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New genera of Alleculinae (Coleoptera: Tenebrionidae) from Palaearctic and Oriental Regions. Part X - *Spinecula* gen. nov.

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Abstract. A new genus of Alleculini Laporte, 1840 - *Spinecula* gen. nov. is described to include the following new species: *Spinecula attapeuica* sp. nov. and *Spinecula houaphanica* sp. nov. (as a type species) from Laos, *Spinecula doisuthepica* sp. nov. from Thailand, *Spinecula cechovskyi* sp. nov. from Malaysia and *Spinecula weigeli* sp. nov. from China (Yunnan). Species transferred from the genus *Allecula* Fabricius, 1801 are as follows: *Spinecula aenea* (Pic, 1914) comb. nov., *Spinecula angustatissima* (Pic, 1930) comb. nov., *Spinecula elongatissima* (Pic, 1926) comb. nov. and *Spinecula jeanvoinei* (Pic, 1927) comb. nov. A redescription of *Spinecula angustatissima* (Pic, 1930) comb. nov. is added.

INTRODUCTION

The genus *Allecula* was introduced by Fabricius (1801) for *Allecula morio* (Fabricius 1787), originally described in the suppressed *Cistela* Geoffroy, 1762. Species of this genus have a worldwide distribution. More than 500 species occur in all the zoogeographical regions except for the Australian Region (Novák 2014), Novák & Pettersson (2008) listed 65 species from the Palaearctic Region and large diversity is found in the Oriental Region. New species of *Allecula* were described by Novák et al. (2011, 2012), Novák (2016, 2017a, b), Akita & Masumoto (2012, 2015) and Masumoto et al. (2017).

The new genus *Spinecula* gen. nov. is described to include the new species *Spinecula attapeuica* sp. nov. from Laos (Attapeu province), *Spinecula cechovskyi* sp. nov. from Malaysia, *Spinecula doisuthepica* sp. nov. from Thailand (Chiang Mai province), *Spinecula houaphanica* sp. nov. from Laos (Houa Phan province) as a type species and *Spinecula weigeli* sp. nov. from China (Yunnan). The species *Spinecula aenea* (Pic, 1914) comb. nov. from Vietnam (Tonkin), *Spinecula angustatissima* (Pic, 1930) comb. nov. from China (Yunnan), *Spinecula elongatissima* (Pic, 1926) comb. nov. from China (Yunnan) and Indochina and *Spinecula jeanvoinei* (Pic, 1927) comb. nov. from Vietnam (Tonkin) are transferred from the genus *Allecula*. A redescription of *S. angustatissima* is added.

Species of the genus *Spinecula* gen. nov. clearly differ from closest genus *Allecula* mainly by very narrow, elongate body (BL/EW in range 3.6-4.1), by very narrow pronotum (PI in range 83-93), by space between eyes narrower than diameter of one eye, by anterior tarsal claws in males with more than 20 teeth, by ultimate ventrite with large shallow depression and mainly by ultimate palpomere triangular and protibiae of males with distinct spine in

middle of inner side. Species of *Allecula* have almost shorter body and wider pronotum, space between eyes is usually wider than diameter of one eye, anterior tarsal claws have only a few teeth, ultimate palpomere is shoe-shaped and males have no spin in inner side of anterior tibiae.

New species are described, illustrated and keyed.

MATERIAL AND METHODS

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

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

The following collection codes is used:

DHBC David Hauck, private collection, Brno, Czech Republic;
ERMI Enrico Ruzier, private collection, Mirano, Italy;
KMTJ Kimio Masumoto, private collection, Tokio, Japan;
MNHN Muséum National d´Histoire naturelle, Paris, France;
NHMB Naturhistorisches Museum, Basel, Switzerland;
NMEG Naturkundemuseum, Erfurt, Germany;
NMPC National Museum, Praha, Czech Republic;
NMTJ National Museum, Tokio, Japan;
SMNS Staatliches Museum für Naturkunde, Stuttgart, Germany;
VNPC Vladimír Novák, private collection, Praha, Czech Republic.

Measurements of body parts and corresponding abbreviations used in text are as follows: AL - total antennae length, BL - maximum body length, EL - maximum elytral length, EW - maximum elytral width, HL - maximum length of head (visible part), HW - maximum width of head, OI - ocular index dorsally, PI - pronotal index dorsally, PL - maximum pronotal length, PW - pronotal width at base, RLA - ratios of relative lengths of antennomeres 1-11 from base to apex (3=1.00), RL/WA - ratios of length / maximum width of antennomeres 1-11 from base to apex, RLT - ratios of relative lengths of tarsomeres 1-5 respectively 1-4 from base to apex (1=1.00).

Other abbreviations are used: bf= black frame; bh= blue handwritten, hb= handwritten black; pb= printed black; pl= pink label; rl= red label; 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

Genus *Spinecula* gen. nov.

Type species: *Spinecula houaphanica* sp. nov.

Description. Habitus as in Figs. 1, 6, 11, 16, 21 and 26, body narrow, elongate, parallel, dorsal surface with long, pale setation, fine microgranulation and punctuation, BL in range 8-13 mm. Widest in elytral half or in humeral part of elytra; BL/EW in range 3.6-4.1. Head (Figs. 2, 7, 12, 17, 22 and 27) relatively large, slightly longer than wide, distinctly wider than anterior part of pronotum, almost with punctuation, microgranulation and pale setation. Clypeus with microgranulation or microrugosities and small, shallow punctures, slightly excised in the middle of apex. Mandibles shiny and glabrous dorsally with sides and apex almost darker than dorsal surface, with a few long, pale setae in sides. HW/PW in range 0.75-0.82. Eyes very large, transverse, distinctly excised, space between eyes narrow, distinctly narrower than diameter of one eye; distinctly wider than length of antennomere 2, approximately as wide as length of antennomere 1; OI in range 21-33. Antenna long, distinctly exceeding half body length (AL/BL in range 0.72-0.92), antennomeres narrow, with pale setation, fine microgranulation and small punctures. Antennomere 2 shortest, antennomeres 4-11 longer than antennomere 3; RL/WA (4-11) in range 5.0-9.2. Ultimate antennomere widest before apex. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere triangular. Pronotum (Figs. 2, 7, 12, 17, 22 and 27) slightly convex, narrow, distinctly narrower than base of elytra. Dorsal surface with pale setation, very fine microgranulation and punctuation. Border lines very narrow, lateral margins in posterior half almost straight, parallel, in anterior part narrowing or slightly arcuate. Base bisinuate, anterior margin finely arcuate. Posterior angles slightly obtuse. PI in range 83-93. Elytra long, narrow, elongate, parallel, with pale setation, almost near sides and in apical half denser than in the middle or in humeral part. EL/EW in range 2.4-2.9. Elytral striae with distinct rows of punctures. Elytral intervals slightly convex. Elytral epipleura well-developed, with pale setae and punctures in basal part distinctly narrowing to metaventrite, then narrow and parallel. Legs with very small punctures, pale setation, almost with fine microgranulation. Tibiae narrow and long, slightly dilated anteriorly, protibiae with distinct spine in the middle of inner side (as in Figs. 3, 8, 13, 18, 23 and 28). Femora strong, pro- and mesotarsomeres 3, 4 and metatarsomere 3 distinctly wider and lobed. Anterior tarsal claws with more than 20 visible teeth. Ventral side of body almost with pale setation and punctuation. Abdomen with pale setation, sparse, small punctures and fine microgranulation. Ultimate ventrite with large, shallow impression in middle. Aedeagus almost beak-shaped dorsally and laterally as in Figs. 4, 5, 9, 10, 14, 15, 19, 20, 24, 25 and 29, 30.

Females. Have slightly wider body and slightly wider space between eyes than in males. Protibiae are without spines and teeth of anterior tarsal claws are less numerous.

Differential diagnosis. Species of new genus *Spinecula* gen. nov. are similar to those of the genus *Allecula* Fabricius, 1801.

Species of genus *Spinecula* gen. nov. clearly differ from species of the closest genus *Allecula* mainly by very narrow, elongate body (as in Figs. 1, 6, 11, 16, 21 and 26; BL/EW in range 3.6-4.1), by very narrow pronotum (as in Figs. 2, 7, 12, 17, 22 and 27; PI in range 83-93), by space between eyes narrower than diameter of one eye, by anterior tarsal claws in males with more than 20 teeth, by ultimate ventrite with large shallow depression and mainly by ultimate palpomere triangular and protibiae of males with distinct spine in middle of inner side (as in Figs. 3, 8, 13, 18, 23 and 28). Species of *Allecula* have almost shorter body and wider pronotum than *Spinecula* species, space between eyes is usually wider than diameter of one eye, anterior tarsal claws have only a few teeth, ultimate palpomere is shoe-shaped and males have no spine in inner side of anterior tibiae.

Etymology. The name *Spinecula* is taken from "Spine" present on inner side of anterior tibia of males and ending "cula" marking its similarity to the genus *Allecula* Fabricius, 1801. Gender: feminine.

Distribution. China (Yunnan), Laos, Malaysia, Thailand and Vietnam.

KEY TO THE SPECIES OF *SPINECULA* GEN. NOV.

A(B) Space between eyes wider than diameter of one eye, ultimate palpomere shoe-shaped, anterior tarsal claws with a few teeth, protibiae of male without spin. ..... *Allecula* Fabricius, 1801

B(A) Space between eyes narrower than diameter of one eye, ultimate palpomere triangular, anterior tarsal claws of male with more than 20 teeth, protibiae of male with distinct spine. ..... *Spinecula* gen. nov. 1

1(2) Dorsal surface goldenish green, with metallic lustre; species from Vietnam (Tonkin). ..... *Spinecula aenea* (Pic, 1914) comb. nov.; *Spinecula jeanvoinei* (Pic, 1927) comb. nov.

2(1) Dorsal surface matte or shiny, then yellow or dark or reddish brown. 3

3(4) Dorsal surface matte or partly matte, pronotum with very small punctures. 5

4(3) Dorsal surface shiny, pronotum with relatively large punctures. 11

5(6) Pronotum matte, elytra slightly shiny. 7

6(5) Pronotum and elytra shiny. 9

7(8) Body narrower, elytra without metallic lustre, punctuation of elytra shallow. Habitus as in Fig. 1, head and pronotum (Fig. 2), protibia (Fig. 3), aedeagus (Figs. 4 and 5). China (Yunnan). ..... *Spinecula angustatissima* (Pic, 1930) comb. nov.

8(7) Body slightly wider, elytra with metallic lustre, punctuation of elytra coarse. ..... *Spinecula elongatissima* (Pic, 1926) comb. nov.

9(10) Dorsal surface unicolored brown. Antennomeres 4-10 only slightly longer than antennomere 3 (1.03-1.19). Habitus as in Fig. 11, head and pronotum (Fig. 12), protibia (Fig. 13), aedeagus (Figs. 14 and 15). Malaysia. ..... *Spinecula cechovskyi* sp. nov.

10(9) Dorsal surface bicolour (ochre yellow and brown). Antennomeres 4-10 distinctly longer than antennomere 3 (1.53-1.78). Habitus as in Fig. 6, head and pronotum (Fig. 7), protibia (Fig. 8), aedeagus (Figs. 9 and 10). Laos (Attapeu province). ..... *Spinecula attapeuica* sp. nov.

11(12) Pronotum reddish brown, elytra ochre yellow. Body wider and shorter (BL/EW equal to 3.65). Penultimate ventrite without impression. Habitus as in Fig. 26, head and pronotum (Fig. 27), protibia (Fig. 28), aedeagus (Figs. 29 and 30). China (Yunnan). ..... *Spinecula weigeli* sp. nov.

12(11) Pronotum and elytra of same colour. Body narrower and longer (BL/EW more then 4). Penultimate ventrite with impression. 13

13(14) Body almost dark with green metallic lustre. Pronotum with distinct longitudinal and shallow impression in middle of anterior part, punctuation of pronotum sparser (intervals between punctures wider than diameter of punctures). Habitus as in Fig. 21, head and pronotum (Fig. 22), protibia (Fig. 23), aedeagus (Figs. 24 and 25). Thailand (Houa Phan). ..... *Spinecula houaphanica* sp. nov.

14(13) Body almost reddish brown. Pronotum without distinct longitudinal, shallow impression in middle of anterior part, punctuation of pronotum denser (intervals between punctures narrower than diameter of punctures). Habitus as in Fig. 16, head and pronotum (Fig. 17), protibia (Fig. 18), aedeagus (Figs. 19 and 20). Thailand (Chiang Mai). ..... *Spinecula doisuthepica* sp. nov.

Spinecula aenea (Pic, 1914) comb. nov.

Allecula aenea Pic, 1914: 17.

Type locality. Northern Vietnam, Tonkin, Lao Kay.

Type material. Holotype (♂): wl: Lao Kay / Tonkin [hb] // yl: type [hb] // rl: TYPE“ [pb] // wl: Allecula / aenea Pic [hb], (MNHN).

Remark. Body narrow, parallel, elongate, dorsal surface with goldenish green metallic lustre. Protibiae of male with distinct spine in the middle of inner side. Species distinctly belonging to newly established genus *Spinecula* gen. nov.

Distribution. Vietnam (Tonkin).

Spinecula angustatissima (Pic, 1930) comb. nov.
(Figs. 1-5)

Allecula angustatissima Pic, 1930: 29.

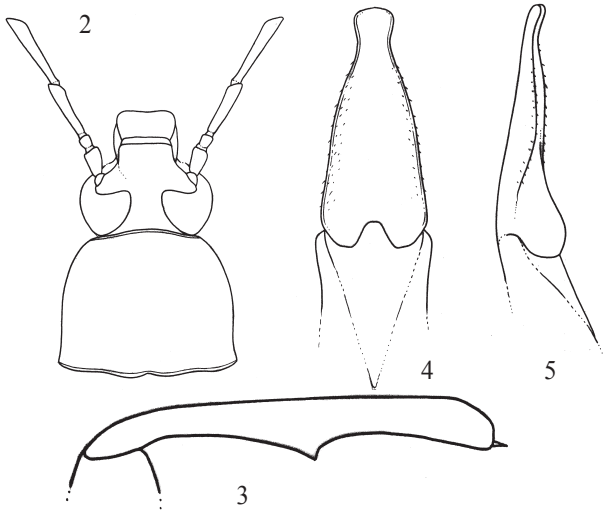
Type locality. China, Yunnan province, Fou.

Type material. Holotype (♂): wl: Yunnan / fou [hb] // pl: type [hb] // rl: TYPE [pb] // wl: Allecula / angustatissima / n sp [hb], (MNHN).

Material examined. (1 ♂): CHINA: Yunnan / KUNMING (Western / Hills) , 9.VII.1990 / L. &M. Bocák lgt., (VNPC).

Redescription. Habitus as in Fig. 1, body narrow, elongate, parallel, from pale reddish brown to brown, partly shiny, partly matte, dorsal surface with pale setation, punctuation and microgranulation, BL 11.12 mm. Widest near middle of elytra length; BL/EW 4.10.

Head (Fig. 2) relatively large, distinctly longer than wide, wider than anterior part of pronotum, with microgranulation, slightly shiny. Posterior part with shallow punctuation, punctures between eyes and insertion of antennae distinctly larger and coarser than those behind eyes. Anterior part with long, pale setae, larger punctures than those in posterior part behind eyes. Clypeus pale brown with pale setae, microrugosities and small, shallow punctures, slightly excised in the middle of apex, shiny. Mandibles pale brown, slightly darker than clypeus, shiny with a few long, pale setae in sides. HW 1.46 mm; HW/PW 0.75; HL (visible part) 1.67 mm. Eyes very large, transverse, distinctly excised, space between eyes narrow, distinctly narrower than diameter of one eye; slightly wider than length of antennomere 2; OI equal to 24.62.



Figs. 1-5: *Spinecula angustatissima* (Pic, 1930) comb. nov.: 1- Habitus; 2- head and pronotum; 3- protibia; 4- aedeagus, dorsal view; 5- aedeagus, lateral view.

Antenna long, slightly exceeding three quarters body length (AL 8.94 mm; AL/BL 0.80), antennomeres narrow, filiform, with short and dense, recumbent, pale setation, small punctures and microgranulation. Antennomeres 1-3 pale brown, slightly shiny, antennomeres 4-11 brown, matte. Antennomere 2 shortest, antennomere 4 longest, antennomeres 4-11 distinctly longer than antennomere 3. RLA (1-11): 0.54 : 0.26 : 1.00 : 1.47 : 1.36 : 1.39 : 1.39 : 1.44 : 1.29 : 1.30 : 1.23. RL/WA (1-11): 2.13 : 1.44 : 5.04 : 6.17 : 6.33 : 6.48 : 6.73 : 6.96 : 6.75 : 7.46 : 6.74.

Maxillary palpus pale brown with pale setation and fine microgranulation. Palpomeres 2 and 3 distinctly narrowest in base and widest in apex, ultimate palpomere distinctly darker than penultimate, broadly triangular.

Pronotum (Fig. 2) reddish brown, narrow, distinctly narrower than base of elytra. Dorsal surface with pale setation, fine microgranulation and shallow punctuation, punctures very small. Intervals between punctures very wide. PL 1.62 mm; PW 1.95 mm; PI equal to 83.08. Border lines very narrow, complete, only in the middle of anterior margin not clearly conspicuous. Lateral margins finely arcuate, slightly excised before posterior angles. Base slightly bisinuate, anterior margin finely arcuate. Posterior angles slightly obtuse, anterior angles indistinct.

Elytra narrow, elongate, parallel, with long, pale setation. Posterior part and apex brown, distinctly darker than pale brown anterior part, EL 7.83 mm; EW 2.71 mm; EL/EW 2.89. Elytral striae with rows of small punctures distinctly larger than those in pronotum. Elytral intervals slightly convex, with fine microgranulation and sparse, small punctures distinctly smaller than those in rows in elytral striae. Scutellum semielliptical, pale reddish brown, with microgranulation and pale setae, slightly shiny. Elytral epipleura well-developed, pale

brown, with pale setation and punctures approximately as large as those in rows of elytra, widest near base, distinctly narrowing to metaventrite, then parallel. Legs pale reddish brown, thin and long, with fine microgranulation and pale setation. Femora strong. Pro- and mesotibiae slightly bent in anterior half, protibiae with distinct spin in the middle of inner side (as in Fig. 3). Pro- and mesotarsomeres 3, 4 and metatarsomere 3 distinctly wider and lobed. RLT: 1.00 : 0.68 : 0.97 : 1.21 : 2.04 (protarsus), 1.00 : 0.68 : 0.71 : 0.94 : 0.98 (mesotarsus), 1.00 : 0.59 : 0.27 : 0.83 (metatarsus). Anterior tarsal claws with 22 visible teeth. Ventral side of body reddish brown with pale setation and very small punctures. Abdomen brown with pale setation, fine microgranulation and dense punctuation. Punctures very small. Ultimate ventrite V-shaped in apex with large, shallow impression in middle.

Aedeagus (Figs. 4, 5) rather matte. Basal piece slightly rounded laterally and slightly narrowing in dorsal view. Apical piece beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 4.03.

Remark. Species with narrow, elongate body (as in Fig. 1), narrow pronotum (Fig. 2) and male with distinct spin in the middle of inner part of protibiae (as in Fig. 3) distinctly belonging to the genus *Spinecula* gen. nov.

Distribution. China (Yunnan).

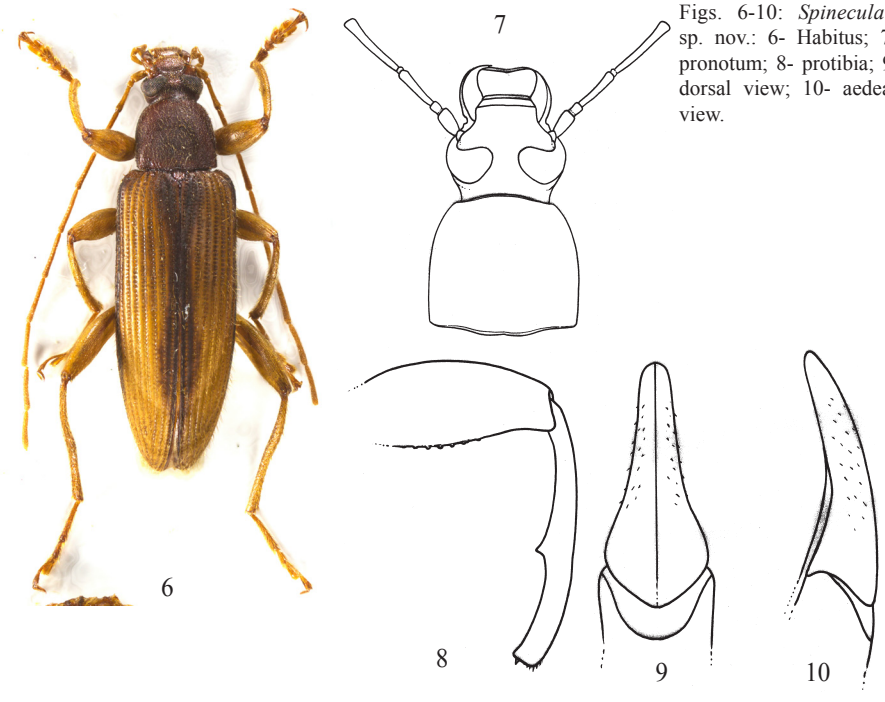
Spinecula attapeuica sp. nov.
(Figs. 6-10)

Type locality. Laos, Attapeu province, Thong Kai Ohk, Ban Katchung (Mai) env., 15°01-02´N, 107°26-27´E 1200-1450 m.

Type material. Holotype: (♂): LAOS, Attapeu prov., Thong / Kai Ohk, Ban Katchung (Mai) / env., 1200-1450m, 15°01-02´N / 107°26-27´E; 10.-24.vi.2011 // NHMB Basel / Laos 2011 Expedition: M. Brancuccii, M. Geiser, / D. Hauck, Z. Kraus, A. / Phantala & E. Vongphachan, (NHMB). Paratypes: (2 ♂♂, 4 ♀♀): same data as holotype, (DHBC, NHMB, VNPC). The types are provided with a printed red label: 'Spinecula / attapeuica sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2019'.

Description of holotype. Habitus as in Fig. 6, body narrow, elongate, parallel, from ochre yellow to blackish brown, rather matte, dorsal surface with pale setation, punctuation and microgranulation, BL 9.39 mm. Widest near middle of elytra length; BL/EW 3.61.

Head (Fig. 7) relatively large, slightly longer than wide, as wide as anterior part of pronotum, with microgranulation inside punctures, rather matte. Posterior part dark reddish brown, with dense punctuation, punctures between eyes and insertion of antennae distinctly larger and coarser than those behind eyes. Dorsal surface with long, pale setae, distinctly sparser than on anterior part and clypeus. Anterior part reddish brown, clypeus pale brown with microgranulation and small, shallow punctures, slightly excised in middle of apex, slightly shiny. Mandibles pale brown, distinctly darker than clypeus, shiny with a few long, pale setae in sides. HW 1.34 mm; HW/PW 0.78; HL (visible part) 1.47 mm. Eyes very large, transverse, distinctly excised, space between eyes narrow, distinctly narrower than diameter of one eye; distinctly wider than length of antennomere 2; OI equal to 25.86.



Figs. 6-10: *Spinecula attapeuica* sp. nov.: 6- Habitus; 7- head and pronotum; 8- protibia; 9- aedeagus, dorsal view; 10- aedeagus, lateral view.

Antenna. Long, ochre yellow, antennomeres narrow, filiform, with relatively long and dense, semierect, pale setation, punctuation and very fine microgranulation, rather matte. Antennomeres 1-3 slightly shiny. AL 8.59 mm; AL/BL 0.92. Antennomere 2 shortest, antennomere 7 longest, antennomeres 4-11 distinctly longer than antennomere 3.
RLA (1-11): 0.60 : 0.21 : 1.00 : 1.55 : 1.66 : 1.70 : 1.78 : 1.74 : 1.60 : 1.53 : 1.55.
RL/WA (1-11): 2.31 : 1.11 : 5.00 : 8.16 : 8.74 : 8.10 : 8.48 : 9.16 : 8.42 : 7.65 : 7.75.

Maxillary palpus ochre yellow with long, pale setation and fine microgranulation and dense punctuation, punctures very small. Palpomeres 2 and 3 distinctly narrowest in base and widest in apex, ultimate palpomere triangular.

Pronotum (Fig. 7) reddish brown, narrow, distinctly narrower than base of elytra. Dorsal surface with pale setation, fine microgranulation and dense and shallow punctuation, punctures very small. Intervals between punctures distinctly wider than diameter of punctures. PL 1.55 mm; PW 1.71 mm; PI equal to 90.64. Border lines very narrow, complete, only in the middle of anterior margin not clearly conspicuous. Lateral margins in posterior half straight, parallel, in anterior part slightly arcuate. Base slightly bisinuate, anterior margin finely arcuate. Posterior and anterior angles distinct, slightly obtuse.

Elytra. Bicolour, ochre yellow with dark brown suture and near lateral margins (as in Fig. 6), narrow, elongate, parallel, with long, pale setation. EL 6.37 mm; EW 2.60 mm; EL/EW 2.45. Elytral striae with rows of punctures distinctly larger than those in pronotum. Intervals between punctures in rows very narrow, distinctly narrower than diameter of punctures. Elytral intervals slightly convex, with fine microgranulation.

Scutellum. Pale brown with sides dark brown, pentagonal, with microgranulation, slightly shiny.

Elytral epipleura well-developed, pale brown, with pale setation and punctures approximately as large as those in rows of elytra, widest near base, distinctly narrowing to ventrite 1, then parallel.

Legs. Ochre yellow, thin and long, with fine microgranulation, long, pale setation and shallow punctuation, punctures very small. Femora strong. Tibiae with erect setation, pro- and mesotibiae slightly bent, metatibiae bent in posterior part, protibiae with distinct spin in the middle of inner side (as in Fig. 8). Pro- and mesotarsomeres 3, 4 and metatarsomere 3 distinctly wider and lobed. RLT: 1.00 : 0.51 : 0.78 : 1.07 : 1.52 (protarsus), 1.00 : 0.44 : 0.49 : 0.61 : 0.86 (mesotarsus), 1.00 : 0.42 : 0.49 : 0.73 (metatarsus).

Anterior tarsal claws with 26 and 28 visible teeth.

Ventral side of body reddish brown. Prothorax with dense, pale setation and dense punctuation, punctures very small. Meso- and metaventrite with sparse pale setation and punctures distinctly larger than those in prothorax. Abdomen brown with pale setation, fine microgranulation and dense punctuation. Punctures very small. Ultimate ventrite with large, shallow impression in middle.

Aedeagus (Figs. 9, 10) ochre yellow. Basal piece rounded laterally, narrowing in dorsal view. Apical piece triangular dorsally, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 3.93.

Female. Body and space between eyes slightly wider than in male. Protibiae without spines, anterior tarsal claws have only 12 teeth.

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n= 3). BL 9.05 mm (8.59-9.39 mm); HL 1.46 mm (1.44-1.47 mm); HW 1.33 mm (1.31-1.34 mm); OI 24.42 (23.53-25.86); PL 1.55 mm (1.47-1.62 mm); PW 1.71 mm (1.63-1.78 mm); PI 90.61 (90.18-91.01); EL 6.05 mm (5.68-6.37 mm); EW 2.49 mm (2.33-2.60 mm). Females (n= 4). BL 9.22 mm (8.36-10.03 mm); HL 1.45 mm (1.25-1.61 mm); HW 1.32 mm (1.12-1.46 mm); OI 35.81 (33.49-38.15); PL 1.48 mm (1.39-1.62 mm); PW 1.78 mm (1.71-1.98 mm); PI 83.22 (80.81-87.79); EL 6.28 mm (5.74-6.80 mm); EW 2.72 mm (2.55-2.94 mm)

Differential diagnosis. *Spinecula attapeuica* sp. nov. clearly differs from the species *Spinecula aenea* (Pic, 1914) comb. nov., *Spinecula angustatissima* (Pic, 1930) comb. nov., *Spinecula doisuthepica* sp. nov., *Spinecula elongatissima* (Pic, 1926) comb. nov., *Spinecula houaphanica* sp. nov., *Spinecula jeanvoinei* (Pic, 1927) comb. nov. and *Spinecula weigeli* sp. nov. mainly by dorsal surface matte and pronotum with very small punctures; while *S. aenea*, *S. angustatissima*, *S. doisuthepica*, *S. elongatissima*, *S. houaphanica*, *S. jeanvoinei* and *S. weigeli* have dorsal surface shiny or partly shiny and pronotum with medium-sized punctures. *S. attapeuica* is distinctly different from similar species *Spinecula cechovskyi* sp. nov. mainly by dorsal surface bicolour (ochre yellow and brown) and antennomeres 4-10 distinctly longer than antennomere 3 (1.53-1.78); while *S. cechovskyi* has dorsal surface unicolored brown and antennomeres 4-10 are only slightly longer than antennomere 3 (1.03-1.19).

S. attapeuica clearly differs from the species *Spinecula angustatissima* (Pic, 1930) comb. nov. and *Spinecula elongatissima* (Pic, 1926) comb. nov. mainly by dorsal surface of elytra bicolour, matte and body slightly wider and shorter (BL/EW equal to 3.61) than those in *S. angustatissima* and *S. elongatissima* (BL/EW more than 4) with elytra unicolored and shiny.

Etymology. Named after the type locality - Attapeu province in Laos.

Distribution. Laos (Attapeu province).

Spinecula cechovskyi sp. nov.
(Figs. 11-15)

Type locality. Western Malaysia, Kelantan province, 90 km northern of Gua Musang, Mt. Basor, Kampong Kubur Datu, 1700 m.

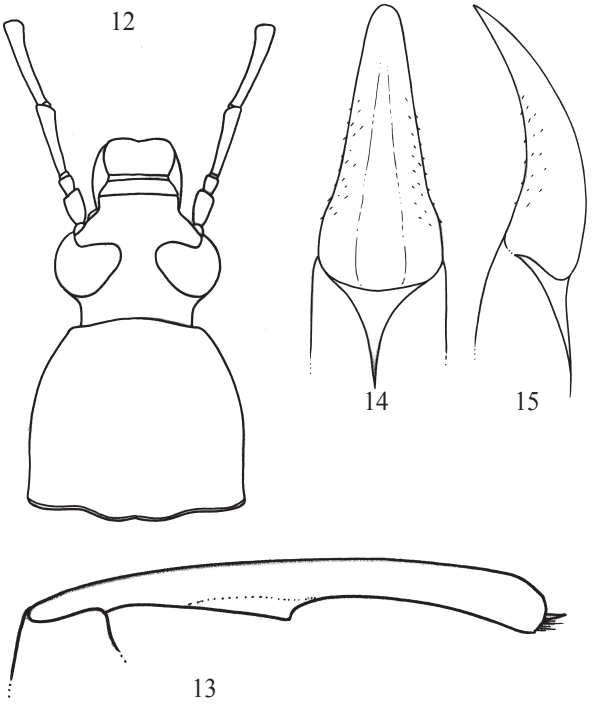
Type material. Holotype: (♂): MALAYSIA W., KELANTAN / 90 km N of Gua Musang / Mt. Basor, 1700 m / Kampong Kubur Datu / 1.iii.-21.iii.2015 / Petr Čechovský lgt., (VNPC). Paratypes: (6 ♀♀): MALAYSIA West, PAHANG / Cameron Highlands, / TANAH RATA, 3.-19.ii.2005 / P. Čechovský lgt. 1200-1500 m, (VNPC). The types are provided with a printed red label: 'Spinecula / cechovskyi sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2019'.

Description of holotype. Habitus as in Fig. 11, body narrow, elongate, parallel, brown, rather matte, dorsal surface with pale setation, punctuation and microgranulation, BL 11.32 mm. Widest near middle of elytra length; BL/EW 3.75.

Head (Fig. 12) relatively large, slightly longer than wide, slightly wider than anterior part of pronotum, with dense punctuation and microgranulation between punctures, rather matte. Posterior part dark brown, distinctly darker than reddish brown anterior part and clypeus. Dorsal surface with long, pale, recumbent setation. Clypeus with microgranulation and small, shallow punctures, slightly excised in the midlle of apex, slightly shiny. Mandibles brown, distinctly darker than clypeus, glabrous dorsally, shiny with a few long, pale setae in sides. HW 1.59 mm; HW/PW 0.76; HL (visible part) 1.71 mm. Eyes very large, transverse, distinctly excised, space between eyes narrow, distinctly narrower than diameter of one eye; distinctly wider than length of antennomere 2, approximately as wide as length of antennomere 1; OI equal to 25.50.

Antenna. Long, reaching almost three quarters body length (AL 8.20 mm, AL/BL 0.72), ochre yellow, antennomeres narrow, with relatively short, recumbent, pale setation, fine microgranulation and small punctures. Antennomeres 1-5 pale brown and slightly shiny, antennomeres 6-11 brown, rather matte. Antennomere 2 shortest, antennomeres 7 and 8 longest, antennomeres 4-11 distinctly longer than antennomere 3, antennomeres 4-10 slightly widened apically. Ultimate antennomere widest before apex.
RLA (1-11): 0.40 : 0.22 : 1.00 : 1.09 : 1.12 : 1.11 : 1.19 : 1.19 : 1.11 : 1.03 : 0.99.
RL/WA (1-11): 1.77 : 1.25 : 5.15 : 5.59 : 5.00 : 6.42 : 5.93 : 5.93 : 5.31 : 5.30 : 5.31.

Maxillary palpus pale brown with long, pale setation and fine microgranulation and dense punctuation, punctures very small. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere slightly darker than penultimate, triangular.



Figs. 11-15: *Spinecula cechovskyi* sp. nov.: 11- Habitus; 12- head and pronotum; 13- protibia; 14- aedeagus, dorsal view; 15- aedeagus, lateral view.

Pronotum (Fig. 12) brown, slightly convex, narrow, distinctly narrower than base of elytra. Dorsal surface with long, pale setation, fine microgranulation and dense punctuation, punctures very small. PL 1.88 mm; PW 2.10 mm. Border lines very narrow, complete. Lateral margins in posterior half straight, parallel, in anterior part slightly arcuate. Base bisinuate, anterior margin finely arcuate. Posterior and anterior angles distinct, slightly obtuse. PI equal to 89.52.

Elytra. Brown, narrow, elongate, parallel, with long and dense, pale, semierect setation. EL 7.73 mm; EW 3.02 mm; EL/EW 2.56. Elytral striae with rows of small punctures distinctly larger and coarser than those in pronotum. Intervals between punctures in rows approximately as wide as diameter of punctures. Elytral intervals slightly convex, with fine microgranulation and very small punctures.

Scutellum. Dark brown, pentagonal, with microgranulation and a few, long, pale setae, matte.

Elytral epipleura well-developed, brown, with pale setation and row of large punctures near meso- and metaventrite and small punctures near upper margin distinctly narrowing to metaventrite, then parallel.

Legs. Brown, thin and long, with fine microgranulation, long, pale, semierect setation and shallow punctuation, punctures very small. Femora strong. Protibiae slightly bent, metatibiae excised in inner side of posterior part, protibiae with distinct spine in the middle

of inner side (as in Fig. 13). Pro- and mesotarsomeres 3, 4 and metatarsomere 3 distinctly wider and lobed. RLT: 1.00 : 0.75 : 0.97 : 1.27 : 1.82 (protarsus), 1.00 : 0.54 : 0.54 : 0.67 : 0.98 (mesotarsus), 1.00 : 0.48 : 0.36 : 0.57 (metatarsus).

Anterior tarsal claws with 22 and 30 visible teeth.

Ventral side of body dark brown with long, pale setation and small-sized punctuation. Abdomen with pale setation, fine microgranulation and dense punctuation, punctures small. Ventrites dark brown, ultimate and penultimate ventrites reddish brown, ultimate ventrite with large, shallow impression in middle.

Aedeagus (Figs. 14, 15) shiny. Basal piece pale brown, rounded laterally, posterior part narrowing, anterior part parallel in dorsal view. Apical piece brown, triangular dorsally, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 4.24.

Female. Body and space between eyes slightly wider than in male. Protibiae without spines, anterior tarsal claws have only 12 and 13 teeth.

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Females (n= 6). BL 11.68 mm (11.03-12.42 mm); HL 1.82 mm (1.71-1.97 mm); HW 1.69 mm (1.58-1.82 mm); OI 34.15 (30.89-37.02); PL 1.80 mm (1.57-1.95 mm); PW 2.26 mm (2.15-2.48 mm); PI 80.41 (78.02-82.43); EL 8.07 mm (7.75-8.50 mm); EW 3.36 mm (3.17-3.57 mm).

Differential diagnosis. *Spinecula cechovskyi* sp. nov. clearly differs from the species *Spinecula aenea* (Pic, 1914) comb. nov., *Spinecula doisuthepica* sp. nov., *Spinecula houaphanica* sp. nov., *Spinecula jeanvoinei* (Pic, 1927) comb. nov. and *Spinecula weigeli* sp. nov. mainly by dorsal surface matte and pronotum with very small punctures; while *S. aenea*, *S. doisuthepica*, *S. houaphanica*, *S. jeanvoinei* and *S. weigeli* have dorsal surface shiny or partly shiny and pronotum with medium-sized punctures.
S. cechovskyi is distinctly different from similar species *Spinecula attapeuica* sp. nov. mainly by dorsal surface unicolored brown and antennomeres 4-10 only slightly longer than antennomere 3 (1.03-1.19); while *S. attapeuica* has dorsal surface bicolour (ochre yellow and brown) and antennomeres 4-10 are distinctly longer than antennomere 3 (1.53-1.78).
S. cechovskyi clearly differs from the species *Spinecula angustatissima* (Pic, 1930) comb. nov. and *Spinecula elongatissima* (Pic, 1926) comb. nov. mainly by dorsal surface of elytra matte and body slightly wider and shorter (BL/EW equal to 3.75) than those in *S. angustatissima* and *S. elongatissima* (BL/EW more than 4) with elytra shiny.

Etymology. New species is dedicated to the collector of the type series - Petr Čechovský (Brno, Czech Republic).

Distribution. Malaysia.

Spinecula doisuthepica sp. nov.

(Figs. 16-20)

Type locality. Thailand, Chiang Mai province, Doi Suthep.

Type material. Holotype: (♂): Doi Suthep / Thailand, 25. V. 2011 / K. MASUMOTO & / K. TAKAHASHI leg., (NMTJ). Paratypes: (3 ♂♂): same data as holotype, (KMTJ, VNPC); (2 ♂♂): same data as holotype, but 16.V.2011, (KMTJ, VNPC), (1 ♀): same data as holotype, but 17.V.2011, (VNPC); (1 ♂): N, Thailand; / Chiang Mai Prov. / Doi Suthep / 13-16. V. 2012 / K. MASUMOTO leg., (VNPC). The types are provided with a printed red label: 'Spinecula / doisuthepica sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2019'.

Description of holotype. Habitus as in Fig. 16, body narrow, elongate, parallel, from pale brown to reddish brown, shiny, dorsal surface with pale setation, punctuation and very fine and sparse microgranulation, BL 11.34 mm. Widest near middle of elytra length; BL/EW 4.04.

Head (Fig. 17) relatively large, distinctly longer than wide, narrower than anterior part of pronotum, with dense punctuation, punctures medium-sized, shiny. Posterior part reddish brown, distinctly darker than pale reddish brown anterior part and clypeus. Dorsal surface with long and dense, erect, pale setation and behind eyes with a few dark setae. Clypeus with microgranulation and sparse, shallow punctures, slightly excised in midlle of apex, slightly shiny. Mandibles pale reddish brown, slightly darker than clypeus, glabrous dorsally, shiny with long, pale setae in sides. HW 1.51 mm; HW/PW 0.79; HL (visible part) 1.81 mm. Eyes large, transverse, distinctly excised, space between eyes narrow, distinctly narrower than diameter of one eye; distinctly wider than length of antennomere 2, approximately as wide as length of antennomere 1; OI equal to 26.14.

Antenna. Long, exceeding three quarters body length (AL 9.37 mm, AL/BL 0.83), pale reddish brown, antennomeres narrow, filiform, with short, recumbent, pale setation and few long, pale setae in apex, fine microgranulation and small punctures. Antennomeres 1-3 slightly shiny, antennomeres 4-11 rather matte. Antennomere 2 shortest, antennomeres 4-11 distinctly longer than antennomere 3.

RLA (1-11): 0.49 : 0.45 : 1.00 : 1.37 : 1.37 : 1.51 : 1.50 : 1.48 : 1.44 : 1.33 : 1.29.

RL/WA (1-11): 2.07 : 1.16 : 4.76 : 6.30 : 6.44 : 7.56 : 7.16 : 7.54 : 7.52 : 7.81 : 8.16.

Maxillary palpus pale brown with long, pale setation and fine microgranulation and punctuation, punctures very small. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere triangular.

Pronotum (Fig. 17) reddish brown, slightly convex, narrow, distinctly narrower than base of elytra. Dorsal surface with long, pale, erect setation and dense punctuation, punctures medium-sized, approximately as large as those in head, microgranulation indistinct. PL 1.78 mm; PW 1.92 mm. Border lines very narrow, complete, only in the middle of anterior margin not clearly conspicuous. Lateral margins in posterior two thirds straight, parallel, in anterior part narrowing, slightly arcuate. Base bisinuate, anterior margin finely arcuate. Posterior angles almost rectangular, anterior angles indistinct. PI equal to 92.71.

Elytra. Reddish brown, narrow, elongate, parallel in posterior half, with long and dense, pale, erect setation. EL 7.75 mm; EW 2.81 mm; EL/EW 2.76. Elytral striae with rows of medium-sized punctures approximately as large as those in pronotum and head, and coarser

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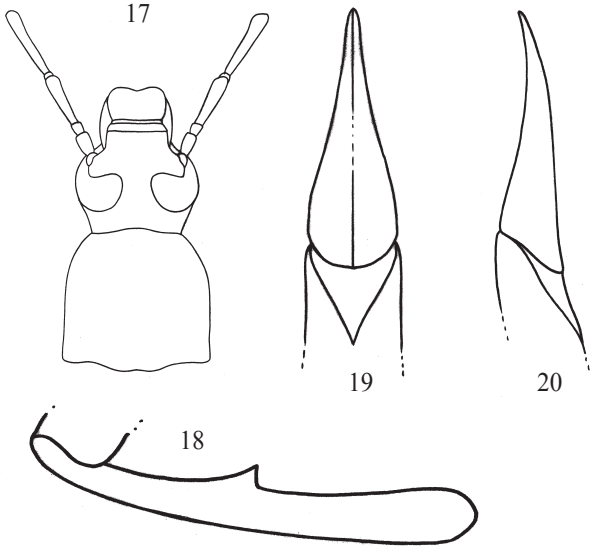


Figs. 16-20: *Spinecula doisuthepica* sp. nov.: 16- Habitus; 17- head and pronotum; 18- protibia; 19- aedeagus, dorsal view; 20- aedeagus, lateral view.

than those in pronotum. Intervals between punctures in rows very narrow. Elytral intervals slightly convex, with very fine microgranulation and very small, sparse punctures.

Scutellum. Reddish brown with dark brown margins, pentagonal, with microgranulation, shallow punctures and a few, long, pale setae, slightly shiny.

Elytral epipleura well-developed, reddish brown, upper margin pale reddish brown, under margin dark reddish brown, with long, pale setation and large punctures, wide in posterior part, narrowing to metaventrite, then parallel.

Legs. Pale reddish brown, thin and long, with fine microgranulation, long, pale, semierect setation in femora and tarsi, erect in tibiae and shallow punctuation, punctures small. Femora strong. Tibiae slightly dilated anteriorly, pro- and mesotibiae slightly bent in anterior part, metatibiae with fine angle in the middle of inner side, protibiae with distinct spin in the middle of inner side (as in Fig. 18). Pro- and mesotarsomeres 3, 4 and metatarsomere 3 distinctly wider and lobed. RLT: 1.00 : 0.83 : 0.94 : 1.22 : 2.14 (protarsus), 1.00 : 1.00 : 0.80 : 0.80 : 1.62 (mesotarsus), 1.00 : 0.53 : 0.53 : 0.77 (metatarsus).

Anterior tarsal claws with 26 visible teeth.

Ventral side of body dark reddish brown, with pale setation and punctuation. Abdomen brown, with pale setation, fine microgranulation and dense, shallow punctuation, punctures small. Ultimate and penultimate ventrites with shallow, small impressions in middle of posterior part.

Aedeagus (Figs. 19, 20) ochre yellow, rather matte. Basal piece rounded laterally and slightly narrowing in dorsal view. Apical piece triangular dorsally, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 3.00.

Female. Body and space between eyes slightly wider than in male. Protibiae without spines, anterior tarsal claws have only 11 teeth. Measurement of female body. BL 10.74 mm; HL 1.76 mm; HW 1.47 mm; OI equal to 30.38; PL 1.51 mm; PW 1.86 mm; PI equal to 83.63; EL 7.47 mm; EW 2.94 mm.

Variability. Some specimens have dorsal surface dark reddish brown, one male and one female have dorsal surface and legs dark brown. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=7). BL 11.11 mm (10.24-11.81 mm); HL 1.74 mm (1.60-1.85 mm); HW 1.46 mm (1.33-1.54 mm); OI 25.08 (21.55-27.56); PL 1.69 mm (1.55-1.91 mm); PW 1.89 mm (1.78-2.07 mm); PI 88.81 (83.51-92.71); EL 7.67 mm (7.09-8.09 mm); EW 2.86 mm (2.69-3.07 mm).

Differential diagnosis. The new species *Spinecula doisuthepica* sp. nov. is clearly different from similar species *Spinecula angustatissima* (Pic, 1930) comb. nov., *Spinecula attapeuica* sp. nov., *Spinecula cechovskyi* sp. nov. and *Spinecula elongatissima* (Pic, 1926) comb. nov. mainly by dorsal surface of pronotum shiny with larger punctures than those in matte pronotum of *S. angustatissima, S. attapeuica*, *S. cechovskyi* and *S. elongatissima*.
S. doisuthepica distinctly differs from similar species *Spinecula aenea* (Pic, 1914) comb. nov. and *Spinecula jeanvoinei* (Pic, 1927) comb. nov. mainly by dorsal surface of pronotum and elytra reddish brown; while *S. aenea* and *S. jeanvoinei* have dorsal surface of pronotum and elytra with goldenish green metallic lustre.
S. doisuthepica is clearly different from similar species *Spinecula weigeli* sp. nov. mainly by dorsal surface unicolored and body longer and narrower (BL/EW more than 4) than those in bicolour (pronotum reddish brown, elytra ochre yellow), wider and shorter *S. weigeli* (BL/EW equal to 3.65).
S. doisuthepica distinctly differs from similar species *Spinecula houaphanica* sp. nov. mainly by body almost reddish brown, pronotum without distinct longitudinal, shallow impression in the middle of anterior part and by punctuation of pronotum denser (intervals between punctures narrower than diameter of punctures); while *S. houaphanica* is dark with green metallic lustre, pronotum has longitudinal impression in middle of anterior part and punctuation of pronotum is sparser (intervals between punctures are wider than diameter of punctures).

Etymology. Named after the type locality - Doi Suthep in Chiang Mai province (Thailand).

Distribution. Thailand (Chiang Mai province).

Spinecula elongatissima (Pic, 1926) comb. nov.

Allecula elongatissima Pic, 1926: 30.

Type locality. China, Yunnan province, Fou.

Type material. Holotype (♂): wl: Yunnan / fou [pb] // wl: Allecula / elongatissima / Pic [hb], (MNHN).

Remark. Body narrow, parallel, elongate. Protibiae of male with distinct spin in the middle of inner side. Species distinctly belonging to newly established genus *Spinecula* gen. nov.

Distribution. China (Yunnan), Indochina.

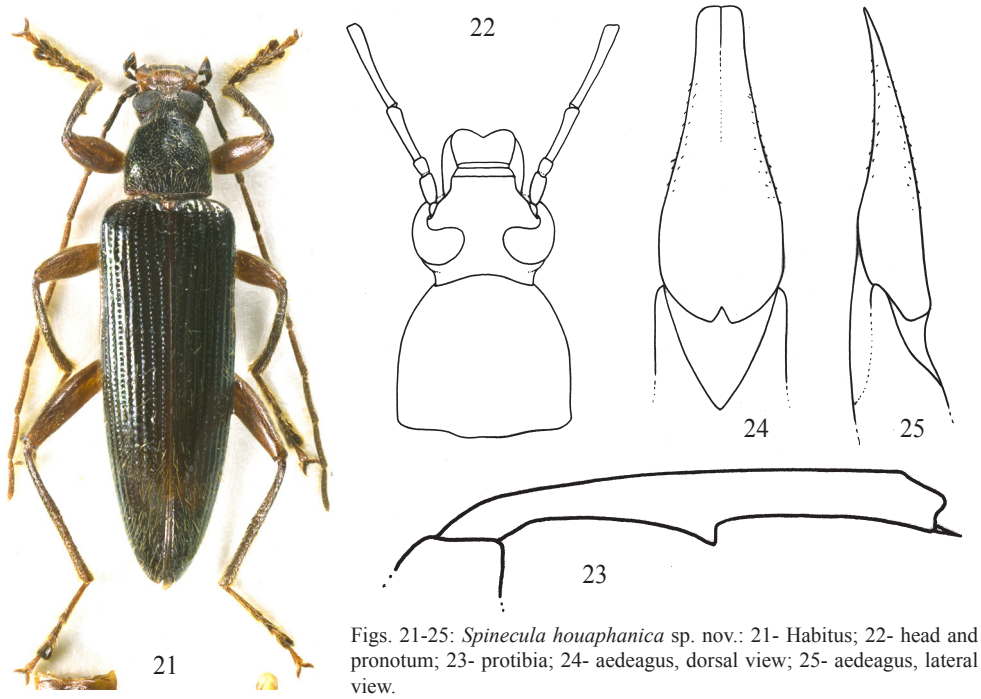
Spinecula houaphanica sp. nov.
(Figs. 21-25)

Type locality. Northeastern Laos, Houa Phan province, Ban Saluei, Phu Phan Mts., 20°15´N, 104°02´E; 1500-2000 m.

Type material. Holotype: (♂): LAOS - NE; HUA PHAN prov.; / BAN SALUEI; Phu Phan Mts.; / 20°15´N 104°02´E; 1500-2000m; / D. Hauck leg.; 26.iv.-11.v.2001, (VNPC). Paratypes: (2 ♂): LAOS NE, Houa Phan, 9.-16.v. 2009, D. Hauck lgt., (DHBC); (1 ♂): LAOS, Houaphanh / province , Ban Saluei/ 15-17.vii.2013, X. Gouverneur leg., (ERMI); (3 ♀♀): LAOS-NE, Houa Phan prov., / 20°12-13.5´N 103°59.5´-104°01´E, / Ban Saluei→Phou Pane Mt., / 1340-1870m, 15.iv.-15.v. / 2008, Lao collectors leg., (NMPC, VNPC); (1 ♂, 5 ♀♀): LAOS-NE, Houa Phan prov. / 20°12-13.5´N 103°59.5´-104°01´ / E, Ban Saluei→Phou Pane Mt. / 1340-1870m, 10.v.-16.vi.2009; / M. Brancuccii & local coll. leg. // NHMB Basel, NMPC Prague / Laos 2009 Expedition: M. / Brancuccii, M. Geiser, Z. / Kraus, D. Hauck, V. Kubáň, (DHBC, NHMB, NMPC, VNPC); (12 ♂♂, 6 ♀♀): LAOS, NE, P: Hua Pan / Ban Saleui, Phou Pan / (Mt.), 1300-1900m, 03.- / 30.IV.2014, 20°12´N / 104°01´E,lg.Holzschuh, (NMEG, VNPC); (1 ♂, 1 ♀): NE LAOS, Hua Phan prov., / Ban Saluei, Phu Phan Mt. env., / 20°13´N 103°59´E, 1300-2000 m, / 6.-18.v.2004, J. Bezděk leg., (SMNS). The types are provided with a printed red label: 'Spinecula / houaphanica sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2019'.

Description of holotype. Habitus as in Fig. 21, body narrow, elongate, parallel, from reddish brown to black with green metallic lustre, shiny, dorsal surface with long, pale setation, very fine microgranulation and punctuation, BL 10.89 mm. Widest in humeral part of elytra; BL/EW 4.02.

Head (Fig. 22) relatively large, slightly longer than wide, distinctly wider than anterior part of pronotum, with dense punctuation, long, pale setation and microgranulation inside punctures more conspicuous than outside punctures. Posterior part dark brown, with smaller and shallower punctuation than between insertion of antennae. Anterior part pale reddish brown with punctures approximately as large as or slightly larger than those in posterior part behind eyes. Clypeus reddish brown, distinctly darker than anterior part with microgranulation and small, shallow punctures, slightly excised in middle of apex, shiny. Mandibles pale brown, with sides and apex dark brown, glabrous dorsally, shiny with fine microgranulation and a few long, pale setae in sides. HW 1.43 mm; HW/PW 0.82; HL (visible part) 1.54 mm. Eyes very large, transverse, distinctly excised, space between eyes narrow, distinctly narrower than diameter of one eye; distinctly wider than length of antennomere 2, approximately as wide as length of antennomere 1; OI equal to 28.11.



Figs. 21-25: *Spinecula houaphanica* sp. nov.: 21- Habitus; 22- head and pronotum; 23- protibia; 24- aedeagus, dorsal view; 25- aedeagus, lateral view.

Antenna. Long, slightly exceeding three quarters body length (AL 9.10 mm, AL/BL 0.84), antennomeres narrow, with recumbent, pale setation, fine microgranulation and small punctures. Antennomeres 1-3 blackish brown with apex narrowly pale brown, slightly shiny, antennomeres 4-11 brown, rather matte. Antennomere 2 shortest, antennomeres 6 longest, antennomeres 4-11 distinctly longer than antennomere 3. Ultimate antennomere widest before apex.

RLA (1-11): 0.47 : 0.24 : 1.00 : 1.43 : 1.46 : 1.59 : 1.50 : 1.52 : 1.45 : 1.38 : 1.30.

RL/WA (1-11): 2.07 : 1.16 : 4.76 : 6.30 : 6.44 : 7.56 : 7.16 : 7.54 : 7.52 : 7.81 : 8.16.

Maxillary palpus blackish brown with apex narrowly pale brown, long, pale setae and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere triangular.

Pronotum (Fig. 22) black, with green metallic lustre, shiny, slightly convex, narrow, distinctly narrower than base of elytra. Dorsal surface with long, relatively sparse, pale setation, very fine microgranulation and punctuation, punctures medium-sized, interspaces between punctures wide, distinctly wider than diameter of punctures. PL 1.55 mm; PW 1.74 mm. Border lines very narrow, complete, only in the middle of anterior margin not clearly conspicuous. Lateral margins in posterior half straight, parallel, in anterior part narrowing and slightly arcuate. Base bisinuate, anterior margin finely arcuate. Posterior and anterior angles slightly obtuse. PI equal to 89.08.

Elytra. Black with green metallic lustre, shiny, narrow, elongate, parallel, with relatively sparse, long, pale setation, near sides and in apical half denser than in the middle or in

humeral part. EL 7.80 mm; EW 2.71 mm; EL/EW 2.88. Elytral striae with rows of medium-sized punctures slightly larger and coarser than those in pronotum. Intervals between punctures in rows approximately as wide as diameter of punctures. Elytral intervals slightly convex, with very sparse and small punctures.

Scutellum. Pale brown with black sides, pentagonal, with microgranulation and a few, pale setae, with distinct longitudinal furrow in the middle.

Elytral epipleura well-developed, reddish brown, with pale setae and punctures distinctly narrowing to metaventrite, then narrow and parallel.

Legs. Thin and long, with fine microgranulation and very small punctures. Reddish brown femora strong with recumbent pale setation. Tarsi with recumbent, tibiae slightly dilated anteriorly, with semierect pale setation. Metatibiae long, protibiae with distinct spin in the middle of inner side (as in Fig. 23). Pro- and mesotarsomeres 3, 4 and metatarsomere 3 distinctly wider and lobed. Protarsi slightly wider than meso- and metatarsi. RLT: 1.00 : 0.58 : 0.73 : 0.89 : 1.45 (protarsus), 1.00 : 0.46 : 0.52 : 0.64 : 0.87 (mesotarsus), 1.00 : 0.39 : 0.46 : 0.69 (metatarsus).

Anterior tarsal claws with 25 visible teeth.

Ventral side of body reddish brown with pale setation and punctuation, punctures small-sized. Abdomen with pale setation, very fine microgranulation and sparse, very small punctures. Ultimate ventrite brown, rounded apically, distinctly darker than pale brown penultimate ventrite. Penultimate ventrite with large, coarse impression in middle.

Aedeagus (Figs. 24, 25) ochre yellow, shiny. Basal piece rounded laterally, slightly narrowing in dorsal view. Apical piece triangular dorsally with cut top, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 3.60.

Female. Body and space between eyes slightly wider than in male. Protibiae without spines, anterior tarsal claws have only 11 teeth.

Variability. Some specimens have dark reddish brown or dark brown legs. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n= 18). BL 11.18 mm (10.36-12.44 mm); HL 1.62 mm (1.48-1.77 mm); HW 1.50 mm (1.37-1.64 mm); OI 26.26 (23.29-29.73); PL 1.63 mm (1.42-1.85 mm); PW 1.86 mm (1.64-2.08 mm); PI 87.78 (85.56-89.08); EL 7.93 mm (7.24-8.82 mm); EW 2.78 mm (2.48-3.04 mm). Females (n= 15). BL 11.28 mm (10.19-12.64 mm); HL 1.64 mm (1.44-1.85 mm); HW 1.52 mm (1.33-1.71 mm); OI 32.54 (30.00-34.15); PL 1.63 mm (1.44-1.86 mm); PW 1.98 mm (1.83-2.23 mm); PI 82.74 (77.42-91.63); EL 8.00 mm (7.22-9.05 mm); EW 3.00 mm (2.72-3.28 mm).

Differential diagnosis. The new species *Spinecula houaphanica* sp. nov. is clearly different from similar species *Spinecula angustatissima* (Pic, 1930) comb. nov., *Spinecula attapeuica* sp. nov., *Spinecula cechovskyi* sp. nov. and *Spinecula elongatissima* (Pic, 1926) mainly by dorsal surface of pronotum shiny with larger punctures than those in matte pronotum of *S. angustatissima, S. attapeuica*, *S. cechovskyi* and *S. elongatissima*.

S. houaphanica distinctly differs from similar species *Spinecula aenea* (Pic, 1914) comb. nov. and *Spinecula jeanvoinei* (Pic, 1927) comb. nov. mainly by dorsal surface of pronotum and elytra reddish brown; while *S. aenea* and *S. jeanvoinei* have dorsal surface of pronotum and elytra with goldenish green metallic lustre.
S. houaphanica is clearly different from similar species *Spinecula weigeli* sp. nov. mainly by dorsal surface unicolored and body longer and narrower (BL/EW more than 4) than those in bicolour (pronotum reddish brown, elytra ochre yellow), wider and shorter *S. weigeli* (BL/EW equal to 3.65).
S. houaphanica distinctly differs from similar species *Spinecula doisuthepica* sp. nov. mainly by body dark with green metallic lustre, pronotum with longitudinal impression in middle of anterior part and punctuation of pronotum is sparser (intervals between punctures are wider than diameter of punctures); while *S. doisuthepica* is almost reddish brown, pronotum without distinct longitudinal, shallow impression in middle of anterior part and by denser punctuation of pronotum (intervals between punctures narrower than diameter of punctures).

Etymology. Named after the type locality - Houa Phan province in Laos.

Distribution. Laos (Houa Phan province).

Spinecula jeanvoinei (Pic, 1927) comb. nov.

Allecula jeanvoinei Pic, 1927: 16.

Type locality. Northern Vietnam, Tonkin, Hanoi.

Type material. Holotype (♂): wl with bf: TONKIN [pb] / Hanoi [hb] / 6.XII. [bh] 191 [pb] 7 [bh] // pl: type [hb] // rl: TYPE [pb] // wl: Allecula / jeanvoinei / nsp [hb], (MNHN).

Remark. Body narrow, parallel, elongate, dorsal surface with goldenish green metallic lustre. Protibiae of male with distinct spine in the middle of inner side. Species distinctly belonging to newly established genus *Spinecula* gen. nov.

Distribution. Northern Vietnam.

Spinecula weigeli sp. nov.
(Figs. 26-30)

Type locality. China, southern Yunnan province, Xishuangbanna, 23 km northwestern of Jinghong, vicinity Na Ban, N22°09.49 E100°39.92, 730 m.

Type material. Holotype: (♂): CHINA: S-YUNNAN / (Xishuangbanna) / 23 km NW Jinghong / vic. Na Ban (NNNR) // N22°09.49 E100°39.92 / 10.X.2008 leg L. Meng / 730m trans. zone MF1, (NMEG). Paratypes: (1 ♂): same data as holotype, (VNPC); (2 ♂♂): CHINA: S-YUNNAN / (Xishuangbanna) / 20 km NW Jinghong / vic. Man Dian (NNNR) // N22°07.80 E100°40.05 / 730m, 20.X.2008, EKL, / forest, leg. A. Weigel, (NMEG, VNPC); (2 ♂♂): CHINA: S-YUNNAN / (Xishuangbanna) / 20 km NW Jinghong / Man Dian (NNNR) // N22°07.80 E100°40.05 / 30.X.2008, leg. A. Weigel / 730m, forest, EKL, (NMEG). The types are provided with a printed red label: 'Spinecula / weigeli sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2019'.

Description of holotype. Habitus as in Fig. 26, body narrow, elongate, parallel, from ochre yellow to brown, shiny, dorsal surface with pale setation, microgranulation and punctuation, BL 10.44 mm. Widest near middle of elytra length; BL/EW 3.65.

Head (Fig. 27) relatively large, slightly longer than wide, slightly wider than anterior part of pronotum, with dense punctuation and long, pale setation. Posterior part brown, distinctly darker than pale reddish brown anterior part and ochre yellow clypeus. Dorsal surface of anterior part and behind eyes with smaller and shallower punctures than those between antennae insertion. Anterior part of clypeus and inside of punctures in anterior part with microgranulation. Anterior part of clypeus with sparse, small and shallow punctures, slightly excised in middle of apex, slightly shiny. Mandibles pale brown with dark lateral margins, slightly darker than clypeus, glabrous dorsally, shiny with a few long, pale setae in sides. HW 1.45 mm; HW/PW 0.78; HL (visible part) 1.68 mm. Eyes very large, transverse, distinctly excised, space between eyes narrow, distinctly narrower than diameter of one eye; distinctly wider than length of antennomere 2, approximately as wide as length of antennomere 1; OI equal to 27.41.

Antenna. Long, slightly exceeding three quarters body length (AL 8.24 mm, AL/BL 0.79), ochre yellow, antennomeres narrow, with dense, recumbent, pale setation, very fine microgranulation and very small punctures. Antennomeres 1-5 slightly shiny, antennomeres 6-11 rather matte. Antennomere 2 shortest, antennomeres 4-11 distinctly longer than antennomere 3, antennomeres 4-10 slightly widened apically. Ultimate antennomere widest before apex.

RLA (1-11): 0.57 : 0.30 : 1.00 : 1.43 : 1.53 : 1.49 : 1.52 : 1.53 : 1.52 : 1.40 : 1.32.

RL/WA (1-11): 1.88 : 1.39 : 4.70 : 5.92 : 6.35 : 7.00 : 8.20 : 9.17 : 7.81 : 7.55 : 6.17.

Maxillary palpus pale brown with long, recumbent, pale setation, fine microgranulation and dense punctuation, punctures very small. Palpomeres 2 and 3 distinctly narrowest at base and widest in apex. Ultimate palpomere, triangular.

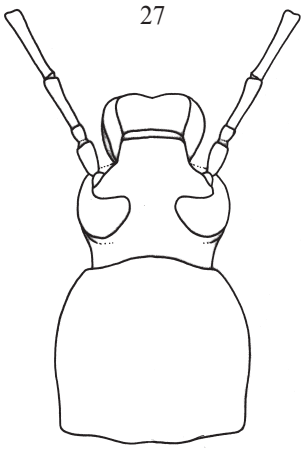
Pronotum (Fig. 27) reddish brown, convex, narrow, approximately as long as wide, distinctly narrower than base of elytra. Dorsal surface with sparse, long, pale setation and dense punctuation, punctures medium-sized, microgranulation not clearly conspicuous, shiny. PL 1.78 mm; PW 1.87 mm. Border lines very narrow, complete. Lateral margins shortly straight and parallel near base, then distinctly arcuate. Base bisinuate, anterior margin arcuate. Posterior and anterior angles distinct, obtuse. PI equal to 93.28.

Elytra. Ochre yellow, narrow, elongate, parallel, with sparse and long, pale setation, near sides and in apex denser than in middle. Suture and rows of punctures in elytral striae distinctly darker than elytral interspaces. EL 6.98 mm; EW 2.86 mm; EL/EW 2.44. Elytral striae with rows of punctures slightly larger than those in pronotum. Intervals between punctures in rows distinctly narrower than diameter of punctures. Elytral intervals slightly convex, shiny, almost without punctures, only humeral part presents a few very small punctures.

Scutellum. Pale reddish brown with reddish brown sides, semielliptical, with microgranulation and a few, long, dark setae and small, shallow punctures, rather matte.

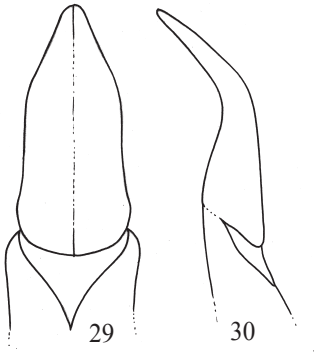
Elytral epipleura well-developed, ochre yellow, with long, pale setae and medium sized punctures near meso- and metaventrite, narrowing to metaventrite, then parallel.

26



27

28



29 30

Figs. 26-30: *Spinecula weigeli* sp. nov.: 26- Habitus; 27- head and pronotum; 28- protibia; 29- aedeagus, dorsal view; 30- aedeagus, lateral view.

Legs. Ochre yellow, with fine microgranulation, long and dense, pale, erect setation and punctuation, punctures very small. Femora strong. Tibiae long and narrow, protibiae with distinct margin in upper part, slightly bent in anterior half with distinct spin in the middle of inner side (as in Fig. 28). Metatibiae excised in inner side of posterior part. Pro- and mesotarsomeres 3, 4 and metatarsomere 3 distinctly wider and lobed. RLT: 1.00 : 0.49 : 0.85 : 1.22 : 1.74 (protarsus), 1.00 : 0.56 : 0.41 : 0.62 : 1.27 (mesotarsus), 1.00 : 0.41 : 0.41 : 0.72 (metatarsus).

Anterior tarsal claws with 20 visible teeth.

Ventral side of body reddish brown with long, recumbent, pale setae and medium-sized punctuation. Abdomen with pale setation, fine microgranulation and punctuation, punctures small. Ventrites pale reddish brown, ultimate ventrite with large, shallow impression in middle.

Aedeagus (Figs. 29, 30) shiny. Basal piece pale brown, strongly rounded laterally and narrowing dorsally. Apical piece brown, dorsally with triangular anterior part, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 5.50.

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= 6). BL 9.32 mm (8.65-10.44 mm); HL 1.54 mm (1.47-1.68 mm); HW 1.33 mm (1.27-1.45 mm); OI 30.77 (27.41-32.74); PL 1.55 mm (1.36-1.78 mm); PW 1.68 mm (1.51-1.87 mm); PI 91.62 (90.07-93.28); EL 6.23 mm (5.67-6.98 mm); EW 2.56 mm (2.38-2.86 mm).

Differential diagnosis. The new species *Spinecula weigeli* sp. nov. is clearly different from similar species *Spinecula angustatissima* (Pic, 1930) comb. nov., *Spinecula attapeuica* sp. nov., *Spinecula cechovskyi* sp. nov. and *Spinecula elongatissima* (Pic, 1926) comb. nov. mainly by dorsal surface of pronotum shiny with larger punctures than those in matte pronotum of *S. angustatissima, S. attapeuica*, *S. cechovskyi* and *S. elongatissima*.
S. weigeli distinctly differs from similar species *Spinecula aenea* (Pic, 1914) comb. nov. and *Spinecula jeanvoinei* (Pic, 1927) comb. nov. mainly by dorsal surface of pronotum and elytra reddish brown; while *S. aenea* and *S. jeanvoinei* have dorsal surface of pronotum and elytra with goldenish green metallic lustre.
S. weigeli is clearly different from similar species *Spinecula doisuthepica* sp. nov. and *Spinecula houaphanica* sp. nov. mainly by dorsal surface bicolour (pronotum reddish brown, elytra ochre yellow) and body wider and shorter (BL/EW equal to 3.65) than in species with unicolored dorsal surface *S. doisuthepica* and *S. houaphanica* with body long and narrow (BL/EW more than 4).

Etymology. New species is dedicated to one of the collectors - Andreas Weigel (Wernburg, Germany), expert in beetle family Cerambycidae.

Distribution. China (Yunnan).

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