TO THE KNOWLEDGE OF THE GENUS *BLAPS* FABRICIUS, 1775 (COLEOPTERA: TENEBRIONIDAE) FROM IRAN AND TRANSCAUCASIA

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Abstract.— A new species *Blaps kasatkini* **sp. nov.** is described from Western Iran (Kermanshah Province). The species belongs to the 6th group of the 2nd section sensu Seidlitz and most similar to Transcaucasian species *Blaps araxicola* Seidlitz, 1893 and *Blaps pudica* Ballion, 1888 from which it differs by the structure of temples, sculpture of prosternum, presence of hair brush between male abdominal ventrites 1 and 2 (the difference only from *B. pudica*), glabrous abdominal ventrites (the difference only from *B. araxicola*), structure of ovipositor, female genital tubes and presence of elytral mucron in female. New material of the little known species in the 6th group of the 2nd section sensu Seidlitz *Blaps pudica*, *B. araxicola* and Iranian species *B. glazunovi* Semenov Tian-Shansky et Bogatchev, 1936 is given. *Blaps pudica* is recorded for Armenia for the first time. Lectotype of *B. glazunovi* is designated.

Key words.— Tenebrionidae, *Blaps*, Iran, Transcaucasia, lectotype designation, new species.

INTRODUCTION

The largest in the tribe Blaptini, the genus *Blaps* Fabricius, 1775 includes more than 250 species, 24 of which are listed for Iran (Löbl *et al*. 2008). Fifteen species are known from Transcaucasia (Abdurakhmanov and Nabozhenko 2011). Transcaucasian species of *Blaps* are well studied although the status of some taxa is unclear (*Blaps verrucosa* Adams, 1817 and *Blaps armeniaca* Baudi di Selve, 1876), and the structure of genitalia and genital tubes are hitherto studied only in some species (Medvedev 2001, Chigray *et al*. 2015).

Iranian species of *Blaps* are poorly studied: the last taxonomic and faunistic works having been published in the middle of the 20th century. The most complete works on Iranian *Blaps* are the revision of Seidlitz (1893) and the faunistic review of Kühnelt (1957). Several species were later described by Bodemeyer (1927), Semenov Tian-Shansky and Bogatchev (1936) and Kaszab (1959). Medvedev and Nepesova (1985) included in their identification key 9 common Middle Asian and Iranian species. Among the Iranian *Blaps* 9 species and 2 subspecies are endemic. Two of these (*B. wolinskii* Bodemeyer, 1927 and *B. zarudniana* Semenov et Bogatchev, 1936) belong to the 1st section sensu Seidlitz (1893) (species with triangular and acute lobe between tarsal claws). The other species belong to the 2nd section (species with rounded or straight apically lobe between tarsal claws) but to different groups. Study of genitalia and genital tubes of specimens from the type locality of *Blaps neoscabiosa* Nabozhenko, 2008 (replacement name for *Blaps scabiosa* Faust, 1875) from Gilan Province (type locality:

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Tash) indicates that this species is morphologically close to *B. halophila* and can be included in the subgenus *Dineria* Motschulsky, 1860. Another endemic species, *Blaps platythorax* Gemminger, 1870 (replacement name for *Blaps laticollis* Redtenbacher, 1850) was described from Shiraz (Kollar and Redtenbacher 1850). Redtenbacher clearly pointed out the presence of a tooth on the profemora in *B. laticollis*: "femoribus anticis dentatis" (Kollar and Redtenbacher 1850: 49). This character differs the genera *Dila* and *Caenoblaps* from other Blaptini. As a result, this species must be excluded from the genus *Blaps*. Unfortunately, generic placement of "*Blaps*" *platythorax* can be established only after the study of type material, because both genera *Dila* and *Caenoblaps* are distributed in Iran.

Two of the species distributed in Iran of *Blaps* belong to the 6th group of the 2nd section: the endemic *B. glazunovi* Semenov et Bogatchev, 1936 from Elburs Mountains and *Blaps lethifera pterotapha* Ménétriés, 1832, widespread in Transcaucasia, Southern Turkmenistan, Eastern Anatolia and Northern Iran. Below we describe a new species from Western Iran, which can be compared with Transcaucasian *Blaps pudica* Ballion, 1888 and *Blaps glazunovi* but is most similar to *Blaps araxicola* Seidlitz, 1893 from Armenia.

Material and methods

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

ZIN – Zoological Institute, Russian Academy of Sciences, St. Petersburg (Mark Volkovitsh);
CK – collection of Mark Kalashian (Yerevan);
CN – private collection of Maxim Nabozhenko (Rostov-on-Don).

Taxonomy

Blaps kasatkini Chigray et Nabozhenko, sp. nov.
(Figs 1A–D, J, L; 3A, D; 4, 7A)

Material. Holotype (male) and 5 paratypes (2 males, 3 females) with labels: Iran, Kermanshah Prov., near Shamshir vill., 34.987951°N, 46.430794°E, 20–22. v.2015, leg. D.G. Kasatkin and S.O. Kakunin. Holotype and 2 paratypes will be transferred to ZIN, 3 paratypes are deposited in collection of S.O. Kakunin.

Description. Male. Body length 18.5 mm, width 8.2 mm. Body black, matt, convex, robust. Anterior margin of frontoclypeus widely emarginated, straight at middle, lateral margins rounded. Head widest at temple level. Head width 1.45 times width of interocular space. Outer margin of genae strongly rounded, surface convex. Lateral margin of head with angle shaped obtuse distinct emargination between genae and frontoclypeus. Frontoclypeal suture distinct, rounded laterally in straight at middle. Antennae not reaching base of pronotum. Ratio of length/width 2–11 antennomeres accordingly 8(10) : 42(11) : 15(10) : 15(10) : 15(10) : 16(14) : 10(14) : 10(14) : 10(14) : 14(12). Mentum hexagonal, with rounded lateral margins. Punctation of head fine and sparse (puncture diameter 2–3 times as wide as distance between punctures). Punctation of frontoclypeus sparser (puncture diameter 4–5 times as wide as distance between punctures).

Pronotum transverse (1.2 times as wide as long), widest at middle or little before middle, 1.84 times as wide as head, 1.63 times as long as head. Ratio of pronotal width near anterior angles, in widest part and at base 3.5 : 5.9 : 5.6 accordingly. Disc of pronotum weakly convex, lateral sides slightly flattened. Anterior margin of pronotum widely weakly emarginated, lateral margins regularly weakly rounded, weakly sinuate near base, base bisinuate, straight at middle. Disc completely beaded, unclear at mid point. Anterior angles obtuse, widely rounded, posterior angles right, narrower rounded. Punctation of pronotum moderately dense. Prosternum wrinkled, without punctation or granules. Prothoracic hypomera with sparse small granules, without coarse wrinkles.

Elytra elongate, moderately convex, 1.72 times as long as wide, 3 times as long and 1.4–1.44 times as wide as pronotum, 4.9 times as long and 2.65–2.7 times as wide as head. Elytral mucron distinct with length 1.4 mm, elytra 10.5 times as long as mucron. Punctation of elytra fine, sparse, diameter of punctures 4–7 times as wide as distance between punctures. Epipleura with fine wrinkles, with punctation only along abdominal ventrites. Metaventrite glabrous. Hair brush between 2 and 3 abdominal ventrites present. Abdominal ventrites rugose, 2nd and 3rd without coarse punctation, 4th and 5th with coarse punctation; ventrite 5 with coarsest, dense punctation. All abdominal ventrites glabrous.

Legs slender. Dorsal margin of profemora with small wide emargination near apex. Ratio of lengths of femora, tibiae and tarsi of fore, middle and hind legs 5.3 : 4.8 : 3, 5.7 : 4.9 : 3.6 and 7.5 : 6.8 : 4 accordingly. All tarsomeres (excluding claval tarsomere) with bifurcate brush of setae on anterior margin; protarsomeres with unclear brushes.

Length of aedeagus 4 mm, width 1 mm. Apical piece (length 1.5 mm) regularly narrowed to apex, with acute parameres and transverse small ridge basally. Rods of gastral spicula merged only on apex.

Female. Body length 19.2 mm, width 8 mm. Pronotum 1.74 as wide as head. Elytra 1.4–1.43 times as wide

and 2.7–2.9 times as long as pronotum. Mucron shorter, length 0.9 mm. Tibial spurs visibly longest than of males. Basal duct of spermatheca short, gland of spermatheca longer than basal duct. Apical lobes of ovipositor not flattened laterally, acute and with narrowly rounded apices ventrally.

Etymology. The species is named in honor of our colleague and one of the collectors of the new species Denis Kasatkin.

Bionomics. *Blaps kasatkini* sp. nov. inhabits high mountains (2000 m) with xerophytic landscape. It was found in a lizard burrow.

Diagnosis. *Blaps kasatkini* sp. nov. is similar to *Blaps pudica* and *B. araxicola*. Differences are shown on the table 1. Pronotum in *B. kasatkini* sp. nov. more transverse than in *B. glazunovi*, but less transverse than in *B. lethifera pterotapha*. Mucron of the new species is visibly narrower and shorter than in *B. glazunovi*.

Blaps araxicola Seidlitz, 1893
(Figs. 1E–H, I, K; 3B, E; 5, 7B, C)

Material (CN). 1 male and 5 females: Armenia, Gorovan (Vedi env.), vi.1997, leg. M.Yu. Kalashian.

Notes. *Blaps araxicola* was described by Seidlitz (1893) from two localities: "Helenendorf" (now Göygöl, Azerbaijan) and "Araxesthal" (now valley of Aras River, Armenia). Populations from Göygöl belong to the previously described species *Blaps pudica* Ballion, 1888. It is necessary to designate a lectotype using specimens from Aras valley to avoid confusion. *Blaps araxicola* is psammophylous species which inhabits Gorovan sands (Aras valley). Females of this species have specialized ovipositor with wide rounded and strongly flattened apical lobes for oviposition in sand, while other similar species have unflattened apical lobes for oviposition in solid ground (Medvedev 2001).

Table 1. Comparison of similar species *B. araxicola*, *B. pudica* and *B. kasatkini* sp. n.

	Blaps araxicola	*Blaps pudica*	*Blaps kasatkini*
Hair brush between 1st and 2nd male abdominal ventrites	Present	Absent	Present
Punctation of temples (vertex after eyes laterally)	Granulate	Rasp-shaped	Rasp-shaped
Sculpture of anterior part of prosternum ventrally	Sparse flattened large granules (Fig. 1I)	Only wrinkles	Only wrinkles (Fig. 1J)
Pubescence of abdominal ventrites and metaventrite	At least abdominal ventrite 5 pubescent by short recumbent reddish hairs (Fig. 1K). Metaventrite with sparse short suberected hairs	Metaventrite and abdominal ventrites glabrous	Metaventrite and abdominal ventrites glabrous (Fig. 1L)
Ovipositor	Apical lobes strongly flattened, wide and rounded, apically without additional processes ventrally	Apical lobes wide, rounded apically, without additional processes ventrally, with strong abrasive wrinkles and short strong granule-shape setae	Apical lobes weakly flattened, narrow and acute apically, with addition processes ventrally
Female genital tubes	Gland longer than spermatheca	Gland 6 or more times as short as spermatheca	Subequal length of gland and spermatheca
Reservoirs of spermatheca	Elongate, 1st reservoir significantly larger, can be bifurcate or not on apex (Fig. 4B, C)	Oval, with subequal size	Elongate, 1st reservoir significantly larger
Apical piece of aedeagus	Lateral sides weakly rounded basally and almost straight in apical half	Lateral sides weakly rounded basally and weakly emarginated in apical half	Lateral sides weakly rounded at middle, slightly widely emarginated apically and with transverse small ridge near base
Gastral spicula	Rods merged in long common trunk	Rods merged in short common trunk	Rods merged in short common trunk
Mucron at female	Absent or unclear	Absent	Present

Blaps pudica Ballion, 1888
(Figs. 2A–D; 3C, F; 6, 7D)

Material. 1 female: Armenia, Shirak Region, between Maralik and Sarnakhpyur, 40.550755°N, 43.901583°E, 26.viii.1979 (leg. M.I. Lukina) (CN); 1 male: Armenia, Arzakan River valley, 14.v.1987 (collector unknown) (CN); 2 males and 1 female: Armenia, Syunik Prov., Vorotan env., 39.1983, 46.1428, 1500 m, 13.viii.2008 (barraws of *Microtus arvalis*), local collectors (CK); 4 males: Azerbaijan, Yardımlı Distr., Kürekçi env., 7–9.vi.2008, leg. D. Kasatkin (CN).

Notes. New record for Armenia. This species was known from Azerbaijan (Talysh Mts., Göygöl) (Abdurakhmanov and Nabozhenko 2011).

Blaps glazunovi Semenov & Bogatchev, 1936
(Figs. 2E–J)

Material (ZIN). Lectotype (male), designated here with label "*Blaps glazunovi* sp. nov. A Bogatshev & A. Semenov-Tian-Shansky det. typ." and Cyrillic label "Хамасур 6-VI-94 Глазунов [Khamasur, 6.vi.1894, Glazunov leg.]. Paralectotype (male) with label "*Blaps glazunovi* sp. nov. A Bogatshev & A. Semenov-Tian-Shansky det." and Cyrillic label "Амарат 7-V-94 Глазунов" [Amarat, 7.v.1894, Glazunov leg.]. Paralectotype (female) with label "*Blaps glazunovi* sp. nov. A Bogatshev & A. Semenov-Tian-Shansky det. typ." and Cyrillic label "Амарат 2-V-94 Глазунов" [Amarat, 2.v.1894, Glazunov leg.].

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Figure 1. *Blaps kasatkini* sp. nov. and *B. araxicola*, habitus, details of structure. *B. kasatkini* sp. nov. (A–D, J, L), *B. araxicola* (E–H, I, K), habitus of male (A, B, E, F), habitus of female (C, D, G, H), sculpture of prosternum, arrow show granules (I, J), abdominal ventrite 5 (K, L).

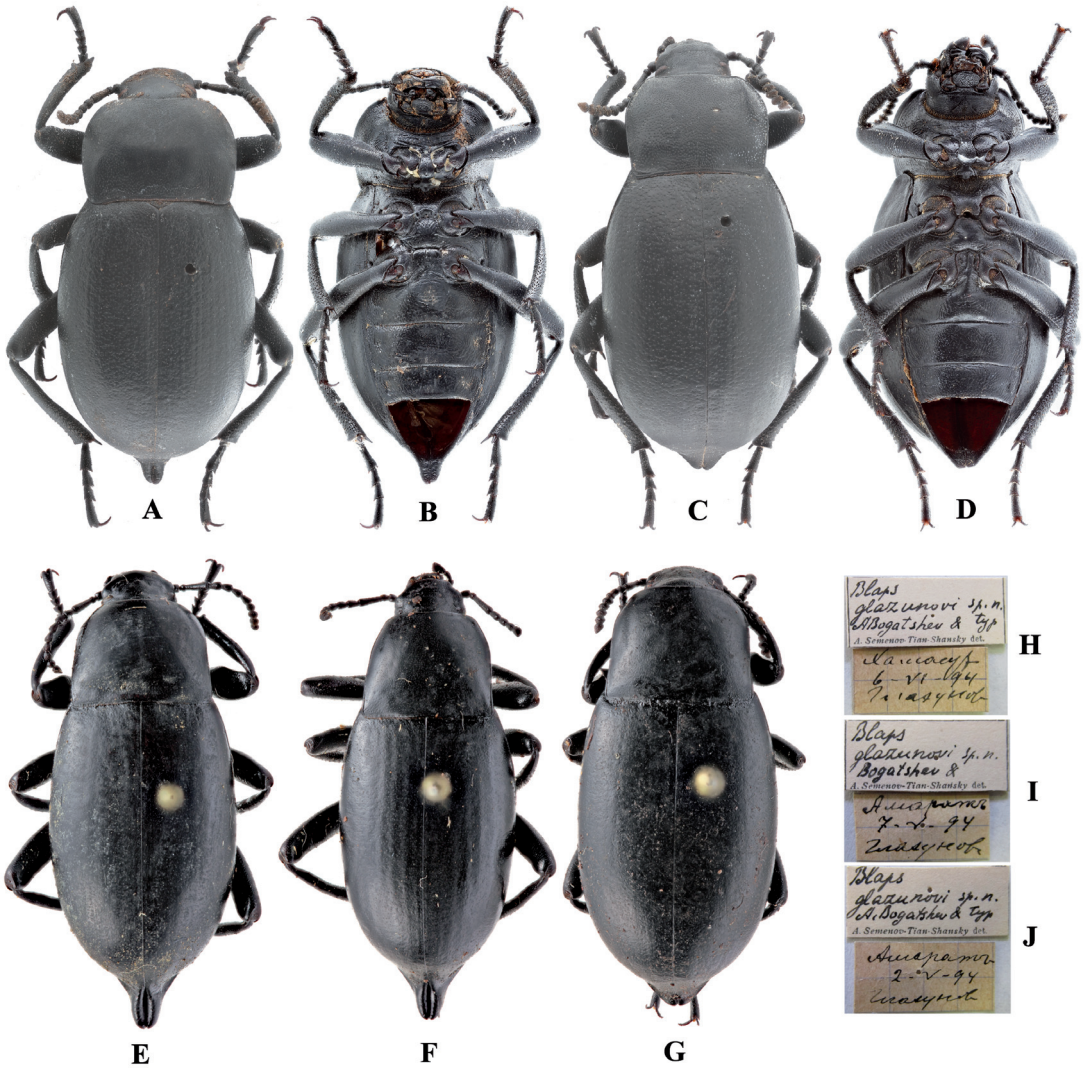

Figure 2. *Blaps pudica* and *B. glazunovi*, habitus. *B. pudica* (A–D), *B. glazunovi*, lectotype (E) and paralectotypes (F–G), males (A, B, E, F), females (C, D, G), labels of lectotype (H) and paralectotypes (I, J) of *B. glazunovi*.

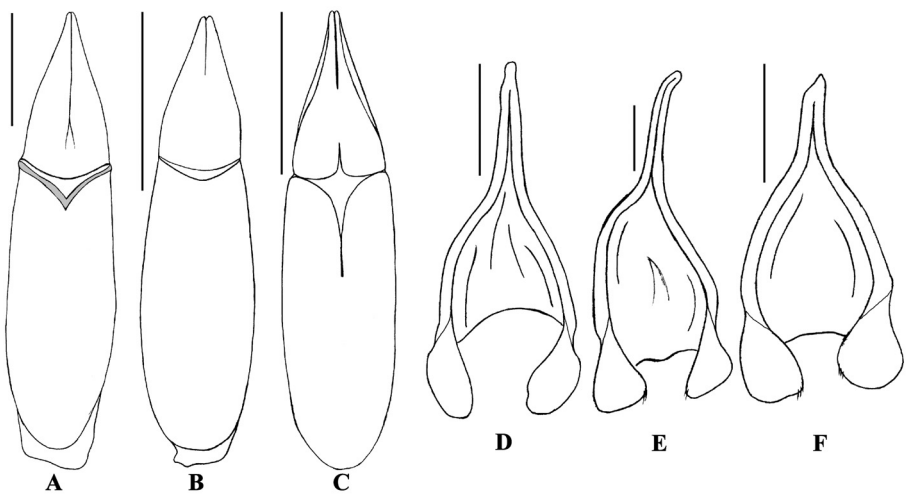

Figure 3. Details of structure of three North Iranian and Transcaucasian *Blaps*. *B. kasatkini* sp. nov. (A, D), *B. araxicola* (B, E), *B. pudica* (C, F), aedeagus, dorsal view (A–C), gastral spicula, ventral view (D–F). Scale bares 1 mm.

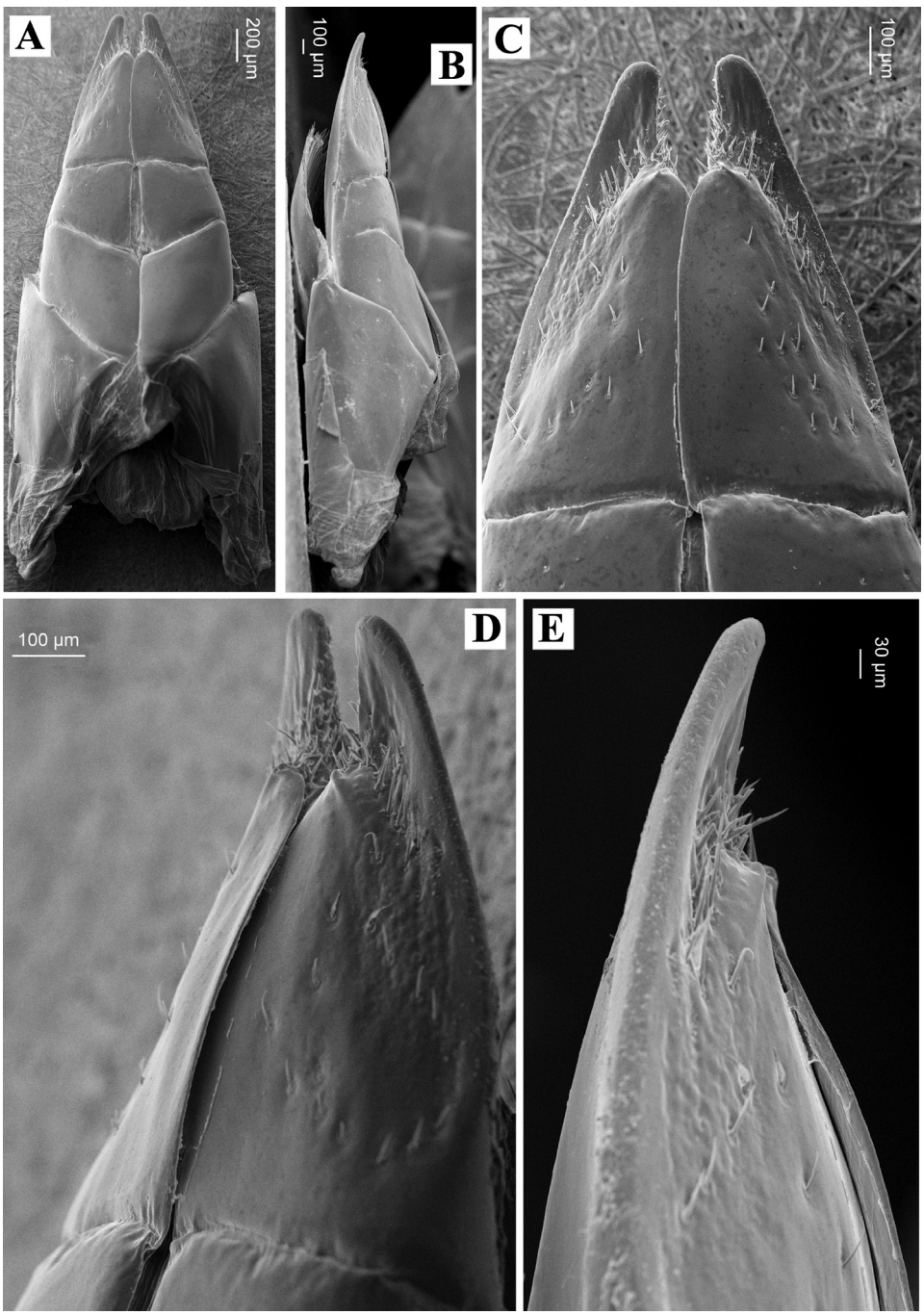

Figure 4. *Blaps kasatkini* sp. nov., ovipositor. General ventral view (A), general lateral view (B), apical lobes (C–E), ventral view (C), latero-ventral view (D), lateral view (E).

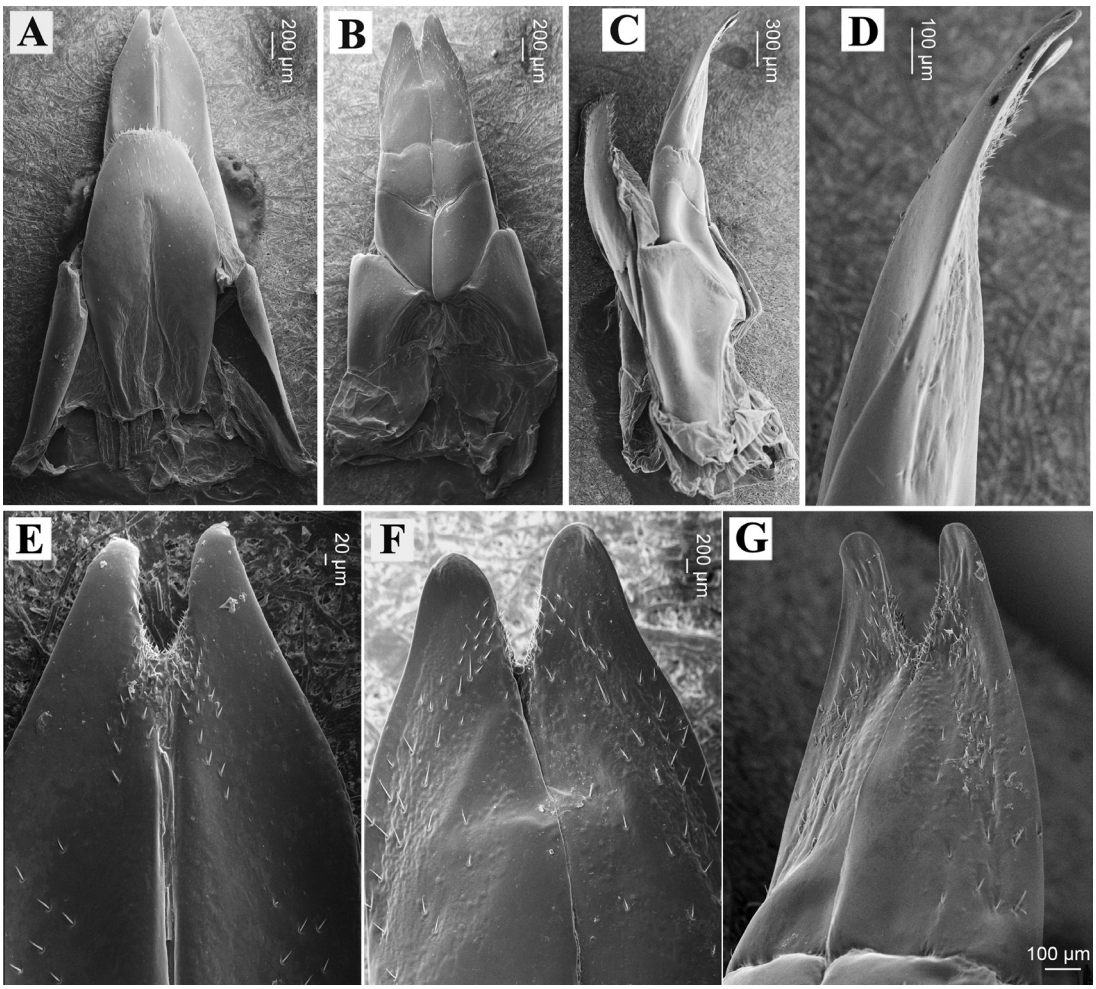

Figure 5. *Blaps araxicola*, ovipositor. General ventral view (A), general dorsal view (B), general lateral view (C), apical lobes lateral view (D), dorsal view (E), ventral view (F), latero-ventral view (G).

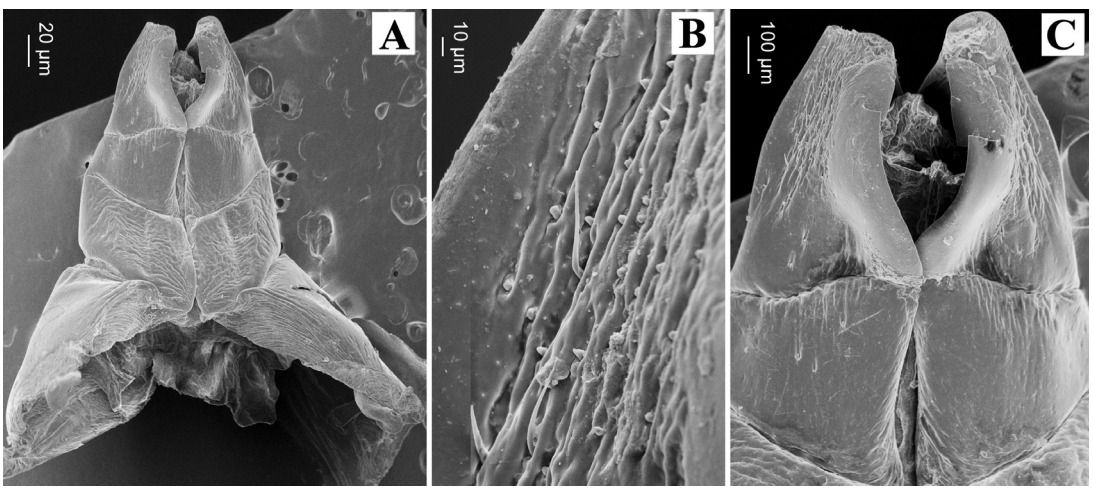

Figure 6. *Blaps pudica*, ovipositor. General ventral view (A), abrasive wrinkled surface of apical lobes (B), apical lobes (C).

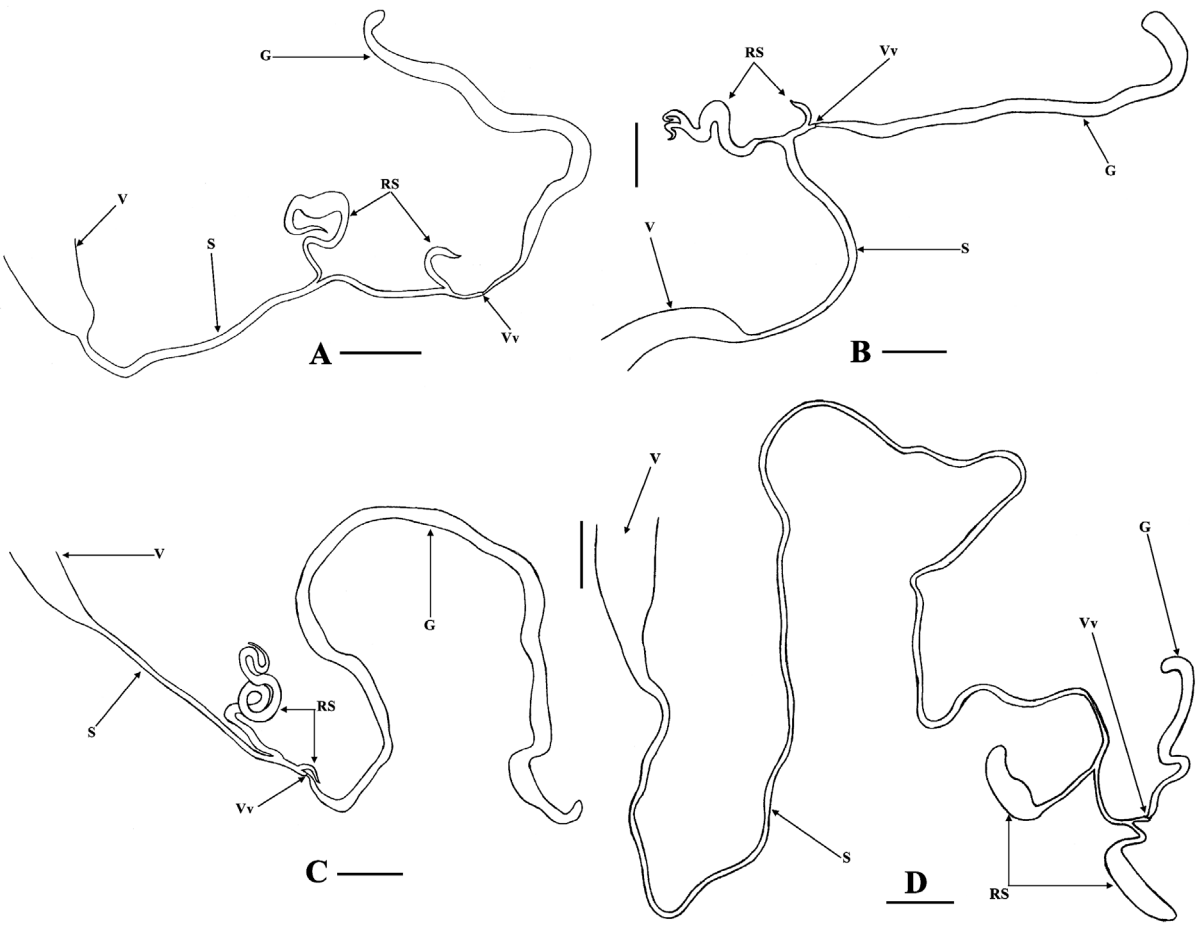

Figure 7. Female genital tubes of three North Iranian and Transcaucasian *Blaps*. *B. kasatkini* sp. nov. (A), *B. araxicola*, with bifurcate apically large reservoir (B) and not bifurcate the reservoir (C), *B. pudica*. Details: V – vagina, S – spermatheca, RS – reservoirs of spermatheca, G – spermathecal accessory gland, Vv – one-way valve between spermatheca and accessory gland. Scale bares 1 mm.