

## New *Hymenalia* species (Coleoptera: Tenebrionidae: Alleculinae) from China and Oriental Region

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### Taxonomy, new species, description, Coleoptera, Tenebrionidae, Alleculinae, *Hymenalia*, Palaearctic and Oriental Regions

**Abstract.** Five new *Hymenalia* species are described as follows: *Hymenalia pseudominuta* sp. nov. from China (Yunnan) distinctly belonging to new *Hymenalia minuta* species group, *Hymenalia darjeelingica* sp. nov. from India (Darjeeling distr.) and *Hymenalia thailandica* sp. nov. from Thailand, both distinctly belonging to the second - *Hymenalia rufipes* species group according to Dubrovina (1975), *Hymenalia leigongshanica* sp. nov. from China (Guizhou) belongs to the third - *Hymenalia rufipennis* species group according Dubrovina (1975) and *Hymenalia (Nikomenalia) jinshanica* sp. nov. from China (Yunnan). *H. thailandica* is the first species of the *Hymenalia rufipes* species group from the Oriental Region. *Hymenalia klapperichi tschungseni* Pic, 1955 is new synonym of *Hymenalia klapperichi* Pic, 1955.

### INTRODUCTION

Mulsant (1856) described the genus *Hymenalia* in 1856. This Palaearctic genus belongs to the subtribe *Alleculina* Laporte, 1840. Borchmann (1910) knew 11 species, Mader (1928) 16 species, and Novák & Pettersson (2008) listed 33 species in two subgenera of the genus *Hymenalia*. Novák (2007) recently described five new species of the genus from Iran, Yemen and Oman, latter two new species from China (Novák 2008) and twelve new species from China and North Vietnam (Novák 2010). A new *Hymenalia minuta* species group inclusive species *Hymenalia minuta* Pic, 1910 and *Hymenalia pseudominuta* sp. nov. both from China (Yunnan) is designated. Species of this group have similar ratios of antennomeres as species in the *H. rufipennis* group, but males have wide space between eyes (OI higher than 60). Further species: *Hymenalia darjeelingica* sp. nov. from India (Darjeeling distr.) and *Hymenalia thailandica* sp. nov. from Thailand, distinctly belonging to the second - *Hymenalia rufipes* species group according to Dubrovina (1975), *Hymenalia leigongshanica* sp. nov. from China (Guizhou) belongs to the third - *Hymenalia rufipennis* species group according Dubrovina (1975) and *Hymenalia (Nikomenalia) jinshanica* sp. nov. from China (Yunnan) are described as new. *H. thailandica* is the first species of the *H. rufipes* species group from Oriental Region. *Hymenalia klapperichi tschungseni* Pic, 1955 is new synonym of *Hymenalia klapperichi klapperichi* Pic, 1955. All new species are illustrated and compared with similar species.

New data on *Hymenalia becvari* Novák, 2010, *H. bocaki* Novák, 2010, *H. habashanica* Novák, 2010, *H. holzschuhi* Novák, 2010, *H. horaki* Novák, 2010, *H. klapperichi* Pic, 1955, *H. wuliangica* Novák, 2010 and *H. (Nikomenalia) schawalleri* Novák, 2010 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 also used in the present paper well. The ocular index equals  $(100 \times \text{minimum dorsal distance between eyes}) / (\text{maximum width of head across eyes})$ . The pronotal index is calculated as  $(100 \times \text{length of pronotum along midline}) / (\text{width across basal angles of pronotum})$ .

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

The following codens are used:

- KMTJ private collection of Kimio Masumoto, Tokyo, Japan;  
NHMB Naturhistorische Museum Basel, Switzerland;  
NMEG Naturkundemuseum, Erfurt, Germany;  
NMTJ National Museum, Tokyo, Japan;  
RFLC private collection of René Fouqué, Liberec, Czech Republic;  
VNPC private collection of Vladimír Novák, Praha, Czech Republic.

Measurements of body parts and corresponding abbreviations used in text are as follows:

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

Measurements were made with Olympus SZ 40 stereoscopic microscope with continuous magnification and with Soft Imaging System AnalySIS.

## TAXONOMY

### *Hymenalia becvari* Novák, 2010

*Hymenalia becvari* Novák, 2010: 194.

**New material examined.** (2 ♂♂ 1 ♀): SW CHINA, Yunnan, Yunfeng Shan / W Gudong, Tenchong env. / N 25°22.623', E 98°24.351', 2400-1400m / 1.-2.VI.2013, P. Viktora lgt., (VNPC); (6 ♂♂ 1 ♀): CHINA: N. Yunnan / LIJIANG, 2600 m / 30.6.-2.7.1990 / L. & M. Bocák lgt., (NHMB, VNPC); (39 ♂♂ 26 ♀♀): CHINA - YUNNAN / HABASHAN - Habashan Mts. / 5.-13.6.2002, alt. 2800-3150m / WGS 84: 27°20'N, 100°09'E / lgt. Bečvář S. & Fouqué R. + H., (RFLC, VNPC); (4 ♂♂): CHINA - YUNNAN / HABASHAN - Habashan Mts. / 6.-11.6.2002, alt. 3150-3500m / WGS 84: 27°19'N, 100°08'E / lgt. Bečvář S. & Fouqué R. + H., (RFLC); (4 ♂♂ 2 ♀♀): CHINA - YUNNAN / HABASHAN - Habashan Mts. / 8.-11. + 18-19.6.2004, alt. 2800- / 3150m, 27°20'N, 100°09'E / lgt. Fouqué R. + H. (WGS 84), (RFLC).

**Remark.** High colour variability, specimens are from ochre yellow to dark brown, pronotum with same colour or paler or darker than elytra, sometimes orange with pale brown or dark brown elytra.

### *Hymenalia bocaki* Novák, 2010

*Hymenalia bocaki* Novák, 2010: 196.

**New material examined.** (1 ♂ 1 ♀): YUNNAN 2000-2800m / 25.11N 100.24E / WEIBAOSHAN mts. / W slope 25-28/6.92 / Vít Kubáň leg., (NHMB); (1 ♂): YUNNAN 2000-3000m / 27.20N 100.11E / HABASHAN mts. / SE slope 10-13/7. / David Král leg. 92, (VNPC).

### *Hymenalia darjeelingica* sp. nov.

(Figs. 1-5)

**Type locality.** India, Darjeeling district, Nashe, 1200 m.

**Type material.** Holotype: (♂): India / Darjeeling D. / Ch. J. Rai // Nashe / 1200m (KPG) / 2.XI.1985, (NHMB). Paratypes: (1 ♂): same data as holotype, (VNPC); (2 ♀♀): India / Darjeeling D. / Ch. J. Rai // Purbong / 900 m (KPG) / 1.XI.85, (NHMB, VNPC). The types are provided with a printed red label: 'Hymenalia darjeelingica sp. nov. HOLOTYPUS [or PARATYPUS] V. Novák det. 2015'.

**Description of holotype.** Habitus as in Fig. 1, body elongate-oval, from pale brown to dark brown, slightly shiny, dorsal surface setate, BL 6.58 mm. Widest near half of elytral length; BL/EW 2.39.

Head (Fig. 2). Posterior part dark brown, with pale brown setation, shiny, with dense punctuation, punctures medium-sized. HW 1.08 mm; HW/PW 0.52; HL (visible part) 0.73 mm. Eyes large, transverse, distinctly excised, space between eyes very narrow; very slightly wider than length of antennomere 2 or 3; OI equal to 12.69.

Antennae (Fig. 2). Long, AL 4.67 mm; AL/BL 0.71. Antennomeres brown with pale brown setation. Antennomeres 1-3 slightly shiny with fine microgranulation, antennomeres 4-11 matte with punctuation and microgranulation, antennomeres 4-10 distinctly serrate. Antennomere 2 shortest, antennomere 3 only slightly longer than antennomere 2.

RLA (1-11): 2.29 : 0.91 : 1.00 : 3.81 : 3.81 : 4.86 : 4.86 : 5.05 : 4.71 : 4.33 : 4.57.

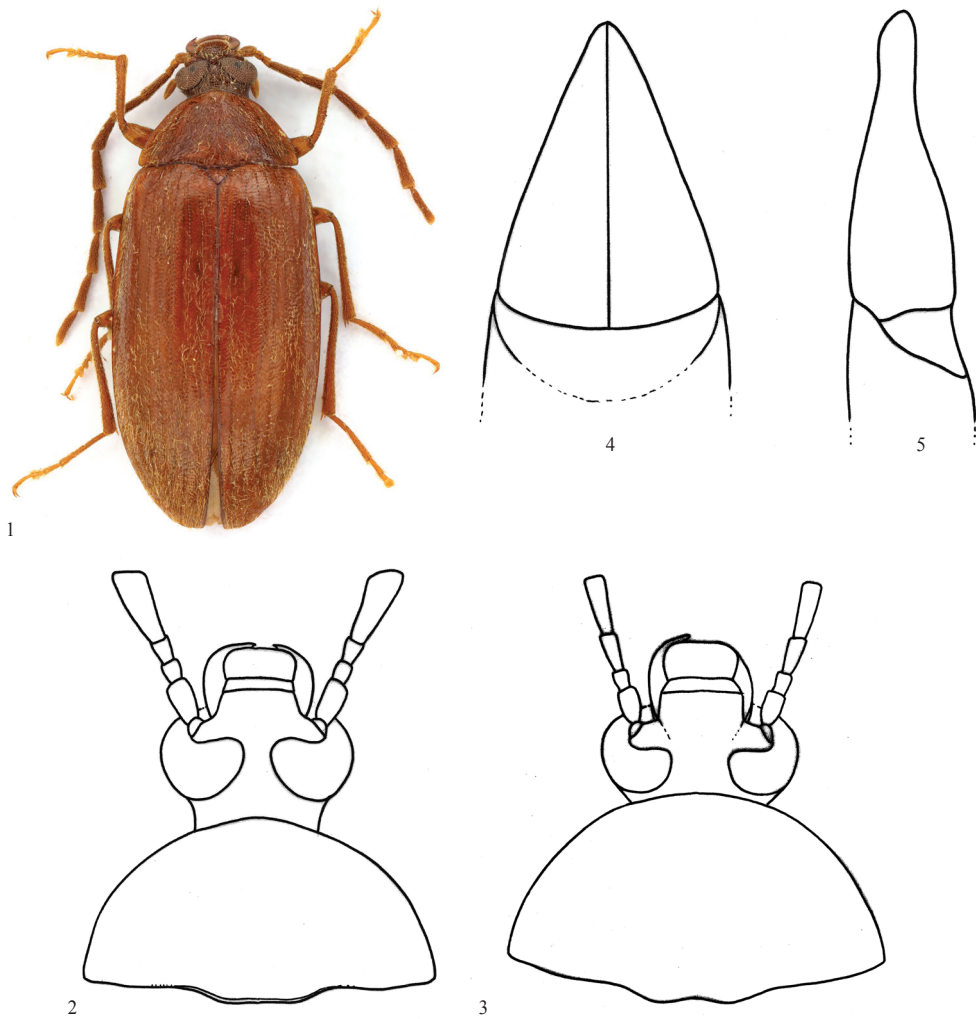
RL/WA (1-11): 2.00 : 1.00 : 1.00 : 3.20 : 3.20 : 3.52 : 3.40 : 3.53 : 3.54 : 4.33 : 5.65.

Maxillary palpus. Pale brown with short, pale brown setation. Palpomeres 2, 3 distinctly narrowest at base and broadest at apex with a few long pale brown setae. Ultimate palpomere longly triangular.

Pronotum (Fig. 2). Reddish brown, semicircular, with microgranulation, small-sized, shallow punctures and relatively dense and long, pale brown setation. PL 0.99 mm; PW 2.06 mm; PI equal to 48.06. Border lines complete, lateral margins rounded, base bisinuate. Posterior angles distinct, anterior angles indistinct, rounded.

Ventral side of body. Brown, slightly shiny with short, pale brown setation and punctuation. Abdomen brown with pale brown setation, shallow punctures, microgranulation and microrugosities. Ultimate and penultimate ventrites distinctly paler.

Elytron. Reddish brown, widest near half elytral length, dorsal surface with pale brown



Figs. 1-5: *Hymenalia darjeelingica* sp. nov.: 1- Habitus of male holotype; 2- head, pronotum and antennomeres 1-4 of male holotype; 3- head, pronotum and antennomeres 1-4 of female; 4- aedeagus, dorsal view; 5- aedeagus, lateral view.

setation, shiny. EL 4.86 mm; EW 2.75 mm. EL/EW 1.77. Elytral striae with distinct rows of small-sized punctures, interspaces between punctures in rows approximately as wide as diameter of punctures. Elytral intervals with very small punctures and fine microgranulation.

Scutellum. Reddish brown, as colour as elytron itself, sides distinctly darker, triangular, shiny, with microgranulation.

Elytral epipleura. Pale brown, distinctly paler than elytron itself, shiny, with pale brown setation, broadest near base, slightly narrowing to metasternum, then wide and parallel.

Legs. Reddish brown, relatively narrow and long, with dense and short, pale brown setation, posterior part of tibia slightly paler. Tibia very slightly widened to apex. Penultimate tarsomere of each tarsus distinctly widened and lobed. RLT: 1.00 : 0.46 : 0.38 : 0.48 : 1.11 (protarsus); 1.00 : 0.46 : 0.32 : 0.41 : 1.08 (mesotarsus); 1.00 : 0.32 : 0.25 : 0.53 (metatarsus).

Both anterior tarsal claws with 6 teeth.

Aedeagus (Figs. 4, 5). Small, pale brown. Basal piece slightly rounded laterally and slightly narrowing dorsally. Apical piece broadly triangular dorsally and beak-shaped laterally. Ratio of length of apical piece to length of basal piece 1: 2.27.

**Female** (Fig. 3). Brown, antennomere 3 distinctly longer than those in male and distinctly longer than antennomere 2. Space between eyes distinctly wider than those in male.

**Variation.** Some types with paler legs and antennae than holotype. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=2). BL 6.42 mm (5.64-7.19 mm); HL 0.69 mm (0.64-0.73 mm); HW 1.12 mm (1.03-1.20 mm); OI 26.66 (24.22-29.10), PL 1.01 mm (0.86-1.16 mm); PW 1.98 mm (1.66-2.30 mm); PI 50.89 (50.20-51.58); EL 4.74 mm (4.09-5.39 mm); EW 2.72 mm (2.58-2.86 mm). Females (n=2). BL 7.48 mm (7.37-7.58 mm); HL 0.72 mm (0.71-0.73 mm); HW 1.20 mm (1.18-1.21 mm); OI 28.33 (27.20-29.46), PL 1.23 mm (1.21-1.25 mm); PW 2.42 mm (2.42-2.42 mm); PI 50.98 (50.20-51.75); EL 5.53 mm (5.43-5.62 mm); EW 3.12 mm (3.08-3.15 mm).

**Differential diagnosis.** *Hymenalia darjeelingica* sp. nov. with dorsal surface setated, distinctly belongs to the *Hymenalia rufipes* species group. We know further three species of this group from eastern Asia: *Hymenalia murzini* Novák, 2008, *Hymenalia thailandica* sp. nov. and *Hymenalia wrasei* Novák, 2008. Male of *H. darjeelingica* differs from male of *H. murzini* by its shape of the aedeagus and mainly by antennomere 2 shortest; while male of *H. murzini* has antennomere 3 shortest. Male of *H. darjeelingica* is clearly different from male of *H. wrasei* by its narrower space between eyes (OI equal to 12.69) and antennomere 1 more than twice longer than antennomere 3; while male of *H. wrasei* has a wider space between eyes (OI equal to 18.40) and antennomere 1 approximately as long as antennomere 3. *H. darjeelingica* differs from species *H. thailandica* mainly by distinct rows of small punctures in elytral striae and smaller and coarser punctuation of head; while *H. thailandica* has rows of punctures in elytral striae indistinct and punctuation of head larger and shallower.

**Name derivation.** Toponymic, named after the type locality province Darjeeling (India).

**Distribution.** India (Darjeeling).

### *Hymenalia habashanica* Novák, 2010

(Fig. 6)

*Hymenalia habashanica* Novák, 2010: 198.

**New material examined.** (1 ♂ 1 ♀): YUNNAN, 2300 m / JIZU MTS. / 18. - 20. JUL 1995 / BOLM lgt., (NHMB); (1 ♂): CHINA: N. Yunnan / 30km N of LIJIANG / 3000m, 3.VIII.1990 / L. &M. Bocák lgt., (VNPC).

**Female characters.** Body more oval, space between eyes wider than those in male, antennomere 3 only slightly shorter than antennomere 4. BL 7.23 mm; HL 0.99 mm; HW 1.26 mm; OI equal to 44.03; PL 1.18 mm; PW 2.04 mm; PI equal to 57.60; EL 5.06 mm; EW 2.88 mm. Both anterior tarsal claws with 6 teeth.

***Hymenalia holzschuhi* Novák, 2010**

*Hymenalia holzschuhi* Novák, 2010: 200.

**New material examined.** (7 ♂♂ 1 ♀): CHINA, 1000-1300m, / Shaanxi, Qinling mts., / XUNYANGBA (6 km / E), 23.v.-13.vi.1998, / I. H. Marshal leg., (NHMB, VNPC).

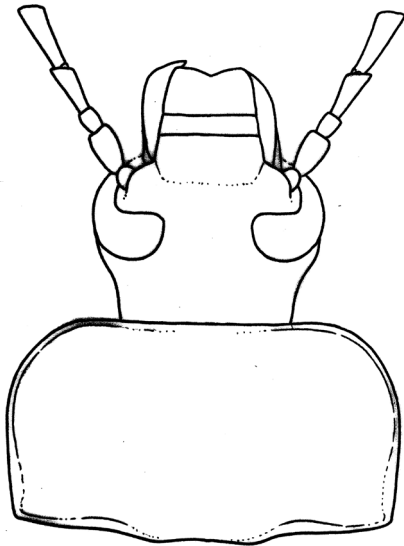


Fig. 6: *Hymenalia habashanica* Novák, 2010 (female): 6- head, pronotum and antennomeres 1-4.

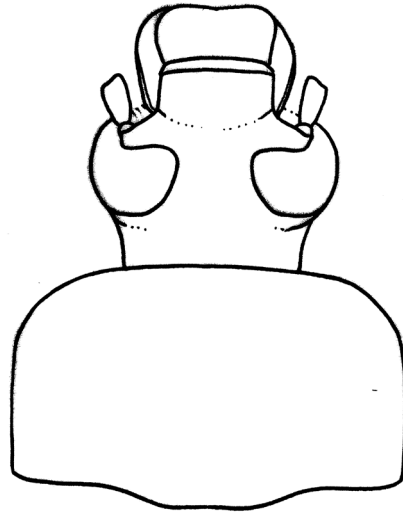


Fig. 7: *Hymenalia horaki* Novák, 2010 (female): 7- head, pronotum and antennomeres 1-4.

***Hymenalia horaki* Novák, 2010**

(Fig. 7)

*Hymenalia horaki* Novák, 2010: 202.

**New material examined.** (1 ♀): N VIET NAM (Tonkin) / pr. Vinh Phu 1990 / TAM DAO 6. - 9.V. / Vit Kubáň leg., (NHMB).

**Female characters.** Body more oval, larger and wider than those in male, space between eyes wider than those in male. BL 5.67 mm; HL 0.68 mm; HW 1.04 mm; OI equal to 29.87; PL 0.89 mm; PW 1.65 mm; PI equal to 53.94; EL 4.10 mm; EW 2.58 mm. Both anterior tarsal claws with 6 teeth.

*Hymenalia (Nikomenalia) jinshanica* sp. nov.

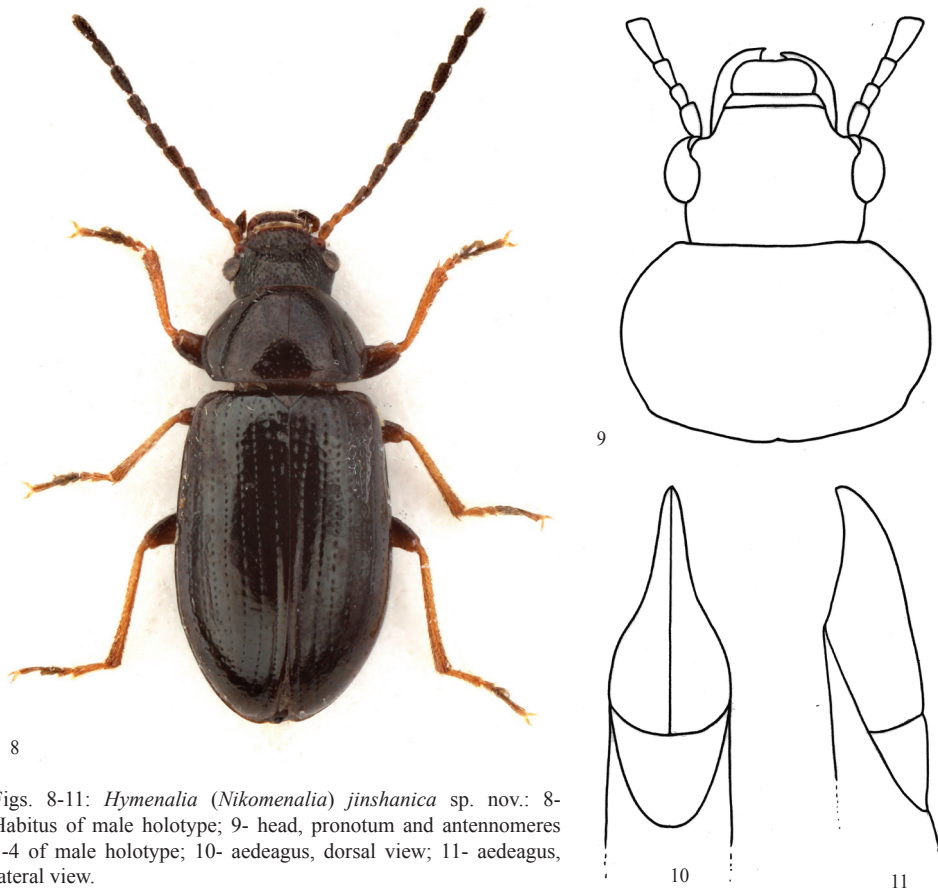
(Figs. 8-11)

**Type locality.** China, Yunnan, Jinsha river, 27°18'N, 100°12'E, 2050 m.

**Type material.** Holotype: (♂): YUNNAN 2050m / 27.18N 100.12E / JINSHA riv. 15.6. / Vít Kubáň leg. 1993, (NHMB). Paratypes: (4 ♂♂ 2 ♀♀ + 2 spec.): same data as holotype, (NHMB, VNPC); (2 ♂♂ 1 ♀): YUNNAN 1950-2050m / 27.18N 100.14E / DAJU, Jinsha r. / 7-10.7.92 / Vít Kubáň leg., (NHMB, VNPC). The types are provided with a printed red label: 'Hymenalia (Nikomenalia) jinshanica sp. nov. HOLOTYPUS [or PARATYPUS] V. Novák det. 2015'.

**Description of holotype.** Habitus as in Fig. 8, body small, elongate-oval, from pale brown to black, dorsal surface glabrous, shiny, BL 3.53 mm. Widest near two thirds of elytral length; BL/EW 2.44.

Head (Fig. 9). Black, shiny, with sparse, pale brown setation and relatively dense punctuation, punctures medium-sized. Clypeus distinctly paler than posterior part of head.



Figs. 8-11: *Hymenalia (Nikomenalia) jinshanica* sp. nov.: 8- Habitus of male holotype; 9- head, pronotum and antennomeres 1-4 of male holotype; 10- aedeagus, dorsal view; 11- aedeagus, lateral view.



HW 0.77 mm; HW/PW 0.63; HL (visible part) 0.64 mm. Eyes small, transverse, distinctly excised, space between eyes very broad; slightly wider than anterior part of head; OI equal to 70.71.

Antennae (Fig. 9). Long, AL 1.93 mm; AL/BL 0.55. Antennomeres 1-3 pale brown, slightly shiny, with sparse, pale brown setation, antennomeres 4-11 more matte with dense and darker setation, punctuation and microgranulation. Antennomere 2 shortest, antennomere 3 only slightly longer than antennomere 2.

RLA (1-11): 1.05 : 0.57 : 1.00 : 1.43 : 1.52 : 1.57 : 1.67 : 1.95 : 1.95 : 1.81 : 2.10.

RL/WA (1-11): 1.69 : 1.20 : 2.33 : 2.31 : 2.13 : 2.36 : 2.33 : 2.93 : 2.73 : 2.71 : 3.14.

Maxillary palpus shiny, with short pale brown setation. Palpomeres 2-4 distinctly narrowest at base and broadest at apex. Palpomeres 2 and 3 pale brown, ultimate palpomere reddish brown, triangular, axe-shaped.

Pronotum (Fig. 9). Black, transverse, dorsal surface shiny, glabrous with relatively sparse punctuation, punctures small-sized, interspaces between punctures wide. PL 0.66 mm; PW 1.02 mm; PI equal to 64.67. Border lines complete, only in middle of anterior margin indistinct. Lateral margins rounded, broadest near middle, base straight. Posterior and anterior angles not clearly conspicuous, obtuse.

Ventral side of body. Dark brown, shiny with sparse, short, pale brown setation and punctuation, punctures relatively large. Abdomen brown with sparse, pale brown setation, sparse punctuation, longitudinal rugosities and irregular microgranulation.

Elytron. Dorsal surface black, glabrous, shiny, widest near two thirds of elytral length. EL 2.23 mm; EW 1.45 mm. EL/EW 1.54. Elytral striae with distinct rows of relatively large punctures, interspaces between punctures in rows narrow, narrower or as wide as diameter of punctures. Elytral intervals with very small sporadic punctures and fine microgranulation.

Scutellum. Broadly triangular, dark blackish brown, shiny, glabrous, with a few small punctures.

Elytral epipleura. Blackish brown, shiny, glabrous, broadest near base, regularly narrowing to ventrite 1, then leading parallel.

Legs. Pale brown, with dense and short pale brown setation, microgranulation and punctuation, femora distinctly darker. Tibia slightly widened to apex. Penultimate tarsomere of each tarsus distinctly widened and lobed. RLT: 1.00 : 0.52 : 0.67 : 0.76 : 1.57 (protarsus); 1.00 : 0.54 : 0.50 : 0.81 : 1.58 (mesotarsus); 1.00 : 0.47 : 0.55 : 0.81 (metatarsus).

Both anterior tarsal claws with 5 teeth.

Aedeagus (Figs. 10, 11). Ochre yellow, more matte. Basal piece rounded laterally and slightly narrowing dorsally. Apical piece short, narrow, beak-shaped laterally and dorsally. Ratio of length of apical piece to length of basal piece 1: 4.89.

**Female.** Dorsal surface without distinct differences, antennomere 3 only slightly shorter than antennomere 4.

**Variation.** Some types with paler legs and antennae than holotype. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=7). BL 3.82 mm (3.53-4.08 mm); HL 0.56 mm (0.52-0.64 mm); HW



0.85 mm (0.77-0.88 mm); OI 69.95 (66.67-73.05), PL 0.73 mm (0.66-0.92 mm); PW 1.12 mm (1.02-1.18 mm); PI 66.28 (63.16-71.36); EL 2.48 mm (2.23-2.73 mm); EW 1.63 mm (1.45-1.81 mm). Females (n=3). BL 3.84 mm (3.68-4.00 mm); HL 0.71 mm (0.70-0.71 mm); HW 0.86 mm (0.84-0.87 mm); OI 74.59 (72.84-76.33), PL 0.77 mm (0.72-0.81 mm); PW 1.15 mm (1.09-1.21 mm); PI 66.33 (65.57-67.09); EL 2.37 mm (2.26-2.48 mm); EW 1.64 mm (1.63-1.64 mm).

**Differential diagnosis.** The new species *Hymenalia jinshanica* sp. nov. distinctly belongs to the subgenus *Nikomenalia* Dubrovina, 1975. *H. (N.) jinshanica* differs from a similar species *Hymenalia (Nikomenalia) schawalleri* Novák, 2010 mainly by its very wide space between eyes (OI in males near 70), wider pronotum and more arcuate lateral margins of pronotum; while *H. (N.) schawalleri* has the space between eyes narrower, only slightly wider than diameter of one eye (OI in males near 36), pronotum narrower and lateral margins of pronotum less arcuate. *H. (N.) jinshanica* is distinctly different from the species *Hymenalia (Nikomenalia) impunctaticollis* Dubrovina, 1975 from northern parts of China mainly by pronotum distinctly punctuate; while *H. (N.) impunctaticollis* has pronotum without clear and distinct punctuation. *H. (N.) jinshanica* distinctly differs from similar species *Hymenalia (Nikomenalia) kaszabi* (Muche, 1972) and *Hymenalia (Nikomenalia) medvedevi* Dubrovina, 1975 from northern China and Mongolia mainly by its wider space between eyes (OI from 70 to 76) and antennomere 3 distinctly shorter than antennomere 4; while *H. (N.) kaszabi* and *H. (N.) medvedevi* have the space between eyes narrower (OI near 50) and antennomere 3 only slightly shorter than antennomere 4.

**Name derivation.** Toponymic, after the type locality Jinsha River (China: Yunnan).

**Distribution.** China (Yunnan).

### ***Hymenalia klapperichi* Pic, 1955**

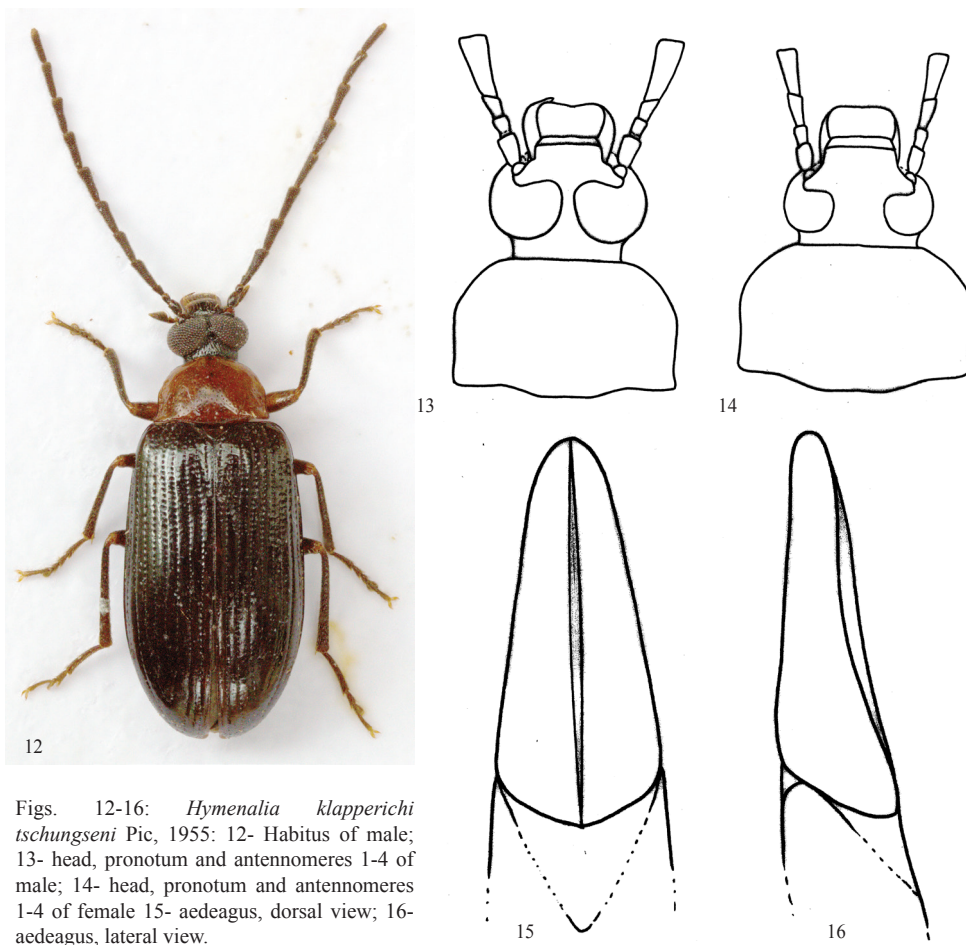
(Figs. 12-16)

*Hymenalia klapperichi* Pic, 1955: 30.

*Hymenalia klapperichi tschungseni* Pic, 1955: 30. **syn. nov.**

**New material examined.** (13 ♂♂ 10 ♀♀): China, E Fujian, 3.v. / Daiyunshan, 1300-1600m / 25°39'N 118°13' E / Jaroslav Turna leg., 2008, (VNPC).

**Remark.** (6 ♂♂ 3 ♀♀) with the same colouration as *Hymenalia klapperichi tschungseni* Pic, 1955. These specimens with the same morphological characters as *Hymenalia klapperichi* Pic, 1955 (as can be seen in: Novák 2010: 227 (Figs. 34-38). Figures 40-42 in Novák (2010: 228) were erroneously taken from a male of other species from Sichuan (Mt. Emei) and morphological characters are different.



Figs. 12-16: *Hymenalia klapperichi tschungseni* Pic, 1955: 12- Habitus of male; 13- head, pronotum and antennomeres 1-4 of male; 14- head, pronotum and antennomeres 1-4 of female 15- aedeagus, dorsal view; 16- aedeagus, lateral view.

***Hymenalia leigongshanica* sp. nov.**  
(Figs. 17-21)

**Type locality.** China, Guizhou prov., Leigongshan, Xijiang.

**Type material.** Holotype: (♂): CHINA, W GUIZHOU prov. / LEIGONGSHAN, Xijiang / 29 May - 2 Jun 1997 / 1200-1900 m, Bolm lgt., (NHMB); (4 ♂♂ 2 ♀♀): same data as holotype (NHMB, VNPC). The types are provided with a printed red label: 'Hymenalia leigongshanica sp. nov. HOLOTYPUS [or PARATYPUS] V. Novák det. 2015'.

**Description of holotype.** Habitus as in Fig. 17, body small, elongate-oval, dorsal surface dark blackish brown, glabrous, shiny, BL 6.16 mm. Widest near two thirds of elytral length; BL/EW 2.54.

Head (Fig. 18). Black, shiny, with large and coarse punctures, anterior part and clypeus

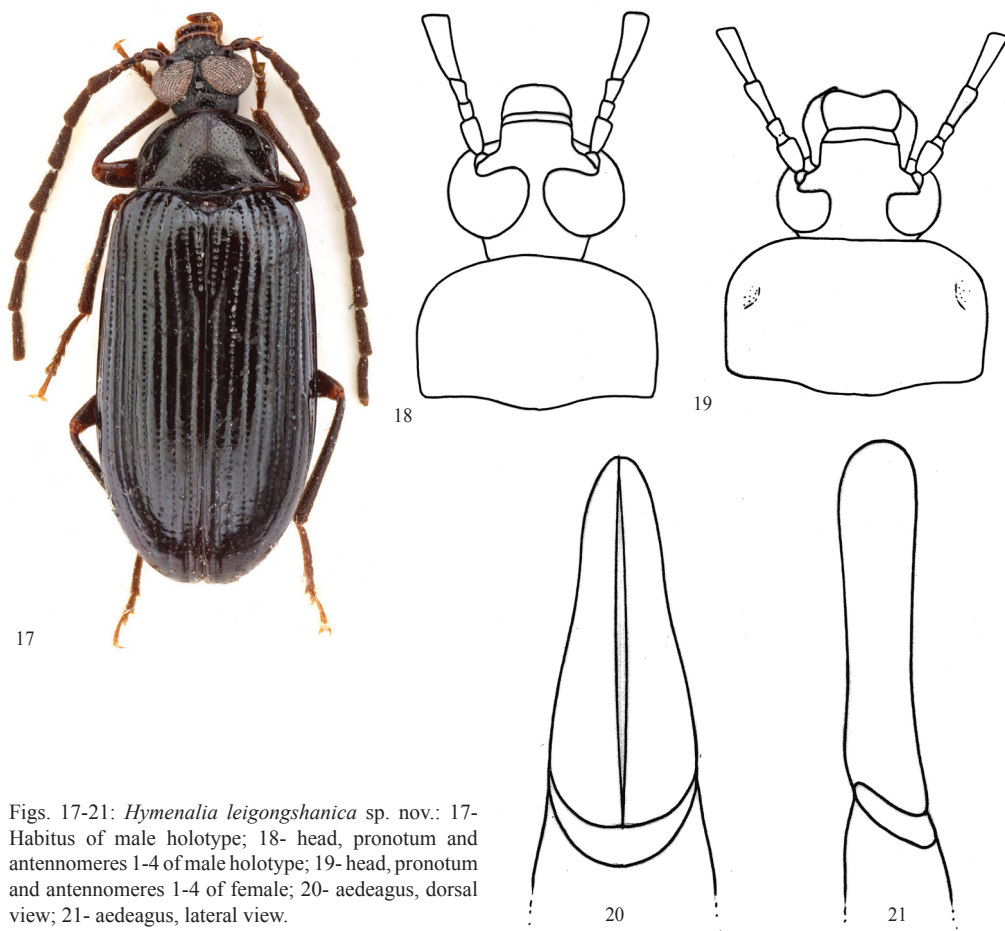
with sparse and long, golden yellow setae. Clypeus distinctly paler than posterior part of head. HW 1.14 mm; HW/PW 0.71; HL (visible part) 0.82 mm. Eyes large, transverse, distinctly excised, space between eyes very narrow; slightly narrower than antennomere 2 long; OI equal to 5.34.

Antennae (Fig. 18). Long, blackish brown, AL 4.67 mm; AL/BL 0.76. Antennomeres 1-3 slightly shiny, with sparse, pale brown setae, fine microgranulation and microrugosities, antennomeres 4-11 matter, with dense and short, pale brown setation, punctuation and microgranulation. Antennomeres 4-10 slightly serrate, distinctly widest at apex. Antennomere 2 shortest, antennomere 3 only slightly longer than antennomere 2.

RLA (1-11): 1.37 : 0.74 : 1.00 : 2.53 : 3.09 : 3.16 : 3.44 : 3.61 : 3.54 : 3.40 : 3.72.

RL/WA (1-11): 2.05 : 1.40 : 1.50 : 2.67 : 3.04 : 3.10 : 3.38 : 3.68 : 3.89 : 4.22 : 6.63.

Maxillary palpus shiny, pale brown, with relatively short, golden yellow setation. Palpomeres 2-4 distinctly narrowest at base and broadest at apex. Ultimate palpomere distinctly darker, triangular, axe-shaped.



Figs. 17-21: *Hymenalia leigongshanica* sp. nov.: 17- Habitus of male holotype; 18- head, pronotum and antennomeres 1-4 of male holotype; 19- head, pronotum and antennomeres 1-4 of female; 20- aedeagus, dorsal view; 21- aedeagus, lateral view.

Pronotum (Fig. 18). Blackish brown, transverse, dorsal surface shiny, glabrous with relatively sparse punctuation, punctures small-sized, interspaces between punctures wide. PL 0.84 mm; PW 1.60 mm; PI equal to 52.77. Border lines complete, only in middle of anterior margin indistinct. Lateral margins straight in posterior part, arcuate in anterior part, base finely bisinuate. Posterior angles rectangular, anterior angles arcuate.

Ventral side of body. Dark brown with sparse punctures and sparse and short pale setation. Abdomen dark brown with sparse pale brown setae, shiny with rugosities and microgranulation, more dull.

Elytron. Dorsal surface dark blackish brown, glabrous, shiny, widest near two thirds of elytral length. EL 4.50 mm; EW 2.43 mm; EL/EW 1.85. Elytral striae with distinct rows of medium-sized punctures, interspaces between punctures in rows narrow, narrower than diameter of punctures. Elytral intervals slightly convex, with very small sporadic punctures.

Scutellum. Relatively large, dark blackish brown, shiny, glabrous, with a few small punctures.

Elytral epipleura. Blackish brown, shiny, glabrous, broadest near base, narrowing to ventrite 1, then leading parallel.

Legs. Narrow, dark brown, with dense and short pale brown setation, microgranulation and punctuation, femora distinctly thicker than tibia. Tibia slightly widened to apex. Penultimate tarsomere of each tarsus distinctly widened and lobed. RLT: 1.00 : 0.39 : 0.32 : 0.64 : 1.32 (protarsus); 1.00 : 0.39 : 0.28 : 0.45 : 0.99 (mesotarsus); 1.00 : 0.28 : 0.25 : 0.51 (metatarsus).

Both anterior tarsal claws with 6 visible teeth.

Aedeagus (Figs. 20, 21). Ochre yellow, slightly shiny. Basal piece slightly rounded laterally and slightly narrowing dorsally. Apical piece narrow laterally, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece 1 : 2.34.

**Female** (Fig. 19). Brown, antennomere 3 distinctly longer than those in male and distinctly longer than antennomere 2. Space between eyes distinctly wider than those in male.

**Variation.** Some types with paler legs and antennae than holotype. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=5). BL 5.96 mm (5.73-6.16 mm); HL 0.80 mm (0.75-0.85 mm); HW 1.11 mm (1.06-1.14 mm); OI 8.93 (5.34-11.86), PL 0.85 mm (0.81-0.87 mm); PW 1.53 mm (1.49-1.60 mm); PI 55.47 (52.77-58.49); EL 4.31 mm (4.17-4.50 mm); EW 2.38 mm (2.28-2.45 mm). Females (n=2). BL 6.93 mm (6.78-7.07 mm); HL 1.03 mm (0.98-1.07 mm); HW 1.15 mm (1.11-1.18 mm); OI 37.72 (37.30-38.14), PL 1.02 mm (1.00-1.04 mm); PW 1.92 mm (1.89-1.94 mm); PI 53.10 (51.46-54.73); EL 4.88 mm (4.76-5.00 mm); EW 2.86 mm (2.85-2.87 mm).

**Differential diagnosis.** *Hymenalia leigongshanica* sp. nov. distinctly belongs to *Hymenalia rufipennis* species group according to Dubrovina (1975). The male of *H. leigongshanica* differs from male of *Hymenalia holzschuhi* Novák, 2010, *Hymenalia jaroslavi* Novák, 2010, *Hymenalia klapperichi* Pic, 1955 and *Hymenalia palidipennis* Pic, 1926 mainly by antennomere 3 distinctly longer than antennomere 2; while males of *H. holzschuhi*, *H.*

*jaroslavi*, *H. klapperichi* and *H. palidipennis* have antennomere 3 approximately as long as antennomere 2. Male of *H. leigongshanica* is clearly different from males of *Hymenalia merkli* Novák, 2010 and *Hymenalia rufipennis* Marseul, 1876 mainly by its shape of the aedeagus and very narrow space between eyes, which is distinctly narrower than the length of antennomere 2; while males of *H. merkli* and *H. rufipennis* have the space between eyes as wide as or wider than the length of antennomere 2.

**Name derivation.** Toponymic, after the type locality Leigongshan mountains (China: Guizhou).

**Distribution.** China (Guizhou).

### *Hymenalia minuta* Pic, 1910

(Fig. 22)

*Hymenalia minuta* Pic, 1910: 14.

**New material examined.** (1 ♂ 6 ♀♀ + 2 spec.): YUNNAN, 5.-8. vii.1996, / 28°06'N 98°54'E, 2700 m, / Hengduan mts-part MEILI, / Vít Kubáň leg., (NHMB, VNPC).

**Female characters.** Antennomere 3 distinctly longer than antennomere 2 and longer than those in male. BL 5.22 mm; HL 0.78 mm; HW 1.01 mm; OI equal to 69.89; PL 0.96 mm; PW 1.54 mm; PI equal to 62.46; EL 3.48 mm; EW 2.03 mm.

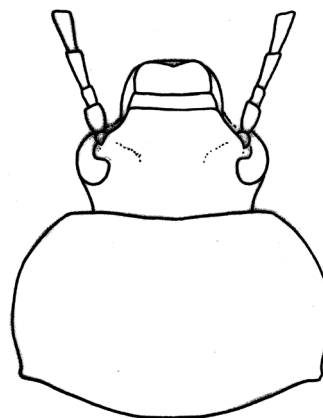


Fig. 22: *Hymenalia minuta* Pic, 1910 (female): 22- Head, pronotum and antennomeres 1-4.

### *Hymenalia pseudominuta* sp. nov.

(Figs. 23-27)

**Type locality.** China, Yunnan, Dali, Cangshan mts.

**Type material.** Holotype: (♂): CHINA, YUNNAN / DALI, CANGSHAN mts. / 5. VI. 1993 / Bolm lgt., (NHMB). Paratypes: (2 ♂♂ 2 ♀♀): CHINA: N. Yunnan / DALI, 1600-2000 / 5. - 8. VII. 1990, L.&M. Bocák lgt., (NHMB, VNPC). The types are provided with a printed red label: 'Hymenalia pseudominuta sp. nov. HOLOTYPUS [or PARATYPUS] V. Novák det. 2015'.

**Description of holotype.** Habitus as in Fig. 23, body elongate-oval, from brown to black, shiny, dorsal surface glabrous, body length 4.52 mm. Widest near half of elytral length; BL/EW 2.27.

Head (Fig. 24). Black, glabrous, shiny, with dense punctuation and a few pale brown setae. HW 0.91 mm; HW/PW 0.66; HL (visible part) 0.58 mm. Eyes small, transverse, distinctly

excised, space between eyes very broad; as wide as anterior part of head; OI equal to 60.15.

Antennae (Fig. 24). Long, AL(1-9) 2.31 mm, AL/BL 0.51. Antennomeres dark blackish brown. Antennomeres 1-3 shiny with sparse, pale brown setation, antennomeres 4-9 matte with short and dense dark setation and microgranulation, distinctly serrate. Antennomeres 4-11 with dense punctuation. Antennomere 2 shortest, antennomere 3 only slightly longer than antennomere 2.

RLA (1-9): 1.50 : 0.83 : 1.00 : 3.00 : 2.89 : 3.28 : 3.33 : 3.72 : 3.67.

RL/WA (1-9): 1.69 : 1.15 : 1.20 : 2.70 : 2.48 : 2.27 : 2.22 : 2.58 : 2.75.

Maxillary palpus. Dark blackish brown with sparse, dark setation. Palpomeres 2-4 distinctly narrowest at base and broadest at apex. Ultimate palpomere triangular, axe-shaped.

Pronotum (Fig. 24). Black, transverse, shiny, glabrous with relatively dense punctuation, punctures medium-sized. PL 0.88 mm; PW 1.37 mm; PI equal to 64.55; Border lines complete, only in middle of anterior margin indistinct. Lateral margins and base rounded. Posterior and anterior angles distinct, rounded and obtuse.

Ventral side of body dark blackish brown, with sparse, pale setation. Abdomen dark blackish brown with sparse, pale setation and sparse punctures.

Elytron. Black, widest near half of elytral length, dorsal surface glabrous, shiny. EL 3.06 mm; EW 1.99 mm. EL/EW 1.54. Elytral striae with distinct rows of medium-sized punctures, interspaces between punctures in rows narrow, narrower than or as wide as diameter of punctures. Elytral intervals with very small sporadic punctures, with fine microgranulation.

Scutellum. Broadly triangular, dark blackish brown, shiny, glabrous.

Elytral epipleura. Blackish brown, shiny, glabrous, broadest near base, regularly narrowing to elytral apex.

Legs. Dark brown, with dense and short pale brown setation, posterior part of tibia slightly paler. Tibia slightly widened to apex. Penultimate tarsomere of each tarsus distinctly widened and lobed. RLT: 1.00 : 0.79 : 0.79 : 1.07 : 1.57 (protarsus); 1.00 : 0.44 : 0.44 : 0.67 : 1.38 (mesotarsus); 1.00 : 0.40 : 0.35 : 0.74 (metatarsus).

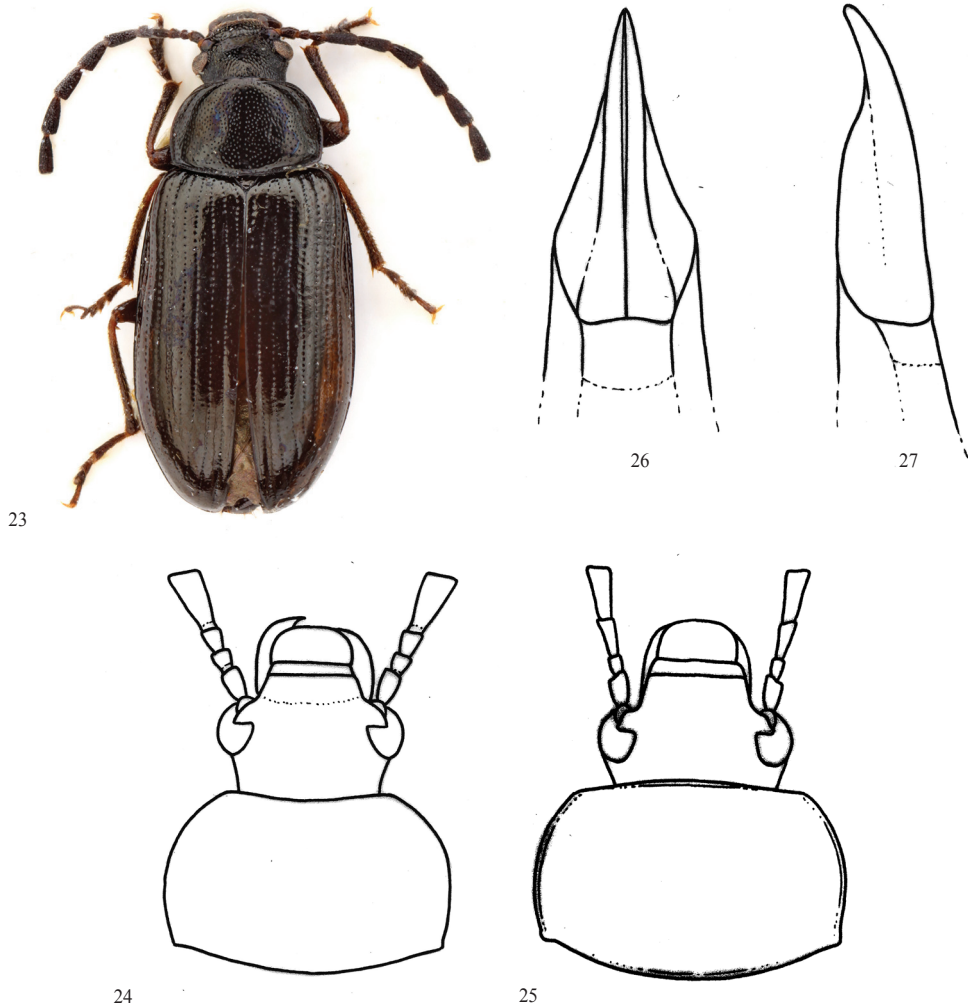
Both anterior tarsal claws with 5 teeth.

Aedeagus (Figs. 26, 27). Relatively small, pale brown, slightly shiny. Basal piece rounded laterally and slightly narrowing dorsally. Apical piece triangular dorsally and beak-shaped laterally. Ratio of length of apical piece to length of basal piece 1: 3.89.

**Female** (Fig. 25). Antennomere 3 distinctly longer than those in male and distinctly longer than antennomere 2, only slightly shorter than antennomere 4. Both anterior tarsal claws with 4 visible teeth.

**Variation.** The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=3). BL 4.47 mm (4.34-4.54 mm); HL 0.54 mm (0.50-0.58 mm); HW 0.93 mm (0.91-0.95 mm); OI 63.72 (60.15-66.29), PL 0.84 mm (0.82-0.88 mm); PW 1.35 mm (1.34-1.37 mm); PI 62.73 (61.54-64.55); EL 3.08 mm (2.98-3.21 mm); EW 1.93 mm (1.81-2.00 mm). Females (n=2). BL 4.41 mm (4.39-4.43 mm); HL 0.55 mm (0.54-0.55 mm); HW 0.92 mm (0.91-0.92 mm); OI 69.63 (69.01-70.24), PL 0.82 mm (0.81-0.82 mm); PW 1.37 mm (1.36-1.38 mm); PI 59.58 (58.59-60.56); EL 3.05 mm (3.03-3.07 mm); EW 1.98 mm (1.95-2.00 mm).





Figs. 23-27: *Hymenalia pseudominuta* sp. nov.: 23- Habitus of male holotype; 24- head, pronotum and antennomeres 1-4 of male holotype; 25- head, pronotum and antennomeres 1-4 of female; 26- aedeagus, dorsal view; 27- aedeagus, lateral view.

**Differential diagnosis.** New species *Hymenalia pseudominuta* sp. nov. distinctly belonging to *Hymenalia minuta* species group; males differ from males of *Hymenalia minuta* Pic, 1910 mainly by shape of aedeagus and antennomere 3 distinctly longer than antennomere 2; while males of *H. minuta* have antennomere 3 approximately as long as antennomere 2.

**Name derivation.** Compound name - *pseudo-* (false) and *-minuta-* indicating the resembling appearance to species *Hymenalia minuta*.

**Distribution.** China (Yunnan).



## *Hymenalia (Nikomenalia) schawalleri* Novák, 2010

*Hymenalia (Nikomenalia) schawalleri* Novák, 2010: 216.

**New material examined.** (1 ♂ 1 ♀): YUNNAN 1500-2500m / 25.22N 98.49E 17-24.5 / GAOLIGONG mts. / Vít Kubáň leg. 1995, (NHMB, VNPC).

### *Hymenalia thailandica* sp. nov. (Figs. 28-32)

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

**Type material.** Holotype: (♂): Thailand, Chiang Mai / Doi Suthep, / 15. XI.2012 / K. Takahashi leg., (NMTJ). Paratypes: (2 ♂♂ 2 ♀♀): same data as holotype, (KMTJ, VNPC); (1 ♂): same data as holotype, but 16.XI.2012, (VNPC); (1 ♀): same data as holotype, but 6-7.XI.2012, (KMTJ); (3 ♂♂): Thailand, Fang, / Doi Ang Khang, / 8-10.XI.2012 / K. Takahashi leg., (KMTJ, VNPC); (1 ♀): Thailand, Chiang Rai, / Wiang Pa Pao, / 13. XI.2012 / K. Takahashi leg., (VNPC); (1 ♀): THAILAND, N; Chiang / Mai, N; Doi Pha / Hom Pok, 20°05'N / 99°15'E, 23.-29.I. / 2004, leg. T. Ihle, (NMEG). The types are provided with a printed red label: 'Hymenalia thailandica sp. nov. HOLOTYPUS [or PARATYPUS] V. Novák det. 2015'.

**Description of holotype.** Habitus as in Fig. 28, body relatively large, elongate-oval, reddish brown, dorsal surface with pale brown setation, shiny, BL 7.64 mm. Widest near half elytral length; BL/EW 2.60.

Head (Fig. 29). Relatively small, with pale brown setation, microgranulation, relatively dense and shallow punctuation, punctures medium-sized. Posterior part brown, anterior part and clypeus reddish brown, distinctly paler than posterior part of head. HW 1.23 mm; HW/PW 0.50; HL (visible part) 1.08 mm. Eyes large, transverse, distinctly excised, space between eyes very narrow; slightly wider than length of antennomere 2 or 3; OI equal to 16.67.

Antennae (Fig. 29). Long, reddish brown, with short, pale brown setation, microgranulation, punctuation, matte. AL 5.38 mm; AL/BL 0.70. Antennomeres 1-3 very slightly shiny, antennomeres 4-10 distinctly serrate. Antennomere 2 shortest, antennomere 3 only slightly longer than antennomere 2.

RLA (1-11): 1.61 : 0.83 : 1.00 : 3.57 : 3.74 : 4.35 : 4.44 : 4.70 : 4.52 : 4.35 : 4.44.

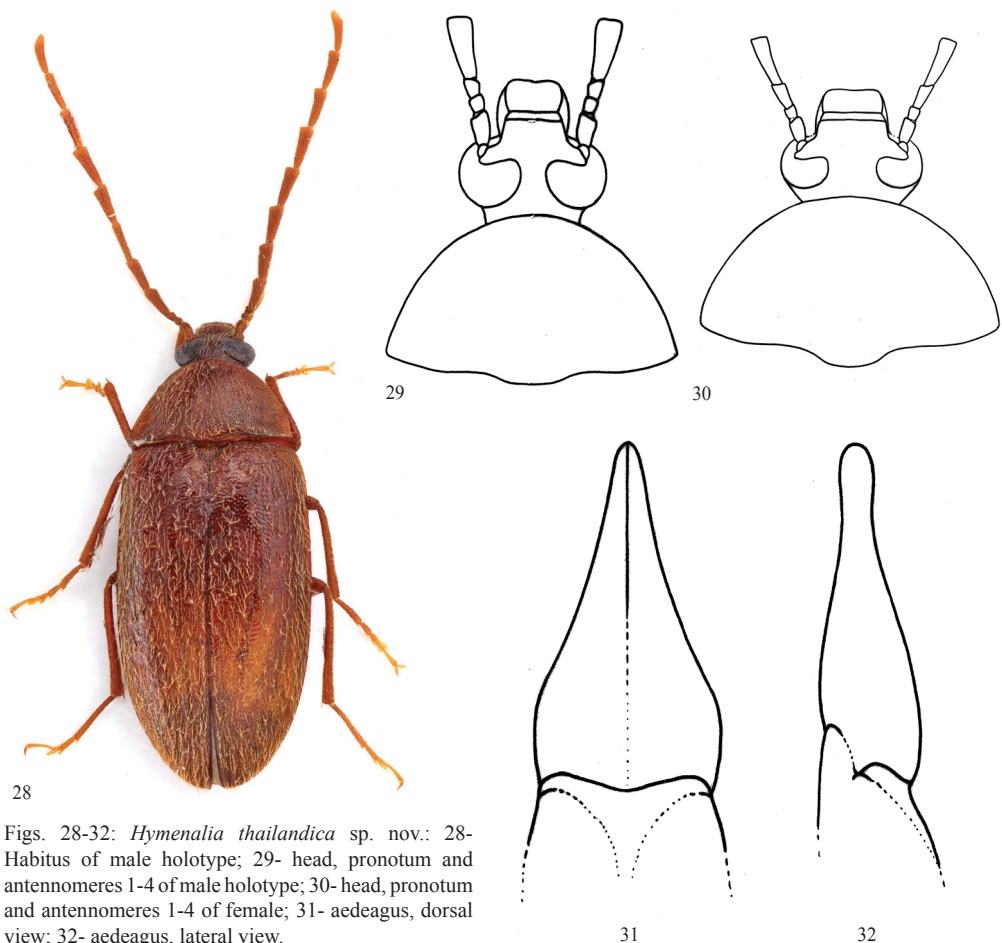
RL/WA (1-11): 1.48 : 0.95 : 1.05 : 2.41 : 2.39 : 2.78 : 2.83 : 3.18 : 3.15 : 3.33 : 3.46.

Maxillary palpus pale brown, matter, with pale brown setation. Palpomeres 2-4 distinctly narrowest at base and broadest at apex. Ultimate palpomere, longly triangular, knife-shaped.

Pronotum (Fig. 29). Brown, transverse, almost semicircular, dorsal surface slightly shiny, with long and dense pale brown setation, fine microgranulation and dense punctuation, punctures medium-sized and shallow, interspaces between punctures relatively narrow. PL 1.27 mm; PW 2.48 mm; PI equal to 51.21. Border lines complete, distinct. Lateral margins rounded, broadest near bisinuate base. Posterior angles roundly rectangular, anterior angles indistinct.

Ventral side of body. Brown, with greyish white setation, prothorax with dense punctuation. Abdomen brown with greyish white setation, fine microgranulation and very fine punctuation. Ultimate and penultimate ventrites distinctly paler than ventrites 1-3.

Elytron. Dorsal surface reddish brown, shiny, with dense and long pale brown setation,



Figs. 28-32: *Hymenalia thailandica* sp. nov.: 28- Habitus of male holotype; 29- head, pronotum and antennomeres 1-4 of male holotype; 30- head, pronotum and antennomeres 1-4 of female; 31- aedeagus, dorsal view; 32- aedeagus, lateral view.

widest near half elytral length. EL 5.29 mm; EW 2.94 mm; EL/EW 1.80. Elytral striae without distinct rows of punctures, surface with dense punctuation, punctures small-sized.

Scutellum. Broadly triangular, reddish brown, shiny, with long pale brown setation and dense punctuation.

Elytral epipleura. Brown, as colour as elytron itself, slightly shiny, with pale brown setation, broadest near base, regularly narrowing to mesothorax, then leading more or less parallel.

Legs. Reddish brown, with dense and long, pale brown setation, microgranulation and punctuation. Tibia slightly widened to apex. Penultimate tarsomere of each tarsus distinctly widened and lobed. RLT: 1.00 : 0.38 : 0.38 : 0.47 : 1.40 (protarsus); 1.00 : 0.39 : 0.37 : 0.40 : 0.89 (mesotarsus); 1.00 : 0.39 : 0.26 : 0.54 (metatarsus).

Both anterior tarsal claws with 6 distinct teeth.

Aedeagus (Figs. 31, 32). Relatively small, pale brown, slightly shiny. Basal piece slightly rounded laterally. Apical piece beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece 1: 2.51.

**Female** (Fig. 30). Space between eyes wider than those in male, distinctly wider than length of antennomere 1. Antennomere 3 distinctly longer than antennomere 2.

**Variation.** The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n = 7). BL 7.14 mm (6.66-7.64 mm); HL 0.99 mm (0.93-1.08 mm); HW 1.20 mm (1.17-1.23 mm); OI 18.87 (16.67-20.77); PL (along midline) 1.20 mm (1.08-1.28 mm); PW at base 2.35 mm (2.24-2.48 mm); PI 51.07 (48.00-53.59); EL 4.95 mm (4.61-5.29 mm); EW 2.86 mm (2.69-2.94 mm). Females (n = 5). BL 7.78 mm (7.63-8.00 mm); HL 1.03 mm (1.00-1.09 mm); HW 1.25 mm (1.16-1.33 mm); OI 35.34 (30.77-38.09); PL (along midline) 1.34 mm (1.27-1.41 mm); PW at base 2.78 mm (2.41-3.03 mm); PI 48.49 (46.43-52.81); EL 5.41 mm (5.29-5.60 mm); EW 3.28 mm (5.29-5.60 mm).

**Differential diagnosis.** *Hymenalia thailandica* sp. nov. with dorsal surface setated, distinctly belongs to *Hymenalia rufipes* species group. We know further three species of this group from eastern Asia: *Hymenalia darjeelingica* sp. nov., *Hymenalia murzini* Novák, 2008 and *Hymenalia wrasei* Novák, 2008. Males of *H. thailandica* differ from males of *H. darjeelingica* by shape of aedeagus and by indistinct rows of punctures in elytral striae and large and more shallow punctures on head; while *H. darjeelingica* has distinct rows of small punctures in elytral striae and smaller and coarser punctuation of head. Males of *H. thailandica* are clearly different from males of *H. murzini* by shape of aedeagus and mainly by antennomere 2 shortest; while males of *H. murzini* have antennomere 3 shortest. Males of *H. thailandica* differ from males of *H. wrasei* by shape of aedeagus and antennomeres 4-11 3.5-4.5 times longer than antennomere 3; while males of *H. wrasei* have antennomeres 4-11 only 2.4-2.8 times longer than antennomere 3.

**Name derivation.** Toponymic, after the country of its occurrence - Thailand.

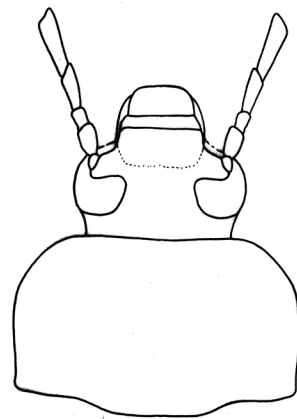
**Distribution.** Thailand.

***Hymenalia wuliangica* Novák, 2010**  
(Fig. 33)

*Hymenalia wuliangica* Novák, 2010: 218.

**New material examined.** (2 ♂♂ 1 ♀): YUNNAN 2000-2800m / 25.11N 100.24E / WEIBAOSHAN mts. / W slope 25-28/6.92 / Vít Kubáň leg., (NHMB); (3 ♂♂): YUNNAN, 30May-3Jun / JIZU MTS., 1993 / 25.58N 100.21E / Bolm lgt., 2800 m, (NHMB, VNPC); (2 ♂♂ 6 ♀♀): YUNNAN, 2300 m / JIZU MTS. / 18. - 20. JUL 1995 / BOLM lgt., (NHMB, VNPC).

Fig. 33: *Hymenalia wuliangica* Novák, 2010: 33- Head, pronotum and antennomeres 1-4 of female.



**Female characters.** Antennomere 3 distinctly longer than antennomere 2 and distinctly longer than those in the male. The antenna shorter, the space between eyes wider, the pronotum wider and the body more oval than those in male. BL 7.41 mm; HL 0.85 mm; HW 1.17 mm; OI equal to 45.16; PL 1.19 mm; PW 2.11 mm; PI equal to 56.40; EL 5.37 mm; EW 2.98 mm.

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