

A New Genus and Species of Darkling Beetles of the Tribe Blaptini (Coleoptera: Tenebrionidae) from Afghanistan and Taxonomic Changes in the Tribe

I. A. Chigray

Zoological Institute of the Russian Academy of Sciences, St. Petersburg, 199034 Russia
e-mail: chigray93@bk.ru

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Abstract—A new genus and species *Medvedevia glebi* gen. et sp. n. of the tribe Blaptini is described from eastern Nuristan, Afghanistan. The new genus belongs to the subtribe Blaptina. It is closely related to the genus *Blaps* Fabricius, 1775, which is evidenced by its body shape, structure of tarsomeres, and presence of the mucron. *Medvedevia* gen. n. differs from all Blaptini in the following characters: very wide mentum concealing the base of the labium and maxillae; not beaded pronotum; very wide processes of the mesoventrite and of abdominal ventrite 1; unusual structure of the aedeagus (basal piece is weakly C-curved, parameres are deeply cleft). New synonymy is established: subtribe Blaptina Leach, 1815 = Dilina Ren in Ren et al., 2016, **syn. n.**

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The tribe Blaptini (Coleoptera, Tenebrionidae) is one of the largest groups in Tenebrionidae with six subtribes and 25 genera (Löbl et al., 2008; Ren et al., 2016). The classification of the tribe is well developed, but the rank of some taxa and their position in the tribe remain unclear, especially in the subtribes Blaptina and Dilina.

The first attempt to divide the tribe Blaptini into subtribes was made by Skopin (1960), who erected subtribes Blaptina and Prosodina based on the larval characters. Skopin included genera *Blaps* Fabricius, 1775 and *Dila* Fischer von Waldheim, 1844 in the Blaptina, and placed *Prosodes* Eschscholtz, 1829, *Gnaptor* Brullé, 1832 and *Tagona* Fischer von Waldheim, 1820 in the Prosodina.

G.S. Medvedev (2000) separated five groups of Blaptini based on the adult and larval characters, and compiled a key to 22 genera of the tribe. Later (Medvedev, 2001) he modified the system of the tribe and subdivided it into five subtribes: Blaptina, Prosodina, Gna-

ptorinina, Gnaptorina, and Remipedellina. In the latter publication eight genera were included in the subtribe Blaptina (*Blaps*, *Nalepa* Reitter, 1887, *Coelocnemodes* Bates, 1879, *Caenoblaps* König, 1909, *Dilablaps* Bogatchev, 1976, *Dila* Fischer von Waldheim, 1844, *Protoblaps* G. Medvedev, 1998, and *Thaumatoblaps* G. Medvedev, 1998); two genera (*Prosodes* and *Tagona*) remained in the subtribe Prosodina; genera *Remipedella* Semenov, 1907 and *Gnaptor* were attributed to the subtribes Remipedellina and Gnaptorina respectively, and the subtribe Gnaptorinina was erected for 11 genera. In addition, Medvedev (2001) interpreted the genus *Ablapsis* Reitter, 1887 as a subgenus of *Blaps* with the following species: *Blaps* (*Ablapsis*) *compressipes* (Reitter, 1887), *B.* (A.) *berezowskii* G. Medvedev, 1998, *B.* (A.) *lucidula* G. Medvedev, 1998, *B.* (A.) *znoikoi* Semenov et Bogatchev, 1936 and *B.* (A.) *gentilis gentilis* Fairmaire, 1887), but later specialists did not support this opinion (Löbl et al., 2008, Ren et al., 2016).

Recently, the subtribe Dilina was erected by Ren et al. (2016), whose placement was discussed by I. Chigray et al. (2019) and in the notes herein (see below).

This paper is aimed at describing a new genus of Blaptini (subtribe Blaptina), which combines the characters of species from the subtribes Blaptina, Prosodina and Gnaptorina, but has some structures unique within the tribe.

Genus *MEDVEDEVIA* I. Chigray, gen. n.

Type species *Medvedevia glebi* sp. n.

Diagnosis. Body slender, black, mat. Genae strongly convex, elevated. Punctuation of head consisting of two types of punctures: coarse and very fine. Mentum very large, covering base of labial palpi, and also part of cardo and stipes. Antennae reaching base of pronotum by antennomere 7 in male and by antennomere 8 in female. Antennomere 7 much longer than antennomere 8. Pronotum weakly transverse, widest at anterior third; disk moderately convex, not beaded. Prohypomera convex. Distance between mesocoxae 1.1 times transverse diameter of mesocoxa, distance between metacoxae subequal to transverse diameter of metacoxa. Hair tuft between 1st and 2nd abdominal ventrites absent. Caudal extension of the elytra (mucron) distinct. Abdominal ventrite 1 without tubercle. Rods of spiculum gastrale not merged at apex and forming no common stem. Basal piece of aedeagus weakly C-curved. Parameres long, straight, acuminate at apex, cleft in apical third and not compressed dorsoventrally. Apical lobes of ovipositor long, thin, wedge-shaped narrowing apically. Basal duct of spermatheca between vagina and reservoirs moderately long (0.5 of body length), accessory gland of spermatheca relatively long (in comparison with basal duct). Tarsi not compressed laterally, all tarsomeres with bifurcate setal brush. Tibial spurs subequal in size.

Comparison. *Medvedevia* gen. n. differs from all Blaptini in the following characters: mentum very wide; pronotum not beaded, processes of mesoventrite and of abdominal ventrite 1 very wide; structure of aedeagus unusual (basal piece weakly C-curved, parameres deeply cleft).

Etymology. The name of the new genus is formed from the family name of Prof. Gleb Sergeevich Medvedev.

Medvedevia glebi I. Chigray, sp. n.

Material. Holotype, ♂, and 4 paratypes, ♀ (ZIN): **Afghanistan, Kunar Prov.:** “Afghan. Konar, W Barikot. 2600 m. 22.VII.1972. leg. Kabakov.”

Description. Male (Figs. 1–3, 7–9, 13, 14). Body slender, black, mat. Anterior margin of epistome emarginate. Lateral margins of epistome straight. Lateral margins of genae straight in anterior half, rounded at base. Lateral margins of head with indistinct emargination between epistome and genae. Head widest at temples. Eyes small, slightly convex, transverse, head 1.36 times as wide as interocular distance. Mentum large, strongly transverse, oval, anterior margin emarginate in the middle, base straight. Punctuation of head dense (distance between punctures subequal to or smaller than a puncture diameter), consisting of two types of punctures: coarse and very fine. Antennomeres 8 and 11 asymmetrical. Ratio of length/width of antennomeres 2–11 as 8 (10), 46 (10), 21 (10), 21 (9), 21 (9), 26 (9), 16 (11), 16 (11), 14 (11), 18 (10).

Pronotum weakly transverse (1.05 times as wide as long), sub-cordiform, widest at anterior third, 1.41 times as wide as head. Ratio of pronotal width near anterior angles to width in widest part and to that at base 4 : 5.8 : 4.3 respectively. Disc moderately convex, sides and base not flattened. Anterior margin widely emarginate, straight at anterior angles; lateral margins slightly arcuate, almost straight in posterior half; base straight. Anterior and posterior angles narrowly rounded, obtuse. Punctuation similar to that on head, very dense and coarse, punctures subcontiguous, sparser in middle (distance between coarse punctures smaller than a puncture diameter). Prothoracic hypomera with small longitudinal wrinkles and sparse punctuation, punctures very dense (subcontiguous) near anterior coxae and anterior angles. Anterior margin of prosternum beaded, punctuation of prosternum before procoxae dense.

Elytra 1.96 times as long as wide, widest at middle, weakly convex, triple as long and 1.44 times as wide as pronotum, 2.04 times as wide as head, about 9.7 times as long as mucron. Lateral margins flattened before mucron. Sides with rasp-like punctures, medial part with obliterated raduliform punctuation. Lateral margins dorsally visible in basal and apical parts. Epipleura with sparse and fine rasp-like punctures. Anterior half of mesoventrite covered with small granules and short



Figs. 1–3. *Medvedevia glebi* sp. n., male, habitus: (1) dorsal view, (2) ventral view, (3) lateral view.

light hairs, basal half with raduliform punctation and very short sparse hairs. Mesepisterna covered with dense small hairs along prothoracic hypomera, punctation of mesepisterna very fine along hypomera and mesoventrite, but coarse along mesepimera. Mesepimera with dense obliterated punctation. Metaventrite with obliterated wrinkles in middle and simple punctation along mesepimera. Punctation of metepisterna similar to that on mesepimera.

Abdominal ventrites 1–3 with transverse wrinkles, formed by raduliform punctation and sparse simple punctures. Abdominal ventrites 4 and 5 with simple punctation, ventrite 5 completely beaded, except base; apical part of ventrite with long hairs. Anterior margin of male sternite VIII moderately emarginate, apical half of sternite covered with moderately long hairs; gland of sternite moderately long, sharp at apex. Aedeagus length

4.7 mm, width 1 mm. Parameres 1.7 mm long, 0.75 mm wide.

Legs long, slender. Lengths ratio of femora, tibiae and tarsi of fore, middle and hind legs 7.5 : 7 : 4.4, 8.4 : 7.5 : 5.5, 10.2 : 9.6 : 5.7.

Body length 23.66 mm, width 8.4 mm.

Female (Figs. 4–6, 10–12, 15, 16). Elytra wider than in male. Head 1.33 times as wide as interocular distance. Ratio of pronotal width near anterior angles, at widest part and at base 4 : 5.7 : 4.3 respectively. Elytra 1.8 times as long as wide, 3.14 times as long and 1.64 times as wide as pronotum, 2.13 times as wide as head. Mucron short (1.2 mm).

Ovipositor elongate, basal part of ovipositor (paraprocts) short (0.4 length of ovipositor), apical part long (0.6 length of ovipositor). Ovipositor coxites wide later-



Figs. 4–6. *Medvedevia glebi* sp. n., female, habitus: (4) dorsal view, (5) ventral view, (6) lateral view.

ally, apical lobes narrow in apical half. Ventral side of ovipositor covered with moderately long light setae in the middle. Dorsal surface of lobes closer to proctiger with elongate punctures without setae. Anterior margins of proctiger narrowly rounded, with moderately long light setae. Stem of spiculum ventrale moderately long (0.65 of total length of spicule). Anterior margin of spiculum ventrale widely rounded, apical half of sternite VIII covered with short setae. Basal duct of spermatheca between vagina and reservoirs moderately long (0.5 body length), reservoirs of spermatheca long, thin, slightly separate from each other, 1st reservoir slightly larger than 2nd. Accessory gland of spermatheca long relatively to basal duct (their lengths ratio 3 : 4), basal

part of gland very thin; gland significantly distant from the reservoirs.

Body length 23.3–24.1 mm, width 9–9.5 mm.

Etymology. The species is named after Gleb Sergeevich Medvedev.

TAXONOMIC NOTES

Chinese researchers (Ren et al., 2016) erected the subtribe Dilina for the genera *Coelocnemodes*, *Dila* and *Hoplitoblaps* Fairmaire, 1888 based to the presence of one tooth (or several teeth) on the profemora and absence of a hair tuft between male abdominal ventrites



Figs. 7–9. *Medvedevia glebi* sp. n., aedeagus: (7) dorsal view, (8) ventral view, (9) lateral view. Scale bars 1 mm.

1 and 2. In the mentioned monograph, the Chinese species of Blaptini were analyzed based on 20 characters (Ren et al., 2016: Fig. 13) and divided into three “monophyletic branches” corresponding to the subtribes Pro-sodina, Blaptina and Gnaptorinina. The similarity of the subtribes Dilina and Blaptina was recently discussed by

I. Chigray et al. (2019). The structure of the male genitalia and ovipositors of Dilina are very similar to those in many species of *Blaps*. A close similarity of the larvae of *Dila* and of some *Blaps* (Skopin, 1960) also supports close relationship between these genera; thus a new syn-



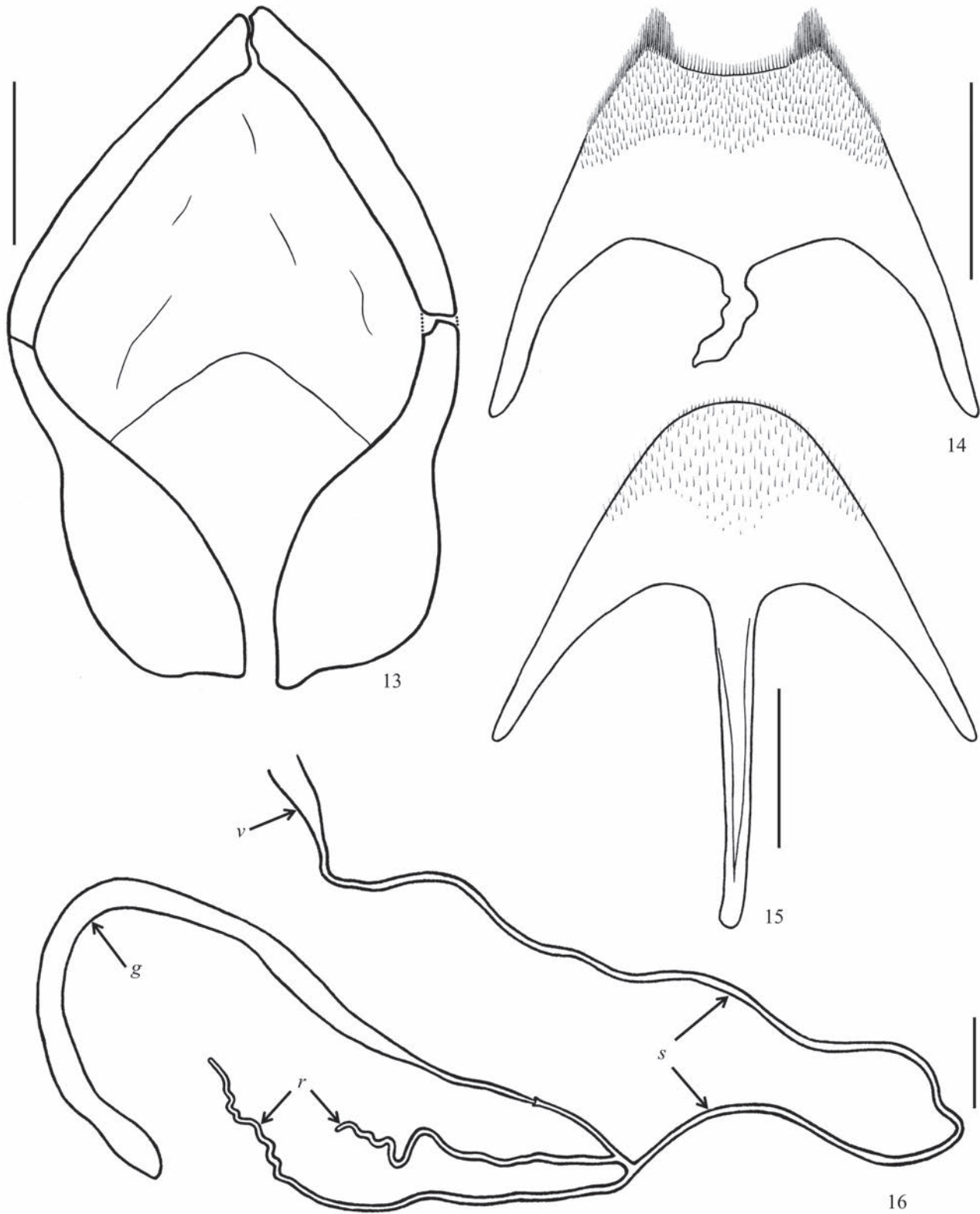
Figs. 10–12. *Medvedevia glebi* sp. n., ovipositor: (10) ventral view, (11) dorsal view, (12) lateral view. Scale bars 1 mm.

onymy is proposed here: *Blaptina* Leach, 1815 = *Dilina* Ren in Ren et al., 2016, syn. n.

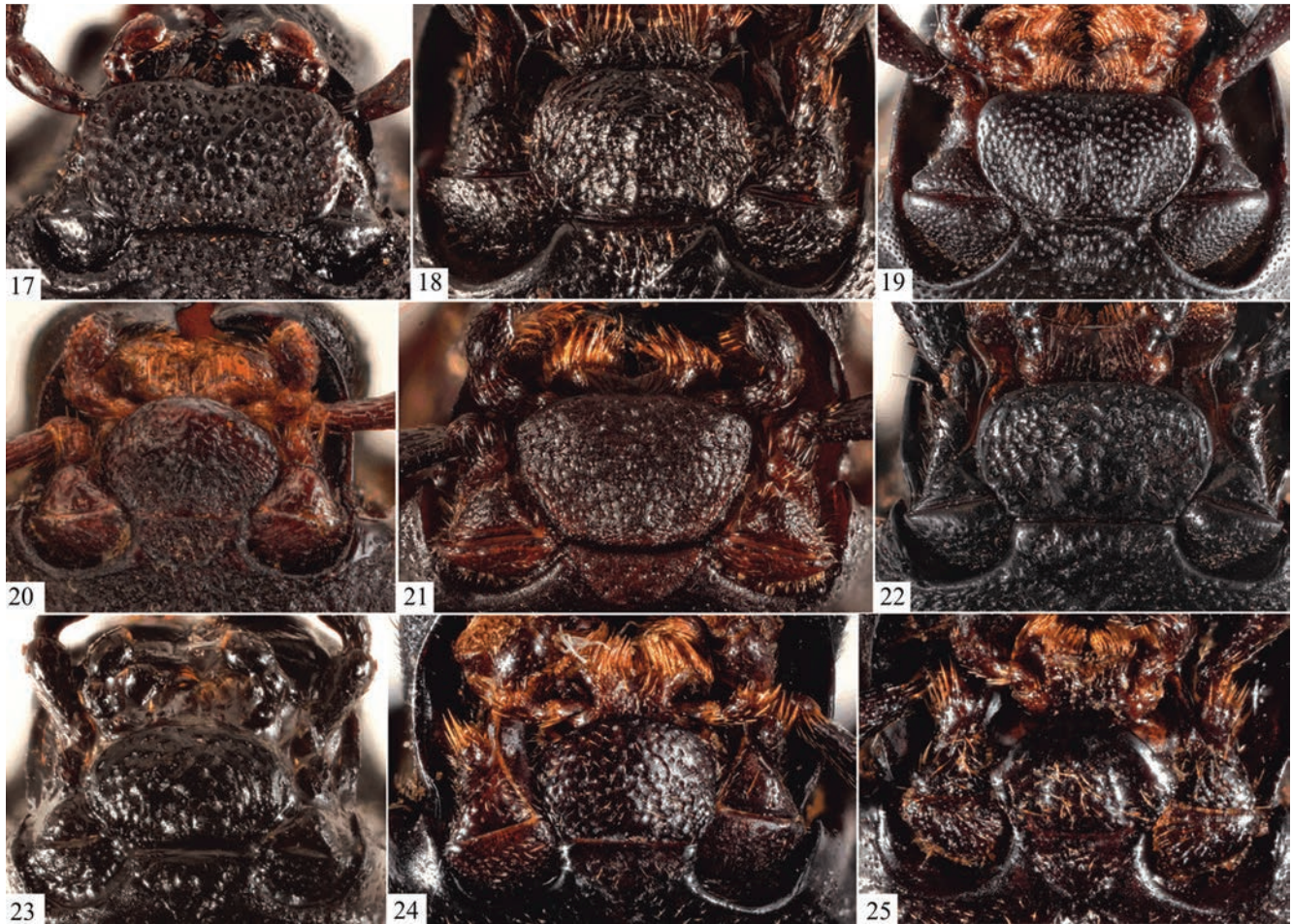
DISCUSSION

It is reasonable to compare some characters of the new genus with those of other taxa of the tribe Blaptini in more details. In general, *Medvedevia* gen. n. is similar to all the genera of the subtribe, and particularly to the genus *Blaps* in having the tarsomeres not compressed laterally and in the presence of the elytral mucron in both sexes. The mentum in *Medvedevia* gen. n. is very large, covering parts of the cardo and stipes, and completely concealing the base of the labial palpi (unique character within Blaptini), while the mentum in other Blaptini is smaller, so that their cardo, stipes and base of

labial palpi are visible (Figs. 17–25). The antennae in *Medvedevia* gen. n. are very long with the antennomere 7 reaching the base of pronotum, while the antennae in species of *Blaps* are much shorter (but in *Blaps berezowskii* G. Medvedev, 1998 comparable in length to those of *Medvedevia glebi* gen. et sp. n.) and do not reach the elytral base or reach it only by one/two apical antennomeres. The antennomere 7 in *Medvedevia* gen. n. is much longer than antennomere 8, which is also characteristic of the genus *Protoblaps* Medvedev, 1998, but the males of the latter genus have setal brushes on the plantar surface of the pro- and mesotarsomeres (Medvedev, 1998). The processes of the mesoventrite and abdominal ventrite 1 in *Medvedevia* gen. n. are very wide. The distance between the mesocoxae is 1.1 times the transverse diameter of a mesocoxa, while that of other taxa of Blaptina



Figs. 13–16. *Medvedevia glebi* sp. n.: (13) spiculum gastrale, (14) male sternite VIII, (15) spiculum ventral, (16) female genital tube [(g) accessory gland of spermatheca, (r) reservoirs, (s) basal duct of spermatheca, (v) vagina]. Scale bars 1 mm.



Figs. 17–25. Blaptina, mentum: (17) *Medvedevia glebi* sp. n.; (18) *Blaps mortisaga* Linnaeus, 1758; (19) *Dila laevicollis* Gebler, 1841; (20) *Protoblaps kashkarovi* G. Medvedev, 1998; (21) *Dilablaps paradoxa* Bogatchev, 1976; (22) *Coelocnemodes aspericollis* Fairmaire, 1886; (23) *Thaumatoablaps marikovskiji* Kaszab et G. Medvedev, 1984; (24) *Ablapsis compressipes* Reitter, 1887; (25) *Nalepa cylindracea* Reitter, 1887.

it is 1.3–2.2 times that. The distance between the metacoxae of *Medvedevia* gen. n. is subequal to the transverse diameter of the metacoxa, while the latter in other taxa of Blaptina is 1.5–2.1 times the distance between metacoxae. The structure of the genitalia in *Medvedevia* gen. n. combines the characters of different genera of Blaptini. The aedeagus in *Medvedevia* gen. n. is “archaic” and similar to that in species of *Dila* (Chigray et al., 2019) and some Himalayan species of the subgenus *Oliprosodes* Reitter, 1909 of *Prosodes* (Medvedev, 2001). The parameres in *Medvedevia* gen. n. are cleft in the apical quarter, which is also characteristic of the genus *Gnaptor*, but those in species of the latter genus are rather modified, i.e. S-curved and flattened dorsoventrally, although species of the subgenus *Plesiognaptor* I. Chigray, Nabozhenko et Keskin, 2015 (Chigray et al.,

2015) have straight parameres cleft near the apex. The spiculum gastrale in the new genus looks “archaic”: the rods are free at apex and do not form a common stem, the rods are not completely fused (with a trace of a suture between them), and the same pertains to the lobes of spiculum gastrale. This structure of the spiculum gastrale is similar to that in *Prosodes* (*Oliprosodes*) *laevicostata* G. Medvedev, 1999 from eastern Afghanistan (Nangarhar Province) (Medvedev, 1999). The ovipositor of *Medvedevia* gen. n. is characterized by some specialized features, such as its wide base, and also very long and narrow apical lobes (both are reminiscent of those in species of *Prosodes*). The apical ovipositor lobes in *Prosodes* are also very long and adapted for digging (Medvedev, 2001; I. Chigray et al., 2018), in contrast to *Blaps*, whose ovipositor is much shorter, adapted

for lying eggs in loose substrate (Medvedev, 2001; I. Chigray and Nabozhenko, 2016; I. Chigray et al., 2016). The spermatheca in *Medvedevia* gen. n. looks “archaic”, i.e. with the basal duct slightly longer than gland, reservoirs thin and their bases approximated. In general, the structure of both aedeagus and spermatheca *Medvedevia glebi* gen. et sp. n. is similar to that in many species of *Dila* (Chigray et al., 2019).

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