

## Contribution to the knowledge of the *Carabus* Linnaeus, 1758 subgenus *Microtribax* Gottwald, 1982 in the North Caucasus, with description of a new subspecies (Coleoptera: Carabidae)

### К познанию подрода *Microtribax* Gottwald, 1982 рода *Carabus* Linnaeus, 1758 (Coleoptera: Carabidae) на Северном Кавказе и описание нового подвида

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**KEY WORDS:** Coleoptera, Carabidae, *Carabus*, *Microtribax*, North Caucasus, distribution, ecology, iconography, a new subspecies, a new synonym.

**КЛЮЧЕВЫЕ СЛОВА:** Coleoptera, Carabidae, *Carabus*, *Microtribax*, Северный Кавказ, распространение, экология, иконография, новый подвид, новый синоним.

**ABSTRACT.** On the basis of material collected by the authors in 2015–2018 in the central and eastern parts of the North Caucasus, as well as in the north-eastern part of Georgia, new data are provided on nomenclature, taxonomy, distribution, and ecology of the genus *Carabus* Linnaeus, 1758 subgenus *Microtribax* Gottwald, 1982. A new subspecies *C. nothus sharoiensis* **ssp.n.** from the vicinities of the village Sharoy in the interfluvium of rivers Argun and Sharoargun is described. *C. kasakorum scintillans* Rapuzzi, 2018, **syn.n.** is synonymized with *C. kasakorum tschetschenicus* Semenov, 1896, *C. kasakorum daghestanicola* Rapuzzi, 2018 is assigned to *C. nothus* Adams, 1817, systematic affiliation of *C. planipennis abdurakhmanovi* Belousov, 1995, **nom.nud.** is discussed.

**РЕЗЮМЕ.** На основе материала, собранного авторами в 2015–2018 гг. в центральной и восточной частях Северного Кавказа, а также в северо-восточной части Грузии, приводятся новые данные по номенклатуре, систематике, распространению и эко-

логии подрода *Microtribax* Gottwald, 1982 рода *Carabus* Linnaeus, 1758. Описывается новый подвид *C. nothus sharoiensis* **ssp.n.** из окрестностей села Шарой в междуречье рек Аргун и Шароаргун. *C. kasakorum scintillans* Rapuzzi, 2018, **syn.n.** синонимизирован с *C. kasakorum tschetschenicus* Semenov, 1896, *C. kasakorum daghestanicola* Rapuzzi, 2018 отнесен к *C. nothus* Adams, 1817, обсуждается систематическая принадлежность *C. planipennis abdurakhmanovi* Belousov, 1995, **nom.nud.**

### Introduction

The subgenus *Microtribax* Gottwald, 1982 has been established to house 6 species earlier attributed by Gottwald [1980] to the “*nothus*-Gruppe” of *Tribax* Fischer von Waldheim, 1817. This subgenus was also accepted by Kryzhanovskij et al. [1995], Bousquet et al. [2003], Retezár [2015], and many other authors. Březina et al. [2017] treated the *Microtribax* attributed

species within the subgenus *Tribax*, following Deuve's concept [2004] of the genus *Carabus* subdivisions, this approach being justified in the same book above [Huber et al., 2017]. Unfortunately Osawa et al. [2004] did not record the *Microtribax*-species in their book on the molecular phylogeny of *Carabus*, thus their probable taxonomic status seems to remain unresolved till now. We follow hereafter the system of the genus *Carabus* accepted by Makarov et al. in their "Taxonomical list of ground beetles (Carabidae) of Russia" [2013]. Makarov et al. [2018] and Březina et al. [2017] recognized two species of the group in question in the North Caucasus, namely *C. nothus* Adams, 1817 and *C. kasakorum* Semenov, 1896, some aspects of their distribution, taxonomy, and ecology are discussed below.

Material has been collected mainly by the authors in 2015–2018 during expeditions to the North Ossetia, Ingushetia, Chechnya, as well as to the north-eastern part of Georgia, adjoining these territories of the North Caucasus. Comparison of the external morphological characters and male genitalia structure of the populations studied testifies to subspecificity of the ones distributed at the mountain masses of Skalistyi Mt. Range between valleys of Argun and Sharoargun, a new taxon erected to include them is described below. We have to note also, that one of the subspecies

recently described by Rapuzzi [2018], *C. kasakorum scintillans* Rapuzzi, 2018, actually originates from the type locality of *C. kasakorum tschetschenicus* Semenov, 1896, namely Mt. Stolovaya (= Matkhokh, or Matchoch), both taxa being identical morphologically and representing subjective synonyms. Another subspecies described in the same paper, *C. kasakorum daghestanica* Rapuzzi, 2018, basing on its main morphological features, particularly endophallus structure, should be attributed to different species *C. nothus*. According to available material, distribution range of *C. kasakorum* reaches the left bank of Argun in the east and does not cross this river valley, further eastwards, at the northern macroslopes of the Greater Caucasus, it is substituted by *C. nothus* Adams, 1817 (Fig. 1). The unpublished name "*C. planipennis abdurakhmanovi*" [Kryzhanovskij et al., 1995] should be attributed to *C. nothus daghestanica* too.

Standard methods were applied for treating the material. Endophallus inflation methods generally follow Janovska et al. [2013]. Pictures of the habitus and male genitalia were taken using a Canon EOS 5D, Mark III camera with a Canon MP-E 65 mm macro photo lens. External characters were studied with the LZOS MBS-10 and PZO MST-131 stereoscopes. Digital photographs of the morphological structures were taken by Dr. K. Makarov, live and biotope photographs — by the

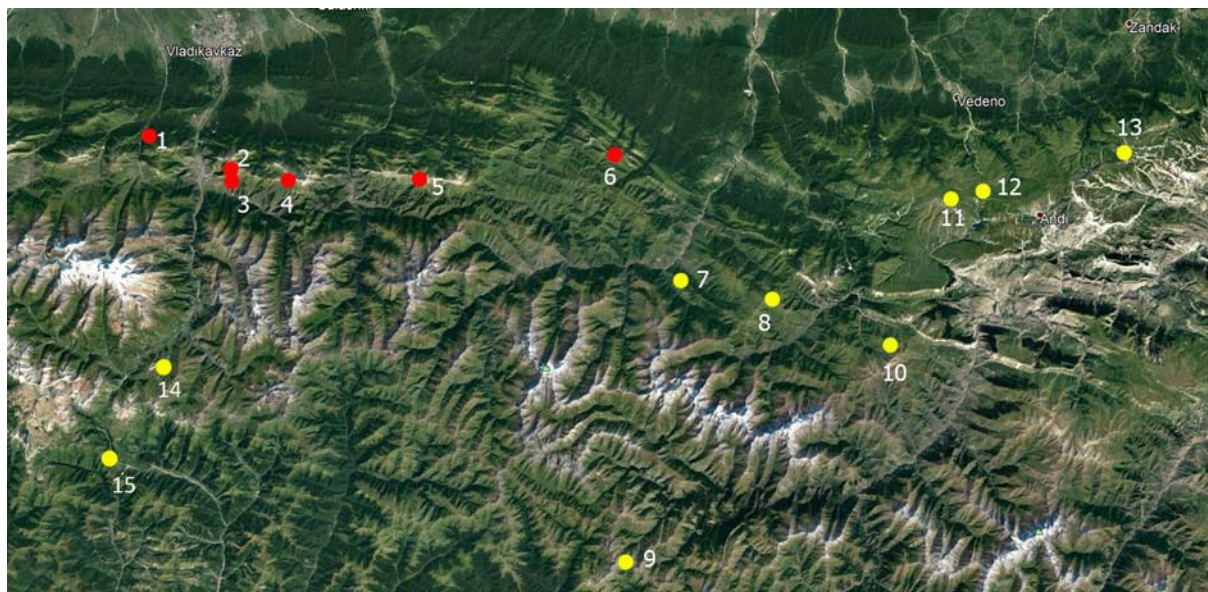


Fig. 1. Studied localities of the *Carabus* subgenus *Microtribax* in the central and eastern parts of the North and South Caucasus: 1 — *C. kasakorum kasakorum*; 2–6 — *C. kasakorum tschetschenicus*; 7–8 — *C. nothus sharoensis* ssp. n.; 9 — *C. nothus planipennis*; 10–13 — *C. nothus daghestanica*; 14–15 — *C. nothus nothus*; 1 — Mt. Fetkhuz, 900 m; 2 — Mt. Stolovaya, 2800 m; 3 — Mt. Stolovaya, 2200 m; 4 — Mt. Giryag, 2360 m; 5 — Mt. Khakhalgi, 2500 m; 6 — Mt. Ekkyrkort, 2230 m; 7 — Veduchi environs, 1200–1400 m; 8 — Sharoy environs, 2400 m; 9 — Pass Abano, 3000–3100 m; 10 — Mt. Zainkort, 2300–2800 m; 11 — Lake Kazenoy-Am vicinities, 2350 m; 12 — Pass Kharami (type locality); 13 — Andiyskiy Mt. Range, 2350 m; 14 — Sioni environs, 2450 m; 15 — Zemo-Mleta environs, 1730 m.

Рис. 1. Изученное распространение подрода *Microtribax* рода *Carabus* в центральной и восточной частях Северного Кавказа и Закавказья: 1 — *C. kasakorum kasakorum*; 2–6 — *C. kasakorum tschetschenicus*; 7–8 — *C. nothus sharoensis* ssp. n.; 9 — *C. nothus planipennis*; 10–13 — *C. nothus daghestanica*; 14–15 — *C. nothus nothus*; 1 — г. Фетхуз, 900 м над ур. м.; 2 — г. Столовая, 2800 м над ур. м.; 3 — г. Столовая, 2200 м над ур. м.; 4 — г. Гиряг, 2360 м над ур. м.; 5 — г. Хахалги, 2500 м над ур. м.; 6 — г. Эккыркорт, 2230 м над ур. м.; 7 — окр. Ведучи, 1200–1400 м над ур. м.; 8 — окр. Шарой, 2400 м над ур. м.; 9 — пер. Абано, 3000–3100 м над ур. м.; 10 — г. Заинкорт, 2300–2800 м над ур. м.; 11 — окр. оз. Казеной-ам, 2350 м над ур. м.; 12 — пер. Харамы (типичное местонахождение); 13 — Андийский хр., 2350 м над ур. м.; 14 — окр. Сиони, 2450 м над ур. м.; 15 — окр. Земо-Млета, 1730 м над ур. м.

authors. Measurements were taken using the stereoscopes with an ocular-micrometer as follows: general body length (GBL), measured from the tips of mandibles to the elytral apex; standard body length (SBL), measured from the anterior margin of the clypeus to the elytral apex; head width (HW), measured as the maximum linear distance across the head, including the compound eyes; maximum width of pronotum measured at its broadest point (PW); minimum width of pronotum (PB), measured at its narrowest point near the hind angles; length of pronotum (PL), measured along its median line; length of elytra (EL), measured from the basal border in the scutellar region to the apex of the sutural angle; maximum width of the elytra (EW) measured at their broadest point. The following ratios were also measured: PW/HW; PW/PL; PW/PB; EW/P; EL/EW. Most of measurements and indices are given in a separate table (Tables 1–2) to facilitate comparisons between *C. nothus sharoiensis* **ssp.n.** and *C. nothus daghestanicola* populations. Homology of the morphological structures of endophallus are depicted in the Fig. 2. Their names generally follow those given by Shilenkov [1996], with some modifications and additions already applied in our previous papers [Fominykh et al., 2016, etc.].

The following acronyms are used for the depositories of the specimens examined: ZISP — Zoological Institute of the Russian Academy of Sciences (St. Petersburg, Russia); ZMMU — Zoological Museum of the Moscow State University (Moscow, Russia); MPSU —

Moscow Pedagogical State University, Chair of Zoology and Ecology (Moscow, Russia); CFDD — Private collection of D.D. Fominykh (Krasnodar, Russia); CTAY — Private collection of A.Yu. Titarenko (Moscow, Russia); CZAM — Private collection of A.S. Zamotajlov (Krasnodar, Russia); CATA — Private collection of T.A. Avtaeva (Grozny, Russia).

## Results

### *Carabus (Microtribax) nothus daghestanicola* Rapuzzi, 2018

Figs 1, 11–18, 23–26, 38–41, 45–46, 49–50.

Rapuzzi, 2018: 408 (*Carabus kasakorum* ssp.). *Carabus plinipennis abdurakhmanovi* in. litt.: Kryzhanovskij et al., 1995: 55, **nom.nud.**; Abdurakhmanov G., Davydova, 1999: 9; Abdurakhmanov V., 2012: 102; Erzhapova, 2012: 106; Fominykh, Zamotajlov, 2017: 527. *Carabus abdurakhmanovi* in. litt.: Abdurakhmanov et al., 2007: 198, **nom.nud.**; Abdurakhmanov, 2009: 297; Avtaeva, Kushaliev, 2017: 9.

MATERIAL. 178♂♂, 184♀♀ (ZMMU, MPSU, CFDD, CTAY, CZAM, CATA), **Russia**, North Caucasus, Chechnya, Andiyskiy Mt. Range upper river Benoyasy, N slope of Mt. Dzhaldyr, N 42°51'59.90", E 46°26'00.50", h=2350 m, 27.V–14.VII.2018, D.Fominykh, T. Avtaeva, Sh. Kushaliev leg.; 7♂♂, 13♀♀ (CFDD, CTAY, CZAM, CATA), Chechnya, Kashkerlam Mt. Range near Lake Kazenoy-Am, N slope of Mt. Khachkar, N 42°47'52.57", E 46°05'22.31", h=2350 m, 28.V.2018, D. Fominykh leg.; 4♂♂, 8♀♀ (CFDD, CTAY, CZAM, CATA), Chechnya, N slopes of Snegovoy Mt. Range, 5.5 km SE of Kenkhi upper river Kenkhi, N slopes of Mt. Zainkort, N 42°35', E 45°58', h=23002800 m, 27.VI.2015, D. Fominykh leg.

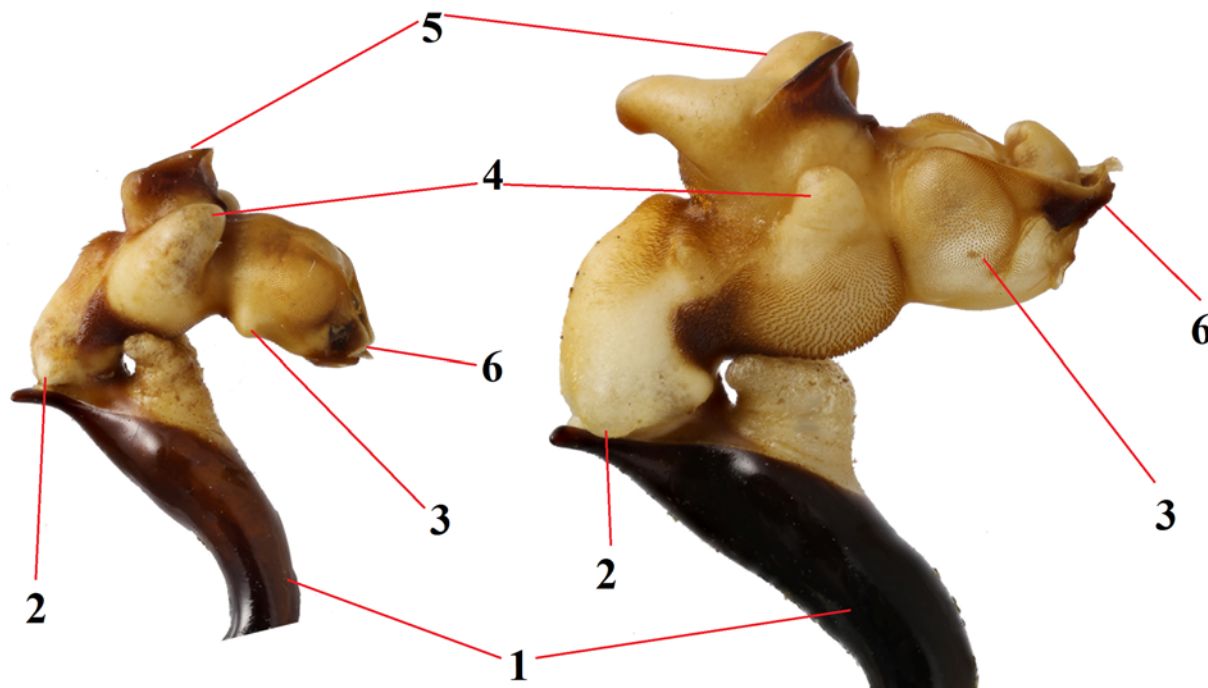


Fig. 2. Apical portion of aedeagus and homology of the fully inflated endophallus preparation in the subgenus *Microtribax*: 1 — tube of penis; 2 — basiolateral lobe; 3 — dorsoapical lobe; 4 — mediolateral lobe; 5 — ventroapical lobe; 6 — aggonoporus.

Рис. 2. Вершина эдеагуса и гомология структур препарата полностью вывернутого внутреннего мешка в подроде *Microtribax*: 1 — трубка пениса; 2 — базилатеральная лопасть; 3 — дорзоапикальная лопасть; 4 — медиолатеральная лопасть; 5 — вентроапикальная лопасть; 6 — аггонопориус.

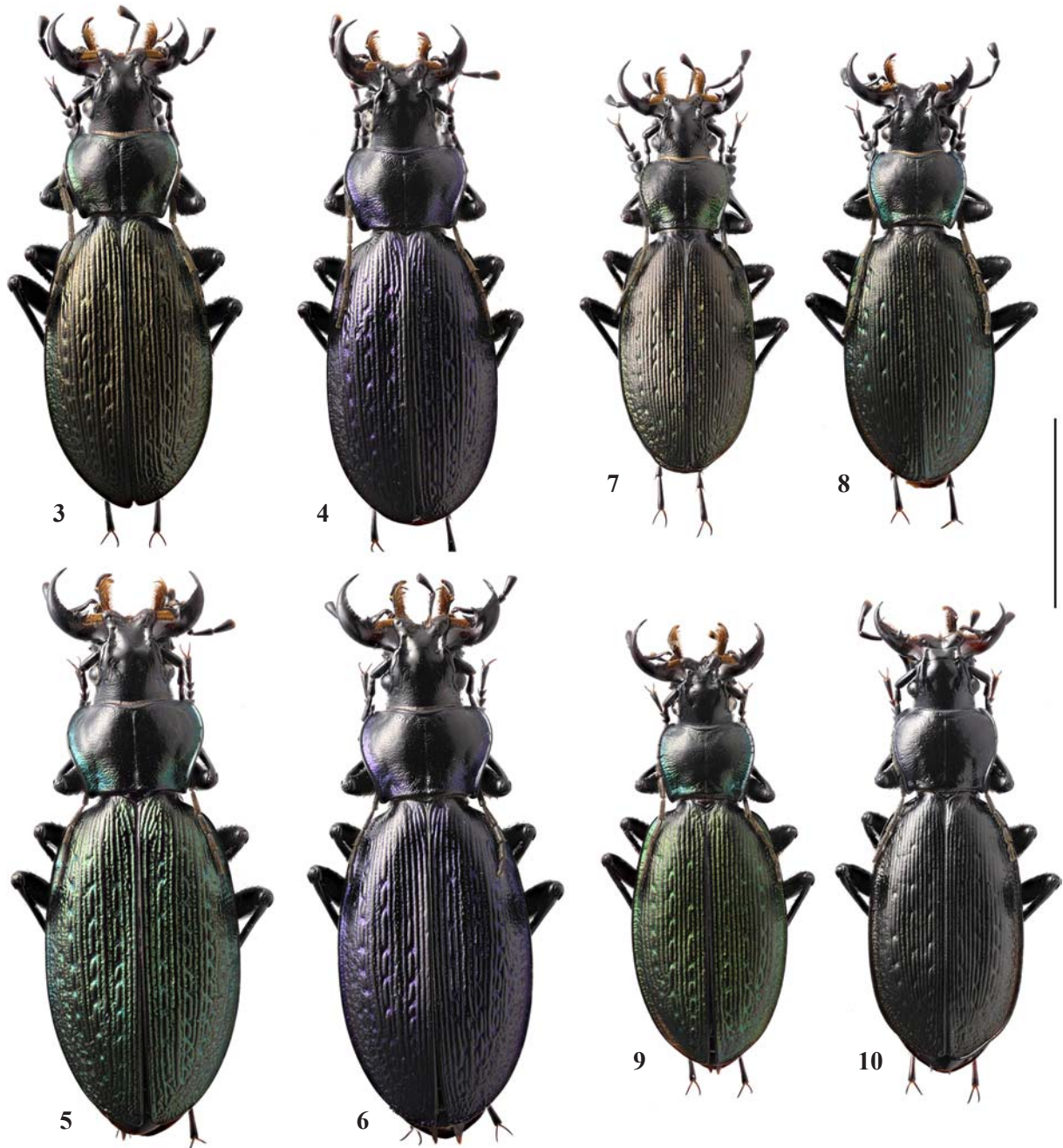
COMPARATIVE MATERIAL. *Carabus (Microtribax) kasakorum kasakorum* Semenov, 1896: 15♂♂, 14♀♀ (CFDD), **Russia**, North Caucasus, North Ossetia, Pastbishchnyi Mt. Range, E slopes of Fetkhuz Mt. Rane, right bank of river Gizeldon, N 42°56', E 44°33', h=900m, 22.V–12.VII.2016, D. Fominykh, A. Zubov leg.

DISTRIBUTION. This subspecies was described from Pass Kharami in the vicinities of Lake Kazenoy-Am, we collected it 5 km south-westwards from the type locality, this material seems to be identical in its characters to the individuals described by Rapuzzi. "*C. planipennis abdurakhmanovi*" was also recorded from Kazenoy-Am vicinities and Andi-

yskiy Mt. Range spatially near to above listed in the material section locality, so correctness of its subspecific affiliation given hereafter is beyond any question too.

In general *C. nothus daghestanicola* is distributed eastwards of Sharoargun valley, at mountain masses of Skalistsiy, Snegovoy, and Andiyskiy Mt. Ranges (Fig. 1), in the south it is substituted by different subspecies *C. nothus planipennis* Chaudoir, 1846, and in the west — by *C. nothus sharoiensis* ssp. n., described below.

REMARKS. This subspecies inhabits alpine zone at 2300–2800 m and gravitates towards the stony hillside wastes.



Figs 3–10. Dorsal habitus of the subgenus *Microtribax*: 3–6 — *C. kasakorum kasakorum*, Mt. Fetkhuz, 900 m; 7–10 — *C. kasakorum tschetschenicus*, Mt. Stolovaya, 2800 m. Scale bar: 10.0 mm.

Рис. 3–10. Габитус видов подрода *Microtribax*: 3–6 — *C. kasakorum kasakorum*, г. Фетхуз, 900 м над ур. м.; 7–10 — *C. kasakorum tschetschenicus*, г. Столовая, 2800 м над ур. м. Масштаб: 10.0 мм.

*Carabus (Microtribax) nothus sharoiensis*  
Fominykh, Zamotajlov, Avtaeva et Titarenko, **ssp.n.**  
Figs 1, 27–37, 47–48, 51.

**MATERIAL.** Holotype ♂ (ZISP), **Russia**, North Caucasus, Chechnya, left bank of river Sharoargun, road between Sharoy and Itum-Kale near Pass Dzheindzhare, N 42°39', E 45°43', h=2400 m, 23.V.2016, D. Fominykh, A. Zubov, T. Avtaeva, Sh. Kushaliev leg.; Paratypes: 27♂♂, 25♀♀ (CFDD, CTAY, CZAM, CATA), same data as holotype; 34♂♂, 21♀♀ (ZMMU, MPSU, CFDD, CTAY, CZAM, CATA), same locality, but 23.V–12.IX.2016, D. Fominykh, A. Zubov, T. Avtaeva, Sh. Kushaliev leg.; 7♂♂, 3♀♀ (CFDD), Chechnya, Vedutchi env., Khacha-Royduk Mt. Range, h=1200–1400m, VI.1990, G. Abdurakhmanov.

**COMPARATIVE MATERIAL.** *Carabus nothus nothus* Adams, 1817: 23♂♂, 26♀♀ (CFDD, CTAY, CZAM), **Georgia**, Mtskheti-Mtianeti, N slopes of Mtiuleti Mt. Range, 2 km N of Sioni, left bank of river Terkhena, N 42°32', E 44°31'2450 m, 1–30.VI.2015, D. Fominykh, A. Zubov leg.; 16♂♂, 22♀♀ (CFDD, CTAY, CZAM), Mtskheti-Mtianeti, NE slopes of Lomisi Mt. Range near Zemo Mleta, N 42°25'28.10", E 44°29'38.90", h=1730 m, 18.VI.VI.2015, A. Zubov, R. Khryapin leg. *Carabus nothus planipennis* Chaudoir, 1846: 85♂♂, 74♀♀ (CFDD, CTAY, CZAM), **Kakheti**, Main Caucasian Range near Pass Abano, N 42°17', E45°29', h=3000–3100 m, 7–18.VII.2017, D. Fominykh leg.

**DESCRIPTION.** Medium sized subspecies (Figs 27–34). GBL = 21.0–26.3 mm, males 21.0–23.2 mm, females 22.5–



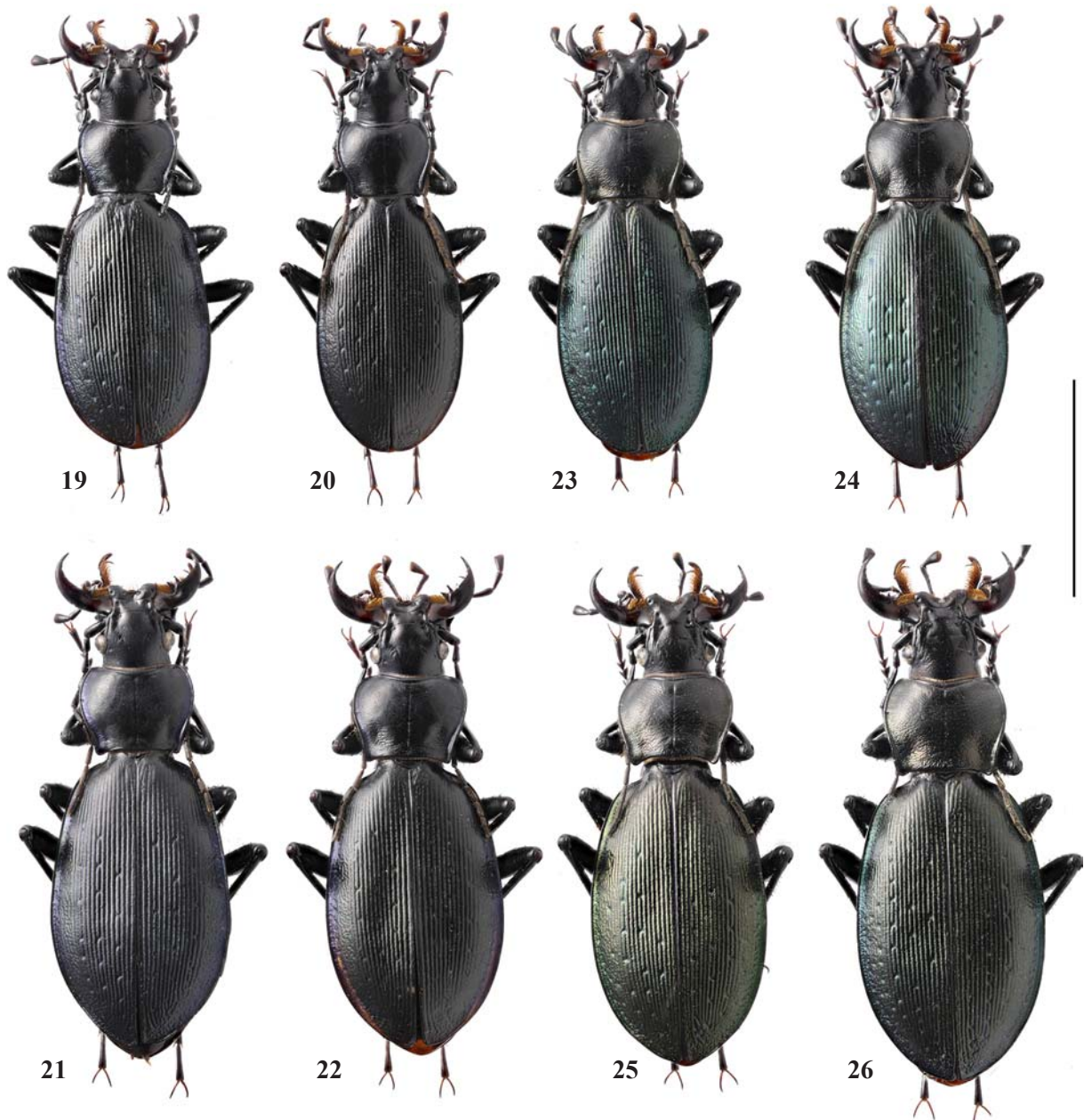
Figs 11–18. Dorsal habitus of the subgenus *Microtribax*: 11–16 — *C. nothus daghestanicola*, Andiyskiy Mt. Range, 2350 m; 17–18 — *C. nothus daghestanicola*, Mt. Zainkort, 2300–2800 m. Scale bar: 10.0 mm.

Рис. 11–18. Габитус сверху подрода *Microtribax*: 11–16 — *C. nothus daghestanicola*, Андийский хр., 2350 м над ур. м.; 17–18 — *C. nothus daghestanicola*, г. Зайнкорт, 2300–2800 м над ур. м. Масштаб: 10.0 мм.

26.3 mm, SBL = 19.2–23.3 mm in both sexes. Underside black, dorsum with metallic luster similar both in males and females, head black, pronotum black on disk, lateral sides with metallic coloration, elytra with bright metallic green or bronze luster, legs, antennae, and mandibles black, with faint brownish tint. Head not inflated, with nearly equal length and width, HL = 3.0–3.7 mm in males, 3.3–4.3 mm in females, HW = 3.4–3.7 mm in males, 3.5–4.8 mm in females; neck punctate, surface with coarse rugosity near eyes; mandibles elongate; antennae reaching one-third to middle of elytra. Pronotum nearly rectangular, sides with very faint sinuation before base, PW = 3.4–3.7 mm in males, 4.5–6.1 mm in females, PB = 3.5–4.0 mm in males, 3.3–4.5 mm in females,

PL = 3.2–3.9 mm in males, 3.5–4.1 mm in females, PW/HW = 1.2–1.5 in both sexes, PW/PL = 1.3–1.6 in both sexes, PW/PB = 1.2–1.4 in both sexes; hind angles faintly protruding posteriorly; disk completely punctate, punctation more coarse at sides and base. Legs moderately long. Elytra faintly convex, ovate, somewhat elongate, EW/PW = 1.4–1.9 in both sexes; EL = 12.0–13.5 mm in males, 12.9–15.6 mm in females, EW = 3.444 mm in males, 3.5–4.8 mm in females, EL/EW = 1.4–1.8 in both sexes; elytral sculpture pronounced, 3 rows of impressions are distinguishable, these punctures regularly covering entire elytral surface.

Aedeagus faintly bent basally, apical lamella hardly protruding (Figs 35–37). Endophallus with strongly developed



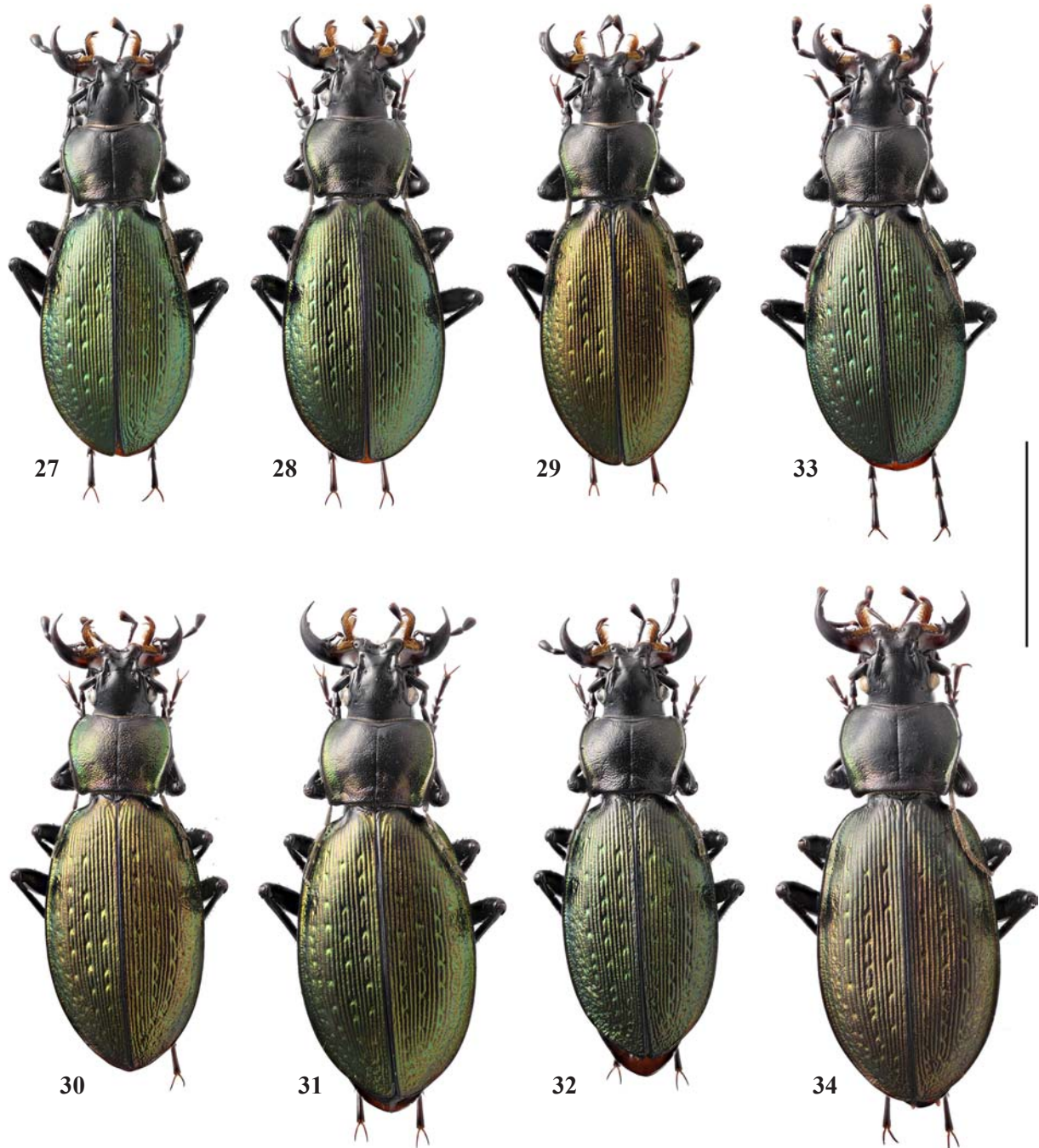
Figs 19–26. Dorsal habitus of the subgenus *Microtribax*: 19–22 — *C. nothus planipennis*, Pass Abano, 3000–3100 m; 23–26 — *C. nothus daghestanicola*, Lake Kazenoy-Am vicinities, 2350 m. Scale bar: 10.0 mm.

Рис. 19–26. Габитус сверху подрода *Microtribax*: 19–22 — *C. nothus planipennis*, пер. Абано, 3000–3100 м над ур. м.; 23–26 — *C. nothus daghestanicola*, окр. оз. Казеной-Ам, 2350 м над ур. м. Масштаб: 10.0 мм.

mediolateral and ventroapical lobes, basiolateral and dorsoapical lobes less prominent, aggonoporus small.

**DIFFERENTIAL DIAGNOSIS AND REMARKS.** A new subspecies reliably differs from *C. kasakorum* in the male genitalia structure. It is distinguishable from the other known subspecies of *C. nothus* by constantly brighter dorsal coloration, not characteristic for them. From the most close morphologically subspecies *C. nothus daghestanicola* it differs also in more depressed elytra and fainter protruding posteriorly hind angles of pronotum.

**DISTRIBUTION AND HABITAT.** A new subspecies populates mountain masses of Skalistyi Mt. Range in the interfluvium of Argun and Sharoargun rivers, it inhabits meadows at 1200–2400 m and prefers stony sites. The adults are active from the end of May, beginning with the snow melting. Following *Carabus* forms occur together with this subspecies: *C. (Pachycarabus) staehlini* Adams, 1817, *C. (Tomocarabus) convexus* Fabricius, 1775, *C. (Sphodristocarabus) adamsi* Adams, 1817, *C. (Cechenochilus) boeberi* Adams, 1817, *C. (Tribax) osseticus* Adams, 1817, *C. (Eu-*



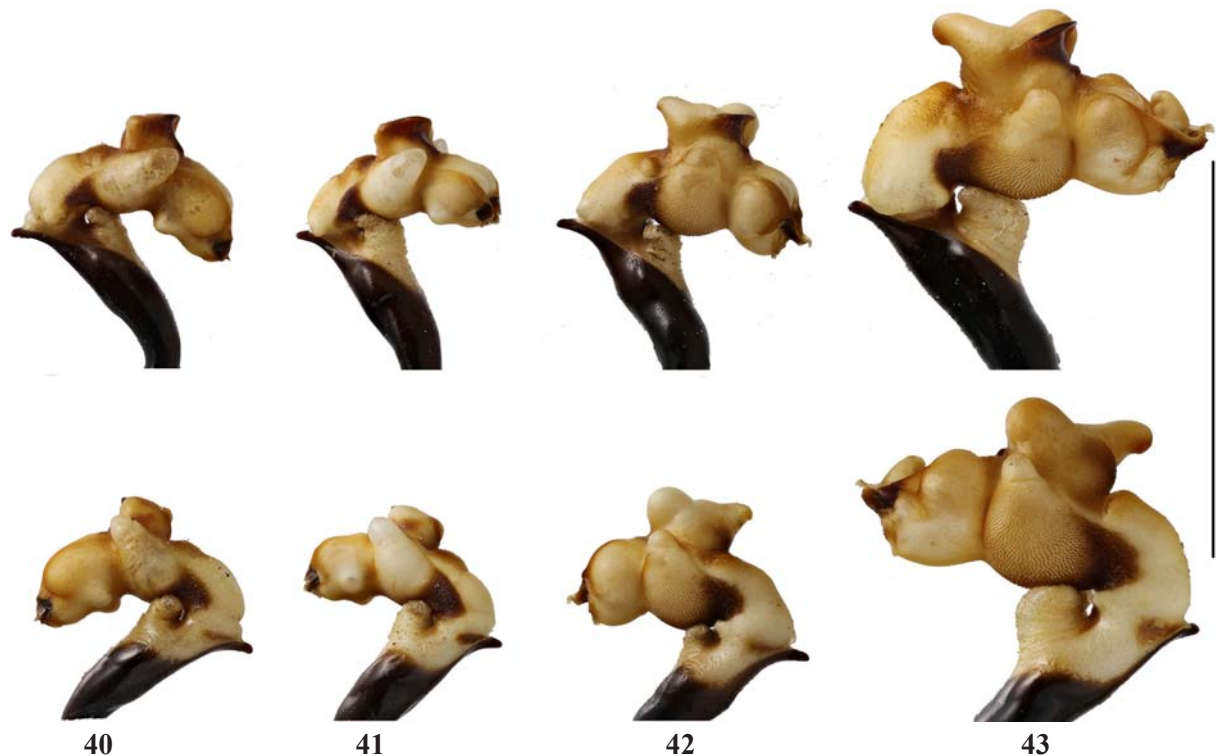
Figs 27–34. Dorsal habitus of the subgenus *Microtribax*: 27–32 — *C. nothus sharoensis* ssp. n., Sharoy environs, 2400 m; 33–34 — *C. nothus sharoensis* ssp. n., Veduchi environs, 1200–1400 m. Scale bar: 10.0 mm.

Рис. 27–34. Габитус видов подрода *Microtribax*: 27–32 — *C. nothus sharoensis* ssp. n., окр. пос. Шарой, 2400 м над ур. м.; 33–34 — *C. nothus sharoensis* ssp. n., окр. пос. Ведучи, 1200–1400 м над ур. м. Масштаб: 10.0 мм.



Figs 35–39. Apical portion of aedeagus and fully inflated endophallus preparation of the subgenus *Microtribax*, right lateral view on top, left lateral view below: 35–36 — *C. nothus sharoiensis* ssp. n., Sharoy environs, 2400 m; 37 — *C. nothus sharoiensis* ssp. n., Veduchi environs, 1200–1400 m; 38 — *C. nothus daghestanicola*, Kenkhi env., 2300 m.; 39 — *C. nothus daghestanicola*, Mt. Zainkort, 2800 m. Scale bar: 10.0 mm.

Рис. 35–39. Вершина эдеагуса и препарат полностью вывернутого внутреннего мешка подрода *Microtribax*, сверху — сбоку справа, внизу — сбоку слева: 35–36 — *C. nothus sharoiensis* ssp. n., окр. пос. Шарой, 2400 м над ур. м.; 37 — *C. nothus sharoiensis* ssp. n., окр. пос. Ведучи, 1200–1400 м над ур. м.; 38 — *C. nothus daghestanicola*, окр. Кенхи, 2300 м над ур. м.; 39 — *C. nothus daghestanicola*, г. Зайнкорт, 2800 м над ур. м. Масштаб: 10.0 мм.



Figs 40–43. Apical portion of aedeagus and fully inflated endophallus preparation of the subgenus *Microtribax*, right lateral view on top, left lateral view below: 40 — *C. nothus daghestanicola*, Andiyskiy Mt. Range, 2350 m; 41 — *C. nothus daghestanicola*, Lake Kazenoy-Am vicinities, 2350 m; 42 — *C. kasakorum tshetschenicus*, Mt. Stolovaya, 2800 m; 43 — *C. kasakorum kasakorum*, Mt. Fetkhuz, 900 m. Scale bar: 10.0 mm.

Рис. 40–43. Вершина эдеагуса и препарат полностью вывернутого внутреннего мешка подрода *Microtribax*, сверху — сбоку справа, внизу — сбоку слева: 40 — *C. nothus daghestanicola*, Андийский хр., 2350 м над ур. м.; 41 — *C. nothus daghestanicola*, окр. оз. Казеной-Ам, 2350 м над ур. м.; 42 — *C. kasakorum tshetschenicus*, г. Столовая, 2800 м над ур. м.; 43 — *C. kasakorum kasakorum*, г. Фетхуз, 900 м над ур. м. Масштаб: 10.0 мм.





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Figs 44–47. Habitats of *Mirotribax*: 44 — *C. kasakorum tshetschenicus*, Mt. Stolovaya, 2800 m.; 45 — *C. nothus daghestanicola*, Lake Kazenoy-Am vicinities, 2350 m.; 46 — *C. nothus daghestanicola*, Mt. Zainkort, 2800 m.; 47 — *C. nothus sharoiensis* **ssp. n.**, Sharoy environs, 2400 m.

Рис. 44–47. Местобитания *Microtribax*: 44 — *C. kasakorum tshetschenicus*, г. Столовая, 2800 м над ур. м.; 45 — *C. nothus daghestanicola*, окр. оз. Казеной-Ам, 2350 м над ур. м.; 46 — *C. nothus daghestanicola*, г. Зайнкорт, 2800 м над ур. м.; 47 — *C. nothus sharoiensis* **ssp. n.**, окр. пос. Шарой, 2400 м над ур. м.



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Figs 48–49. *Microtribax* in nature: 48 — *C. nothus daghestanicola*, Mt. Zainkort, 2800 m.; 49 — *C. nothus sharoiensis* **ssp. n.**, Sharoy environs, 2400 m.

Рис. 48–49. *Microtribax* в природе: 48 — *C. nothus daghestanicola*, г. Зайнкорт, 2800 м над ур. м.; 49 — *C. nothus sharoiensis* **ssp. n.**, окр. пос. Шарой, 2400 м над ур. м.

*carabus cumanus* Fischer von Waldheim, 1823, *C. (Mego-donthus) exaratus* Quensel, 1806, and *C. (Procrustes) clypeatus* Adams, 1817.

ETYMOLOGY. The subspecific epithet refers to the name Sharoy, indicating both historical geographic and administrative district of Chechen Republic, and one of 9 Chechen tukhums and taips.

*Carabus (Microtribax) kasakorum tschetschenicus*  
Semenov, 1896

Figs 1, 7–10, 42, 44.

Semenov, 1897: 215 (sp. dist.); Breuning, 1935: 11–31 (*Tribax*); Gottwald, 1980: 33 (*Tribax*); Kryzhanovskij et al., 1995: 55; Březina, 1999: 55; Bousquet et al., 2003: 169; Deuve, 2004: 263 (*Tribax*); Retezár, 2015: 91; Březina et al., 2017: 202 (*Tribax*). *ananowi* Semenov, 1897: 216 (*tschetschenicus* var.). *scintillans* Rapuzzi, 2018: 408 (*kasakorum* ssp.), **syn.n.**

MATERIAL. 27♂♂, 32♀♀ (CFDD, CTAY, CZAM, CATA), **Russia**, North Caucasus, Ingushetia, S slopes of Skalistyi Mt. Range near Beyni, 3 km SE of Mt. Stolovaya, N 42°50'58.10", E 44°43'49.50", h=2200 m, 22.V–19.VII.2018, D. Fominykh leg.; 84♂♂, 75♀♀ (CFDD, CTAY, CZAM, CATA), Ingushetia, S slopes of Skalistyi Mt. Range near Beyni, Mt. Stolovaya, N 42°51'35.30", E 44°42'13.70", h=2800m, 21.V–19.VII.2018, D. Fominykh leg.; 49♂♂, 54♀♀ (CFDD, CTAY, CZAM, CATA), Ingushetia, S slopes of Skalistyi Mt. Range, 5 km of Mt. Khakhalgi, N 42°50'10.70", E 45°05'08.50", h=2500 m, 25.V–19.VII.2018, D.Fominykh leg.; 16♂♂, 13♀♀ (CFDD, CTAY, CZAM, CATA), Ingushetia, Skalistyi Mt. Range, S slopes of Tsoreylam Mt. Range, 5 km W of Mt. Khakhalgi, N 42°50'07.60", E 45°05'02.20", h=2500 m, 25.V–21.VII.2017, D. Fominykh, T. Avtaeva, Sh. Kushaliev leg.; 29♂♂, 26♀♀ (CFDD, CTAY, CZAM, CATA), Chechnya, Skalistyi Mt. Range upper river Gekhi, Mt. Ekkyrkort, N 42°52', E 45°26', h=2230 m, 26.V–21.VII.2018, D.Fominykh, T. Avtaeva, Sh. Kushaliev leg.; 13♂♂, 17♀♀ (CFDD, CTAY, CZAM, CATA), Ingushetia, S slopes of Skalistyi Mt. Range near Guli, SE slopes of Mt. Giryag, N 42°50', E 44°48', h=2360 m, 25.V–21.VII.2017, D. Fominykh leg.

REMARKS. This subspecies is known to populate Skalistyi Mt. Range in the interfluvium of Terek and Argun rivers, other subspecies of *C. kasakorum* substitute it westwards, *C. nothus* occurs eastwards of Argun valley (Fig. 1). It inhabits alpine zone at 2200–2800 m and prefers stony hillside wastes, where population density is high, activity of adults starts with the snow melting.

*C. kasakorum tschetschenicus* is rather variable in body appearance and proportions in different populations (Table 1–2), individual populations are variable too, this appears in elytral sculpture intensity, pronotum and elytra proportions, and dorsum luster variations ranging from completely black to bright gold, bronze, or green.

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Table 1. Morphometric data of males of *Carabus nothus sharoienis* **ssp.n.** and *C. nothus daghestanicola* populations in the North Caucasus  
 Таблица 1. Морфометрические данные самцов из популяций *Carabus nothus sharoienis* **ssp.n.** и *C. nothus daghestanicola* на Северном Кавказе

Subspecies	Localities, m a.s.l., (number of specimens measured)	Indices Range Average														
		GBL	SBL	HL	PL	EL	HW	PW	PB	EW	PW	PB	EW	HL		
<b><i>sharoienis</i> ssp.n.</b>	21-23.2	19.2-21.8	3.0-4.2	3.2-3.7	12-13.5	3.4-4.4	4.7-5.4	3.5-3.9	7.3-8.8	1.2-1.5	1.3-1.6	1.2-1.4	1.5-1.9	1.5-1.7	2.3-2.8	0.8-1.2
	22	20.4	3.7	3.4	12.8	3.7	5	3.7	7.9	1.4	1.5	1.4	1.6	1.6	2.6	1
<i>sharoienis</i> ssp.n.	21.7-22.9	20.1-21	3.4-3.7	3.4-3.9	12.4-13.2	3.6-3.9	4.9-5.5	3.7-4	7.7-9	1.4-1.5	1.3-1.5	1.3-1.4	1.4-1.7	1.4-1.7	2.3-2.7	0.9-1
	22.4	20.7	3.5	3.7	12.9	3.7	5.3	3.9	8.1	1.4	1.4	1.4	1.5	1.6	2.6	0.9
<i>sharoienis</i> ssp.n.	19.8-22	18.2-20.2	3-3.3	3.2-3.5	11.2-12.8	3.3-3.9	4.5-4.9	3.3-3.9	7.1-8.2	1.2-1.5	1.3-1.5	1.2-1.4	1.4-1.7	1.5-1.7	2.4-2.6	0.8-0.9
	21.3	19.7	3.1	3.4	12.2	3.5	4.8	3.6	7.8	1.3	1.4	1.3	1.6	1.6	2.5	0.9
<i>daghestanicola</i>	19.8-22.8	18.9-21.3	3-3.7	3.3-3.9	11.8-13.5	3.1-3.8	4.6-5.3	3.4-4	7.3-8.2	1.3-1.6	1.3-1.5	1.3-1.5	1.5-1.6	1.5-1.7	2.4-2.7	0.9-1
	21.7	20.2	3.4	3.6	12.7	3.5	5	3.7	7.9	1.4	1.4	1.4	1.6	1.6	2.6	1
<i>daghestanicola</i>	12.9-23.9	11.8-22	3.1-4.6	3.1-4.7	10.8-13.8	3.2-3.9	4.4-5.3	3.3-4.1	7.1-8.2	1.3-1.4	1.1-1.5	1.2-1.5	1.4-1.8	1.4-1.8	1.5-2.8	0.9-1.2
	21	19.5	3.6	3.7	12.8	3.6	4.9	3.7	7.7	1.4	1.3	1.4	1.6	1.7	2.5	1

NOTE: Characters abbreviations as indicated in Introduction.  
 ПРИМЕЧАНИЕ: Обозначение индексов см. Введение.

Table 2. Morphometric data of females of *Carabus nothus sharoensis* **ssp.n.** and *C. nothus daghestanicola* populations in the North Caucasus  
 Таблица 2. Морфометрические данные самок из популяций *Carabus nothus sharoensis* **ssp.n.** и *C. nothus daghestanicola* на Северном Кавказе

Subspecies	Localities, m a.s.l., (number of specimens measured)	Indices Range Average																	
		GBL	SBL	HL	PL	EL	NW	PW	PB	EW	PW	NW	PL	PW	EL	EW	SBL	EW	HL
<i>sharoensis</i> <b>ssp.n.</b>	22.5-25.7 23.8	20.9-23.3 22.1	3.6-4.3 4	3.5-4.1 3.8	12.9-14.2 13.7	3.5-4.8 4	5.2-6 5.5	3.7-4.3 4	7.7-9 8.4	1.1-1.5 1.4	1.3-1.5 1.4	1.3-1.4 1.4	1.5-1.6 1.5	1.6-1.8 1.6	2.5-2.7 2.6	0.8-1.1 1			
	22.8-26.3 24.3	21-24.9 22.5	3.3-4.2 3.8	3.5-4.1 3.9	13-15.6 13.9	3.6-4.2 3.9	4.5-6.1 5.3	3.3-4.5 3.9	7.9-9.2 8.5	1.2-1.5 1.4	1.3-1.5 1.4	1.3-1.4 1.3	1.5-1.8 1.6	1.6-1.7 1.6	2.6-2.7 2.6	0.9-1.1 1			
	(4) 1200-1400																		
<i>daghestanicola</i>	21.6-23.5 22.4	20-20 20	3.1-3.9 3.4	3.4-4 3.6	12.5-13.8 13	3.2-3.8 3.6	4.8-5.3 5	3.6-3.9 3.8	7.9-8.6 8.2	1.3-1.5 1.4	1.3-1.5 1.4	1.3-1.4 1.3	1.5-1.7 1.6	1.6-1.6 1.6	2.3-2.5 2.5	0.9-1.1 1			
	22.5-25.9 24	21-24 22.4	3.3-4.3 3.8	3.5-4.2 3.9	13.2-15 14	3.7-4.1 3.9	5-6 5.5	3.8-4.3 4	8-9.2 8.5	1.3-1.5 1.4	1.3-1.5 1.4	1.3-1.4 1.4	1.5-1.7 1.6	1.6-1.7 1.6	2.5-2.7 2.6	0.9-1.1 1			
	(8) Kaznoy-Am, 2350																		
Andiyskiy Mt. Range, 2350 (6)	23.5-25.3 24.5	21.3-23.8 22.9	3.6-4.2 3.9	3.7-4 3.9	13.5-14.5 14	3.8-4 3.9	5-5.5 5.3	3.8-4.3 3.9	8-8.8 8.5	1.3-1.4 1.4	1.3-1.4 1.4	1.3-1.4 1.4	1.5-1.6 1.6	1.6-1.8 1.7	2.6-2.9 2.7	0.9-1.1 1			

NOTE: Characters abbreviations as indicated in Introduction.  
 ПРИМЕЧАНИЕ: Обозначение индексов см. Введение.

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