

New species, new combination and distributional data in Alleculini Laporte, 1840 (Coleoptera: Tenebrionidae: Alleculinae) from the Palaearctic Region

Vladimír NOVÁK

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

Taxonomy, new species, descriptions, new combination, new records, Coleoptera, Tenebrionidae, Alleculinae, Alleculini, Alleculina, Allecula, Borboresthes, Hymenalia, Mycetocharina, Gonoderina, Pseudocistela, Palaearctic Region

Abstract. A new *Allecula* Fabricius, 1787 species is described as *Allecula nanlingica* sp. nov. from China (Guangdong). New *Borboresthes* Fairmaire, 1897 species are described as *Borboresthes bicoloricornis* sp. nov. from Nepal and *Borboresthes siniaevi* sp. nov. from China (Henan, Hebei, Hubei, Jiangxi and Shaanxi). *Borboresthes aeneipennis* (Harold, 1878) comb. nov. from Japan is transferred from the genus *Allecula*. A new *Mycetocharina* Seidlitz, 1890 is described as *Mycetocharina cypria* sp. nov. from Cyprus. New distributional data for the species *Hymenalia holzschuhi* Novák, 2010 - China (Sichuan) and *Pseudocistela ceramoides* (Linnaeus, 1758) - Turkey and Azerbaijan are added.

INTRODUCTION

The genus *Allecula* was introduced by Fabricius (1801) for *Allecula morio* (Fabricius 1787), originally described in the suppressed *Cistela* Geoffroy, 1762. Species of this genus have a worldwide distribution: Novák & Pettersson (2008) listed 65 species from the Palaearctic Region. Four new species from western part of Palaearctic Region (Novák et al. 2011, 2012; Novák 2016a, 2017a) were described later. From the eastern part of the Palaearctic Region seven new species were described by Akita & Masumoto (2012, 2015) from Japan, two new species from Taiwan (Masumoto et al. 2017) and five new species from China (Novák 2017b). A new *Allecula* species is described here as *Allecula nanlingica* sp. nov. from China (Guangdong). The new species is illustrated and compared with similar species *Allecula guangdongica* Novák, 2017 from Guangdong and *Allecula jaroslavi* Novák, 2017 from Fujian and Jiangxi.

The genus *Borboresthes* was introduced by Fairmaire (1897). Species of this genus live in eastern and southeastern Palaearctic Region and in Oriental Region. Mader (1928) listed 7 and Novák & Pettersson (2008) later 43 species of this genus from Palaearctic Region. New species from Palaearctic Region were described by Akita & Masumoto (2008, 2015) from Japan, by Masumoto et al. (2017, 2018) from Taiwan and by Novák (2012, 2015 and 2016b) from China. New *Borboresthes* species are described as *Borboresthes bicoloricornis* sp. nov. from Nepal and *Borboresthes siniaevi* sp. nov. from China (Henan, Hebei, Hubei, Jiangxi and Shaanxi). The new species are illustrated, *B. bicoloricornis* is a unique species with each antennomere bicolor (no similar species is known from Nepal and neighbouring territories), *B. siniaevi* is compared with a similar species *Borboresthes aeneipennis* (Harold, 1878) comb. nov., which is transferred from genus *Allecula*.

The genus *Mycetocharina* was introduced by Seidlitz (1890). Species of this genus live in the western part of Palaearctic Region. Novák & Pettersson (2008) listed 26 species in two subgenera. Three species were described later by Novák (2008a,b and 2016c). A new *Mycetocharina* species belonging to subgenus *Mycetocharina* s. str. is described as *Mycetocharina* (*Mycetocharina*) *cypria* sp. nov. from Cyprus. The new species is illustrated,

(no similar species with black dorsal surface is known from Cyprus and neighboring territories).

New distributional data are presented for *Hymenalia holzschuhi* Novák, 2010 - China (Sichuan) and for *Pseudocistela ceramboides* (Linnaeus, 1758) - Azerbaijan and Turkey.

MATERIAL AND METHODS

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

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

The following collection code is used:

DHBC private collection of David Hauck, Brno, Czech Republic;
NMEG collection of Naturkundemuseum, Erfurt, Germany;
NMPC collection of National Museum, Praha, Czech Republic;
OKZC private collection of Ondřej Konvička, Zlín, Czech Republic;
SMNS collection of Staatliches Museum für Naturkunde, Stuttgart, Germany;
VNPC private collection of Vladimír Novák, Praha, Czech Republic.

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

Other abbreviations: hb= handwritten black; pb= printed black; bl= blue label; wl = white label.

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

TAXONOMY

subtribe Alleculina Laporte, 1840

genus *Allecula* Fabricius, 1801

Allecula nanlingica sp. nov.

(Figs. 1-5)

Type locality. China, Guangdong province, Nanling National Nature Reserve, Dadongshan, $24^{\circ}56.0'N$, $112^{\circ}42.9'E$, 690 m.

Type material. Holotype (♂): wl: CHINA, Guangdong prov. / Nanling National Nature Reserve / Dadongshan, 18.-21.iv.2013 / (border of mixed forest; at light) / $24^{\circ}56.0'N$, $112^{\circ}42.9'E$, 690 m / J. Hájek & J. Růžicka leg., (NMPC). Paratypes: (2 ♂♂): same data as holotype, (NMPC, VNPC). The types are provided with a printed red label: '*Allecula* / *nanlingica* sp. nov. / HOLOTYPE [or PARATYPE] / V. Novák det. 2018'.

Description of holotype. Habitus as in Fig. 1, body narrow, elongate, from reddish brown to black, rather matte, dorsal surface with dense punctuation, microgranulation, covered with short, pale setation, BL 7.93 mm. Widest roughly in humeral part of elytra; BL/EW 3.51.

Head (Fig. 2) wide, slightly transverse, distinctly wider than long, narrower than anterior part of pronotum. Posterior part blackish brown, with dense punctuation, punctures relatively small. Anterior part dark reddish brown with sparse, pale setae and dense punctuation, punctures as wide as in posterior part. Clypeus partly reddish brown, partly pale brown, distinctly paler than anterior part, with pale setae, microgranulation and sparse punctures distinctly smaller than those in head. HW 1.26 mm; HW/PW 0.76; HL (visible part) 1.04 mm. Eyes large, transverse, distinctly excised, space between eyes narrow, OI equal to 37.44, slightly wider than diameter of one eye; distinctly wider than length of antennomere 1.

Antennae (Fig. 3). Relatively long, narrow, filiform, with relatively long, recumbent, pale setation, punctuation and microgranulation, rather matte. Antennomeres 1-4 reddish brown, antennomeres 5 and 6 reddish brown with dark brown apex, antennomeres 7-11 brown with reddish brown apex. AL 5.46 mm; AL/BL 0.69. Antennomere 2 shortest, antennomere 3 longest, antennomere 4 slightly shorter than antennomere 3, antennomeres 4-11 distinctly shorter than antennomeres 3 or 4 long. Antennomeres 4-10 slightly wider in apex.

RLA(1-11): 0.34 : 0.17 : 1.00 : 0.96 : 0.74 : 0.72 : 0.68 : 0.59 : 0.56 : 0.49 : 0.56.

RL/WA(1-11): 2.14 : 1.29 : 8.31 : 8.00 : 5.77 : 5.65 : 5.00 : 3.95 : 3.90 : 3.10 : 4.17.

Maxillary palpus brown with short, pale setation and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, here with a few long, pale setae. Ultimate palpomere very broad, shoe-shaped.

Pronotum (Fig. 2) black, widest near two thirds from base to apex, distinctly narrower than base of elytra, with pale setation, dense punctuation, punctures small, inside with microgranulation. Intervals between punctures distinctly narrower than diameter of punctures. PL 1.30 mm; PW 1.67 mm; PI equal to 77.84. Border lines complete, lateral margins of posterior half straight, in anterior part arcuate. Base slightly bisinuate, anterior margin slightly arcuate. Posterior and anterior angles distinct, obtuse, posterior angles rounded.

Elytra. Black, narrow, elongate, with short, pale, recumbent setation. EL 5.59 mm; EW 2.26 mm; EL/EW 2.47. Elytral striae with distinct rows of punctures distinctly larger than those in pronotum. Elytral intervals slightly convex, with fine microgranulation and shallow, sparse small punctures.

Scutellum. Black, the same colour as elytron itself, widely pentagonal, slightly shiny.

Elytral epipleura well-developed, black, the same colour as the elytra, shiny, with a few pale setae and one row of punctures, widest near base, distinctly narrowing to ventrite 1, then relatively wide and parallel.

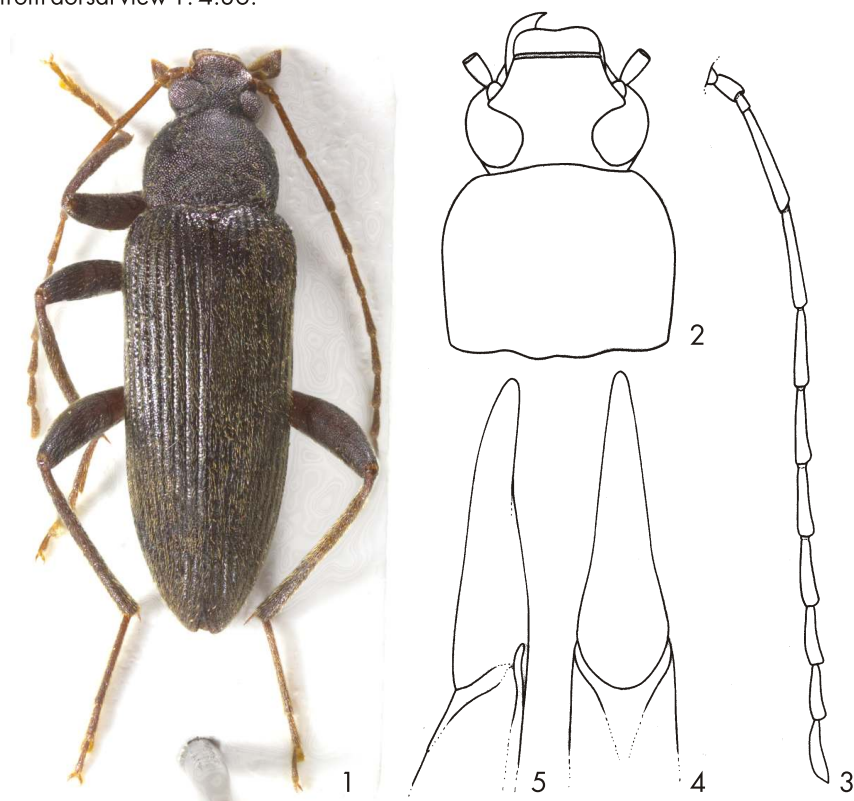
Legs. Blackish brown, thin and long, with fine microgranulation and pale setation. Tarsi pale reddish brown, distinctly paler than femora or tibiae. Penultimate tarsomere of each tarsus distinctly wider and lobed. RLT: 1.00 : 0.31 : 0.24 : 0.36 : 0.64 (protarsus); 1.00 : 0.36 : 0.22 : 0.29 : 0.56 (mesotarsus); 1.00 : 0.31 : 0.16 : 0.40 (metatarsus).

Anterior tarsal claws with 5 visible teeth.

Ventral side of body with sparse, pale setae and punctuation, punctures small. Prosternum and mesosternum reddish brown, metasternum black. Abdomen black with pale setation, fine microgranulation and dense punctuation. Punctures very small. Ultimate ventrite with V-shaped excision, here distinctly paler, pale brown or ochre yellow.

Aedeagus (Figs. 4, 5) ochre yellow. Basal piece slightly rounded laterally, in dorsal view parallel in basal half, then narrowing in apical half. Apical piece narrowly elongate triangular

dorsally, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1 : 4.36.



Figs. 1-5. *Allecula nanlingica* sp. nov., Figs. 1-3 (male holotype): 1-Habitus; 2-head and pronotum; 3-antenna; 4-aedeagus, dorsal view; 5-aedeagus, lateral view.

Female unknown.

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males ($n = 3$). BL 8.03 mm (7.93-8.13 mm); HL 1.09 mm (1.04-1.17 mm); HW 1.27 mm (1.24-1.31 mm); OI 38.03 (36.67-39.97); PL 1.30 mm (1.29-1.30 mm); PW 1.71 mm (1.67-1.74 mm); PI 76.00 (74.14-77.84); EL 5.67 mm (5.58-5.85 mm); EW 2.27 mm (2.26-2.30 mm).

Differential diagnosis. Similar species are *Allecula guangdongica* Novák, 2017 from Guangdong and *Allecula jaroslavi* Novák, 2017 from Fujian and Jiangxi.

Allecula nanlingica sp. nov. clearly differs from the species *A. guangdongica* mainly by its dorsal surface of elytra black, by space between eyes distinctly wider than diameter of one eye (OI 36-40) and by antennomere 3 longest, distinctly longer than antennomeres 4-11; while *A. guangdongica* has dorsal surface of elytra bicolor (partly brown, partly ochre yellow), space between eyes narrow, distinctly narrower than diameter of one eye (OI approximately 22) and

each of antennomeres 4-11 is distinctly longer than antennomere 3.

Allecula nanlingica sp. nov. is clearly different from the species *A. jaroslavi* by its shape of pronotum (as in Fig. 2), it is widened from base to its two thirds from base to apex and by shape of aedeagus (Figs. 4 and 5), aedeagus of *A. jaroslavi* (see: Novák, 2017: 27: figs. 20, 21) and pronotum is slightly arcuate, but not widened apically (see: Novák, 2017: 27: fig. 17).

Etymology. Named after the type locality - Nanling National Nature Reserve in Guangdong province (China).

Distribution. China (Guangdong).

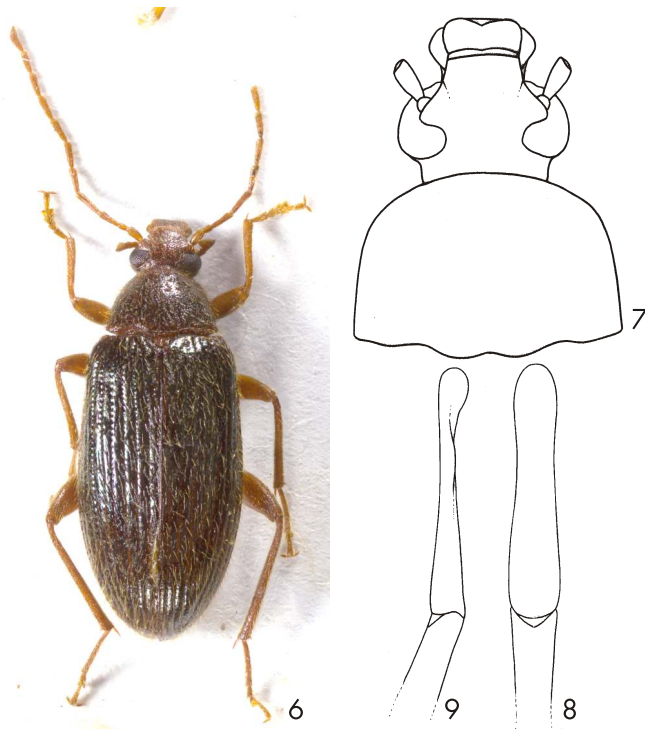
genus *Borboresthes* Fairmaire, 1897

***Borboresthes aeneipennis* (Harold, 1878) comb. nov.**
(Figs. 6-9)

Allecula aeneipennis Harold, 1878: 80.

Type locality. Japan, Tokyo.

Material examined. (1 ♂): wl: 1990.VIII.12 [hb] / Koganezawa / Misakubo T. / K. Deguchi leg. [pb] // bl: K. AKITA / Collection / KAC 105233 [pb] // wl: All. ♀ / *aeneipennis* [hb] / Det. K. Akita. 2017 [pb], (VNPC).



Figs. 6-9. *Borboresthes aeneipennis* (Harold, 1878) comb. nov.: 6- Habit of male; 7- head and pronotum of male; 8- aedeagus, dorsal view; 9- aedeagus, lateral view.

Remark. *Borboresthes aeneipennis* (Harold, 1878) comb. nov. was described in 1878 from Japan by Harold as an *Allecula* species. Fairmaire (1897) established new genus *Borboresthes* Fairmaire, 1897 as oval, convex species with egg-shaped body with pronotum in base approximately as wide as elytra in base. According to these characters, this species obviously belongs to the genus *Borboresthes* (see Fig. 6). Anterior tarsal claws of male with 10 visible teeth.

Measurement of male body. BL 7.22 mm; HL 0.81 mm; HW 1.24 mm; OI 43.48; PL 1.14 mm; PW 1.85 mm; PI 61.62; EL 5.27 mm; EW 2.82 mm; AL 4.21 mm; AL/BL 0.58; HW/PW 0.67; BL/EW 2.56; EL/EW 1.87; AED 1: 5.25.

RLA (1-11) equal to: 0.86 : 0.44 : 1.00 : 1.42 : 1.12 : 1.12 : 1.23 : 1.18 : 1.11 : 1.05 : 1.28.

RL/WA (1-11) equal to: 2.33 : 1.47 : 3.35 : 4.77 : 3.77 : 4.27 : 3.89 : 4.19 : 3.71 : 3.75 : 4.06.

RLT (1-5 or 1-4) equal to: 1.00 : 0.57 : 0.55 : 0.52 : 1.43 (protarsus), 1.00 : 0.22 : 0.17 : 0.43 (metatarsus).

Distribution. Japan.

Borboresthes bicoloricornis sp. nov.

(Figs. 10-13)

Type locality. Nepal, Annapurna Mts., Banthanti, from Ghorapani to Ulleri, 2300 m.

Type material. Holotype (♂): NEPAL, Annapurna Mts. / Banthanti (Ghorapani / to Ulleri) 2300m NN / 13.09.2003 leg. Schmidt, (NMEG). Paratypes: [48 spec.]: same data as holotype, (NMEG, VNPC). The types are provided with a printed red label: 'Borboresthes / bicoloricornis sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2018'.

Description of holotype. Habitus as in Fig. 10, body oval, convex, egg-shaped, from pale brown to dark brown, with punctuation, microgranulation and pale setation, slightly shiny, BL 6.11 mm. Widest near half elytra length; BL/EW 2.66.

Head (Fig. 11) relatively small and narrow, approximately as wide as long, with fine microgranulation, sparse, pale setation and dense punctuation, punctures small. Posterior part dark brown, anterior part reddish brown, apex and clypeus pale reddish brown. HW 0.94 mm; HW/PW 0.59. HL (visible part) 0.98 mm. Eyes small, transverse, slightly excised, space between eyes wide, distinctly wider than diameter of one eye; slightly wider than length of antennomere 4, OI equal to 51.57.

Antennae. Long, filiform, ochre yellow, with microgranulation and sparse punctuation. Antennomeres 1 and 2 pale brown, antennomeres 3-10 dark brown with pale apex, antennomere 11 with dark brown basal half and pale brown apical half. Antennomeres 1-5 and 10, 11 with pale, antennomeres 6-9 with dark setation. AL 3.25 mm, AL/BL 0.53. Antennomeres 1 and 2 slightly shiny, 3-11 more matte. Antennomere 2 shortest, antennomere 11 longest, antennomere 3 approximately as long as or shorter than each of antennomeres 4-11.

RLA (1-11): 0.67 : 0.54 : 1.00 : 1.12 : 0.99 : 1.12 : 1.09 : 1.10 : 1.10 : 0.99 : 1.19.

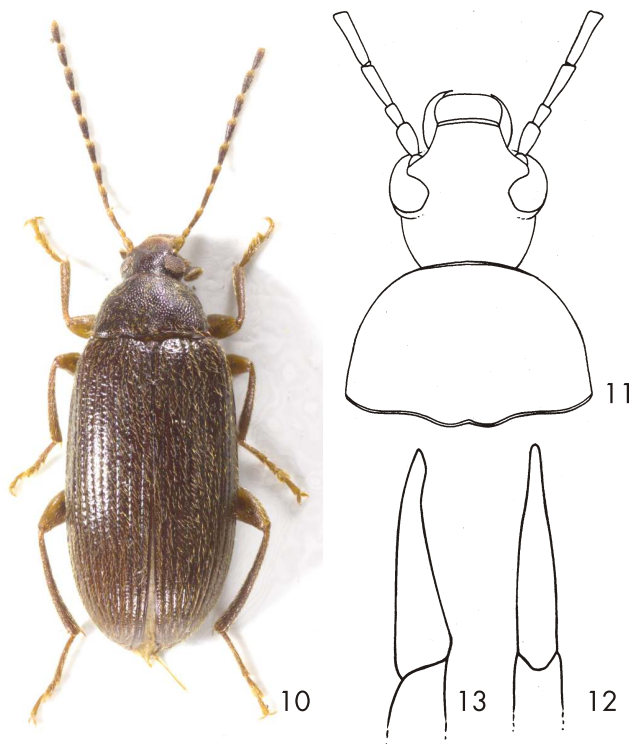
RL/WA (1-11): 1.58 : 1.62 : 3.63 : 3.80 : 3.20 : 3.25 : 3.37 : 3.23 : 2.90 : 2.82 : 3.77.

Maxillary palpus. Pale reddish brown with pale setation, fine microgranulation and very small punctuation. Ultimate palpomere broadly triangular. Palpomeres 2 and 3 distinctly narrowest at base, slightly dilated anteriorly.

Pronotum (Fig. 11). Semicircular, dark brown with long, pale setation, microgranulation and dense punctuation, punctures relatively large and shallow, interspaces between punctures narrow. Border lines distinct and complete. Lateral and anterior margins arcuate, posterior

margin bisinuate, anterior angles indistinct, posterior angles obtuse. PL 0.92 mm; PW 1.60 mm; PI equal to 57.50.

Ventral side of body and abdomen dark reddish brown with short pale setation and small punctuation.



Figs. 10-13. *Borboressthes bicoloricornis* sp. nov.: 10- Habitus of male holotype; 11- head and pronotum of male holotype; 12- aedeagus, dorsal view; 13- aedeagus, lateral view.

Elytron. Dark brown, oval, convex, dorsal surface with long, pale setation. Elytral striae with distinct rows of medium sized punctures, elytral interspaces with fine microgranulation and very small, sparse punctures. EL 4.21 mm. Widest near half elytra length, EW 2.30 mm. EL/EW 1.83.

Scutellum. Dark brown as elytron itself, pentagonal, with microgranulation and a few punctures.

Elytral epipleura well-developed, dark brown, shiny, with pale setation and one row of punctures relatively broad in base, regularly narrowing to ventrite 1, then relatively wide leads parallel.

Legs. Brown, with punctuation and microgranulation and pale setation, setation of tarsi and tibiae distinctly denser than those in femora. Pro- and mesotarsomeres 3, 4 and metatarsomere 3 broadened and lobed. RLT (1-5 or 1-4) equal to: 1.00 : 0.46 : 0.57 : 1.17 : 1.71 (protarsus), 1.00 : 0.31 : 0.23 : 0.32 : 0.68 (mesotarsus), and 1.00 : 0.24 : 0.24 : 0.62 (metatarsus).

Both anterior tarsal claws with more than 13 visible teeth.

Aedeagus (Figs. 12 and 13). Ochre yellow, slightly shiny. Basal piece rounded laterally, and very finely narrowing dorsally. Apical piece elongate, narrowly triangular dorsally, beak shaped laterally and dorsally. Ratio of length of apical piece to length of basal piece from dorsal view 1 : 3.22.

Female without distinct differences, only both anterior tarsal claws with 6 visible teeth.

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Specimens (n=49). BL 6.11 mm (5.86-6.31 mm); HL 0.95 mm (0.89-0.99 mm); HW 0.98 mm (0.90-1.00 mm); OI 49.38 (46.22-51.11), PL 0.94 mm (0.86-1.04 mm); PW 1.59 mm (1.46-1.71 mm); PI 57.10 (50.29-62.58); EL 4.21 mm (4.00-4.39 mm); EW 2.34 mm (2.22-2.48 mm).

Differential diagnosis. *B. bicoloricornis* is a unique species with each antennomere bicolor; no similar species occur in Nepal and neighboring territories.

Name derivation. New species is named after its character - antennomeres bicolor.

Distribution. Nepal.

***Borboresthes siniaevi* sp. nov.**

(Figs. 14-17)

Type locality. China, Shaanxi province, Taibashan Range, environ of Houzhenzi vill., N 33°53', E 107°49'.

Type material. Holotype (♂): wl [pb]: China - Shaanxi 1900m; / TAIBASHAN Range, / HOUZHENZI vill. env. 33°53'N / 107°49'E, 1-12.08. 1999 / leg. Siniaev & A. Plutenko, (VNPC). Paratypes: (9 ♂♂, 3 ♀♀): same data as holotype, (VNPC); (2 ♂♂, 1 ♀): CHINA - SHAANXI / LUEANG - 33°07'N 106°05'E / 22.5.-29.5.97 / lgt. E. Kučera, (VNPC); (1 ♂): same data as penultimate, but 18.6.-24.6.97, (VNPC); (1 ♂): CHINA-SHAANXI / Lueang / 18.5.-21.5.2000 / leg. E. Kučera, (VNPC); (2 ♂♂, 4 ♀♀): CHINA, 1000-1300m, / Shaanxi, Qinling mts, / XUNYANGBA (6 km / E), 23.v.-13.vi.1998, / I. H. Marshal leg., (DHBC, VNPC); (2 ♂♂): CHINA, S-SHAANXI, / QUNLING Mts. - N slope, / HUXIAN Co., 33°50' / 108°26' / 1300-1600m, 12.-13.6.95 / L.+R.BUSINSKÝ lgt., (VNPC); (7 ♂♂, 4 ♀♀): CHINA - Shaanxi prov. / 11. July 1998 / Qing Ling Shan mts. / 40 km SE Taibai Shan mt. / Hou Zen Zi vill. env. / Zd. Jindra lgt., cca 1200m, (VNPC); (1 ♂, 2 ♀♀): same data as penultimate, but 26.vi.1998, / 30 km SE Taibai / cca 1500 m, (1 ♂): CHINA, HEBEI, CHENGDE / WULING[shan] Mts., 1213 m / LONGTAN Waterfall / 40°35'39"N 117°26'59"E / 8.viii.2016, P. KMENT lgt., (NMPC); (1 ♀): CHINA, HEBEI, CHENGDE / WULING[shan] Mts., 1365 m / LONGTAN Scenic Spot / 40°35'43"N 117°27'24"E / 8.viii.2016, P. KMENT lgt., (NMPC); (1 ♂, 1 ♀): CHINA, E Henan, / 10 km S of Guanpo / 1600 m, 17.-23.Jul. / 1998, Bolm lgt., (VNPC); (2 ♂♂, 2 ♀♀): China, W Hubei, 18.V. / MUYUPING S.env. / 31.45N 110.4E, -1300m / Jaroslav Turna leg. 2004, (VNPC); (VNPC); (2 ♂♂): CHINA, W - HUBEI, 1300- / 2000m, DASHENNONGJIA / massif - E slope, / 31°24-30' / 110°21-24' / 28.6-5.7.95 / L.+R. BUSINSKÝ lgt., (VNPC); (2 ♂♂, 8 ♀♀): China, N Jiangxi, 29.V. / Lushan mts. GULING / 29.6N 116.0E / Jaroslav Turna leg. 2004, (VNPC). The types are provided with a printed red label: 'Borboresthes / siniaevi sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2018'.

Description of holotype. Habitus as in Fig. 14, body elongate oval, slightly convex, from pale brown to blackish brown, with punctuation and pale setation, shiny, BL 8.00 mm. Widest near half elytra length; BL/EW 2.85.

Head (Fig. 15) approximately as long as wide, with sparse and long, pale setation and dense punctuation, punctures medium sized and relatively coarse, interspaces between punctures narrow and smooth, shiny. Posterior part dark reddish brown, distinctly darker than pale reddish brown anterior part. Pale reddish brown clypeus and anterior part with very fine microrugosities and microgranulation. Punctuation of clypeus indistinct. HW 1.20 mm; HW/PW 0.65. HL (visible part) 1.21 mm. Eyes relatively large, transverse, excised, space between eyes wide, distinctly wider than diameter of one eye, as wide as length of antennomere 4; OI equal to 51.91.

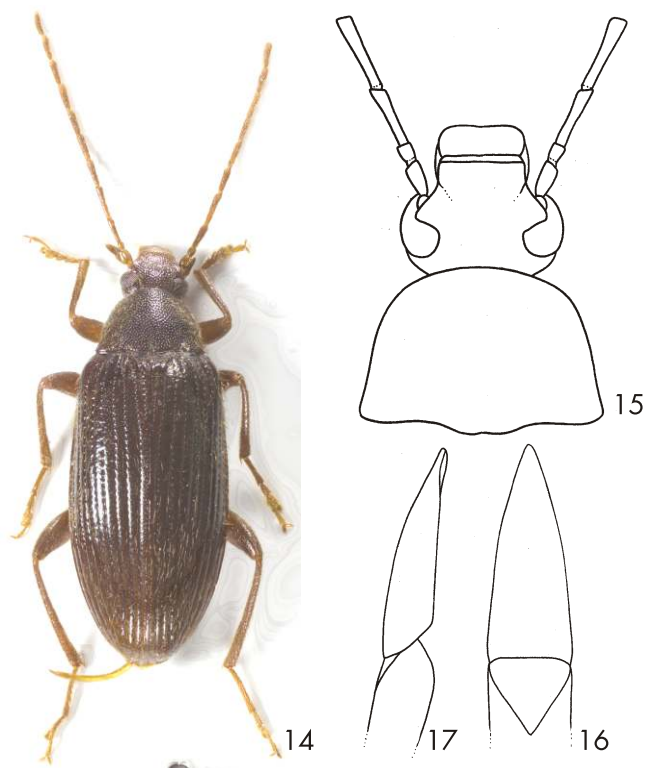
Antennae. Long, narrow, filiform, brown, with sparse, shallow punctures, microgranulation and long, pale setation, distinctly exceeding half body length, AL 4.83 mm, AL/BL 0.60. Antennomeres 1-3 slightly shiny, antennomeres 4-11 rather matte. Antennomere 2 shortest,

antennomere 4 longest, antennomere 3 distinctly shorter than each of antennomeres 4-11.

RLA(1-11): 0.54 : 0.37 : 1.00 : 1.40 : 1.12 : 1.08 : 1.04 : 1.13 : 1.04 : 1.01 : 1.10.

RL/WA(1-11): 1.68 : 1.71 : 4.11 : 5.45 : 4.58 : 4.67 : 4.50 : 4.89 : 4.05 : 3.95 : 4.78.

Maxillary palpus brown, with pale setation. Ultimate palpomere broadly triangular, distinctly darker than palpomeres 2 and 3, which are distinctly narrowest at base and widest at apex, with long pale setae.



Figs. 14-17. *Borboresches siniaevi* sp. nov.: 14- Habitus of male holotype; 15- head and pronotum of male holotype; 16- aedeagus, dorsal view; 17- aedeagus, lateral view.

Pronotum (Fig. 14). Slightly longer than semicircular, very slightly narrower than base of elytra, blackish brown with long, pale setation, very dense punctuation, punctures medium sized and coarse, microgranulation indistinct, interspaces between punctures narrow, smooth and shiny. Margins distinct and complete, lateral margins straight in basal half, arcuate in apical half. Anterior margin arcuate, posterior margin bisinuate, anterior angles indistinct, posterior angles slightly obtuse. PL 1.16 mm; PW 1.85 mm; PI equal to 62.70.

Ventral side of body blackish brown, smooth with sparse pale setae and small punctures. Abdomen dark reddish brown, with sparse, pale setation, microgranulation and dense punctuation, punctures small.

Elytron. Oval, slightly convex, dark blackish brown with metallic lustre, long, pale setation, widest near half elytra length. EL 5.63 mm; EW 2.81 mm; EL/EW 2.00. Dorsal surface with rows of medium sized punctures in elytral striae, interspaces between punctures very narrow. Elytral intervals slightly convex, smooth, with very small, sparse punctures, microgranulation indistinct.

Scutellum reddish brown with dark margins, distinctly paler than elytron, widely, roundly triangular.

Elytral epipleura well developed, dark reddish brown, with punctures and a few pale setae in basal half. Widest in base, regularly narrowing to ventrite 1, then leading parallel in apical half.

Legs narrow, long, reddish brown with dense and long, pale setation, fine microgranulation and small, sparse and shallow punctures. Pro- and mesotarsomeres 3, 4 and metatarsomere 3 broadened and lobed. RLT (1-5 or 1-4) equal to: 1.00 : 0.75 : 0.81 : 0.77 : 1.40 (protarsus), 1.00 : 0.39 : 0.38 : 0.47 : 0.88 (mesotarsus); 1.00 : 0.35 : 0.30 : 0.49 (metatarsus).

Both anterior tarsal claws with 10 and 12 visible teeth.

Aedeagus (Figs. 16 and 17). Long, ochre yellow, slightly shiny. Basal piece long and narrow, rounded laterally, almost parallel dorsally. Apical piece short elongate triangular with sides very slightly arcuate dorsally, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1 : 5.96.

Female without distinct differences, only anterior tarsal claws have 6-8 visible teeth.

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=34). BL 7.84 mm (7.37-8.38 mm); HL 1.19 mm (1.06-1.25 mm); HW 1.23 mm (1.16-1.33 mm); OI 50.33 (47.55-54.64), PL 1.19 mm (1.10-1.34 mm); PW 1.99 mm (1.79-2.27 mm); PI 59.68 (57.29-62.70); EL 5.46 mm (5.02-5.96 mm); EW 2.88 mm (2.70-3.11 mm). Females (n=26). BL 8.01 mm (7.72-8.62 mm); HL 1.18 mm (1.05-1.34 mm); HW 1.28 mm (1.21-1.40 mm); OI 54.19 (49.02-58.39), PL 1.22 mm (1.07-1.29 mm); PW 1.93 mm (1.83-2.16 mm); PI 63.25 (58.15-69.70); EL 5.62 mm (5.25-6.16 mm); EW 3.05 mm (2.86-3.25 mm).

Differential diagnosis. The most similar species is *Borborethes aeneipennis* (Harold, 1878) from Japan.

Borborethes siniaei sp. nov. clearly differs from the similar species *B. aeneipennis* mainly by wider space between eyes (OI in males 47.5-54.6), by shape of aedeagus (as in Figs. 16 and 17) and by denser and coarser punctuation of pronotum compared to *B. aeneipennis*, which has the space between eyes distinctly narrower (OI male 43.5) and shape of aedeagus as in Figs. 8 and 9.

Name derivation. New species is dedicated to one of the collectors - Mr. Siniaev.

Distribution. China (Henan, Hebei, Hubei, Jiangxi and Shaanxi).

genus *Hymenalia* Mulsant, 1856

Hymenalia holzschuhi Novák, 2010

Hymenalia holzschuhi Novák, 2010: 200.

Material examined. [4 ♂♂, 1 ♀]: wl: China, N Sichuan, Xiao-Zhaizi Nat. / Nature Reserve, 7 km W of / Qingpianxiang, Xiaozhaizi / 32°1'25''N, 103°56'21''E / 27.VI.-1.VII.2017, 1560-1700m / lgt. Ondřej Konvička, (OKZC, VNPC); (1 ♂): wl: China, N Sichuan, Xiao-Zhaizi Nat. / Nature Reserve, 4 km NNE of / Qingpianxiang, Zhenghecun / 32°3'27''N, 103°59'37''E / 23.-26.VI.2017, 1350-1850m / lgt. Ondřej Konvička, (OKZC).

Distribution. China (Shaanxi). **New for Sichuan.**

genus *Mycetocharina* Seidlitz, 1890**subgenus *Mycetocharina* Seidlitz, 1890*****Mycetocharina cypria* sp. nov.**

(Figs. 18-22)

Type locality. Cyprus, Agros.**Type material.** Holotype (♂): wl: CY: Agros 27.IV.2013 / ex. Quercus VI.2013 / leg. J. Hilszczanski, (VNPC). Paratypes: (1 ♂, 1 ♀): same data as holotype, (VNPC). The types are provided with a printed red label: '*Mycetocharina* / *cypria* sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2018'.**Description of holotype.** Habitus as in Fig. 18, body narrow, elongate, from ochre yellow to black, slightly shiny, dorsal surface with dense punctuation, microgranulation, covered with long, dark setation, BL 6.09 mm. Widest roughly two thirds of elytra length; BL/EW 3.26.

Head (Fig. 19) approximately as wide as long, with long, erect, dark setation, dense punctuation, punctures relatively large. Space between punctures distinctly narrower than diameter of punctures. Posterior part black, with coarse punctures, anterior part dark blackish brown with punctures distinctly shallower than in posterior part. Clypeus ochre yellow, with very small, sparse and shallow punctures, fine microgranulation and long dark setae. HW 1.00 mm; HW/PW 0.69; HL (visible part) 1.02 mm. Eyes very large, transverse, deeply excised, space between eyes narrow, OI equal to 18.13, distinctly narrower than diameter of one eye; slightly wider than length of antennomere 1 and distinctly narrower than length of antennomere 3.

Antennae (Fig. 20). Relatively long, slightly exceeding half body length AL 3.53 mm; AL/BL 0.58. Antennomeres 1 and 2 ochre yellow, with pale setae, slightly shiny, antennomere 3 dark reddish brown, antennomeres 4-11 blackish brown, antennomere 11 with ochre yellow apex. Antennomeres 3-10 distinctly serrate, antennomeres 3-11 with short and dense, dark setation, punctuation with relatively large punctures and microgranulation. Antennomere 2 shortest, antennomere 1 only slightly longer than antennomere 2, antennomeres 4-10 distinctly longer than antennomere 3, antennomere 11 slightly shorter than antennomere 3.

RLA(1-11): 0.43 : 0.31 : 1.00 : 1.07 : 1.14 : 1.19 : 1.26 : 1.29 : 1.24 : 1.24 : 0.95.

RL/WA(1-11): 1.19 : 0.95 : 2.32 : 2.07 : 2.06 : 2.46 : 2.61 : 2.89 : 2.88 : 3.27 : 2.53.

Maxillary palpus pale brown with short, pale setation, slightly shiny. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, here with a few long, dark setae. Ultimate palpomere axe-shaped.

Pronotum (Fig. 19) black, transverse, widest in base, slightly narrower than base of elytra, with dark, erect and long setation, coarse punctuation, punctures medium sized. Intervals between punctures distinctly wider than diameter of punctures, with microgranulation. PL 0.92 mm; PW 1.44 mm; PI equal to 63.89. Border lines very narrow, margins not clearly conspicuous. Lateral and anterior margins arcuate, base finely bisinuate. Posterior angles rounded, very slightly obtuse, anterior angles almost indistinct.

Elytra. Black, narrow, elongate, widest in two thirds elytra length, with long, dense, semierect, dark setation. EL 4.15 mm; EW 1.87 mm; EL/EW 2.22. Elytral striae with distinct rows of small punctures. Elytral intervals with microgranulation and shallow, sparse small punctures.

Scutellum. Black, with the same colour as elytron itself, widely, roundly triangular, slightly shiny, with a few relatively large punctures, microgranulation and dark setae.

Elytral epipleura well-developed, black, the same colour as the elytron itself, shiny, with dark

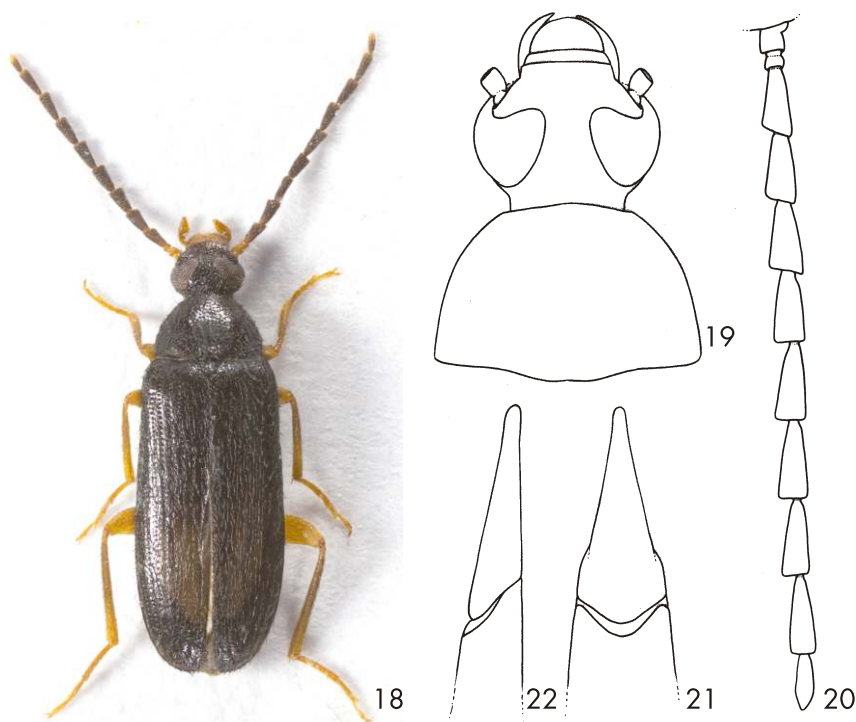
setae in basal half and pale setae in apical half, widest near base, distinctly narrowing to ventrite 1, then relatively narrow, leading parallel.

Legs. Ochre yellow, thin and long, with small punctures and pale setation. Setation of tibiae and tarsi distinctly denser than in femora. Basal half of tibiae slightly darker with darker setation than in apical part. Penultimate tarsomere of each tarsus slightly wider and distinctly lobed. RLT: 1.00 : 0.51 : 0.39 : 0.51 : 1.39 (protarsus); 1.00 : 0.42 : 0.24 : 0.33 : 0.82 (mesotarsus); 1.00 : 0.40 : 0.18 : 0.61 (metatarsus).

Anterior tarsal claws with 6 visible teeth.

Ventral side of body black with sparse, short, pale setae and sparse, small punctures. Punctuation of metasternum denser and punctures larger than in metasternum. Abdomen brown with pale setation, fine microgranulation and dense punctuation, punctures small. Ultimate sternite with extension from both sides.

Aedeagus (Figs. 21, 22) ochre yellow, shiny. Basal piece slightly rounded laterally, in dorsal view parallel. Apical piece narrowly elongate triangular dorsally and laterally, beak-shaped with rounded top laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1 : 2.16.



Figs. 18-22. *Mycetocharina cypria* sp. nov., (male holotype): 18- Habitus; 19- head and pronotum; 20- antenna; 21- aedeagus, dorsal view; 22- aedeagus, lateral view.

Female has the space between eyes distinctly wider than those in male (OI of female approximately 36). Antenna reaching half body length, anterior tarsal claws with four visible teeth.

Measurements of female body. BL 5.94 mm; HL 0.92 mm; HW 1.00 mm; OI 36.38; PL 0.95 mm; PW 1.54 mm; PI 61.69; EL 4.07 mm; EW 2.02 mm; AL(1-11) 2.94 mm; AL(1-11)/BL 0.50; HW/PW 0.65; BL/EW 2.94; EL/EW 2.02.

RLA(1-11): 0.49 : 0.35 : 1.00 : 1.00 : 1.02 : 1.02 : 1.04 : 1.01 : 0.97 : 0.97 : 0.77.

RL/WA(1-11): 1.26 : 1.01 : 2.15 : 1.95 : 1.94 : 1.84 : 1.97 : 1.92 : 1.97 : 1.93 : 2.20.

RLT: 1.00 : 0.60 : 0.50 : 0.50 : 1.52 (protarsus); 1.00 : 0.44 : 0.25 : 0.25 : 0.90 (mesotarsus); 1.00 : 0.32 : 0.18 : 0.48 (metatarsus).

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n= 2). BL 5.97 mm (5.85-6.09 mm); HL 1.01 mm (1.00-1.02 mm); HW 0.98 mm (0.96-1.00 mm); OI 21.57 (18.13-25.00); PL 0.90 mm (0.87-0.92 mm); PW 1.41 mm (1.38-1.44 mm); PI 63.47 (63.04-63.89); EL 4.07 mm (3.98-4.15 mm); EW 1.92 mm (1.87-1.96 mm).

Differential diagnosis. *Mycetocharina* (*Mycetocharina*) *cypria* sp. nov. from Cyprus is a unique species; no similar species with black dorsal surface is known from Cyprus and neighboring territories.

Name derivation. The new species is named after the type locality - Island Cyprus.

Distribution. Cyprus.

subtribe *Gonoderina* Seidlitz, 1896

genus *Pseudocistela* Crotch, 1873

Pseudocistela ceramboides (Linnaeus, 1758)

Chrysomela ceramboides Linnaeus, 1758: 377.

Material examined. (1 ♂): wl: TURKEY centr. / Guvem / 9. 6. 1964 / J. Rolčík lgt. // ex coll. M. Dvořák / National Museum / Prague, Czech Republic, (NMPC). (1 ♀): Turkey, Golhisar. 120km W Antalya. / N36°57'40''; E 29°27'53'' / 7km SW Altinyayla, W-trap 15 / Hollow Quercus 2009-06-28 / Nicklass Jansson/Mustafa Avci, (VNPC); (1 ♂): wl: Azerbaijan, Yarymly / Avash, 1200-1500 m / leg. W. SCHAWALLER, (SMNS).

Distribution. Albania, Austria Bulgaria, Belarus, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Moldavia, The Netherlands, Norway, Poland, Romania, Russia (including central, north and south European territory) Slovakia, Spain, Sweden, Switzerland, Ukraine, "Caucasus". **New for Turkey and Azerbaijan.**

ACKNOWLEDGEMENTS. My sincere thanks are due to Matthias Hartmann (NMEG), Jiří Hájek (NMPC) and Wolfgang Schawaller (SMNS) for loaning of material under their care. Special thanks are extended to Zuzana Čadová (Liberec, Czech Republic) for her drawings.

REFERENCES

AKITA K. & MASUMOTO K. 2008: New or Little-known Tenebrionid Species (Coleoptera) from Japan (7) Revisional Study of *Borboressthes* (Tenebrionidae: Alleculinae) Species from the Ryulyu Islands. *Entomological Review of Japan* 63 (2): 109-120.

- AKITA K. & MASUMOTO K. 2012: New or little-known Tenebrionid beetles (Coleoptera, Tenebrionidae) from Japan. (11) Description of seven new species, up-grading of a subspecies to the rank, and a new distributional record of a species. *Elytra* (n. ser.) (2011) 1: 275-294.
- AKITA K. & MASUMOTO K. 2015: New or Little-known Tenebrionid Species (Coleoptera) from Japan (18) Descriptions of New Taxa and Proposal for New Treatments. *Elytra*, Tokyo, New Series 5(2): 429-448.
- CAMPBELL J. M. 1965: A revision of the genus *Charisius* (Coleoptera: Alleculidae). *The Coleopterist's Bulletin* 19: 41-56.
- 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. 1787: *Mantissa insectorum sistens eorum species nuper detectas adiectis characteribus generis differentiiis specificis, emendationibus observationibus*. Vol. 2. Hafniae: Christian Gottlieb Proft, 382 pp.
- 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. 1897: Coléoptères du Szé-tchouen et de Kouï-Tchéou (Chine). *Notes of the Leyden Museum* 19: 241-255.
- GEOFFROY E. L. 1762: *Histoire abrégée des insectes qui se trouvent aux environs de Paris; dans laquelle ces animaux sont rangés suivant un ordre méthodique*. [1762/1763] Vol. 1. Paris: Durand, xxviii + 523 pp. + 22 pls.
- LINNAEUS C. 1758: *Systema Naturae per Regna Tria Naturae, secundum Classes, Ordines, Genera, Species, cum Characteribus, Differentiis, Synonymis, Locis*. Tomus I. Editio Decima, Reformata. Holmiae, iv + 824 + [1] pp.
- MASUMOTO K., NOVÁK V., LEE Ch.-F. & AKITA K., 2017: A Revisional Study of the Subfamily Alleculinae (Coleoptera: Tenebrionidae) of Taiwan. *Miscellaneous Reports of the Hiwa Museum for Natural History* 58(2): 1-46 + 2 plates.
- MASUMOTO K., NOVÁK V., LEE Ch.-F. & AKITA K., 2018: A Revisional Study of the Subfamily Alleculinae (Coleoptera: Tenebrionidae) of Taiwan (Part 2). *Miscellaneous Reports of the Hiwa Museum for Natural History* 59: 75-121 + 2 plates.
- NOVÁK V. 2008a: *Mycetocharina* (Alleculopsis) *bahukalatensis* sp. nov. (Coleoptera: Tenebrionidae: Alleculinae) from Iran. *Acta Entomologica Musei Nationalis Pragae* 48(1): 73-78.
- NOVÁK V. 2008b: Order Coleoptera, family Tenebrionidae. Pp. 257-263. In: VAN HARTEN A. (ed.): *Arthropod fauna of the United Arab Emirates, Volume 1, Abu Dhabi*, 754 pp.
- NOVÁK V. 2010: Review of *Hymenalia* species (Coleoptera: Tenebrionidae: Alleculinae) from China. *Studies and Reports, Taxonomical Series* 6(1-2): 190-231.
- NOVÁK V. 2012: New „yellow“ *Borboressthes* (Coleoptera: Tenebrionidae: Alleculinae) species from China and Oriental Region. *Studies and Reports, Taxonomical Series* 8(1-2): 227-267.
- NOVÁK V. 2015: New *Hymenalia* species (Coleoptera: Tenebrionidae: Alleculinae) from China and Oriental Region. *Studies and Reports, Taxonomical Series* 11(2): 371-389.
- NOVÁK V. 2016a: *Allecula olexai* sp. nov. (Coleoptera: Tenebrionidae: Alleculinae) from Abkhazia. *Acta Societatis Zoologica Bohemica* 80: 123-126.
- NOVÁK V. 2016b: New *Borboressthes* species (Coleoptera: Tenebrionidae: Alleculinae) from China and Oriental Region. *Folia Heyrovskyana, Series A* 24(2): 25-43.
- NOVÁK V. 2016c: *Mycetocharina* (Alleculopsis) *gafsaica* sp. nov. (Coleoptera: Tenebrionidae: Alleculinae) from Tunisia. *Acta Societatis Zoologica Bohemica* 80: 117-121.
- NOVÁK V. 2017a: New species and nomenclatory acts in Alleculini (Coleoptera: Tenebrionidae: Alleculinae) from the Palaearctic Region. *Studies and Reports, Taxonomical Series* 13(2): 429-446.
- NOVÁK V. 2017b: New species of *Allecula* Fabricius, 1801 (Coleoptera: Tenebrionidae: Alleculinae) from Palaearctic Region. *Folia Heyrovskyana, Series A* 25(1): 20-40.
- NOVÁK V. & PETTERSSON R. 2008: Subfamily Alleculinae. Pp. 319-339. In: LÖBL I. & A. SMETANA (eds.): *Catalogue of Palaearctic Coleoptera, Vol. 5. Tenebrionoidea*. Stenstrup: Apollo Books, 670 pp.
- NOVÁK V., JANSSON N., AVCI M., SARIKAYA O., COSKUN M., ATAY E. & GÜRKAN T. 2011: New *Allecula* species (Coleoptera: Tenebrionidae: Alleculinae) from Turkey. *Studies and Reports, Taxonomical Series* 7(1-2): 335-346.
- NOVÁK V., JANSSON N., CHIARI S., ZAULI A., AUDISIO P. & CARPANETO G. M. 2012: A new species of *Allecula* (Coleoptera: Tenebrionidae: Alleculinae) from cork oak stands of Italy. *Zootaxa* 3483: 29-38.
- SEIDLITZ G. C. M. von 1890: *Fauna Baltica. Die Käfer (Coleoptera) der deutschen Ostseeprovinzen Russlands*. Zweite neu bearbeitete Auflage. Königsberg: Hartung'sche Verlagsdruckerei, 10+Ivi+192+818 pp., 1 pl.