

**New genera of Alleculinae (Coleoptera: Tenebrionidae)
from Palaearctic and Oriental Regions VII - *Fifina* gen. nov.**

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Abstract. A new genus of Alleculini Laporte, 1840 - *Fifina* gen. nov. is described to include the following new species *Fifina romani* sp. nov. as a type species from Laos (Mt. Phu Pane) and *Fifina stanislavi* sp. nov. from China (Yunnan). The new genus is compared with similar genera (*Allecula* Fabricius, 1801 and *Upinella* Mulsant, 1856) and new species are described and illustrated.

INTRODUCTION

The genus *Allecula* was introduced by Fabricius (1801) for *Allecula morio* (Fabricius 1787), originally described as *Cistela* Geoffroy, 1762. The species of this genus have a worldwide distribution (Borchmann 1910, Novák 2014). Mader (1928) knew 27 species, Novák & Pettersson (2008) listed 65 species in three subgenera from the Palaearctic Region. Further new species were described later by Akita & Masumoto (2012 and 2015), (Masumoto et all. 2017), Novák (2016 and 2017a, b) and Novák et all. (2011 and 2012).

The genus *Upinella* was introduced by Mulsant (1856) for *Upinella atterima* (Rosenhauer 1847), originally described as *Allecula* Fabricius, 1801. *Upinella* was added to the genus *Allecula* later as a subgenus (Seidlitz, 1896, Mader 1928 and Novák & Pettersson 2008). It was raised up to level of genera by Novák (2015) and new species were described by Masumoto et al. (2015, 2018) and Novák (2015).

A new genus of Alleculini Laporte, 1840 - *Fifina* gen. nov. is described to include *Fifina romani* sp. nov. from Laos (Mt. Phu Pane) as a type species and *Fifina stanislavi* sp. nov. from China (Yunnan). The new genus is compared with similar genera (*Allecula* Fabricius, 1801 and *Upinella* Mulsant, 1856) and new species are described and illustrated.

MATERIAL AND METHODS

Two important morphometric characteristics used for the descriptions of species of the subfamily Alleculinae, the ‘ocular index’ dorsally (Campbell & Marshall 1964) and ‘pronotal index’ (Campbell 1965), are used in this paper as well. The ocular index equals $(100 \times \text{minimum dorsal distance between eyes}) / (\text{maximum width of head across eyes})$. The pronotal index is calculated as $(100 \times \text{length of pronotum along midline}) / (\text{width across basal angles of pronotum})$.

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

The following collection codens are used:

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).

Other abbreviations used in text are as follows: pb - printed black, wl - white label.

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

Fifina gen. nov.

Type species: *Fifina romani* sp. nov.

Description. Habitus as in Fig. 1 and 6, body small, narrow, elongate, slightly oval, resembling *Stenomax* Allard, 1876 or *Odocnemis* Allard, 1876 species. Dorsal surface with very sparse and short pale setae (visible often only in high magnification), with punctuation and microgranulation, matte. Widest near three fifth of elytra length. Head large and wide, transverse, slightly wider than long (as in Fig. 2 and 7). Dorsal surface slightly shiny, with microgranulation, dense punctuation, interspaces between punctures very narrow. Apex of anterior part and clypeus with shallower punctuation and long pale setae. HW/PW 0.88 resp. 0.96. Eyes large, transverse, distinctly excised, space between eyes narrow, but wider than diameter of one eye, distinctly narrower than length of antennomere 3, wider than length of antennomere 1; OI between 39-44. Antenna (Fig. 3 and 8). Long, filiform, antennomeres narrow, with short, pale setation, microgranulation and punctures. Antennomere 2 shortest, antennomeres 4 longest. Each of antennomeres 5-11 distinctly shorter than length of antennomere 3. Maxillary palpus with pale setation, very fine microgranulation and shallow punctuation, punctures very small. Ultimate palpomere large, longly triangular, shoe-shaped. Pronotum (Fig. 2 and 7) slightly cordiform, matte, dorsal surface with very fine microgranulation and punctuation, punctures small with very short, pale setae. Punctures distinctly smaller than those in basal part of head. PI between 82-90. Border lines complete and narrow. Lateral margins straight in basal half, slightly arcuate in apical half. Posterior and anterior angles obtuse. Base bisinuate, with two, small, oblique, shallow furrows. Ventral side of body dark. Ultimate ventrite distinctly paler than ventrites 1-4. Elytra elongate, slightly oval, slightly drop-shaped, widest near three fifth elytra length

from base to apex, in base slightly wider than pronotum in base, dorsal surface matte, with short pale setae in punctures. Elytral striae with distinct rows of medium-sized punctures. Elytral intervals impunctate or with very sparse and very small, shallow punctures, with fine microgranulation. Scutellum roundly triangular. Elytral epipleura well developed, widest in base, with one row of medium-sized punctures in basal half, regularly narrowing to ventrite 1, then relatively wide, leading parallel. Legs narrow, long, with microgranulation and small punctuation, with short, pale setation, tarsi with denser pale setation. Protarsomeres and mesotarsomes 3 and 4 and metatarsomeres 3 distinctly widened and lobed. Anterior tarsal claws with few visible teeth. Aedeagus (as in Figs. 4, 5 and 9, 10) ochre yellow, slightly shiny. Basal piece strongly rounded laterally and slightly narrowing dorsally. Apical piece short, triangular dorsally, beak-shaped dorsally and laterally.

Female. Unknown.

Differential diagnosis. Species of new genus *Fifina* gen. nov. are similar to those of the genus *Allecula* Fabricius, 1801 and *Upinella* Mulsant, 1856. Species of *Fifina* differ from species of *Allecula* mainly by habitus slightly oval, by lateral margins of pronotum arcuate in apical part, pronotum slightly cordiform, elytra widest near three fifths of elytra length from base to apex (slightly drop-shaped), by widened protarsomeres and mesotarsomeres 3 and 4; while *Allecula* species have habitus elongate, parallel, lateral margins of pronotum more straight, pronotum more or less square-shaped, elytra parallel, widest in base or in middle and widened only penultimate protarsomeres and mesotarsomeres.

Species of *Fifina* are distinctly different from species of *Upinella* mainly by antennomere 3 approximately as long as or very slightly shorter than antennomere 4, by slightly cordiform pronotum, dorsal surface of pronotum with dense punctuation, by slightly drop shaped elytra, widest near three fifth of their length and by strong, thick femora; while *Upinella* species have antennomere 3 distinctly longer than antennomere 4, sides of pronotum regularly arcuate, pronotum with very sparse punctuation or impunctate, elytra parallel, widest in base or near middle and femora more longer and narrower.

Etymology. Named after my second granddaughter home nickname - *Fifina*, feminine gender.

Distribution. China (Yunnan), Laos.

***Fifina romani* sp. nov.**
(Figs. 1-5)

Type locality. Laos, Huaphanne province, Mt. Phu Pane, Ban Saluei env., 20°12'N 103°59'E, 1200-1900 m.

Type material. Holotype (♂): wl: LAOS, Huaphanne prov., / Mt. Phu Pane, 1200-1900m, / Ban Saluei v. env., 21.-30.IV.2017, / 20°12'N 103°59'E / A. & R.Hergovits leg. +Lao collector [pb], (VNPC). The holotype is provided with a printed red label: 'Fifina / romani sp. nov. / HOLOTYPE / V. Novák det. 2018'.

Description of holotype. Habitus as in Fig. 1, body small, narrow, elongate, slightly oval, from ochre yellow to brown, dorsal surface with very sparse and short pale setae (visible only in high magnification), with punctuation and microgranulation, rather matte. BL 7.79 mm. Widest near three fifth elytra length, BL/EW 3.12.

Head (Fig. 2) brown, large and wide, transverse, slightly wider than long, dorsal surface with dense punctuation, punctures small sized, interspaces between punctures very narrow, distinctly narrower than diameter of punctures, with microgranulation, slightly shiny. Apex of anterior part and clypeus reddish brown, with shallower punctuation and long pale setae. Anterior margin of clypeus straight and narrowly blackish brown. HL (visible part) 1.07 mm; HW 1.62 mm; HW/PW 0.96. Eyes large, transverse, distinctly excised, space between eyes narrow, but wider than diameter of one eye, distinctly narrower than length of antennomere 3, wider than length of antennomere 1; OI equal to 39.39.

Antenna (Fig. 3). Long, antennomeres narrow, filiform, with short, pale setation, microgranulation and punctures, AL(1-11) 5.99 mm; AL(1-11)/BL 0.77. Antennomeres 1-4 pale reddish brown, slightly shiny. Antennomeres 5-8 with apex slightly darker, antennomeres 9-11 brown. Antennomeres 5-11 rather matte, each antennomere distinctly shorter than antennomere 3. Antennomere 2 shortest, antennomeres 4 longest.

RLA (1-11): 0.40 : 0.29 : 1.00 : 1.09 : 0.92 : 0.90 : 0.88 : 0.90 : 0.75 : 0.76 : 0.78.

RL/WA (1-11): 1.76 : 2.00 : 4.63 : 5.04 : 4.27 : 3.79 : 3.77 : 4.17 : 3.77 : 4.00 : 4.10.

Maxillary palpus ochre yellow, with pale setation, very fine microgranulation and shallow punctuation, punctures very small. Penultimate palpomere and palpomere 2 distinctly narrowest at base and widest at apex, here with long pale setae. Ultimate palpomere large, longly triangular, shoe-shaped.

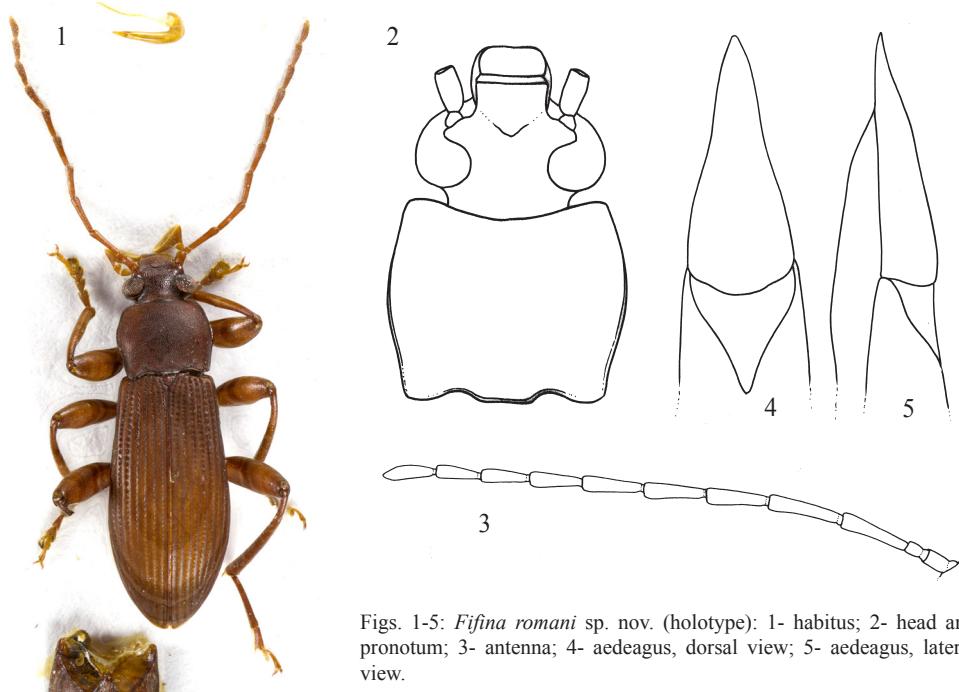
Pronotum (Fig. 2). Dark brown, matte, with very fine microgranulation, sparse punctuation, punctures small with short, pale setae. Punctures distinctly smaller than those in basal part of head, interspaces between punctures wide. PL 1.51 mm; PW 1.68 mm; PI equal to 89.88. Widest near half of lateral margins. Border lines complete and narrow. Lateral margins straight in basal half, slightly arcuate in apical half, base bisinuate. Anterior margin slightly excised. Posterior and anterior angles obtuse. Base with two, small, oblique, shallow furrows.

Ventral side of body dark brown. Prothorax with punctures, sparse, short, pale setae and rugosities. Mesothorax and reddish brown metathorax with small punctuation and pale setation. Abdomen from reddish brown to brown, slightly shiny, with pale setation, dense, small punctuation and fine microgranulation. Ultimate ventrite distinctly paler - pale brown.

Elytron. Brown, elongate, slightly oval, at base slightly wider than pronotum at base, dorsal surface matte, with short pale setae in punctures. Elytral striae with distinct rows of medium-sized punctures, diameter of punctures distinctly wider than those in head or in pronotum. Elytral intervals with fine microgranulation, without punctures, without setae. EL 5.21 mm; EW 2.50 mm. EL/EW 2.08.

Scutellum brown as elytron itself, roundly triangular, with fine microgranulation and a few small punctures and short, pale setae.

Elytral epipleura. Well developed, brown as elytron itself, widest in base, with one row of medium-sized punctures in basal half, regularly narrowing to ventrite 1, then relatively wide, leading parallel.



Figs. 1-5: *Fifina romani* sp. nov. (holotype): 1- habitus; 2- head and pronotum; 3- antenna; 4- aedeagus, dorsal view; 5- aedeagus, lateral view.

Legs pale reddish brown, narrow, long, with microgranulation and small punctuation, tibia and strong femora with short and sparse pale setation, tarsi with longer and denser pale setation. Protarsomeres and mesotarsomes 3 and 4 and metatarsomeres 3 distinctly widened and lobed. Tarsi and tarsal claws ochre yellow. RLT: 1.00 : 0.58 : 0.58 : 0.75 : 1.25 (protarsus); 1.00 : 0.51 : 0.49 : 0.50 : 0.87 (mesotarsus); 1.00 : 0.36 : 0.27 : 0.43 (metatarsus).

Anterior tarsal claws with 5 and 6 visible teeth.

Aedeagus (Figs. 4, 5). Ochre yellow, slightly shiny. Basal piece strongly rounded laterally and slightly narrowing dorsally. Apical piece short, triangular dorsally, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 5.33.

Female. Unknown.

Differential diagnosis. *Fifina romani* sp. nov. from Laos (Phu Pane Mt.) distinctly differs from the second species *Fifina stanislavi* sp. nov. from China (Yunnan) mainly by shape of pronotum (as in Fig. 2), which is the widest at half of lateral margins, by punctuation of pronotum sparse (sparser than in *F. stanislavi*), by elytral intervals without punctures and by clypeus in apex narrowly blackish brown; while *F. stanislavi* has shape of pronotum as in Fig. 7, widest near two thirds of lateral margins from base to apex, and punctuation of pronotum is dense (denser than in *F. romani*), elytral intervals have sparse, very small and very shallow, but distinct punctures and clypeus is all reddish brown.

Etymology. Dedicated to the collector of type species - Roman Hergovits (Bratislava, Slovakia) - my friend and expert in the beetle family Cerambycidae; after his first name.

Distribution. Laos.

***Fifina stanislavi* sp. nov.**

(Figs. 6-10)

Type locality. China, Yunnan province, Heishu, 35 km north of Lijiang, 27°13'N, 100°19'E.

Type material. Holotype (♂): wl: China Yunnan 1.-19.VII. / HEISHU 27.13N 100.19S / 35 km N of Lijiang / legit. S. Bečvář [pb], (VNPC). The holotype is provided with a printed red label: 'Fifina / stanislavi sp. nov. / HOLOTYPUS / V. Novák det. 2018'.

Description of holotype. Habitus as in Fig. 6, body small, narrow, elongate, slightly oval, from pale brown to black, dorsal surface with very sparse and short pale setae (visible only in high magnification), with punctuation and microgranulation, rather matte. BL 9.16 mm. Widest near three fifth elytra length, BL/EW 2.96.

Head (Fig. 7) large and wide, transverse, slightly wider than long, dorsal surface with dense punctuation, punctures medium sized, distinctly larger than those in pronotum, coarse in blackish brown posterior half, shallower in apical half. Interspaces between punctures very narrow, distinctly narrower than diameter of punctures, with fine microgranulation, slightly shiny. Reddish brown anterior part and pale reddish brown clypeus with long pale setae. Clypeus with very shallow punctuation and distinct microgranulation, anterior margin straight. HL (visible part) 1.25 mm; HW 1.68 mm; HW/PW 0.88. Eyes large, transverse, distinctly excised, space between eyes narrow, but wider than diameter of one eye, distinctly narrower than length of antennomere 3, wider than length of antennomere 1; OI equal to 43.80.

Antenna (Fig. 8). Long, antennomeres relatively narrow, filiform, pale reddish brown with longer, pale setation, shallow punctures and microgranulation, AL(1-8) 4.53 mm; AL(1-8)/BL 0.50. Antennomere 2 shortest, antennomere 4 longest, each of antennomeres 5-8 distinctly shorter than antennomere 3.

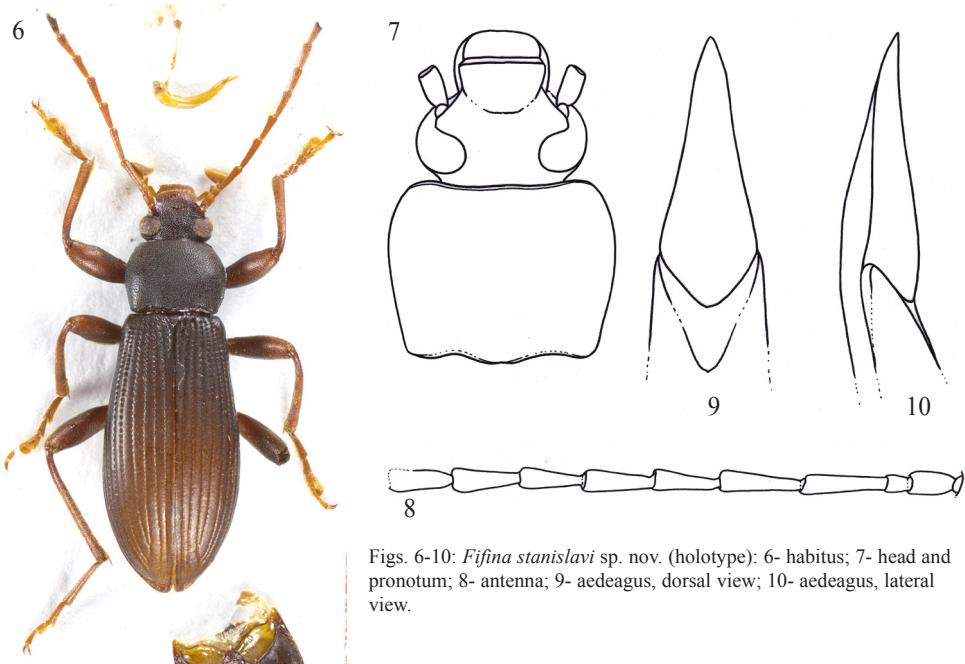
RLA (1-8): 0.57 : 0.32 : 1.00 : 1.11 : 0.92 : 0.92 : 0.88 : 0.88.

RL/WA (1-8): 2.07 : 1.33 : 3.86 : 4.47 : 3.43 : 3.43 : 3.54 : 3.54.

Maxillary palpus ochre yellow, with pale setation, very fine microgranulation and shallow punctuation, punctures very small. Penultimate palpomere and palpomere 2 distinctly narrowest at base and widest in apex, here with long pale setae. Ultimate palpomere slightly darker, large, longly triangular, shoe-shaped.

Pronotum (Fig. 7). Black, matte, with very fine microgranulation, dense punctuation, punctures small with very sparse, short, pale setae. Punctures distinctly smaller than those in posterior part of head, interspaces between punctures slightly wider than diameter of punctures. PL 1.58 mm; PW 1.82 mm; PI equal to 82.29. Widest near two thirds from base to apex. Border lines complete and narrow. Lateral margins straight in basal half, slightly arcuate near middle and then narrowing apically, base bisinuate. Anterior margin almost straight. Posterior and anterior angles roundly obtuse. Base with two, small, oblique, shallow furrows.

Ventral side of body dark brown, with sparse and short punctures and with pale setae.



Figs. 6-10: *Fifina stanislavi* sp. nov. (holotype): 6- habitus; 7- head and pronotum; 8- antenna; 9- aedeagus, dorsal view; 10- aedeagus, lateral view.

Prothorax with rugosities and punctures larger and coarser than those in mesothorax and metathorax. Abdomen dark brown, slightly shiny, with pale setation, dense, small punctuation, fine microgranulation and microrugosities. Ultimate ventrite distinctly paler - pale brown.

Elytron. Dark brown, elongate, slightly oval, at base slightly wider than pronotum at base, dorsal surface matte, with short pale setae in punctures. Elytral striae with distinct rows of medium-sized punctures, diameter of punctures distinctly wider than those in pronotum. Elytral intervals with fine microgranulation, with very small and very sparse, shallow punctures. EL 6.33 mm; EW 3.09 mm. EL/EW 2.05.

Scutellum dark brown as elytron itself, roundly triangular, with punctuation, sides and interspaces shiny.

Elytral epipleura. Well developed, dark brown as elytron itself, widest at base, with one row of medium-sized punctures in basal half, regularly narrowing to ventrite 1, then relatively wide, leading parallel.

Legs reddish brown, narrow, long, with microgranulation and small punctuation, femora with sparse and short, tibia with dense and dense, tarsi with long and dense, pale setation. Protarsomeres and mesotarsomes 3 and 4 and metatarsomeres 3 distinctly widened and lobed. Tarsi and tarsal claws pale brown. RLT: 1.00 : 0.66 : 0.82 : 0.70 : 1.30 (protarsus); 1.00 : 0.53 : 0.46 : 0.54 : 0.90 (mesotarsus); 1.00 : 0.40 : 0.29 : 0.52 (metatarsus).

Anterior tarsal claws with 6 visible teeth.

Aedeagus (Figs. 9, 10). Ochre yellow, slightly shiny. Basal piece strongly rounded laterally and slightly narrowing dorsally. Apical piece short, triangular dorsally, beak-shaped

dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 4.44.

Female. Unknown.

Differential diagnosis. *Fifina stanislavi* sp. nov. from China (Yunnan) distinctly differs from the second species *Fifina romani* sp. nov. from Laos (Phu Pane Mt.) mainly by its shape of pronotum (as in Fig. 7), widest near two thirds of lateral margins from base to apex, by punctuation of pronotum dense (denser than in *F. romani*), by elytral intervals with sparse, very small and very shallow, but distinct punctures and clypeus completely reddish brown; while *F. romani* has pronotum as in Fig. 2, which is the widest at middle of lateral margins, punctuation of pronotum is sparse (sparser than in *F. stanislavi*), elytral intervals have no punctures and clypeus is in apex narrowly blackish brown.

Etymology. Dedicated to the collector of type species - Stanislav Bečvář (České Budějovice, Czech Republic) - my friend and expert in the beetle family Tenebrionidae; after his first name.

Distribution. China (Yunnan).

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