Koleopterologische Rundschau	94	91–104	Wien, October 2024

New species of *Shaverdolena* SCHILLHAMMER, 2005 and *Hybridolinus* SCHILLHAMMER, 1998 (Coleoptera: Staphylinidae: Staphylininae)

H. SCHILLHAMMER

Abstract

A new species of *Shaverdolena* SCHILLHAMMER, 2005 and three new species of *Hybridolinus* SCHILLHAMMER, 1998 (Coleoptera: Staphylinidae: Staphylininae) are described: *Shaverdolena kubani* (Laos), *Hybridolinus assingi*, *H. ailaoshanus* (both China: Yunnan) and *H. mauson* (Vietnam). Additional locality data for *H. similis* SCHILLHAMMER, 1998 and *H. meilishanus* SCHILLHAMMER, 2008 as well as two other unnamed species are given. The male copulatory organs of all new species are illustrated and color photographs of their habitus are given. The key to the species of *Hybridolinus* is updated.

Key words: Coleoptera, Staphylinidae, Staphylininae, Philonthina, *Shaverdolena*, *Hybridolinus*, new species, China, Laos, systematics, taxonomy, key.

Introduction

The paper deals with new species and additional records of the genera *Shaverdolena* SCHILLHAMMER, 2005 and *Hybridolinus* SCHILLHAMMER, 1998. Both genera have been treated in a series of papers (SCHILLHAMMER 1998, 2003, 2005, 2008, 2010, 2011, 2021, LI & ZHOU 2010). An updated key to *Hybridolinus* is provided, also taking care of a mistake that has been made in SCHILLHAMMER (2010).

Acronyms and acknowledgement

The specimens treated in this paper are deposited in the following institutional collections:

CNC Canadian National Collection, Ottawa, Canada (A. Brunke)
NME Naturkundemuseum Erfurt, Germany (M. Hartmann)
NMP National Museum (Natural History), Czechia (J. Hájek)
NMW Naturhistorisches Museum Wien, Wien, Austria

In addition, I am thankful to Adam J. Brunke for proof-reading the manuscript and for adding the female biometric data of *Hybridolinus mauson* sp.n.

Shaverdolena kubani sp.n.

Holotype ♂: "LAOS-NE, Houa Phan prov., 20°11'50"N 104°01'04"[E], 2870m, Phou Pane Mt., 14.-24.vi.2012, Vít. Kubáň leg.", "primary mountain forest, flight intercept trap, Laos 2012 Expedition, National Museum Prague, Czech Republic" (NMP). – **Paratype** ♂, same data as holotype (NMW).

DESCRIPTION (Habitus: Fig. 1): 12.6–12.8 mm long (6.4–6.8 mm, abdomen excluded). – Black, shiny; head and pronotum with slight brassy to blueish hue; mandibles dark reddish brown; palpi pale reddish brown to reddish testaceous, second segment of both maxillary and labial palpi somewhat darker than remaining segments, antennae black with two outer segments reddish, bases of other segments narrowly reddish; elytra reddish testaceous, with or without indistinct darker patch laterally at midlength, with very weak metallic hue; scutellum black;

posterior 2/5 of abdominal segment VII and entire segment VIII reddish, posterior margins of segments III–VI very narrowly reddish, genital segment yellowish, styli of tergite IX with reddish basal and blackish apical half; legs reddish, femora inconspicuously darker.

Head weakly trapezoidal, 1.44 times as wide as long, tempora very slightly convergent, 1.21–1.23 times as long as eyes, disc of head rather coarsely and densely punctate, punctures separated by about a puncture diameter, with rather large, sparingly punctate to almost impunctate area on vertex; surface between punctures with exceedingly fine short-meshed microsculpture; mandibles longer than head; antennae with all segments markedly oblong; pronotum oblong, 1.12–1.15 times as long as wide, widest shortly behind anterior angles, markedly narrowed toward base in almost straight line, punctation on disc almost as on head but becoming smaller and much denser along lateral margin, almost contiguous, with broad, well delimited impunctate midline, microsculpture as on head; elytra along sides longer than pronotum along midline, both male specimens with distinct carina along lateral margin, surface moderately coarsely, very densely, uniformly punctate, punctures separated by somewhat less than a puncture diameter; abdomen with tergites III-V with shallow transverse depression at base, all visible tergites with only one basal line, with a narrow, impunctate transverse band at base, remaining portion of basal fourth or third coarsely and densely punctate, particularly in depressions of first three visible tergites almost pit-like, remaining posterior portions of tergites much less densely and rather finely punctate.

Aedeagus (Fig. 5a–c) somewhat similar to that of *S. leigongshana* SCHILLHAMMER, 2005, but apical projection of median lobe longer, slenderer and with deeper apical emargination.

Female unknown.

DIAGNOSIS: Externally, the species is similar to *S. laosensis* SCHILLHAMMER, 2011, but is slightly larger, has slightly larger eyes, and the red color on abdominal segments VII and VIII is brighter and more contrasting with the black parts.

DISTRIBUTION: The species is at present known only from the type locality. It is noteworthy that this is the first time that a species of this genus is found in the same place from which another species has been described (*S. laosensis*), albeit from a much higher elevation.

ETYMOLOGY: I gladly dedicate this species to its collector, Vítězlav Kubáň, specialist in Buprestidae, efficient field entomologist and jolly companion.

***Hybridolinus mauson* sp.n.**

Holotype ♂: "VIETNAM: Lang Son Prov., Mt. Mau Son, ca. 1160 m, 21°51'00"N 106°55'01"E 9.-14.VI.2024, leg. Schuh (51)" (NMW). – **Paratype** ♀: "Mt. Mau Son, 980–1000 m, 21°50'17.01"N 106°54'50"E, tertiary forest, sifting bamboo litter on slopes, leg. Brunke" (CNC).

DESCRIPTION (Habitus: Fig. 2): 12.0–13.3 mm long (5.7–5.8 mm, abdomen excluded). – Head and pronotum black, shining; elytra brick-red, posterior margin rather broadly pale yellowish, each elytron with a small black patch laterally in posterior half; scutellum black; abdominal tergites black, tergites III-VI narrowly reddish at base, posterior margin narrowly yellowish to almost whitish, narrowly reddish between black and yellowish/whitish parts, tergite VII similar but with distinctly broader reddish/yellowish/whitish posterior margin, tergite VIII broadly yellowish at anterior margin, narrowly reddish at posterior margin; antennae with segments 1 and 2 reddish, 4–7 black, very narrowly reddish at base of each antennomere, 8–11 creamy white in male, 9–11 in female; palpi pale reddish, mandibles reddish, darkened laterally in proximal half, legs pale reddish yellow.

Head trapezoidal in male, 1.7 times as wide as long, 1.5 times in female, eyes large, 1.5 times as long as tempora in male (almost twice as long in female), punctures on dorsal face moderately dense, rather coarse, vertex impunctate, surface between punctures almost without microsculpture, with very diffused lighting very fragmentary meshes, existing as scattered lines and open cells, can be discerned; antennae with segments 4–6 moderately oblong, remaining segments about as long as wide, but becoming gradually shorter distad; pronotum inconspicuously longer than wide or about as long as wide, subparallel-sided, punctation as on head, with impunctate midline, microsculpture even finer than on head; scutellum densely punctate, punctures finer than on head and pronotum; elytra densely punctate, punctures about as coarse as on head and pronotum, separated by a puncture diameter or slightly less; abdominal tergites III–V with transverse depression at base, all tergites coarsely and densely punctate at base, punctation becoming finer and less dense toward posterior margin on tergites V–VII, partly with punctural grooves becoming oblong, tergite VIII more finely and sparingly, uniformly punctate.

Aedeagus: Fig. 6a–c.

DIAGNOSIS: Among the species with reddish elytra bearing a black macula, *H. mauson* differs from all, except *H. fengyangshanus* LI & ZHOU, 2010, by the lack of distinct isodiametric microsculpture on the head. I have not seen the latter, but if the original description is accurate, the new species should differ by the more extensively reddish color of the abdominal tergites VII and (particularly) VIII.

DISTRIBUTION: The species is at present known only from two spots on Mt. Mauson, N-Vietnam, situated very close to the Chinese border.

ETYMOLOGY: The name of the species is the name of the type locality in apposition.

Hybridolinus assingi sp.n.

Holotype ♂: "CHINA [6] – Yunnan, NE Kunming, 25°08'35" N 102°53'49" E, 2320 m, mixed forest, sifted, 13.VIII.2014, V. Assing" (NMW). – **Paratypes** (12 exs.): 5 ♀♀: same data as holotype (NMW); 2 ♂♂, 5 ♀♀: "CHINA [5] – Yunnan, NE Kunming, 25°08'40" N 102°53'48" E, 2290 m, mixed forest, sifted, 11.VIII.2014, V. Assing" (NMW).

DESCRIPTION (Habitus: Fig. 3): 11.0–12.7 mm long (5.1–6.1 mm, abdomen excluded). – Head and pronotum black, moderately shiny, usually with weak dark blue hue; elytra dark metallic violaceous to bluish, suture reddish, posterior margin narrowly yellowish, shoulders and hypomera yellowish, dark color of disc shortly continuing onto hypomera in posterior half (Fig. 7), but not reaching lateral margin; abdominal tergites III–VI black, posterior margin of III and IV narrowly, that of V and VI more broadly, obscurely reddish, segments VII and VIII entirely reddish, rarely partly darkened, styli of tergite IX reddish yellow in proximal half, reddish brown in distal half, tergite X reddish yellow; antennae black, distal four segments creamy white; palpi reddish; legs with femora black brown to black, tibiae reddish yellow with apices narrowly blackish, protarsi reddish, meso- and metatarsi with 1st tarsomere black, remaining tarsomeres reddish.

Head very broad and trapezoidal in males (1.6–1.7 times as wide as long), almost rounded quadrangular in females (1.30–1.37 times as wide as long); eyes smaller in males than in females (ratio temple/eye = 1.08–1.12 in males, 0.91–0.96 in females); dorsal surface with dense isodiametrical microsculpture, moderately densely, rather coarsely punctate, vertex impunctate; antennae with segments 4–7 oblong, more distinctly elongate in males than in females, segments 8–10 about as long as wide; pronotum inconspicuously wider than long in males (ratio 1.01–1.06), about as long as wide or inconspicuously longer than wide in females (ratio 1.00–1.02),

rather densely and coarsely punctate, with narrow, but complete impunctate midline, surface between punctures with very fine and dense, transverse microsculpture, causing slight iridescence; elytra very densely punctate, punctures mostly separated by less than a puncture diameter; elytra of males with distinct longitudinal lateral carina; abdominal tergites III–V with transverse depression at base, densely and coarsely punctate, punctation becoming less dense and finer on following tergites, but with punctural grooves becoming slightly oblong.

Aedeagus (Figs. 9a–b, 11) almost identical to that of *H. daliensis* (Figs. 10a–b, 12; after SCHILLHAMMER (1998)). The apical part of the median lobe that is extending beyond the apex of the paramere is ever so slightly shorter. It may be expected that, with the increasing number of *Hybridolinus* species discovered, the aedeagal differences will become more and more difficult to interpret. Even more so, because a slight intraspecific variability has to be considered as well. Fortunately, the majority of species may be identified by external characters quite satisfactorily so far.

DIAGNOSIS: Externally, the species is very similar to *H. daliensis* SCHILLHAMMER, 1998, and was originally identified as such by the collector. It differs by the more extensive reddish color of the elytral hypomera (hypomeron of *H. daliensis*: Fig. 8), around the shoulders and along the posterior margin of the elytra, the more dark bluish than violaceous hue of pronotum and elytra, and the reddish tarsi.

DISTRIBUTION: The species is at present known only from the type locality.

ETYMOLOGY: The species is named in honour of my late friend Volker Assing, who collected the species.

Hybridolinus ailaoshanus sp.n.

Holotype ♂: "CHINA: Yunnan/Puer, Jingdong, Ailaoshan, 24°31'54.19"N 101°00'55.62"E, 11.V.2019, 2499 m, FIT 2, leg. F. Luo & LZ. Meng" (NME). – **Paratypes**: 2 ♂♂ with same data as holotype (NME, NMW).

DESCRIPTION (Habitus: Fig. 4): 11.0–12.0 mm long (5.6–5.9 mm, abdomen excluded). – Black, shiny, head somewhat less shiny due to microsculpture, entire fore body with strong metallic violaceous to blueish lustre, elytra with posterior margin very narrowly, obscurely reddish, hypomera at shoulders and hind angles shortly, obscurely reddish, lateral margin in between exceedingly narrowly, obscurely reddish, scutellum black, mandibles dark reddish brown with proximal half and lateral margin blackened, palpi dark brown, tips of last segments paler brownish, segments 1–7 of antennae black, four outer segments creamy white, abdominal segments III-VI entirely black, segments VII and VIII entirely reddish, legs black, all tibiae with a narrow yellowish dorsal stripe in proximal half.

Head markedly trapezoid, 1.61–1.78 times as wide as long, tempora 1.00–1.12 times as long as eyes, almost evenly convex, disc sparingly and rather coarsely punctate, vertex largely impunctate, punctation becoming somewhat denser and finer toward base of head and toward tempora, surface with distinct isodiametric microsculpture, antennae with segments 4–6 distinctly oblong, segment 7 weakly oblong, remaining segments about as long as wide; pronotum about as long as wide, widest at point where superior lateral line bends ventrad, narrowed toward base in inconspicuous concave arc, disc moderately densely, rather coarsely punctate, with narrow impunctate midline, surface with exceedingly fine and dense short-meshed microsculpture, which becomes isodiametrical toward the margins; elytra rather densely, coarsely, uniformly punctate, punctures separated on average by a puncture diameter, males along lateral margin with distinct longitudinal carina; abdominal tergites III-V with shallow transverse depression at base, with moderately dense, but coarse punctation, with very fine microsculpture causing rainbow-colored iridescence at certain viewing angles.

Aedeagus: Fig. 13a–c.

Female unknown.

DIAGNOSIS: The species is most similar to *H. malaisei* SCHEERPELTZ, 1965 due to the very dark elytral hypomera and the almost completely black tibiae, but differs in the entirely reddish abdominal segment VII. The other differences (smaller eyes and more elongate antennal segments might be sexually dimorphic characters). It is similar to *H. daliensis* SCHILLHAMMER, 1998 with which it shares the completely reddish abdominal segment VII, but differs at once by the black tibiae. From the other species with violaceous fore body (*H. similis* SCHILLHAMMER, 1998, *H. meilishanus* SCHILLHAMMER, 2008, *H. baoxingensis* LI & ZHOU, 2010) it differs by the entirely red abdominal segment VII and the black tibiae.

DISTRIBUTION: The species is at present known only from the type locality.

ETYMOLOGY: The species is named after the type locality.

Hybridolinus similis SCHILLHAMMER, 1998

ADDITIONAL MATERIAL: "China: W-Sichuan, Kangding env., 2691 m, 30°02,502N 101°57, 264E, 14.VI.2006, Sehnal & Tryzna" (1 ♂; NMP).

Hybridolinus meilishanus SCHILLHAMMER, 2008

MATERIAL STUDIED: "CHINA: Yunnan province, 15 km W Deqin, Mingyong, 28°27'43"N 098°46'53"E, 8.vi.2012, 2546 m, sift 18, V. Grebennikov" (1 ♀; CNC); same, but "28°27'39"N 098°46'19"E, 8.vi.2012, 2735 m, sift 17" (1 ♀; NMW).

Hybridolinus sp. prope *meilishanus* SCHILLHAMMER, 2008

MATERIAL STUDIED: China: Yunnan province, Lushui Co., Gaoligong Mts., Lusaihe vill., 2320 m, 25°58.56'N 098°44.66'E, D. Král & J. Růžička \ 1.-11.VII.2019, baited pitfall traps #5 (fish, meat, ripening cheese), [Y03] broadleaves [sic!] deciduous forest, valley along brook" (1 ♂, 4 ♀♀; NMP).

Unfortunately, the only male specimen in that series was lacking the entire genital segment including the aedeagus, most likely caused by decomposition in the pitfall trap. Externally, the species is very similar to *H. meilishanus* and may be conspecific, but the aedeagus would be essential to correctly interpret these specimens.

Hybridolinus sp. prope *meilishanus* SCHILLHAMMER, 2008

MATERIAL STUDIED: "P.R. CHINA, Yunnan, east slope N Gaoligongshan, 27°25.446'N 098°35.359'E, 15.vi.2009, 2944 m, sifting06, V. Grebennikov" (1 ♀; CNC).

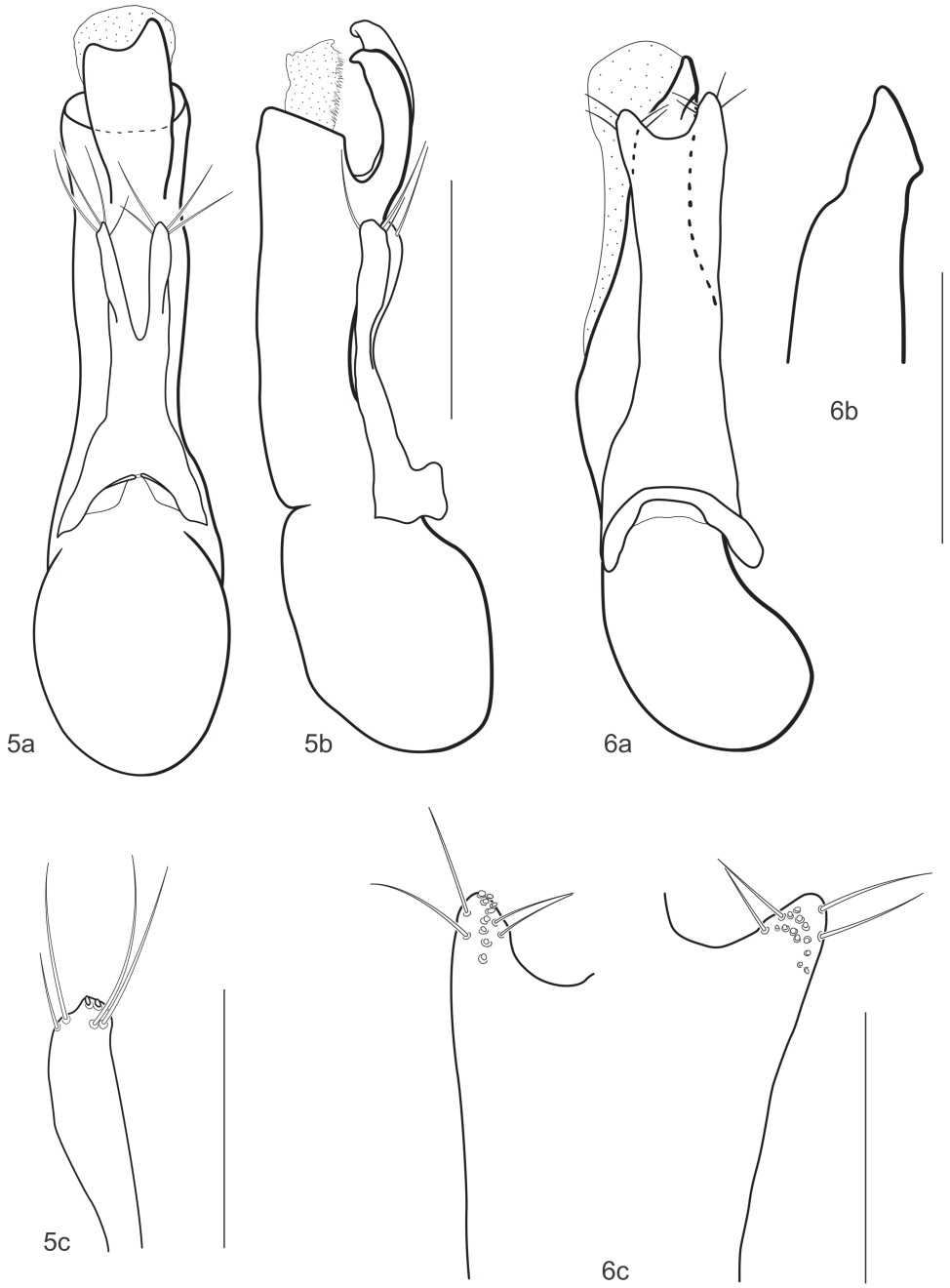
The single female specimen is virtually identical externally to the unnamed Gaoligongshan specimens above, albeit from a locality some 200 km further north. Whether they belong to the same species or not cannot be confirmed without a male specimen.

Fig. 1: Habitus of *Shaverdolena kubani*.

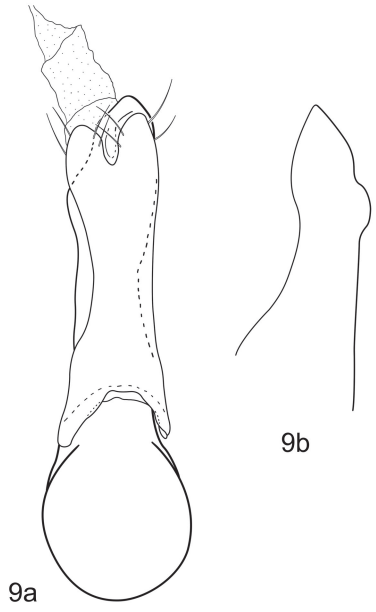
Fig. 2: Habitus of *Hybridolinus mauson*.

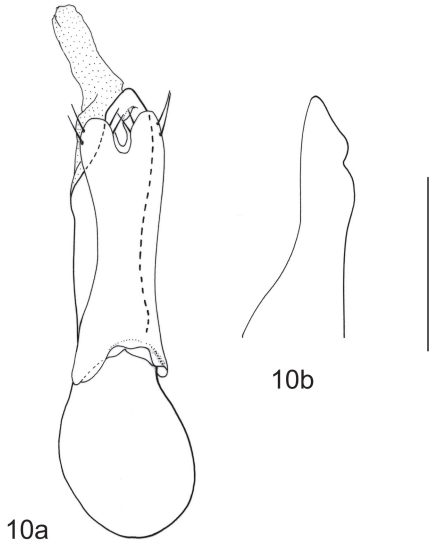
Fig. 3: Habitus of *Hybridolinus assingi*.

Fig. 4: Habitus of *Hybridolinus ailaoshanus*.



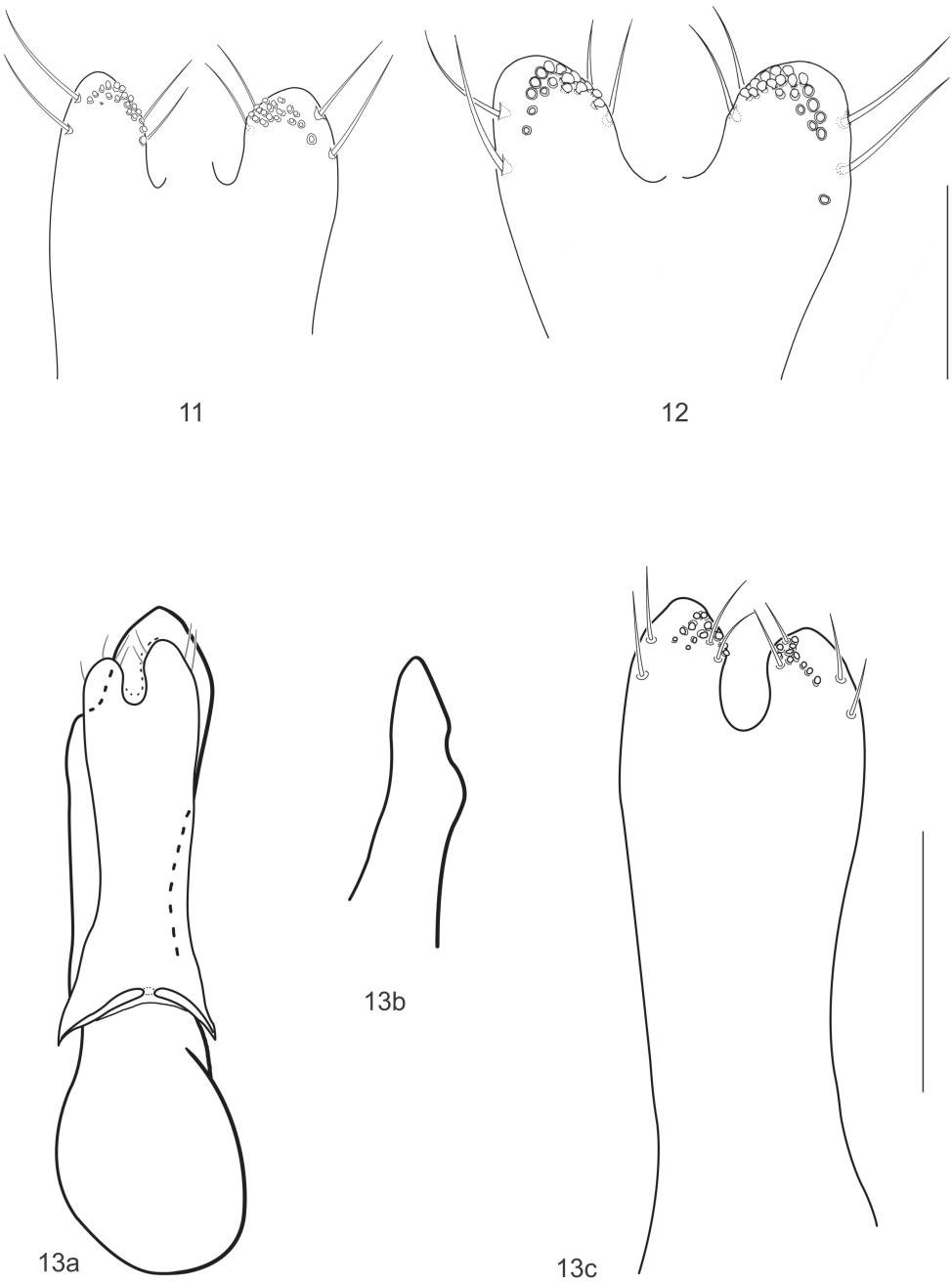
Figs. 5–6: Aedeagus of 5) *Shaverdolena kubani*, 6) *Hybridolinus mauson*; a) ventral view; b) lateral view; c) paramere. Scale bar: 0.5 mm (a–b), 0.25 mm (c).





Figs. 7–8: Elytral hypomeron of 7) *Hybridolinus assingi* and 8) *H. daliensis.*

Figs. 9–10: Aedeagus of 9) *Hybridolinus assingi* and 10) *H. daliensis*; a) ventral view; b) lateral view. Scale bar: 0.5 mm.



Figs. 11–13: 11–12) Paramere of 11) *Hybridolinus assingi* and 12) *H. daliensis*; 13) aedeagus of *H. ailaoshanus*; a) ventral view; b) lateral view; c) paramere. Scale bar: 0.5 mm (a, b), 0.25 mm (11, 12, 13c).

Updated key to the species of *Hybridolinus*

In the most recent key (SCHILLHAMMER 2010) a grave mistake was made when contriving the key. *Hybridolius malaisei* (SCHEERPELTZ, 1965) was erroneously added to a wrong couplet: in couplet 10, specimens of *H. malaisei* should lead to couplet 12 and not to couplet 11 (abdominal segment VII dark basally). This mistake is corrected in the updated key below and the new species are accommodated as well.

1 Antennae with 2 outer segments creamy-white 2

– Antennae with more than 2 outer segments creamy white 4

2 Head with distinct isodiametric microsculpture ..... ***shiniushanus*** SCHILLHAMMER

– Head without isodiametric microsculpture 3

3 Visible tergites I–V with posterior margins markedly reddish; brick-red elytra with variably large, well defined black markings laterally; eyes very large, 1.75–2.0 times as long as tempora ..... ***hesperoides*** SCHILLHAMMER

– Visible tergites I–III entirely black, posterior half of 4th and entire 5th visible tergite reddish; brick-red elytra with only a slight "shadow" postero-laterally; eyes smaller, 1.15 times as long as tempora ..... ***singularis*** SCHILLHAMMER

4 Head without isodiametric microsculpture, at most with very fine, hardly visible lines 5

– Head with distinct isodiametric microsculpture 6

5 Abdominal tergites III–VII with posterior margins narrowly reddish, tergite VIII black …… ..... ***fengyangshanus*** LI & ZHOU

– Posterior margin of abdominal tergite VII and anterior margin of tergite VIII broadly reddish to pale yellowish, posterior margin of tergite VIII narrowly reddish..... ***mauson*** sp.n.

6 Entirely black species ..... ***diabolicus*** SCHILLHAMMER

– Not entirely black, elytra either black or metallic violaceous with yellowish or reddish posterior margin and hypomera, or elytra reddish with or without dark markings, at least abdominal segment VIII partly reddish 7

7 Abdominal segment VIII partly black 8

– Abdominal segment VIII entirely reddish 11

8 Elytra black ..... ***flavocinctus*** SCHILLHAMMER

– Elytra reddish with black markings 9

9 Head less than 1.5 times as wide as long, abdominal segments III–V at least partly blackish ..... ***smetanai*** SCHILLHAMMER

– Head about twice as wide as long, abdominal segments III–V entirely reddish 10

10 Aedeagus as in SCHILLHAMMER 2016: fig. 4 ..... ***laosensis*** SCHILLHAMMER

– Aedeagus as in SCHILLHAMMER 2016: fig. 3 ..... ***kyawkhaingwini*** SCHILLHAMMER

11 Elytra violaceous 12

– Elytra predominantly or entirely reddish 18

12 Abdominal segment VII entirely reddish 13

– Basal portion of abdominal segment VII variably black 15

13 Tibiae mostly black ..... ***ailaoshanus*** sp.n.

– Tibiae predominantly yellow 14

14 Tarsi entirely dark; elytral hypomera mostly dark, at shoulders and hind angles shortly reddish ..... ***daliensis*** SCHILLHAMMER

– First tarsomere black or dark brown, remaining tarsomeres reddish; elytral hypomera predominantly reddish, with only a small area occupied by a black patch ..... ***assingi*** sp.n.

15 Legs almost entirely black ..... ***malaisei*** (SCHEERPELTZ)

– At least tibiae predominantly yellowish 16

16 Femora and tibiae entirely yellow ..... ***meilishanus*** SCHILLHAMMER

– Femora and distal tips of tibiae black 17

17 Basal third of abdominal segment VII black; pronotum less densely punctate, punctures separated by 2–5 puncture diameters ..... ***similis*** SCHILLHAMMER

– Basal half of abdominal segment VII black; pronotum more densely punctate, punctures separated by 1–2 puncture diameters ..... ***baoxingensis*** LI & ZHOU

18 Legs entirely yellow ..... ***jizushanus*** SCHILLHAMMER

– Femora and apical tips of tibiae dark ..... ***decipiens*** SCHILLHAMMER

Zusammenfassung

Eine neue Art der Gattung *Shaverdolena* SCHILLHAMMER, 2005 und drei neue Arten der Gattung *Hybridolinus* SCHILLHAMMER, 1998 werden beschrieben: *Shaverdolena kubani* (Laos), *Hybridolinus assingi*, *H. ailaoshanus* (beide China: Yunnan) und *H. mauson* (Vietnam). Zusätzliche faunistische Daten für *H. similis* SCHILLHAMMER, 1998 und *H. meilishanus* SCHILLHAMMER, 2008 sowie zweier nicht näher determinierbarer Arten werden präsentiert. Der Habitus und die männlichen Kopulationsorgane aller neuen Arten werden abgebildet. Der Bestimmungsschlüssel zu den Arten der Gattung *Hybridolinus* wird entsprechend aktualisiert.

References

LI, L. & ZHOU, H. 2010: Taxonomy of the genus *Hybridolinus* Schillhammer (Coleoptera: Staphylinidae: Philonthina) from China. – Zootaxa 2360: 34–46.

SCHILLHAMMER, H. 1998: *Hybridolinus* gen.n. (Insecta: Coleoptera: Staphylinidae), a problematic new genus from China and Taiwan, with description of seven new species. – Annalen des Naturhistorischen Museums Wien, Ser. B, 100: 145–156.

SCHILLHAMMER, H. 2003: *Hybridolinus smetanai* sp.n. from China. – Annalen des Naturhistorischen Museums in Wien, Ser. B, 104: 387–389.

SCHILLHAMMER, H. 2005: Faunistic data of Asian Philonthina and descriptions of a new genus and five new species. – Koleopterologische Rundschau 75: 179–189.

SCHILLHAMMER, H. 2008: A new species of *Hybridolinus* Schillhammer, 1998. – Koleopterologische Rundschau 78: 241–244.

SCHILLHAMMER, H. 2010: New species of *Shaverdolena* Schillhammer, 2005 and *Hybridolinus* Schillhammer, 1998. – Koleopterologische Rundschau 80: 63–69.

SCHILLHAMMER, H. 2011: Old and new Staphylinini from the Palearctic and Oriental regions. – Koleopterologische Rundschau 81: 133–163.

SCHILLHAMMER, H. 2016: *Hybridolinus kyawkhaingwini* sp.n. from Myanmar. – Koleopterologische Rundschau 86: 147–151.

SCHILLHAMMER, H. 2021: A new species of *Shaverdolena* Schillhammer, 2005 from Vietnam. – Koleopterologische Rundschau 91: 121–124.

Dr. Harald SCHILLHAMMER
Naturhistorisches Museum Wien, Burgring 7, A – 1010 Wien, Austria (harald.schillhammer@nhm-wien.ac.at)