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TAXONOMIC REVIEW OF THE GENERA *NALASSUS* MULSANT, 1854 AND *TURKONALASSUS* GEN. NOV. OF TURKEY (COLEOPTERA: TENEBRIONIDAE)

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Abstract.— A brief review of the genus *Nalassus* Mulsant, 1854 of Turkey is given. The new genus *Turkonalassus* **gen. nov.** (type species *Helops adimonius* Allard, 1876) is described. Species of the newly described genus are superficially similar to representatives of the subgenus *Pelorinus* of *Probaticus* (subtribe *Helopina*), but belong to the subtribe *Cylindrinotina* and are close to the genus *Nalassus* from which they differ by the absence of temple grooves ventrally (lower aspect of eye without ventral groove). The following species are included in *Turkonalassus*: *Turkonalassus adimonius* (Allard, 1876) (from *Probaticus*), *Turkonalassus pentheri* (Reitter, 1905), **comb. nov.** (from *Probaticus*), *Turkonalassus bozdagus* Keskin et Nabozhenko, 2010, **comb. nov.** (from *Nalassus*), *Turkonalassus pineus* **sp. nov.**, *Turkonalassus quercanus* **sp. nov.**, *Turkonalassus petrophilus* **sp. nov.**, *Turkonalassus macedonicus* **sp. nov.** The last species is described from Greece and Bulgaria, the other species are known from Turkey. A new synonymy is established: *Nalassus* Mulsant, 1854 = *Helopocerodes* Reitter, 1922, **syn. nov.**; *Turkonalassus pentheri* = *Cylindronotus hoberlandtii* Kaszab, 1959, **syn. nov.** Lectotype of *Helops pentheri* Reitter, 1905 is designated. A key to the species of the genus *Turkonalassus* and genus *Nalassus* from Turkey is given.

Key words.— Coleoptera, darkling beetles, Helopini, new genus, new species, new synonymy, Turkey, Greece, Bulgaria

INTRODUCTION

The genus *Nalassus* Mulsant, 1854 includes middle-sized (6.0–14.0 mm), flightless, but winged (often with reduced wings) beetles, which feed on epiphytic, epigean and epilithic, not crustose lichens and have nocturnal activity (Nabozhenko *et al*. 2016a, 2017). Larvae of this genus develop in soil and probably are rhyzophagans (Byzova and Ghilarov 1956). The genus belongs to the large subtribe Cylindrinotina of the tribe Helopini of the subfamily Tenebrioninae (Nabozhenko and Löbl 2008).

Species of the genus *Nalassus* are widespread in the Palaearctic from the Atlantic to the Pacific. Most diversity of the genus is observed in the Western Palaearctic, especially in the Mediterranean (Antoine

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1949, Ardoin 1958, Español 1961, Nabozhenko and Löbl 2008), on the Caucasus (Nabozhenko 2000, 2001, 2008*a*, 2013*b*, Nabozhenko and Dzhambazishvili 2001, Nabozhenko and Abdurakhmanov 2007, Abdurakhmanov and Nabozhenko 2011), in Iran and Turkmenistan (Medvedev 1987, 1999, Nabozhenko 2006, 2010, 2014). Isolated generic enclave is located in the South-Eastern Kazakhstan and Western China (Tarbagatai) (Medvedev 1987, Nabozhenko 2012), Pacific region (Russian Far East, Korean Peninsula, Eastern China and Japan (Nabozhenko 2012, Nabozhenko and Ivanov 2015). Three species are known from North America (Nabozhenko 2013a, Nabozhenko *et al.* 2016b). Fossil representative of the genus is known from Eocene Baltic Amber (Nabozhenko *et al*. 2016c)

Turkish species of *Nalassus* have been insufficiently studied. Old taxonomic revisions were made by Allard (1876, 1877), Seidlitz (1896), and Reitter (1922). Some faunistic data by Ferrer and Soldati (1999) and Tezcan *et al.* (2004) need reidentification of the material or confirmation. Subgenera *Helopondrus* Reitter, 1922 and *Helopocerodes* Reitter, 1922 are better revised than others (Nabozhenko 2001, 2008b, 2011, Keskin and Nabozhenko 2010, Nabozhenko and Keskin 2014). Four new species of these subgenera were described from Turkey during 15 last years.

The genus *Nalassus* included 4 subgenera: nominotypical, *Helopondrus*, *Caucasonotus* Nabozhenko, 2000 and *Helopocerodes*. The first two subgenera are distributed in Europe (to Western Kazakhstan on east), Eastern Anatolia, Iran, on the Caucasus and locally in North Africa. The subgenus *Caucasonotus* is endemic for the Caucasus. Species of *Helopocerodes* are disjunctively distributed from Morocco to Russian Far East. Status of this subgenus was unclear because the main diagnostic character of the subgenus (thickened male middle antennomeres) is typical for many different 'nalassoid' groups of the subtribe Cylindrinotina. Here we suggest synonymyzing *Helopocerodes* with the nominotypic subgenus based on additional support of molecular data (see below). Additionally, unusual species, widespread in Turkey and some neighboring territories, which have been included in the genera *Probaticus* Seidlitz, 1896 and *Cylindrinotus* Faldermann, 1837, are placed in a new genus *Turkonalassus*.

All taxonomic decisions concerning the Turkish *Nalassus* and some related taxa are presented below.

MATERIAL AND METHODS

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

DEI – Senckenberg Deutsches Entomologisches Institut, Müncheberg (Stephan M. Blank);
HNHM – Hungarian Natural History Museum, Budapest (Ottó Merkl);
MZUR – Museo di Zoologia, Università La Sapienza di Roma, Italy (the material via Piero Leo);
SNMS – Staatliches Museum für Naturkunde, Stuttgart (Wolfgang Schawaller);
ZDEU – Zoological Department of Ege University (Bekir Keskin);
ZIN – Zoological Institute, Russian Academy of Sciences, St. Petersburg (Mark Volkovitsh);
CL – private collection of Piero Leo (Cagliari, Italy);
AL – private collection of Andrzej Lasoń (Białystok, Poland);
CN – private collection of Maxim Nabozhenko (Rostov-on-Don, Russia).
LEMT – Lodos Entomological Museum Turkey (Serdar Tezcan, Turkey).

The ratio of the lengths of legs and tibiae in descriptions is given with 16-fold increase.

We used Zeiss Supra 55VP Field Emission Scanning Electron Microscope in ME TAM (Mersin University) and SEM Quanta 250 (Izmir Institute of Technology) for SEM images.

Genus ***Nalassus*** Mulsant, 1854
Subgenus ***Nalassus*** Mulsant, 1854

= *Helopocerodes* Reitter, 1922, syn. nov.

Three species of the nominotypical subgenus were known from Turkey: *N. graecus* (Seidlitz, 1896) (Kırklareli Province) (Figs. 1A, B), *N. plebejus* (Küster, 1850) (reliable records: Balıkesir, Bursa, Kırklareli, Kocaeli, Manisa) (Figs. 1C, D) and *N. dryadophilus* (Mulsant, 1854). The first two species are sympatric and sometimes inhabit close-growing oaks. The third species *N. dryadophilus* was listed for the European and Asian parts of Turkey (Tezcan *et al*. 2004, Nabozhenko and Löbl 2008, Keskin and Nabozhenko 2010). These records are not supported by the current material. Earlier published material (Tezcan *et al.* 2004) is unavailable for re-examination. However, this species could be found in Turkey, because it is widespread in neighboring Bulgaria and Greece. The record of *N. dryadophilus* in Keskin and Nabozhenko (2010) belongs to *N. graecus*. Therefore, we did not include *N. dryadophilus* in the key before clear data about record of the species in Turkey.

The subgenus *Helopocerodes* has only the more or less thickened antennomeres as a differential character from the nominotypical subgenus. This character is typical for 'nalassoid' genera *Nalassus*, *Ectromopsis*, *Zophohelops,* therefore we suggested re-examination

of the status of the subgenus *Helopocerodes* (Nabozhenko and Ivanov 2015). Among *Nalassus* many representatives of the nominotypical subgenus and one species of the subgenus *Caucasonotus* (*N. adriani* (Reitter, 1922)) have a more or less thickened antennae. We think that this character is unreliable to be used in the subgeneric division of *Nalassus*. As a result, a new synonymy is established: *Nalassus* Mulsant, 1854 = *Helopocerodes* Reitter, 1922, syn. nov. Three species, *Nalassus faldermanni* (Faldermann, 1837), *N. dilaticornis* (Reitter, 1922) and *N. kaszabi* Nabozhenko, 2001 are transferred to the subgenus *Nalassus* s. str. The first species is widespread in Eastern Anatolia (Van, Bitlis, Kars Provinces) (Nabozhenko 2001, Keskin and Nabozhenko 2010, Nabozhenko and Keskin 2014). Unusual black form of *N. faldermanni* inhabits rocks of Erek Dağ (Van Province). The second species *Nalassus dilaticornis* was described from Amasya and only known by the type material, which was probably lost. *Nalassus kaszabi* Nabozhenko, 2001 (Figs. 2A, B) is known only from Van Province (Başkale). It was described based on one female and included in the subgenus *Helopocerodes*. We collected two additional females of this species (Nabozhenko and Keskin 2014) (Figs. 2A, B) but did not find males, therefore subgeneric position of *N. kaszabi* remain not clear.

Unpublished records for *N. plebejus* are presented below.

Nalassus plebejus (Küster, 1850)
(Figs. 1C, D)

Material. 5 males, 10 females (CN), and 3 males, 4 females (in ethanol), 2 males (dry) (ZDEU): Turkey, Kocaeli Province, Gebze District, Tavşanlı, 40°50'14.4"N, 29°30'52.2"E, 40 m, on *Platanus orientalis*, 23–24.iv.2014 (leg. M.V. and S.V. Nabozhenko); 2 males, 7 females (in ethanol), 13 males, 12 females (dry) (ZDEU): the same place, 3.vi.2015 (leg. D. Şendoğ an, B. Gündoğan).

Subgenus ***Helopondrus*** Reitter, 1922

Four species and one subspecies are known from Turkey (Nabozhenko 2008*b*, 2011). *Nalassus planivittis* (Allard, 1876) and *N. clavicornis* Allard, 1876 are distributed in Northeastern Anatolia. The first species was described from Trabzon and known only by the holotype. The second species was found in Artvin Province. *Nalassus adzharicus* Nabozhenko et Dzhambazishvili, 2001 was described from Southern Georgia (Adjara, alpine zone of Meskhet Ridge) and found in contiguous regions of Turkey. The remaining two species, *N. schmalfussi* (Fig. 2C) and *N. szalooki* are rare, locally distributed beetles described from Van and Bitlis Provinces (Nabozhenko 2011). Unpublished records for the four species are given below.

Nalassus adzharicus Nabozhenko et Dzhambazishvili, 2001
(Figs. 1E, F)

Material. 2 males, 2 females (CN), and 4 males, 4 females (in ethanol), 14 males, 11 females (dry) (ZDEU): Turkey, Artvin Province, Borçka District, Balcılar, 41°20'08.3"N, 41°56'36.4"E, 2200 m, 14.vii.2011 (leg. B. Keskin, E.A. Yağmur, I.V. Shokhin).

Bionomics. The species inhabits alpine zone from 2200 to 2400 m. It feeds on epilithic foliose lichens on stones and is active early at night (21:00–22:00).

Nalassus clavicornis Allard, 1876
(Figs. 1G, H)

Material. 2 males, 2 females (CN), and 14 males, 9 females (ZDEU): Turkey, Artvin Province, Hatila Canyon, 41°10'43.6"N, 41°44'11.3"E, 490 m, 27.v.2012 (leg. B. Keskin, E.A. Shokhin).

Bionomics. The species occurs at altitude around 450 m in deciduous forest on rocks with lichens. It feeds on epilithic foliose lichens and is active early at night.

Nalassus szalokii Nabozhenko, 2011
(Figs. 2D, E)

Material. 2 males (in ethanol), 2 males, 2 females (dry) (ZDEU): Turkey, Van – Bitlis Provinces, Kuskunkıran Pass, 38°22'47.2"N, 42°47'27.2"E, 2200 m, under stones with lichens, 30.05. 2013 (leg. B. Keskin, A. Pektaş).

Genus ***Turkonalassus*** gen. nov.

Type species. *Helops adimonius* Allard, 1876.
Gender masculine.

Description. Body black, dull, robust, cuticle strongly sclerotized. Body length 9–15 mm. Head with coarse punctation. Anterior margin of head straight. Temples very coarse, densely punctured. Lower aspect of eye without ventral groove (Figs. 2C, 4G–L). Male antennae often more thickened than in females. Pronotum transverse, not cordiform, with thickened bead at margins. Prothoracic hypomera with coarse longitudinal wrinkles in basal half, irregular wrinkles in anterior half. Elytra wide, convex. Coeloconic sensilla on elytra short, not bent, with 1–2 pores (Fig. 3B). Epipleura

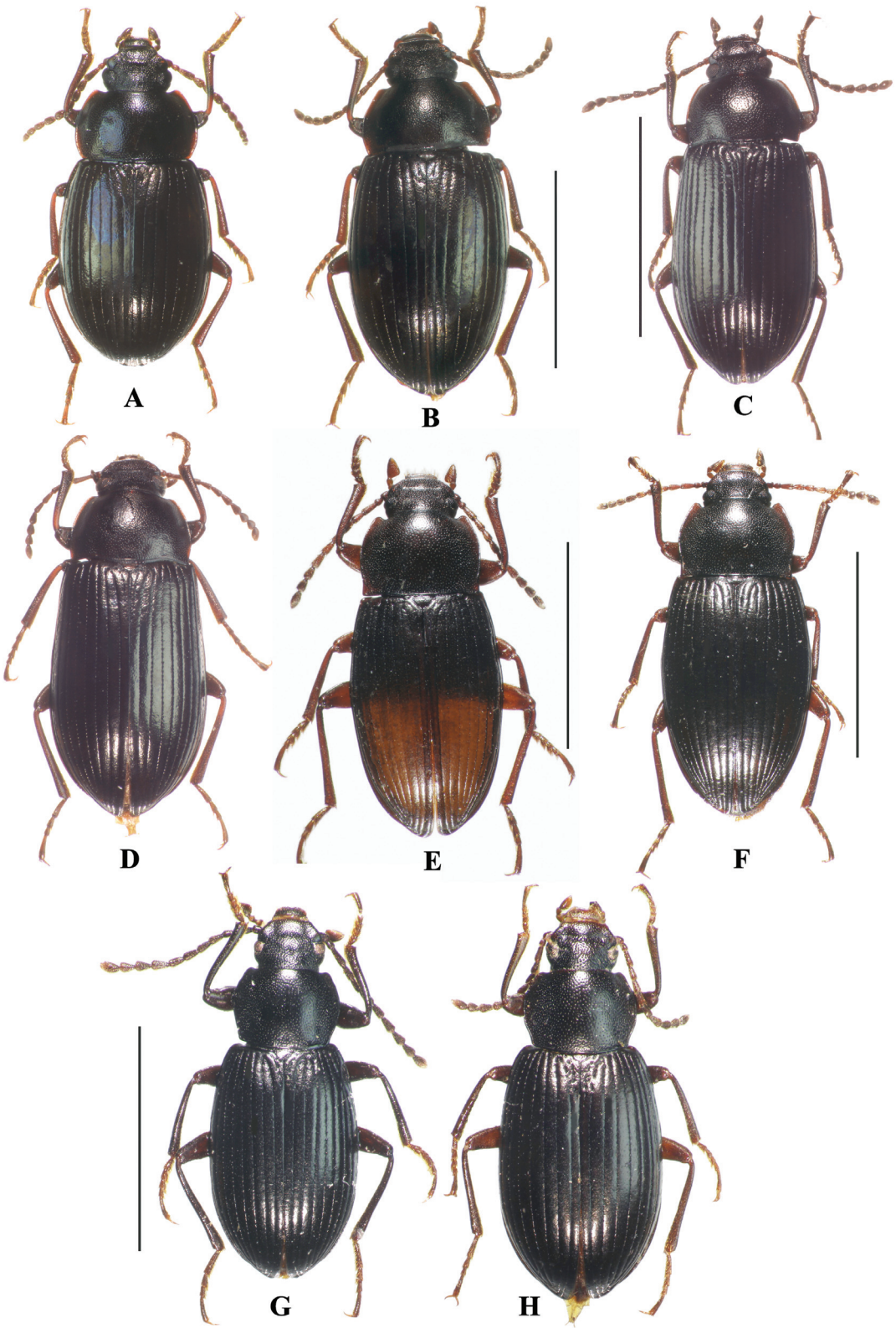

Figure 1. *Nalassus*, the nominotypical subgenus and *Helopondrus*, habitus: (A, B) *N. graecus*; (C, D) *N. plebejus*; (E, F) *N. adzharicus*; (G, H) *N. clavicornis*. (A, C, E, G) males; (B, D, F, H) females.

not reaching elytral apex. Epipleural carina broad, completely visible dorsally, apically limited by convex interstria 8 (Fig. 3A). Hind wings with varying degrees of reduction: flightless. Abdominal ventrites 1, 2 and 5 without dense hair brush in middle (Fig. 2D). Male and female genitalia are 'nalassoid' (Nabozhenko 2005) (Figs. 3E, F). Gonostyles cylindrical, widened to apex, with 5 trichoid sensillae (Fig. 3C). Apical part of gonostyles encircled by ring of basiconic sensillae with longitudinal furrows on apex (Fig. 3D). Male protarsi not strongly widened (Figs. 3G, H).

Diagnosis. The genus *Turkonalassus* gen. nov. is close to the genus *Nalassus* by the structure of epipleura (elytral interval 8 is convex and connected to the margin of elytra), male genitalia, female genital tubes (short, not branched spermatheca and short accessory spermathecal gland (Nabozhenko 2005, Nabozhenko and Ivanov 2015)) but differs from it by the lower aspect of eye lacking the ventral groove as in *Nalassus* (Fig. 2A). In addition species of the genus *Turkonalassus* lack hair brushes on abdominal ventrites, while this character is typical for many other *Nalassus*

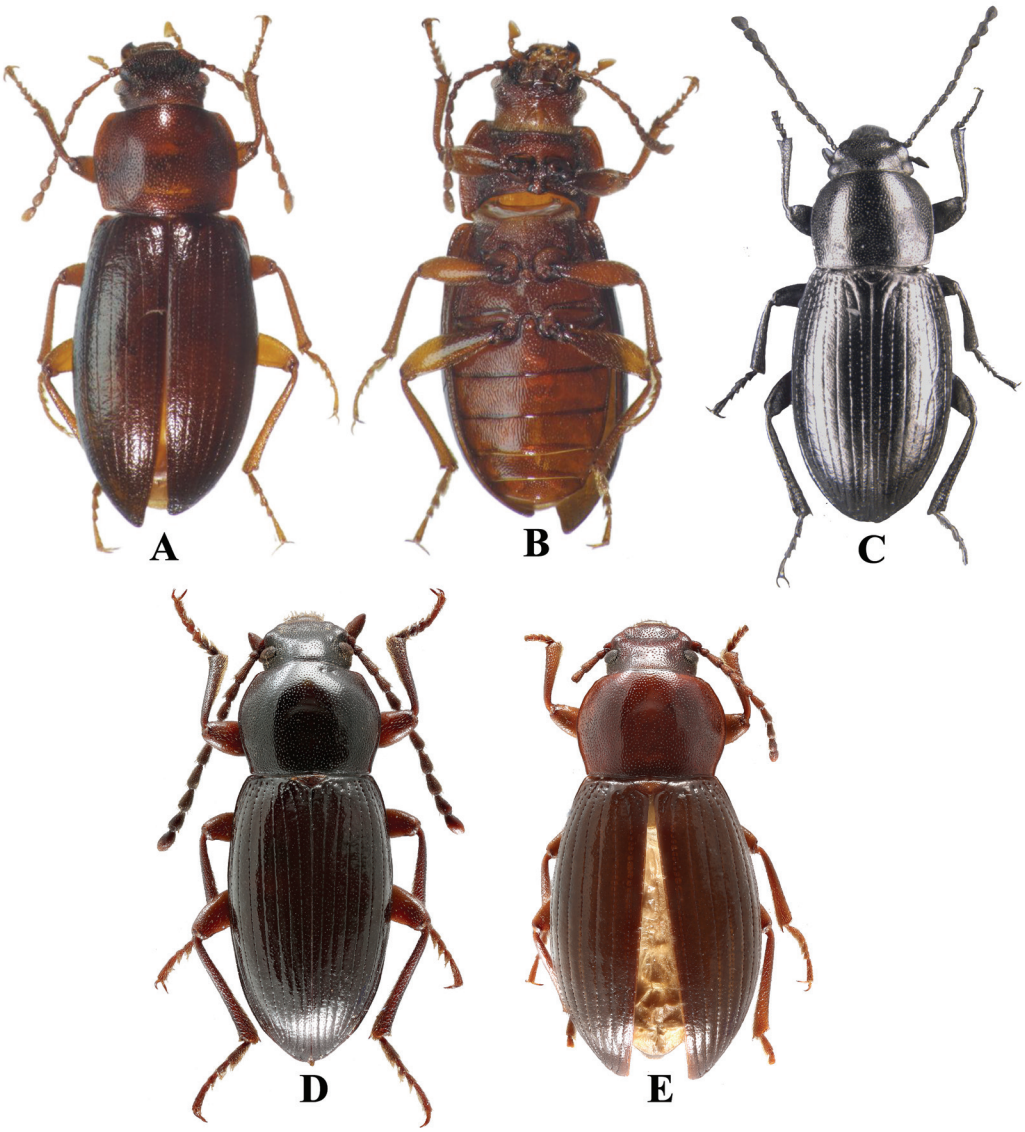

Figure 2. *Nalassus*, the subgenus *Helopondrus*, habitus: (A) *N. kaszabi*, female, dorsal view; (B) *N. kaszabi*, female, ventral view with clear flattened prothoracic hypomera; (C) *N. schmalfussi*, female, holotype covered with carbon after SEM; (D) *N. szalooki*, male, holotype; (E) *N. szalooki*, female.

(Fig. 2B), and have a large convex body with strongly sclerotized cuticle. Furthermore, the chromosomes of *N. plebejus* show important differences from *N. bozdagus* which is transferred to the new genus *Turkonalassus,* in the number of metacentric/submetacentric chromosomes, localization of NOR, heterochromatin distribution and sex chromosomes (Şendoğan and Alpagut-Keskin, 2016).

Additional differences from other genera of the subtribe Cylindrinotina:

– from the genus *Armenohelops* Nabozhenko, 2002 by 'nalassoid' male genitalia, large (6–8.5 (rarely 10) mm in *Armenohelops*), robust, black body; absence of ventral groove on lower aspect of eye; and structure of 8th elytral interstria (not convex and not connected with elytral margin 8th interstriae in *Armenohelops*) (Nabozhenko *et al*. 2016d);

– from the genus *Cylindrinotus* Faldermann, 1837 (see images of structure in Nabozhenko (2015)) by 'nalassoid' male genitalia and female genital tubes; absence of ventral groove on lower aspect of eye; non constricted temples behind eyes; structure of 8th elytral interstria, presence of reduced wings; absence of teeth on inner side of tibiae; and not widened pro-mesotarsi;

– from the genus *Ectromopsis* Antoine, 1949 by the large (5–7 mm in *Ectromopsis*), dull body; the presence of reduced wings; and structure of 8th elytral interstriae (*Ectromopsis* has not convex and not connected with elytral margin 8th interstriae);

– from the genus *Eustenomacidius* Nabozhenko, 2006 by the large, robust body; absence of ventral groove at lower aspect of eye (species of the genus *Eustenomacidius* have small sometimes reduced but visible grooves); and structure of 8th elytral interstria

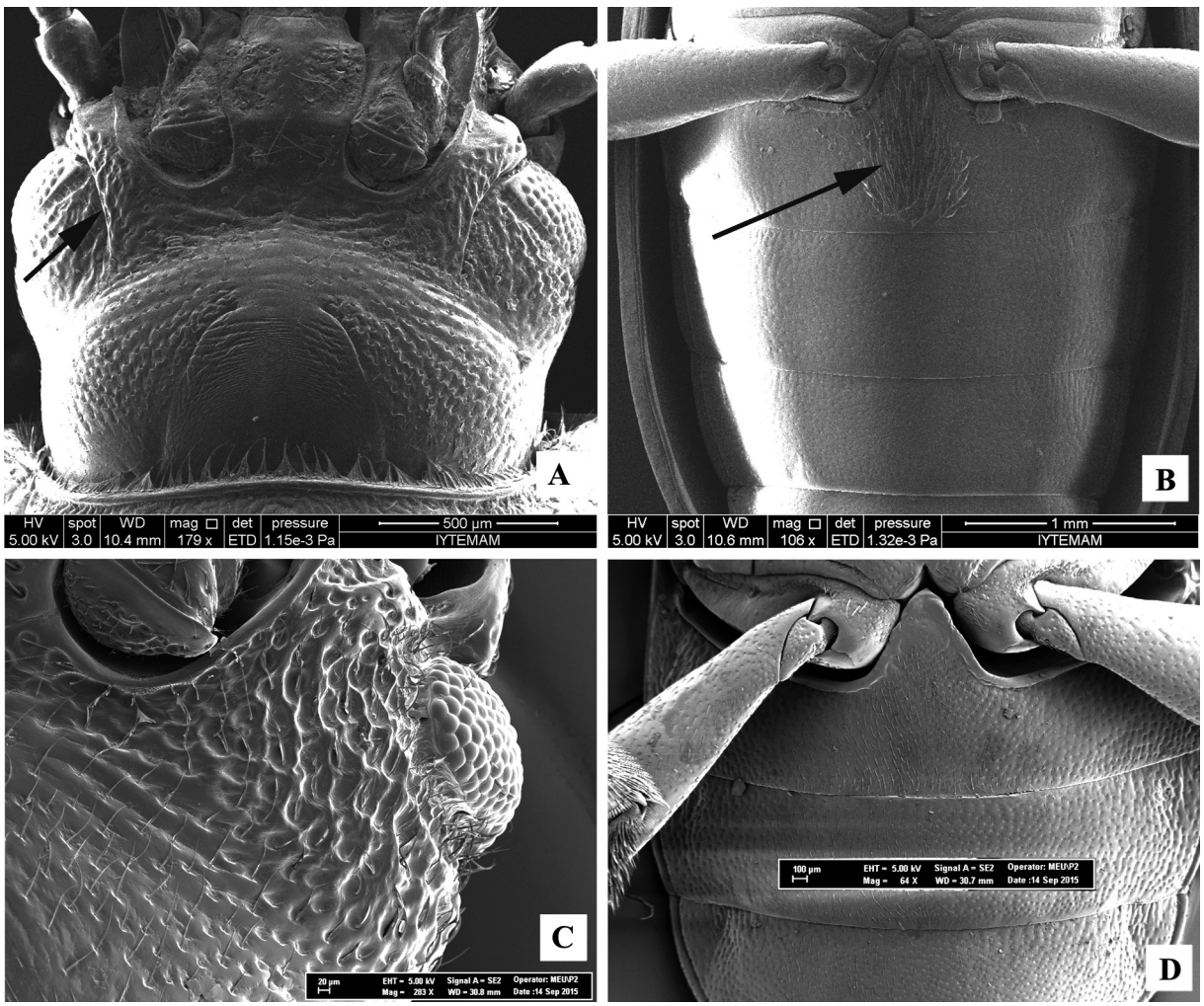

Figure 3. *Nalassus* and *Turkonalassus*, details of structure: (A, C) vertex (arrow indicates temple groove); (B, D) abdominal ventrites (arrow indicates hair brush). (A, B) *N. faldermanni*; (C, D) *T. bozdagus*.

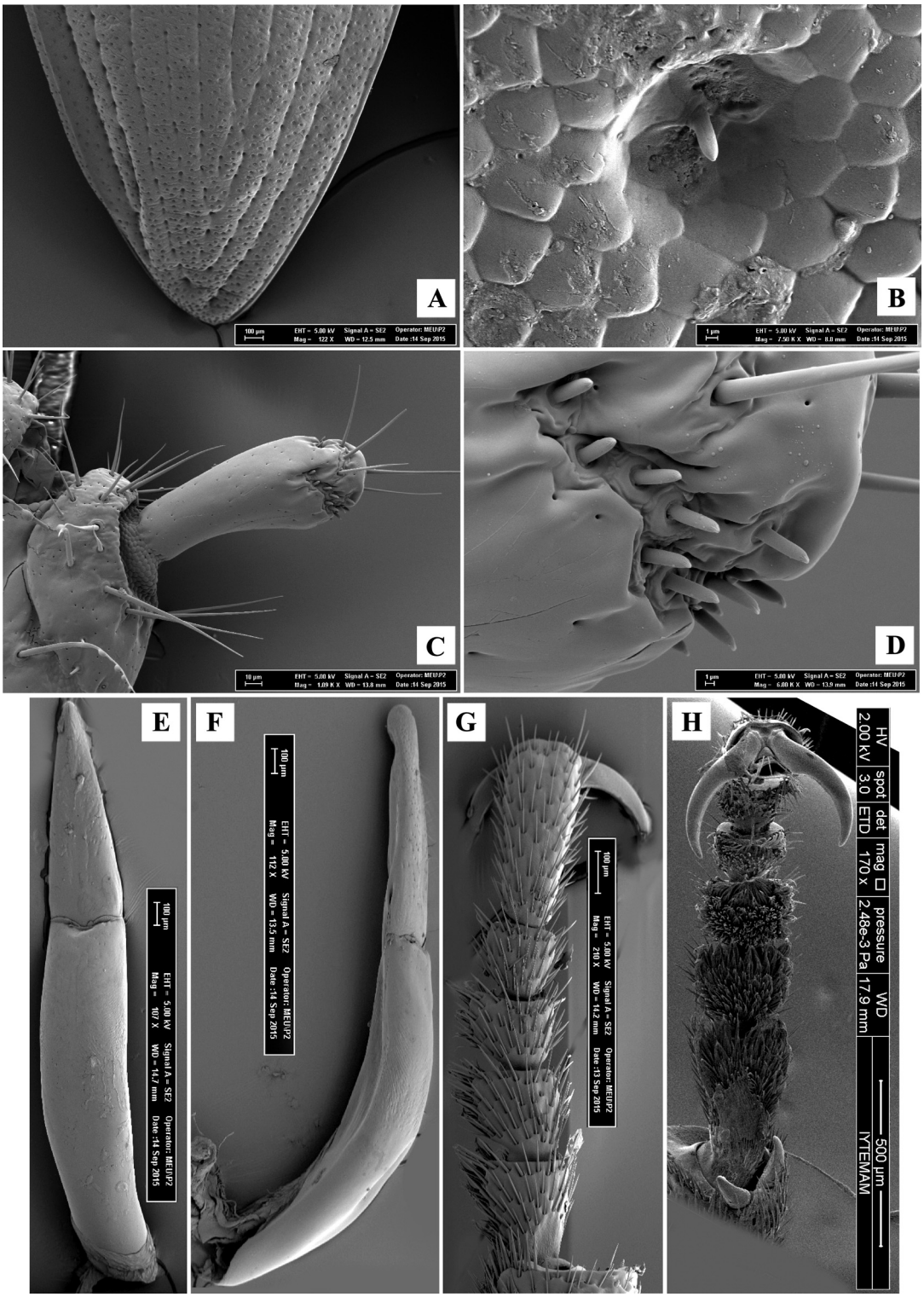

Figure 4. *Turkonalassus bozdagus*, details of structure: (A) apex of left elytron; (B) coeloconic elytral sensillum; (C) gonostyle; (D) basiconic sensillae on apex of gonostyle; (E) aedeagus dorsally; (F) aedeagus laterally; (G) male protarsus dorsally; (H) the same, ventrally.

(*Eustenomacidius* has not convex and not connected with elytral margin 8th interstriae);

– from the genus *Gunarus* Des Gozis, 1886 by the large black body (4–5 mm and reddish body in *Gunarus*); the absence of erected setation of body; not widened male protibia; absence of ventral groove on lower aspect of eye; presence of coeloconic sensilla on elytra (*Gunarus* has only trichoid sensilla (Nabozhenko *et al*. 2016e)); and structure of 8th elytral interstriae (*Gunarus* has not convex and not connected with elytral margin 8th interstriae);

– from the genus *Idahelops* Keskin et Nabozhenko, 2012 by 'nalassoid' male genitalia; robust, glabrous, black body; absence of ventral groove on lower aspect of eye; non granulated elytral interstriae; and structure of 8th elytral interstria (not convex and not connected with elytral margin 8th interstriae in *Idahelops*);

– from the genus *Microdocnemis* Nabozhenko et Keskin, 2010 by 'nalassoid' male genitalia and female genital tubes, robust, glabrous body; absence of ventral groove as lower aspect of eye; lack of double bead of abdominal ventrite 5; the absence of teeth on inner side of tibiae; long strong setae on apex of tibiae; and structure of 8th elytral interstria (not convex and not connected with elytral margin 8th interstriae in *Microodocnemis*);

– from the genus *Odocnemis* Allard, 1876 by 'nalassoid' male genitalia and female genital tubes (*Odocnemis* has flattened dorso-ventrally and strongly sclerotized apical piece and long, often branched spermatheca and long accessory spermathecal gland (Nabozhenko and Keskin 2016)); robust body; absence of ventral groove on lower aspect of eye; absence of teeth on inner side of male tibiae; and absence of granules or tubercles on elytral interstriae;

– from the genus *Pseudoprobaticus* Nabozhenko, 2001 by non microgranulated, glabrous elytral interstriae; structure of 8th elytral interstria and epipleura (*Pseudoprobaticus* has not convex and not connected with elytral margin 8th interstriae); and simple structure of female genital tubes;

– from the genus *Reitterohelops* Skopin, 1960 by 'nalassoid' male genitalia; presence of reduced wings; coarsely punctated head, pronotum and elytra.

– from the genus *Stenomax* Allard, 1876 by 'nalassoid' male genitalia, robust body; absence of ventral groove on lower aspect of eye; absence of elytral mucron; and simple (without processes) structure of inner male sternite;

– from the genus *Stygohelops* Leo et Liberto, 2002 by the robust, glabrous body; the absence of sexual dimorphism in the structure of the apical maxillary and labial palpomeres; and the straight mesometatibia;

– from the genus *Taurohelops* Keskin et Nabozhenko, 2015 by 'nalassoid' male genitalia; robust black body; absence of ventral groove on lower aspect of eye; absence of granules on elytral interstriae; the presence of reduced wings; non acute and non bisinuate abdominal ventrite 5; flat abdominal ventrites 4 and 5; and simple male inner sternite VIII (see images in Keskin and Nabozhenko (2015));

– from the genus *Turkmenohelops* G. S. Medvedev, 1987 by the large, robust, dull body; absence of a ventral groove on the lower aspect of eye; absence of deep depression on vertex between eyes; and structure of 8th elytral interstria (not convex and not connected with elytral margin 8th interstriae in *Turkmenohelops*);

– from the genus *Xanthohelops* Nabozhenko, 2006 by non-yellow, robust, large black body (5–6 mm in *Xanthohelops*), structure of 4th lobes of the coxites of the ovipositor; and structure of female genital tubes (absence of bursa copulatrix);

– from the genus *Xanthomus* Mulsant, 1854 by the large (5.5–8.5 mm in *Xanthomus*), black body; the presence of reduced wings; structure of 8th elytral interstria; and protibia not flattened and not subfossorial;

– from the genus *Zophohelops* Reitter, 1902 by the large body (6.5–9 mm in *Zophohelops*); and structure 8th elytral interstria (*Zophohelops* has not convex and not connected with elytral margin 8th interstriae);

Distribution. Species of the new genus are distributed in Turkey (Anatolia). Moreover, one species (*Turkonalassus macedonicus* sp. n.) is known from Greece and Bulgaria.

Turkonalassus adimonius (Allard, 1876), comb. nov. (Figs. 5A, B; 6A; 7A, B; 8A, G; 9A; 10A; 11A, B, K, P; 12A–C)

Allard 1876: 35 (*Helops*); Allard 1877: 92 (*Helops*); Seidlitz 1896: 705 (*Helops*); Reitter 1922: 38 (*Probaticus* (*Pelorinus*)).

Type material. Holotype (female) (DEI): "Anatolia Steintz" (hand), green square "H 24", square "2", blue square "Syntypus", "DEI, coll. von Heyden".

Material. 1 male (CL): Turkey, Ordu Province, Akkuş (Unye), 26.vi.1972 (leg. P. Cavazzuti); 2 females (MZUR): Turkey, Giresun Province, Kulakkaya env., 1900–2200 m, 15.vii.1976 (leg. S. Bruschi); 2 males, 3 females (ZIN, CN): Turkey, Amasya Province, Ormanözü, 40°46'244"N, 35°53'421"E, 1671 m, on *Pinus nigra*, 2.vi.2009 (leg. M.V. and S.V. Nabozhenko, B. Keskin, I.V. Shokhin); 1 male (in ethanol), 6 males, 2 females (dry) (ZDEU): the same place, 19.iv.2015 (leg. M.V. and S.V. Nabozhenko, B. Keskin).

Redescription. Male. Body length 9.8–12.9 mm, width 4.3–5.7 mm. Body black, dull. Anterior margin of head (frontoclypeus) straight, with sinuation near angles. Head widest at eye level. Eyes large, convex, strongly transverse (lateral view). Head width 1.67 times width of interocular space. Genae moderately rounded. Lateral margin of head with obtuse

emargination between gena and frontoclypeus. Frontoclypeus moderately depressed. Punctation coarse and dense, puncture diameter 2–3 times as long as distance between punctures. Punctures round, sometimes connected. Antennae long, with 4 apical antennomeres extending beyond base of pronotum, gradually widened to apex, the middle antennomere not thickened, with widest antennomeres 8–10. Antennomere 11 weakly elongate, asymmetrical, little longer that antennomere 10.

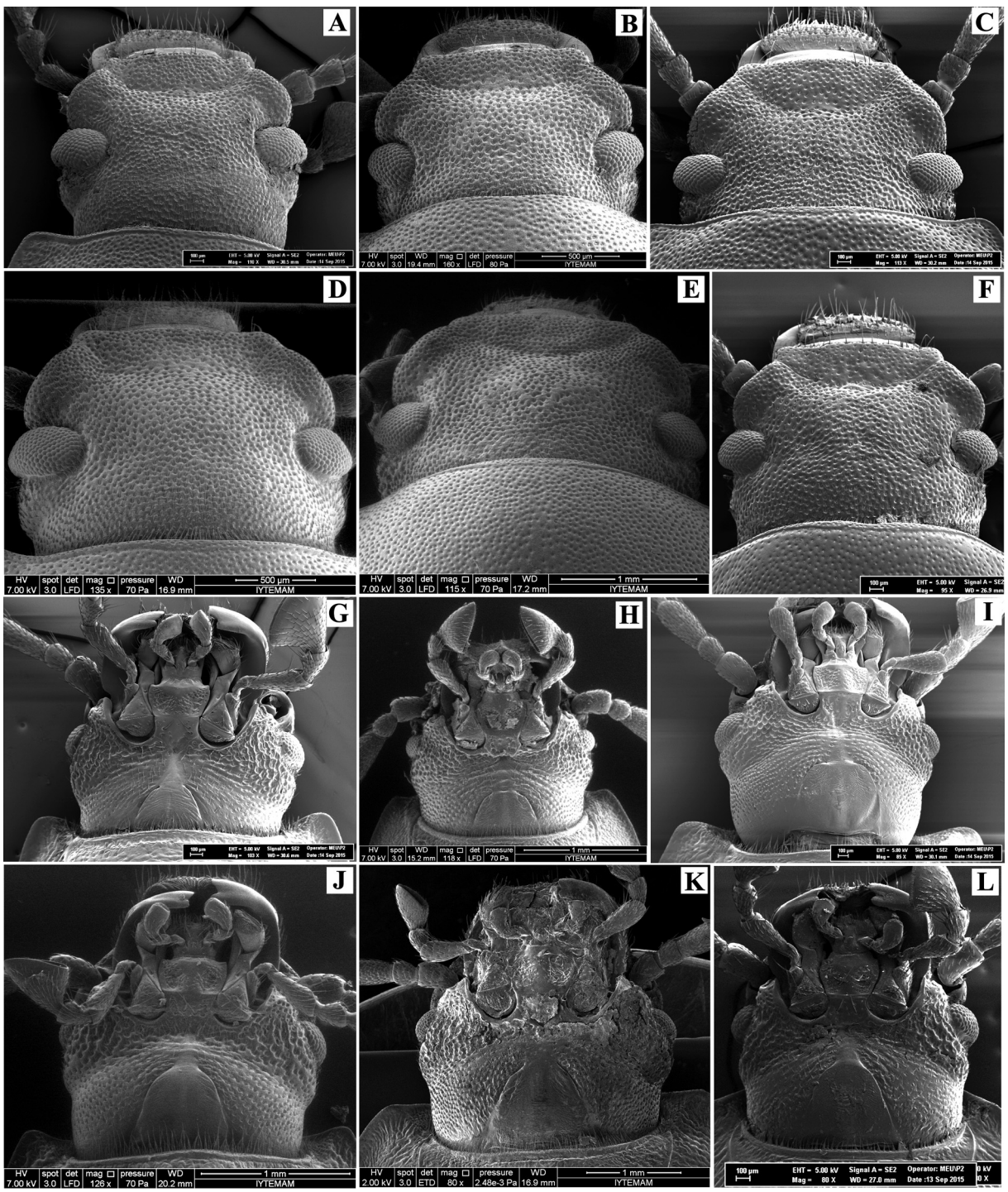

Figure 5. *Turkonalassus* spp., head: (A, G) *T. adimonius*; (B, H) *T. pentheri*; (C, I) *T. bozdagus*; (D, J) *T. pineus* sp. nov.; (E, K) *T. quercanus* sp. nov.; (F, L) *T. petrophilus* sp. nov. (A–F) dorsally; (G–L) ventrally.

Pronotum transverse (1.3 times as wide as long), widest in middle, 1.67 times as wide as head. Lateral margins moderately, rarely weakly rounded, widely sinuated near base. Anterior margin widely emarginated, base widely regularly rounded. Anterior angles projected, straight, with rounded apex; posterior angles obtuse, distinct. Disc of pronotum moderately convex, with widely flattened lateral sides. Disc punctation coarse and dense (as on head). All margins beaded; base in middle and lateral margins near base with wider bead. Prothoracic hypomera with coarse longitudinal wrinkles in basal third and irregular wrinkles on other surfaces, with widely flattened outer sides. Prosternal process weakly convex, not conical.

Hind wings moderately short (6 mm), with 5 veins: C, R, Cu, AA_3 and AA_4, without flecks, with narrow separated apex.

Elytra oval (1.35 times as long as wide), strongly convex, widest in middle, 2.15 times as wide as head, 1.3 times as wide and 2.3 times as long as pronotum. Punctures in striae connected in interrupted (as irregular dotted line) or continuous furrows. Interstriae flat, with coarse and dense punctation (puncture diameter subequal to distance between punctures), with microwrinkles between punctures. Epipleura not reaching elytral apex. Epipleural carina wide, completely visible dorsally.

Metaventrite, mesepimera and metepisterna with coarse and dense punctation. Abdominal ventrites with fine coarse punctation and coarse rugosity laterally, without hair brush. Abdominal ventrite 5 not beaded on apex.

Legs slender, long. Trochanters with one long sensillum. Tarsi strongly long. Ratio of tibiae/tarsus lengths of fore, middle and hind legs respectively 5.4 : 4 (fore), 5 : 4.6 (middle), 6.9 : 5 (hind).

Female. Body length 12–15 mm, width 5.4–7.1 mm. Body more robust. Antennae and legs shorter, with only 2 apical antennomeres extending beyond base of pronotum. Pronotum more transverse (1.34–1.35 times as wide as long), 1.65–1.75 times as wide as head. Elytra sometimes wider (1.35–1.45 as long as wide), 2.4–2.55 times as wide as head, 1.37–1.55 times as wide and 2.7–2.85 as long as pronotum.

Bionomics. The species was found at night from 20:05 to 22:00 on trunks of *Pinus nigra* in April and from 22:30 to 00:00 in June. Lichenophages.

Turkonalassus pentheri (Reitter, 1905), comb. nov. (Figs. 5B, H; 6B, 7C; 8B, H; 9B; 10B; 11C, D, L, K; 12D–F)

Reitter 1905: 278 (*Helops*).
= *hoberlandti* Kaszab, 1959: 81 (*Cylindronotus*), syn. nov.

Type material. Lectotype of *Helops pentheri* (male), designated here (HNHM): "Erdschias-Gebiet", "Asia min. Penther 02.", "Coll. Reitter", "Holotypus 1906 *Helops pentheri* Reitter" (curator's label), "*Helops pentheri* m. 1903" / (reverse side): "*Helops pentheri* Gnglb.", "*H. platimargo* m. 1903". Paralectotype, 1 female (HNHM): "Erdschias-Gebiet", "Asia min. Penther 02.", "Coll. Reitter", "Paratypus 1906 *Helops pentheri* Reitter" (curator's label).

One paratype of *Cylindrinotus hoberlandti* (male) (HNHM): "Erciyas, 3200 m, Anat. 25 VII 47, Exp. N. Mus. SR", "Paratypus 1958 *Cylindronotus hoberlandti* Kaszab". This specimen conspecific to *N. pentheri*.

Material. 1 male (HNHM): "Erciasdag – Sattel bei, Kayseri, 2300 m. 5.6.66", "Turkey – Exped. 1966 Naturhist. Mus. Wien.", "*pentheri* Rtt. Det. Kaszab"; 1 Friedhof 28.05.2001, 38°27.247 N, 35°19.233 E" (leg. J. Gebert); 1 male (SMNS): "Turkey, Adana Province, 800 m, Bolkar Daglari b. Pozantı, Bachufer mit Schlamm, 27.05.2001, 37°22.433 N, 34°50.227 E" (leg. J. Gebert); 3 males, 1 female (ZIN, CN), and 1 male, 5 females (in ethanol), 7 males, 3 females (dry) (ZDEU): Kayseri, Erciyes Dağı, 26.v.2013, 38°35.02N, 35°29.26E, 2150 m (leg. B. Keskin, A. Pektaş); 1 female (ZDEU): Turkey, Kayseri Province, Melikgazi, 15.vi.2012 (leg. A. Üzüm).

Redescription. Male. Body length 7.9–11 mm, width 3.4–4.2 mm. Body black (it can be brown in old collection specimens), robust, almost matt. Anterior margin of head (frontoclypeus) weakly bisinuate, with weakly projected angles. Head widest at eye level. Eyes large, convex, strongly transverse (lateral view). Head width 1.67 times width of interocular space. Genae very weakly rounded. Lateral margin of head widely weakly sinuated between gena and frontoclypeus. Frontoclypeus moderately depressed. Punctation of head coarse and dense, puncture diameter 2–3 times as long as distance between punctures. Punctures round, deep, but not merged. Surface of head with very short recumbent setation. Antennae relatively short, with only 2 apical antennomeres extending beyond base of pronotum, their antennomeres 3–8 visibly thickened. Ratio of length and width of antennomeres 2–11: 0.8, 1, 1.1, 1.1, 1, 1.1, 1.2, 1.2, 1.2, 1.1.

Pronotum weakly transverse (1.2 times as wide as long), widest in middle, 1.5 times as wide as head. Lateral margins slightly regularly rounded, widely sinuated in basal part. Anterior margin bisinuate, base trisinuate. Anterior angles projected, right or slightly obtuse, narrowly rounded on apex. Base and lateral margins basally with wider bead. Bead of anterior margin interrupted in middle. Disc of pronotum strongly convex, with middle line and narrowly flattened lateral sides. Punctation of disc coarse and dense (as on head). Prothoracic hypomera with coarse short wormshaped wrinkles, with flattened outer sides.

Hind wings narrow and short (4.0 mm), with 3 reduced veins: R, Cu and AA_3.

Elytra oval (1.6 times as long as wide), 1.8–1.9 times as wide as head, 1.25 times as wide and 2.4 times as long as pronotum. Interstriae flat, smooth (specimens from Bolkar Dağ population have dense microsculpture), with fine and sparse punctation. Strial punctures small, not deep, elongate, as fine dotted line. Epipleural carina wide, completely visible dorsally.

Mesepimera and metepisterna coarsely and densely punctated. Metaventrite with coarse, not dense punctation. Abdominal ventrites with coarse, dense punctation. Abdominal ventrite 5 completely beaded on apex. Trochanters with one long sensillum. Tibiae straight, coarsely punctured.

Female. Body more robust. Antennae shorter, with not thickened antennomeres.

Bionomics. The species was collected under stones with lichens. Lichenophages.

Turkonalassus bozdagus Keskin et Nabozhenko, 2010, comb. nov.
(Figs. 3C, D; 4; 5C, I; 6C; 7D, E)

Keskin and Nabozhenko 2010: 24, figs. 1–11 (*Nalassus*).

Type material. Holotype (male) and paratypes (1 male, 1 female) (ZDEU): "29 Mayis 2008, Bozdağ-Izmir, B. Keskin"; paratypes (2 males) (ZIN): "15.06. 2006, Bozdağ Izmir, B. Keskin", "ZDEU-Ent. 2006 217", "*Probaticus* Tenebrioninae Tenebrionidae B. Keskin det."; 2 females (ZIN): "29 Mayis 2008, Bozdağ-Izmir, B. Keskin"; 1 male, 1 female (ZDEU): "29 Mayis 2008, Bozdağ-Izmir, B. Keskin".

Material. 2 males, 2 females (ZDEU): Bozdağ-Izmir, 18.v.2013, 38°19.20 N, 28°06.14.2 E, 2100 m (leg. B. Keskin, A. Pektaş, A. Üzüm, N. Yorganc1); 2 females

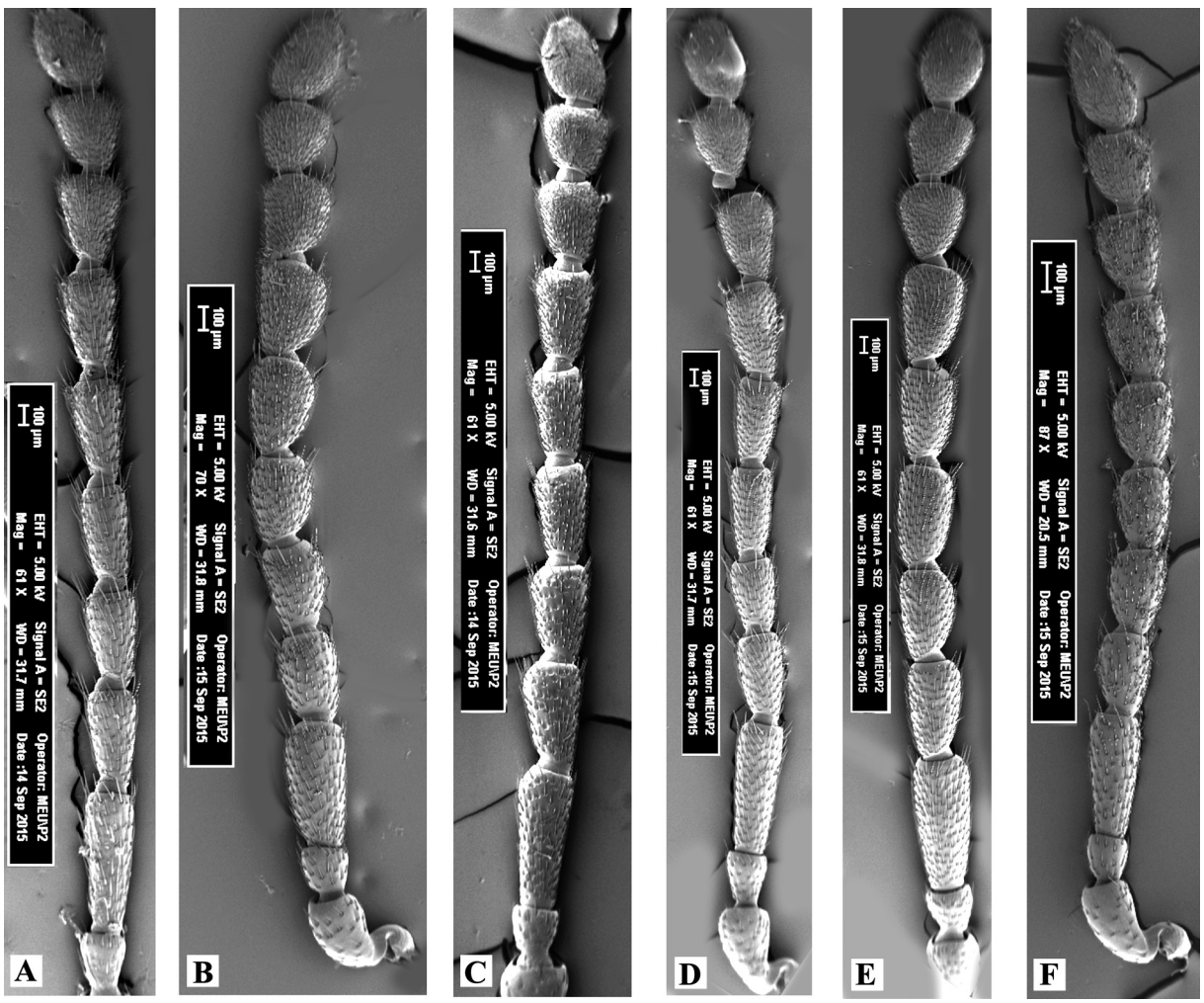

Figure 6. *Turkonalassus* spp., antennae: (A) *T. adimonius*; (B) *T. pentheri*; (C) *T. bozdagus*; (D) *T. pineus* sp. nov.; (E) *T. quercanus* sp. nov.; (F) *T. petrophilus* sp. nov.

(in ethanol), 7 males, 1 female (dry) (ZDEU): the same locality, 14.vi.2015 (leg. B. Keskin, D. Şendoğan, E.A. Yağmur); 1 male (AL): "Turkey, Izmir Province, 2 km S of Üçler Geç., env. of Bozdağ, 12-13.V.2005, N 38°19', E 28°03', 1145 m, leg. R. Królik".

Turkonalassus pineus sp. nov.
(Figs. 5D, J; 6D; 7F; 8C, I; 10D; 11E, F, M, R; 13A, B)

Type material. Holotype (male) and paratypes (3 males, 1 female) (ZDEU): Turkey, Tokat and Sivas Provinces border, Çamlıbel Geçidi, 39°57'33.6N, 36°31'33.9E, 28.v.2013 (leg. B. Keskin); paratype (female) (SMNS): "O-Türk., Ardahan-Kars, 4.8.1976, Mütling leg.", "Sammlung Dr. Ulbrich"; paratypes (1 male, 2 females) (ZIN, CN): Turkey, Tokat and Sivas provinces border, Çamlıbel Geçidi, 39°57'33.6"N, 36°31'33.9"E, 1630 m, 16.iv.2014 (leg. M.V. and S.V. Nabozhenko, B. Keskin).

Description. Male. Body black, with weak shine, robust, wide. Body length 9.2–10.6 mm, width 4.5–5.1 mm. Anterior margin of head (frontoclypeus) straight. Head widest at eye level. Eyes strongly transverse, convex. Head width 1.6 times width of interocular space. Genae weakly rounded. Lateral margin of without sinuation between gena and frontoclypeus. Frontoclypeus moderately depressed. Punctation of head coarse, dense, puncture diameter 2–3 times as long as distance between punctures. Punctures round, often connected. Surface of head with fine, short visible setation. Antennae moderately long, with only 3 apical antennomeres extending beyond base of pronotum, reaching $^1/_5$ of elytral length. Antennae gradually widened to apex, their middle antennomeres not thicker than the others, with widest antennomeres 8–10; antennomere 11 weakly elongate and flattened, asymmetrical, not longer than antennomere 10.

Pronotum transverse (1.34 times as wide as long), widest after middle, 1.6 times as wide as head. Lateral margins of pronotum weakly rounded, widely emarginate in basal quarter. Anterior margin widely emarginate, base widely rounded, bisinuate. Anterior angles

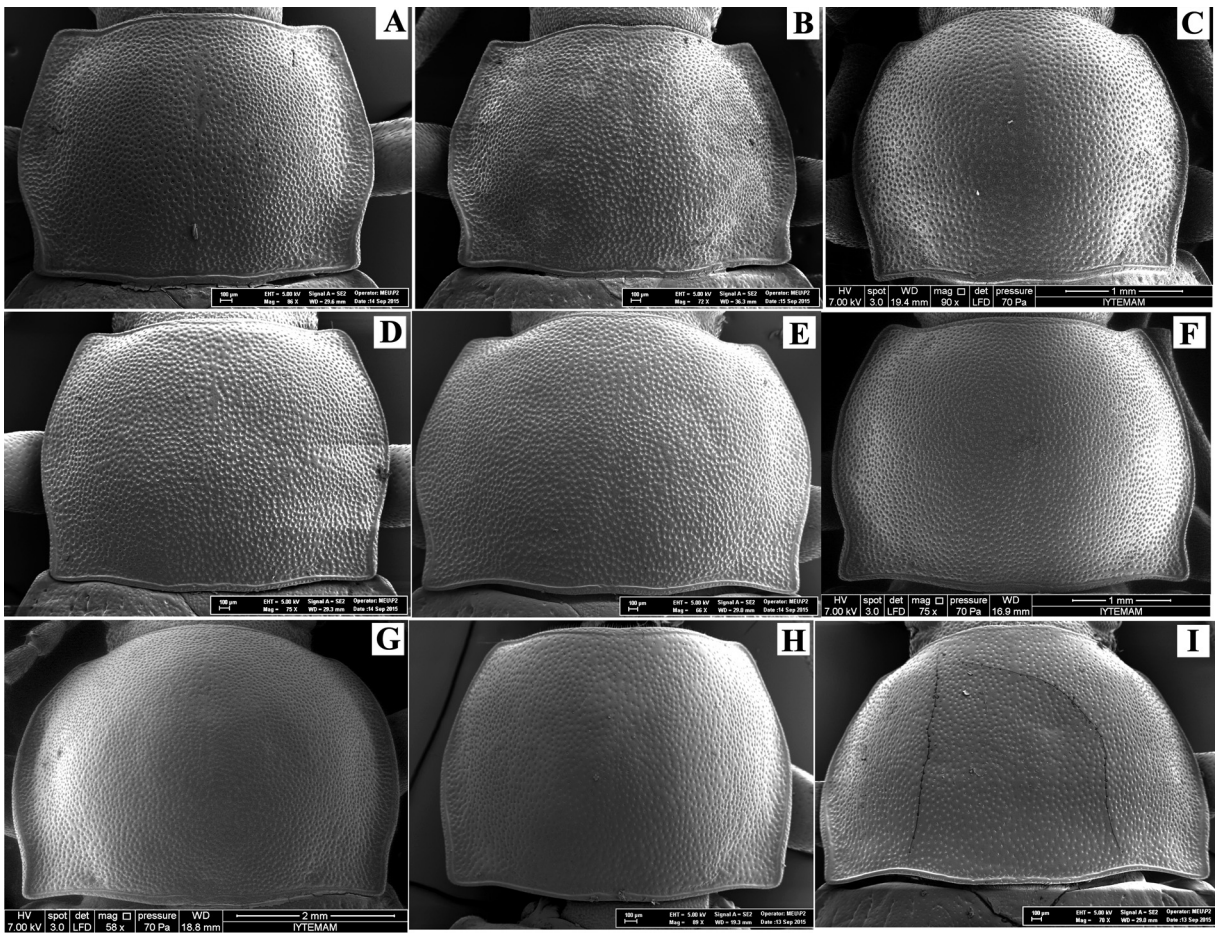

Figure 7. *Turkonalassus* spp., pronotum: (A, B) *T. adimonius*; (C) *T. pentheri*; (D, E) *T. bozdagus*; (F) *T. pineus* sp. nov.; (G) *T. quercanus* sp. nov.; (H, I) *T. petrophilus* sp. nov. (A, C, D, F, G, H) males; (B, E, I) females.

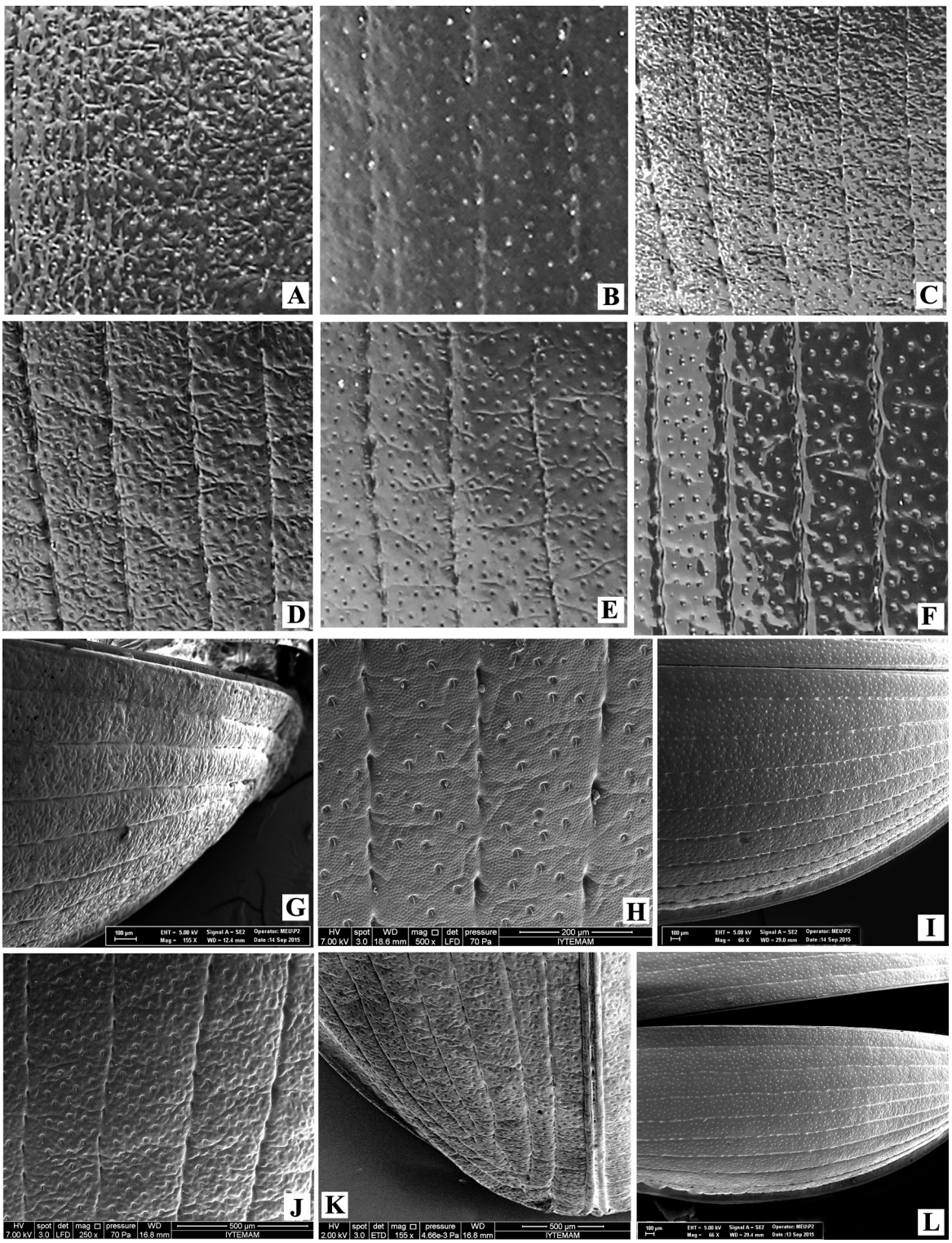

Figure 8. *Turkonalassus* spp., microsculpture of elytra: (A, G) *T. adimonius*; (B, H) *T. pentheri*; (C, I) *T. pineus* sp. nov.; (D, K) *T. quercanus* sp. nov.; (E, L) *T. petrophilus* sp. nov.; (F) *T. macedonicus* sp. nov. (A–F) photography; (G–L) SEM images.

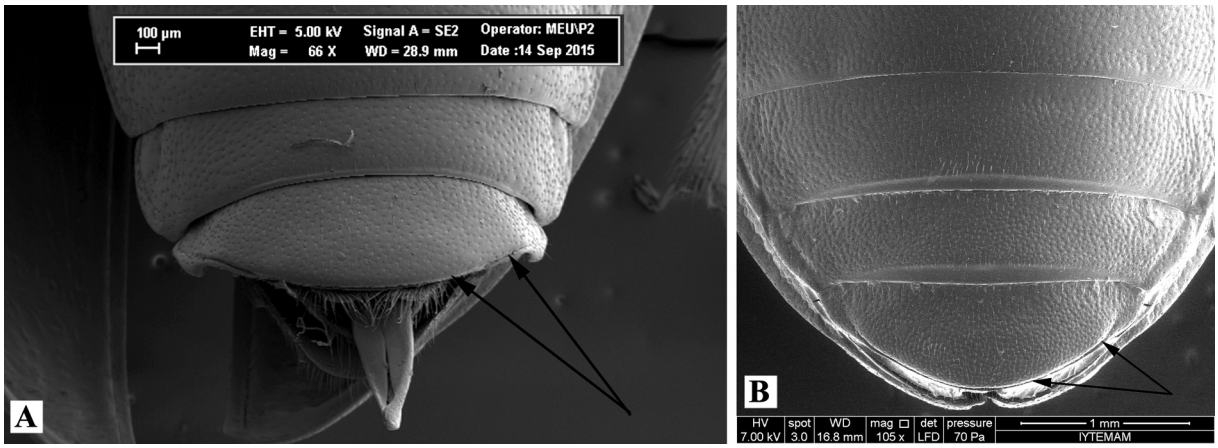

Figure 9. *Turkonalassus* spp., abdominal ventrite 5: (A) *T. adimonius*; (B) *T. pentheri*.

acute, projected, posterior angles right, distinct. All margins beaded. Base at middle and lateral margins near base with wider bead. Disc of pronotum strongly convex, lateral margins narrowly flattened only in basal half. Punctation of disc coarse and dense, as on head, punctures round. Prothoracic hypomera narrowly flattened along the entire length, with coarse longitudinal wrinkles in basal half and irregular rugosity in anterior half. Prosternal process from weakly convex to conical.

Hind wings strongly reduced, only with AA_3 and weakly sclerotized Cubital fleck.

Elytra wide (1.13 as long as wide), convex, 2.15 times as wide as head, 2.15 times as wide and 1.3 times as long as pronotum. Elytral base wider than pronotal base. Strial punctures merged in interrupted furrows. Interstriae flat, with coarse and moderately dense punctation (puncture diameter subequal to distance between punctures) and microrugosity. Epipleura and epipleural carina wide, completely visible dorsally.

Metaventrite, mesepimera and metepistena with coarse and dense punctation. Abdominal ventrites with fine dense punctation and coarse rugosity on lateral sides. Abdominal ventrite 5 not beaded apically.

Legs relatively short. Trochanters with one long sensillum. Ratio of tibiae/tarsus lengths of fore, middle and hind legs respectively 5.1 : 3.3, 5.1 : 4, 6.5 : 4.

Female. Females from type locality almost do not differ from males, only by shorter antennae. Female from Ardahan – Kars Provinces differs in larger body: pronotum more transverse (1.4 times as wide as long), 1.77 times as wide as head; elytra wider (1.4 times as wide as long), 2.15 times as wide as head, 1.2 times as wide and 2.35 times as long as pronotum. Body length 10.2–12.5 mm, body width 5.2–5.8 mm.

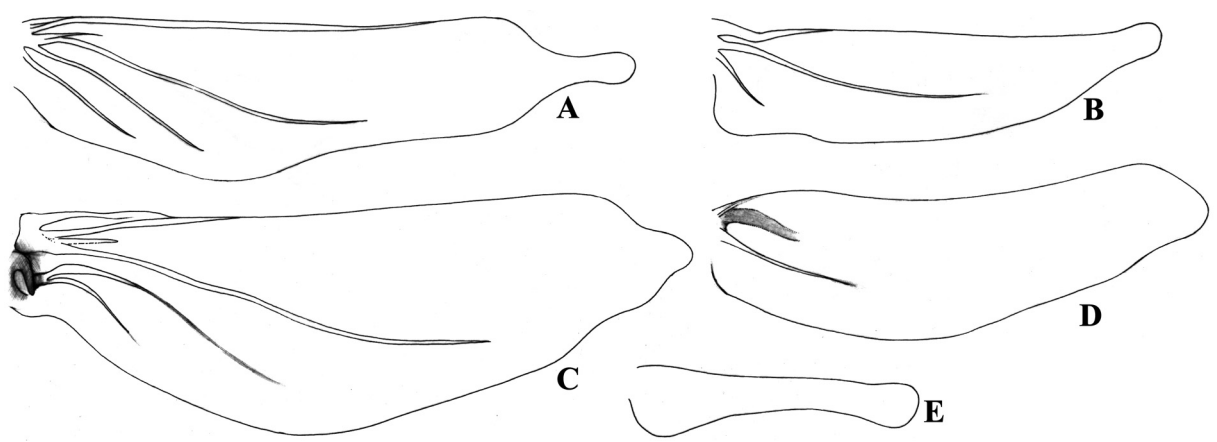

Figure 10. *Turkonalassus* spp., wings: (A) *T. adimonius*; (B) *T. pentheri*; (C) *T. quercanus* sp. nov.; (D) *T. pineus* sp. nov.; (E) *T. macedonicus* sp. nov.

Etymology. The name "pineus" is translated from Latin as "piny" or "living on pine".

Bionomics. The species was collected at night (21:00–22:00) on trunks of *Pinus nigra*. Lichenophages.

Differential diagnosis. The species is similar to *T. adimonius*. See differences in key.

Turkonalassus quercanus sp. nov.
(Figs. 5E, K; 6E; 7G; 8D, K; 10C; 11G, H, N, S; 13C, D)

Type material. Holotype (male) and 63 paratypes (10 males, 18 females in CN and ZIN and 17 males, 18 females in ZDEU): Turkey, Konya Province, Akşehir District, Tekke, Sultan Dağları, 38°21'05.1"N,

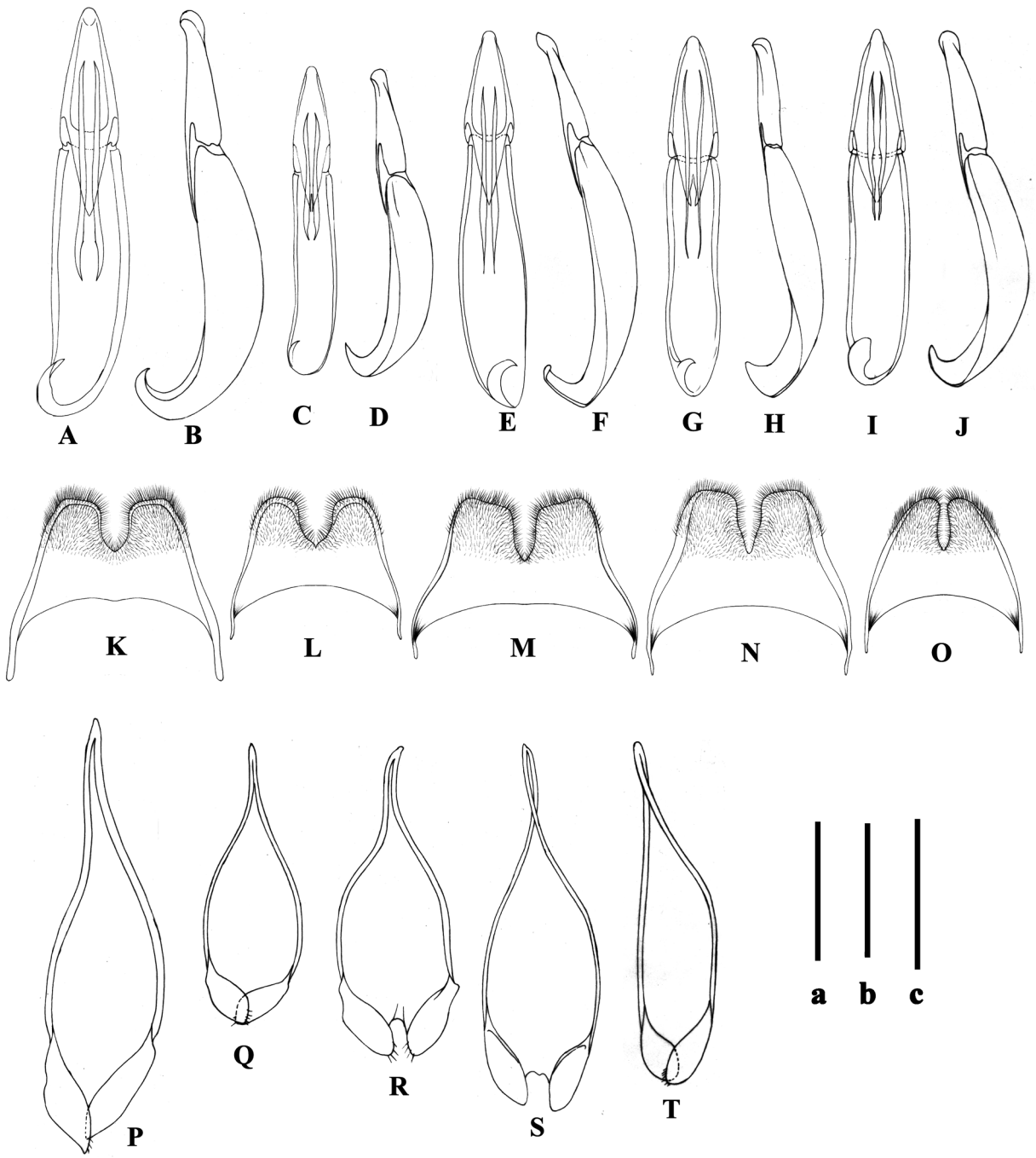

Figure 11. *Turkonalassus* spp., male genitalia and terminalia: (A, B, K, P) *T. adimonius*; (C, D, L, K) *T. pentheri*; (E, F, M, R) *T. pineus* sp. nov.; (G, H, N, S) *T. quercanus* sp. nov.; (I, J, O, T) *T. petrophilus* sp. nov. (A, C, E, G, I) aedeagus ventrally; (B, D, F, H, J) aedeagus laterally; (K, L, M, N, O) inner sternite VIII; (P, Q, R, S, T) gastral spicula. Scale bars: a – for figures A–J; b –for figures K–O; c – for figures P–T.

31°22'44.1"E, 1700 m, 15.v.2010 (leg. S.V. and S.V. Nabozhenko, B. Keskin); paratype (1 male) (HNHM): "Anatolien, Ak-Chehir, 1900, Korb", "coll. Reitter", "*Cylindronotus* sp. det. Kaszab"; paratype (1 male) (ZDEU): "21.06. 2013, Sultandağ-Afyon, leg. E.A. Yağmur".

Description. Male. Body robust, black, head and pronotum weakly shining, elytra matt. Body length 12.4–12.8 mm, width 5.6–5.7 mm. Head widest at eye level. Eyes strongly transverse, convex. Anterior margin of head (frontoclypeus) straight. Head width 1.54 times width of interocular space. Genae weakly rounded. Lateral margin of with distinct sinuation between gena and frontoclypeus. Temples behind the eyes straight or weakly rounded. Frontoclypeus moderately depressed. Punctation of head coarse, dense, punctures large, round, often connected. Antennae moderately long, with only 3 apical antennomeres extending beyond base of pronotum, reaching $^1/_5$ of elytral length. Antennomeres 2–8 thickened, antennomere 11 weakly elongate, weakly flattened, not longer than antennomere 10.

Pronotum transverse (1.4 times as wide as long), widest at middle, 1.77 times as wide as head. Lateral margins moderately rounded, weakly emarginated at base. Anterior margin widely emarginated, straight at middle; base bisinuate, rounded at middle. Anterior angles obtuse, very weakly projected, rounded apically; posterior angles straight or weakly obtuse. All margins beaded, base at middle and lateral margins basally with wider bead. Disc of pronotum moderately convex, with completely flattened lateral sides. Punctation of disc coarse and dense, as on head but with smaller punctures. Medial line without punctation is presented. Prothoracic hypomera flattened along outer margin, with longitudinal wrinkles. Prosternal process convex.

Hind wings moderately reduced, with 4 veins: C, R, Cu, AA_3, AA_4.

Elytra oval, elongate (1.3 times as long as wide), widest little before middle, 2.1 times as wide as head, 1.2 times as wide and 2.17 times as long as pronotum. Strial punctures merged in furrows. Interstria flat, with coarse, moderately dense punctation (puncture diameter subequal to distance between punctures). Interstriae with irregular transverse rugosity. Epipleura and epipleural carina wide, completely visible dorsally.

Metaventrite, mesepimera and metepisterna with coarse and dense punctation. Abdominal ventrites with fine dense punctation and longitudinal coarse rugosity laterally, without hair brush; abdominal ventrite 5 not beaded apically.

Legs relatively long. Trochanters with one long sensillum. Ratio of tibiae/tarsus lengths of fore, middle and hind legs respectively 6 : 4 (fore), 6 : 4 (middle), 7.7 : 4.9 (hind).

Female. Legs and antennae shorter, antennae with only 1 apical antennomere extending beyond base of pronotum. Antennomeres 3–8 not thickened. Pronotum more transverse (1.5 times as wide as long), 1.76 times as wide as head. Elytra more elongate (1.37 times as long as wide), 2.1 times as wide as head, 1.2 times as wide and 2.45 times as long as pronotum. Body length 11.8–13.2 mm, width 5.1–5.9 mm.

Etymology. The name "quercanus" is translated from Latin as "oaken" or "living on oak".

Bionomics. The species was found at night (20:30–22:40) on trunks of *Quercus cerris*.

Differential diagnosis. The species is similar to *T. adimonius* and *T. pineus*, from which it differs in more developed (larger and wider, without separate rounded process apically) hind wings, structure of aedeagus, not projected widely rounded anterior angles of pronotum, moderately dense rugosity of elytral interstriae. *Turkonalassus quercanus* sp. nov. additionally differs from *T. adimonius* in thickened 3–8 male antennomeres and less slender body.

Turkonalassus petrophilus sp. nov.
(Figs. 5F, L; 6F; 7H, I; 8E, L; 11I, J, O, T; 13E, F)

Type material. Holotype (male) (ZDEU), and paratypes (2 males, 1 female, ZIN): Turkey, Kütahya Province, Murat Dağ, 38°57'04.9"N, 29°39'02.1"E, 2065 m, 6.vi.2009 (leg. B. Keskin, F. Yolcu); paratypes (2 males) (ZDEU): the same locality, 19.vi.2013 (leg. E.A. Yağmur); paratypes (10 males, 5 females) (ZDEU): the same locality, 13.vi.2015 (leg. B. Keskin, E.A. Yağmur, B. Gündoğan, D. Şendoğan).

Description. Male. Body robust, black, head and pronotum moderately shiny, elytra more dull. Anterior margin of frontoclypeus straight. Head widest at eye level. Eyes convex, widely separated, strongly transverse (lateral view). Head width 1.6 times width of interocular space. Genae rounded at basal half, straight anteriorly. Temples behind the eyes flattened or weakly depressed. Punctation of head coarse and dense, punctures round, not connected (puncture diameter about 2 times as long as distance between punctures). Antennae with 3 apical antennomeres extending beyond base of pronotum, reaching $^1/_4$ of elytral length, gradually widened to apex, their middle antennomeres not thickened; antennomere 11 little long than 10.

Pronotum transverse (1.4 times as wide as head), widest after middle, 1.77 times as wide as head. Lateral margins weakly rounded, widely sinuated basally. Anterior margin straight, with sinuation at middle and near angles. Base widely trisinuated, rounded at middle. Anterior angles obtuse, rounded, not projected, posterior angles right or weekly obtuse. All pronotal margins beaded. Base at middle and lateral margins basally with wider bead. Disc of pronotum strongly convex, lateral sides narrowly flattened in basal $^2/_3$.

Punctation of disc moderately coarse, dense (punctures small but deep), with longitudinal punctures on sides. Prothoracic hypomera with coarse longitudinal rugosity and flattened in basal $^{2}/_{3}$ outer margin. Prosternal process convex.

Hind wings small, with only Cubital flecks and short R veins.

Elytra oval, elongate (1.3 times as long as wide), 2.1 times as wide as head, 1.25 times as wide and 2.15 times as long as pronotum. Strial punctures merged in

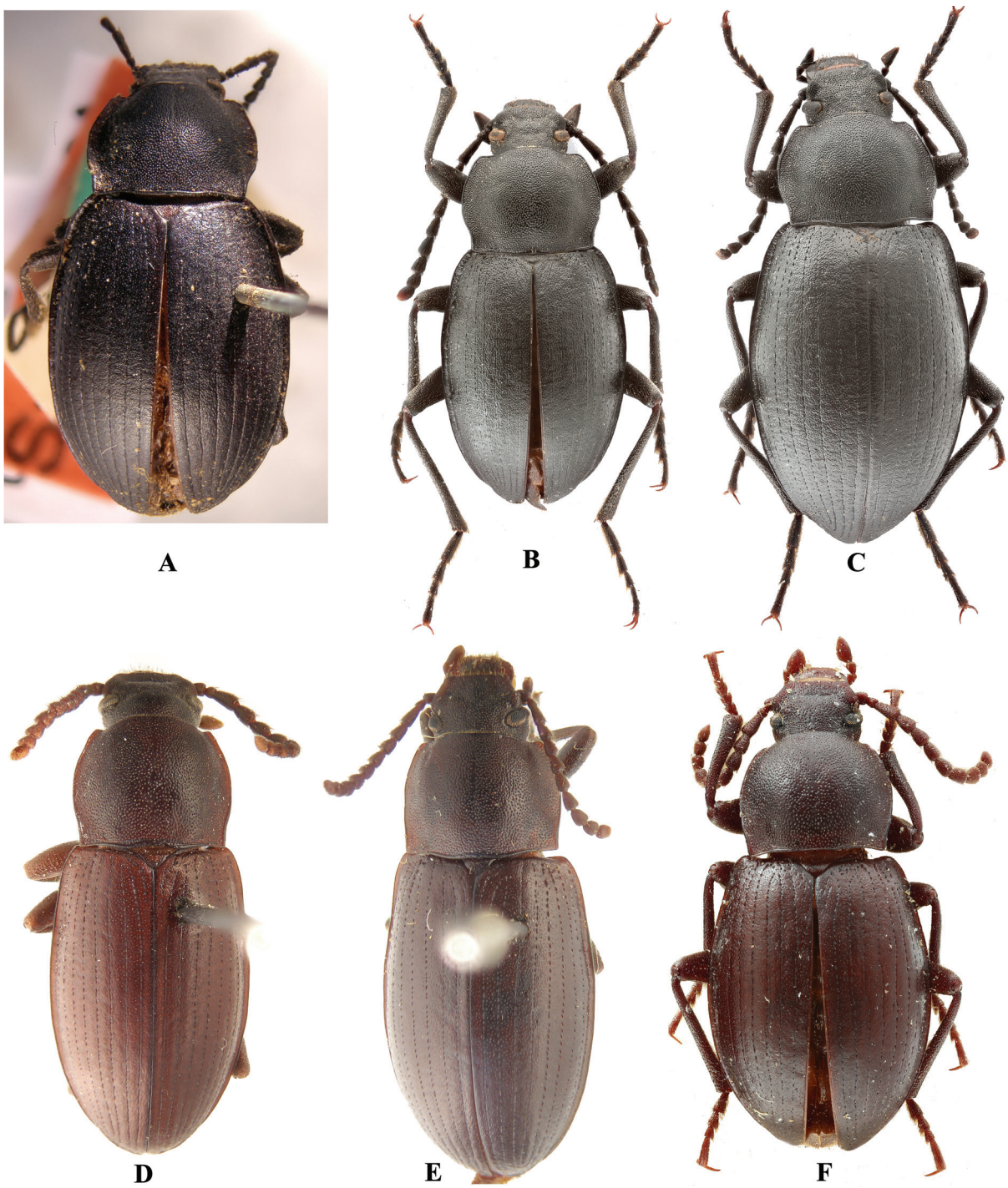

Figure 12. *Turkonalassus* spp., habitus: (A) *T. adimonius*, female, holotype; (B) *T. adimonius*, male; (C) *T. adimonius*, female; (D) *T. pentheri*, male, lectotype; (E) *T. pentheri*, female, paralectotype; (F) *Cylindronotus hoberlandtii* Kaszab, male, holotype.

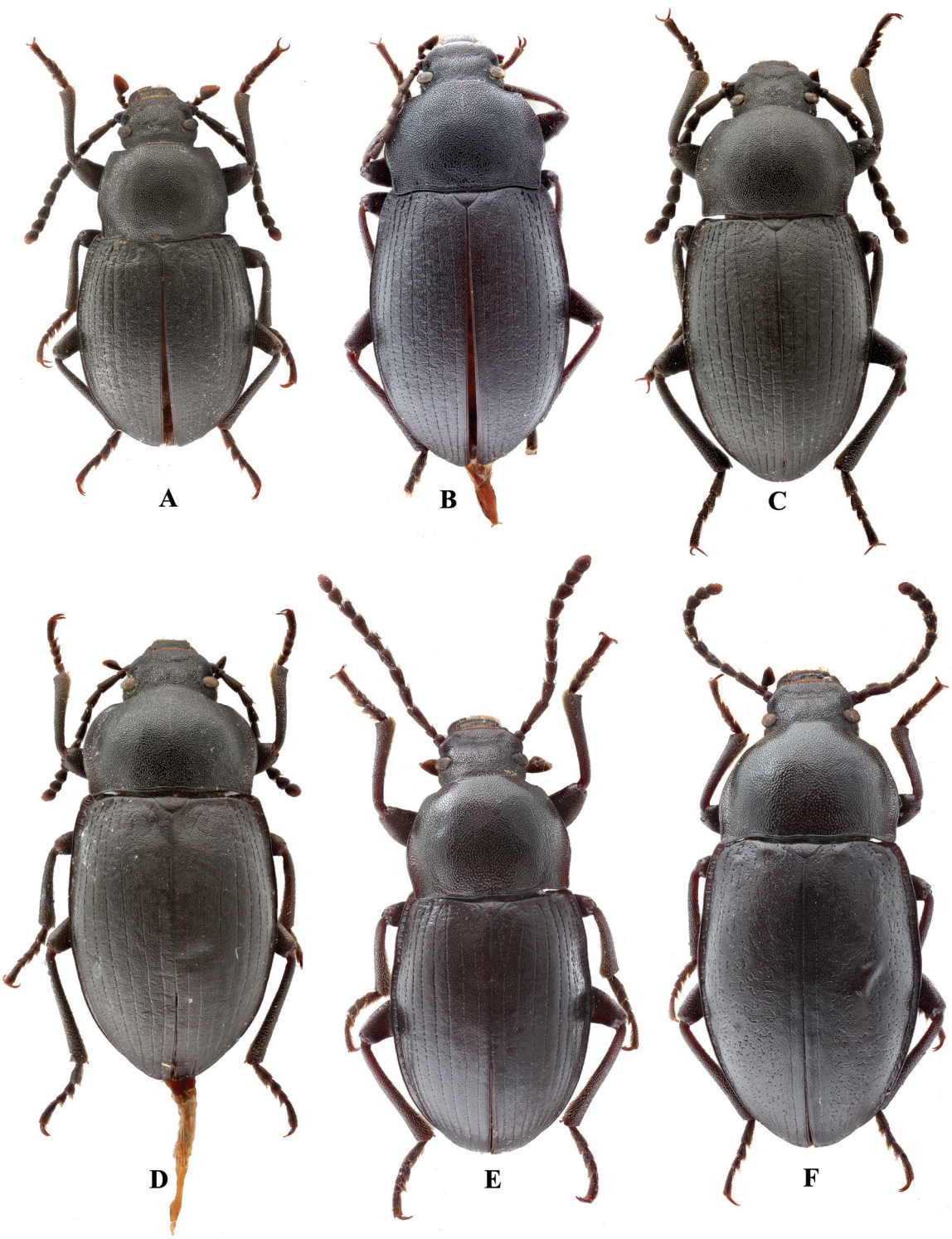

Figure 13. *Turkonalassus* spp., habitus: (A, B) *T. pineus* sp. nov.; (C, D) *T. quercanus* sp. nov.; (E, F) *T. petrophilus* sp. nov. (A, C, E) males; (B, D, F) females.

entire sometimes interrupted furrows. Interstriae flat, without microrugosity, with fine sparse punctation (with 4–5 punctures in transverse interstrial section). Epipleura and epipleural carina wide, completely visible dorsally.

Mesepimera and metepisterna with sparse, moderately coarse punctation. Metaventrite with fine, sparse punctation. Abdominal ventrites with longitudinal rugosity laterally and fine dense punctation. Abdominal ventrite 5 with finer, denser punctation, not beaded apically.

Legs relatively short. Trochanters with one long sensillum. Ratio of tibiae/tarsus lengths of fore, middle and hind legs respectively 4.7 : 3.3 (fore), 5.1 : 3.9 (middle), 6.8 : 4.1 (hind).

Body length 9.8–10.5 mm, width 4.5–4.6 mm.

Female. Body more robust, antennae shorter, reaching pronotal base. Pronotum more transverse (1.4 times as wide as long), 1.77 times as wide as head. Elytra wide (1.34 times as long as wide), 2.25 times as wide as head, 1.25 times as wide and 2.3 times as long as pronotum. Body length 11.4, width 5.3 mm.

Etymology. The name "petrophilus" is Greek for "rock-loving".

Bionomics. The species was collected under stones and on *Pinus nigra* near the top of Murat Dağ. Lichenophages.

Differential diagnosis. The new species differs from other species of *Turkonalassus* in elongate punctation on sides of pronotal disc (*T. macedonicus* sp. nov. also has elongate but coarser punctation on sides of pronotal disc but differs from this species in many other characters). *Turkonalassus petrophilus* sp. nov. is similar to *T. pentheri* but additionally differs from it in the absence of thickened male middle antennomeres, widest after the middle of pronotum and strial punctures merged in furrows.

Turkonalassus macedonicus sp. nov.
(Figs. 8F; 10E; 14)

Type material. Holotype (female) (HNHM): "GREECE, pr Macedonia, Petritci, Mts Kerkini, 8.IV.2007", "80 m, N 41°16.95'E 23°19.442', leg. A. Podlussány". Paratype (female) (HNHM): "Kreszna 1987.VI.11–25, leg. Juhász Cs." [now Kresna, Bulgaria].

Description. Female. Body black, shiny, robust, legs, antennae dark brown. Body length 10–12 mm, width 4–5 mm. Head widest at eye level. Eyes large, convex, strongly transverse (lateral view). Head width 1.7 times width of interocular space. Anterior margin of frontoclypeus straight. Genae rounded basally and widely sinuated anteriorly. Lateral margin of head without emargination between gena and frontoclypeus. Punctation of head coarse and dense, punctures large, round, connected. Antennae short, reaching pronotal base; antennomere 11 longer than 10.

Pronotum transverse (1.3 times as wide as long), widest at middle or little after middle, 1.4 times as wide as head. Lateral margins moderately rounded, weakly sinuated basally. Anterior margin and base weakly rounded. Anterior angles obtuse, rounded apically, not projected; posterior angles weakly obtuse. All margins of pronotum excluding middle of anterior margin are beaded. Disc convex, not flattened on sides. Punctation of disc coarse, dense; punctures not connected in middle but connected on sides; punctures in middle and on sides weakly elongate. Prothoracic hypomera with coarse longitudinal wrinkles. Prosternum with irregular merged coarse punctation and long sparse recumbent hairs at middle. Prosternal process conical, rounded apically.

Hind wings reduced (2.0 mm), without veins.

Elytra convex, oval (1.47 times as long as wide), widest at middle, 1.67 times as wide as head, 1.2 times as wide and 2.3 times as long as pronotum. Strial punctures connected in deep furrows. Elytral interstriae in middle of basal half almost flat and strongly convex elsewhere, with short coarse microrugosity. Punctation of interstriae coarse, moderately dense (with 2–3 punctures in transverse interstrial section); puncture diameter subequal to distance between punctures. Epipleura wide, epipleural carina narrow, partly visible in dorsal vew.

Metepisterna with coarse wrinkles. Metaventrite with coarse punctation, sometimes merged laterally with sparse recumbent pubescence at middle. Abdominal ventrites with coarse and dense punctation of elongate punctures; punctation denser, coarser laterally. Abdominal ventrite 5 with less coarse, denser punctation of round punctures and short recumbent pubescence, not beaded apically.

Femora with dense recumbent pubescence on inner side. Trochanters with dense hair brush and one long sensillum. Legs relatively short, tibiae straight.

Male unknown.

Etymology. From name of historical region Macedonia.

Differential diagnosis. The species differs from other species of the genus *Turkonalassus* in highly reduced hind wings without veins and flecks, strongly convex elytral interstriae, incompletely visible dorsally epipleural carina, sparse pubescence of prosternum and metaventrite, short recumbent pubescence of abdominal ventrite 5, completely elongate pronotal and abdominal punctures (punctation of pronotum and abdominal ventrites in the other species of the genus consists of round punctures or partly elongate punctures of sides of pronotum in *T. petrophilus* sp. nov.).

Figure 14. *Turkonalassus macedonicus* sp. n., habitus: (A) female, holotype (Greece); (B) female, paratype (Bulgaria).

Key to species of the genera *Nalassus* of Turkey and *Turkonalassus* gen. nov.

1. Lower aspect of eye having a posterior ventral groove. Body not massive, small (from 5.0 to 12.0 mm), usually shining, habitus as typical *Nalassus* ..... (genus ***Nalassus***) **2**
–. Lower aspect of eye without ventral groove. Body large (from 10.0 to 18.0 mm), cuticle dull, solid. Beetles similar to the representatives of the subgenus *Pelorinus* of *Probaticus* ..... (genus ***Turkonalassus*** gen. nov.) **11**
2. Epipleura and epipleural carina (dorsal flattened margin of elytra) reaching elytral apex; interval 8 flat and apically not connected with elytral margin. Epipleura strongly depressed on its entire length ..... ***N. kaszabi***
–. Epipleura and epipleural carina not reaching elytral apex; interval 8 more convex (sometimes not convex) apically and connected with elytral margin on apex. Epipleura depressed basally **3**
3. Male apical piece dorsoventrally flattened, moderately sclerotized. Female spermatheca with short appendages. Male antennae not more thickened, than in female. Pronotum often with elongate punctation on sides. Outer margins of hypomera not widely flattened **4**
–. Male apical piece with laterally flattened apical keel, weakly sclerotized. Female spermatheca without appendages. Male antennae often more thickened, than in female. Pronotum with round punctures. Outer margins of hypomera widely flattened **8**
4. Elytral interval 8 apically as convex as the other intervals, not keel-shaped, connected with the elytral margin and the 2nd interval. Male abdominal ventrite 1 without hair brush in middle. Abdominal ventrite 5 not beaded on apex **5**

–. Elytral interval 8 more convex than the other intervals, sometimes keel-shaped, connected only with the elytral margin, not with the 2nd interval. Male abdominal ventrite 1 with hair brush in middle. Abdominal ventrite 5 beaded on apex **6**

5. Body shining, brown. Outer margins of pronotum not emarginated at base, anterior margin and base not sinuated in the middle. Anterior margin of pronotum without border in the middle. Longitudinal punctation expressed only at base of disc lateral to the middle . . . . . ***N. szalokii***

–. Body dull, black. Outer margins of pronotum emarginated at base, anterior margin and base with well visible sinuation in the middle. Anterior margin of pronotum with border in the middle. Punctation of pronotum on sides longitudinal . . . ***N. schmalfussi***

6. Genae smoothly weakly rounded. Body brown, with weak metallic shine . . . . . ***N. planivittis***

–. Genae strongly rounded. Body black, without metallic shine **7**

7. Anterior angles strongly projected, acute on apex . . . . . ***N. adzharicus***

–. Anterior angles weakly projected or not projected, rounded on apex . . . . . ***N. clavicornis***

8. Wings fully developed, with apical and medial flecks, longer than elytra, folded under elytra. Recurrent cell presented. Male abdominal ventrite 1 without hair brush in middle. Elytra parallel . . . . . ***N. plebejus***

–. Wings not developed, absent or reduced (with only some small veins R, Cu, A), without recurrent cell and flecks. Male abdominal ventrite 1 with hair brush in middle. Elytra not parallel **9**

9. Body wide, robust, visibly shining, pronotum with projected anterior angles. Male middle antennomeres not thickened. Wings absent . . . ***N. graecus***

–. Body elongated, moderately shining, anterior angles of pronotum not projected, widely rounded. Male middle antennomeres visibly thickened. Wings present, reduced **10**

10. Body brown, without bronze shine. Pronotum not cordiform, with weakly rounded margins . . . . . ***N. faldermanni***

–. Body black, with bronze shine. Pronotum weakly cordiform, with basally emarginated margins . . . . . ***N. dilaticornis***

11. Punctation of elytral intervals fine, sparse, puncture diameter 3–5 times as less as distance between them **12**

–. Punctation of elytral intervals coarse, dense, puncture diameter subequal to distance between them or only 2 times smaller than distance between punctures **13**

12. Pronotum widest at middle. Punctures on sides of pronotal disc distinctly round. Punctures in striae not merged, striae as dotted lines. Male antennomeres 4–8 strongly thickened, wider than 3 apical antennomeres . . . . . ***T. pentheri***

–. Pronotum widest after middle. Punctures in striae merged in entire sometimes interrupted grooves. Male middle antennomeres not thickened, antennae gradually widened to apex. Punctures on sides of pronotal disc weakly distinctly elongate . . . . . ***T. petrophilus*** sp. nov.

13. Surface of elytral intervals with very dense rugosity (coriaceous); punctation almost not visible between microwrinkles on elytral apex **14**

–. Elytral surface smooth or with sparse rugosity between coarse punctures **15**

14. Elytral lateral sides strongly flattened and raised along entire length. Anterior angles of pronotum projected, widely rounded on apex. Subreduced wings with 3 veins: R, Cu and A. Body slender. Legs long, with equal lengths of mesotibia and mesotarsi in males . . . . . ***T. adimonius***

–. Elytral lateral sides simply flattened only in basal half. Anterior angles of pronotum projected, acute. Subreduced wings without visible veins, only with weakly expressed chitinized area. Body robust. Male mesotarsi visibly shortly than mesotibiae . . . . . ***T. pineus*** sp. nov.

15. Anterior angles projected, acute or right, narrowly rounded apically. Male antennomeres not thickened . . . . . ***T. bozdagus***

–. Anterior angles not projected, obtuse, widely rounded apically. Male antennomeres thickened, visibly thicker than in female . . . . . ***T. quercanus*** sp. nov.

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