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Two new weevil species (Curculionidae: Entiminae), *Sciaphobus* (*Neosciaphobus*) *messutati* sp. nov. (Sciaphilini) and *Pelletierellus holecovae* sp. nov. (Trachyphloeini) from Albania

Dva nové druhy nosatců (Curculionidae: Entiminae), *Sciaphobus* (*Neosciaphobus*) *messutati* sp. nov. (Sciaphilini) a *Pelletierellus holecovae* sp. nov. (Trachyphloeini) z Albánie

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Abstract. *Sciaphobus* (*Neosciaphobus*) *messutati* sp. nov. and *Pelletierellus holecovae* sp. nov. (Curculionidae: Entiminae) from Albania are described and illustrated. The morphological relationships of both new species to all their related taxa are emphasised. Microhabitats and the stenotopic character of both species, having the same locus typicus are discussed. Both species were collected in a subalpine meadow at elevation of 1 900 m by general sweeping and sifting of litter under perennial vegetation.

INTRODUCTION

Albania, despite its relatively small territory, harbours an exceptional weevil biodiversity, but our knowledge of the inhabiting weevil fauna is very poor, and the latest contribution reporting findings of weevils of this area consists of a report of the Albanian expedition of the "Deutsches Entomologisches Institut" in 1961 (Dieckmann 1984). The present paper contributes additional knowledge with the description of two new entimine species collected recently on Mount Tomorrit.

The genus *Sciaphobus* K. Daniel, 1904 is a medium sized genus of Sciaphilini, containing 23 valid species and distributed mainly in the Balkans, with five species known from Central Europe and four species known from Italy (Alonso-Zarazaga et al. 2017).

The Trachyphloeini genus *Pelletierellus* Borovec, 2009 has a similar predominantly Balkan distribution, including 22 valid species, with one species known also from Central Europe, one from Italy, two from Ukraine and seven from Turkey (Alonso-Zarazaga et al. 2017).

MATERIAL AND METHODS

Body length of all specimens was measured in dorsal view from the anterior margin of eyes to the apex of the elytra, excluding the rostrum. Width/length ratio of the rostrum was measured at the maximum width at base versus maximum length to the base of mandibles. Width/length ratios of pronotum, elytra, antennal and tarsal segments were taken at the maximum width and length of the respective parts in dorsal view; length of onychium was taken as exceeding part from the outline of tarsal segment 3. For the study and drawing, dissected male and female genitalia

were placed in glycerine. Dissected female genitalia were embedded in Solakryl BMX (Medika, Prague); male genitalia were mounted dry on the same card as the respective specimen, with tegmen and sternite IX embedded in Solakryl BMX. Habitus images were taken with high resolution camera Canon EOS 50D connected with a Canon MP-E 65mm macro zoom lens. For photography, male genitalia were dissected, treated for three days in 10% KOH, and photographed in glycerine with the same camera under the laboratory microscope Intraco Micro LMI T PC. Female internal structures (spiculum ventrale, spermatheca) were dissected, embedded in Solakryl BMX on a plastic transparent board, and photographed under the same laboratory microscope. Multilayer pictures were processed using the Combine ZP software. The outlines of spermathecae were drawn using Adobe Photoshop 9.0. The terminology of the rostrum and the terminalia follows Oberprieler et al. (2014).

Type specimen labels were cited verbatim, separate labels are indicated by a simple slash (/). Holotypes and paratypes are indicated by a printed red label "HOLOTYPUS [PARATYPUS] *Sciaphobus messutati* sp. nov. [*Pelletierellus holecovae* sp. nov.] Borovec & Košťál des. 2022".

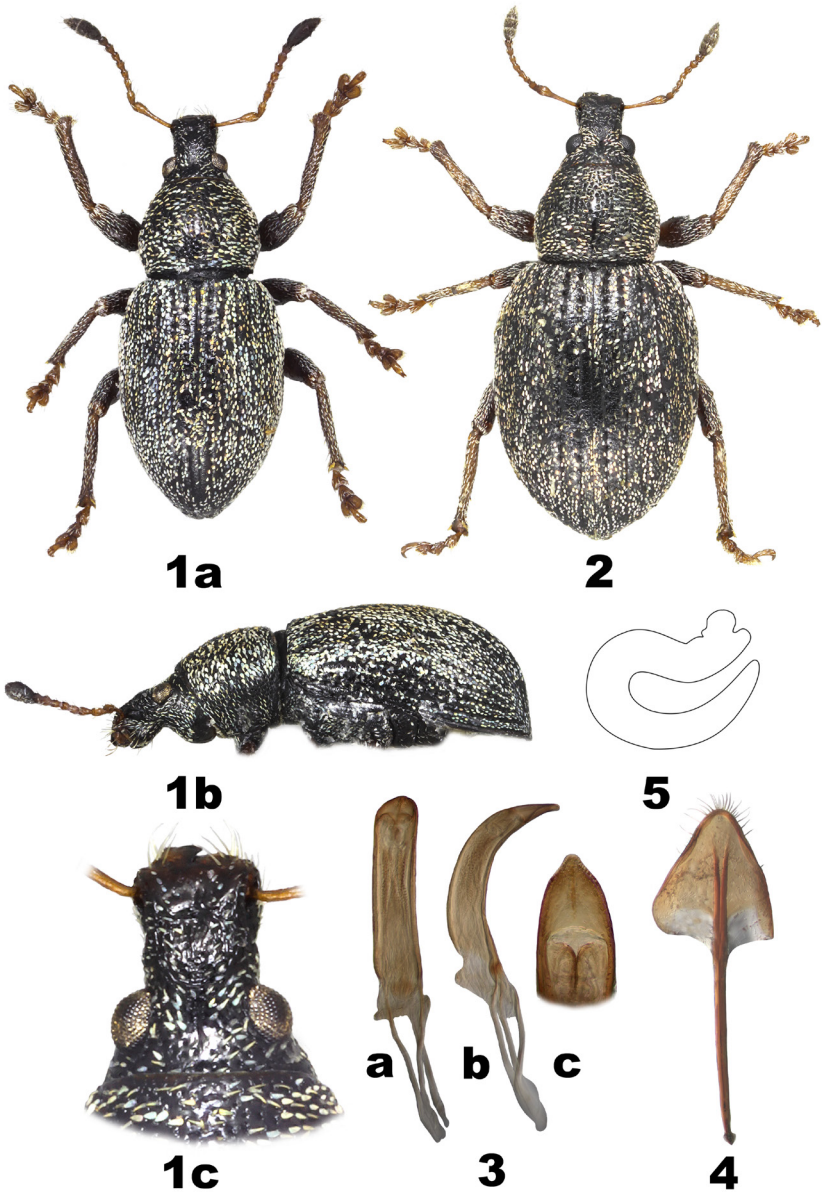
The material is deposited in the National Museum, Prague, Czech Republic (NMPC), Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany (SDEI), Senckenberg Museum für Tierkunde, Dresden, Germany (SMTD), and private collections of Jochen Messutat, Preussisch Oldendorf, Germany (JMPG), Milada Holecová, Bratislava, Slovakia (MHBS), Michael Košťál, Šoporňa, Slovakia (MKSS), Oto Majzlan, Bratislava, Slovakia (OMBS) and Roman Borovec, Sloupno, Czech Republic (RBSC).

TAXONOMY

Sciaphobus (*Neosciaphobus*) *messutati* sp. nov.
(Figs 1–5)

Type locality. Albania mer., M. Tomorit Mts., Bargulas env. 6 km NE pr. Berat.
Type material. Holotype, ♂: "ALBANIA mer. 10.vii.2021 M. Tomorit Mts. Bargulas env. 40°37.1′ N. 20°11.0′ E 1900m 6 km NE Berat R. Borovec lgt." (NMPC). Paratypes: 8 ♂♂ 8 ♀♀, same data as holotype (JMPG, RBSC, SDEI, SMTD); 1 ♂ 1 ♀ "ALBANIA mer. M. Tomorrit Mts. Michael Košťál leg. / Bargulas env. 6 km NE pr. Berat 1900 m N 40°37.1′ E 20°11.0′ 16.vi.2019" (MKSS); 5 ♂♂ 6 ♀♀ same data but "10.vii.2021" (MKSS); 9 ♂♂ 4 ♀♀ same data but "5.vi.2022" (JMPG, MKSS); 1 ♀ same data but "30.vi.2022" (MKSS); 1 ♀ same data but "1.vii.2022" (MKSS); 1 ♂ 1 ♀ "Albania mer. BARGULAS env. 6 km NE pr. BERAT 1900 m. N 40°37.1′, E 20°11.0 16.6.2019 O.Majzlan lgt." (OMBS); 1 ♂ 4 ♀♀ "73/22 ALBANIA mer. Tomorrit Mts. Milada Holecová leg. / Bargulas env. 6 km NE pr. Berat 1900 m N 40°37.1′ E 20°11.0′ 30.vi.2022" (MHBS); 2 ♂♂ 2 ♀♀ same data but "76/22" and "1.vii.2022" (MHBS).
Description. Body length ♂♂ 2.75–3.53 mm, ♀♀ 3.55–4.28, holotype 3.16 mm. Body (Figs 1a, b, 2) black, frons in some specimens paler, brownish, antennae and legs reddish brown, femora and clubs slightly darker, brownish to dark brown. Elytra sparsely covered with shortly oval, drop-shaped recumbent scales, 3–4 across width of one interstria, not completely covering integument, greyish to light brownish with cupreous or pearly greenish sheen, interstriae 8–10 shortly behind midlength with small, very slender, almost piliform setae; each interstria with one hardly visible regular row of appressed piliform setae, as long as appressed scales, not pronounced in lateral view. Pronotum sparsely covered with transversely oriented mixture of drop-shaped and slender piliform setae, both bigger than elytral ones, on disc mostly brownish, dense slender lateral stripes comprised of whitish, wide, drop-shaped scales. Head with similar vestiture as pronotum, setae only distinctly smaller, rostrum very sparsely covered with short, piliform appressed setae, appears glabrous.

Rostrum (Fig. 1c) in males 1.13–1.18 × as long as wide at base, more slender than in females, here 1.03–1.06 × as long as wide, in basal half with slightly rounded sides, in apical



Figs 1–5. *Sciaphobus* (*Neosciaphobus*) *messutati* sp. nov.: 1a – male, dorsal view; 1b – male, lateral view; 1c – male, head with rostrum; 2 – female, dorsal view; 3 – penis in ventral (a), lateral (b) view, apex of body of penis in dorsal view (c); 4 – sternite VIII of female; 5 – spermatheca.

Obr. 1–5. *Sciaphobus* (*Neosciaphobus*) *messutati* sp. nov.: 1a – samec, pohled shora; 1b – samec, pohled zboku; 1c – samec, hlava s noscem; 2 – samice, pohled shora; 3 – penis, pohled zdola (a), pohled zboku (b), špice penisu, pohled shora (c); 4 – sternit VIII samice; 5 – spermatéka.

half distinctly enlarged anteriad, with straight sides, at apex in males 1.12–1.15 ×, in females 1.04–1.06 × as wide as at base. Epifrons almost flat, matt, posteriorly separated from head by shallow transverse sulcus with ill-defined margins. Frons smooth, finely, sparsely, indistinctly punctuate. Head wide, distinctly enlarged posteriad, dorsally regularly domed. Vertex with short longitudinal, slender fovea. Eyes vaulted, distinctly prominent from head outline.

Antennae (Figs 1a, b, 2) slender, funicle 1.5–1.6 × longer than scape, which is slightly curved, enlarged only in distal third. Funicular segment 1 2.1–2.3 × as long as wide, 1.1 × as long as segment 2, that is 2.4–2.5 × as long as wide; segments 3–6 1.3–1.4 × as long as wide; segment 7 isodiametric to 1.1 × as long as wide; clubs spindle-shaped, 2.6–2.8 × as long as wide.

Pronotum (Figs 1a, b, 2) in males 1.21–1.24 × as wide as long, in females 1.25–1.28 ×, widest behind midlength, with distinctly rounded sides, distinctly more tapered anteriad than posteriad. Disc domed, regularly and moderately densely punctured, distance between two punctures shorter than puncture diameter, intervals shiny.

Scutellar shield very small, glabrous, hardly visible.

Elytra (Figs 1a, b, 2) in males longly oval, 1.38–1.41 × as long as wide, in females oval, 1.35–1.38 × as long as wide, widest at midlength, with distinctly rounded sides, without prominent humeral calli. Striae distinctly punctured, narrow; interstriae wide, almost fine, somewhat shiny, interstria 8 in females in basal third elevated.

Pro- and mesofemora (Figs 1a, 2) in both sexes with very small, sharp tooth, metafemora in males with twice as big, in females with slightly bigger tooth. Tarsal segment 2 1.1 × as wide as long; segment 3 1.4–1.5 × as wide as long, 1.5–1.6 × as wide as segment 2; onychium 0.9 × as long as segment 3.

Sexual dimorphism. See antennae and elytra.

Penis (Figs 3a, b, c) moderately long and slender, in ventral view slightly wider at base, almost parallel-sided along majority of its length, apex almost regularly pointed, with rounded sides, with short, unclearly separated tip; in lateral view regularly curved, of equal width along whole length, in apical fifth evenly tapered.

Spermatheca (Fig. 5) U-shaped, with long, regularly curved cornu; corpus distinctly deflected; ramus and collum small, rounded, equally long and wide. Sternite VIII (Fig. 4) with apodeme terminating inside plate, plate umbrella-shaped with membranous basal margin. Gonocoxites elongate, subtriangular with apical slender styli.

Biology. Host plant unknown. All specimens were collected by general sweeping in a subalpine meadow with very rich perennial vegetation on limestone bedrock (Fig. 12).

Etymology. The species was named after our colleague and friend Jochen Messutat (Preussisch Oldendorf, Germany), who accompanied the second author in 2007 on one of his first collecting trips to Albania.

Differential diagnosis. By rostrum separated from head by shallow transverse sulcus, frons posteriorly lacking carina, elytra lacking erect setae, and by the vestiture grey to brown, the newly described species belongs to the subgenus *Neosciaphobus* Apfelbeck, 1922, as redefined by Borovec & Skuhrovec (2015). By armed metafemora, short onychium, striae narrower than intervals and pronotum with slender, not rounded appressed scales *S. messutati* sp. nov. is most similar to *S. globipennis* Apfelbeck, 1922 and *S. reitteri* (Stierlin, 1884). *Sciaphobus messutati* sp. nov. can be distinguished from both species by elytra sparsely covered with appressed scales, 3–4 across width of one interstria, not completely covering

integument, with cupreous or pearly greenish sheen, and all elytral interstriae of the same colour whereas *S. globipennis* and *S. reitteri* have interstriae densely covered with scales, 5–6 across width of one interstria, completely covering integument, lacking metallic sheen, and interstriae 6 and 7 or 7 and 8 paler than the others. In addition, *S. messutati* sp. nov. differs from *S. globipennis* also in elytra in both sexes more slender, in males 1.38–1.41 × as long as wide, in females 1.35–1.38 × as long as wide (vs. in males of *S. globipennis* 1.26–1.28 × as long as wide, in females 1.24–1.26 × as long as wide), and penis in lateral view tapered in apical fifth, evenly pointed apicad (vs. tapered in apical third, elongate to short, very slender, parallel-sided tip). The newly described species differs from *S. reitteri* also by the metafemora in male having bigger teeth than pro- or mesofemora (vs. equally sized teeth on all legs in *S. reitteri*), and profemora in females with small teeth (vs. lacking teeth). *Sciaphobus messutati* sp. nov. is also similar to *S. angustus* Borovec et Skuhrovec, 2015, described from Llogara, south Albania, in having slender elytra in males, and long and slender rostrum, but it is easily distinguishable from that species by its elongate, drop--shaped appressed scales (vs. regularly rounded in *S. angustus*), pro- and mesofemora with small teeth (vs. lacking teeth), pronotum wider, in males 1.21–1.24 × as wide as long (vs. slender, in male 1.13 × as wide as long), rostrum in males longer, 1.13–1.18 × as long as at base wide (vs. shorter, 1.06 × as long as wide), penis dorsally parallel-sided and laterally evenly pointed apicad (vs. dorsally with rounded sides along entire length and laterally with well visible short apical tooth, separated by preapical indentation).

Pelletierellus holecovae sp. nov.
(Figs 6–8, 10)

Type locality. Albania mer., M. Tomorit Mts., Bargulas env. 6 km NE pr. Berat.
Type material. Holotype, ♂: "ALBANIA mer. 10.vii.2021 M. Tomorit Mts. Bargulas env. 40°37.1′ N. 20°11.0′ E 1900m 6 km NE Berat R. Borovec lgt." (NMPC). Paratypes: 13 ♂♂♀♀, same data as holotype (RBSC); 1 ♂ "ALBANIA mer. M. Tomorrit Mts. Michael Košťál leg. / Bargulas env. 6 km NE pr. Berat 1900 m N 40°37.1′ E 20°11.0′ 10.vii.2021 / sifted" (MKSS); 5 ♂♂ 3 ♀♀ same data but "12.vii.2021" (MKSS); 1 ♂ 1 ♀ same data but "5.vi.2022" (MKSS); 1 ♂ same data but "30.vi.2022" (MKSS); 1 ♂ "74/22 ALBANIA mer. Tomorrit Mts. Milada Holecová leg. / Bargulas env. 6 km NE pr. Berat 1900 m N 40°37.1′ E 20°11.0′ 30.vi.2022" (MHBS); 1 ♂ 5 ♀♀ same data but "76/22" and "1.vii.2022" (MHBS).
Description. Body length 3.03–3.63 mm, holotype 3.47 mm. Body (Figs 6a, b) black, only basal part of scapes paler, dark brownish. Appressed scales on dorsal parts of body small, irregularly angular, slightly imbricate, longitudinally striate, 7–8 across elytral interstria width. Semi-erect setae on elytra conspicuous, forming regular row on each interstria, about as long as half width of interstria, slender, subspatulate, near tip about as wide as diameter of one appressed scale, distance between two setae 1.5–2 × longer than length of one seta. Semierect setae on pronotum, head and rostrum short, about half length of elytral ones, irregularly scattered. Suberect setae on antennal scapes short, inconspicuous. Body vestiture light brownish to greyish, elytra in fresh specimens with small, irregularly scattered dark brownish spots.

Rostrum (Figs 6 a, b, c) as long as wide at base, 1.11–1.17 × as wide as long at its widest point, enlarged shortly before eyes, then evenly straightly, moderately narrowed anteriad. Epifrons widest at about basal third, with rounded sides, at apical half straightly tapered

anteriad, dorsally with swollen margins, slightly convergent anteriad, posteriorly separated from head by slender, slightly arched transverse sulcus. Scrobes dorsally invisible, in profile slender, furrow-shaped, curved, directed to middle of eyes, separated from them by wide squamose stripe. Eyes large, almost regularly vaulted, slightly prominent from head outline, almost reaching anterior margin of pronotum. Head slightly domed at vertex, with distinct oval fovea in middle.

Antennae (Figs 6 a, b, c) short, robust; scapes 1.2 × as long as funicle, at base weakly curved, gradually enlarged apicad, at apex 1.1 × wider than clubs. Funicular segments 1 and 2 robust, conical, about equally long; segment 1 1.1 × as long as wide; segment 2 1.3 × as long as wide; segments 3–5 1.3 × as wide as long; segments 6 and 7 1.4 × as wide as long; clubs shortly spindle-shaped, 1.6–1.7 × as long as wide.

Pronotum (Figs 6 a, b) 1.59–1.67 × as wide as long, widest behind midlength, with distinctly rounded sides, in anterior half strongly narrowed anteriad, behind anterior margin faintly constricted, base slightly arched. Disc with irregular, wide, shallow median longitudinal furrow and numerous irregular, shallow, moderately large depressions with ill-defined margins.

Elytra (Figs 6 a, b) oval, in males 1.21–1.25 ×, in females 1.13–1.18 × as long as wide, with slightly rounded sides, more in females than in males, apically broadly rounded. Striae narrow, indistinctly punctured, intervals wide, slightly vaulted.

Apex of protibiae rounded, laterally straight, medially weakly enlarged, fringed by fine, yellowish setae. Tarsal segment 2 1.3–1.4 × as wide as long; segment 3 1.4–1.5 × as wide as long, 1.5–1.6 × as wide as segment 2; onychium 0.9 × as long as segment 3; claws solidly fused in basal half.

Sexual dimorphism. Not noticeable. See elytra.

Penis (7 a, b, c, 8a, b) in ventral view short, wide, with regularly rounded sides, narrowest at base, evenly tapering apicad with short concavity before tip, tip short, narrowly rounded; in lateral view moderately wide, with ventral side almost straight until preapical area, then bent ventrad, dorsal side distinctly and regularly rounded, tip moderately long, narrowly elongate. Tegmen with manubrium 1.2–1.3 × as long as ring diameter.

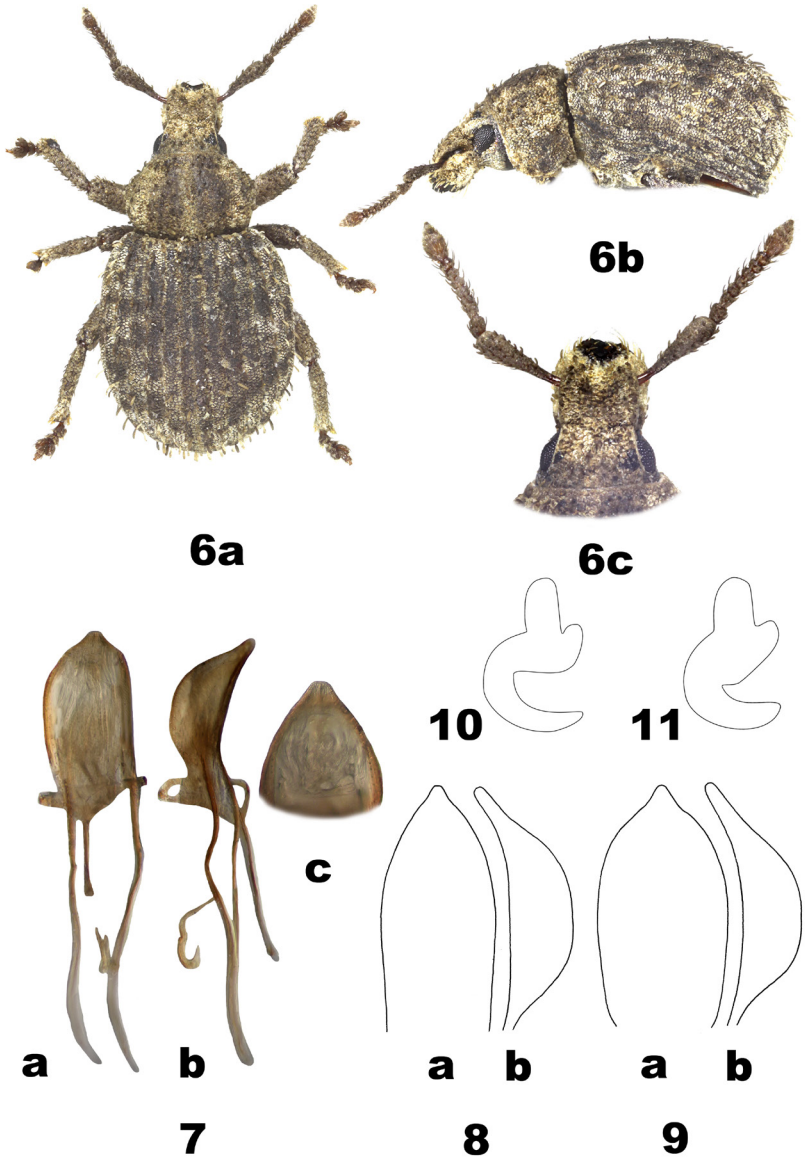
Spermatheca (Fig. 10) with moderately long and slender, regularly curved cornu; corpus elongate; ramus straight, conspicuously long, 1.8–2.1 × as long as wide, subparallel-sided; collum short, subtriangular, about as long as 1/3–1/4 of ramus length, obliquely positioned to ramus. Sternite VIII with umbrella-shaped plate, about as long as wide, without lengthened tip or sclerotisation. Gonocoxites flat, subtriangular, with moderately short apical styli.

Biology. Host plant unknown. All specimens were collected by sifting soil and litter under grasses, perennials and shrubs in a subalpine meadow on limestone bedrock (Fig. 12).

Etymology. We devote this species to our colleague, always helpful friend and a specialist in ecology and caryology of Curculionoidea, Milada Holecová (Bratislava, Slovakia).

Differential diagnosis. *Pelletierellus holecovae* sp. nov. keys to couplet 14 near *P. thessalicus* Penecke, 1924 in the most recent key to the genus (Borovec 1992), by its protibiae fringed by yellowish setae, rostrum about as long as wide, conspicuous long, erect elytral setae forming regular rows on all intervals, and also erect on disc, appressed scales on elytra rounded, not piliform, and oval elytra. It differs from that species in the following characters:

Pelletierellus thessalicus: Semi-erect elytral setae wide, spatulate, widest at tip, here wider than diameter of one appressed scale. Elytral setae densely arranged, distance between two setae as long as length of one seta. Antennal scapes at base as wide as onychium at apex.



Figs 6–11. *Pelletierellus holecovae* sp. nov.: 6a – male, dorsal view; 6b – male, lateral view; 6c – male, head with rostrum; 7 – penis in ventral (a), lateral (b) view, apex of body of penis in dorsal view (c); 8 – penis in dorsal (a), lateral (b) view; 10 – spermatheca. *Pelletierellus thessalicus* (Penecke): 9 – penis in dorsal (a), lateral (b) view; 11 – spermatheca.

Obr. 6–11. *Pelletierellus holecovae* sp. nov.: 6a – samec, pohled shora; 6b – samec, pohled zboku; 6c – samec, hlava s noscem; 7 – penis, pohled zdola (a), pohled zboku (b), špice penisu, pohled shora (c); 8 – penis, pohled shora (a), pohled zboku (b); 10 – spermatéka. *Pelletierellus thessalicus* (Penecke): 9 – penis, pohled shora (a), pohled zboku (b); 11 – spermatéka.

Penis in lateral view (Fig. 9b) slender. Spermatheca (Fig. 11) with ramus short, at most 1.2 × as long as wide.

Pelletierellus holecovae sp. nov.: Semi-erect elytral setae slender, subspatulate, widest before tip, here as wide as diameter of one appressed scale. Elytral setae sparsely arranged, distance between two setae 1.5–2 × longer than length of one seta. Antennal scapes at base more slender than onychium at apex. Penis in lateral view (Fig. 8b) wide. Spermatheca (Fig. 10) with ramus long, 1.8–2.1 × as long as wide.

Remarks. Borovec (1992) listed *P. thessalicus* from several localities in Greece and Bulgaria, from one locality in the Republic of North Macedonia, and one locality in Albania. We were able to examine the material from Greece and Bulgaria while preparing this paper, the material from the two latter countries still needs to be revised to ascertain to which of the two species it belongs. Hence, the occurrence of both species in the Republic of North Macedonia and Albania remains uncertain.

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SOUHRN

Dva nové druhy nosatců, *Sciaphobus* (*Neosciaphobus*) *messutati* sp. nov. a *Pelletierellus holecovae* sp. nov. jsou popsány z Albánie. Typový materiál obou druhů byl sbírán v nadmořské výšce 1 900 m, v subalpínském pásmu, u prvého druhu smykem nízké vegetace, u druhého druhu prosevem půdy a kořínků víceletých rostlin.

Sciaphobus messutati sp. nov. patří do podrodu *Neosciaphobus* Apfelbeck, 1922, protože má nosec oddělený od hlavy mělkou příčnou rýhou, krovky bez odstávajících sét a převládající zbarvení šupin je šedé anebo hnědé. Nově popisovaný druh je nejvíce podobný druhům *S.* (*N.*) *globipennis* Apfelbeck, 1922 a *S.* (*N.*) *reitteri* (Stierlin, 1884), od obou druhů se ale odlišuje řídce uloženými přiléhajícími šupinkami nepokrývajícími zcela podklad a stejnobarevně zbarvenými mezirýžími, zatímco *S. globipennis* a *S. reitteri* mají mezirýží hustě pokrytá přiléhajícími šupinkami zcela zakrývajícími podklad a mezirýží 6 a 7, anebo 8 a 9 světlejší než je zbytek krovek.

Pelletierellus holecovae sp. nov. je druh velmi podobný druhu *P. thessalicus* Penecke, 1924 vzhledem k předním holením vroubeným řádkou žlutých chloupků, noscem zhruba



Fig. 12. Type locality of *Sciaphobus* (*Neosciaphobus*) *messutati* sp. nov. and *Pelletierellus holecovae* sp. nov.: Subalpine vegetation in Tomorit Mts. near Bargulas.
Obr. 12. Typová lokalita *Sciaphobus* (*Neosciaphobus*) *messutati* sp. nov. a *Pelletierellus holecovae* sp. nov.: subalpinská vegetace v pohoří Tomorit poblíž Bargulas.

stejně dlouhým jako širokým, nápadně dlouhým, kolmo odstávajícím sétám tvořícím pravidelné řady na všech krovkových mezirýžích, přiléhajícím šupinám na krovkách okrouhlým, nikoli čárkovitým, a oválným krovkám. Od tohoto druhu se ale odlišuje štíhlými odstávajícími sétami na krovkách, které jsou nejširší před špicí a zde stejně široké jako průměr přiléhající šupinky. Séty jsou navíc řídké, vzdálenost mezi dvěma sétami je 1,5–2krát delší než je délka séty. Tykadlové násadce jsou na basi štíhlejší než je článek s drápky na špici. Penis je v bočním pohledu širší, spermatéka má ramus dlouhý, 1,8–2,1krát delší než široký. *Pelletierellus thessalicus* má odstávající séty na krovkách širší, nejširší na špici, a zde širší než je průměr přiléhající šupinky. Séty jsou hustěji uložené, vzdálenost mezi dvěma sétami je stejně dlouhá jako je délka séty. Tykadlové násadce jsou na basi stejně široké jako je článek s drápky na špici. Penis je v bočním pohledu štíhlejší a spermatéka má ramus krátký, 1,2krát delší než široký.

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