : 0.74 : 0.79 : 1.62 (protarsus), 1.00 : 0.50 : 0.54 : 0.54 : 1.22 (mesotarsus), 1.00 : 0.32 : 0.29 : 0.73 (metatarsus).

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n= 2). BL 5.79 mm (5.62–5.95 mm); HL 0.98 mm (0.95–1.00 mm); HW 1.11 mm (1.08–1.14 mm); OI 46.11 (44.55–47.66); PL 0.99 mm (0.98–1.00 mm); PW 1.55 mm (1.48–1.62 mm); PI 64.03 (60.49–67.57); EL 3.82 mm (3.67–3.97 mm); EW 2.36 mm (2.22–2.49 mm). Females (n= 11). BL 6.68 mm (6.20–7.26 mm); HL 1.03 mm (0.98–1.13 mm); HW 1.17 mm (1.11–1.28 mm); OI 50.52 (47.06–53.90); PL 0.97 mm (0.86–1.12 mm); PW 1.71 mm (1.61–1.85 mm); PI 57.01 (47.41–52.07); EL 4.67 mm (4.30–5.12 mm); EW 2.83 mm (2.61–3.05 mm).

Differential diagnosis. See the differential diagnosis of the genus.

Etymology. Toponymic, named after the type locality Cat Cat village in Lao Cai province (Vietnam).

Distribution. Vietnam, province Lao Cai.

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