

Two new *Trechus* Clairville, 1806 species and remarks on some other species of the genus from Romania (Coleoptera: Carabidae: Trechinae)

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Abstract. Two new species of the genus *Trechus* Clairville, 1806, *T. (Trechus) baicu* sp. nov. from Țarcu and Godeanu Mountains and *T. (Trechus) mauritzi* sp. nov. from Retezat and Vâlcan Mountains in the Romanian Southern Carpathians are described, illustrated and distinguished from related species. The habitus of the holotype of *Trechus insolitus* K. Daniel, 1906 is illustrated for the first time. A lectotype of *Trechus ormayeri* Ganglbauer, 1891 is designated and the distribution and variability of the species is discussed and illustrated. *Trechus zarandicus* Moravec, 1986 is considered a junior synonym of *Trechus ormayeri* Ganglbauer, 1891.

INTRODUCTION

The non-monophyletic genus *Trechus* Clairville, 1806 is the most species-rich genus of the Trechini with more than 1000 described species (Lorenz 2026, Gomes et al. 2026). Belousov (2017) listed European *Trechus* in two subgenera: *Epaphius* Leach, 1819 and *Trechus* s. str. The European species of the genus were reorganized by Donabauer (2019) who defined several new genera, subgenera and species groups. This classification is not generally accepted (Faille et al. 2023, Kostova & Bekchiev 2023, Veselý et al. in press). Most authors still follow Jeannel's (1927) concept of species groups (e. g. Kostova & Bekchiev 2023, Gomes et al. 2026).

The Romanian *Trechus* fauna is quite well known, most species being redescribed in Jeannel's revision (1927), after that five species were described from the territory of Romania by Jeannel (1929), Decou (1959), Moravec (1986) and Lompe (2011).

To date 24 species have been recorded from Romania (Belousov 2017):
(*Epaphius*) *secalis secalis* (Paykull, 1790) (*Trechus*) *mallaszianus* P. Moravec & Lompe, 2003

(<i>Trechus</i>) <i>apusenicus</i> P. Moravec, 1986	(<i>Trechus</i>) <i>marginalis</i> Schaum, 1862
(<i>Trechus</i>) <i>austriacus</i> Dejean, 1831	(<i>Trechus</i>) <i>obtusius obtusius</i> Erichson, 1837
(<i>Trechus</i>) <i>bannaticus</i> Dejean, 1831	(<i>Trechus</i>) <i>ormayeri</i> Ganglbauer, 1891
(<i>Trechus</i>) <i>biharicus</i> Meixner, 1912	(<i>Trechus</i>) <i>plicatulus</i> L. Miller, 1868
(<i>Trechus</i>) <i>cardioderus cardioiderus</i> Putzeys, 1870	(<i>Trechus</i>) <i>pseudolatus</i> Lompe, 2011
(<i>Trechus</i>) <i>carpaticus</i> Rybiński, 1902	(<i>Trechus</i>) <i>pulchellus pulchellus</i> Putzeys, 1845

<i>(Trechus) dimitrescui</i> Decou, 1959	<i>(Trechus) pulpani</i> Reška, 1965
<i>(Trechus) fontinalis</i> Rybiński, 1901	<i>(Trechus) quadristriatus</i> (Schränk, 1781)
<i>(Trechus) insolitus</i> K. Daniel, 1906	<i>(Trechus) rubens</i> (Fabricius, 1792)
<i>(Trechus) irenis</i> Csiki, 1912	<i>(Trechus) striatulus</i> Putzeys, 1847
<i>(Trechus) latus</i> Putzeys, 1847	<i>(Trechus) zarandicus</i> P. Moravec, 1986

During a long-term survey of the fauna of the Romanian Carpathians carried out by the authors, rich material of the genus *Trechus* was collected and yielded to two new species. The new material was also compared with historical specimens to consider the variability of species.

MATERIAL AND METHODS

Dry-mounted specimens were studied under MBS 10 and Technival binocular stereomicroscopes and a Motic BA 410E-T compound microscope. Habitus images were taken with a Canon EOS 700D in combination with a Canon MP-E65 1-5x macro lens. Images of morphological details were taken with a Canon EOS 700D camera mounted on a Motic BA 410E-T compound microscope in transmitted or diffused reflected light. Resulting images were focus-stacked using Zerene Stacker and then postprocessed in Paint.Net, Paint, XnView and Live Photo Gallery. Measurements were taken with the stereomicroscope using an ocular scale.

Aedeagi of holotypes and some paratypes were embedded in Euparal or Canada balsam. Aedeagi of remaining dissected males were glued on the same paper plates as the specimens. Microsculpture was observed at a magnification of 100x in the above mentioned compound microscope in diffused transmitted light.

Locality labels for the type material examined are cited in the original version and marked with quotation marks (“ ”). Locality data of some other examined specimens were simplified. Pictures of the holotype of *Trechus insolitus* K. Daniel, 1906 and the lectotype of *Trechus ormayi* Ganglbauer, 1891 (both deposited in NHMW) were taken by Harald Schillhammer.

The material examined is deposited in the following collection:

JJRC	coll. Jiří Janák, Rtně nad Bílinou, Czech Republic,
KOFC	coll. Kamil Orszulik, Frýdek-Místek, Czech Republic,
MJLC	coll. Miloš Jaroš, Litoměřice, Czech Republic,
MKOC	coll. Milan Kuboň, Ostrava, Czech Republic,
MTMB	Magyar Természettudományi Múzeum, Budapest, Hungary (Győző Szél),
NHMW	Naturhistorisches Museum, Wien, Austria (Harald Schillhammer),
NMP	Národní muzeum Praha, Czech Republic (Josef Jelínek),
OMO	Ostravské museum, Ostrava, Czech Republic (Jiří Vávra),
PMLC	coll. Pavel Moravec, Litoměřice, Czech Republic,
PVLC	coll. Pavel Vonička, Liberec, Czech Republic,
PVPC	coll. Petr Veselý, Praha, Czech Republic,
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany (Arnaud Faille),
VZPC	coll. Vladimír Zieris, Pardubice, Czech Republic.

Abbreviations: HT- holotype, PT- paratype, LT- lectotype, n- number of specimens measured, L- length, W- width, AL- mean length of both antennae, AEL- length of aedeagus, HW- greatest width of head, HL- greatest length of head measured from the base of neck to apices of clypeus, MTL- mean length of metatarsus (without claws), PW- greatest width of pronotum, PL- length of pronotum measured along the midline, PBW- greatest width of pronotum base, EW- greatest width of elytra, EL- length of elytra measured along the suture from deepest puncture of humeral angle to the elytral apex, EYL- length of eye, TL- length of temple. Total body length was measured from the apical margin of mandibles in closed position to apices of elytra. Length of antennomeres was measured as greatest length of each segment. For details and examples of measurement see Hůrka et al. (1989).

TAXONOMY

Trechus baicu sp. nov.

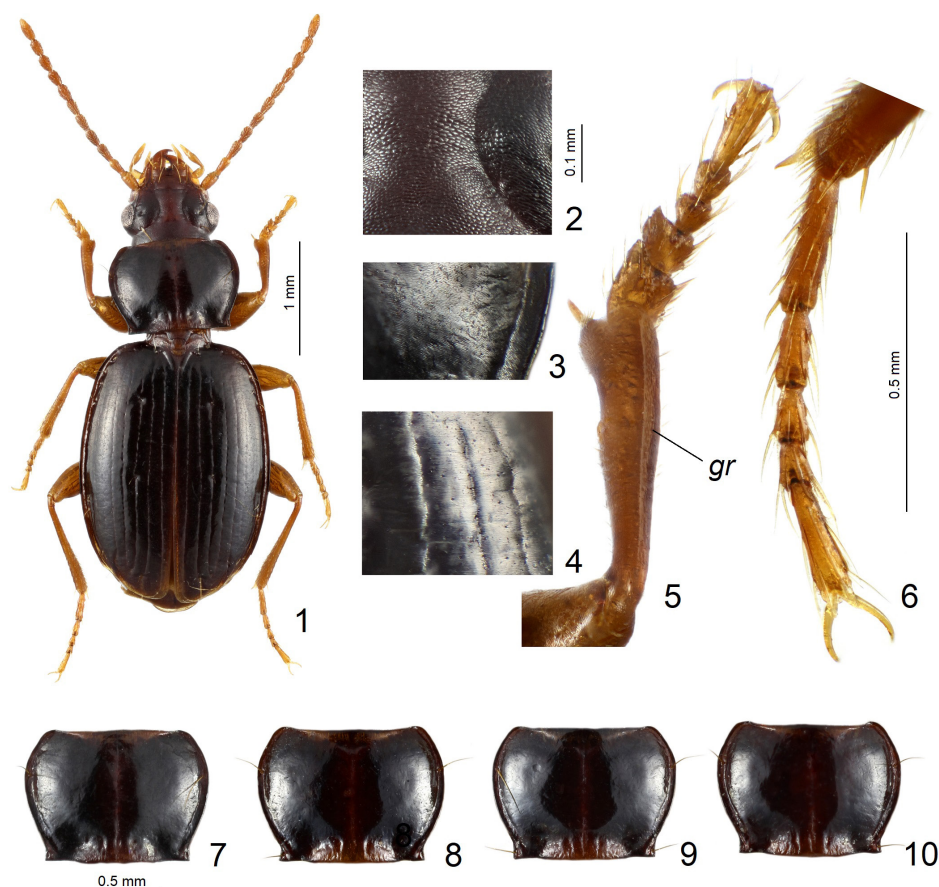
(Figs. 1-21, 86-88)

Type locality. Romania, South Carpathians, Țarcu Mountains, Mount Baicu.

Type material. Holotype (♂): “ROMANIA, Munții Țarcu: Vf. Baicu - valea Bistra Mărului, 1600 m, 16.7.2002, J. Janák lgt.”, “HOLOTYPUS *Trechus baicu* sp. nov. Janák & Moravec det. 2026” (JJRC). Paratypes: (1 ♂, 2 ♀♀): same data as holotype (JJRC); (13 ♂♂, 5 ♀♀): same data as holotype, but “P. Moravec lgt.”, (PMLC, JJRC, PVLC); (2 ♂♂, 2 ♀♀): same data as holotype, but “M. Jaroš lgt.”, (MJLC, JJRC); (1 ♂): “ROMANIA, Munții Țarcu: Vf. Baicu - valea Bistra Mărului, 1600-1800 m, 15-16.7.2002, M. Jaroš lgt.”, (MJLC); (2 ♂♂, 2 ♀♀) [one of them teneral]: “ROM., Mț. Țarcu / Godeanu: Vf. Capu Prislopului (1839 m) - Râul Șes, 1500-1600m, 20.7.2002, P. Moravec lgt.”, (PMLC); (1 ♂, 2 ♀♀): same data, but “M. Jaroš lgt.”, (MJLC); (3 ♂♂, 2 ♀♀): same data, but “P. Vonička lgt.”, (PVLC, JJRC); (2 ♂♂, 2 ♀♀): “ROMANIA, Munții Godeanu: Vf. Zana (2042 m) - Râul Șes, 1600m, 21.7.2002, P. Moravec lgt.”, (PMLC); (6 ♂♂, 1 ♀): same data, but “M. Jaroš lgt.”, (MJLC, JJRC); (2 ♂♂, 3 ♀♀): same data, but “P. Vonička lgt.”, (PVLC); (1 ♂): “ROMANIA, Munții Țarcu: șaua Iepeș env., 1720-1800 m, 15.7.2002, P. Vonička lgt.”, (PVLC). All paratypes with additional labels: “PARATYPUS *Trechus baicu* sp. nov. Janák & Moravec det. 2026”.

Diagnosis. Brown colored species with reduced hind wings and large eyes; head with very deep isodiametric microsculpture; pronotum markedly transverse with posterior margin wider than anterior margin; elytra markedly convex, with slightly pronounced shoulders, with distinct striae; protibiae deeply furrowed; pro- and metatarsi not flattened; aedeagus with median lobe short and wide in lateral view, but with simple not hook-like shaped apex, parallel and with rounded triangular apex in dorsal view, with copulatory piece simple, gutter shaped, markedly triangularly narrowed apically in dorsal view and shortly emarginated apically in lateral view and with basal bulb of median lobe short with markedly reduced sagittal lamella.

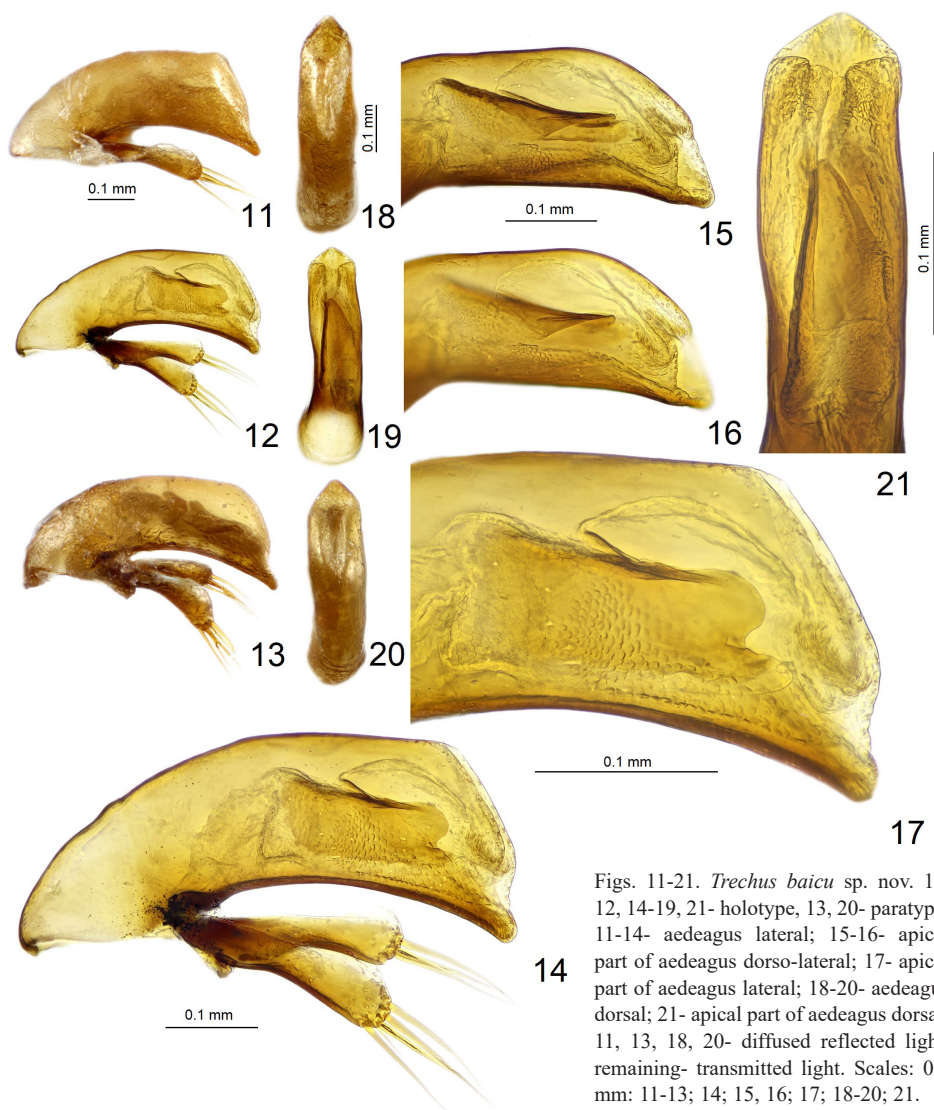
Description (n = 5 ♂♂, 5 ♀♀). Total body length 3.95-4.25 mm, M = 4.07 mm (males 4.10-4.25 mm, M = 4.16 mm, HT = 4.10 mm; females 3.95-4.05 mm, M = 3.99 mm). Body moderately elongate (Fig. 1). Colour dark brown, base of pronotum in middle, median furrow, mostly, also median part of anterior margin of pronotum, lateral gutter and narrow band at suture in posterior half of elytra, labrum and mandibles light reddish brown, legs and



Figs. 1-10. *Trechus baicu* sp. nov. 1-7- holotype, 8-10- paratypes. 1- habitus; 2- microsculpture of head; 3- microsculpture of pronotum; 4- microsculpture of elytron; 5- protarsus and protibia (*gr*- groove); 6- metatarsus; 7-10- pronotum. Scales: 1 mm: 1, 7-10; 0.5 mm: 5, 6; 0.1 mm: 2-4.

palpi light reddish yellow, antennae with first two antennomeres and narrow base of third antennomere light reddish yellow, remaining parts darker, light reddish brown, but becoming lighter towards last segment. Body with usual long setae of *Trechus*. Head, pronotum and elytra glabrous (Fig. 1). Head dull, vertex with deep microsculpture consisting of slightly transverse meshes between frontal furrows, remaining surface including neck with same microsculpture or with regular isodiametrical meshes (Fig. 2). Pronotum and elytra with very fine transverse waves and scattered micropunctures (Figs. 3-4).

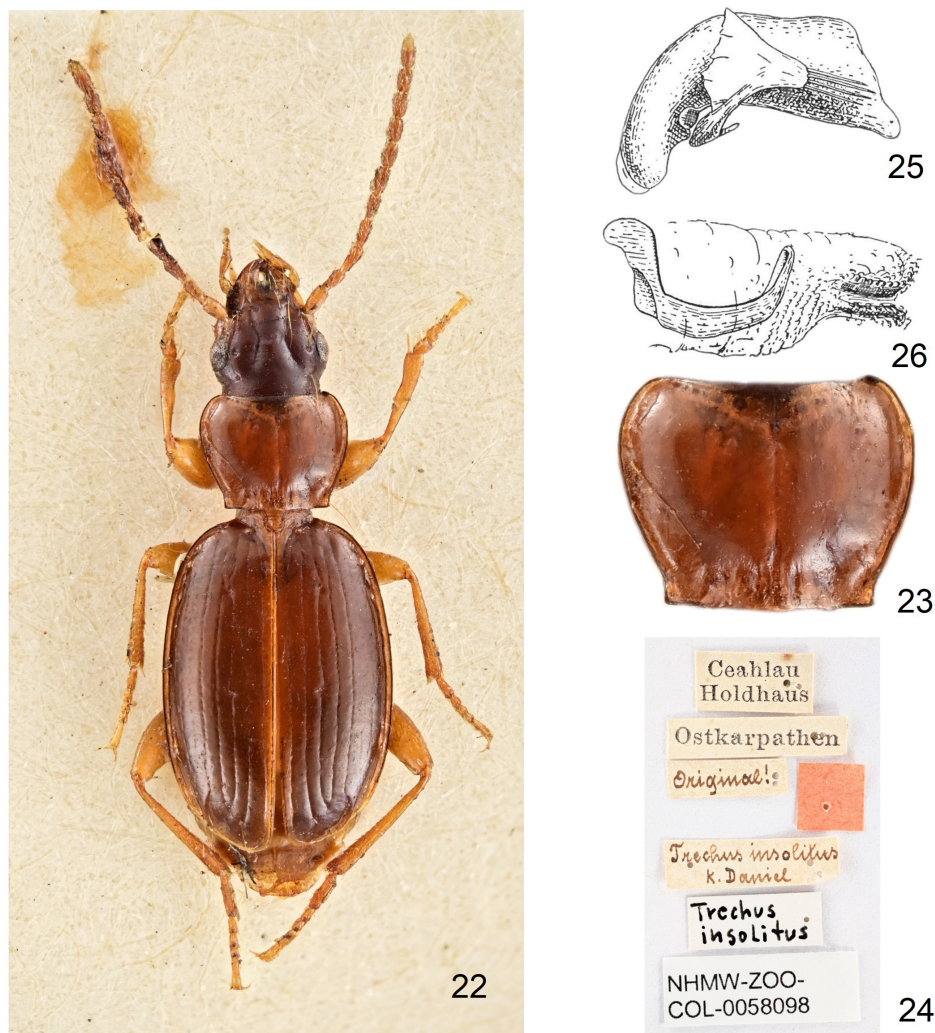
Head (Fig. 1) very wide ($HW/HL = 1.59-1.71$, $M = 1.66$, $HT = 1.68$), markedly narrower than pronotum ($PW/HW = 1.30-1.36$, $M = 1.33$, $HT = 1.33$). Eyes large, broadly oval and strongly convex, in holotype more than three times as long as temples ($EYL/TL = 3.4$) (Fig. 1). Frontal furrows entire, becoming markedly deeper behind posterior half of head (Fig. 1). Antennae moderately long and slender with all antennomeres markedly longer than



Figs. 11-21. *Trechus baicu* sp. nov. 11, 12, 14-19, 21- holotype, 13, 20- paratype. 11-14- aedeagus lateral; 15-16- apical part of aedeagus dorso-lateral; 17- apical part of aedeagus lateral; 18-20- aedeagus dorsal; 21- apical part of aedeagus dorsal; 11, 13, 18, 20- diffused reflected light, remaining- transmitted light. Scales: 0.1 mm: 11-13; 14; 15, 16; 17; 18-20; 21.

wide; moderately longer than elytra ($EL/AL = 1.20-1.27$, $M = 1.23$; males $1.20-1.27$, $M = 1.23$, $HT = 1.23$; females $1.14-1.22$, $M = 1.19$), with antennomeres 8-10 markedly longer than wide ($L/W = 2.08 : 2.00 : 1.83$ in holotype, $1.62 : 1.54 : 1.48$ in paratype ♀). Length ratios of the antennomeres of holotype: $1:10 : 1.00 : 1.00 : 0.90 : 1.00 : 0.90 : 0.85 : 0.85 : 0.85 : 0.85 : 1.30$. Labrum largely emarginated.

Pronotum (Figs. 7-10) cordate, markedly convex and markedly transverse ($PW/PL = 1.37-1.45$, $M = 1.40$, $HT = 1.38$), moderately narrowed toward base ($PW/PBW = 1.25-1.33$, $M = 1.28$, $HT = 1.27$), with maximal width slightly before middle, lateral sides very shortly



Figs. 22-26. *Trechus insolitus* K. Daniel, holotype. 22- habitus, 23- pronotum, 24- labels, 25- aedeagus, 26- internal structure of aedeagus; 22-24- photo by H. Schillhammer; 25, 26- ex Jeannel (1927). Without scales.

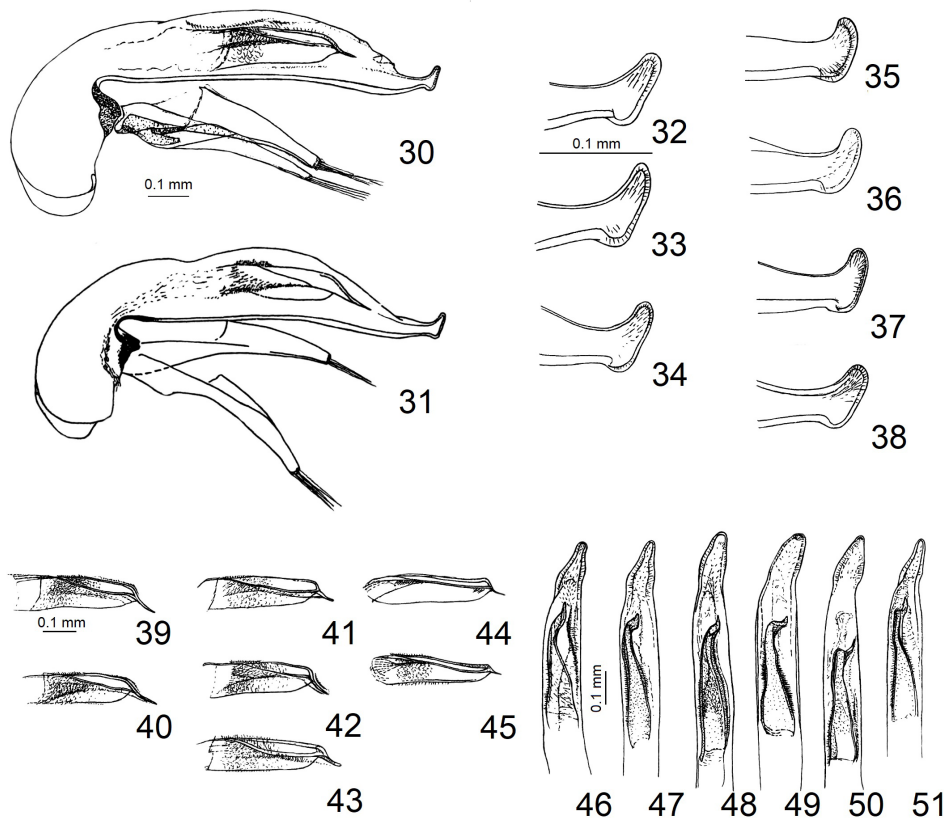
sinuate before posterior angles (Figs. 7-10), posterior angles mostly markedly acute, rarely (one side) almost rectangular, slightly or markedly prominent. Middle furrow deep and connected at base with median oval-shaped basal furrow, anteriorly terminating in anterior impression. Lateral basal impressions large and very deep. Transversal carina at base absent. Basal margin straight in middle, moderately emarginated towards posterior angles (Figs. 7-10). Lateral groove wide, in basal quarter narrowed. Chaetotaxy of pronotum with anterior seta situated slightly before widest part of pronotum (Figs. 7-10), basal seta near posterior angle, in distance about as large as diameter of puncture from posterior angle.



Figs. 27-29. *Trechus ormayi* Gglib., lectotype. 27- habitus, 28- aedeagus, 29- labels, photo by H. Schillhammer. Without scales.

Elytra (Fig. 1) markedly convex, moderately wide, oval ($EL/EW = 1.32-1.40$, $M = 1.35$, $HT = 1.36$), more than two and half times as long as pronotum ($EL/PL = 2.59-2.80$, $M = 2.71$, $HT = 2.73$) and markedly wider than it ($EW/PW = 1.40-1.45$, $M = 1.43$, $HT = 1.45$), slightly flattened along suture, shoulders slightly prominent. Lateral gutter very wide, all striae distinct, first three striae much deeper, finely punctured, external striae finer, most outer striae very fine, but still visible, mostly consisting of short lines or elongate punctures. Internal interstriae slightly convex. Apical stria very deep and connected with the fifth stria. Each elytron broadly rounded apically.

Chaetotaxy of elytra (Fig. 1): two discal setiferous punctures, first puncture situated in third stria at or near fourth puncture of anterior umbilicate series, second puncture in third stria in about middle of elytral length, far anteriorly of first puncture of middle umbilicate series. Preapical puncture situated slightly exteriorly of second stria. Anterior (posthumeral) umbilicate series situated at inner margin of lateral gutter, punctures approximately equidistant. Distance between anterior and median umbilicate series more than twice as long as the length of anterior series. Legs normally long. Protibiae deeply grooved on outer side (Fig. 5, *gr*). Metatarsi (Fig. 6) moderately long and narrow ($EL/MTL = 2.84-3.18$, $M = 3.08$; males $3.04-3.16$, $M = 3.11$, $HT = 3.13$; females $2.84-3.18$, $M = 3.04$). First metatarsomere



Figs. 30-51. *Trechus ormayi* Gglib. 30, 32, 46- lectotype, 31, 34, 40, 47- holotype of *T. zarandicus*, 33, 39- Roterturmpass, 37, 41, 48- Schuler Gebirge, 35, 43, 49- Piatra Craiului, 36, 44, 45, 50- Bucegi, 38, 42, 51- Braşov env. 30-31- aedeagus lateral; 32-38- apex of aedeagus; 39-45- copulatory piece; 46-51- apical part of aedeagus dorsal. Scales: 0.1 mm: 30, 31; 32-38; 39-45; 46-51.

about as long as segments 2 and 3 combined, normally rounded not flattened, either dorso-ventrally or laterally.

Male: total body length on average slightly larger (4.10-4.25 mm, $M = 4.16$ mm) than in females (3.95-4.05 mm, $M = 3.99$ mm), protarsus with widened first two segments (Fig. 5). Aedeagus 0.55-0.59 mm long ($M = 0.57$ mm, $HT = 0.55$ mm), relatively very small ($EL/AEL = 4.00-4.23$, $M = 4.14$, $HT = 4.23$), median lobe short and wide in lateral view (Figs. 11-14), but with simple not hook-like shaped apex, parallel and with rounded triangular apex in dorsal view (Figs. 18-21), with copulatory piece simple, gutter shaped, markedly triangularly narrowed apically in dorso-lateral and dorsal view (Figs. 15, 16, 21) and shortly emarginated apically in lateral view (Figs. 14, 17). Basal bulb of median lobe short with markedly reduced sagittal lamella (Figs. 11-14). Parameres short and very broad, apically with four to five setae (Fig. 14).

Female: total body length on average slightly smaller than in males, protarsi undilated.

Differential diagnosis. *T. baicu* sp. nov. belongs to the *T. bannaticus* species group (sensu Jeannel 1927) based on the following characters: protibiae with distinct groove on the outer side, pronotal base without transverse groove, inner striae distinct, two discal points present, metatibiae on inner side without a tooth, elytra oval elongate, flattened. *T. bannaticus* species group (sensu Jeannel 1927) consists of *T. bannaticus*, *T. insolitus*, *T. mallaszianus* and *T. plicatulus*. Moravec (1986) compared with species of the group also *T. apusenicus*, but without a clear assignment to the group. Currently we consider this species also a member of the group.

The new species is most similar to *T. insolitus* (Figs. 22-26), but differs by the more transverse pronotum with posterior margin as wide as or wider than anterior margin, the aedeagus with markedly reduced basal bulbus, narrower apex of median lobe and different copulatory piece. The shape of the aedeagus of *T. baicu* sp. nov. is somewhat similar to that of *T. priapus* K. Daniel, 1902 and its relatives, recently reviewed by Donabauer (2025), which also have aedeagi short and very broad, with short apex, but the new species differs by not having the ventroapical narrow emargination of the aedeagus, suggesting an apical hook and also by the elytra with more pronounced humeri, more distinct elytral striae and a more transverse pronotum.

Etymology. The name of the new species refers to the Mount Baicu, where part of type specimens were found.

Bionomics. All type specimens were collected under stones at springs along the upper forest border at an elevation of about 1500-1800 m a. s. l. (Figs. 86-87). Additional *Trechus* species, e. g. *T. bannaticus*, *T. latus*, *T. mallaszianus*, *T. marginalis* and *T. pulchellus pulchellus* were collected in the same places.

Distribution. *Trechus baicu* sp. nov. is known only from four localities situated in the Țarcu and Godeanu Mountains in the Southern Romanian Carpathians (Fig. 88).

Note. Moravec et al. (2003) and Belousov (2017) attribute the authorship of *Trechus insolitus* to K. Daniel and J. Daniel. As at the end of the description of this species only K. Daniel is listed as the author, therefore the following author should be used for the species: *Trechus insolitus* K. Daniel, 1906. This species was described based on one male collected in a high mountain area of the Ceahlău Mountains in the East Carpathians (K. Daniel & J. Daniel 1906) (Figs. 22-26). Holdhaus & Deubel (1910) published the exact circumstances of the discovery of the specimen: “Das einzige bekannte Exemplar dieser Art wurde von Herrn Deubel und mir am Ceahlau aus Graswurzeln gesiebt. Die Fundstelle lag in des nur 20-30 m oberhalb der Waldgrenze und die Art ist daher keinesfalls als exklusiv hochalpin anzusprechen.” [The only known specimen of this species was sifted by Mr. Deubel and me from grass roots in Ceahlau. The site lies only 20-30 m above the forest zone and that’s why the species is not to be considered as exclusively high alpine in any way]. The holotype is

deposited in NHMW, aedeagus of the species was extracted and illustrated by Jeannel (1927) (Figs. 25-26), but was not found on the plate with the specimen.

***Trechus ormayi* Ganglbauer, 1891**
(Figs. 27-64, 88)

Trechus Ormayi Ganglbauer, 1891: 119

Trechus Ormayi; Petri 1912: 20; Breit 1912: 43; Jeannel 1927: 566 (redescription); Jeannel 1930a: 9, 1930b: 102

Trechus ormayi; Csiki 1946: 278; Orghidan & Dumitrescu 1963: 130; Decou 1964: 456; Pawlowski 1972: 874;

Moravec 1986: 93; Moravec et al. 2003: 337 (catalogue); Alziar & Lemaire 2013: 87 (misidentification);

Belousov 2017: 441 (catalogue)

Trechus (Nigrinotrechus) ormayi; Donabauer 2019: 114

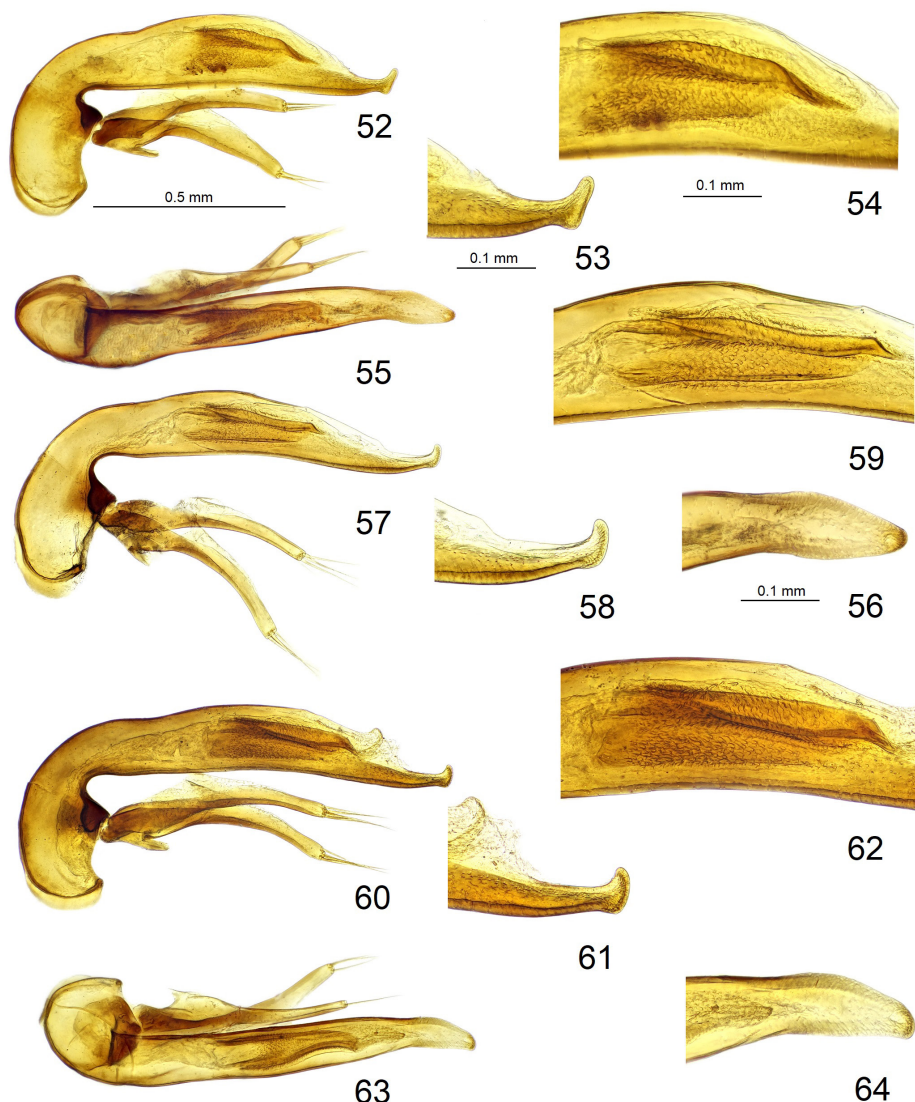
Trechus zarandicus P. Moravec, 1986: 93, **syn. nov.**

Type locality. Transsilvanische Alpen, Rothenthurmpass [=Romania, South Carpathians, Pasul Turnu Roşu], nec “Kapellenberg (Mus. Vienne)” sensu Jeannel 1927: 566.

Type material. *Trechus ormayi*. Four syntypes deposited in NHMW were examined. To stabilise the systematic position of the species, a lectotype and paralectotypes were designated: Lectotype ♂: “Ormay 88, Roth. Th. Paß” [=Romania, South Carpathians, Pasul Turnu Roşu], “Ormayi, Transs. Gglb.” [both labels handwritten], “Lectotypus *Trechus ormayi* Ggb., P. Moravec des. 1996” (NHMW); Paralectotypes 1 ♂, 1 ♀: “Ormay 88, Roth. Th. Paß” [handwritten] (NHMW), 1 ♀ [damaged]: same data and additional label “Ormay Sándor, Nagy Szeben (Tr.)” (NHMW).

Trechus zarandicus. Holotype ♂: “Romania, Mț. Zarand: vf. Drocea - Mădrigești, 17.7.1984, 400-600 m, P. Moravec lgt.” (PMLC); paratypes: 1♂, 3 ♀♀: same data as holotype (PMLC, SMNS).

Additional material examined: 6 ♂♂: Roter Turm Pss., Pinker 24.V.10, Transsylvania (NHMW); 3 ♂♂: Siebenbürgen, Roterturmpass / Ormayi / Goll. [sic] Wingelmüller (NHMW, PMLC); [=South Carpathians, Pasul Turnu Roşu]; 1 ♀: Verestoronny, Mihók / coll. Mihók / *Trechus ormayi* Gangl. (MTMB) [=South Carpathians, Pasul Turnu Roşu]; 1 ♂: Mt. Sarco, Hu. merid, Breit / coll. Mihók / *Trechus ormayi* Gangl. (MTMB) [=Munții Țarcu: mont Țarcu]; 4 ♂♂, 3 ♀♀: ROMANIA, Mț. Zarand: vf. Drocea - Mădrigești, 400-450 m, 9.6.1988, P. Moravec lgt. (PMLC); 1 ♀: same data, but J. Janák lgt. (JJRC); 2 ♀♀: same data, but V. Zieris lgt. (VZPC); 4 ♂♂, 1 ♀: Mț. Zarand: vf. Drocea - Mădrigești, 500-550 m, 10.6.1988, P. Moravec lgt., *Trechus zarandicus* Mor., P. Moravec det. 1989 (PMLC, NHMW); 2 ♀♀: same data, but V. Zieris lgt. (VZPC); 2 ♂♂: Mț. Metaliferi: mont Măgurea (905 m), 750-850 m, 9.6.1988, J. Janák lgt. (JJRC); 8 ♂♂, 11 ♀♀: Ganglb. 95, Schuler Tr. (NHMW, NMP, PMLC); 2 ♀♀: Schuller [sic], Spaeth 96 (NHMW); 2 ♂♂: Siebenbürgen, Schuler / Ormayi / Coll. Wingelmüller (NHMW); 1 ♂: Schuler-Geb., Schuster 95 / *Trechus Ormayi* / Collect. Pinker (NHMW); 1 ♀: Schulergebge, Translv. Breit (NHMW); 1 ♂, 1 ♀: Schuler. Tr., Dr. Krauss (NHMW) [=Mont Postăvaru pr. Braşov]; 1 ♂: Rosenauer Gbg., Deubel 96 (NHMW) [=Mont Postăvaru pr. Râşnov]; 5 ♀♀: Kapellenberg, Deubel (NHMW) [=Mont Tâmpa pr. Braşov]; 1 ♂, 2 ♀♀: Ganglb. 95, Bucsecs Tr. (NHMW); 1 ♂: Butschetsch, 1.7.1911, F. Gabert / T. obtusus Er., Pulpán det. 1968 (NMP); 1 ♀: Buczecz Tr., subalpine (NMP) [=Munții Bucegi]; 4 ♂♂, 2 ♀♀: ROMANIA mer. 13.7.1979, Munții Bucegi, vrf. Furnica, 1800-2000 m, J. Janák lgt. (JJRC, PMLC, VZPC); 1 ♂: Piatra Craiului, Grînd, 22.6.1983, M. Kuboň lgt. / *Trechus ormayi* Ggb., P. Moravec det. 1987 (MKOC); 1 ♂, 1 ♀: Pietrii [sic] Craiului, Zarnesti env., 1000 m, 9.7.1983, P. Veselý lgt. / *Trechus ormayi* Ganglb., P. Moravec det. 1985 (PVPC, PMLC); 1 ♂: Piatra Craiului, Curmătura, 1620 m, 12.7.1988, L. Šulák lgt. / *Trechus ormayi* Ggb., P. Moravec det. 2010 (KOF); 1 ♀: N. Hagymás, Holdhaus / Ostkarpathen / Ormayi Gglb., R. Jeannel det. (NHMW) [=Munții Hășmașu Mare]; 3 ♂♂ + 6 ex. unsexed: Transsylv. Kronstadt / Ormayi / Collectio Kaufmann (NHMW); 1 ♂, 1 ♀: Ganglb. 95, Kronstadt / Ormayi (NHMW); 1 ♀: Kronstadt 1911 (OMO) [=Braşov]; 5 ♂♂: Deubel, Siebenbg. (NHMW) [=Transilvania, Siebenbürgen, Erdély].



Figs. 52-64. *Trechus ormayi* Gglb. 52-54- Metaliferi, Măgurea; 55-59- Bucegi, Furnica; 60-62- Piatra Craiului; 63-64- Schuler Gebirge. 52, 57, 60- aedeagus lateral; 55, 63- aedeagus dorsal; 53, 58, 61- apex of aedeagus, lateral; 56, 64- apex of aedeagus, dorsal; 54, 59, 62- copulatory piece. Scales: 0.5 mm: 52, 55, 57, 60, 63; 0.1 mm: 53, 58, 61; 54, 59, 62; 56, 64.

Other published records (not examined). Būdös (c.a.) [=Munții Harghita: Sântimbru-Băi, coll. K. Petri] (Petri 1912); Bodzaer Gebirge (Deubel) (Petri 1912); munții Buzăului [Bodzaer Geb.] (Fr. Deubel) [=Munții Buzău] (Jeannel 1927); Vargyastal (Deubel) [=Munții Harghita: Cheile Virghișului] (Petri 1912); Peștera nr. 23 din Cheile Virghișului (C. or.) [=Munții Harghita: cave No. 23 din Cheile Virghișului] (Orghidan & Dumitrescu 1963, Decou 1964); Rezbanya env. [=Munții Bihor: Băița] (Breit 1912); Rau alb, massif du mont Tzarcu (R. Jeannel) [=Munții

Țarcu: Râul Alb] (Jeannel 1927); Vrf. Ciucas (Fr. Deubel) [=Munții Ciucaș] (Jeannel 1927); Hunedoara, munții Vâlcanului: Scocu mare, haute vallée du Jiu [=Munții Vâlcanului/Retezat: Cheile Scocului Mare] (Jeannel 1930a, b); Gorj: dealul Boului, près de Tismana (P. A. Chappuis et A. Winkler) [=Munții Vâlcanului: Tismana env.] (Jeannel 1930a, b).

Description. See Moravec (1986) (as *T. zarandicus*, n = 2 ♂♂, 3 ♀♀). Measurements of specimens from the type locality Pasul Turnu Roșu (n = 10 ♂♂, 1 ♀, including the lectotype and 2 paralectotypes): total body length 3.25-3.75 mm, M = 3.44 mm, LT = 3.35 mm; HW/HL = 1.58-1.75, M = 1.65, LT = 1.62; PW/HW = 1.27-1.38, M = 1.34, LT = 1.36; EL/AL = 1.15-1.26, M = 1.19, LT = 1.16; PW/PL = 1.38-1.47, M = 1.43, LT = 1.41; PW/PBW = 1.24-1.32, M = 1.27, LT = 1.27; EL/EW = 1.35-1.47, M = 1.41, LT = 1.40; EL/PL = 2.93-3.23, M = 3.06, LT = 2.93; EW/PW = 1.47-1.55, M = 1.51, LT = 1.47; aedeagus 1.02-1.11 mm long (M = 1.05 mm, LT = 1.05 mm), relatively very large (EL/AEL = 1.85-2.04, M = 1.92, LT = 1.90).

Variability. Except for the specimens from the type locality, measurements of the specimens from the following localities were taken: Zarand Mts.: Mt. Drocea (n = 10 ♂♂, 12 ♀♀, including the holotype and four paratypes of *T. zarandicus*), Metaliferi Mts.: Mt. Măgurea (n = 2 ♂♂), Țarcu Mts.: Mt. Țarcu (n = 1 ♂), Mt. Postăvaru (n = 10 ♂♂, 10 ♀♀); Mt. Tâmpa (n = 5 ♀♀); Bucegi Mts. (n = 3 ♂♂, 3 ♀♀); Piatra Craiului Mts. (n = 2 ♂♂, 1 ♀); Hășmașu Mare Mts. (n = 1 ♀). Measurements of the specimens from all above mentioned localities: total body length: 3.05-3.80 mm (M = 3.44 mm), total length of the aedeagus 0.98-1.11 mm (M = 1.04 mm), relative size of the aedeagus EL/AEL = 1.75-2.08 (M = 1.92). We don't find any significant differences among individual populations either in external characters or in the shape of the aedeagus and copulatory piece (Figs. 28, 30-64) except for the specimens from the alpine zone in Bucegi and the Piatra Craiului Mountains which have a slightly longer and narrower aedeagus (Figs. 57, 60) with slightly different shoe shape apex (Figs. 36, 35, 58, 61) and also a slightly different apex of the copulatory piece (Figs. 44, 45, 59, 62). The senior author (PM) considered in the past the alpine population from Bucegi as a separate new subspecies (some specimens were labelled in the past accordingly) but currently we tend to consider these differences as intraspecific variability.

Distribution. The species is distributed in the Romanian Eastern, Southern and Western Carpathians (Fig. 88).

Discussion. Moravec (1986) described *T. zarandicus* and compared this species with illustrations of aedeagus of *T. ormayi* from the Bucegi Mountains published by Pawlowski (1972). After examination of the male lectotype and paralectotypes of *T. ormayi*, no essential differences between this species and *T. zarandicus* were found, thus *T. zarandicus* is considered a synonym of *T. ormayi*.

Note. One female specimen with the following locality labels can be tentatively associated with *T. ormayi*, but only examination of a male from the same region can confirm the identification: 1 ♀: Romania occ. m., Banat - Resicza, 1.5.1986, R. Fencel lgt. (PMLC).

Alziar & Lemaire (2013) reported *T. ormayi* from Bihor Mts., between Cabana Padiș and Șaua Scărita, 1250-1300 m, 19-26.vii.2008, but according to the recent revision the specimens in reality belong to *T. obtusus obtusus* (Lemaire, email with a picture of the aedeagus, 23.3.2026).

***Trechus mauritzi* sp. nov.**

(Figs. 65-85, 88)

Trechus Ormayi; Holdhaus & Deubel, 1910: 79 (partim) ("In den Südkarpathen vom Csukás bis zur Piatra Zenoga beim Vulkanpass.")

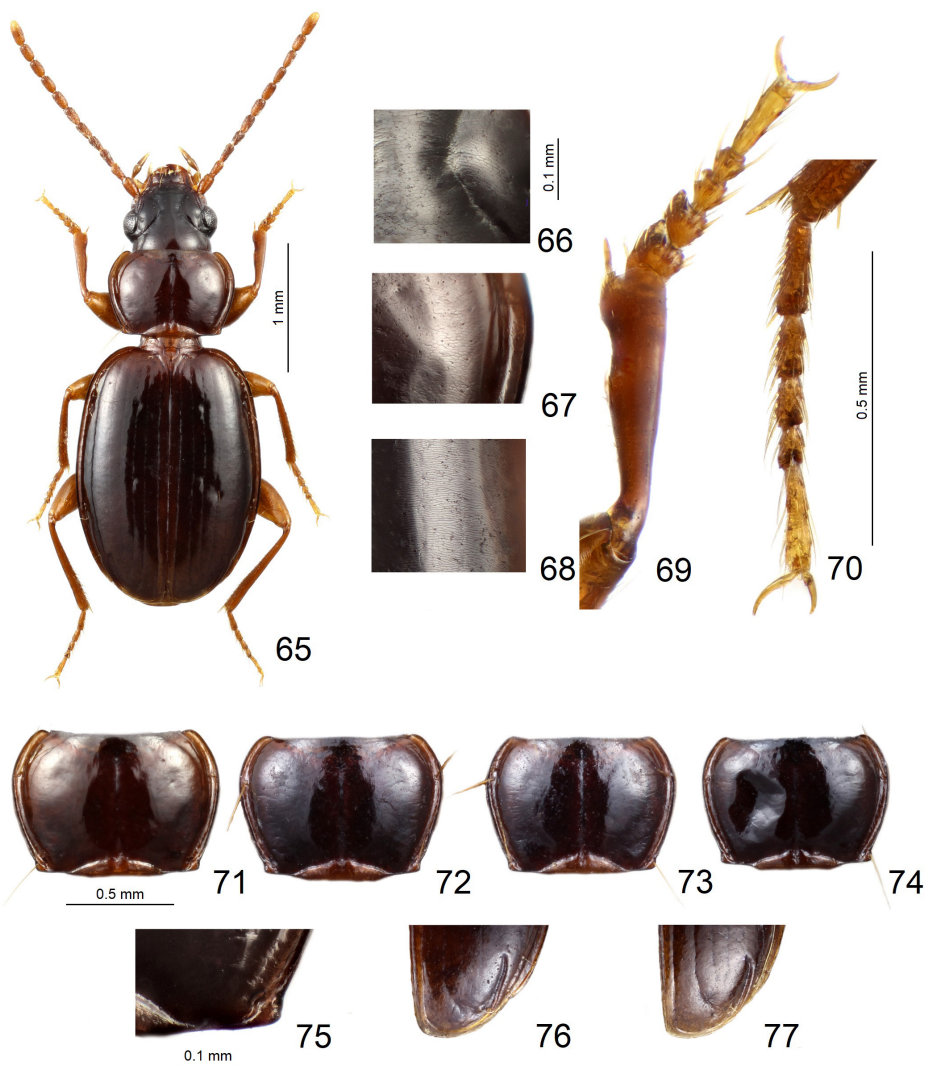
Type locality. Romania, South Carpathians, Retezat Mountains, Mount Vârful Mic.

Type material. Holotype (♂): "ROMANIA, Mț. Retezat: Vîrfu Mic (1530 m), 1450-1500 m, 17.7.1988, P. Moravec lgt.", "HOLOTYPE *Trechus mauritzi* sp. nov. Janák & Moravec det. 2026" (PMLC). Paratypes: (3 ♂♂, 1 ♀): same data as holotype, (PMLC, JJRC); (2 ♀♀): same data as holotype, but "J. Janák lgt.", (JJRC); (1 ♂): "*Trechus* n. sp., Piatra Zenoga bei Pass Vulkan, Schielgeb. 25.6.83 [handwritten] / Kimakov. Siebenbg. 1886 [print]", (NHMW); (2 ♂♂, 1 ♀): "P. Zenoga 25.6.83 [handwritten] / Kimakov. Siebenbg. 1886" [print] (NHMW) [=Romania, South Carpathians, Vâlcanului Mts., Vf. Zănoaga (1475 m) pr. Pasul Vâlcan]. All paratypes with additional labels: "PARATYPE *Trechus mauritzi* sp. nov. P. Moravec det. 1996" or "PARATYPE *Trechus mauritzi* sp. nov. Janák & Moravec det. 2026" (JJRC).

Diagnosis. Brown colored species of small size, with reduced hind wings and large eyes; body surface shiny with reduced microsculpture; pronotum markedly transverse with posterior margin wider than anterior margin, lateral sides non-sinuate before posterior angles; elytra markedly convex, with rounded or slightly acute apex and vanished external striae; protibiae without groove on outer side; elytral chaetotaxy normal with two discal and one preapical setiferous punctures, four equidistant setiferous punctures of anterior (posthumeral) umbilicate series; aedeagus very large, median lobe with simple and perpendicularly truncated apex, inner sac with sclerotized copulatory piece, of shape of elongated gutter with broadly rounded apex.

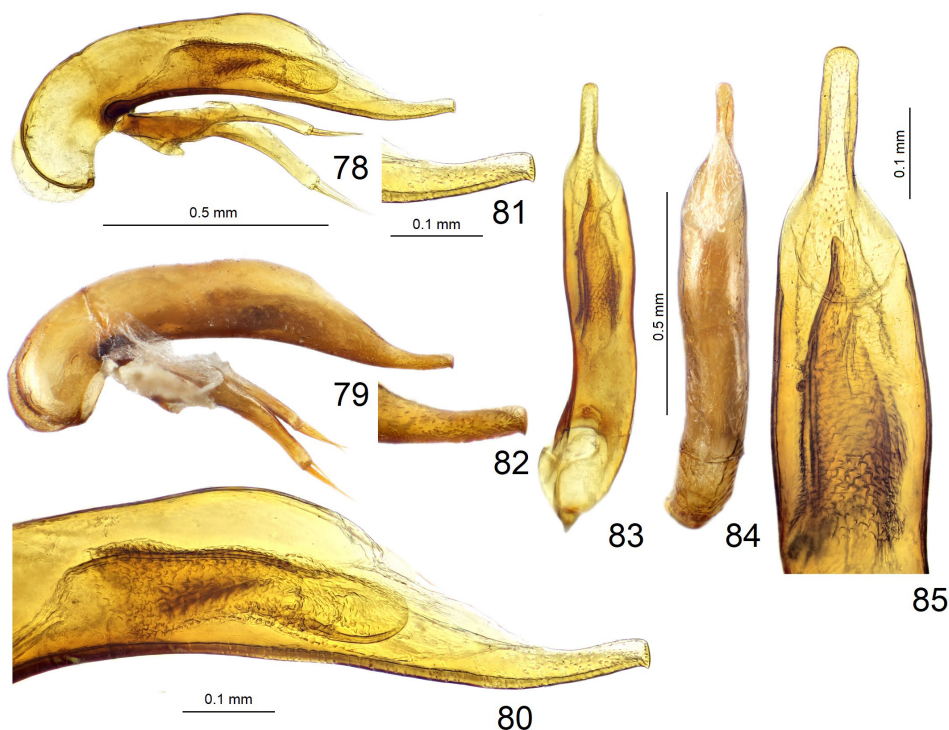
Description. (n = 4 ♂♂, 2 ♀♀ from Retezat Mts.). Total body length 3.05-3.50 mm, M = 3.33 mm (males 3.05-3.45 mm, M = 3.28 mm, HT = 3.40 mm; females 3.25-3.50 mm, M = 3.40 mm). Body moderately elongate (Fig. 65). Unicolored dark brown, head slightly darker. Lateral groove and narrow band at suture in posterior half of elytra and mandibles light reddish brown. Palpi light reddish yellow, second palpomere of maxillary palpus distinctly darker. Legs light reddish yellow, underside of femora in basal half slightly darkened. Antennae with first antennomere or often two antennomeres light reddish yellow, remaining segments darker, light reddish brown. Body with usual long setae of *Trechus*, head, pronotum and elytra glabrous (Fig. 65). Surface of body shiny, head only on vertex with distinct isodiametrical meshes, remaining surface including neck with vanishing microsculpture (Fig. 66). Pronotum and elytra with very fine transverse waves (Figs. 67-68), pronotum without microsculpture on centre of disc.

Head (Fig. 65) very wide (HW/HL = 1.59-1.67, M = 1.64, HT = 1.67), markedly narrower than pronotum (PW/HW = 1.27-1.33, M = 1.31, HT = 1.33). Eyes large, broadly



Figs. 65-77. *Trechus mauritzi* sp. nov. 65-71, 75- holotype, 72-74, 76-77- paratypes. 65- habitus; 66- microsculpture of head; 67- microsculpture of pronotum; 68- microsculpture of elytron; 69- protarsus and protibia; 70- metatarsus; 71-74- pronotum; 75- posterior angles of pronotum; 76-77- apex of elytron. Scales: 1 mm: 65, 0.5 mm: 69-70; 71-74, 76-77; 0.1 mm: 75.

oval and strongly convex, in holotype almost three times longer than temples ($EYL/TL = 2.9$) (Fig. 65). Frontal furrows entire, arcuate or slightly angular, becoming markedly deeper behind posterior half of head (Fig. 65). Antennae relatively short, distinctly shorter than elytra ($EL/AL = 1.13-1.19$, $M = 1.16$, males $1.13-1.15$, $M = 1.14$, $HT = 1.15$, females $1.16-1.19$, $M = 1.18$), with antennomeres 8-10 markedly longer than wide ($L/W = 2.08$:



Figs. 78-85. *Trechus mauritzi* sp. nov. 78, 80-81- holotype, 79, 82-85- paratypes. 78-79- aedeagus lateral; 81-82- apical part of aedeagus lateral; 83-84- aedeagus dorsal; 85- apical part of aedeagus dorsal; 79, 82, 84- diffused reflected light, remaining- transmitted light. Scales: 0.5 mm: 78-79; 83-84; 0.1 mm: 80; 81-82; 85.

1.96 : 1.81 in holotype, 2.00 : 1.92 : 1.88 in paratype ♀). Length ratios of the antennomeres of holotype: 1:00 : 1.00 : 1.00 : 0.95 : 1.00 : 1.00 : 1.00 : 0.95 : 0.95 : 0.90 : 1.35. Labrum slightly emarginated.

Pronotum slightly convex and markedly transverse (PW/PL = 1.40-1.49, M = 1.45, HT = 1.49), moderately narrowed toward base (PW/PBW = 1.25-1.31, M = 1.28, HT = 1.28), with maximal width before middle of length, lateral sides non-sinuate before posterior angles, posterior angles small, only weakly prominent, obtuse to almost rectangular, sharp at apex (Figs. 71-74). Middle furrow deep and reaching basal margin of pronotum. Basal transverse furrow deep and complete. Lateral basal impressions very shallow or almost indistinct. Basal margin of pronotum straight, only slightly oblique towards posterior angles (Figs. 71-74). Lateral gutter wide, of same width along entire length. Chaetotaxy of pronotum with anterior seta situated in widest part of pronotum (Figs. 71-74), basal seta near posterior angle, in distance about as large as diameter of puncture from posterior angle (Fig. 75).

Elytra (Fig. 65) markedly convex, moderately wide, broadly oval (EL/EW = 1.38-1.44, M = 1.40, HT = 1.40), about three times as long as pronotum (EL/PL = 2.97-3.16, M = 3.03, HT = 3.04) and markedly wider than it (EW/PW = 1.46-1.53, M = 1.49, HT = 1.46),

humeri completely rounded, not protruding. Lateral gutter normally wide, first three striae deeper, not shortened, very weakly punctate, fourth and fifth and exceptionally sixth stria weakly marked and also strongly shortened, remaining striae completely vanished. Internal interstriae completely flat. Apical stria very deep and not connected to any other stria (Figs. 76-77). Each elytron rounded or slightly pointed at apex (Figs. 76-77).

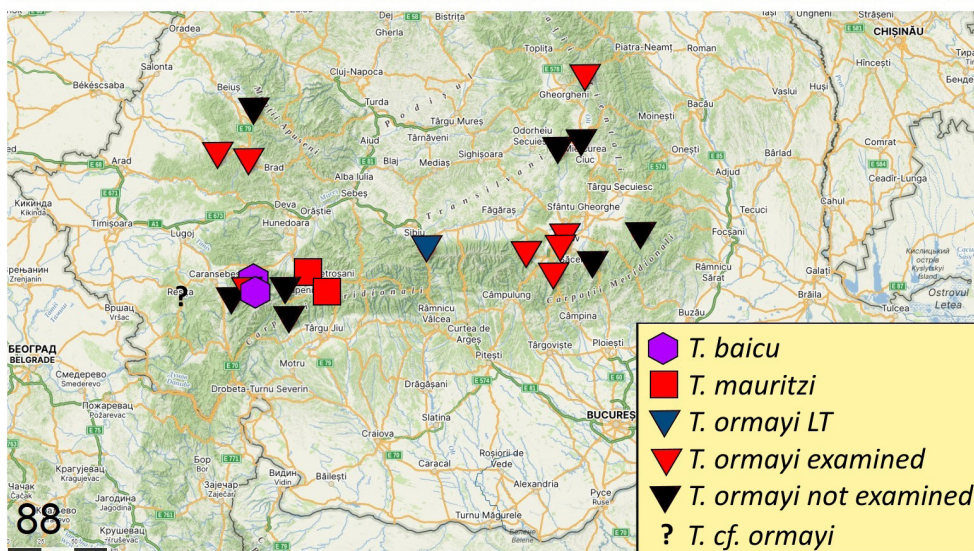
Chaetotaxy of elytra (Fig. 65): two discal setiferous punctures, first puncture situated in third stria at level of third or fourth puncture of anterior (posthumeral) umbilicate series, second puncture in third stria slightly anteriorly or posteriorly (in 1 PT) of middle of elytral length, far anteriorly of first puncture of middle umbilicate series. Additional setiferous puncture in fourth stria of right elytron in about middle of elytral length present in holotype. Preapical setiferous puncture situated slightly exteriorly of second stria in third interstriae. Anterior (posthumeral) umbilicate series situated at inner margin of lateral gutter, punctures approximately equidistant. Distance between anterior and median umbilicate series more than twice as long as the length of anterior series. Legs usually long, metatarsi (Fig. 70) relatively short and narrow ($EL/MTL = 3.23-3.59$, $M = 3.47$, males $3.23-3.53$, $M = 3.40$, $HT = 3.52$, females $3.49-3.59$, $M = 3.55$). Protibiae without groove on the outside (Fig. 69).

Male: total body length on average slightly smaller ($3.05-3.45$ mm, $M = 3.28$ mm) than in females ($3.25-3.50$ mm, $M = 3.40$ mm), protarsus with widened first two segments (Fig. 69). Aedeagus $0.92-0.98$ mm long ($M = 0.96$ mm, $HT = 0.98$ mm), relatively very large ($EL/AEL = 1.90-2.05$, $M = 1.97$, $HT = 2.02$), median lobe in lateral view slightly dorsally curved in apical part, with simple and perpendicularly truncated apex possessing very small and sharp tooth ventrally (Figs. 81-82), in dorsal view parallel and broad, in apical part abruptly narrowed with rounded apex (Figs. 83-85). Copulatory piece heavily sclerotized, of shape of elongated gutter with broadly rounded apex, internal sac covered with small fine scales (Fig. 80). Basal bulb of median lobe with fully developed sagittal lamella (Figs. 78-79). Parameres long and slender, apically with three to four setae (Figs. 78-79).

Female: total body length on average slightly greater than in males, protarsi undilated, antennae and tarsi relatively shorter than in males.

Variability. The specimens from “Piatra Zenoga” [= Vâlcan Mts.] ($n = 3 \text{ ♂♂}$, 1 ♀) were also measured and are externally identical to the specimens from Retezat Mts., the aedeagus is also identical. Measurements: total body length $3.05-3.45$ mm ($M = 3.24$ mm), total length of aedeagus $0.90-0.99$ mm ($M = 0.94$ mm), relative size of the aedeagus $EL/AEL = 2.02-2.06$ ($M = 2.04$).

Differential diagnosis. *T. mauritzi* sp. nov. belongs to the *T. obtusiusculus* species group (sensu Jeannel 1927) based on following characters: protibiae without groove on the outer side, pronotum with basal transverse furrow deep and complete, lateral basal impressions very shallow or almost indistinct, each elytron rounded or slightly pointed at apex, the aedeagus relatively very large with heavily sclerotized copulatory piece. The new species can be distinguished from the only species of the group distributed in Carpathians - *T. ormayi* by the shape of the apex of the median lobe which is simple, perpendicularly truncate and possessing a very small and sharp tooth ventrally (shoe shaped apex in *T. ormayi*). Also copulatory piece of the new species is very different from that of *T. ormayi*. Thus *T. mauritzi*



Figs. 86-88. 86-87. Type localities of *Trechus baicu* sp. nov.; 86- Capu Prislopului; 87- Valea Bistra Mărului. 88. Distribution of *Trechus baicu* sp. nov., *T. mauritzi* sp. nov. and *T. ormayi* (source mapy.cz). 86-87- photo by P. Vonička.

sp. nov. seems to be a member of a separate evolutionary line and not closely related to *T. ormayi*. The simple apex of the median lobe also occurs in some other species of the *T. obtusiusculus* group, e. g. *T. winkleri* Jeannel, 1927, *T. ravasinianus* Lorenz, 1998 and *T. nezlobinskyi* Hristovski, 2014 from the Balkans and *T. maritimus* Deville, 1907 from the Alps. However, this is more of an evolutionary convergence than a manifestation of closer relatedness.

Etymology. The new species was named in honour of the first collector of the new species - Mauritius Edler Kimakowicz von Winnicki (1849-1921) a prominent Transylvanian naturalist and custodian of the Natural History Museum in Sibiu (Hermannstadt) (Horn et al. 1990).

Bionomics. Most type specimens were collected under deep embedded stones at the treeless limestone foot of mount Vârful Mic in Retezat Mts. at 1450-1500 m a. s. l. [45.3935N, 23.1375E] together with *T. obtusus obtusus* (2 ♀♀) and a not yet identified species of the genus *Sophrochaeta* Reitter, 1884 (Coleoptera, Leiodidae).

Distribution. *T. mauritzi* sp. nov. is known only from two localities situated in Retezat and the Vâlcân Mountains in the Southern Romanian Carpathians (Fig. 88).

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REFERENCES

- ALZIAR G. & LEMAIRE J.-M. 2013: Les missions entomologiques du Muséum d'Histoire naturelle de Nice, 2004-2010. *Biocosme mésogéen, Nice* 29(3) [2012]: 57-104.
- BELOUSOV I. A. 2017: Tribe Trechini Bonelli, 1810, pp. 357-455. In: LÖBL I. & LÖBL D. (Eds.): *Catalogue of Palaearctic Coleoptera. Volume I. Archostemata-Myxophaga-Adephaga. Revised and updated edition*. Brill, Leiden, Boston, xxxiv +1443 pp.
- BREIT J. 1912: Eine Sammelexkursion im Bihargebirge. *Verhandlungen der Kaiserlich-königlichen Zoologisch-botanischen Gesellschaft in Wien* 62: 35-43.
- CSIKI E. 1946: *Die Käferfauna des Karpaten-Beckens. I. Band, Allgemeiner Teil und Caraboidea*. A. T. Kubacska, Budapest, 798 pp.
- DANIEL K. & DANIEL J. 1906: Neue paläarktische Koeopteren. 2. Serie. *Münchener Koeopterologische Zeitschrift* 3 [1906-1908]: 170-187.
- DECOU V. 1959: Trechus dumitrescui n. sp., de la grotte de Gura Dubrogei [sic: Dobrogei] (Dobroudja, Roumanie). *Annales de Spéléologie* 14: 240-242.
- DECOU V. 1964: Le catalogue des Coléoptères cavernicoles de Roumanie (Coleoptera). *Acta Zoologica Cracoviensia* 9: 441-467.
- DONABAUER M. 2019: A taxonomic reorganization of European Trechus Clairville, 1806 (Coleoptera: Carabidae: Trechinae). *Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen* 71: 87-117.
- DONABAUER M. 2025: Trechus priapus K. Daniel, 1902 (Coleoptera: Carabidae: Trechini) and its relatives in Bulgaria. *Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen* 77: 1-10.
- FAILLE A., FRESNEDA J. & BOURRDEAU CH. 2023: Reconciling morphological and molecular data in a highly convergent group: the Pyrenean radiation of hypogean Trechini (Coleoptera, Carabidae). *Integrative Systematics* 6: 9-37. DOI: 10.18476/2023.609967.
- GANGLBAUER L. 1891: Fünfzehn neue Trechus-Arten. *Wiener Entomologische Zeitung* 10: 115-128.
- GOMES M. M., FAILLE A. & REBOLEIRA A. S. P. S. 2026: Phylogeny of subterranean ground beetles (genus Trechus, Coleoptera, Carabidae) from continental Portugal. *Subterranean Biology* 55: 57-75.
- HOLDHAUS K. & DEUBEL F. 1910: Untersuchungen über die Zoogeographie der Karpathen (Unter besonderer Berücksichtigung der Coleopteren). *Abhandlungen der Kaiserlich-königlichen Zoologisch-botanischen Gesellschaft in Wien* 6: i-vi, 1-202, 1 Karte.
- HORN W., KAHLE I., FRIESE G. & GAEDIKE R. 1990: *Collectiones entomologicae. Ein Kompendium über den Verbleib entomologischer Sammlungen der Welt bis 1960. Teil 1: A bis K*. Akademie der Landwirtschaftswissenschaften der Deutschen Republik, Berlin, 220 pp.
- HŮRKA K., JANÁK J. & MORAVEC P. 1989: Neue Erkenntnisse zu Taxonomie, Variabilität, Bionomie und Verbreitung

- der slowakischen und ungarischen Duvalius-Arten (Coleoptera, Carabidae, Trechini). *Acta Universitatis Carolinae, Biologica* 33: 353-400.
- JEANNEL R. 1927: Monographie des Trechinae. Monographie comparée et distribution géographique d'un groupe de Coléoptères. (Deuxième Livraison). *L'Abeille* 33: 1-592.
- JEANNEL R. 1929: Un Trechus nouveau du Retezat. *Buletinul Societății de Științe din Cluj* (2) 4[1928-1929]: 118-119.
- JEANNEL R. 1930a: Coléoptères cavernicoles des Carpates [sic] méridionales. *Buletinul Societății de Științe din Cluj* (2) 5: 5-47, 71-72 [rectification].
- JEANNEL R. 1930b: Monographie des Trechinae. Morphologie comparée et distribution géographique d'un groupe de Coléoptères. (Quatrième Livraison). Supplément. *L'Abeille, Journal d'Entomologie* 34 [sic: 36]: 59-122.
- KOSTOVA R. & BEKCHIEV R. 2023 Trechus (s. str.) "subnotatus" species group (Coleoptera: Carabidae) in Bulgaria. *Zootaxa* 5264(4): 505-525.
- LOMPE A. 2011: Trechus pseudolatus sp. n. - Ein neuer Trechus aus Rumänien (Coleoptera: Carabidae, Trechinae). *Nachrichtenblatt der Bayerischen Entomologen* 60(1/2): 27-31.
- LORENZ W. 2026: Carabcat database (version 03 (08/2021)). In: BÁNKI O., ROSKOV Y., DÖRING M., OWER G., HERNÁNDEZ ROBLES D. R., PLATA CORREDOR C. A., STJERNEGAARD JEPPESEN T., ÖRN A., PAPE T., HOBERN D., GARNETT S., LITTLE H., DEWALT R. E., MILLER J., ORRELL T. & AALBU R.: *Catalogue of Life* (2026-02-13 XR). Catalogue of Life Foundation, Amsterdam, Netherlands.
- MORAVEC P. 1986: Zwei neue Arten der Gattung Trechus CLAIRV. und Bemerkungen zu anderen Trechus-Arten aus Rumänien (Coleoptera, Carabidae). *Reichenbachia* 24: 93-99.
- MORAVEC P., UÉNO S. I. & BELOUSOV I. A. 2003: Tribe Trechini Bonelli, 1810, pp. 288-346. In: LÖBL I. & SMETANA A. (Eds.): *Catalogue of Palaearctic Coleoptera. 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup, 819 pp.
- ORGHIDAN T. & DUMITRESCU M. 1963: Studiu monographic al complexului carstic din defileul Virghișului. *Lucrările Institutului de Speologie "Emil Racovița"* 1-2 [1962-1963]: 69-178.
- PAWŁOWSKI J. 1972: Trois nouveaux Trechus (Coleoptera, Carabidae) de Bulgarie. *Bulletin de l'Académie Polonaise des Sciences (Sciences Biologiques, Cl. II)* 20: 873-879.
- PETRI K. 1912: *Siebenbürgens Käferfauna auf Grund ihrer Erforschung bis zum Jahre 1911*. Siebenbürgischer Verein für Naturwissenschaften zu Hermannstadt, Hermannstadt, ix + 376 pp.
- VESELÝ P., VONIČKA P., MORAVEC P., BULIRSCH P., HÄCKEL M., HEJKAL J., LINHART M., RÉBL K. & STANOVSKÝ J. (in press): Komentovaný seznam svižníkovitých a střevlíkovitých brouků (Coleoptera: Cicindelidae, Carabidae) České republiky a Slovenské republiky. Annotated checklist of tiger and ground beetles (Coleoptera: Cicindelidae, Carabidae) of the Czech Republic and the Slovak Republic. *Klapalekiana*.

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