

*Xylotrechus* (*Kostinicytus* subgen. n.) *medvedevi* sp. n.  
(Coleoptera, Cerambycidae) from Mongolia

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**Abstract** *Xylotrechus* (*Kostinicytus* subgen. n.) with type species *X. zaisanicus* PLAVILSTSHIKOV, 1940 is established for three species: *X. zaisanicus* PLAVILSTSHIKOV, 1940, *X. arnoldii* KOSTIN, 1974 and a newly described *X. medvedevi* sp. n. from Mongolia (Kobd aimak). The new species differs from *X. (K.) zaisanicus* and *X. (K.) arnoldii* by less transverse frons, large eyes, longer 3rd antennal segment and peculiar pronotal sculpture. Both species *X. (K.) zaisanicus* and *X. (K.) arnoldii* are redescribed and figured. The type locality for *X. (K.) arnoldii* is specified. Several new localities of *X. (K.) zaisanicus* are likewise mentioned.

### Introduction

The new species *Xylotrechus medvedevi* sp. n., belongs to a distinct group of very rare desert Central Asian species that develop in the roots of Chenopodiaceae. This group includes *Xylotrechus zaisanicus* PLAVILSTSHIKOV, 1940 and *X. arnoldii* KOSTIN, 1974. A new subgenus, *Kostinicytus* subgen. n. of the genus *Xylotrechus* CHEVROLAT is erected with the type species: *X. zaisanicus* PLAVILSTSHIKOV, 1940. The new subgenus is characterized by pale male elytra covered with recumbent white pubescence with indistinct or totally absent stripes and marked sexual dimorphism. The original description of *X. zaisanicus* was based on a single male and since additional material has been discovered the species can be redescribed in more detail. The description of *X. arnoldii* was not quite adequate and also requires redescription.

### *Xylotrechus* (*Kostinicytus* subgen. n.)

Type species: *Xylotrechus* (*Xylotrechus*) *zaisanicus* PLAVILSTSHIKOV, 1940

Body small, not exceeding 13 mm in male, pale-brown to brown; prothorax darker, with more or less dense white pubescence; frons short, more or less transverse, with usually distinct “V”-shaped frontal carinae which can occasionally be reduced; eyes relatively small, distance between ventral eye lobes never shorter than the length between antennal insertions; prothorax in male very large, rounded laterally, with

convex pronotum; pronotum in male with small irregular punctation and a pair of central depressions, never roughly sculptured; elytra in male strongly tapering posteriorly, relatively short, without distinct pattern, white central transverse stripe and white oblique posterior stripe (if present) hardly discernible, often totally indistinct. Marked sexual dimorphism is believed to occur in all species. It is known to occur in several rather distant populations of *X. zaisanicus* that have black-brown female, parallel-sided elytra and regular pronotal punctation. Females of other species were not available.

New subgenus *Kostiniclytus* subgen. n. of the genus *Xylotrechus* can be separated from the nominotypical subgenus, as well as four other subgenera: *Xyloclytus* REITTER, 1913, *Rusticoclytus* VIVES, 1977, *Turanoclytus* SAMA, 1994 and *Ootora* NIISATO et WAKEJIMA, 2008 by the aforementioned characteristics.

*Range* (Fig. 9). This new subgenus occurs in deserts regions of Central Asia from Kazakhstan to Mongolia.

*Biology*. All species are found in desert landscapes. Their development is quite exceptional for the genus; beetles develop in roots of Chenopodiaceae.

*Note*. The subgenus *Xylotrechus* (s. str.) is most likely not a natural taxon and should be divided in several new subgenera.

### *Xylotrechus (Kostiniclytus) zaisanicus* PLAVILSTSHIKOV, 1940

(Figs. 1–3 & 6)

*Xylotrechus* (s. str.) *zaisanicus* PLAVILSTSHIKOV, 1940, pp. 354, 717. – “near Takyrka in 50 km northwards Zaisan Lake”.

*Xylotrechus zaisanicus*: KOSTIN, 1968a, p. 190 (Ili valley, Syr-Darja valley); 1968b, p. 207 (female, biology); 1973, pp. 176–177; 1974, p. 648; LOBANOV *et al.*, 1982, p. 260.

*Xylotrechus arnoldii*: KADYRBEKOV & CHILDEBAEV, 2007, p. 219. – “Alakol lake valley”.

*Type locality*. East Kazakhstan, Takyr env., 48° 10' N, 84° 59' E, according to the original description.

Body length (male): 7.2–11.0 mm, width (at humeri): 2.3–3.5 mm; body length (female): 9.0–12.5 mm, width: 2.8–3.5 mm. According to I. A. KOSTIN (1973) the length of adult can be up to 13 mm.

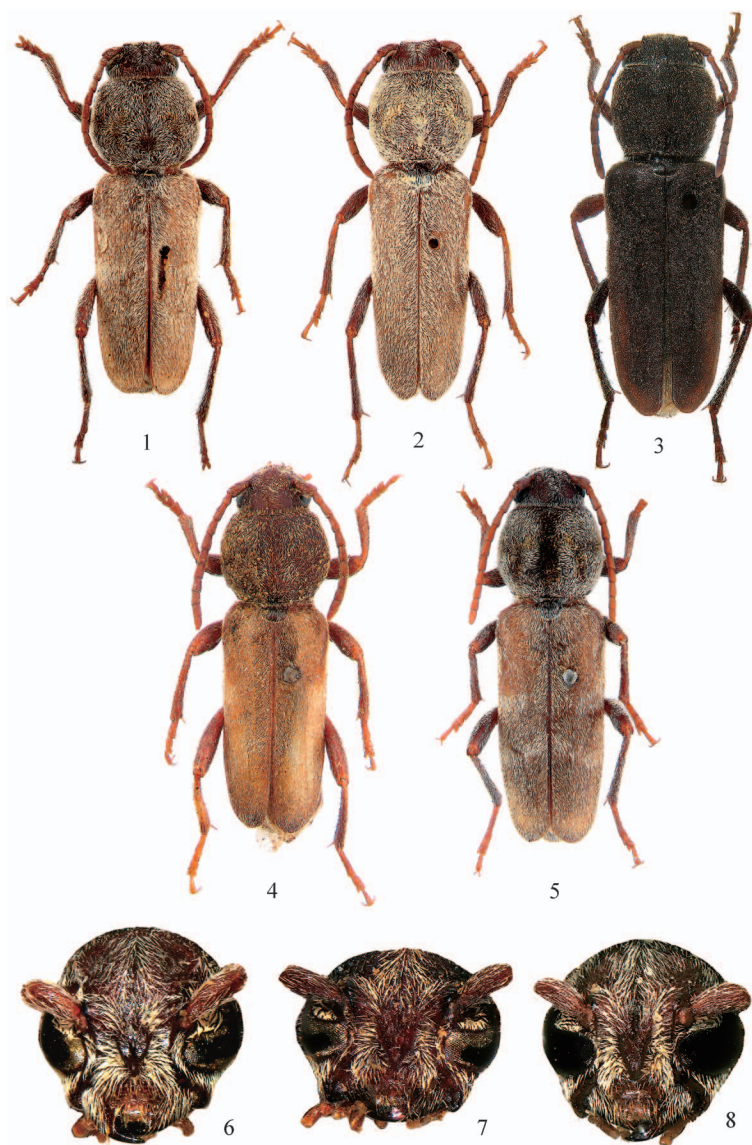
Body light-brown in male, dark-brown in female, prothorax usually a little darker; head in male with distinct vertex plates; frons transverse, with short eye carinae, converging downwards; frontal carinae very distinct, “V”-shaped, occasionally less pronounced with nearly parallel branches, alternatively only ventral part of frontal carinae distinct in form of a shining tubercle, sometimes frontal carinae nearly indistinct; eyes small, strongly distant ventrally, distance between ventral eye lobes more than length between antennal insertions; antennae short in male, in female surpassing pronotal base by two or three apical segments; 3rd antennal segment always shorter than 1st; male prothorax very large, sometimes wider than elytra, transverse, about 1.3 times shorter than medial width, with rounded sides, about 2.7 times shorter than elytra, evenly exposed, with very dense irregularly granulated sculpture and a pair of moder-

ately deep central cavities, covered with dense recumbent white pubescence, slightly denser along middle and central cavities, sometimes with small shining regularly punctuated area near posterior to middle; female prothorax smaller, from 2.8 to 3.0 times shorter than elytra; more elongated, about 1.2 times shorter than wide at middle, less rounded laterally; pronotum relatively flat, with small, very dense, regular punctation, slightly sparser medially, with dense short, semierect dark pubescence; male elytra strongly converging posteriorly, from 2.0 to 2.2 times longer than width at humeri, covered with rather dense (often concealing cuticle) white recumbent pubescence, sometimes forming scarcely pronounced median transverse and posterior oblique stripes; elytral cuticle never lightened under poor traces of pubescent stripes; elytral apices rounded; female elytra less tapering posteriorly, 2.1–2.3 times longer than wide, with fine slightly granulated irregular sculpture, covered with dense semierect short dark pubescence, without any traces of stripes; ventral side with dense recumbent pale pubescence and scattered erect setae; 1st segment of meta-tarsi a little longer than remaining segments combined; pygidium and postpygidium rounded; last abdominal sternite slightly emarginated in male, in female widely rounded, occasionally truncate or narrowly emarginated; last abdominal tergite truncate in female.

*Distribution* (Fig. 9: 1–6). This species occurs throughout deserts of south and east Kazakhstan: East Kazakhstan region, Takyr environs (type locality), 48° 10' N, 84° 59' E; Taldy-Kurgan region, Alakol nature reserve, about 46° 24' N, 81° 00' E; Almaty region, lower reach of Ily River, Bakanas environs, 44° 50' N, 76° 11' E; Almaty region, lower reach of Ily River, Karaturanga, 43° 53' N, 78° 31' E; Kzyl-Orda region, left bank of Syr-Darja River near Chiili, 43° 59' N, 66° 28' E; Chimkent region, Bugun environs, 42° 42' N, 69° 00' E.

*Biology*. Adults are found from May to July. According to A. I. KOSTIN (1968b) in Syr-Darja valley, the species is found in sand dunes and clay soils between them. Adults emerge from roots and basal parts of stems of *Eurotia ewersmanniana* from June to July. Larvae bore into roots under the surface level; pupation taking place inside the host plant, but often above the surface level. Each larva usually migrates for pupation from root to a separate twig. The life cycle is probably univoltine and according to KOSTIN (1973) this species develops also in other Chenopodiaceae. I have preliminarily identified a series of larvae collected by myself from roots of *Anabasis* in south Kazakhstan as belonging to this species.

*Material examined*. Holotype, male (monotypy) with 3 labels: (1) "Typus" [red]; (2) "[Takyрка, 50 km to N from Zaisan, Lukjanovich, 30.VI.930]" [in Russian]; (3) "*Xylotrechus zaisanicus* Plav." – Zoological Museum of Moscow University; 2 males, 2 females: (1) "[Alma-Ata region, lower reach of Ily river, Bakanas, in *Haloxylon* forest, V. Parfentjev]" [in Russian]; (2) "[reared from roots of *Eurotis (ewersmanniana)*, obtained VII. 1952, emerged 10. III. 1954]" [in Russian]; 2 males, with one more label: (3) "*Xylotrechus zaisanicus* Plav., A. Tsherepanov" – ZMM; 2 males, 3 females: "[S Kazakhstan, left bank of Syr-Darja river near Chiili, from *Eurotis*, 15. VI.–7. VII. 1964, Kostin & Badenko leg.]" [in Russian], males, with one more label: (2) "*Xylotrechus*



Figs. 1-8. Habitus and head of *Xylotrechus* (*Kostinicytus* subgen. n.) species. — 1, 6, *X. (K.) zaisanicus* holotype male; 2, ditto, male from Bakanas; 3, ditto, female from near Chiili; 4, 7, *X. (K.) arnoldii*, holotype male; 5, 8, *X. (K.) medvedevi* sp. n., holotype male; 1-5, habitus; 6-8, head, in frontal view.

*badenkoi* Kostin det.” [not published] – author’s collection; male: “[S Kazakhstan, low reach of Ili river, Karaturanga, from *Eurotis*, 23.V.1965, Kostin leg.]” [in Russian] – author’s collection; 3 larvae, S Kazakhstan, Bugun environs, 42°42′ N, 69°00′ E, from roots of *Anabasis*, May, 1973, M. Danilevsky leg. – author’s collection.

*Note.* Record of “*Xylotrechus arnoldii*” from Alakol nature reserve (KADYRBEKOV & CHILDEBAEV, 2007) after a single male is probably based on misidentified *X. zaisanicus*.

### *Xylotrechus (Kostiniclytus) arnoldii* KOSTIN, 1974

(Figs. 4 & 7)

*Xylotrechus arnoldii* KOSTIN, 1974: 647. – “foothills of Kokchetau Mt. Kokchetav region”; LOBANOV *et al.*, 1982: 260.

*Type locality.* Central Kazakhstan, Akmola region, right bank of Tersakan River, about 40 km south-east Arkalyk, Kokshetau Mt., 50°05′ N, 62°28′ E – according to the holotype label.

The published locality of the type series was incorrect. I. A. KOSTIN confused Kokshetau Mt. from Tersakan River valley where L. V. ARNOLDI had collected insects in 1958, with much better known Kokchetau Ridge near Kokchetav City (53°00′ N; 70°09′ E), which is about 400 km north-east of the actual type locality. There exists a specimen (preserved in Zoological Museum, Sankt-Petersburg, Russia) of *Psilotarsus brachypterus* (GEBLER, 1830) labeled: “Akmolinsk region, Tersakan river valley near Kokshetau, 24.6.1957, L. Arnoldi”.

Only the male holotype, has been available for this study. Body length: 7.5 mm, width (at humeri): 2.2 mm.

Body light-brown, prothorax a little darker; head with distinct vertex plates; frons transverse with short eye carinae converging downwards; frontal carinae distinct, “V”-shaped; eyes small, strongly distant ventrally, distance between ventral eye lobes longer than the length between antennal insertions; antennae short, surpassing pronotal base by two apical segments; 3rd antennal segment shorter than 1st; prothorax large, a little wider than elytra at humeri, transverse, about 1.2 times shorter than width at middle, with rounded sides, about 2.5 times shorter than elytra; pronotum evenly exposed, with very dense irregularly granulated micro sculpture, with a pair of distinct central depressions, covered with dense recumbent white pubescence mixed with yellowish setae, along middle and central depressions setae absent, elongated, shining, regularly punctuated area present near posterior to middle; elytra in male narrowed posteriorly, about 2.1 times longer than width at humeri, covered with scattered white recumbent setae, partly replaced with yellowish setae; elytral pubescence not concealing cuticle; posterior oblique white elytral stripe and white lateral spots near middle almost invisible; elytral cuticle under stripes somewhat lightened; elytral apices rounded; ventral side with sparse yellowish recumbent setae and scattered erect setae; 1st segment of meta-

tarsi about as long as the remaining segments combined; pygidium and postpygidium rounded; last abdominal sternite shallowly emarginated.

*Xylotrechus arnoldii* differs from *X. zaisanicus* chiefly in differing pubescence which is denser in *X. zaisanicus*. This peculiar character is evident not only on pronotum and elytra, but also on the ventral side and especially on the abdomen. Moreover, white setae of *X. arnoldii* are on all surfaces mixed with thinner yellowish setae. The white elytral design in *X. arnoldii* is more clearly pronounced than in any specimen of *X. zaisanicus*. The elytral cuticle in *X. zaisanicus* is never lightened under the traces of white elytral design. The shining pronotal area of *X. zaisanicus* is very small or totally absent. A single known male of *X. arnoldii* is of about the same size as the smallest specimens of *X. zaisanicus*.

*Distribution* (Fig. 9: 7). Known only from Central Kazakhstan, Akmola region, right bank of Tersakan River, about 40 km south-eastwards Arkalyk, Kokshetau Mt., 50° 05' N, 62° 28' E.

*Material examined*. Holotype (designated by author), male, with 3 labels: (1) “[Kokshetau Mt., Akmol. reg., L. Arnoldi, 3.6.1957]” [in Russian]; (2) “[in roots]” [in Russian]; (3) “Holotypus, *Xylotrechus arnoldii* Kostin” [red] – Zoological Museum, Sankt-Petersburg.

*Note*. According to the original description, the type series consists of 3 specimens, including two paratypes (females) from *Atriplex* roots from the same locality (20–VI–1958). However, the whereabouts of the other 2 specimens are unknown. Moreover, the original description contains a detailed morphological description only of the male and only the size of the holotype (“length – 8 mm, width: 2.5 mm”) is mentioned. In the original description, there is only a single remark concerning females: “similar to males with the usual sexual differences”; this remark is considered rather dubious in the present paper. Females of this species should be similar to females of *X. zaisanicus* – dark-brown with dark pubescence.

The characters listed by A. I. KOSTIN (1974) that should separate *X. arnoldii* from *X. zaisanicus* seem to be somewhat unreliable, judging from the available specimens. Pronotal punctuation of *X. arnoldii* is not more prominent than that of *X. zaisanicus*; elytra of *X. arnoldii* are not parallel-sided; the relative lengths of the 1st segment of meta-tarsi or of 5th–6th antennal segments of *X. arnoldii* are not markedly shorter than those of *X. zaisanicus*. The relative lengths of antennal segments of small specimens of *X. zaisanicus* are much shorter than in large specimens.

### *Xylotrechus (Kostinicytus) medvedevi* sp. n.

(Figs. 5 & 8)

*Type locality*. Mongolia, Kobd aimak, Elkhon, about 25 km southwards Altai somon, about 45° 22' N, 92° 17' E – according to MEDVEDEV's expedition and the holotype label (KERZHNER *et al.*, 1982).

Only the male holotype is available. Body length: 10.0 mm, width (at humeri): 3.0



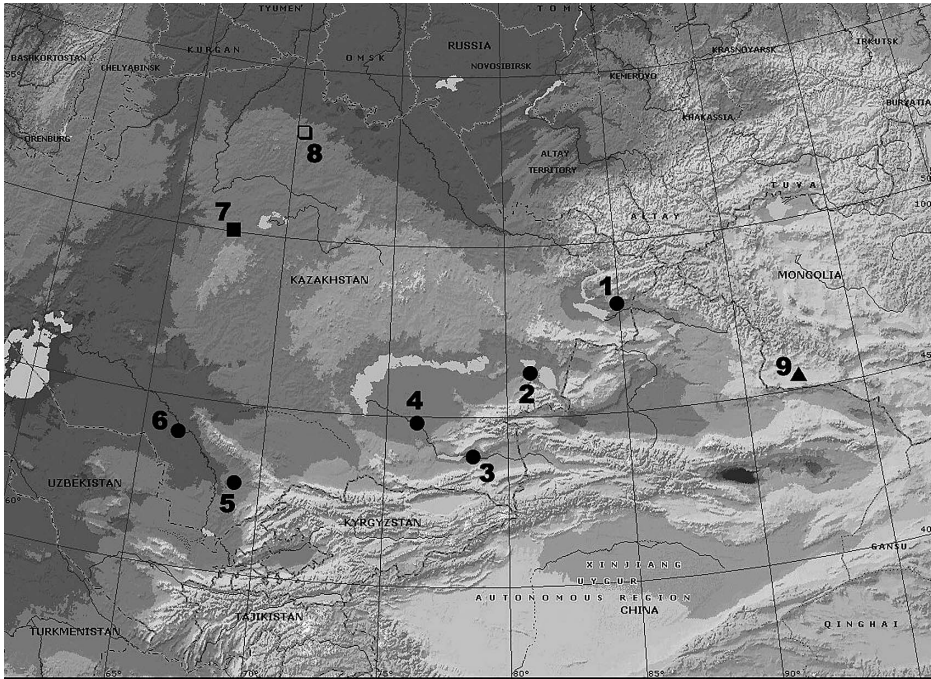


Fig. 9. Distribution of *Xylotrechus (Kostinicyltus)* subgen. n.). — 1–6, *X. (K.) zaisanicus*; 7, *X. (K.) arnoldii*; 9, *X. (K.) medvedevi* sp. n.; 1, Takyr env., type locality of *X. zaisanicus*; 2, Alakol nature reserve; 3, Karaturanga; 4, Bakanas; 5, Bugun; 6, Chiili; 7, Kokshetau Mt. in Tersakan River valley; 8, Kokchetau Ridge in Kokchetav region, incorrectly mentioned type locality of *X. arnoldii*; 9, Kobd aimak, Elkhon.

mm.

Body light-brown, prothorax dark-brown; head with distinct large vertex plates; frons elongated vertically, with short parallel eye carinae; frontal carinae distinct, “V”-shaped; eyes larger, distance between ventral eye lobes almost identical to that between antennal insertions; antennae short, surpassing pronotal base by two apical segments, each antennal segment more elongated; 3rd antennal segment a little longer than 1st; 3rd and 4th antennal segments combined longer than the distance between dorsal margins of antennal insertions; prothorax large, a little narrower than elytra at humeri, transverse, about 1.2 times shorter than median width, rounded laterally, about 2.6 times shorter than elytra; pronotum evenly exposed, with very dense irregularly granulated micro sculpture, with a pair of distinct central depressions, with dense recumbent white pubescence; wide central shining stripe with short brownish setae, without white pubescence; male elytra narrowed posteriorly, about 2.2 times longer than width at humeri, with rather dense (concealing cuticle) white recumbent pubescence, which forms relatively distinct median transverse and posterior oblique stripes; elytral cuticle

a little lightened under stripes of setae; elytral apices rounded; ventral side with moderately dense white recumbent pubescence and scattered erect setae; 1st segment of meta tarsi about as long as the remaining segments combined; pygidium and postpygidium rounded; last abdominal sternite shallowly emarginated.

*Distribution* (Fig. 9: 9). Known only from Mongolia, Kobd aimak, Elkhon, about 25 km southwards Altai somon, about 45° 22' N, 92° 17' E.

*Material examined*. Holotype, male: "Mongolia, Kobd aimak, Elkhon, about 25 km southwards Altai, G. Medvedev, 23. VI. 980" – Zoological Museum, Sankt-Petersburg, Russia.

*Note*. This new species differs from other members of the subgenus by elongated frons with relatively parallel eye carinae; elongated antennal segments; eyes larger, with distance between ventral eyes lobes about the same as the distance between antennal insertions; extra pronotal sculpture with a wide, dark central longitudinal stripe. *Xylotrechus medvedevi* sp. n. somewhat resembles *X. zaisanicus* because of the identical type of dense white body pubescence, but differs from it by sparser abdominal pubescence, and more pronounced white elytral stripes with lightened cuticle underneath.

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