

**New species of Staphylinidae from Pakistan  
(Coleoptera: Staphylinidae: Aleocharinae, Paederinae, Pselaphinae)**VOLKER ASSING<sup>1</sup> & VOLKER BRACHAT<sup>2</sup><sup>1</sup>*Gabelsbergerstr. 2, D-30163 Hannover, Germany; e-mail: vassing.hann@t-online.de*<sup>2</sup>*Beethovenweg 19a, D-82538 Geretsried, Germany; e-mail: vc.brachat@t-online.de*

ASSING V. & BRACHAT V. 2021: New species of Staphylinidae from Pakistan (Coleoptera: Staphylinidae: Aleocharinae, Paederinae, Pselaphinae). *Acta Musei Moraviae, Scientiae biologicae* **106(2)**: 265–278. – Six species of Staphylinidae from North Pakistan are described and illustrated: *Cousya prominens* Assing sp. nov. (Punjab), *Tachyusa semigilva* Assing sp. nov. (Punjab), *Platyola lippa* Assing sp. nov. (Punjab), and *P. invidens* Assing sp. nov. (North-West Frontier) of the Aleocharinae, *Micranops viti* Assing sp. nov. (Punjab) of the Paederinae, and *Euplectus pakistanicus* Brachat sp. nov. (North-West Frontier) of the Pselaphinae.

**Keywords.** Coleoptera, Staphylinidae, Aleocharinae, Paederinae, Pselaphinae, *Cousya*, *Tachyusa*, *Platyola*, *Micranops*, *Euplectus*, taxonomy, new species, Pakistan, East Palaearctic

**Introduction**

Little is known about the Staphylinidae fauna of Pakistan. Despite its vast territory of nearly 800,000 km<sup>2</sup> and its geographic situation at the border between the southern East Palaearctic and the northern Oriental region, only 360 species have been recorded from this country (Kashmir not included) (SCHÜLKE & SMETANA 2015 and updates up to the end of 2018). This means that fewer species have been recorded from Pakistan than, for instance, from Luxemburg, a country with an area of only 2,600 km<sup>2</sup> and situated in a region devastated by Pleistocene glaciations, but with a history of continuous entomological activity. CAMERON (1930, 1931, 1932, 1939) covered what is Pakistan today in his Fauna of British India, but only a relatively small number of Staphylinidae had been collected in this region at that time. Few reliable taxonomic and faunistic articles specifically dealing with the Staphylinidae fauna of Pakistan (e.g., GILDENKOV 2012, LÖBL 1986, PACE 1986, PUTHZ 1973, 1986, 2014, SAWADA 1966) have been published in the past 50 years, most of them including descriptions of one or few species.

In 2018, Claude Besuchet's wife Betty forwarded material from Pakistan as a gift to the second author. An examination of this material, which had been collected by Stanislav Vít and given to Claude Besuchet for further study many years ago, revealed that it included several new species.

**Material and methods**

The material treated in this study is deposited in the following collections:

cAss ..... private collection Volker Assing, Hannover, Germany  
cBra ..... private collection Volker Brachat, Geretsried, Germany

The morphological studies were conducted using Stemi SV 11 (Zeiss) and Discovery V12 (Zeiss) microscopes, and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using digital cameras (Axiocam ERc 5s, Nikon Coolpix 995), as well as Labscope and Picolay software.

Body length was measured from the anterior margin of the mandibles (in resting position) to the apex of the abdomen (Pselaphinae: from frons to apex of abdomen), the length of the forebody from the mandibles to the posterior margin of the elytra, head length from the anterior margin of the clypeus to the posterior margin of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of (the median lobe) of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule (Pselaphinae: total length of aedeagus). The “parameral” side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

The limits of the zoogeographic regions are in accordance with those illustrated by SCHÜLKE & SMETANA (2015).

### Taxonomy

#### *Cousya prominens* Assing sp. nov.

(Figs 1–7)

**Type material examined.** Holotype ♂: “PAKISTAN – Punjab, S Islamabad, forest litter, 28.III.1986, leg. S. Vit / Holotypus ♂ *Cousya prominens* sp.n. det. V. Assing 2020” (cAss). Paratype ♂: same data as holotype (cAss).

**Description.** Body length 2.4 mm; length of forebody 1.0–1.1 mm. Habitus as in Fig. 1. Colouration: head brown with the anterior portion reddish; pronotum pale-reddish; elytra yellowish-red; abdomen with segments III–IV brown, V–VII mostly blackish-brown to blackish, and the apex (from the posterior margin of segment VII) yellow; legs yellow; antennae brown with the basal two antennomeres slightly paler.

Head (Fig. 2) approximately as long as broad; punctation rather fine, shallow, and moderately dense; interstices with microsculpture. Eyes relatively small, much shorter than distance from posterior margin of eye to posterior margin of head in dorsal view. Antenna (Fig. 3) approximately 0.6 mm long; antennomeres IV–X distinctly transverse and of gradually increasing width, X approximately 1.5 times as broad as long, and XI of ovoid shape.

Pronotum (Fig. 2) approximately 1.25 times as broad as long and 1.15 times as broad as head, broadest in anterior half; punctation fine and rather dense; interstices with microreticulation.

Elytra (Fig. 2) approximately as long as pronotum; punctation significantly more distinct than that of head and pronotum; interstices without microsculpture. Tarsi short; metatarsomere I approximately as long as the combined length of metatarsomeres II and III.

Abdomen (Fig. 4): tergites III–V with shallow anterior impressions; punctation fine, dense on tergites III–VI, sparser on tergites VII–VIII; posterior margin of tergite VII with palisade fringe.

♂: posterior margin of sternite VIII convexly produced in the middle; median lobe of aedeagus (Figs 5–6) 0.28 mm long; ventral process with a conspicuous process at base; paramere (Fig. 7) 0.5 mm long; apical lobe rather long and slender.

**Comparative notes.** This species differs from other *Cousya* species particularly by the distinctive shape of the median lobe of the aedeagus. Using the key to the *Ocyusa* species of British India in CAMERON (1939), *C. prominens* would key out together with *Cousya muscicola* (Cameron, 1939) (India: West Bengal), from which it is distinguished by a paler head (*C. muscicola*: head black), the colouration of the abdomen and the antennae (*C. muscicola*: antennae black with reddish-yellow antennomeres I–III), a distinctly transverse antennomere IV, and more distinct punctation of the elytra. For descriptions and illustrations of the *Cousya* species of the West Palearctic region and Middle Asia see ASSING (2018).

**Distribution and natural history.** The type locality is situated to the south of Islamabad, Punjab, North Pakistan. The specimens were sifted from forest litter.

**Etymology.** The specific epithet (Latin, adjective) alludes to the pronounced process at the base of the ventral process of the aedeagus.

*Tachyusa semigilva* Assing sp. nov.

(Figs 8–14)

**Type material examined.** Holotype ♂: “PAKISTAN – Punjab, Rawal Lake, shore, 28.IV.1984, leg. S. Vit / Holotypus ♂ *Tachyusa semigilva* sp.n. det. V. Assing 2020” (cAss).

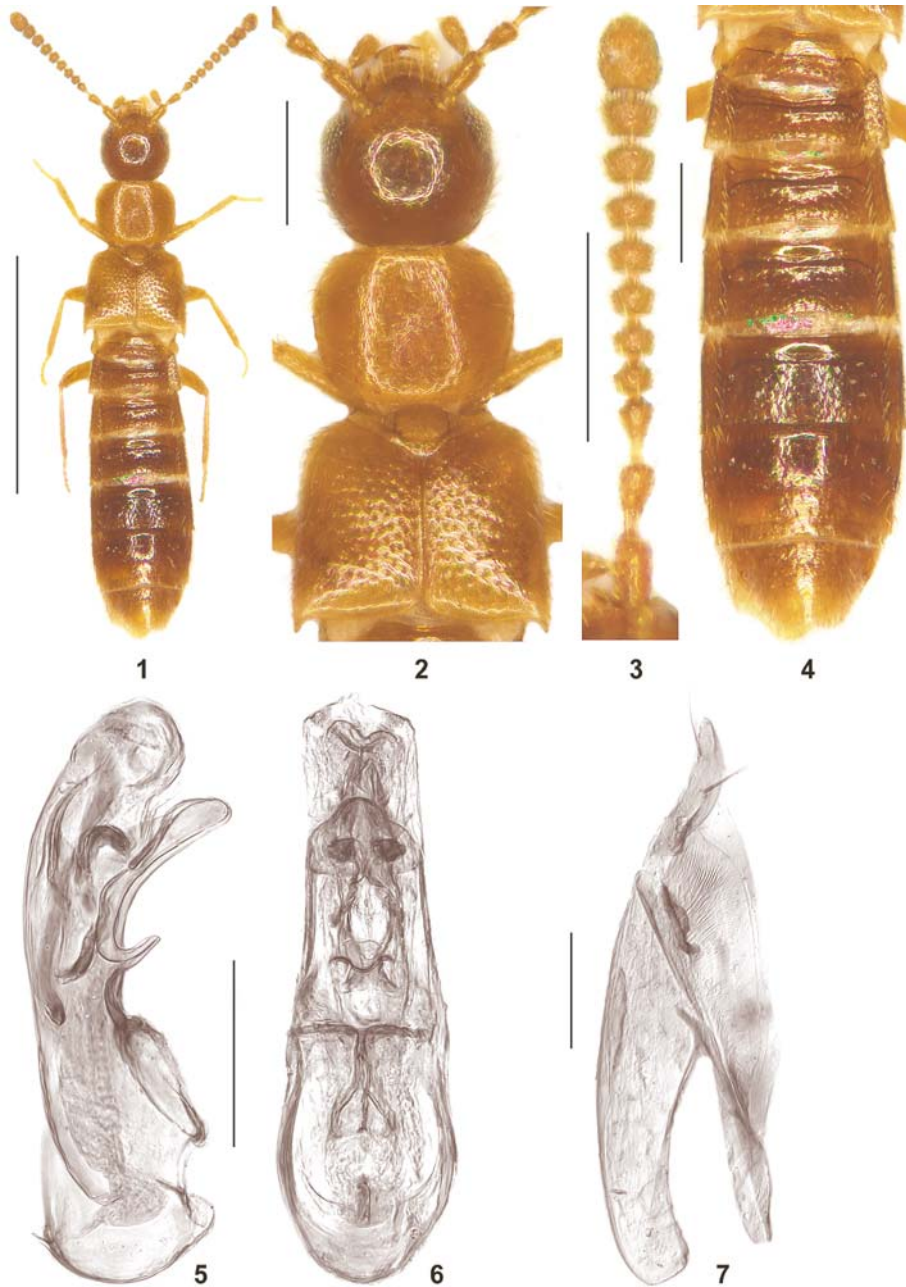
**Description.** Body length 2.7 mm; length of forebody 1.2 mm. Habitus as in Fig. 8. Colouration: head brown; pronotum and scutellum dark-yellow; elytra yellow with the median portion of the discs extensively and diffusely darker; abdomen with segments II–IV yellow, tergite V dark-brown with the anterior portion and the lateral and posterior margins yellow, tergites VI–VII blackish except for the brownish posterior portion of tergite VII, and segment VIII pale-brown; legs yellow; antennae brown with the basal four antennomeres yellow.

Head (Fig. 9) weakly transverse; punctation fine, shallow, moderately dense; interstices without microsculpture. Eyes approximately as long as distance from posterior margin of eye to posterior margin of head in dorsal view. Antenna approximately 0.9 mm long and slender; antennomere X approximately as long as broad.

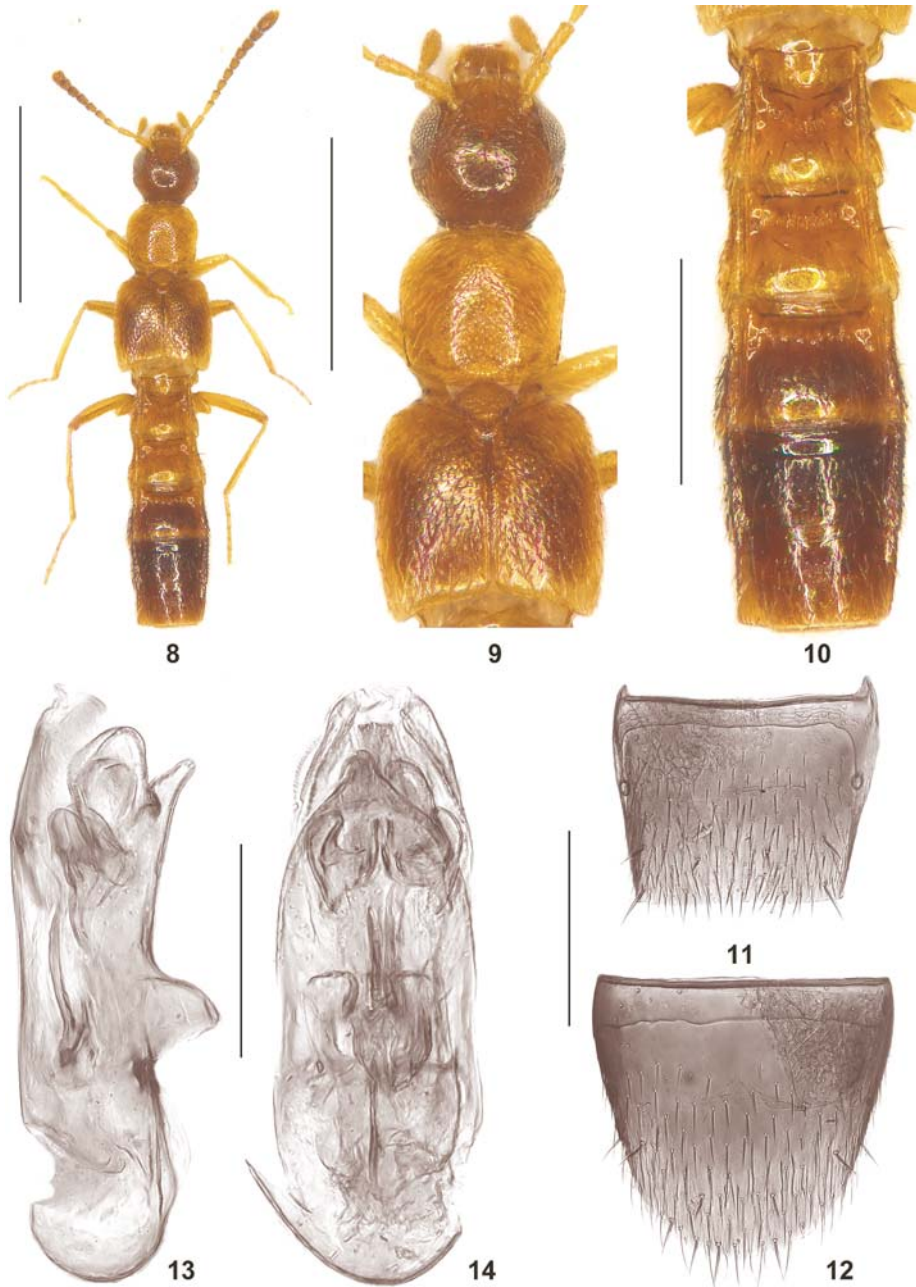
Pronotum (Fig. 9) approximately 1.05 times as broad as long and 1.05 times as broad as head, broadest in anterior half; punctation fine and dense; interstices without microreticulation.

Elytra (Fig. 9) slightly longer than pronotum; punctation fine and dense; interstices without microsculpture. Hind wings fully developed. Metatarsomere I approximately as long as the combined length of metatarsomeres II and III.

Abdomen (Fig. 10) distinctly constricted at base, broadest at posterior margin of tergite V; tergites III–V with deep and coarsely punctate anterior impressions, that of tergite III broadly V-shaped; punctures of anterior impressions separated by narrow ridges; remainder of tergal surfaces with fine and relatively dense punctation; interstices without microsculpture; posterior margin of tergite VII with palisade fringe.



**Figs 1–7.** *Cousya prominens* Assing sp. nov. 1 – habitus; 2 – forebody; 3 – antenna; 4 – abdomen; 5–6 – median lobe of aedeagus in lateral and in ventral view; 7 – paramere. Scale bars: 1: 1.0 mm; 2–4: 0.2 mm; 5–7: 0.1 mm.



**Figs 8–14.** *Tachyusa semigilva* Assing sp. nov. 8 – habitus; 9 – forebody; 10 – abdomen; 11 – male tergite VIII; 12 – male sternite VIII; 13–14 – median lobe of aedeagus in lateral and in ventral view. Scale bars: 8: 1.0 mm; 9–10: 0.5 mm; 11–12: 0.2 mm; 13–14: 0.1 mm.

♂: posterior margin of tergite VIII truncate (Fig. 11); posterior margin of sternite VIII convex (Fig. 12); median lobe of aedeagus 0.25 mm long and shaped as in Figs 13–14.

**Comparative notes.** Using the key to the *Tachyusa* species of British India in CAMERON (1939), *T. semigilva* would key out together with *T. elegans* Cameron, 1939 (North India), from which it is distinguished by the colouration (*T. elegans*: head black; elytra dark-brown with the posterior margin narrowly yellow; abdomen black with segments III–IV reddish; antennae black with antennomeres I–II and XI reddish-brown). In general appearance, *T. semigilva* is also similar to the West Palaearctic *T. agilis* Baudi di Selve, 1870, from which it differs by paler colouration of the forebody (including the antennae), less convex eyes, much finer and sparser punctation of the preapical abdominal tergites, and by the differently shaped aedeagus (apex of ventral process; crista apicalis; internal structures). For illustrations of these and other *Tachyusa* species see the revision by PAŠNIK (2006).

**Distribution and natural history.** The type locality is situated in Punjab, North Pakistan. The holotype was collected on a lake shore.

**Etymology.** The specific epithet (Latin, adjective: half yellow) alludes to the colouration of this species.

*Platyola lippa* Assing sp. nov.

(Figs 15–18)

**Type material examined.** Holotype ♂: “PAKISTAN – Punjab, Murree, 1950 m, hollow *Prunus* with *Lasius*, 25.IV.1984, leg. S. Vit / Holotypus ♂ *Platyola lippa* sp.n. det. V. Assing 2020” (cAss). Paratype ♂: same data as holotype (cAss).

**Description.** Body length 2.0–2.1 mm; length of forebody 0.7–0.8 mm. Habitus as in Fig. 15. Colouration: body (including appendages) yellow to pale reddish.

Head approximately as long as broad; punctation dense and extremely fine, visible in the pronounced microreticulation only at high magnification (100 ×). Eyes completely reduced, not even rudiments visible. Antenna 0.38–0.45 mm long and distinctly club-shaped; antennomeres IV–X distinctly transverse and distinctly increasing in width, V–X disc-shaped, and X approximately four times as broad as long.

Pronotum 1.3–1.4 times as broad as long and 1.35–1.40 times as broad as head; punctation and microsculpture similar to those of head.

Elytra short, 0.70–0.75 times as long as pronotum; punctation dense and fine, more distinct than that of head and pronotum; interstices with microsculpture. Hind wings completely reduced. Metatarsomere I nearly as long as the combined length of metatarsomeres II and III.

Abdomen: tergites III–V without anterior impressions; punctation fine and moderately dense; rhomboid network of microsculpture shallow; posterior margin of tergite VII without palisade fringe.

♂: posterior margin of sternite VIII strongly produced in the middle; median lobe of aedeagus 0.23 mm long and shaped as in Figs 16–18.

**Comparative notes.** Using the key to the Aleocharinae of British India in CAMERON (1939), *P. lippa* would key out together with *Rhopaletes* (today a junior synonym of *Platyola flavus* Cameron, 1939, a species described from a locality in Himachal Pradesh (North India). *Platyola flava* was subsequently reported also from Hazara, North Pakistan, by PACE (1986). Anophthalmous *Platyola* species are all very similar in external characters and reliably distinguished only based on the aedeagus (ASSING 2006); the sexual characters of *P. flava* have never been illustrated or described. Considering that these species are completely blind and micropterous, the possibility that the populations from Himachal Pradesh and North Pakistan should belong to the same species, seems highly unlikely. This conclusion is further supported by the fact that the two species described in the present paper (see description in the following section), though highly similar in external characters, are not conspecific.

**Distribution and natural history.** The type locality is situated in the extreme north of Punjab province, North Pakistan. The specimens were collected in hollow *Prunus* with *Lasius* sp.

**Etymology.** The specific epithet (Latin, adjective: blind) alludes to the complete absence of eyes.

***Platyola invidens* Assing sp. nov.**

(Figs 19–20)

**Type material examined.** Holotype ♂: “PAKISTAN – Hazara, Kaghan valley, Malkandi Fst., base of rotting fig tree, 2.VII.1985, leg. S. Vit / Holotypus ♂ *Platyola invidens* sp.n. det. V. Assing 2020” (cAss). Paratype ♀ [teneral]: same data as holotype (cAss).

**Description.** External characters as in *P. lippa*.

♂: posterior margin of sternite VIII moderately produced in the middle; median lobe of aedeagus 0.23 mm long and shaped as in Figs 19–20.

**Comparative notes.** This species is distinguished from *P. lippa* only by the shape of the male sternite VIII (posterior margin less produced in the middle) and by the shape of the median lobe of the aedeagus (crista apicalis straight; ventral process of different shape in ventral view).

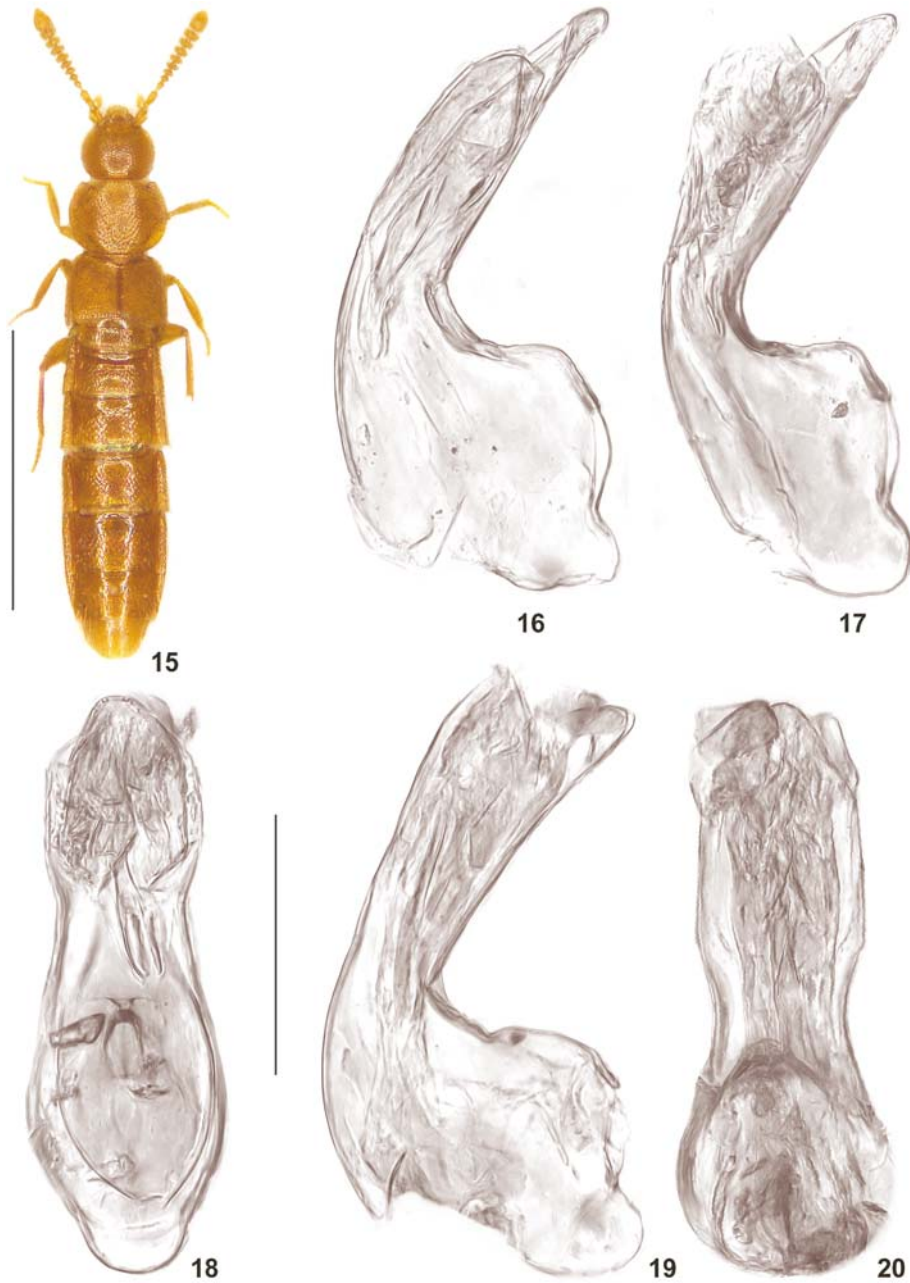
**Distribution and natural history.** The type locality is situated in Kaghan valley, North-West Frontier Province, Pakistan. A previous record of *Platyola flava* from Hazara (PACE 1986) may refer to this species, too. The specimens were collected at the base of a rotting fig tree. The paratype is teneral.

**Etymology.** The specific epithet (Latin, adjective: blind) alludes to the complete absence of eyes.

***Micranops viti* Assing sp. nov.**

(Figs 21–24, 28–30)

**Type material examined.** Holotype ♂: “PAKISTAN – Punjab, Rawal Lake, forest, bark, dead wood, mushrooms, 3.IV.1986, leg. S. Vit / Holotypus ♂ *Micranops viti* sp.n. det. V. Assing 2020” (cAss). Paratype ♀: “PAKISTAN – Punjab, S Islamabad, base of dead tree, 28.III.1986, leg. S. Vit” (cAss).



**Figs 15–20.** *Platyola lippa* Assing sp. nov. (15–18) and *P. invidens* Assing sp. nov. (19–20). 15 – habitus; 16–20 – median lobe of aedeagus in lateral and in ventral view. Scale bars: 15: 1.0 mm; 16–20: 0.1 mm.



**Description.** Body length 2.5–2.8 mm; length of forebody 1.3–1.4 mm. Habitus as in Fig. 21. Colouration: head reddish; pronotum reddish-yellow; elytra yellow to reddish-yellow; abdomen reddish-yellow to red; legs yellow; antennae yellowish-red.

Head (Fig. 22) approximately 1.15 times as long as broad, with subparallel lateral margins (i.e., head not distinctly tapering posteriorly); punctation extremely fine and dense; interstices with shallow microsculpture. Eyes approximately half as long as postocular region in dorsal view.

Pronotum approximately 1.15 times as long as broad and slightly narrower than head; punctation and microsculpture similar to those of head.

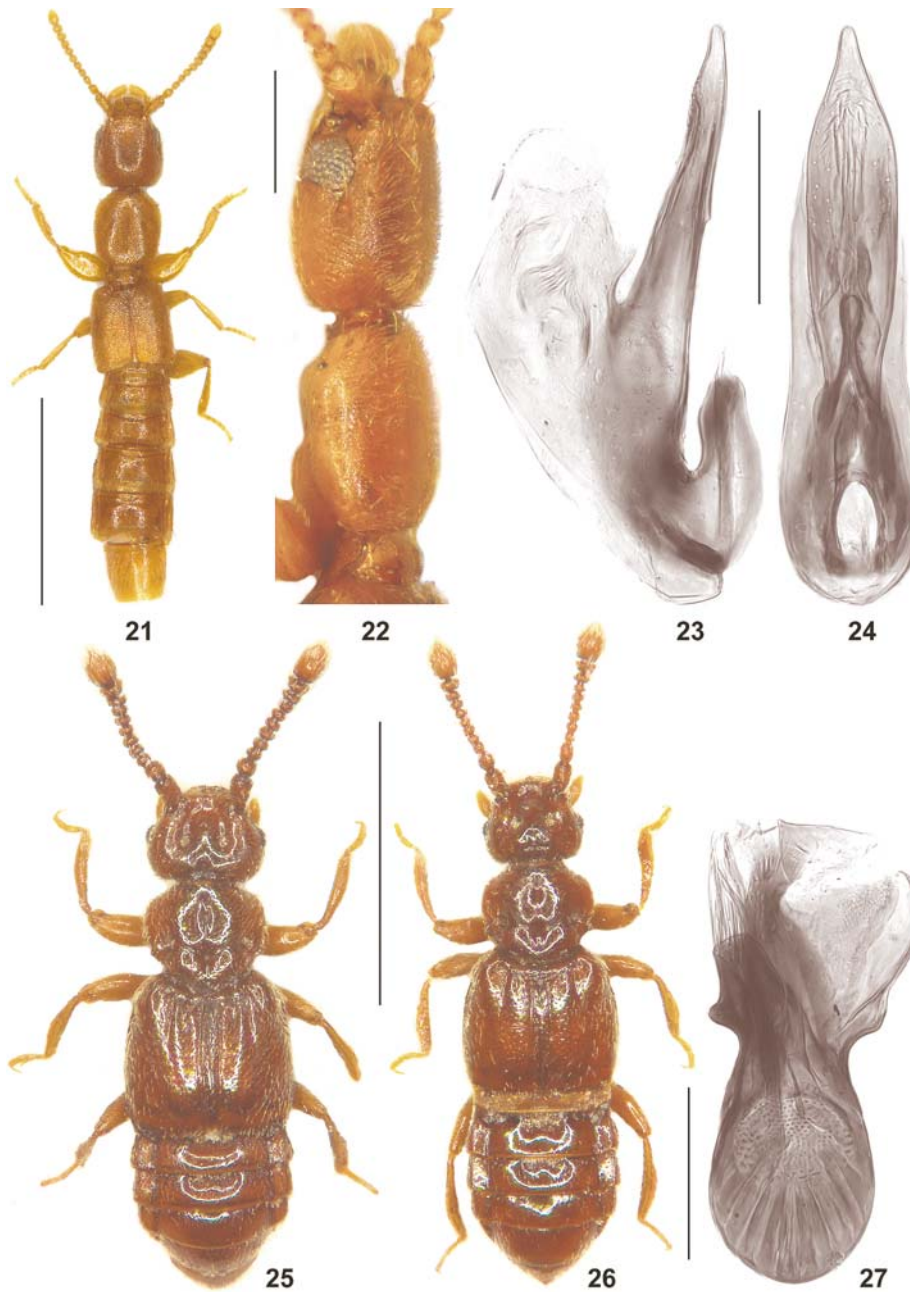
Elytra approximately 0.85 times as long as pronotum, with extremely dense and fine punctation and with distinct microsculpture. Hind wings present.

♂: sternite VII (Figs. 28–29) with oblong impression in postero-median portion, this impression anteriorly with weakly modified pubescence and posteriorly without pubescence, medially with a pair of strongly modified, very stout and short setae (peg-setae), and postero-laterally with a pair of peg-setae on either side, posterior margin with a small and broadly V-shaped median excision; sternite VIII (Fig. 30) with a deep and nearly U-shaped posterior excision; aedeagus 0.3 mm long and with a straight and apically acute ventral process.

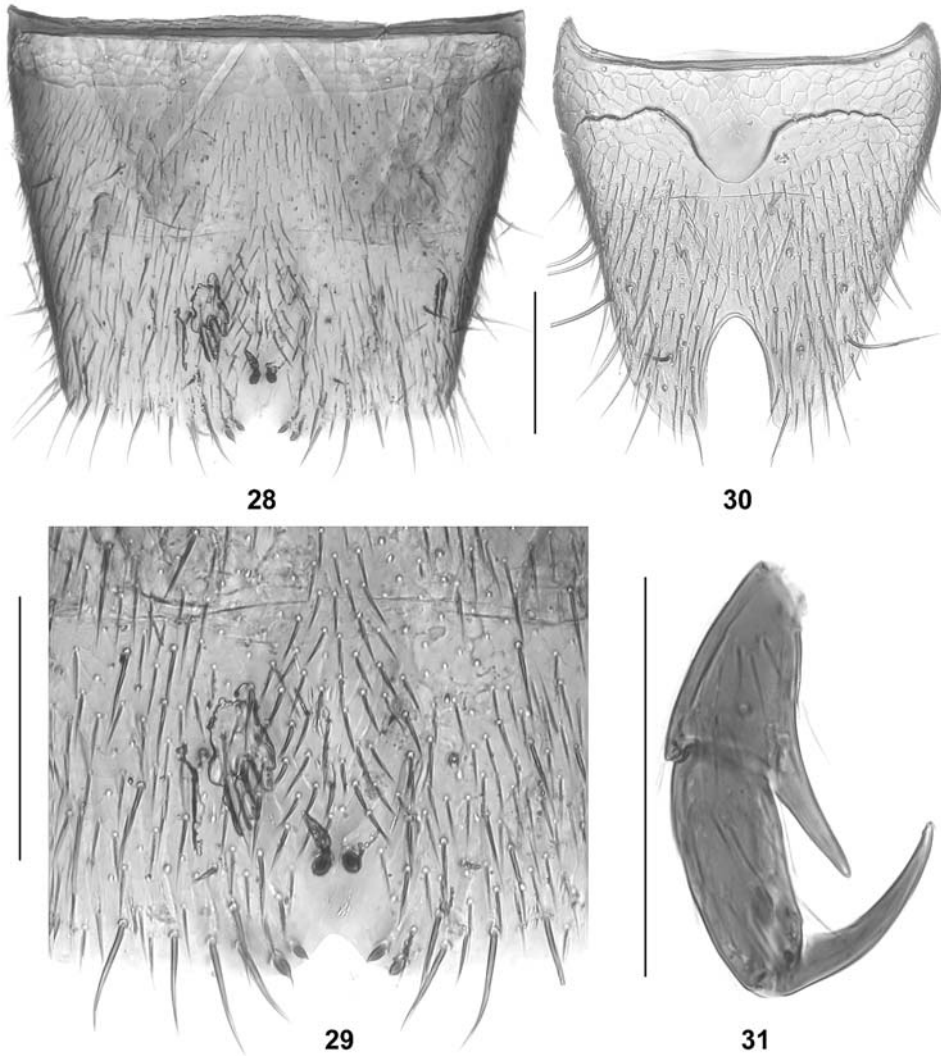
**Comparative notes.** The genus *Micranops* Cameron, 1913 currently includes 32 described species, 13 of them distributed in the Afrotropical, six in the West Palaearctic (four of them endemic to the Canary Islands), two in the East Palaearctic, two in the Oriental, one widespread in both the East Palaearctic and Oriental, six in the Neotropical, one in the Nearctic, and one in the Australian regions (FRISCH & HERMAN 2014, NEWTON 2019). According to Johannes Frisch (pers. comm.), numerous additional species are pending description.

Based on the similar general structure of the aedeagus and on the similar modifications of the male sternites VII and VIII, *M. viti* is more closely allied to the West Palaearctic *M. pilicornis* (Baudi, 1870) than to the described species from the East Palaearctic and Oriental regions. It is distinguished from those species whose male genitalia have been illustrated by the shape of the aedeagus and from all geographically close congeners additionally as follows:

- from *M. pilicornis* (widespread in the southern West Palaearctic eastwards to Turkmenistan) by paler colouration, less pronounced microsculpture on the head and pronotum, larger eyes, different head shape (*M. pilicornis*: head more or less distinctly tapering posteriorly), a male sternite VII with a different chaetotaxy and a more pronounced posterior excision, and a deeper and more parallel-sided posterior excision of the male sternite VIII;
- from *M. pallidulus* (Kraatz, 1859) (widespread in the southern East Palaearctic and Oriental regions) by the colouration (*M. pallidulus*: body reddish with more or less extensively infuscate elytra) and by the modifications of the male sternites VII–VIII (*M. pallidulus*: sternite VII unmodified; sternite VIII with broadly V-shaped posterior excision);



**Figs 21–27.** *Micranops viti* Assing sp. nov. (21–24) and *Euplectus pakistanicus* Brachat sp. nov. (25–27). 21, 25 – male habitus; 22 – head and pronotum in lateral view; 23–24 – aedeagus in lateral and in ventral view; 26 – female habitus; 27 – aedeagus in dorsal view. Scale bars: 21, 25–26: 1.0 mm; 22: 0.2 mm; 23–24, 27: 0.1 mm.



**Figs 28–31.** *Micranops viti* Assing sp. nov. (28–30) and *Euplectus pakisticus* Brachat sp. nov. (31). 28 – male sternite VII; 29 – postero-medial portion of male sternite VII; 30 – male sternite VIII; 31 – male mesotarsomeres II–III. Scale bars: 0.1 mm.

- from *M. hustachei* (Coiffait, 1987) (Nepal) by greater body size (*M. hustachei*: body length 2.0 mm) and by the modifications of the male sternites VII–VIII;
- from *M. pokharensis* (Coiffait, 1981) (Nepal) by slightly larger size (*M. pokharensis*: 2.0–2.2 mm), different colouration (*M. pokharensis*: body yellow with darker elytra), and by the modifications of the male sternites VII–VIII (*M. pokharensis*: sternite VIII with broadly V-shaped posterior excision);
- from *M. planiusculus* (Kraatz, 1859) (Myanmar, Indonesia: Sumatra) by paler colouration and the modifications of the male sternites VII–VIII (*M. planiusculus*: sternite VII unmodified; sternite VIII with less deep and anteriorly more acute posterior excision).

For illustrations of the aedeagus and/or the male sternites VII–VIII of the compared species see CAMERON (1931), COIFFAIT (1981, 1982), and FRISCH et al. (2002).

**Distribution and natural history.** The type specimens were collected from dead wood and the base of a dead tree in two localities in Punjab, North Pakistan.

**Etymology.** This species is dedicated to Stanislav Vít, who collected all the material treated in the present paper.

***Euplectus pakistanicus* Brachat sp. nov.**

(Figs 25–27, 31)

**Type material examined.** Holotype ♂: “PAK-85/5, PAKISTAN (Hazara): Kaghan Valley 2000 m, Ghnwool Valley Makhair Frst., tronc creux d’*Aesculus*; 30.VI.1985; leg. S. Vít / *Euplectus pakistanicus* spec. nov. ♂, det. Brachat 08.2020 / Holotypus” (cBra). Paratype ♀ [teneral]: same data as holotype (cBra).

**Description.** Subject to pronounced sexual dimorphism of external characters (Figs 25–26). Body 1.67–1.72 mm long, dark reddish-brown, glossy with fine and nearly depressed pubescence, and with fine scattered punctation on pronotum and elytra.

Head distinctly transverse; anterior margin straight; lateral margins subparallel; frontal sulci deep, U-shaped and with distinctly convex space between them; interocular impressions tomentose; near posterior margin with pair of long and erect setae and with a triangular impression not reaching the level of the weakly convex eyes, this impression with a short median keel; temples long, straight, longer than diameter of eye. Male antenna: length 0.64 mm; antennomere I 0.11 mm long and 0.07 mm broad; antennomere II approximately as broad as I, of orbicular shape; antennomeres III–VIII 0.05 mm broad and increasingly transverse; antennal club three-jointed; antennomere IX twice as broad as long and slightly broader than antennomere II; antennomere X broader than IX and nearly twice as broad as long; antennomere XI of ovoid shape, nearly 1.5 times as long as broad (length 0.14 mm; width 0.10 mm). Female antenna: length 0.59 mm; antennomere I 0.10 mm long and 0.06 mm broad; antennomere II oval (length 0.065 mm; width 0.05 mm); antennomere III as long as broad (0.04 mm); antennomeres IV–V orbicular (width 0.045 mm), VI–VIII slightly transverse; club three-jointed: antennomere IX twice as broad as long and slightly broader than antennomere II, X broader than IX and approximately twice as broad as long, XI of ovoid shape and nearly 1.5 times as long as broad (length 0.14 mm; width 0.10 mm).

Pronotum distinctly transverse, slightly broader than head, broadest in anterior third, convex in cross-section; lateral and median ante-basal impressions very deep; lateral margin with a tooth slightly anterior to lateral impression; median sulcus posteriorly terminating in an impression at posterior two-thirds of pronotum.

Elytra with four tomentose basal impressions; discal sulcus weakly pronounced, ending at anterior third of elytra; humeral angles weakly pronounced; subhumeral impression tomentose. Metaventricle weakly convex and with distinct median sulcus.

Abdomen: tergites IV and V basally with a median impression with dense scaly pubescence and with two short keels not reaching middle of tergite and including approximately one-third of tergite.

♂: head 0.30 mm long and 0.41 mm broad; pronotum 0.38 mm long and 0.41 mm broad; elytra 0.49 mm long and 0.59 mm broad; mesotibia with small tooth near apex; mesotarsomere II with stout, nearly straight tooth (Fig. 31); metatrochanter ventrally with short blunt tooth; sternite VI narrowed towards middle and with weakly pronounced impression, this impression basally with a small lateral tubercle on either side, medially with a shallow triangular elevation, and at posterior margin with a row of erect setae; sternite VII medially with a shallow transverse impression with a median keel and basally with a narrow ridge, this ridge medially interrupted and with a tooth; sternite VIII with a shallow median impression extending along almost whole sternite; aedeagus 0.27 mm long and shaped as in Fig. 27.

♀: head 0.28 mm long and 0.36 mm broad; pronotum 0.36 mm long and 0.38 mm broad; elytra 0.45 mm long and 0.57 mm broad; tergite VIII posteriorly pointed in the middle.

**Comparative notes.** *Euplectus pakisticus* is the first representative of the genus to be recorded from Pakistan. The aedeagus is similar to those of the West Palaearctic *E. sanguineus* Denny, 1825 and *E. signatus* (Reichenbach, 1816), from which the new species is distinguished by the size of the aedeagus and by the male secondary sexual characters. For illustrations of the compared species see BESUCHET (1974).

**Distribution and natural history.** The type locality is situated in Kaghan valley, North-West Frontier Province, Pakistan. The specimens were collected from a hollow tree trunk.

**Etymology.** The specific epithet is an adjective derived from Pakistan.

#### Acknowledgement

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