

New species of *Chitwania* Novák, 2015 (Coleoptera: Tenebrionidae: Alleculinae: Alleculini) from the Palaearctic and the Oriental Regions

Vladimír NOVÁK

Nepasické náměstí 796, CZ-190 14 Prague 9 - Klánovice, Czech Republic,
e-mail: alleculinae.vn@centrum.cz

Taxonomy, new species, descriptions, Coleoptera, Tenebrionidae, Alleculinae, Alleculini, *Chitwania*, Oriental and Palaearctic Regions, India (Maharashtra State), Laos, Myanmar, Nepal, Vietnam

Abstract. New species of alleculine genus *Chitwania* Novák, 2015 are described as follows: *Chitwania attapeuica* sp. nov. from Laos (Attapeu Province), *Chitwania fulva* sp. nov. from Nepal, *Chitwania hueica* sp. nov. from Vietnam, *Chitwania khaolakica* sp. nov. from Thailand (Khao Lak Province), *Chitwania myanmarica* sp. nov. from Myanmar, *Chitwania placida* sp. nov. from India (Maharashtra State), *Chitwania valida* sp. nov. from Thailand (Chanthaburi Province). Species *Chitwania crassipes* (Fairmaire, 1882) comb. nov. and *Chitwania luteimembris* (Pic, 1925) comb. nov. are transferred from the genus *Allecula* Fabricius, 1801. Designation of lectotype and redescription of *Ch. luteimembris* are added. Male genitalia of the species *Ch. crassipes* and *Ch. luteimembris* are shown for the first time. A key to species and list of the known species are added.

INTRODUCTION

Novák (2015) described *Chitwania* Novák, 2015 as a new genus of Alleculinae with the type species *Chitwania kejvali* Novák, 2015 from Nepal and north India; only one species is currently known from the Palaearctic Region (Novák 2020). Species of the new genus distinctly differs from similar genera near genus *Allecula* Fabricius, 1801 mainly by body elongate oval, protibia of male slightly bent and excised, mesotibia of male distinctly bent, protarsal claws with many teeth. Other distinguishing characters are hollow tarsal claws with teeth only on one side and procoxae separated by prosternal process. Fairmaire (1882) described species *Allecula crassipes* Fairmaire, 1882, Pic (1925) determined this species in Helfer's collection in NMPC and described from this collection new *Allecula crassipes luteimembris* Pic, 1925. Both species have different shape of aedeagi, both distinctly belong to the genus *Chitwania* Novák, 2015 and are transferred as *Chitwania crassipes* (Fairmaire, 1882) comb. nov. and *Chitwania luteimembris* (Pic, 1925) comb. nov. *Ch. luteimembris* is redescribed and lectotype is designated here from specimens in Helfer's collection in NMPC.

A new species of Alleculine genus *Chitwania* Novák, 2015 are described as follows: *Chitwania attapeuica* sp. nov. from Laos (Attapeu Province), *Chitwania fulva* sp. nov. from Nepal, *Chitwania hueica* sp. nov. from Vietnam, *Chitwania khaolakica* sp. nov. from Thailand (Khao Lak Province), *Chitwania myanmarica* sp. nov. from Myanmar, *Chitwania placida* sp. nov. from India (Maharashtra State) and *Chitwania valida* sp. nov. from Thailand (Chanthaburi Province). Male genitalia of the species *Ch. crassipes* and *Ch. luteimembris* are shown for the first time. Key to species and list of the known species are added.

MATERIAL AND METHODS

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

as (100 × length of pronotum along midline) / (width across basal angles of pronotum). In the list of type or examined material, a slash (/) separates data in separate rows.

The following collection code is used:

ASHG private collection of Andre Skale, Hof, Germany;

NMEG collection of Naturkundemuseum, Erfurt, Germany;

NMPC collection of National Museum of Prague, Czech Republic;

NMTJ collection of National Museum, Tokyo, Japan;

VNPC private collection of Vladimír Novák, Praha, Czech Republic.

Other abbreviations used in the text: bl= beige label; bf= black frame.

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

Measurements were made with Olympus SZ 40 stereoscopic microscope with continuous magnification and with Soft Imaging System AnalySIS. Snapshots were taken by using camera Canon EOS 550 D, and Canon Macro Photo Lens MP-E and software Helicon Focus 5.2.

TAXONOMY

tribe Alleculini Laporte, 1840

subtribe Alleculina Laporte, 1840

genus *Chitwania* Novák, 2015

Chitwania Novák, 2015: 91; type species: *Chitwania kejvali* Novák, 2015: 93.

Chitwania attapeuica sp. nov.

(Figs. 1-5)

Type locality. Southern Laos, Attapeu Province, Bolaven Plateau, 15 km Southeastern of Ban Houaykong, environ of Nong Lom lake, N 15°02', E 106°35', 800 m.

Type material. Holotype (♂): Laos south., Attapu prov., / Bolaven Plateau, 18.30.IV.1999, / 15 km SE of Ban Houaykong, / NONG LOM (lake) env., / N 15°02', E 106°35', alt. 800 m, / E. Jendek and O. Šauša leg., (VNPC). Paratype (♀): same data as holotype, (VNPC). The types are provided with a printed red label: '*Chitwania* / *attapeuica* sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2021'.

Description of holotype. Habitus as in Fig. 1, body elongate oval, convex, from pale reddish brown to blackish brown, dorsal surface shiny with pale setation, punctuation and microgranulation, BL 10.73 mm. Widest near half elytra length; BL/EW 3.20.

Head (Fig. 2) dark brown, shiny, apex of anterior half and apex of clypeus narrowly pale brown, approximately as wide as long, through the eyes distinctly wider than anterior margin of pronotum, distinctly narrower than base of pronotum. Dorsal surface with punctures and microgranulation. Punctures between eyes larger and coarser, some interspaces between punctures distinctly larger than diameter of punctures. Clypeus dark brown, wide and transverse,

with rounded lateral margins, small and shallow punctures, microgranulation and long, pale setation denser than in apex of anterior part. Mandibles blackish brown, glabrous, shiny, with pale setae on sides. HW 1.60 mm; HW/PW 0.74; HL (visible part) 1.56 mm. Eyes large, transverse, excised, space between eyes narrow, distinctly narrower than diameter of one eye; as wide as length of antennomere 1; OI equal to 20.81.

Antenna. Long, narrow, slightly shiny, blackish brown. Surface with pale setation, microgranulation and punctures. Antennomere 2 shortest, antennomere 4 longest. Antennomeres 5-8 longer than antennomere 3. Antennomeres 3-8 slightly widened apically.

RLA(1-8): 0.49 : 0.24 : 1.00 : 1.16 : 1.11 : 1.02 : 1.04 : 1.05.

RL/WA(1-8): 2.04 : 1.17 : 4.35 : 5.04 : 4.28 : 4.95 : 4.88 : 4.67.

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

Pronotum (Fig. 2) reddish brown, shiny, convex, almost as long as wide, distinctly narrower than elytra at humeri, widest near middle. Dorsal surface with pale setae, fine microgranulation and dense, coarse punctuation, punctures relatively large, intervals between punctures almost narrower than diameter of punctures. PL 2.06 mm; PW 2.17 mm; PI equal to 95.04. Border lines very narrow, margins conspicuous in dorsal view, only in the middle of anterior margin not clearly distinct. Lateral margins straight and parallel in basal third, then arcuate in apical half, base finely bisinuate, anterior margin slightly rounded. Posterior and anterior angles obtuse.

Elytra. Pale reddish brown with black apex, elongate oval, convex, shiny. Dorsal surface with pale setae. EL 7.11 mm; EW 3.35 mm; EL/EW 2.12. Elytral striae with rows of large and coarse punctures (approximately as large as those in pronotum), intervals between punctures in rows narrower than diameter of punctures. Elytral intervals slightly convex, with very sparse, small, shallow punctures and fine microgranulation.

Scutellum. Reddish brown, semi elliptical, rather matte, with fine microgranulation and a few pale setae.

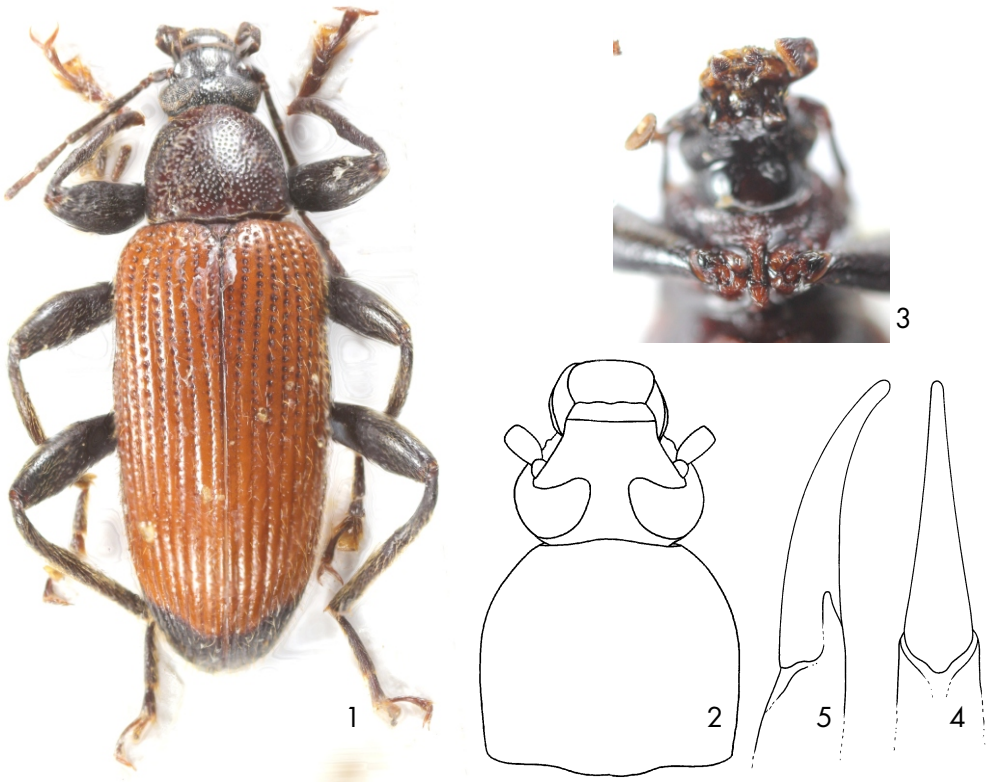
Elytral epipleura well-developed, reddish brown, covered with a few pale setae and large punctures in basal part, widest at base, distinctly narrowing to ventrite 1, then relatively narrow and parallel in apical part.

Legs. Long, blackish brown, dorsal surface with fine microgranulation, pale setation and shallow punctures. Protibiae with angle and slightly excised in apical half of inner side, mesotibiae distinctly bent, metatibiae slightly excised in basal part of inner side. Protarsomeres and mesotarsomeres 3, 4 and metatarsomere 3 widened and lobed. RLT: 1.00 : 0.58 : 0.63 : 0.73 : 1.46 (protarsus); 1.00 : 0.50 : 0.43 : 0.69 : 1.11 (mesotarsus); 1.00 : 0.46 : 0.41 : 0.71 (metatarsus).

Tarsal claws long and bent with teeth only on one side of hollow claw, protarsal claws with more than 40 visible teeth.

Ventral side of body dark brown, with sparse, short, pale setae and punctures, shiny. Procoxae separated by prosternal process (Fig. 3). Abdomen shiny, with sparse, pale setae, fine microgranulation and small, shallow punctures, ventrites 1 and 2 reddish brown, distinctly paler than brown ventrites 3-5.

Aedeagus (Figs. 4, 5) ochre yellow, shiny. Basal piece slightly narrowing in dorsal view and slightly rounded laterally. Apical piece narrowly elongate triangular dorsally, beak shaped from dorsal and lateral view. Ratio of length of apical piece to length of basal piece in dorsal view 1 : 3.09.



Figs. 1-5. *Chitwania attapeuica* sp. nov. (male holotype): 1- habitus; 2- head and pronotum; 3- prosternal process between procoxae; 4- apical piece of aedeagus, dorsal view; 5- apical piece of aedeagus, lateral view.

Female has body and space between eyes slightly wider than in male. Tibiae normally shaped, without angle, not excised in inner side, not bent. Protarsal claws short not bent, with only 14 teeth.

Measurements of female body. BL 10.89 mm; HL 1.52 mm; HW 1.57 mm; OI 26.85; PL 2.01 mm; PW 2.14 mm; PI 93.83; EL 7.23 mm; EW 3.49 mm; HW/PW 0.73; BL/EW 3.12; EL/EW 2.07.

RLA(1-9): 0.89 : 0.36 : 1.00 : 1.10 : 0.98 : 0.90 : 0.96 : 0.95 : 0.90.

RL/WA(1-8): 2.10 : 1.18 : 4.17 : 4.04 : 3.28 : 3.55 : 4.08 : 3.87 : 3.57.

RLT: 1.00 : 0.52 : 0.75 : 0.87 : 1.73 (protarsus); 1.00 : 0.42 : 0.46 : 0.54 : 0.90 (mesotarsus); 1.00 : 0.41 : 0.37 : 0.64 (metatarsus).

Differential diagnosis. (See the key below for more information). *Chitwania attapeuica* sp. nov. distinctly differs from all species of *Chitwania* mainly by elytra bicolor. Only one similar species *Chitwania valida* sp. nov. has elytra also bicolor.

Ch. attapeuica clearly differs from similar species *Ch. valida* mainly by reddish brown pronotum widest near middle and by dark elytral apex clearly bordered; while *Ch. valida* has pronotum blackish brown widest in two thirds from base to apex and dark elytral apex is vaguely bordered.

Etymology. Toponymic, after the type locality - Attapeu Province in Laos.

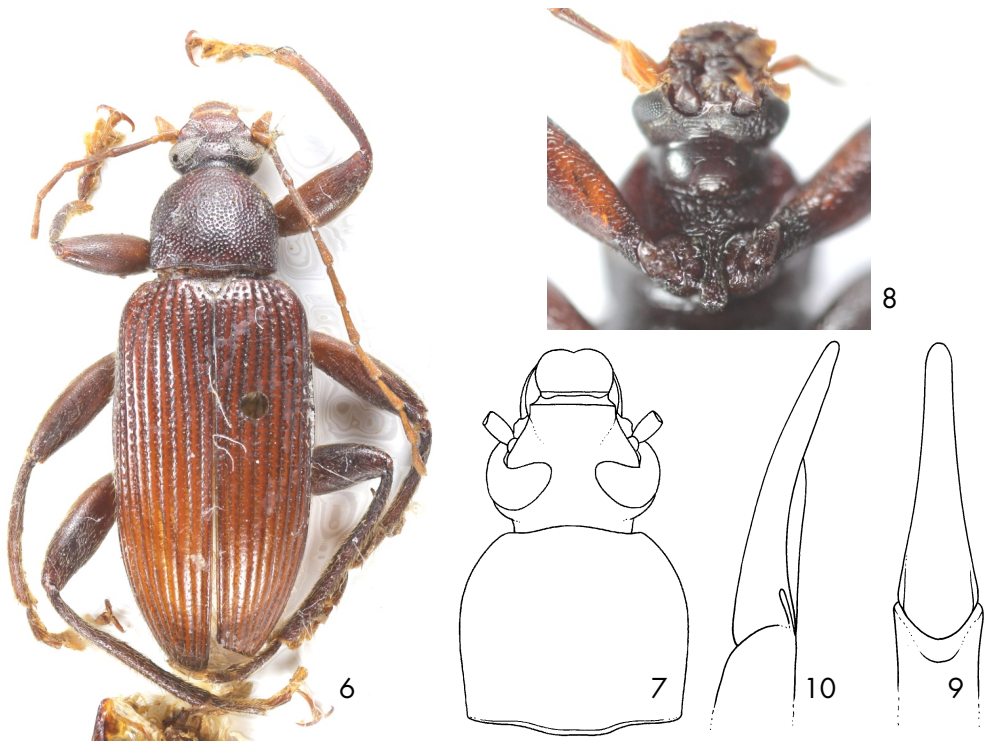
Distribution. Laos (Attapeu Province).

***Chitwania crassipes* (Fairmaire, 1882) comb. nov.**
(Figs. 6-10)

Allecula crassipes Fairmaire, 1882: 254.

Type locality. Indonesia, Island Sumatra, Loeboe Tarab in Rawas District.

Material examined. (♂): bl with bf: MUS.PRAGENSE / TENASSERIM / COLL.HELPER, (VNPC); (30 spec.): same data, (28 spec. in NMPC, 2 ♂♂ in VNPC). 1 spec. with additional label: *Allecula / crassipes* Frm / [Pic determ], (NMPC).



Figs. 6-10. *Chitwania crassipes* (Fairmaire, 1882) comb. nov. (male): 6- habitus; 7- head and pronotum; 8- prosternal process between procoxae; 9- apical piece of aedeagus, dorsal view; 10- apical piece of aedeagus, lateral view.

Measurements of examined male. BL 11.21 mm; HL 1.66 mm; HW 1.67 mm; OI 25.54; PL 2.25 mm; PW 2.30 mm; PI 97.84; EL 7.30 mm; EW 3.66 mm; AL 7.40 mm; AL/BL 0.66; HW/PW 0.73; BL/EW 3.06; EL/EW 2.00; AED 1: 2.63.

RLA(1-11): 0.45 : 0.22 : 1.00 : 0.98 : 0.84 : 0.80 : 0.82 : 0.82 : 0.80 : 0.77 : 0.77.

Remarks. Habitus as in Fig. 6, prosternal process between procoxae (Fig. 8), apical piece of aedeagus (Figs. 9 and 10), protarsal claws of male with many teeth, hollow with teeth only on one

side. Protibiae slightly and mesotibiae distinctly bent. Species distinctly belongs to the genus *Chitwania* Novák, 2015.

Distribution. Indonesia (Island Sumatra), Myanmar (Tenasserim).

***Chitwania fulva* sp. nov.**

(Figs. 11-15)

Type locality. Nepal, Mahakali, Kanchnapur, vicinity Mahandranagar, Shuklaphanta Nature Preserve, Dsauda river, N28°53'51" E80°13'39", 160 m, secondary forest.

Type material. Holotype (♂): NEP: Mahakali/Kanchnapur / vic. Mahandranagar, Shukla- / phanta Nature Res., Dsauda / river, N28°53'51" E80°13'39" / 160m, 01.VII.2017, secondary / forest, leg. A. Weigel, # 17-19, (NMEG). Paratype: (1 ♂): same data as holotype, (VNPC). The types are provided with a printed red label: '*Chitwania / fulva* sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2021'.

Description of holotype. Habitus as in Fig. 11, body relatively wide and large, convex, parallel, from yellow to blackish brown, dorsal surface slightly shiny with pale setation, punctuation and fine microgranulation, BL 11.39 mm. Widest near half elytra length; BL/EW 2.97.

Head (Fig. 12) dark brown, slightly wider than long, through the eyes distinctly wider than anterior margin of pronotum, very slightly narrower than base of pronotum. Dorsal surface slightly shiny, with sparse, pale setae and a few long, dark setae behind eyes, fine microgranulation and large and coarse punctures between eyes distinctly sparser than in anterior part. Clypeus reddish brown, with long, pale setae, very fine microgranulation and very small punctures, rather matte, half heart shaped, lateral margins rounded, apex excised in middle. Mandibles brown, glabrous, shiny, with very fine microgranulation and long, pale setae in sides. HW 1.73 mm; HW/PW 0.75; HL (visible part) 1.59 mm. Eyes very large, transverse, excised, space between eyes narrow, distinctly narrower than diameter of one eye; slightly wider than length of antennomere 1; OI equal to 27.67.

Antenna. Long, narrow (AL 7.97 mm, exceeding two thirds body length - AL/BL 0.70), dorsal surface with short, pale setation, punctures and microgranulation. Antennomeres 3-10 slightly widened apically, antennomere 2 shortest, antennomere 3 longest, dark brown, rest of antennomeres reddish brown. Ultimate antennomere widest before apex, half drop shaped.

RLA(1-11): 0.45 : 0.20 : 1.00 : 0.93 : 0.87 : 0.88 : 0.88 : 0.84 : 0.81 : 0.80 : 0.84.

RL/WA(1-11): 1.94 : 1.11 : 5.07 : 4.06 : 3.77 : 3.83 : 3.94 : 3.85 : 2.73 : 4.07 : 4.10.

Maxillary palpus pale brown, rather matte, with longer, pale setation, microgranulation and small and shallow punctures. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere widely triangular, slightly shoe-shaped.

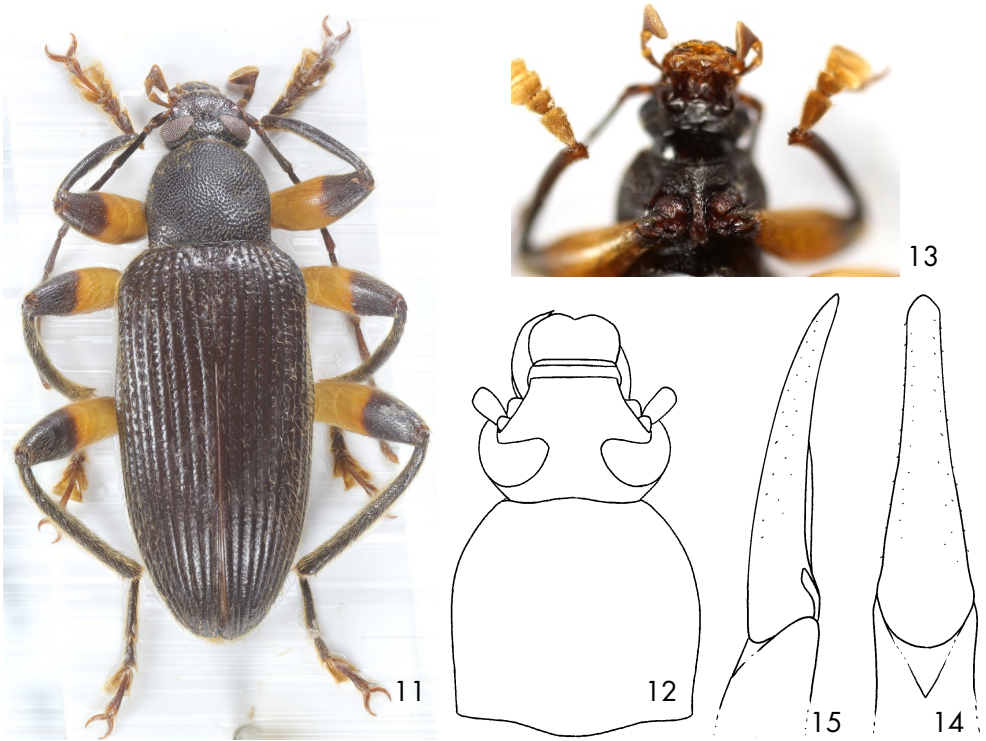
Pronotum (Fig. 12) dark brown, rather matte, convex, distinctly narrower than elytra at humeri, widest near two thirds from base to apex, approximately as long as wide. Dorsal surface with golden setae, dense punctuation, intervals between punctures narrower than diameter of punctures with fine microgranulation. PL 2.29 mm; PW 2.31 mm; PI equal to 99.13. Border lines very narrow, margins conspicuous from dorsal view, only in the middle of anterior margin not clear. Lateral margins straight and parallel in basal part, slightly arcuate in apical half, base finely bisinuate, anterior margin slightly rounded. Posterior and anterior angles obtuse.

Elytra. Dark brown, elongate oval, wide, slightly shiny. Dorsal surface with long, pale setation. EL 7.51 mm; EW 3.83 mm; EL/EW 1.96. Elytral striae with rows of large and coarse punctures

(approximately as large as those in pronotum), intervals between punctures in rows as wide as or narrower than diameter of punctures. Elytral intervals distinctly convex, with sparse, small, shallow punctures and microgranulation.

Scutellum. Brown, semi elliptical, slightly shiny, with setae, punctures and microgranulation.

Elytral epipleura well-developed, brown, covered with a pale setae and large punctures in basal part, widest in base, distinctly narrowing to ventrite 1, then narrow and parallel in apical part.



Figs. 11-15. *Chitwania fulva* sp. nov. (male holotype): 11- habitus; 12- head and pronotum; 13- prosternal process between procoxae; 14- apical piece of aedeagus, dorsal view; 15- apical piece of aedeagus, lateral view.

Legs. Long and strong, dark brown, dorsal surface with fine microgranulation, dense, pale setation and small punctures. Femora bicolour (basal two thirds yellow), mesotibiae distinctly bent. Protarsomeres and mesotarsomeres 3, 4 and metatarsomere 3 widened and lobed. RLT: 1.00 : 0.56 : 0.72 : 0.95 : 1.57 (protarsus); 1.00 : 0.43 : 0.53 : 0.67 : 1.15 (mesotarsus); 1.00 : 0.45 : 0.44 : 0.76 (metatarsus).

Tarsal claws long and bent with teeth only in one side of hollow claws, protarsal claws with more than 50 visible teeth.

Ventral side of body dark brown, with large and coarse punctures, metaventrite with pale setae. Procoxae separated by prosternal process (Fig. 13). Abdomen dark brown, slightly shiny, with microgranulation, pale setae and sparse, small and shallow punctures.

Aedeagus (Figs. 14, 15) ochre yellow, rather matte. Basal piece slightly narrowing in dorsal

view, slightly rounded laterally. Apical piece elongate triangular dorsally, beak shaped in dorsal and lateral views. Ratio of length of apical piece to length of basal piece from dorsal view 1: 2.66.

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=2). BL 11.28 mm (11.16-11.39 mm); HL 1.59 mm (1.58-1.59 mm); HW 1.72 mm (1.72-1.73 mm); OI 27.72 (27.67-27.76); PL 2.27 mm (2.25-2.29 mm); PW 2.31 mm (2.30-2.31 mm); PI 98.48 (97.83-99.13); EL 7.42 mm (7.33-7.51 mm); EW 3.81 mm (3.78-3.83 mm).

Differential diagnosis. (See the key below for more information). *Chitwania fulva* sp. nov. clearly differs from similar species *Chitwania attapeuica* sp. nov., *Chitwania luteimembris* (Pic, 1925) comb. nov. and *Chitwania valida* sp. nov. mainly by dorsal surface of elytra dark; while *Ch. attapeuica*, *Ch. luteimembris* and *Ch. valida* have dorsal surface of elytra pale.

Ch. fulva distinctly differs from similar species *Chitwania myanmarica* sp. nov., *Chitwania khaolakica* sp. nov., *Chitwania kejvali* Novák, 2015 and *Chitwania placida* sp. nov. mainly by femora unicolored; while *Ch. myanmarica*, *Ch. khaolakica*, *Ch. kejvali* and *Ch. placida* have femora bicolor.

Ch. fulva clearly differs from similar species *Chitwania hueica* sp. nov. mainly by antenna unicolored; while *Ch. hueica* has antenna bicolor.

Ch. fulva distinctly differs from similar species *Chitwania crassipes* (Fairmaire, 1882) comb. nov. mainly by antennomere 4 distinctly longer than antennomere 3, by dorsal surface of elytra dark brown and by ultimate maxillary palpomere brown; while *Ch. crassipes* has antennomere 4 approximately as long as antennomere 3, dorsal surface of elytra is reddish brown and ultimate maxillary palpomere is pale brown.

Etymology. The name *fulva* is taken from Latin (yellow), resembling its partly yellow femora.

Distribution. Nepal.

***Chitwania hueica* sp. nov.**

(Figs. 16-20)

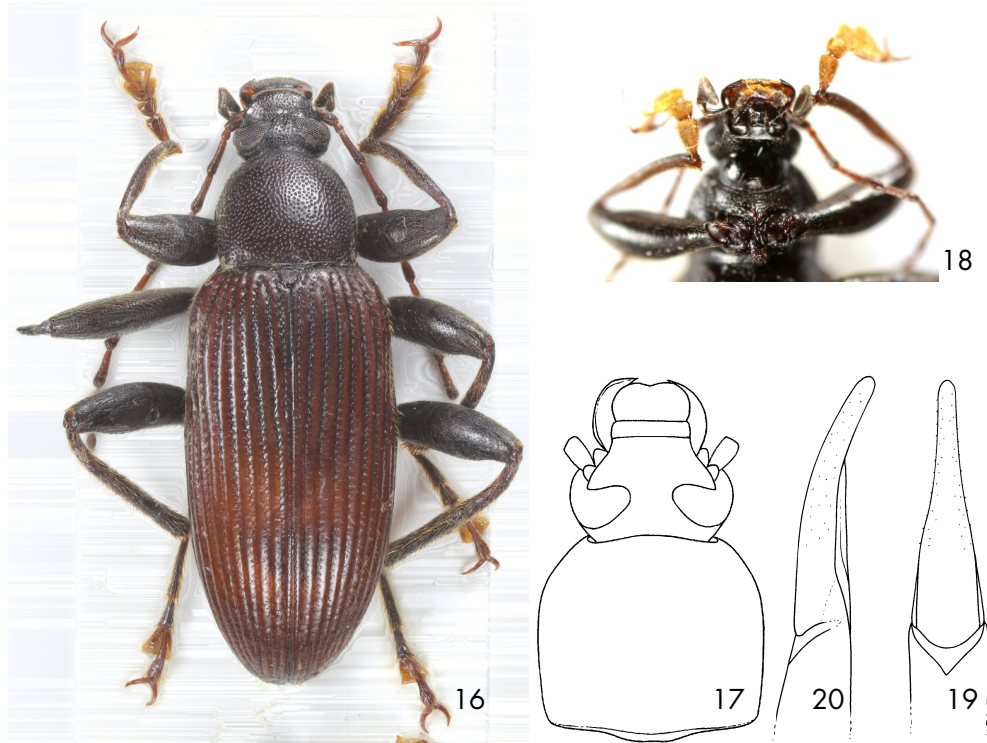
Type locality. Central Vietnam, Thua Thien Hue Province, 30 km west of Hue, 80 m, 16°17'59'' N, 107°20' / 22'' E, river valley, by light.

Type material. Holotype (♂): C-VIETNAM, Thua Thien- / Hue Prov. ca. 30 km W Hue, / 80 m, 16°17'59'' N, 107°20' / 22'' E, 10.V.2019, by light / river valley leg. A. Weigel, (NMEG). Paratypes: (2 ♂♂, 1 ♀): C-VIETNAM, Thua Thien-Hue Pr. / ca. 30km W Hue, River valley / 16°17'59'' N, 107°20'22'' E, 80m / 10.V.2019, leg. A. Skale, LF, (ASHG, VNPC). The types are provided with a printed red label: 'Chitwania / hueica sp. nov. / HOLOTYPUS or PARATYPUS / V. Novák det. 2021'.

Description of holotype. Habitus as in Fig. 16, body wide, elongate oval, convex, from reddish brown to dark brown, dorsal surface slightly shiny with pale setae, punctuation and fine microgranulation, BL 10.64 mm. Widest near elytral half; BL/EW 2.97.

Head (Fig. 17) dark brown, slightly wider than long, through the eyes distinctly wider than

anterior margin of pronotum, distinctly narrower than base of pronotum. Dorsal surface shiny, with sparse, pale setae and large and coarse punctures. Clypeus more matte, with dense and long, pale setation, half heart shaped, with very shallow punctures and microgranulation, lateral margins rounded, apex excised in middle. Mandibles reddish brown, glabrous, shiny, with darker sides and apex and a few pale setae in sides. HW 1.63 mm; HW/PW 0.71; HL (visible part) 1.50 mm. Eyes very large, transverse, excised, space between eyes narrow, distinctly narrower than diameter of one eye; slightly wider than length of antennomere 1; OI equal to 26.40.



Figs. 16-20. *Chitwania hueica* sp. nov. (male holotype): 16-habitus; 17-head and pronotum; 18-prosternal process between procoxae; 19-apical piece of aedeagus, dorsal view; 20-apical piece of aedeagus, lateral view.

Antenna. Long, narrow (AL 6.54 mm, not reaching two thirds body length - AL/BL 0.62). Antennomeres bicolor (brown with darker apex), dorsal surface with short pale setation and punctures. Antennomere 2 shortest, antennomere 4 longest. Antennomeres 5-11 slightly shorter than antennomere 3. Antennomeres 1-4 slightly shiny, antennomeres 5-11 with microgranulation, rather matte. Ultimate antennomere widest before apex, half drop shaped.

RLA(1-11): 0.54 : 0.20 : 1.00 : 1.21 : 0.96 : 0.95 : 0.96 : 0.97 : 0.97 : 0.94 : 0.98.

RL/WA(1-11): 2.13 : 1.00 : 4.35 : 4.37 : 3.78 : 3.75 : 3.90 : 3.13 : 3.49 : 3.81 : 3.73.

Maxillary palpus dark brown, slightly shiny, with long, pale setation, microgranulation and small and shallow punctures. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere widely triangular, slightly shoe shaped.

Pronotum (Fig. 17) dark brown, shiny, convex, distinctly narrower than elytra at humeri, widest at two thirds from base to apex, approximately as long as wide. Dorsal surface with sparse, pale setae, sparse, fine microgranulation and dense, coarse punctation, punctures large, intervals between punctures narrower than diameter of punctures. PL 2.23 mm; PW 2.31 mm; PI equal to 96.54. Border lines very narrow, margins conspicuous from dorsal view, only in the middle of anterior margin not clear. Lateral margins straight and parallel in basal part, slightly arcuate in apical half, base very finely bisinuate, anterior margin slightly rounded. Posterior angles obtuse, anterior angles indistinct.

Elytra. Reddish brown, elongate oval, shiny, convex, widest near middle. Dorsal surface with sparse, pale setae. EL 6.91 mm; EW 3.58 mm; EL/EW 1.93. Elytral striae with rows of large and coarse punctures, intervals between punctures in rows narrower than diameter of punctures. Elytral intervals distinctly convex, with sparse, small, shallow punctures and microgranulation.

Scutellum. Dark brown, pentagonal, more matte, with setae, punctures and microgranulation.

Elytral epipleura well-developed, reddish brown, covered with pale setae and large punctures, widest at base, distinctly narrowing to ventrite 1, then leading parallel in apical part.

Legs. Long, dark brown, dorsal surface with fine microgranulation, setation and shallow punctures. Femora strong, protibiae with distinct angle and slightly excised on inner side. Mesotibiae distinctly bent. Protarsomeres and mesotarsomeres 3, 4 and metatarsomere 3 widened and lobed. RLT: 1.00 : 0.51 : 0.83 : 0.89 : 1.52 (protarsus); 1.00 : 0.49 : 0.56 : 0.66 : 1.01 (mesotarsus); 1.00 : 0.44 : 0.40 : 0.74 (metatarsus).

Tarsal claws long and bent with teeth only in one side of hollow claws, protarsal claws with more than 40 visible teeth.

Ventral side of body black, shiny, with sparse, short, pale setae and large punctures. Procoxae separated by prosternal process (Fig. 18). Abdomen black, slightly shiny, with short, pale setae, fine microgranulation and sparse, small and shallow punctures.

Aedeagus (Figs. 19, 20) pale brown, slightly shiny. Basal piece very slightly rounded in lateral view and slightly narrowing in dorsal view. Apical piece narrow, elongate triangular, beak shaped in dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1 : 2.71.

Female has tibiae normally shaped, without angle, not excised in inner side, not bent. Protarsal claws are short not bent, with only 13 visible teeth.

Measurements of female body. BL 10.79 mm; HL 1.48 mm; HW 1.61 mm; OI 28.03; PL 2.01 mm; PW 2.30 mm; PI 87.39; EL 7.30 mm; EW 3.70 mm; AL(1-11) 6.28 mm; AL(1-11)/BL 0.58; HW/PW 0.70; BL/EW 2.92; EL/EW 1.97.

RLA(1-11): 0.52 : 0.23 : 1.00 : 1.12 : 1.06 : 1.06 : 1.07 : 1.09 : 1.04 : 1.01 : 1.08.

RL/WA(1-11): 2.11 : 1.14 : 4.78 : 4.56 : 4.88 : 4.64 : 3.93 : 4.44 : 3.68 : 3.58 : 3.61.

RLT: 1.00 : 0.44 : 0.61 : 0.90 : 1.66 (protarsus); 1.00 : 0.48 : 0.39 : 0.59 : 0.96 (mesotarsus); 1.00 : 0.45 : 0.52 : 0.66 (metatarsus).

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n= 3). BL 10.88 mm (10.64-11.11 mm); HL 1.52 mm (1.50-1.55 mm); HW 1.61 mm (1.63-1.68 mm); OI 26.26 (24.75-27.63); PL 2.16 mm (2.11-2.23 mm); PW 2.28 mm (2.26-2.31 mm); PI 94.59 (92.54-96.54); EL 7.20 mm (6.91-7.42 mm); EW 3.53 mm (3.47-3.58 mm).

Differential diagnosis. (See the key below for more information). *Chitwania hueica* sp. nov. clearly differs from the species *Chitwania attapeuca* sp. nov., *Chitwania luteimembris* (Pic, 1925) comb. nov. and *Chitwania valida* sp. nov. mainly by dark dorsal surface of elytra; while *Ch. attapeuca*, *Ch. luteimembris* and *Ch. valida* have dorsal surface of elytra pale.

Ch. hueica is distinctly different from similar species *Chitwania khaolakica* sp. nov., *Chitwania myanmarica* sp. nov., *Chitwania kejvali* Novák, 2015 and *Chitwania placida* sp. nov. mainly by femora unicolored; while *Ch. khaolakica*, *Ch. myanmarica*, *Ch. kejvali* and *Ch. placida* have femora bicolor.

Ch. hueica clearly differs from the species *Chitwania crassipes* (Fairmaire, 1882) comb. nov. and *Chitwania fulva* sp. nov. mainly by antennomeres bicolor; while *Ch. crassipes* and *Ch. fulva* have antennomeres unicolored.

Etymology. Toponymic, named after last word of the name of Thua Thien Hue Province in Vietnam .

Distribution. Vietnam (Thua Thien Hue Province).

***Chitwania kejvali* Novák, 2015**

(Figs. 21, 22)

Chitwania kejvali Novák, 2015: 93.



21



22

Figs. 21, 22. *Chitwania kejvali* Novák, 2015 (male paratype): 21-habitus; 22- prosternal process between procoxae.

Type locality. Nepal centr., province Narayani, Chitwan NP near Sauraha, N 27°33'25'', E 84°21'34'', 150 m.

Type material. Paratype (♂): NEPAL centr.Prov.Narayani / SW Sauraha, Royal Chitwan / Nat.Park 180m, 27°34'51''N, / 84°29'30''E 15.07.2001 KL/HF / leg. A. Kopetz, deciduous forest, (VNPC).

Remark. Description of male holotype in Novák (2015: 93-94). Figures in Novák (2015: 93 - fig. 1- habitus of male holotype; fig. 2- head and pronotum of male holotype; fig. 3- protibia of male holotype; figs. 4 and 5- aedeagus).

Distribution. India (Uttaranchal State), Nepal.

***Chitwania khaolakica* sp. nov.**
(Figs. 23-27)

Type locality. Thailand, Khao Lak Province, 2 km northeast of Hotel Similaria.

Type material. Holotype (♂): Thailand / Khao Lak Hotel Simi- / laria, 2 km NE, geklopft / U. Schmidt 8.-22.XI.2007, (NMEG). The types is provided with a printed red label: 'Chitwania / khaolakica sp. nov. / HOLOTYPE / V. Novák det. 2021'.

Description of holotype. Habitus as in Fig. 23, body wide, elongate oval, convex, from pale reddish brown to blackish brown, dorsal surface shiny with pale setation, punctuation and microgranulation, BL 10.90 mm. Widest near half elytra length; BL/EW 3.09.

Head (Fig. 24) approximately as wide as long, through the eyes distinctly wider than anterior margin of pronotum, distinctly narrower than base of pronotum. Dorsal surface with punctures and microgranulation. Posterior part blackish brown with sparse pale setae, few dark setae behind eyes and coarser punctures than those in pale reddish brown anterior half. Clypeus pale reddish brown, wide and transverse, rounded, with very small and very shallow punctures, microgranulation and denser long, pale setation as those in apex of anterior part, apex almost indistinctly excised in middle. Mandibles reddish brown, glabrous, shiny, with darker sides and apex with a few pale setae on sides. HW 1.65 mm; HW/PW 0.71; HL (visible part) 1.62 mm. Head between eyes with shiny places larger than diameter of punctures. Eyes large, transverse, excised, space between eyes narrow, distinctly narrower than diameter of one eye; slightly wider than length of antennomere 1; OI equal to 27.86.

Antenna. Long, narrow, slightly shiny (AL 6.58 mm, exceeding half body length - AL/BL 0.60). Antennomeres 1 and 2 pale reddish brown, antennomeres 3 and 4 blackish brown and antennomeres 5-11 brown. Surface short with pale setation, microgranulation and punctures. Antennomere 2 shortest, antennomere 4 longest. Antennomeres 5-11 shorter than antennomere 3. Antennomeres 3-10 slightly widened apically, ultimate antennomere widest in middle, half drop shaped.

RLA(1-11): 0.49 : 0.20 : 1.00 : 1.18 : 0.88 : 0.90 : 0.89 : 0.90 : 0.89 : 0.84 : 0.84.

RL/WA(1-11): 2.03 : 1.14 : 4.63 : 6.44 : 4.40 : 4.31 : 3.96 : 4.15 : 3.83 : 3.75 : 3.75.

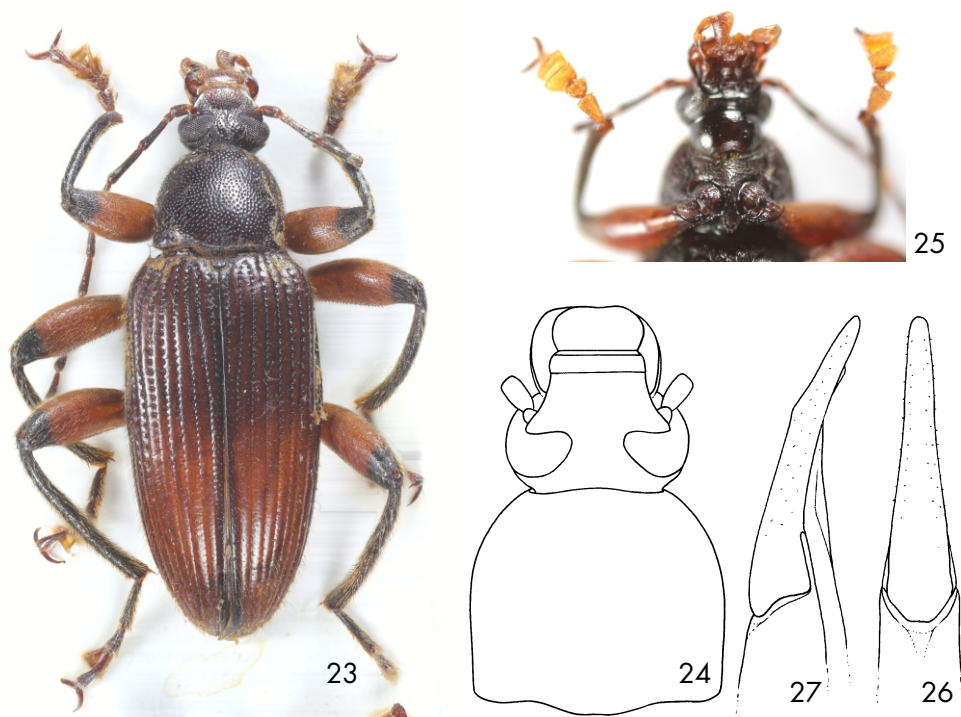
Maxillary palpus pale brown, slightly shiny, with pale setae, microgranulation and small and shallow punctures. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere distinctly darker than penultimate, widely triangular, shoe-shaped.

Pronotum (Fig. 24) dark brown, shiny, convex, almost as long as wide, distinctly narrower than elytra at humeri, widest near middle. Dorsal surface with pale setae, fine microgranulation and dense, coarse punctuation, punctures relatively large, intervals between punctures almost narrower than diameter of punctures. PL 2.18 mm; PW 2.34 mm; PI equal to 92.95. Border lines

very narrow, margins conspicuous from dorsal view, only in the middle of anterior margin not clearly distinct. Lateral margins straight and parallel in basal part, slightly arcuate in apical half, base finely bisinuate, anterior margin slightly rounded. Posterior and anterior angles obtuse.

Elytra. Reddish brown, widely elongate, convex, shiny. Dorsal surface with pale setae. EL 7.10 mm; EW 3.53 mm; EL/EW 2.01. Elytral striae with rows of large and coarse punctures (slightly larger than those in pronotum), intervals between punctures in rows narrower than diameter of punctures. Elytral intervals convex, with sparse, small, shallow punctures and microgranulation.

Scutellum. Brown, pentagonal, slightly shiny, with small, shallow punctures and microgranulation.



Figs. 23-27. *Chitwania khaolakica* sp. nov. (male holotype): 23- habitus; 24- head and pronotum; 25- prosternal process between procoxae; 26- apical piece of aedeagus, dorsal view; 27- apical piece of aedeagus, lateral view.

Elytral epipleura well-developed, blackish brown, covered with a few pale setae and large punctures in basal part, widest in base, distinctly narrowing to ventrite 1, then relatively narrow and parallel in apical part.

Legs. Long, strong femora pale reddish brown with blackish brown apex, tibiae, mesotarsomeres 1 and 2 and metatarsus blackish brown, protarsus and mesotarsomeres 3-5 reddish brown, dorsal surface with fine microgranulation, long, pale setation and shallow punctures. Protibiae slightly excised in apical half of inner side, mesotibiae distinctly bent. Protarsomeres and mesotarsomeres 3, 4 and metatarsomere 3 widened and lobed. RLT: 1.00 : 0.52 : 0.66 : 1.01 : 1.41 (protarsus); 1.00 : 0.55 : 0.43 : 0.63 : 1.03 (mesotarsus); 1.00 : 0.43 : 0.44 : 0.79 (metatarsus).

Tarsal claws long and bent with teeth only on one side of hollow claws, protarsal claws with more than 50 visible teeth.

Ventral side of body blackish brown, with sparse, short, pale setae and punctures, shiny. Procoxae separated by prosternal process (Fig. 25). Abdomen blackish brown, shiny, with pale setae, very fine microgranulation and very small punctures.

Aedeagus (Figs. 26, 27) ochre yellow, shiny, apical piece slightly darker. Basal piece slightly narrowing in dorsal view and slightly rounded laterally. Apical piece narrowly triangular dorsally, beak shaped in dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1 : 3.29.

Female unknown.

Differential diagnosis. (See the key below for more information). *Chitwania khaolakica* sp. nov. clearly differs from the species *Chitwania attapeuica* sp. nov., *Chitwania luteimembris* (Pic, 1925) comb. nov. and *Chitwania valida* sp. nov. mainly by dark dorsal surface of elytra; while *Ch. attapeuica*, *Ch. luteimembris* and *Ch. valida* have dorsal surface of elytra pale.

Ch. khaolakica is distinctly different from similar species *Chitwania hueica* sp. nov. and *Chitwania crassipes* (Fairmaire, 1882) comb. nov. mainly by femora bicolor; while *Ch. hueica* and *Ch. crassipes* have femora unicolor.

Etymology. Toponymic, named after the type locality Khao Lak in Phang-nga Province (Thailand).

Distribution. Thailand (Phang-nga Province).

***Chitwania luteimembris* (Pic, 1925) comb. nov.**

(Figs. 28-32)

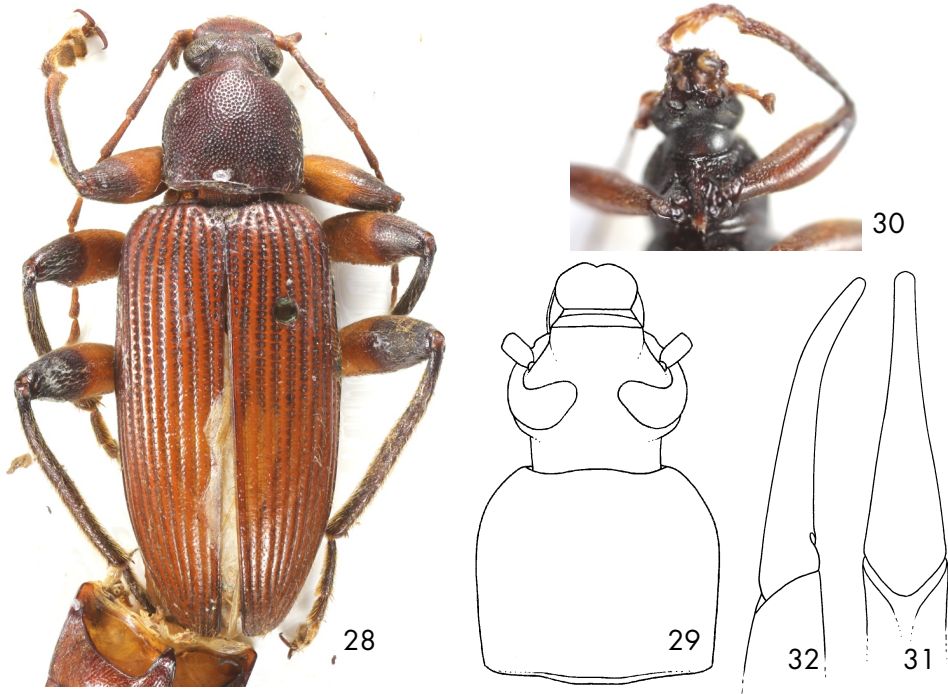
Allecula crassipes luteimembris Pic, 1925: 161.

Type locality. Myanmar, Tenasserim.

Designation of male lectotype. Lectotype (♂): bl with bf: MUS.PRAGENSE / TENASSERIM / COLL.HELPER, (NMPC). Paralectotypes: same data, (12 spec. in NMPC, 3 spec. in VNPC). The specimens are provided with a printed green label: 'Chitwania / luteimembris (Pic, 1925) / LECTOTYPE / or PARALECTOTYPE / V. Novák des. 2021'.

Redescription of male lectotype. Habitus as in Fig. 28, body elongate oval, convex, from pale reddish brown to blackish brown, dorsal surface slightly shiny with pale setae, punctuation and fine microgranulation, BL 12.83 mm. Widest near half elytra length; BL/EW 3.26. Head (Fig. 29) slightly longer than wide, through the eyes distinctly wider than anterior margin of pronotum, distinctly narrower than base of pronotum. Dorsal surface with punctures, microgranulation and pale setae. Posterior part reddish brown with larger and coarser punctures than those in pale reddish brown anterior half. Clypeus pale reddish brown, transverse, half heart shaped, sides rounded, with very small and very shallow punctures, microgranulation and long, pale setation denser than those in apex of anterior part, apex distinctly excised in middle. Mandibles ochre yellow, glabrous, shiny, with darker sides and apex with a few pale setae on sides. HW 1.89 mm; HW/PW 0.74; HL (visible part) 2.14 mm. Eyes large, transverse, excised, space between eyes narrow, distinctly narrower than diameter of one eye; approximately as wide

as length of antennomere 1; OI equal to 25.38. Antenna long, narrow, brown or reddish brown, rather matte (AL 8.21 mm; almost reaching two thirds body length AL/BL 0.64). Surface with short pale setation, microgranulation and punctures. Antennomere 2 shortest, antennomere 4 longest.



Figs. 28-32. *Chitwania luteimembris* (Pic, 1925) comb. nov. (male lectotype): 28- habitus; 29- head and pronotum; 30- prosternal process between procoxae; 31- apical piece of aedeagus, dorsal view; 32- apical piece of aedeagus, lateral view.

Antennomeres 5-11 shorter than antennomere 3. Antennomeres 3-10 slightly widened apically, ultimate antennomere widest near middle, half drop shaped. RLA(1-11): 0.45 : 0.22 : 1.00 : 1.17 : 0.97 : 0.90 : 0.90 : 0.94 : 0.94 : 0.92 : 0.94. Maxillary palpus pale brown, rather matte, with pale setation and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere distinctly darker (reddish brown) than penultimate, widely triangular, slightly shoe shaped. Pronotum (Fig. 29) dark brown, shiny, convex, almost as long as wide, distinctly narrower than elytra at humeri, widest near two thirds from base to apex. Dorsal surface with sparse, pale setae, fine microgranulation and dense, coarse punctuation, punctures relatively large, intervals between punctures narrower than diameter of punctures. PL 2.37 mm; PW 2.54 mm; PI equal to 93.35. Border lines very narrow, margins conspicuous from dorsal view, only in the middle of anterior margin not clearly distinct. Lateral margins straight and parallel in basal part, arcuate in apical half, base very finely bisinuate, anterior margin slightly rounded. Posterior and anterior angles obtuse. Elytra pale reddish brown, elongate oval, convex, slightly shiny. Dorsal surface with sparse, pale setae. EL 8.32 mm; EW 3.94 mm; EL/EW 2.11. Elytral striae with rows of large and coarse punctures (slightly larger than those in pronotum), intervals between punctures in rows narrower than diameter of punctures. Elytral intervals finely convex, with very sparse, small, shallow punctures and microgranulation. Scutellum reddish

brown with darker sides, semi elliptical, matte, with a few small, shallow punctures and microgranulation. Elytral epipleura well-developed, reddish brown, with row of punctures with pale setae narrowing to ventrite 1 in basal part, then relatively narrow and parallel leading in apical part. Legs long and narrow, strong femora with pale reddish brown apical two thirds and blackish brown apex, tibiae and tarsi blackish brown, protibiae with paler apex. Dorsal surface with fine microgranulation, pale setation and small, shallow punctures. Protibiae slightly bent and slightly excised in apical half of inner side, mesotibiae distinctly bent. Protarsomeres and mesotarsomeres 3, 4 and metatarsomere 3 widened and lobed. Tarsal claws long and bent, protarsal claws with more than 50 visible teeth. Ventral side of body dark reddish brown, with pale setae and punctures. Anterior coxae separated by prosternal process (Fig. 30). Ultimate and penultimate ventrites dark reddish brown distinctly darker than reddish brown ventrites 1-3, abdomen shiny, with recumbent, pale setae, fine microgranulation and very small punctures. Aedeagus (Figs. 31, 32) ochre yellow, shiny, apical piece slightly darker at base and rather matte. Basal piece narrowing in dorsal view and rounded laterally. Apical piece elongate triangular dorsally, beak shaped in dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1 : 2.73.

Female has tibiae normally shaped, not bent. Protarsal claws are shorter not bent.

Distribution. Myanmar (Tenasserim).

***Chitwania myanmarica* sp. nov.**

(Figs. 33-37)

Type locality. Myanmar, Rangoon - Taikkyi, Nyaunggon.

Type material. Holotype (♂): wl: 19-31. V. 2001 / BURMA (MYANMAR) / rangoon-taikkyi / nyaunggon / Klícha M. lgt., (VNPC). Paratype (♀): same data as holotype, (VNPC). The types are provided with a printed red label: 'Chitwania / myanmarica sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2021'.

Description of holotype. Habitus as in Fig. 33, body wide, elongate oval, convex, from ochre yellow to blackish brown, dorsal surface shiny with pale setation, punctuation and fine microgranulation, BL 11.52 mm. Widest near half elytra length; BL/EW 3.25.

Head (Fig. 34) approximately as wide as long, through the eyes distinctly wider than anterior margin of pronotum, slightly narrower than base of pronotum. Dorsal surface with punctures, long, pale setae and microgranulation. Posterior part blackish brown with coarser punctures than those in pale reddish brown anterior half with ochre yellow apex. Clypeus reddish brown, wide and transverse, rounded, half heart shaped, with very small and very shallow punctures, microgranulation and denser long, pale setation, apex almost slightly excised in middle. Mandibles reddish brown, glabrous, shiny, with darker sides and apex and a few pale setae in sides. HW 1.76 mm; HW/PW 0.78; HL (visible part) 1.75 mm. Head between eyes with shiny places larger than diameter of punctures. Eyes large, transverse, excised, behind eyes with a few dark setae, space between eyes narrow, distinctly narrower than diameter of one eye; approximately as wide as length of antennomere 1; OI equal to 24.31.

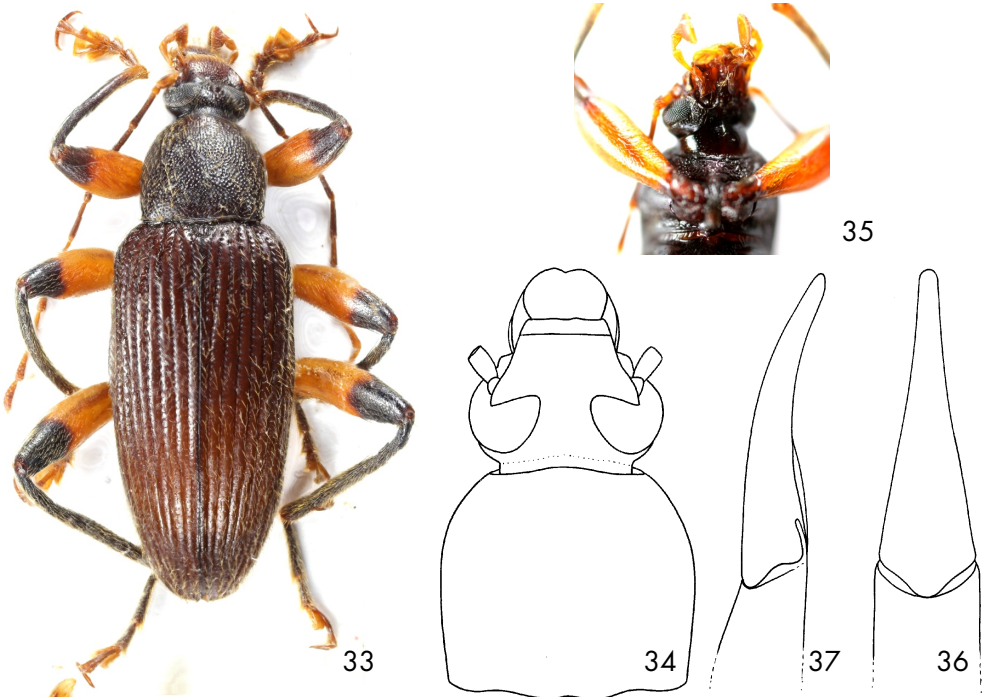
Antenna. Long, narrow, slightly shiny (AL 7.62 mm, reaching two thirds body length - AL/BL 0.66). Antennomeres 1, 2, 7-11 pale brown, antennomeres 3-6 dark brown or blackish brown. Surface with pale setation, microgranulation and small punctures. Antennomere 2 shortest, antennomere 4 longest. Antennomeres 5-11 shorter than antennomere 3. Antennomeres 3-10

slightly widened apically, ultimate antennomere widest near middle, half drop shaped.

RLA(1-11): 0.56 : 0.17 : 1.00 : 1.18 : 0.88 : 0.98 : 0.96 : 0.98 : 0.94 : 0.90 : 0.87.

RL/WA(1-11): 2.47 : 1.05 : 5.74 : 6.44 : 6.40 : 6.14 : 5.96 : 6.15 : 5.83 : 5.75 : 4.00.

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



Figs. 33-37. *Chitwania myanmarica* sp. nov. (male holotype): 33- habitus; 34- head and pronotum; 35- prosternal process between procoxae; 36- apical piece of aedeagus, dorsal view; 37- apical piece of aedeagus, lateral view.

Pronotum (Fig. 34) dark brown, slightly shiny, convex, almost as long as wide, distinctly narrower than elytra at humeri, widest near middle. Dorsal surface with pale setae, fine microgranulation and dense, coarse punctuation, punctures relatively large, intervals between punctures narrower than diameter of punctures. PL 2.14 mm; PW 2.25 mm; PI equal to 95.11. Border lines very narrow, margins conspicuous in dorsal view, only in the middle of anterior margin not clearly distinct. Lateral margins straight and parallel in basal part, slightly arcuate in apical half, base finely bisinuate, anterior margin slightly rounded. Posterior and anterior angles obtuse.

Elytra. Brown, elongate oval, convex, slightly shiny. Dorsal surface with pale setae. EL 7.63 mm; EW 3.55 mm; EL/EW 2.15. Elytral striae with rows of large and coarse punctures (approximately as large as those in pronotum), intervals between punctures in rows narrower than diameter of punctures. Elytral intervals convex, with sparse, small, shallow punctures and microgranulation.

Scutellum. Brown, semi elliptical, rather matte, with a few punctures, pale setae and fine microgranulation.

Elytral epipleura well-developed, reddish brown, covered with long, pale setation and punctures in basal part, widest in base, distinctly narrowing to ventrite 1 (here narrowest), then relatively narrow and parallel in apical part.

Legs. Long, strong femora pale reddish brown with blackish brown apex, tibiae and metatarsomeres 1 and 2 blackish brown, apex of protibiae pale reddish brown, protarsus, mesotarsus and metatarsomeres 3 and 4 brown. Dorsal surface with fine microgranulation, pale setation and shallow punctures. Protibiae slightly excised in apical half of inner side, mesotibiae distinctly bent. Protarsomeres and mesotarsomeres 3, 4 and metatarsomere 3 widened and lobed. RLT: 1.00 : 0.62 : 0.65 : 0.74 : 1.40 (protarsus); 1.00 : 0.45 : 0.49 : 0.54 : 1.06 (mesotarsus); 1.00 : 0.49 : 0.41 : 0.75 (metatarsus).

Tarsal claws long and bent with teeth only in one side of hollow claws, protarsal claws with more than 40 visible teeth.

Ventral side of body dark brown, with sparse, short, pale setae and punctures. Procoxae separated by prosternal process (Fig. 35). Abdomen blackish brown, slightly shiny, with pale setae, fine microgranulation and very small, sparse punctures.

Aedeagus (Figs. 36, 37) ochre yellow, shiny. Basal piece slightly narrowing in dorsal view and rounded laterally. Apical piece elongate triangular dorsally, beak shaped in dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1 : 2.90.

Female has tibiae normally shaped, not bent. Protarsal claws are shorter not bent, with only 15 visible teeth.

Measurements of female body. BL 13.00 mm; HL 1.91 mm; HW 1.92 mm; OI 27.39; PL 2.42 mm; PW 2.69 mm; PI 89.55; EL 8.67 mm; EW 4.36 mm; AL(1-11) 7.80 mm; AL(1-11)/BL 0.60; HW/PW 0.71; BL/EW 2.98; EL/EW 1.99.

RLA(1-11): 0.40 : 0.21 : 1.00 : 1.15 : 0.97 : 0.97 : 0.94 : 0.96 : 0.87 : 0.76 : 0.75.

RL/WA(1-11): 2.19 : 1.58 : 6.46 : 7.09 : 7.21 : 6.85 : 6.38 : 6.80 : 5.86 : 5.68 : 5.63.

RLT: 1.00 : 0.55 : 0.69 : 0.99 : 1.54 (protarsus); 1.00 : 0.44 : 0.35 : 0.69 (metatarsus).

Differential diagnosis. (See the key below for more information). *Chitwania myanmarica* sp. nov. clearly differs from the species *Chitwania attapeuica* sp. nov., *Chitwania luteimembris* (Pic, 1925) comb. nov. and *Chitwania valida* sp. nov. mainly by dark dorsal surface of elytra; while *Ch. attapeuica*, *Ch. luteimembris* and *Ch. valida* have dorsal surface of elytra pale.

Ch. myanmarica is distinctly different from similar species *Chitwania hueica* sp. nov. and *Chitwania crassipes* (Fairmaire, 1882) comb. nov. mainly by femora bicolor; while *Ch. hueica* and *Ch. crassipes* have femora unicolored.

Similar species occurring beyond Nepal or India is *Chitwania khaolakica* sp. nov. *Ch. myanmarica* clearly differs from the species *Ch. khaolakica* mainly by antenna bicolor and by apex of protibiae pale brown; while *Ch. khaolakica* has unicolored antenna and apex of protibiae is dark.

Etymology. Named after the state of its origin - Myanmar.

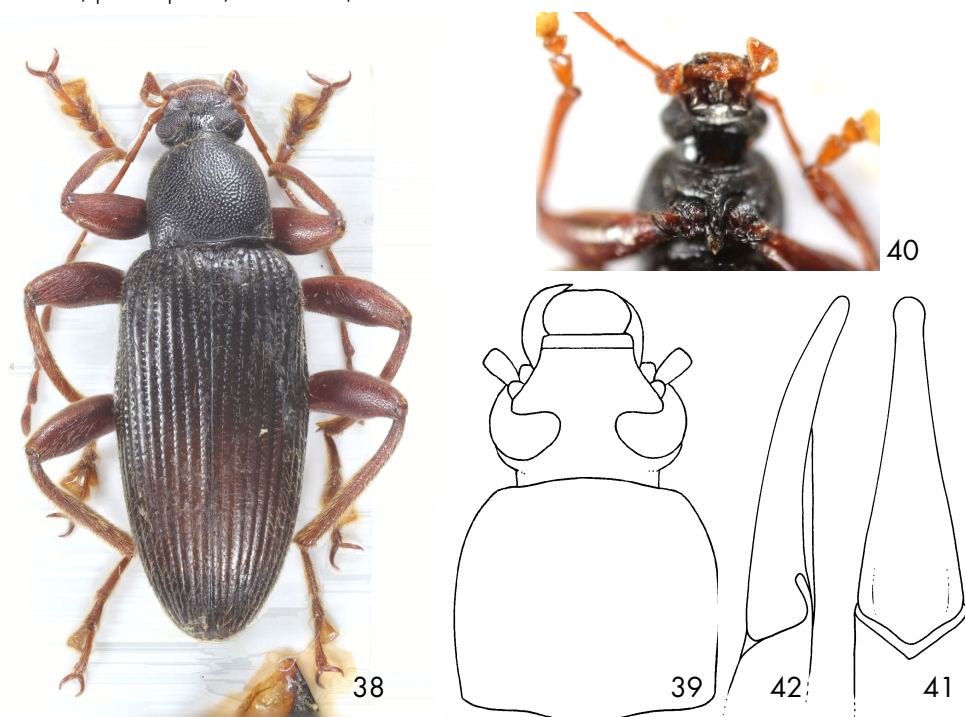
Distribution. Myanmar.

***Chitwania placida* sp. nov.**

(Figs. 38-42)

Type locality. India, Maharashtra State, 30 km west of Karad, Patan, 570 m, 17°22' N, 73°54' E, near river.

Type material. Holotype (♂): INDIA, Maharashtra, / ca 30 km W of Karad, / PATAN, 17°22' N 73° / 54' E, 570 m, near river, / 12.vi.2006, Z. Kejval lgt., (VNPC). Paratypes: (1 ♂, 1 ♀): INDIA, Maharashtra, ca 15 km / N of MAHAD, 18°12' N / 73°24' E, near river, ca 20 m, / 8.vi.2006, Z. Kejval lgt., (VNPC). The types is provided with a printed red label: 'Chitwania / placida sp. nov. / HOLOTYPE / V. Novák det. 2021'.



Figs. 38-42. *Chitwania placida* sp. nov. (male holotype): 38- habitus; 39- head and pronotum; 40- prosternal process between procoxae; 41- apical piece of aedeagus, dorsal view; 42- apical piece of aedeagus, lateral view.

Description of holotype. Habitus as in Fig. 38, body elongate oval, convex, from reddish brown to dark brown, dorsal surface shiny with pale setation, punctuation and very fine microgranulation, BL 11.52 mm. Widest near middle elytra length; BL/EW 3.12.

Head (Fig. 39) slightly wider than long, through the eyes approximately as wide as anterior margin of pronotum, slightly narrower than base of pronotum. Dorsal surface slightly shiny. Posterior part blackish brown with short, pale setae and larger and coarser punctures than those in reddish brown anterior part with long, pale setae in apex. Surface between eyes with sparse punctures and shiny places larger than interval between punctures. Head behind eyes with a few dark setae. Clypeus reddish brown, wide and transverse, rounded, with very small and very shallow punctures, microgranulation and long, pale setation. Mandibles reddish brown, glabrous, shiny, with a few pale setae on sides. HW 1.72 mm; HW/PW 0.73; HL (visible part) 1.63 mm. Eyes large, transverse, excised, space between eyes narrow, distinctly narrower than diameter of one eye; slightly wider than length of antennomere 1; OI equal to 27.54.

Antenna. Long and narrow (AL 7.13 mm, exceeding half body length - AL/BL 0.62). Antennomeres rather matte with short pale setation, microgranulation and punctures.

Antennomeres 1-4 pale reddish brown, antennomeres 5-11 reddish brown, antennomere 2 shortest, antennomere 4 longest. Antennomeres 5-11 shorter or as long as antennomere 3, antennomeres 3-10 slightly widened apically, ultimate antennomere widest before apex, half drop shaped.

RLA(1-11): 0.50 : 0.22 : 1.00 : 1.12 : 1.00 : 0.97 : 0.96 : 0.98 : 0.97 : 0.95 : 0.95.

RL/WA(1-11): 2.17 : 1.17 : 5.08 : 4.73 : 5.29 : 6.15 : 4.36 : 3.88 : 4.39 : 4.44 : 4.29.

Maxillary palpus reddish brown, rather matte, with longer, pale setae, microgranulation and small and shallow punctures. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere widely triangular.

Pronotum (Fig. 39) dark brown, slightly shiny, convex, distinctly narrower than elytra at humeri, widest in the middle of lateral margin, almost as long as wide. Dorsal surface with pale setae, fine microgranulation and dense punctuation, punctures relatively large, intervals between punctures distinctly narrower than diameter of punctures. PL 2.26 mm; PW 2.36 mm; PI equal to 95.92. Border lines very narrow, margins conspicuous in dorsal view, only in the middle of anterior margin not clearly distinct. Lateral margins slightly arcuate, base finely bisinuate, anterior margin slightly rounded. Posterior and anterior angles obtuse.

Elytra. Dark brown, elongate oval, convex, shiny, widest in the middle. Dorsal surface with pale setation. EL 7.63 mm; EW 3.69 mm; EL/EW 2.07. Elytral striae with rows of large and coarse punctures (approximately as large as those in pronotum), intervals between punctures in rows narrower than diameter of punctures. Elytral intervals slightly convex, with sparse, small and shallow punctures and fine microgranulation.

Scutellum. Brown, semi elliptical, rather matte, with setae, punctures and microgranulation.

Elytral epipleura well-developed, blackish brown, covered with a few pale setae and shallow punctures, widest in base, distinctly narrowing to ventrite 1, then leading parallel in apical part.

Legs. Long, reddish brown, dorsal surface with fine microgranulation, long, pale setation and shallow punctures. Femora strong, protibiae slightly excised in apical part of inner side, mesotibiae distinctly bent. Protarsomeres and mesotarsomeres 3, 4 and metatarsomere 3 widened and lobed. RLT: 1.00 : 0.51 : 0.85 : 0.99 : 1.51 (protarsus); 1.00 : 0.44 : 0.51 : 0.76 : 1.37 (mesotarsus); 1.00 : 0.46 : 0.51 : 0.92 (metatarsus).

Tarsal claws long and bent with teeth only in one side of hollow claw, protarsal claws with more than 50 visible teeth.

Ventral side of body dark brown with punctures, prothorax and mesoventrite almost glabrous, metaventrite with sparse pale setae. Procoxae separated by prosternal process (Fig. 40). Abdomen blackish brown, slightly shiny, with recumbent pale setation, fine microgranulation and sparse, small and shallow punctures.

Aedeagus (Figs. 41, 42) pale brown, rather matte. Basal piece finely narrowing in dorsal view, very slightly rounded laterally. Apical piece elongate triangular with rounded apex dorsally, beak shaped in dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1 : 2.35.

Female has tibiae normally shaped, not bent. Protarsal claws are short not bent, with only 13 visible teeth.

Measurements of female body. BL 11.92 mm; HL 1.68 mm; HW 1.79 mm; OI 29.73; PL 2.27 mm; PW 2.62 mm; PI 86.64; EL 7.97 mm; EW 4.05 mm; AL(1-11) 6.89 mm; AL(1-11)/BL 0.58; HW/PW 0.68; BL/EW 2.94; EL/EW 1.97.

RLA(1-11): 0.48 : 0.24 : 1.00 : 1.09 : 0.95 : 0.96 : 0.95 : 0.96 : 0.96 : 0.94 : 0.95.

RL/WA(1-11): 2.04 : 1.35 : 5.05 : 4.48 : 4.20 : 3.96 : 4.04 : 3.69 : 3.93 : 4.16 : 4.04.

RLT: 1.00 : 0.50 : 0.74 : 0.95 : 1.47 (protarsus); 1.00 : 0.40 : 0.44 : 0.55 : 1.11 (mesotarsus); 1.00 : 0.53 : 0.42 : 0.90 (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 11.78 mm (11.52-12.03 mm); HL 1.68 mm (1.63-1.72 mm); HW 1.77 mm (1.72-1.82 mm); OI 27.66 (27.51-27.81); PL 2.25 mm (2.24-2.26 mm); PW 2.35 mm (2.34-2.36 mm); PI 95.83 (95.73-95.92); EL 7.85 mm (7.63-8.07 mm); EW 3.81 mm (3.69-4.05 mm).

Differential diagnosis. (See the key below for more information). *Chitwania placida* sp. nov. clearly differs from the species *Chitwania attapeuica* sp. nov., *Chitwania luteimembris* (Pic, 1925) comb. nov. and *Chitwania valida* sp. nov. mainly by dark dorsal surface of elytra; while *Ch. attapeuica*, *Ch. luteimembris* and *Ch. valida* have dorsal surface of elytra pale.

Ch. placida is distinctly different from similar species *Chitwania hueica* sp. nov. and *Chitwania crassipes* (Fairmaire, 1882) comb. nov. mainly by femora bicolor; while *Ch. hueica* and *Ch. crassipes* have femora unicolored.

Similar species not from Indochina is *Chitwania kejvali* Novák, 2015. *Ch. placida* clearly differs from the species *Ch. kejvali* mainly by antennomeres and tibiae reddish brown or dark brown; while *Ch. kejvali* has antennomeres and tibiae pale brown.

Etymology. The name *placida* is taken from Latin (peaceful).

Distribution. India (Maharashtra State).

***Chitwania valida* sp. nov.**

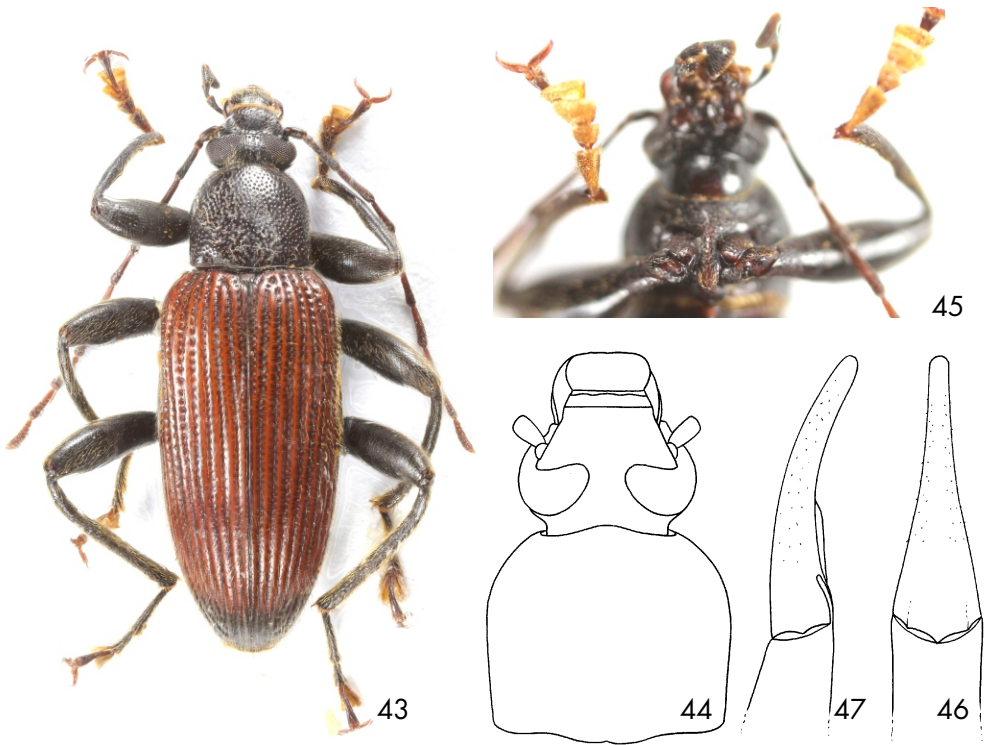
(Figs. 43-47)

Type locality. Thailand, Chanthaburi, Khao Soi Dao.

Type material. Holotype (♂): Thailand, Chanthaburi, / Khao Soi Dao, / 17-21.V.2012 / K. Takahashi leg., (NMTJ). Paratype: (♂): same data as holotype, (VNPC). The type is provided with a printed red label: '*Chitwania / valida* sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2021'.

Description of holotype. Habitus as in Fig. 43, body wide, elongate oval, convex, from reddish brown to blackish brown, dorsal surface shiny with pale setation, punctuation and fine microgranulation, BL 10.39 mm. Widest near half elytra length; BL/EW 3.17.

Head (Fig. 44) approximately as wide as long, through the eyes distinctly wider than anterior margin of pronotum, distinctly narrower than base of pronotum. Dorsal surface with punctures and microgranulation. Posterior part blackish brown with sparse pale setae, few dark setae behind eyes and coarser and sparser punctures than those in dark reddish brown anterior half with long pale setae in apex. Clypeus dark reddish brown, wide and transverse, lateral margins rounded, with small and shallow punctures, microgranulation and dense, long, pale setation. Mandibles reddish brown, glabrous, shiny, with darker sides and apex with a few pale setae in sides. HW 1.63 mm; HW/PW 0.73; HL (visible part) 1.59 mm. Head between eyes with shiny places larger than diameter of punctures. Eyes large, transverse, excised, space between eyes narrow, distinctly narrower than diameter of one eye; as long as length of antennomere 1; OI equal to 21.19.



Figs. 43-47. *Chitwania valida* sp. nov. (male holotype): 43-habitus; 44-head and pronotum; 45-prosternal process between procoxae; 46-apical piece of aedeagus, dorsal view; 47-apical piece of aedeagus, lateral view.

Antenna. Long, narrow, slightly shiny (AL 6.78 mm, almost reaching two thirds body length - AL/BL 0.65). Antennomeres 1-4 blackish brown, antennomeres 5-11 reddish brown. Surface with recumbent pale setation, microgranulation and small punctures. Antennomere 2 shortest, antennomere 4 longest. Antennomeres 6-9 longer than antennomere 3. Antennomeres 3-10 slightly widened apically, ultimate antennomere widest before apex, half drop shaped.

RLA(1-11): 0.56 : 0.24 : 1.00 : 1.20 : 0.90 : 1.13 : 1.04 : 1.21 : 1.03 : 0.92 : 0.94.

RL/WA(1-11): 1.97 : 1.14 : 4.38 : 5.73 : 4.30 : 5.41 : 4.04 : 4.35 : 3.60 : 4.28 : 4.74.

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

Pronotum (Fig. 44) dark brown, shiny, convex, almost as long as wide, distinctly narrower than elytra at humeri, widest in two thirds from base to apex. Dorsal surface with pale setae, fine microgranulation and dense, coarse punctuation, punctures relatively large, intervals between punctures almost narrower than diameter of punctures. PL 2.15 mm; PW 2.24 mm; PI equal to 95.89. Border lines very narrow, margins conspicuous from dorsal view, only in the middle of anterior margin not clearly distinct. Lateral margins straight and parallel in basal two thirds,

arcuate in apical third, base finely bisinuate. Posterior angles obtuse.

Elytra. Reddish brown with darker apex, slightly elongate oval, convex, shiny. Dorsal surface with semierected, pale setae. EL 6.65 mm; EW 3.28 mm; EL/EW 2.03. Elytral striae with rows of large and coarse punctures (slightly larger than those in pronotum), intervals between punctures in rows narrower than diameter of punctures. Elytral intervals slightly convex, with microgranulation.

Scutellum. Dark brown, pentagonal, rather matte, with a few shallow punctures, microgranulation and few setae.

Elytral epipleura well-developed, reddish brown, covered with a few pale setae and large punctures in basal part, widest in base, distinctly narrowing to ventrite 1, then relatively narrow and parallel with denser setation in apical part.

Legs. Long, blackish brown, dorsal surface with fine microgranulation, golden setation and small, shallow punctures. Protibiae slightly bent, with angle and excised in apical half of inner side, mesotibiae distinctly bent. Protarsomeres and mesotarsomeres 3, 4 and metatarsomere 3 widened and lobed. RLT: 1.00 : 0.62 : 0.70 : 1.06 : 1.55 (protarsus); 1.00 : 0.43 : 0.42 : 0.60 : 0.97 (mesotarsus); 1.00 : 0.41 : 0.37 : 0.63 (metatarsus).

Tarsal claws long and bent with teeth only in one side of hollow claws, protarsal claws with about 50 visible teeth.

Ventral side of body dark reddish brown, with sparse, short, pale setae and punctures. Procoxae separated by prosternal process (Fig. 45). Abdomen blackish brown, shiny, with sparse, pale setae, relatively sparse, small and shallow punctures and very fine microgranulation.

Aedeagus (Figs. 46, 47) ochre yellow, shiny. Basal piece slightly narrowing in dorsal view and slightly rounded laterally. Apical piece narrowly elongate triangular dorsally, beak shaped in dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1 : 2.98.

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= 2). BL 10.57 mm (10.39-10.74 mm); HL 1.58 mm (1.57-1.59 mm); HW 1.63 mm (1.62-1.63 mm); OI 21.46 (21.19-21.73); PL 2.12 mm (2.08-2.15 mm); PW 2.21 mm (2.17-2.24 mm); PI 95.87 (95.85-95.89); EL 6.87 mm (6.65-7.09 mm); EW 3.30 mm (3.28-3.31 mm).

Differential diagnosis. (See the key below for more information). *Chitwania valida* sp. nov. distinctly differs from all species of *Chitwania* mainly by elytra bicolor. Only one similar species *Chitwania attapeuica* sp. nov. has elytra also bicolor.

Ch. valida clearly differs from similar species *Ch. attapeuica* mainly by blackish brown pronotum widest in two thirds from base to apex and by dark elytral apex vaguely bordered; while *Ch. attapeuica* has pronotum reddish brown widest near middle and dark elytral apex is clearly bordered.

Etymology. The name *valida* is taken from Latin (valid).

Distribution. Thailand (Chanthaburi Province).

KEY TO THE MALE SPECIES OF *CHITWANIA*

- 1 (2) Dorsal surface of elytra pale. 3
 2 (1) Dorsal surface of elytra dark. 7
 3 (4) Elytra unicolored. Femora bicolor, antenna pale brown, apex of protibiae pale brown. Habitus as in Fig. 28; head and pronotum (Fig. 29); prosternal process between procoxae (Fig. 30); aedeagus as in Figs. 31 and 32. Myanmar (Tenasserim). *Chitwania luteimembris* (Pic, 1925) comb. nov.
 4 (3) Elytra bicolor. 5
 5 (6) Pronotum reddish brown, widest near middle. Dark elytral apex clearly bordered. Laos (Attapeu Province). Habitus as in Fig. 1; head and pronotum (Fig. 2); prosternal process between procoxae (Fig. 3); aedeagus as in Figs. 4 and 5. *Chitwania attapeuica* sp. nov.
 6 (5) Pronotum blackish brown, widest near two thirds from base to apex. Dark elytral apex vaguely bordered. Habitus as in Fig. 43; head and pronotum (Fig. 44); prosternal process between procoxae (Fig. 45); aedeagus as in Figs. 46 and 47. Thailand (Chanthaburi Province). *Chitwania valida* sp. nov.
 7 (8) Femora bicolor. 9
 8 (7) Femora unicolored. 15
 9 (10) Antenna bicolor, apex of protibiae pale brown. Habitus as in Fig. 33; head and pronotum (Fig. 34); prosternal process between procoxae (Fig. 35); aedeagus as in Figs. 36 and 37. Myanmar. *Chitwania myanmarica* sp. nov.
 10 (9) Antenna unicolored, apex of protibiae dark. 11
 11 (12) Species from Nepal or India. 13
 12 (11) Species from Thailand. Habitus as in Fig. 23; head and pronotum (Fig. 24); prosternal process between procoxae (Fig. 25); aedeagus as in Figs. 26 and 27. Thailand (Phang-nga Province). *Chitwania khaolakica* sp. nov.
 13 (14) Antenna and most of the tibiae pale brown. Habitus as in Fig. 21; prosternal process between procoxae (Fig. 22). India (Uttaranachal State), Nepal (Narayani Province). *Chitwania kejvali* Novák, 2015
 14 (13) Antennomeres reddish brown or dark brown, tibiae dark brown. Habitus as in Fig. 38; head and pronotum (Fig. 39); prosternal process between procoxae (Fig. 40); aedeagus as in Figs. 41 and 42. India (Maharashtra State). *Chitwania placida* sp. nov.
 15 (16) Antenna bicolor. Habitus as in Fig. 16; head and pronotum (Fig. 17); prosternal process between procoxae (Fig. 18); aedeagus as in Figs. 19 and 20. Vietnam (Thua Thien Hue Province). *Chitwania hueica* sp. nov.
 16 (15) Antenna unicolored. 17
 17 (18) Antennomere 4 approximately as long as antennomere 3, dorsal surface of elytra reddish brown, ultimate maxillary palpomere pale brown. Habitus as in Fig. 6; head and pronotum (Fig. 7); prosternal process between procoxae (Fig. 8); aedeagus as in Figs. 9 and 10. Indonesia (Sumatra Island), Myanmar (Tenasserim). *Chitwania crassipes* (Fairmaire, 1882) comb. nov.
 18 (17) Antennomere 4 distinctly longer than antennomere 3, dorsal surface of elytra dark brown, ultimate maxillary palpomere brown. Habitus as in Fig. 11; head and pronotum (Fig. 12); prosternal process between procoxae (Fig. 13); aedeagus as in Figs. 14 and 15. Nepal. *Chitwania fulva* sp. nov.

LIST OF THE KNOWN SPECIES OF THE GENUS *CHITWANIA*

<i>Chitwania attapeuica</i> sp. nov.	Laos (Attapeu Province)
<i>Chitwania crassipes</i> (Fairmaire, 1882) comb. nov.	Indonesia (Sumatra Island), Myanmar (Tenasserim)
<i>Chitwania fulva</i> sp. nov.	Nepal
<i>Chitwania hueica</i> sp. nov.	Vietnam (Thua Thien Hue Province)
<i>Chitwania kejvali</i> Novák, 2015	India (Uttaranachal State), Nepal (Narayani Province)
<i>Chitwania khaolakica</i> sp. nov.	Thailand (Phang-nga Province)
<i>Chitwania luteimembris</i> (Pic, 1925) comb. nov.	Myanmar (Tenasserim)

<i>Chitwania myanmarica</i> sp. nov.	Myanmar
<i>Chitwania placida</i> sp. nov.	India (Maharashtra State)
<i>Chitwania valida</i> sp. nov.	Thailand (Chanthaburi Province)

ACKNOWLEDGEMENTS. Sincere thanks are due to Matthias Hartmann (NMEG) and Jiří Hájek (NMPC) for loaning me materials under their care. Thanks are also due to Andre Skale (ASHG) and Kimio Masumoto (Tokio, Japan) for bringing me new materials. Special thanks are due to Zuzana Čadová (Liberec, Czech Republic) for excellent drawings.

REFERENCES

- CAMPBELL J. M. 1965: A revision of the genus *Charisius* (Coleoptera: Alleculidae). *The Coleopterist's Bulletin* 19: 43-56.
- CAMPBELL J. M. & MARSHALL J. D. 1964: The ocular index and its applications to the taxonomy of the Alleculidae (Coleoptera). *The Coleopterist's Bulletin* 18: 42.
- FABRICIUS J. C. 1801: *Systema eleutheratorum secundum ordines, genera, species adiectis synonymis, locis, observationibus, descriptionibus. Tomus II. Kiliae: Binliopolii Academici Novi*, 687 pp.
- FAIRMAIRE L. 1882: Note XXVIII. Coléoptères Hétéromeres de Sumatra. *Notes from the Leyden Museum* 4: 249-265.
- NOVÁK V. 2015: New genera of Alleulinae (Coleoptera: Tenebrionidae) from Palaearctic Region. Part II. *Chitwania* gen. nov. *Folia Heyrovskyana, Series A* 23(1): 90-95.
- NOVÁK V. 2020: Subfamily Alleculinae Laporte, 1840, pp. 417-453. - In: IWAN D. & I. LÖBL (eds). *Catalogue of Palaearctic Coleoptera. Volume 5. Revised and Updated Second Edition. Tenebrionoidea*. - Brill, Leiden/Boston, 945 pp.
- PIC M. 1925: Coléoptères nouveaux des chasses de Helfer aux Indes et Birmanie. (Nouvelles découvertes de Coleoptères de la collection de Helfer en Birmanie et en Inde). *Sborník Entomologického Oddělení Národního Muzea v Praze* 22(3): 161-163.

Published: 29. 10. 2021