

## New species of *Brachycerus* Olivier (Coleoptera: Brachyceridae) from Turkey

## Новый вид рода *Brachycerus* Olivier (Coleoptera: Brachyceridae) из Турции

Ju.G. Arzanov<sup>1</sup> & A.-L.-L. Friedman<sup>2</sup>  
Ю.Г. Арзанов<sup>1</sup>, А.-Л.-Л. Фридман<sup>2</sup>

<sup>1</sup> Institute of arid zones of RAS, Chekhov str., 41, Rostov-on-Don 344006, Russia. E-mail: arz99@mail.ru

<sup>1</sup> Институт аридных зон ЮНЦ РАН, пр. Чехова, 41, Ростов-на-Дону 344006, Россия.

<sup>2</sup> Department of Zoology, The George S. Wise Faculty of Life Sciences, Tel Aviv University, Tel Aviv 69978, Israel. E-mail: laibale@post.tau.ac.il

KEY WORDS: Coleoptera, Brachyceridae, new species, Turkey.

КЛЮЧЕВЫЕ СЛОВА: Coleoptera, Brachyceridae, новый вид, Турция.

ABSTRACT. *Brachycerus anatolicus* sp.n. is described. The new species is unique among all known Palaearctic *Brachycerus* in possessing distinct rounded tubercles on the pronotum. It resembles *B. foveicollis*, particularly in the form and sculpture of the elytra, but has no prominent postocular lobe on the anterolateral margin of the pronotum.

РЕЗЮМЕ. Описан новый вид *Brachycerus anatolicus* sp.n., отличающийся от всех известных в Палеарктике видов рода хорошо развитыми круглыми уплощёнными зёрнами на переднеспинке. Новый вид по ряду признаков, особенно форме и скульптуре надкрылий, близок к *B. foveicollis*, однако не имеет заглазничных лопастей по переднему боковому краю переднеспинки. По форме и скульптуре надкрылий *B. anatolicus* sp.n. может быть сближен с видами группы *aegyptiacus*, а по форме переднеспинки и гениталий — с видами группы *orbipennis*.

The genus *Brachycerus* Olivier, 1789 (Curculionidae: Brachyceridae) comprises approximately 50 species in the Palaearctic Region [Pape, 1910; Zumpt, 1937; Colonnelli, 2011]. Several studies on the East Mediterranean *Brachycerus* were published recently [Arzanov, 2005, 2011; Friedman & Sagiv, 2010]. The most up-to-date study on the Turkish *Brachycerus* fauna was that of Lodos [1977], who recorded “about 12 species and 4 varieties”, including old records by Zumpt [1937]. Colonnelli [2011] listed 13 species from Turkey. The real number of *Brachycerus* species in Turkey is probably higher and its study requires additional collecting efforts. Here we describe a new species that is widely distributed all over the Anatolian Plateau from series collected in the last four years.

The holotype and four paratypes are deposited in the Zoological Institute, St. Petersburg, Russia (ZIN); other

paratypes are deposited: seven paratypes in the private collection of P. Białooki, Gdynia, Poland (BIAL), two paratypes in the private collection of Ju.G. Arzanov, Rostov-on-Don, Russia (ARZ), four paratypes in the private collection of Jiří Kratký, Hradec Kralove, Czech Republic (JKR), four paratypes in the National Collection of Insects, Tel Aviv University, Tel Aviv, Israel (TAUI) and one paratype the Hungarian Natural History Museum, Budapest Hungary (HNHM).

The distribution map was produced with the help of DIVA-GIS free software.

*Brachycerus anatolicus* Arzanov et Friedman sp.n.  
Figs 1–9.

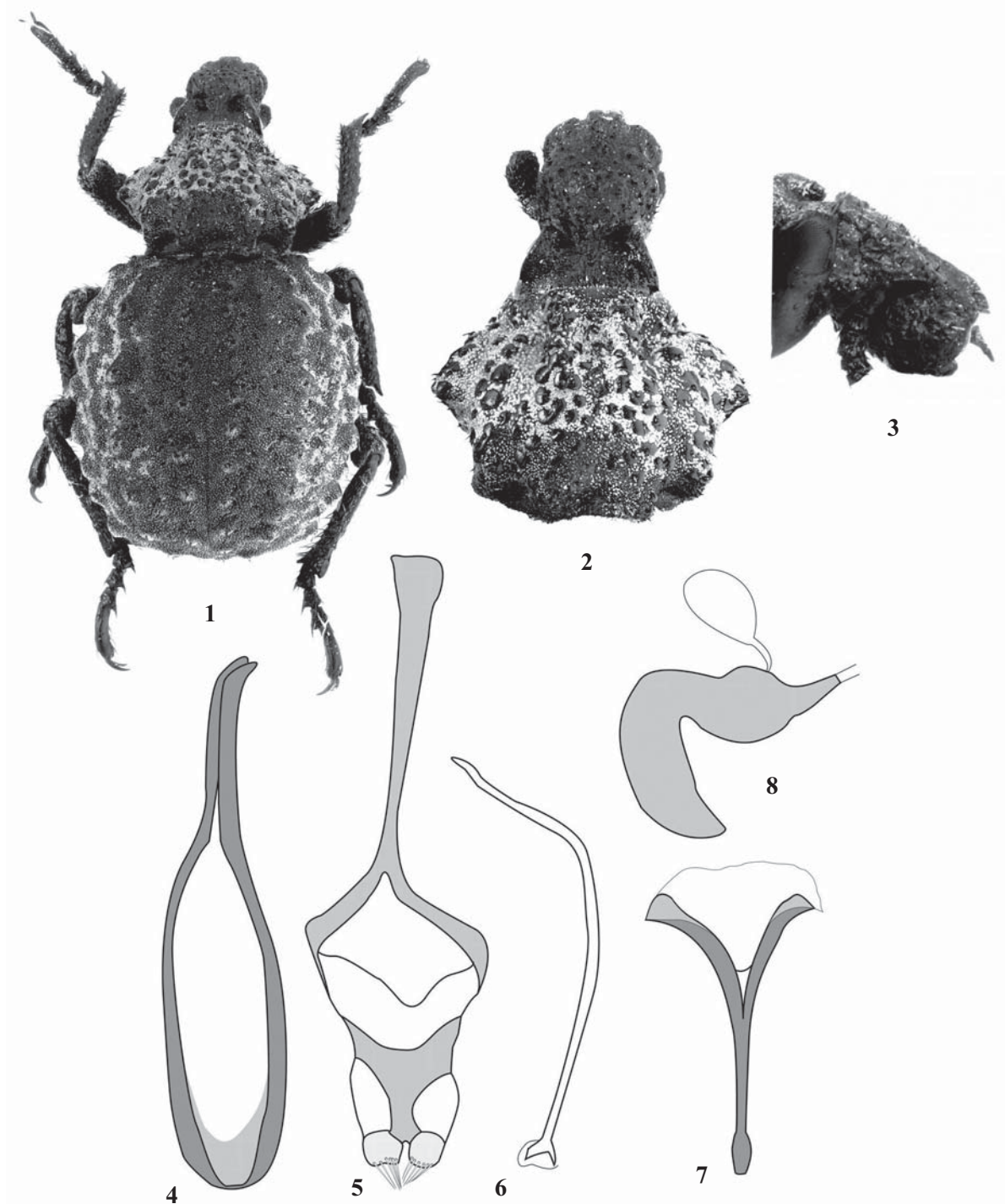
MATERIAL. Holotype: ♀, Turkey, prov. Çorum, Büğet, 1400 m, 4.VI.2009, M. Nabozhenko [ZIN]. Paratypes: 13♂♂, 8♀♀, Turkey, Güzeloluk, 1600 m, 23–24.V.1995, M. Samek, [2♂♂ JKR], T. Kopecký [3♂♂ JKR; 2♂♂ ZIN]; 2♀♀, Turkey, Western Taurus, prov. Mersin, near Arslanköy, 16.IV.2007, M. Nabozhenko [♀ ZIN, ♀ ARZ]; 2♀♀, W Turkey, Alaçabel Geçidi, NE Akseki, 12.V.2008, P. Białooki [♀ BIAL, ♀ TAUI]; ♀, W Turkey, Mt. 1951 m, NE Hadım, 15.V.2008, P. Białooki [TAUI]; ♂, 2♀♀ W Turkey, Mt. Hacibaba, W Karaman, 27.V.2008, P. Białooki [BIAL]; 2♂♂, ♀, C Turkey, Sekkin Geçidi, NW Niğde, 24.V.2009, P. Białooki [♂, ♀ BIAL; ♂ TAUI]; 3♂♂, ♀, CS Turkey, Mt. 2369 m, NE Tirtar (NW Mersin), 22.V.2008, P. Białooki [♂, ♀ BIAL; ♂ TAUI; ♂ HNHM].

DESCRIPTION. Body length: male 0.6–1.1 mm, female 0.6–0.9 mm. Body bare or covered with minute rounded semiopaque scales and black bristles. Body sculpture comprises dense and minute puncturation, some punctures merging to form sinuous wrinkles.

Rostrum (Figs 2–3) slightly oblong, 1.02 times as long as wide, dilated mesodorsally into blunt projection above antennal furrow, constricted subbasally; sculpture of rostrum rough, comprised of shallow, large, merging punctures. Epistome distinct, moderately projecting, hoof-form, concave medially. Frons concave, rostrum extending posteromedially into flattened longitudinal ridge. Eye (Figs 2–3) rounded, flat; eye orbit narrow, incrassated anterodorsally. Antenna short and stout, scapus as long as two successive segments, flagellomeres transverse, club short and wide.

Pronotum (Figs 1–2) transverse, 0.60–0.65 times as long as wide, with wide, apically tapering lateral lobe; anterior margin of pronotum rounded, slightly extended over head at its median part, laterally without ocular lobes; median furrow distinct at apical third, deep; pronotal ridges slightly or moderately projected (as in *foveicollis*), median ridge of pronotum slender at anterior third, swollen and expanded

along median two thirds, posterior end roundly tapering, slightly projecting beyond posterior margin of pronotum, lateromedian ridge more or less distinct. Sculpture of pronotum coarse, comprised of punctures, wrinkles and tubercles; tubercles flattened rounded or bean-shaped, occasionally bearing single bristles, tubercles particularly distinct and numerous on ridges.



Figs 1–8. *Brachycerus anatolicus* sp.n.: 1 — habitus; 2 — head and pronotum; 3 — head; 4 — aedeagus; 5 — tegmen; 6 — spiculum gastrale; 7 — spiculum ventrale; 8 — spermatheca. 1–2, 4–8 — dorsal view; 3 — lateral view.

Рис. 1–8. *Brachycerus anatolicus* sp.n.: 1 — внешний вид; 2 — голова и переднеспинка; 3 — голова; 4 — эдеагус; 5 — тегмен; 6 — гастральная спикула; 7 — вентральная спикула; 8 — сперматека. 1–2, 4–8 — сверху; 3 — сбоку.



Fig. 9. Map of distribution of *Brachycerus anatolicus* sp.n.  
Рис. 9. Карта распространения *Brachycerus anatolicus* sp.n.

Elytra (Fig. 1) of *aegyptiacus*-type [sensu Friedman & Sagiv, 2010], rounded, globular, as long as wide, 0.5–0.6 mm, all elytral ridges more or less distinct, sutural, subsutural, median and lateral ridges usually more distinct, tubercles prominent, rounded, sometimes merged into sequential ridges, in smaller specimens tubercles well separated, tubercles bearing groups of short black bristles or single bristles. Surface of elytra densely covered by minute punctures.

Epipleuron with distinct large tubercles.

Legs long, femora not incrassated, pro- and mesotibia shorter than pro- and mesofemur respectively, metatibia as long as metafemur. Tarsi short, tarsomeres slightly oblong. Onychium longer than rest of tarsomeres.

Male genitalia: Aedeagus (Fig. 4) strongly sclerotized, nearly flat dorsoventrally, laterally slightly rounded. Tegmen (Fig. 5) strongly concave, enveloping, sclerotized medially, parameroid lobes distinctly separated, bearing strong macrochaetae, manubrium straight, sclerotized, 1.5 times as long as tegminal plate. Spiculum gastrale (Fig. 6) long and slender, with minute arms.

Female genitalia: Spiculum ventrale (Fig. 7) with arms slightly shorter than apodeme. Spermatheca (Fig. 8): duct-lobe (collum, nodulus) rounded, short, narrowed apically, gland-lobe (ramus) globular, tail (kornu) elongate, slightly swollen, roundly pointed apically, spermathecal gland obovoid or spherical, diffuse.

DISTRIBUTION. *B. anatolicus* sp.n. is known so far only from the Asian part of Turkey; most specimens were collected in south-western Turkey and one specimen in northern Turkey, suggesting that the species is more widely distributed over the Anatolian Peninsula (Fig. 9).

DIAGNOSIS. *B. anatolicus* sp.n. is unique among the Palaearctic *Brachycerus* species by possessing tubercles on the pronotum, particularly on the median ridges, in contrary to other species possessing punctures. It resembles *B. foveicollis* Gyllenhal, 1833 and *B. freyi* Zumpt, 1937 in the form of the pronotum and elytra and in the sculpture of the elytral surface, but differs from the first by the lack of anterolateral

ocular lobes on the pronotum, and from the latter by the distinct and prominent elytral tubercles.

ETYMOLOGY. The epithet *anatolicus* refers to the distribution of the species on the Anatolian Peninsula, also known as Asia Minor (Turkey).

SYSTEMATIC NOTES. *B. anatolicus* sp.n. shows affinities to the *aegyptiacus* species group, particularly in the form of the elytra, and to the *orbipennis* species groups, particularly in the form of the pronotum and genitalia.

ACKNOWLEDGMENTS. We are grateful to P. Białocki (Gdynia, Poland), V. Zieris, M. Samek and T. Kopecký (Pardubice, Czech Republic), J. Kratký (Hradec Karlove, Czech Republic), A.G. Koval' (All-Russian Institute for Plant Protection (VIZR), St. Petersburg, Russia) and M.V. Nabozhenko (Institute of arid zones of RAS, Rostov-on-Don, Russia) for loans of large numbers of *Brachycerus* specimens collected by them in the Balkan Peninsula, Turkey and Syria, Netta Dorchin (Tel Aviv University, Israel) for reviewing the early draft of the English version of the text, Claudia Drees (Leuphana Universität, Lüneburg, Germany) for help in producing the distribution map and K.V. Makarov (MPU, Moscow, Russia) for providing photographs of high quality. We thank the Israeli Ministry of Science, Culture and Sport for their support of the National Collections of Natural History at Tel Aviv University as a biodiversity, environment and agriculture research knowledge center. This research was supported by the SYNTHESYS Project (<http://www.synthesys.info>), financed by the European Community Research Infrastructure Action under the FP7 Integrating Activities Programme.

## References

- Arzanov Yu.G. 2005. [Review of weevils of the genus *Brachycerus* Olivier (Coleoptera: Brachyceridae) from the European part of Russia, the Caucasus and contiguous countries] // *Caucasian Entomological Bulletin*. Vol.1. No.1. P.65–80 [in Russian].
- Arzanov Yu.G. 2011. New species of genera *Brachycerus* Billberg, 1820 (Coleoptera: Brachyceridae) from Syria // *Caucasian Entomological Bulletin*. Vol.7. No1. P.57–59.
- Colonnelli E. 2011. *Brachyceridae* // I. Löbl & A. Smetana (eds.). *Catalogue of Palaearctic Coleoptera*. Vol.7. Curculionioidea 1. Apollo Books, Steenstrup. P.182–185.
- Friedman A.-L.-L. & Sagiv A. 2010. Review of the genus *Brachycerus* Olivier in Israel (Coleoptera: Curculionioidea: Brachyceridae: Brachycerinae) // *Israel journal of entomology*. Vol.40. P.25–70.
- Lodos N. 1977. Preliminary list of Curculionidae (Coleoptera) with notes on distribution, abundance and biology of species in Turkey III. *Brachycerus* Ol. // *Turk. Bit. Kor. Derg.* Vol.1. No.2. P.29–38.
- Pape P. 1910. *Brachyceridae* // W. Junk & S. Schenkling (Hrsg.). *Coleopterorum Catalogus*. Berlin. 36 S.
- Zumpt F. 1937. Revision der palaearctischen *Brachycerus*-Arten // *Entomologische Blätter*. Bd.33. H.5. S.348–426.