

## A new species of the subgenus *Trichocellus* (genus *Dicheirotrichus*) from Xinjiang, China (Coleoptera: Carabidae: Harpalini)

### Новый вид подрода *Trichocellus* (род *Dicheirotrichus*) из Синьцзяна, Китай (Coleoptera: Carabidae: Harpalini)

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*Dicheirotrichus* (*Trichocellus*) *pevtsovi* **sp. nov.** is described from the western and southern outlying districts of Taklimakan Desert, southwestern Xinjiang, China.

Описан *Dicheirotrichus* (*Trichocellus*) *pevtsovi* **sp. nov.** из западной и южной части пустыни Такла-Макан, юго-западный Синьцзян, Китай.

**Key words:** ground beetles, China, Xinjiang, Coleoptera, Carabidae, Harpalini, *Dicheirotrichus*, *Trichocellus*, new species

**Ключевые слова:** жуличицы, Китай, Синьцзян, Coleoptera, Carabidae, Harpalini, *Dicheirotrichus*, *Trichocellus*, новый вид

## INTRODUCTION

The subgenus *Trichocellus* Ganglbauer, 1892 of the genus *Dicheirotrichus* Jacquelin du Val, 1857 comprises 33 described species distributed in the Holarctic Region, with most species concentrated in Middle and Central Asia. The species live mostly in open arid landscapes and occur often near water. A single revision of this subgenus was published by Tschitschérine (1899). Several new species were described during last 25 years (Kabak & Kataev, 1993; Komarov, 1995; Kataev & Wrase, 1996, 2006; Kataev & Shilenkov, 1997). In the present paper, a new species of *Trichocellus* is described from southwestern Xinjiang, China.

## MATERIAL AND METHODS

The following abbreviations are used for the depositories of the specimens examined: IRSNB – Institut Royal des Sciences Naturelles de Belgique, Bruxelles, Belgique; ZIN – Zoological Institute of the Russian Academy of Sciences, Saint Petersburg, Russia.

Measurements were taken as follows: body length, measured from the anterior margin of the clypeus to the elytral apex; width of head, measured as the maximum linear distance across the head, including the compound eyes (HWmax), and as the minimum linear distance across the neck constriction just behind the eyes (HWmin); length of pronotum (PL), measured along its median line; length of elytra (EL), measured from the basal border in

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the scutellar region to the apex of the sutural angle; maximum width of pronotum (PWmax) and of elytra (EW), both measured at their broadest point; minimum width of pronotum (PWmin), measured at its narrowest point near the hind angles. Measurements were made under the stereobinocular microscope MBS-10 using an ocular-micrometer. The male genitalia were examined in glycerin.

The habitus photographs were taken using a DSLR camera Canon EOS 40D with a Canon macro lens EF100 mm as a base lens and a Minolta MC W. Rokkor 35 mm as a reverse lens. To achieve sufficient depth of focus, 60 shots were taken using DSLR remote Pro and were combined with the stacking program Zerene Stacker. Post-processing was done in Adobe Photoshop CS 6.

## TAXONOMY

Order **COLEOPTERA**

Family **CARABIDAE**

Tribe **HARPALINI**

Subtribe **STENOLOPHINA**

Genus *Dicheirotrichus* Jacquelin du Val, 1857

Subgenus *Trichocellus* Ganglbauer, 1892

*Dicheirotrichus (Trichocellus) pevtsovi*  
**sp. nov.**  
(Figs 1–7)

*Holotype*. Male, **China**, *Xinjiang*, “Niya-Dar’ya before Mazar Imam-Dzhafu-Sadyr, 3/3 III [18]90 Pevtsov” [in Cyrillic] (ZIN).

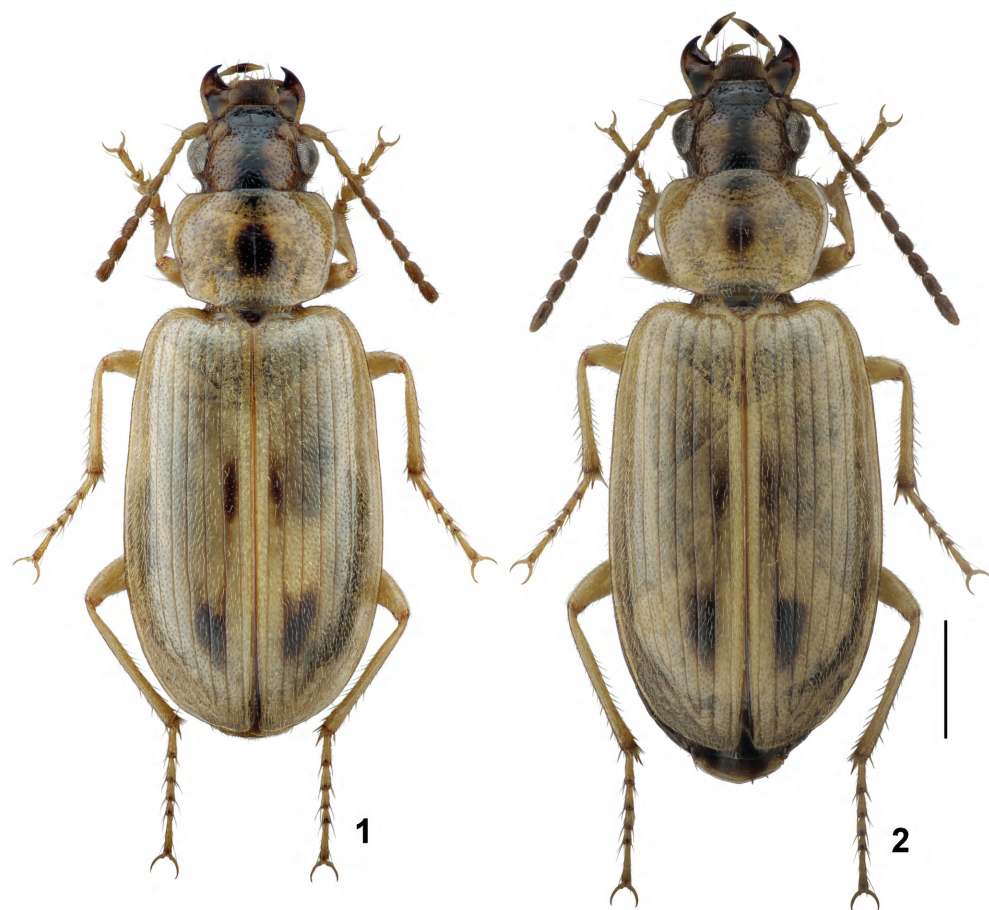
*Paratypes*. 1 male, same data as for holotype (ZIN); 1 male, “Ur.[ochische] Karasay (khr. [ebet] Russk[iy]), V–90 Pevtsov” [in Cyrillic] (ZIN); 3 males, 5 females, “Coll. I.R.Sc.N.B., China, Xinjiang, W. Taklimakan desert, Yarkan He riv. Valley, Tugay forest, 1140 m, 39°21.953’N 78°11.639’E, 9–12.VI.2013, I.G. 32.526 Leg. Floriani” (IRSNB, ZIN).

*Description*. Body length 5.3–6.0 mm, width 2.2–2.5 mm, in holotype 5.4 and 2.2 mm, respectively.

*Habitus*: as in figures 1, 2.

*Colour*. Dorsum moderately shiny, largely light brownish yellow; clypeus, medial portions of frons and vertex, mandibles apically, latero-basally and along inner margins black; labrum usually blackish brown, with narrow external margins paler; pronotum with a small oval macula in central portion and in some specimens also with indistinct darkening along anterior margin and laterally between median line and sides; central macula variable in size and occasionally indistinct; each elytron with a small elongate blackish brown macula occupying intervals 3 and 4 in their apical quarter and with a smaller elongate blackish brown macula occupying interval 2 in its middle portion; elytra of some specimens slightly motley due to irregular transparent areas through which wings are visible. Underside black, occasionally with a yellow macula on prosternum near its anterior margin; epipleura of pronotum and elytra light brownish yellow. Palpi, antennae and legs light brownish yellow; basal half of apical palpomeres blackish brown; antennomeres 4–11 more or less clearly infusate. Pubescence yellow.

*Head*. Rather large (HWmax/PWmax = 0.79–0.84; HWmin/PWmax = 0.62–0.65), somewhat coarsely and irregularly punctate dorsally, with basal portion of clypeus smooth; punctation slightly sparser in medial portions of frons and vertex than in lateral ones; each puncture bearing a short seta erect or inclined ahead. Eyes large, moderately convex (HWmax/HWmin = 1.25–1.32), almost reaching buccal fissure ventrally. Tempora short, slightly convex, setose. Clypeus almost straight apically, in some specimens slightly depressed along external margins. Labrum with slightly emarginate apical margin. Dorsal microsculpture present along apical margin of clypeus, under and behind eyes, consisting of obliterate isodiametric meshes. Mandibles acute at apices. Antennae surpassing pronotal base by three apical antennomeres; middle and preapical antennomeres each approximately twice as long as wide; dense short

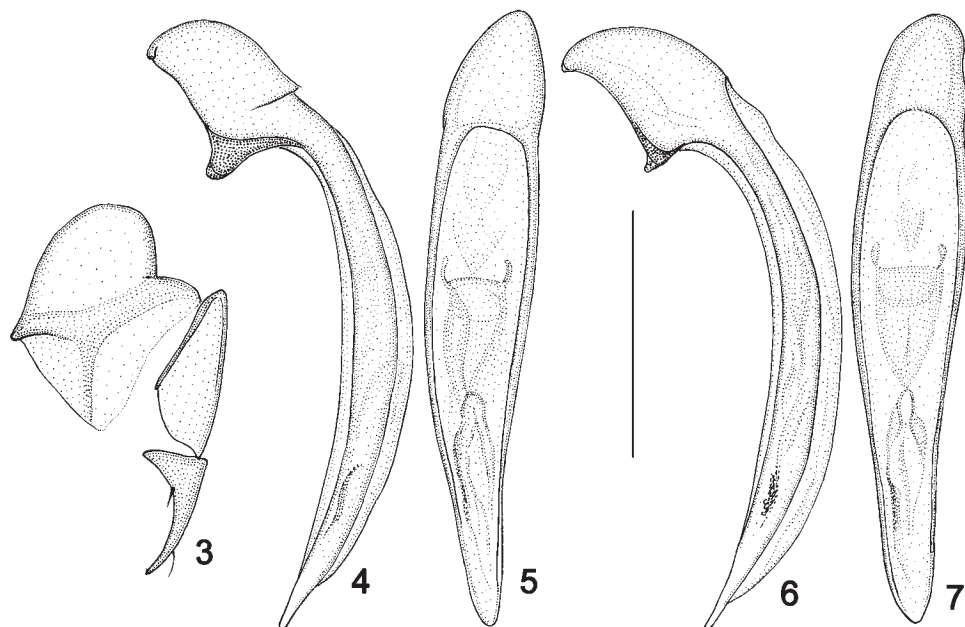


**Figs 1, 2.** *Dicheirotichus (Trichocellus) pevtsovi* sp. nov., general view, paratypes from Yarkan He Valley (1, male; 2, female). Scale bar: 1.0 mm.

pubescence present on antennomeres 4–11 and much sparser and longer pubescence on antennomeres 1–3.

**Pronotum.** Moderately transverse ( $PW_{max}/PL = 1.27–1.40$ ;  $PW_{max}/PW_{min} = 1.20–1.30$ ), widest in apical third. Its sides rounded in anterior half and almost rectilinearly or slightly roundly converging in posterior half. Apical margin very slightly emarginate, very narrowly bordered laterally in short distance from apical angles. Basal margin approximately equal to apical margin, noticeably narrower than elytral base, very widely rounded or almost straight medially, oblique laterally, with very narrow, rather indistinct bead along

oblique portion on each side, and clearly ciliate on basal ridge. Apical angles not protruding anteriorly, narrowly rounded at apices. Basal angles obtuse, slightly blunted at tips, each bearing a moderately long seta (approximately as long as basal antennomere). Lateral furrows rather narrow throughout, only slightly evenly widened posteriorly, reaching basal angles. Pronotal disc moderately convex. Basal foveae large, reaching basal pronotal ridge, separated from each other by convexity. Areas at basal angles distinctly flattened. Anterior transverse depression distinct, clearly deepened. Pronotal surface somewhat coarsely and irregularly punctate throughout, but punc-



**Figs 3–7.** *Dicheirotichus (Trichocellus) pevtsovi* sp. nov. (3, laterotergite and stylus, paratype; 4, 5, median lobe of aedeagus, holotype; 6, 7, same, paratype from Yarkan He Valley). Ventral view (3), lateral view (4, 6), dorsal view (5, 7). Scale bar: 0.5 mm.

tation in central portion rather sparse and finer. Punctures in basal foveae confluent. Each puncture bearing a short seta, usually inclined posteriad. Dorsal microsculpture absent.

Elytra. Moderately convex and relatively long (EL/EW = 1.53–1.67; EL/PL = 3.36–3.55; EW/PWmax = 1.56–1.64), slightly widened posteriad, widest just behind middle, and widely rounded at sides. Humeri prominent, widely rounded. Preapical sinuations extremely shallow, almost indistinct. Sutural angles narrowly rounded or blunted at tips. Basal border slightly sinuate, arcuately curving inside humerus up to lateral margin. Parascutellar pore present; parascutellar striole rudimentary, often absent. Interval 3 in apical third with a discal setigerous pore at stria 2. Umbilicate series consisting of six setigerous pores in anterior group and of eight (4+4) such pores in posterior group. Striae impunctate, superficial; striae 7 and 8 weak-

er than others; striae 6 and 7 disappearing near basal border of elytra. Intervals almost not narrowed posteriad, rather flat, at most very weakly convex in medio-basal portion of elytra. All intervals punctate, with three punctures in a transverse row across each interval. Each puncture bearing a short, posteriorly inclined seta. Microsculpture visible throughout; meshes isodiametric, obliterate on disc, more distinct along three lateral intervals and at apex.

Wings developed, longer than elytra.

Ventral surface. Metepisterna long and narrow, strongly narrowed posteriad. Anal sternite in both sexes rounded at apex, with one pair of marginal setae in male and two pairs in female.

Legs. Pro- and mesotarsomeres 5 with two pairs of ventro-lateral setae, metatarsomere 5 with three pairs of such setae. Metatarsus slender, approximately as long as HWmax; metatarsomere 1 noticeably longer than metatarsomere 2 and shorter

than 2+3. In male protarsomeres 1–4 moderately dilated, each with biseriate vestiture ventrally; mesotarsus not dilated.

Female genitalia (Fig. 3). Laterotergite asymmetrical, moderately wide, with membranous distal mesal margin, without spines or setae. Basal stylomere widened apicad, also without spines or setae. Apical stylomere curved, rather long, with moderately wide base, strongly narrowed apicad, with a seta on outer ventral margin before middle.

Median lobe of aedeagus (Figs 4–7). Rather slender, evenly arcuate, not swollen at apex (lateral aspect); narrowed apicad, narrowly rounded at tip, with sides rounded in basal two thirds and slightly sinuate in apical third (dorsal aspect). Internal sac with almost symmetrical pattern of tiny spines, including slightly larger spines on left side preapically.

*Distribution.* This new species is known from the western and southern outlying districts of Taklimakan Desert, southwestern Xinjiang, China.

*Etymology.* The new species is named after its first collector, the famous Russian traveler and explorer of Central Asia, Mikhail V. Pevtsov (1843–1902).

*Comparison.* In general habitus, this new species is very similar to *D. (Trichocellus) discolor* (Faldermann, 1835), particularly, in having pronotum with small oval dark macula and elytral epipleurae not infuscate, to the subspecies *D. d. punctidorsis* (Reitter, 1899) distributed in the arid areas of Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and northern Iran. *Dicheirotichus pevtsovi* **sp. nov.** distinctly differs from the latter species in the body size larger, the elytral disc with microsculpture, and the median lobe of the aedeagus narrower in dorsal aspect and much more strongly arcuate in lateral aspect. In *D. discolor*, the body length is 4.4–5.1 mm, the elytral microsculpture is present only at apex, and the median lobe is very weakly arcuate, nearly straight in lateral aspect, and rather evenly rounded at sides in dorsal

aspect. In addition, the medial and preapical maculae on elytra of *D. discolor* are connected and usually larger. The median lobe of *D. pevtsovi* **sp. nov.** is somewhat similar in lateral aspect to that of *D. (Trichocellus) roborowskii* (Tschitschérine, 1899) distributed over the Mongolian and Tibetan plateaus as well as in the Inner Tien Shan, but relatively much longer, and (in dorsal aspect) much narrower, almost parallel-sided. In external characters, *D. roborowskii* is easily distinguished from the new species by smaller body size (4.2–5.0 mm) and by having much sparser punctation on the pronotum and elytra (the pronotal disc impunctate in central portion and the elytral intervals with at most one or two punctures in a transverse row).

*Remarks.* The record of *D. discolor punctidorsis* from Xinjiang, China (Jaeger & Kataev, 2003) is actually based on the specimens of *D. pevtsovi* **sp. nov.**, although an occurrence of the former taxon in Xinjiang is possible.

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