

CONTRIBUTION TO THE KNOWLEDGE OF DARKLING BEETLES OF THE TRIBE CERATANISINI (COLEOPTERA: TENEBRIONIDAE) FROM THE CAUCASUS AND ANATOLIA

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Abstract.— Six new species of the pimeliine genus *Ceratanisus* Gebien, 1937 are described from Transcaucasia and Anatolia: *C. talyshensis* **sp. nov.** (Azerbaijan: Talysh), *C. transcaucasicus* **sp. nov.** (Azerbaijan: Nakhchivan; Armenia: Ararat Prov.), *C. khnzoriani* **sp. nov.** (Armenia: Megri), *C. costipennis* **sp. nov.** (Turkey: Ankara), *C. keskini* **sp. nov.** (Turkey: Malatya Province), *C. purcharti* **sp. nov.** (Turkey: Kayseri Province, Taurus Mts.). A lectotype for *C. tristis* (Faldermann, 1837) from the Peloponnese Peninsula is designated. One new synonymy is established: *Ceratanisus* Gemminger, 1870 = *Haemerophygus* Baudi di Selve, 1876, **syn. nov.** The follow new combinations are also established (all species are transferred from the genus *Haemerophygus*): *Ceratanisus mucoreus* (Waltl, 1838), **comb. nov.**, *Ceratanisus graecus* (Kraatz, 1877), **comb. nov.**, *Ceratanisus allardi* (Reitter, 1884), **comb. nov.**, *Ceratanisus taygetanus* (Reitter, 1898), **comb. nov.**, *Ceratanisus osellai* (Scupola, 1984), **comb. nov.**, *Ceratanisus guerroumii* (F. Soldati et L. Soldati, 2002), **comb. nov.**



Key words.— *Ceratanisus*, new species, new generic synonymy, new combinations, lectotype, Caucasus, Turkey.

INTRODUCTION

The small Palaearctic tribe Ceratanisini Gebien, 1937 contains a group of beetles that are widespread in the Western and Eastern Palaearctic regions. One

species is also known from Middle Asia. This tribe currently includes three genera: *Tenebriocephalon* Pic, 1925 with two species from China (Fujian and Yunnan Provinces) (Löbl *et al.* 2008); *Ceratanisus* Gemminger, 1870 with six species distributed in Anatolia,

Transcaucasia and Uzbekistan (Ferrer and Avgin 2011); and *Haemerophygus* Baudi di Selve, 1876 with six species known from Greece, Bulgaria, Turkey and Iran (Löbl *et al.* 2008; Bunalski *et al.* 2014).

The genus *Tenebriocephalon* (= *Klapperichia* Kaszab, 1954) is a forest group with species capable of flight (Kaszab 1954). The other two genera include flightless species distributed in xerophytic mountain landscapes.

Scupola (1984) revised the species currently classified within *Haemerophygus*. Later a single species was described by F. Soldati and L. Soldati (2002) from Greece. Ferrer and Avgin (2011) revised the genus *Ceratanisus* and for the first time presented its differences from *Haemerophygus*. Differences in the pubescence on the ventral tarsal surfaces proved to be the only diagnostic character set separating these two genera (Ferrer and Avgin 2011): *Ceratanisus* has short sparse spinose setae, species in *Haemerophygus* have a dense brush of thick non-spinose setae. Many species of *Ceratanisus* have additional fine long light hair-like setae except strong setae. Other characters such as genitalia of males and females, form of body, structure of epicranium, antennae, eyes, thoracic and abdominal segments are all more or less similar and can be used only at the specific level. Changes in ventral tarsal setation often occur depending on the substrate composition of individual species habitats cannot be used as a basis for separation of a rather monomorphic group into two genera, or even for sub-generic division within the group.

During this study we also analysed one syntype of *Anisocerus tristis* Faldermann, 1837 (type species of the genus *Ceratanisus*) which was described from Transcaucasia. The type specimen undoubtedly originates from Greece (Peloponnese) although it has two geographic labels (Armenia and Morea). The species is similar to Greek species *Haemerophygus mucoreus* (Waltl, 1838) (*Helops mucoreus* is a type species of the genus *Haemerophygus*). Considering the above, a new synonymy is established: *Ceratanisus* Gemminger, 1870 = *Haemerophygus* Baudi di Selve, 1876, syn. nov. As a result the following new combinations are established (all species from *Haemerophygus*): *Ceratanisus mucoreus* (Waltl, 1838), comb. nov., *Ceratanisus graecus* (Kraatz, 1877), comb. nov., *Ceratanisus allardi* (Reitter, 1884), comb. nov., *Ceratanisus taygetanus* (Reitter, 1898), comb. nov., *Ceratanisus osellai* (Scupola, 1984), comb. nov., *Ceratanisus guerroumii* (F. Soldati et L. Soldati, 2002), comb. nov. Unfortunately we don't know which species was listed for Iran (Gorgan) under the name "*Haemerophygus mucoreus* (Waltl, 1838)" (Bunalski *et al.* 2014). We also don't know the taxon *Apolites angustus* Marseul, 1879 (the junior synonym of Transcaucasian *Hedyphanes tagenioides*

Faldermann in Ménériés, 1832) which was described from Greece".

Below we describe six new species found as a result of studying of different collections and the authors field work in the Caucasus and Anatolia.

MATERIAL AND METHODS

The study is based on the examination of adult beetles from the following institutions, museums, and private collections:

- ZIN – Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia;
- SMNH – Swedish Museum of Natural History, (Stockholm, Sweden);
- IZAY – Institute of Zoology, Scientific Centre of Zoology and Hydroecology of the National Academy of Sciences of Armenia, Yerevan;
- ZDEU – Zoological Department of Ege University;
- MKCY – collection of Mark Kalashian (Yerevan, Armenia);
- CN – private collection of Maxim Nabozhenko (Rostov-on-Don, Russia);
- LPCB – private collection of Luboš Purchart (Brno, Czech Republic).

The holotype of *C. purcharti* sp. nov. will be deposited in the National Museum in Prague, Czech Republic (NMPC).

TAXONOMY

Ceratanisus tristis (Faldermann, 1837) (Figs 1A, B, D, F)

A full bibliography is presented in Abdurakhmanov and Nabozhenko (2011).

Material. Lectotype (sex unknown) is deposited in ZIN and designated here (according to the article 61 of ICZN), with labels: blue press "Morea", handwritten "*tristis* Fald. Armen." ("Armen." is written over "Mor."), handwritten "Lectotypus *Anisocerus tristis* Faldermann, 1837 des. M. Nabozhenko, 2016". Lectotype doesn't have legs (only one mesofemora), abdomen and antennae (only four right basal antennomeres and left scape). Faldermann (1837) didn't mention how many specimens were in the type series.

Type locality: "Morea" (Peloponnese).

Notes. The description of F. Faldermann completely corresponds to lectotype. The reasons why Faldermann wrote "Armen." (Armenia) over "Mor." (Morea) are unknown. Long time (from 1837 to 2011) this species was recorded for the Caucasus and Anatolia (Abdurakhmanov and Nabozhenko 2011, Ferrer and Avgin 2011) because no one had studied the type material.

Ceratanisus talyshensis sp. nov.

(Figs. 2A, B; 3; 7A; 8A, B)

Abdurakhmanov, Nabozhenko 2011: 31, 85, 211, fig. 31 (*Ceratanisus tristis*, part).

Material. Holotype (male) (ZIN) with Cyrillic label: “Азербайджан, Талыш, Госмальян, 21–24.08.1985, В. Белов” (Azerbaijan, Talysh, Gosmol’yan). Paratypes (2 males, 1 female in ZIN, 1 female in CN): “Azerbaijan, Talysh Mts., Gosmol’yan, 11–12.06.2007 leg. D. Kasatkin”.

Description. Male. Body length 9.6 (length of holotype) – 9.8 mm, width 3.7 mm. Body black, robust. Elytra matt, head and pronotum with dull shine. Head widest at temple and eye level. Lateral margin of frontoclypeus and genae regularly rounded. Outer margin of head between genae and frontoclypeus with obtuse short sinuation. Frontoclypeus and genae separated from frons by deep depression. Punctuation of head coarse and dense (puncture diameter 1.5–2 × as long as distance between punctures), finer and sparser in middle of frons. Space between simple punctures with very small sparse punctures. Microsculpture simple, hexagonal, without wrinkles. Antennae with 2 apical antennomeres extending beyond base of pronotum. Antennomeres 11 and 10 with subequal length, antennomere 10 little wider than antennomere 11.

Pronotum transverse (1.4 × as wide as long), widest behind middle, 1.65 × wider than head. Lateral margins weakly rounded, widely sinuate near anterior angles; anterior margin broadly emarginated; base weakly rounded. Anterior and posterior angles of pronotum obtuse, distinct (not rounded) at apex. Punctuation of pronotum fine and sparse (puncture diameter 3–5 × smaller than distance between them), denser on lateral sides (puncture diameter subequal to distance between punctures). Disc regularly moderately convex, with completely beaded margins. Prothoracic hypomeron weakly rugose, with sparse punctuation.

Elytra elongate, oval (1.57 × longer than wide), widest at middle, 2 × wider than head, 1.2 × wider and 2.7 × longer than pronotum. Punctuation of elytra as fine and sparse as on pronotum, surface with long, dense and coarse wrinkles (width of wrinkle subequal to puncture diameter), without coarse microsculpture. Metaventricle and abdominal ventrites with fine sparse punctuation.

Tarsomeres with short strong setae on plantar surface; penultimate pro- and mesotarsomeres with long setae on anterior margin.

Female. Body length 12 mm, width 4.6 mm. Body larger and more robust. Antennae not reaching base of pronotum. Lateral margins of pronotum more rounded. Punctuation of pronotum and elytra finer than in male.

Etymology. The name derives from the type locality, Talysh Mountains.

Comparative diagnosis. The new species is similar to species of *funnebris* ‘group’ (*C. funnebris* (Reitter, 1898), *C. selimi* Ferrer et Avgın, 2011, *C. audiberti* Ferrer et Avgın, 2011, *C. labquei* Ferrer et Avgın, 2011 and *C. khnzoriani* sp. nov.) based on the presence of only short spinose setae on metatarsal plantar surface, the absence of dense and coarse dorsal punctuation and the absence of elytral carinae. *Ceratanisus talyshensis* sp. nov. differs from all these species based its coarsely rugose elytra, sinuate lateral margins of pronotum in anterior third and the structure of the genitalia (Fig. 7A). Differences between *C. talyshensis* and *C. transcaucasicus* sp. nov. are outlined below.

Ceratanisus transcaucasicus sp. nov.

(Figs. 2D, E, F; 7B; 8C, D)

Material. Holotype (male) (IZAY) with Cyrillic label: “Абракунис, Лякетаг, Нах. 28.06.59” (Azerbaijan, Nakhchivan Autonomous Republic, Leketag village, 39°17’17”N, 45°49’34”E). Paratype (1 female) (IZAY): “Лякетаг (Джульт. р-н), 28–6.59 Хнз. Под astragalus” (the same locality as in holotype, collected by Khnzorian), “*Seidlitzellus tristis* Fald. Khnzorian det.”. Paratype (1 male) (MKCY): “Armenia, Ararat prov. E. env. Tigranashen 39°47’33”N, 44°57’23”E, 1490 m 29.07.2011, Kalashian leg.”.

Description. Male. Body length 12 mm, width 4.6 mm. Body black, robust, dull, pronotum duller than elytra and head. Head widest at temple level. Lateral margin of frontoclypeus regularly rounded; lateral margin of genae straight, only in base strongly rounded. Outer margin of head between genae and frontoclypeus with slightly visible sinuation. Frontoclypeus separated from frons by weak depression; genae separated by deep longitudinal depression. Punctuation of head moderately coarse and sparse (puncture diameter 3–4 × shorter than distance between punctures); punctuation in head depressions coarse and dense. Antennae with 2 apical antennomeres reaching beyond base of pronotum. Antennomeres strongly thickened. Antennomere 10 1.6 × wider than antennomere 11.

Pronotum transverse (1.35 × wider than long), widest at middle, 1.58 × wider than head. Lateral margins weakly rounded, widely emarginated in anterior third and almost straight in basal half; anterior margin widely emarginated; base weakly bisinuate. Anterior angles of pronotum projected, obtuse; posterior angles right; all angles distinct (not widely rounded), narrowly rounded at apex. Punctuation of pronotum fine and sparse (puncture diameter 3–5 × less than distance between them), denser and coarser on lateral sides (puncture diameter subequal to distance between

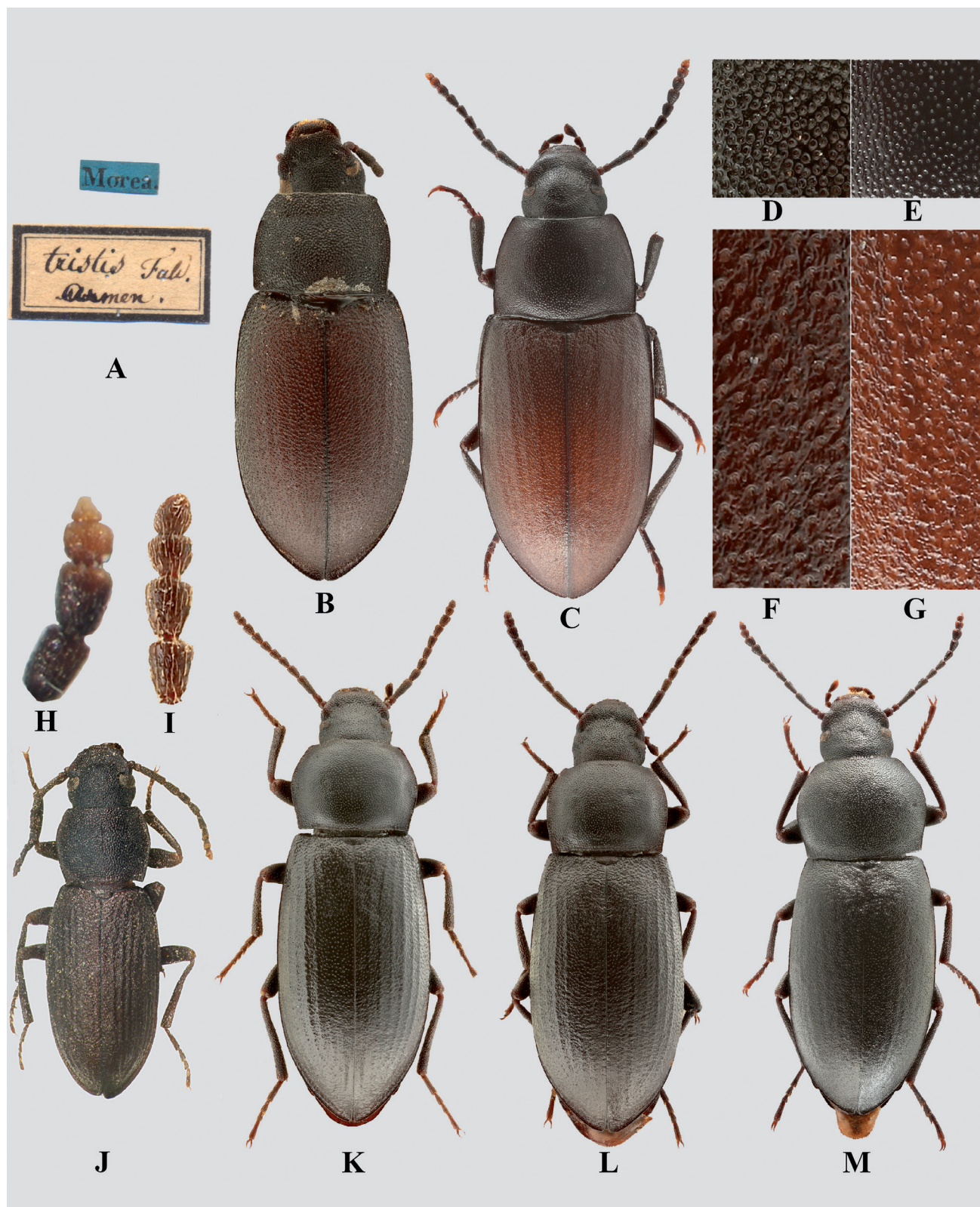


Figure 1. *Ceratanisus*, habitus, details of structure: (A, B, D, F) *C. tristis*, lectotype; (C, E, G) *C. costipennis* sp. nov.; (H, J) *C. mucoreus* (Turkey, Izmir Province: Bozdağ); (I, K, L) *C. purcharti* sp. nov.; (M) *C. keskini* sp. nov. (A) original labels of lectotype of *C. tristis*; (B, C, J, K, L, M) habitus, (L) female; (D, E) punctuation of pronotum; (F, G) punctuation of elytra; (H, I) male antennomeres 8–11.

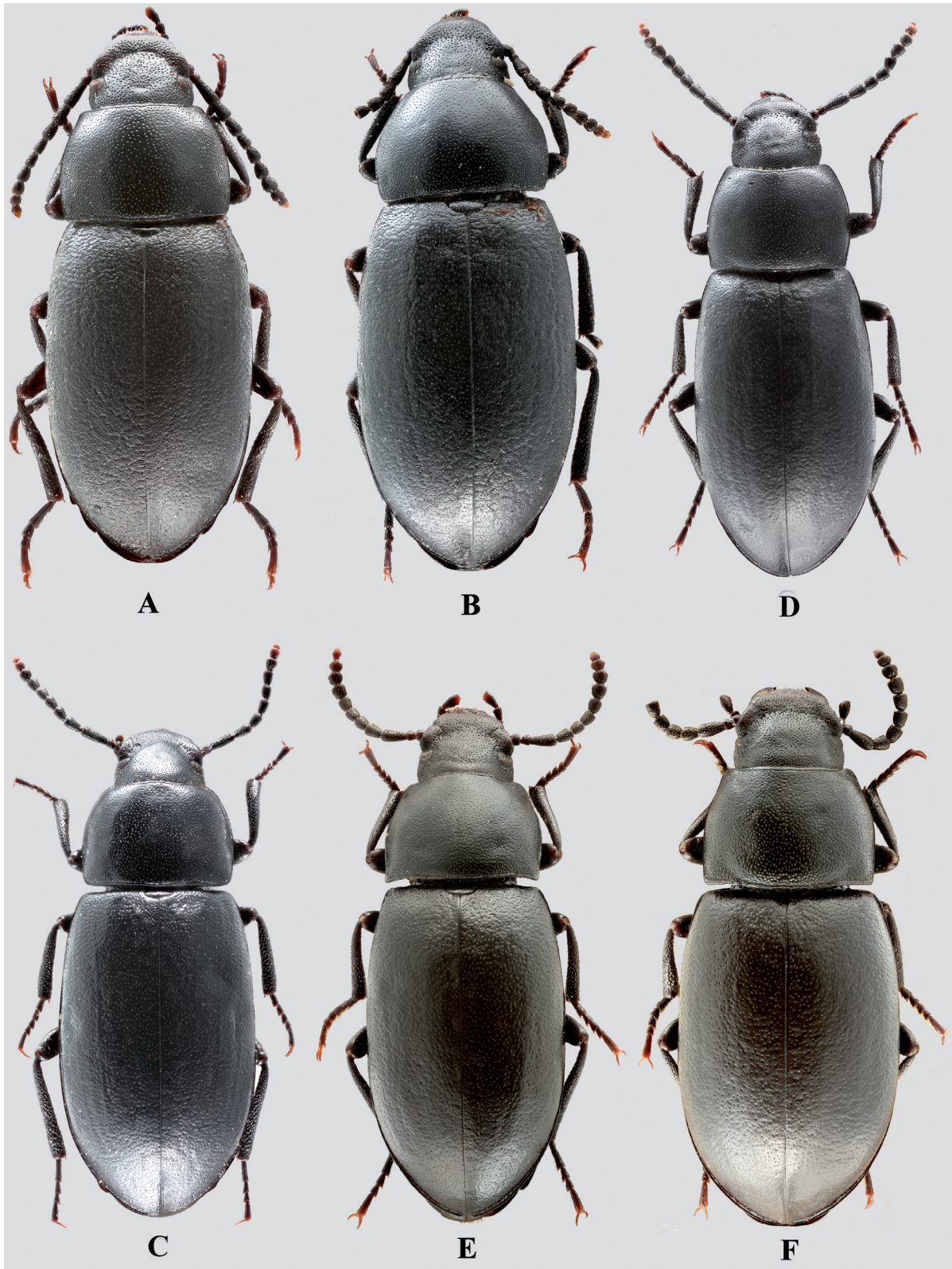


Figure 2. *Ceratanisus* from the Caucasus, habitus: (A, B) *C. talyshensis* sp. nov.; (C) *C. khnzoriani* sp. nov.; (D) *C. transcaucasicus* sp. nov. from Tigranashen; (E, F) the same species from Leketag. (A, D, E) males; (B, C, F) females.

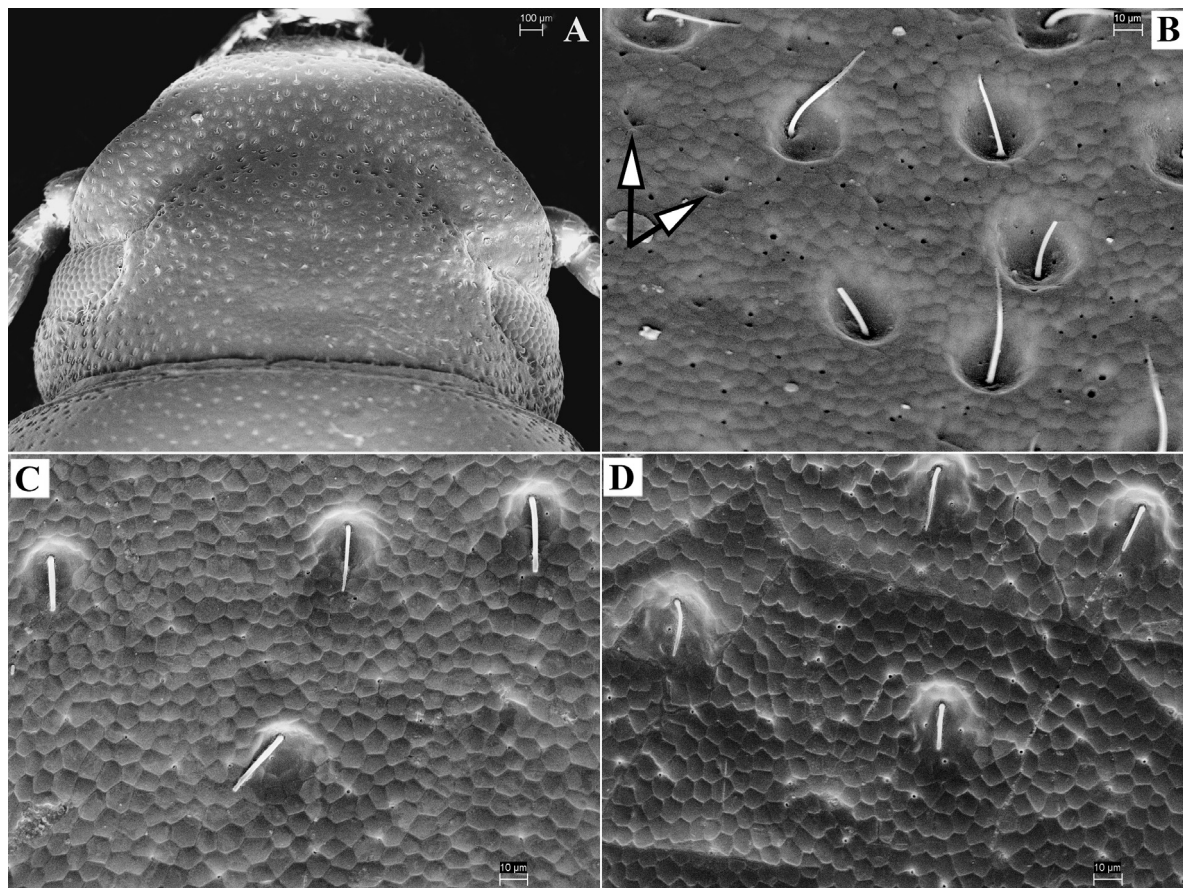


Figure 3. *Ceratanisus talyshensis* sp. nov., details of structure: (A) head; (B) head punctation, frons; (C) punctation of pronotum, middle; (D) punctation and wrinkles of elytra. Arrow shows small punctures of double punctation.

punctures). Disc regularly moderately convex, with completely beaded margins. Prothoracic hypomeron densely rugose, with sparse poorly visible punctation. Prosternal process weakly convex in lateral view, completely beaded.

Elytra convex, elongate, oval ($1.65 \times$ longer than wide), widest at middle, $2 \times$ wider than head, $1.27 \times$ wider and $2.9 \times$ longer than pronotum. Punctation of elytra as fine and sparse as on pronotum, surface smooth, without wrinkles and coarse microsculpture. Metaventricle and abdominal ventrites with fine sparse punctation (puncture diameter $5\text{--}7 \times$ shorter than distance between punctures). Apical margin of anal ventrite weakly rounded.

All tarsomeres with short strong reddish setae and long thin light hair-like setae; penultimate pro- and mesotarsomeres with long strong setae on anterior margin.

Female. Body length 11.8 mm, width 4.9 mm. Body more robust. Antennae not reaching base of pronotum, antennomeres little more thickened. Pronotum with denser punctation on lateral sides. Elytra more convex.

Etymology. The name derives from Transcaucasia.

Variability. The male from Tigranashen has more slender body, lateral margins of pronotum not emarginated in anterior quarter.

Comparative diagnosis. The new species is similar to *Ceratanisus talyshensis* sp. nov. from which and from all known species of *Ceratanisus* it differs based on the presence of short spinose setae and pubescence of long thin hair-like setae on plantar surface of all tarsomeres (*C. talyshensis* has hair pubescence only on protarsomeres and partly metatarsomeres), more thickened antennae, smooth (not coarsely wrinkled) elytra and the structure of the aedeagus.

***Ceratanisus khnzoriani* sp. nov.**
(Figs. 2C; 4; 7C; 8E, F)

Abdurakhmanov, Nabozhenko 2011: 211 (*Ceratanisus tristis*, part).

Material. Holotype (male) (ZIN): Armenia, Vedi, 14–20.vii.1995, leg. M.Yu. Kalashian; Paratypes 1 male

with Cyrillic label: “Мегри, 9.06.1937, Т. Гр.” (Megri); 1 male, 2 females (МКСУ, 1 female in CN) with Cyrillic label: “Мегри скалы, АССР 3.6.53” (Meghri, rock, Armenian SSR, Khnzorian leg.); 1 male (МКСУ) with Cyrillic label: “Мегри сады АССР 15.5.58” (Meghri, gardens, Armenian SSR, Khnzorian leg.); 1 female: “Armenia, Syunik prov. env. Meghri 10.07.2008 K. Aghababyan leg.”.

Description. Male. Body length 12 mm, width 4.4 mm. Body black, slender, dull. Head widest at temple and eye level. Lateral margin of frontoclypeus and genae on each side weakly rounded, with small sinuation between them. Frontoclypeus and genae separated from frons by weak depression. Punctuation of head not coarse, sparse (puncture diameter 2–3 shorter than distance between punctures); punctuation in head depressions coarse and dense. Antennae not thickened, with 2 apical antennomeres reaching beyond base of pronotum. Antennomeres not thickened. Antennomere 10 $1.3 \times$ wider than antennomere 11.

Pronotum transverse ($1.34\text{--}1.35 \times$ wider than long), widest little after middle, $1.4 \times$ than head. Lateral margins weakly regularly rounded, sometimes slightly shortly sinuate near base; anterior margin widely emarginated; base weakly rounded. Anterior angles of pronotum weakly projected, straight, widely rounded; posterior angles obtuse, distinct. Punctuation of pronotum moderately coarse, not dense (puncture diameter 2–3 \times smaller than distance between punctures), denser and coarser on lateral sides (puncture diameter subequal to distance between punctures). Disc regularly moderately convex, with completely beaded margins, bead of anterior margin often interrupted in middle. Prothoracic hypomeron densely rugose, with sparse punctuation. Prosternal process weakly convex, completely beaded.

Elytra elongate, oval ($1.34 \times$ longer than wide), widest at middle, $1.8 \times$ wider than head, $1.28 \times$ wider and $3.14 \times$ longer than pronotum. Punctuation of elytra fine and sparse as on pronotum, surface smooth, without coarse wrinkles (sometimes with very sparse and fine, poorly visible wrinkles) and coarse microsculpture. Metaventricle and abdominal ventrites with fine, sparse punctuation (puncture diameter 4–6 \times smaller than distance between punctures). Apical margin of anal ventrite weakly rounded.

All tarsomeres (excluding apical) with short spinose setae, without pubescence.

Female. Body more robust. Body length 11–12.6 mm, width 4.4 mm.

Etymology. The new species is named in honour of famous Soviet and Armenian entomologist S.M. Yablokov-Khnzorian.

Comparative diagnosis. *Ceratanisus khnzoriani* sp. nov. is similar to *C. audiberti* Ferrer et Avgin, 2011 and *C. labquei* Ferrer et Avgin, 2011 based on

maximal pronotal width behind middle. It differs from these both species based on the structure of aedeagus: lateral margins of apical piece of the new species are widely sinuate in basal third and rounded in apical $\frac{2}{3}$, parameres are deeply bifurcated. Apical piece of *C. audiberti* and *C. labquei* doesn't have bifurcated parameres; additionally lateral margins of apical piece in *C. audiberti* are not sinuate (regularly rounded), apical piece of *C. labquei* is strongly bisinuate and widest at middle.

Ceratanisus costipennis sp. nov.

(Figs. 1C, E, G; 7D; 8G, H)

Ferrer and Avgin 2011: 419, Fig. 1, 2Q, 3B, N, 4A (*Ceratanisus tristis*).

Material. Holotype (male) (SMNH): “02.VI.1995 Eryaman-ANKARA H. Alakoç leg.”, “ZDEU Ent. 36/1995”, “*Ceratanisus tristis* Fald. det. Scupola Ol.”

Description. Male. Body length 11.4 mm, width 4.5 mm. Body robust, black, dull. Elytra dark-brown. Head widest at temple level. Lateral margin of genae weakly rounded; outer margin of head not sinuate between genae and frontoclypeus. Frontoclypeus and genae separated from frons by weak depression. Punctuation of head coarse and dense (puncture diameter subequal to distance between punctures), on other surface puncture diameter $1.5\text{--}2 \times$ shorter than distance between them. Antennae not thickened, moderately long, with 2 apical antennomeres reaching beyond base of pronotum, regularly widened to apex. Antennomere 10 $1.26 \times$ wider than antennomere 11; antennomeres 10 and 11 with subequal length and width.

Pronotum transverse ($1.44 \times$ wider than long), widest before middle, base $1.4 \times$ wider than anterior part, $1.6 \times$ wider than head. Lateral margins weakly regularly rounded; anterior margin widely emarginated; base bisinuate. Anterior angles of pronotum weakly obtuse, rounded at apex; posterior angles right, distinct. Punctuation of pronotum moderately coarse, not dense (puncture diameter less than distance between punctures in middle and $1.5\text{--}2 \times$ longer than distance between punctures). Disc regularly weakly convex, with completely beaded margins. Prothoracic hypomeron densely rugose, with sparse poorly visible punctuation. Prosternal process weakly convex, completely beaded.

Elytra elongate ($1.53 \times$ longer than wide), subtriangular shaped, widest before middle, in basal quarter, $2 \times$ wider than head, $1.23 \times$ wider and $2.74 \times$ longer than pronotum. Elytra with weak but clear ridges; interstriae 2, 4 and 6 more convex. Punctuation of elytra not rasp-shaped, coarse and dense (puncture diameter subequal to distance between them). Interpuncture space strongly micro-wrinkled (coriaceous); punctures

poorly visible. Metaventrite and abdominal ventrites with same microsculpture as elytra but with finer and sparser punctation (puncture diameter 3–4 × as short as distance between punctures).

All tarsomeres (excluding apical) with short spinose setae, without pubescence.

Female unknown.

Etymology. From Latin “costa” (rib) and “pennis” (wings).

Comparative diagnosis. The new species is similar to *Ceratanisus tristis*, which also has weak elytral carinae, but differs based on much denser punctation of head, pronotum and elytra, elytra being widest before middle (in *C. tristis* elytra widest at middle), not rasp-shaped punctation of elytra. From other species with elytral carinae (*C. mucoreus* (Waltl, 1838), *C. graecus* (Kraatz, 1877), *C. allardi* (Reitter, 1884)) *C. costipennis* sp. nov. differs based

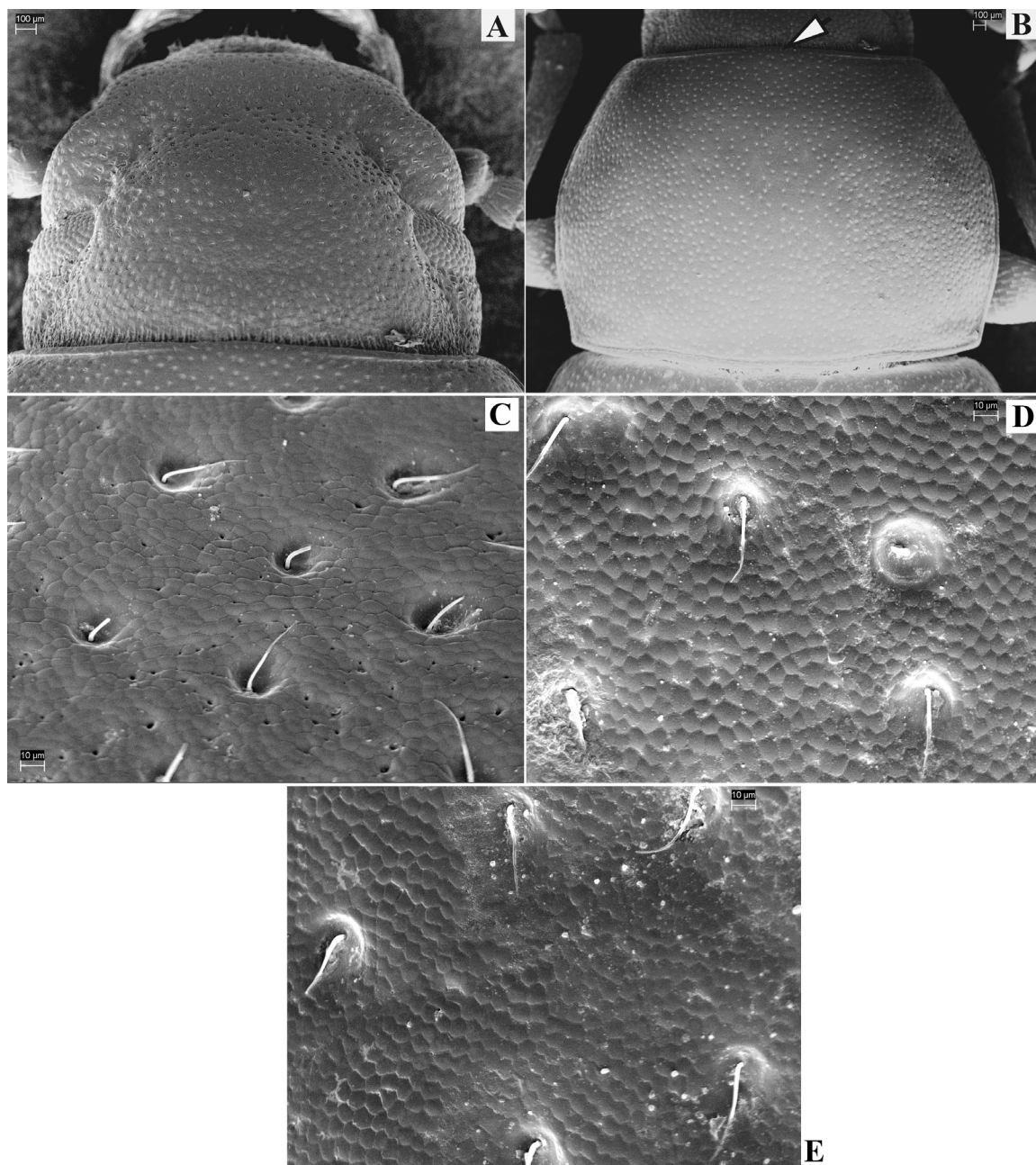


Figure 4. *Ceratanisus khnzoriani* sp. nov., details of structure: (A) head; (B) pronotum; (C) head punctation, frons; (D) punctuation of pronotum, middle; (E) punctuation of elytra.

on the presence of only spinose short setae without pubescence on tarsal plantar surface.

Ceratanisus keskini sp. nov.
(Figs. 1M; 5; 7E; 8I, J)

Material. Holotype (male) (ZIN): Turkey, Malatya Province, Aruvan District, near Karababa, sub-desert,

38°38'48.9"N, 38°19'44.1"E, 740 m, 21.05.2010 (leg. M.V. and S.V. Nabozhenko, B. Keskin). Paratypes (2 males) (ZDEU): same data as holotype.

Description. Male. Body length 12 mm, width 4.2 mm. Body moderately slender, black, dull. Head widest at temple level. Lateral margins of frontoclypeus and genae rounded; outer margin of head with small distinct sinuation between genae and frontoclypeus. Genae separated from frons by weak depression on

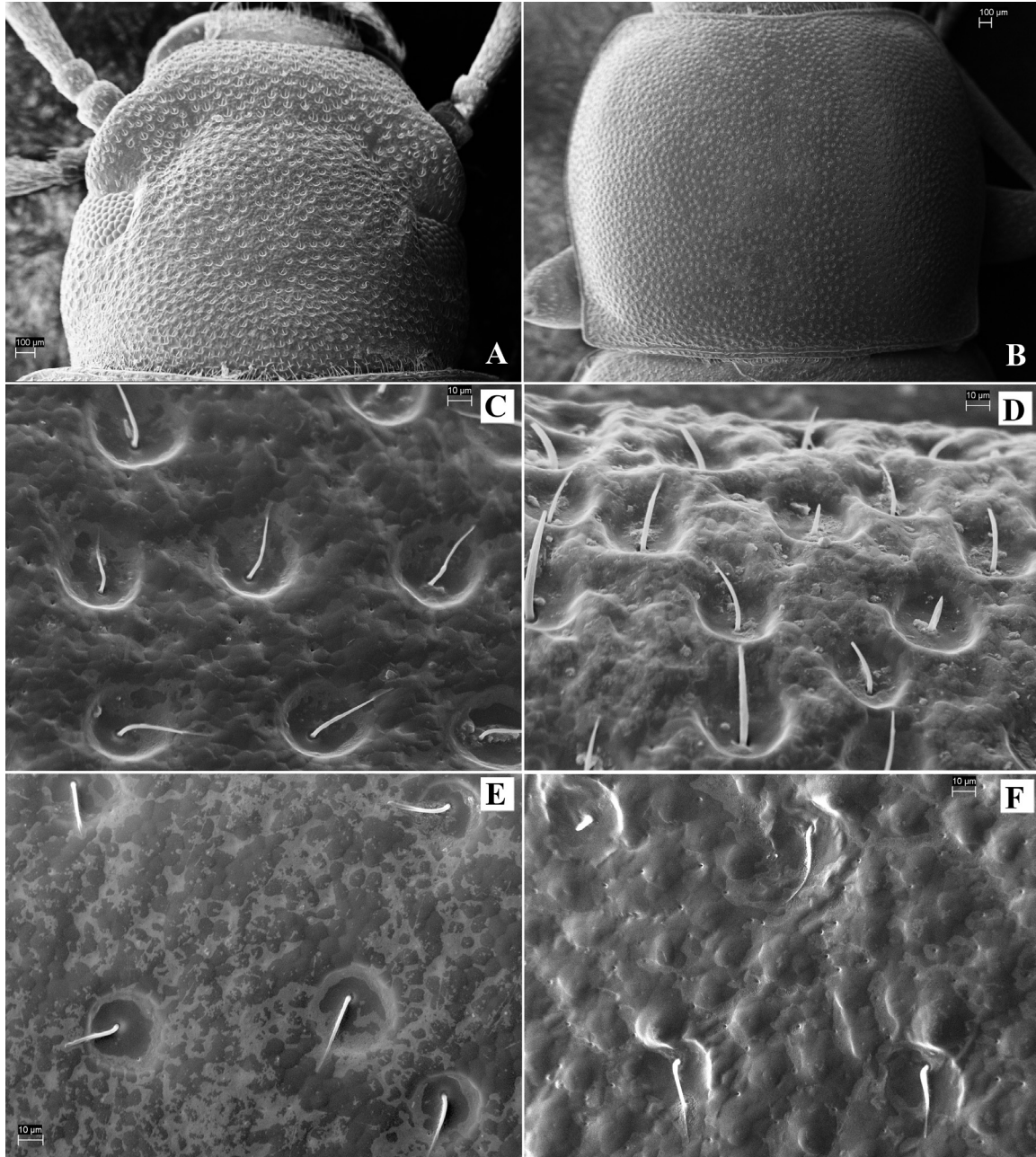


Figure 5. *Ceratanisus keskini* sp. n., details of structure: (A) head; (B) pronotum; (C) head punctuation and micro-wrinkled interpuncture space, frons; (D) head punctuation, frontoclypeus; (E) punctuation of pronotum, middle; (F) punctuation and micro-tuberculated interpuncture space of elytra.

each side; depression between frontoclypeus and head weak. Punctuation of head coarse and dense (puncture diameter subequal or little more than distance between punctures). Interpuncture space with wrinkled microsculpture. Antennae not thickened, with 3 apical antennomeres reaching beyond base of pronotum, regularly widened to apex. Antennomere 10 $1.37 \times$ wider than antennomere 11. Vertex very coarse and dense punctated.

Pronotum transverse ($1.3 \times$ wider than long), widest at middle, $1.8 \times$ wider than head. Lateral margins strongly regularly rounded, weakly sinuate near base; anterior margin widely emarginated; base weakly rounded. Angles of pronotum obtuse, rounded at apex. Punctuation of pronotum little sparser and finer in middle (puncture diameter $2\text{--}3 \times$ shorter than distance between punctures), dense on lateral sides, where punctures connected. Interpuncture space fine micro-wrinkled. Disc regularly weakly convex, near posterior angles flattened. Prothoracic hypomeron with coarse and dense punctuation as on vertex. Prosternal process convex only at apex, where very coarsely punctated and not beaded.

Elytra elongate-oval ($1.75 \times$ longer than wide), widest at middle, $2 \times$ wider than head, $1.12 \times$ wider and $2.5 \times$ longer than pronotum. Elytra without ridges. Punctuation of elytra very weakly rasp-shaped, poorly visible, not coarse and sparse (puncture diameter $2\text{--}3 \times$ shorter than distance between them). Interpuncture space and epipleura with dense micro-tubercles. Metaventricle with coarse and dense punctuation. Abdominal ventrites with coarse sparse punctuation: puncture diameter on 1st and 5th ventrites $2\text{--}3 \times$ shorter than distance between them, on 2–4 ventrites $4\text{--}5 \times$ shorter than distance between punctures.

Protarsomeres with spinose setae and pubescens on plantar surface, meso- and metatarsomeres only with spinose setae.

Etymology. The species is named in honour of our colleague, one of the collector of the new species Bekir Keskin (Ege University, Turkey).

Comparative diagnosis. This new species differs from all known *Ceratanisus* based on the microtuberculated elytra and structure of aedeagus.

***Ceratanisus purcharti* sp. nov.**

(Figs. 1I, K, L; 6; 7F; 8K, L)

Material. Holotype (male) (NMPC), and paratypes (1 male and 1 female in LPCB, 1 female in ZIN, 1 female in CN): "TURKEY S. 24–26.vi.2006 Ulupinar env. (prov. Kayseri) ca 120 km S of Caysery L. Purchart & V. Hula lgt.", "Collection Luboš Purchart Brno, Czech Republic".

Description. Male. Body length 10–12 mm, width 4.2–4.4 mm (holotype length 12 mm, width 4.4 mm).

Body slender, black, shine, head and pronotum dull. Head widest at temple level. Lateral margin and genae weakly rounded, lateral margins of frontoclypeus widely emarginated; outer margin of head without sinuation between genae and frontoclypeus. Genae and frontoclypeus separated from frons by weak depression. Punctuation of head coarse and dense (puncture diameter $1.5\text{--}2 \times$ longer than distance between punctures), sparser in middle of frons (puncture diameter $2 \times$ shorter than distance between punctures). Interpuncture space without wrinkled microsculpture. Antennae not thickened, with 2 apical antennomeres reaching beyond base of pronotum, weakly regularly widened to apex. Antennomere 10 $1.25 \times$ wider than antennomere 11.

Pronotum transverse ($1.3 \times$ wider than long), widest little before middle, $1.65 \times$ wider than head. Lateral margins strongly regularly rounded in widest part and weakly rounded (or almost straight) in basal and anterior parts; anterior margin straight, near angles emarginated; base bisinuate, rounded in middle. Anterior angles projected, weakly obtuse, posterior angles right. Angles of pronotum distinct, not rounded at apex. Punctuation of pronotum coarse and dense (puncture diameter about $1.5 \times$ longer than distance between them). Interpuncture space slightly sculptured. Disc weakly convex, with 2 transverse depressions near basal bead. Prothoracic hypomeron with fine dense wrinkles and sparse punctuation, laterally flattened. Prosternal process with small cone at apex, beaded.

Elytra elongate-oval ($1.85 \times$ longer than wide), widest at middle, $2.13 \times$ wider than head, $1.3 \times$ wider and $3 \times$ longer than pronotum. Striae distinctly strongly carinate, interstriae less convex. Punctuation of elytra strongly rasp-shaped (anterior margin of punctures elevated), sparse on sides tubercle-shaped. Interpuncture space and epipleura densely micro-wrinkled. Mesepimera, metepisterna and metaventricle with coarse coriaceous microsculpture and sparse not rasp-shaped punctuation. Abdominal ventrites with simple punctuation and recumbent pubescence.

Tarsomeres with dense pubescence of thin long not spinose setae.

Female. Body length 13–13.3 mm, width 4.6–4.8 mm. Body little more robust, legs shorter.

Etymology. The species is named in honour of our colleague, one of the collector of the new species Luboš Purchart (Mendel University in Brno).

Comparative diagnosis. The new species is similar to *C. mucoreus*, *C. graecus* and *C. allardi*, which also have ridges on elytra and tarsomeres with not spinose setae on plantar surface. *Ceratanisus purcharti* sp. nov. differs from the last two species based on the rasp-shaped elytral punctuation, flattened lateral sides of pronotum and prohypomera and structure of

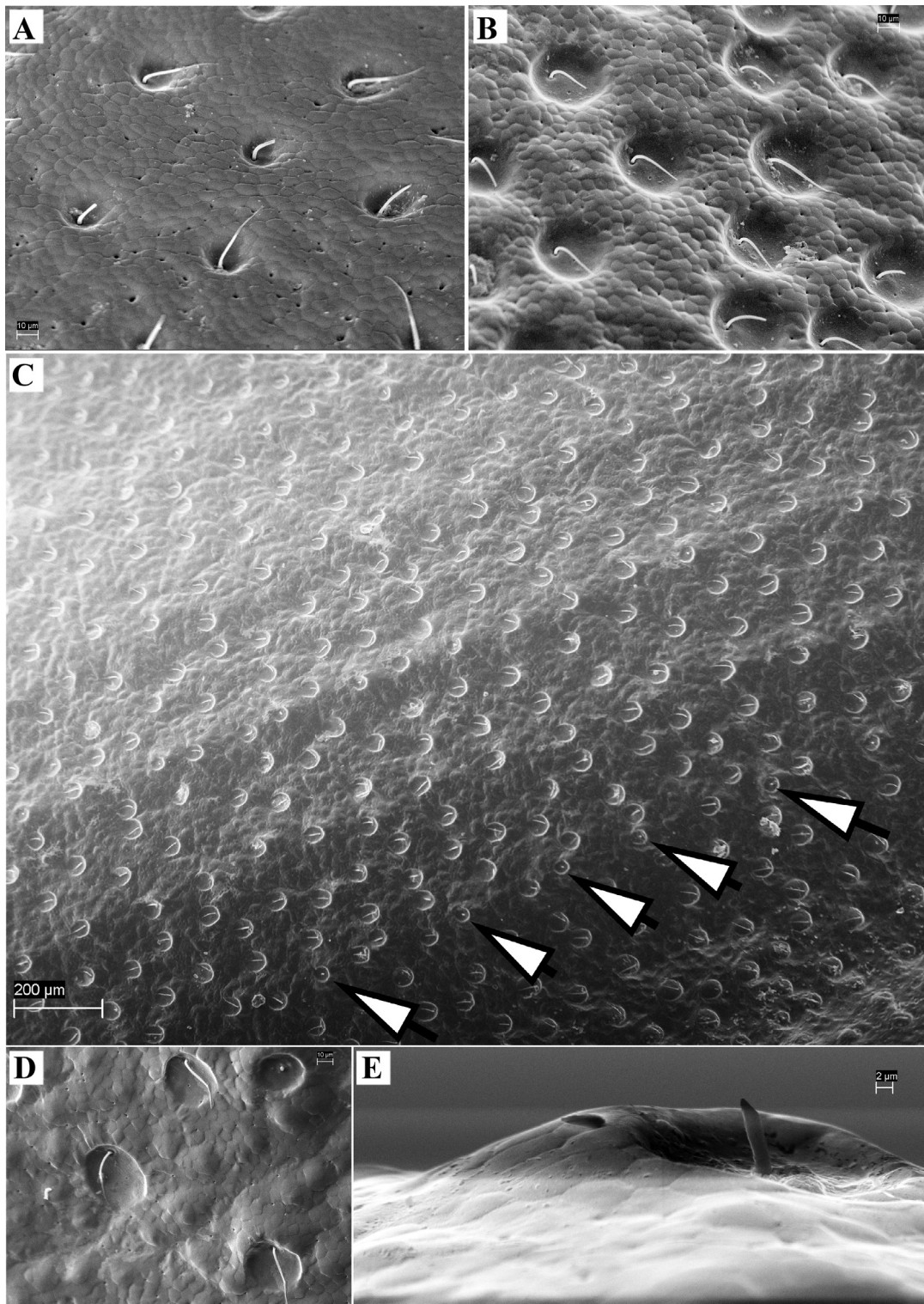


Figure 6. *Ceratanisus purcharti* sp. n., details of structure: (A) head punctation; (B) punctation of pronotum, middle; (C) ridges and punctation of elytron; (D) punctation of elytra with 2 types of setation; (E) rasp-shaped elytral puncture, lateral view. Arrows shows strial punctures.

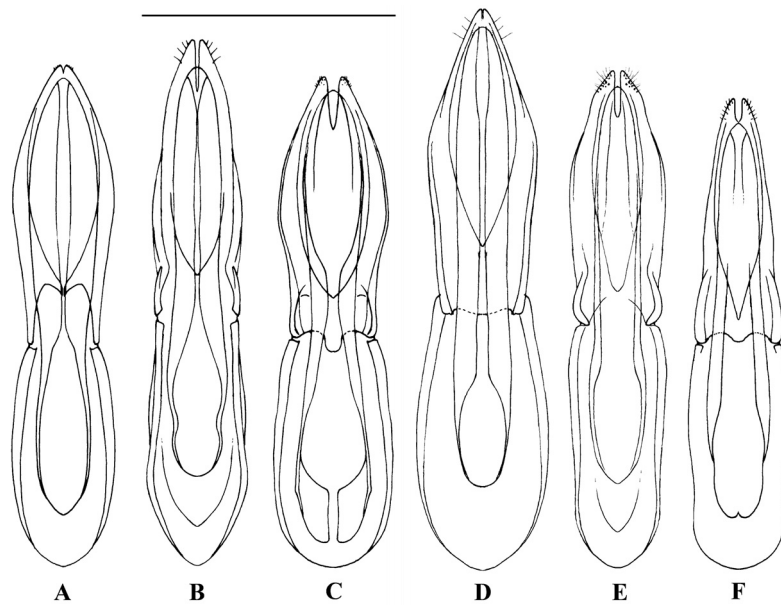


Figure 7. *Ceratanisus*, male genitalia: (A) *C. talyshensis* sp. nov.; (B) *C. trancaucasicus* sp. nov.; (C) *C. khnzoriani* sp. nov.; (D) *C. costipennis* sp. nov.; (E) *C. keskini* sp. nov.; (F) *C. purcharti* sp. nov. Scale bar for all figures 1 mm.

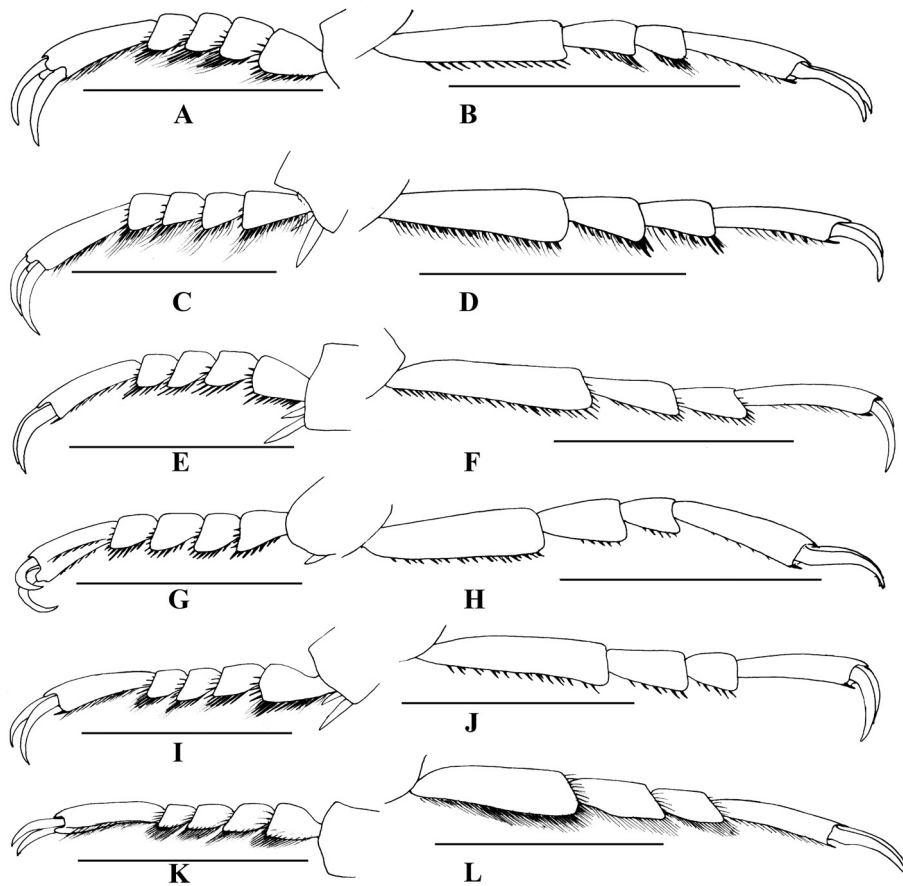


Figure 8. *Ceratanisus*, tarsi: (A, B) *C. talyshensis* sp. nov.; (C, D) *C. trancaucasicus* sp. nov.; (E, F) *C. khnzoriani* sp. nov.; (G, H) *C. costipennis* sp. nov.; (I, J) *C. keskini* sp. nov.; (K, L) *C. purcharti* sp. nov. A, C, E, G, I, K – protarsi, B, D, F, H, J, L – metatarsi. Scale bars 1 mm.

male genitalia. The new species is most similar to *C. mucoreus* (Figs. 1H, J), which also has flattened lateral sides of prohypomera and pronotum and rasp-shaped punctation of elytra, but differs in larger body (*C. mucoreus* has 7–10 mm length), not thickened and shorter antennae, structure of four apical antennomeres, ratio of elytral and pronotal length (*C. mucoreus* has elytra 2.7–2.8 × longer than pronotum, while elytra of *C. purcharti* sp. nov. 3 × longer than pronotum), much less coarse and dense punctation of elytra and head (*C. mucoreus* has strongly coarse and dense punctation with deep contiguous punctures), not microtuberculated interpuncture space on elytral apex and also structure of aedeagus.

Key to Asiatic species of the genus *Ceratanisus*

- 1(2). Elytra between punctures microtuberculated *C. keskini* sp. nov.
- 2(1). Elytra between punctures smooth or microrugosed.
- 3(6). Plantar surface of tarsomeres with dense pubescence of thin long not spinose setae.
- 4(5). Antennomere 11 small, 2 × smaller than antennomere 10. Antennae thickened *C. mucoreus*
- 5(4). Antennomere 11 large, subequal to antennomere 10. Antennae not thickened *C. purcharti* sp. nov.
- 6(3). Plantar surface of tarsomeres with short spinose setae, sometimes with additional light hair-like setae.
- 7(8). Elytra with weak but clear ridges; interstriae 2, 4 and 6 more convex. Elytra widest before middle *C. costipennis* sp. nov.
- 8(7). Elytra without ridges, all interstriae flattened. Elytra widest at middle.
- 9(10). Elytra with very dense coriaceous microsculpture between punctures. Elytral punctation almost invisible. Abdominal ventrites 1 and 2 with rasp-shaped small granules on lateral sides *C. funebris*
- 10(9). Elytra smooth between punctures, without coriaceous microsculpture. Elytral punctation always clear. Abdominal ventrites 1 and 2 with simple punctation.
- 11(20). Plantar surface of tarsomeres only with spinose setae, without additional thin hair-like setae. Lateral margins of pronotum not sinuate near anterior angles.
- 12(13). Prothoracic hypomeron with large punctures in base and smooth (without punctures and microwrinkles) in outer $\frac{2}{3}$. Abdominal ventrite 5 regularly rounded *C. turkestanicus*
- 13(12). Prothoracic hypomeron completely sparsely punctated and often with coriaceous microsculpture. Abdominal ventrite 5 weakly rounded apically.
- 14(15). Lateral margins of apical piece of aedeagus widely sinuate in basal third and rounded in apical $\frac{2}{3}$, parameres deeply bifurcated *C. khnzoriani* sp. nov.
- 15(14). Lateral margins of apical piece of aedeagus regularly strongly rounded or bisinuate, parameres not bifurcated.
- 16(17). Pronotum widest at middle, strongly convex, lateral sides regularly rounded *C. selimi*
- 17(16). Pronotum widest after middle, weakly convex, lateral sides subparallel in basal $\frac{2}{3}$.
- 18(19). Pronotal disc weakly flattened near anterior and posterior angles. Lateral margins of apical piece of aedeagus regularly rounded *C. audiberti*
- 19(18). Pronotal disc weakly flattened only near anterior angles. Lateral margins of apical piece of aedeagus bisinuate *C. labriquei*
- 20(11). Plantar surface of at least pro- and mesotarsomeres with spinose setae and with addition thin hair-like setae. Lateral margins of pronotum sinuate near anterior angles.
- 21(22). Only protarsomeres and metatarsomeres 2 and 3 with sparse hair-like setae. Elytra with wrinkles *C. talyshensis* sp. nov.
- 22(21). All metatarsomeres with long dense hair-like setae. Elytra not wrinkled *C. transcaucasicus* sp. nov.

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