

# Les cahiers

*Magellanes*

Review of Genus *Psilotarsus* Motschulsky, 1860  
(Coleoptera, Cerambycidae, Prioninae)



PSILOTARSUS HIRTICOLLIS

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# Review of genus *Psilotarsus* Motschulsky, 1860, stat. rest. (Coleoptera, Cerambycidae, Prioninae)

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## Summary

*Psilotarsus* Motschulsky, 1860 is regarded as a genus, as it was described originally. The definition of the genus is specified. It is composed of four species *P. brachypterus* (GebL.), *P. hirticollis* Motsch., stat. rest., *P. turkestanicus* (Sem.), *P. heydeni* (Gangl.), stat. rest. Three species consist of several subspecies. Five new subspecies are described : *P. brachypterus aralensis*, *P. hirticollis nudicollis*, *P. h. auliensis*, *P. heydeni arkitensis*, *P. h. talassicus*. The name *P. b. alpherakii* (Semenov, 1900b) is restored as valid. A new synonym is established : *P. b. brachypterus* GebL. = *P. b. latidens* Motsch., syn. n. The areas of several taxa are specified. The descriptions and distributions of all taxa as well as distinguishing characters and a determination key are given.

## Résumé

*Psilotarsus* Motschulsky, 1860 est considéré comme un genre, tel qu'il a été décrit à l'origine. Il est composé de quatre espèces : *P. brachypterus* (GebL.), *P. hirticollis* Motsch., stat. rest., *P. turkestanicus* (Sem.), *P. heydeni* (Gangl.), stat. rest. Trois de ces espèces sont divisées en sous-espèces. Cinq sous-espèces nouvelles sont décrites : *P. brachypterus aralensis*, *P. hirticollis nudicollis*, *P. h. auliensis*, *P. heydeni arkitensis*, *P. h. talassicus*. Le nom *P. b. alpherakii* (Semenov, 1900b) est sorti de synonymie. Une synonymie nouvelle est établie : *P. b. brachypterus* GebL. = *P. b. latidens* Motsch. Les aires de répartition de quelques taxons sont spécifiées. Les descriptions et répartitions de tous les taxons sont données, ainsi que les caractères de détermination.

## Key words

Coleoptera, Cerambycidae, Prioninae, *Psilotarsus*, new taxa, taxonomy, Central Asia, Kazakhstan, Kirgizia, Uzbekistan.

*Psilotarsus* Motschulsky, 1860 was usually treated as a subgenus of *Prionus* Fabricius, 1775 (Semenov, 1899, 1900b; Semenov-Tian-Shanskij, 1908, 1927, 1933, 1935; Lameere, 1913; Winkler, 1929; Holzschuh, 1981). Most of modern authors, following A. Lameere (1912) and N.N. Plavilstshikov (1936), prefers to regard the genus *Prionus* F. (*sensu lato*) as a homogeneous unit without any subdivisions. I, contrary, recognize inside *Prionus* (*s. l.*) a number of natural groups, which undoubtedly merit the rank of genus. Recently such point of view was partly accepted by A. Villiers (1961).

*Psilotarsus* Motschulsky, 1860, *stat. rest.* is far from being well investigated. Many rather peculiar local forms undoubtedly remained unknown. Most of known populations are represented in collections by a few number of specimens. Known series are often characterized by a very high degree of individual variability, making rather difficult the definition of subspecific taxa and preparation of precise morphological diagnosis. Now I include in *Psilotarsus* four species: *P. brachypterus* (Gebler.), *P. hirticollis* Motsch., *P. turkestanicus* (Sem.), *P. heydeni* (Ganglb.).

### **Genus *Psilotarsus* Motschulsky, 1860, *stat. rest.***

*Type species* - *Prionus brachypterus* Gebler, 1830 (Lucas designation, 1920).

*Psilopus* Gebler, 1859 : 504, type species : *Prionus brachypterus* Gebler, 1830 (monobasic), not *Psilopus* Poli, 1795 (Protozoa).

*Psilotarsus* Motschulsky, 1860 : 537, type species : *Prionus brachypterus* Gebler, 1830 (Lucas designation, 1920: 555).

*Otiartes* Thomson, 1866 : 283, type species: *Prionus asiaticus* Thomson, 1866, not Faldermann, 1838 (original designation) = *Prionus brachypterus* Gebler, 1830.

*Psilopus* : Motschulsky, 1875 : 152, type species : *Prionus brachypterus*, Karelin, in Faldermann, 1836 (original designation) = *P. brachypterus* Gebler, 1830.

*Prionus* (*Psilopus*) : Jakovlev, 1887 : 324, 338-339 (part.).

*Prionus* (*Brachyprionus*) Jakovlev, 1887 : 324, 339, type species : *Prionus brachypterus* Gebler, 1830 (part).

*Prionus* (*Prionoxys*) Semenov, 1899 : 104, *nom. nov.* pro *Prionus* (*Psilopus*) Jakovlev, 1887 (not *Psilopus* Poli, 1795).

*Prionus* (*Psilotarsus*) : Semenov, 1899: 106; 1900b: 330-332; Semenov-Tian-Shansky, 1908 : 259; 1927 : 236; 1933 : 293; 1935 : 249; Lameere, 1913 : 73-74; Winkler, 1929 : 1137; Holzschuh, 1981: 91-92.

*Prionus* : Lameere, 1912: 209-214 (part.); Plavilstshikov, 1936: 81-86 (part.); Gressitt, 1951 : 24-25 (part).

*Description.* - Tarsi lobes strongly spined, male and female antennae 12-segmented; antennal joints 3<sup>d</sup>-11<sup>th</sup> with triangular, dorso-ventrally flattened lobes (less prominent in females), or 3<sup>d</sup>-9<sup>th</sup> joints with lamellate, scale-like, flattened, moderately long lobes, less developed in females, or antennal lobes not flattened, finger-like, elongated. Females elytrae shortened, so usually at least 5<sup>th</sup> (visible from beneath) abdominal segment exposed. In many taxa two forms of males exist: with pubescent and glabrous pronotum; pubescence of male abdomen and thoracic sternites is often rather variable individually and depends of (or sometimes independent from) pronotal pubescence. In both sexes the development of thoracic lateral spines is often variable. Certain taxa consist of two colour forms: dark-brown and light-orange usually connected by transitional colour patterns. In females pronotum, thoracic sternites and abdomen are always glabrous, but proportions of different body parts seem to be more variable than in males. Antennal structures contrary are specified for each taxon, though less pronounced in females (so the key is prepared only for males). Male genital structures are in general rather similar even in different species.

*Distribution.* - The area nearly totally covers the territories of Kazakhstan and Uzbekistan Republics, protruding to the north in Russia only in Orenburg region, to the east in China: the taxon was found in Yining (Kuldzha) env. and surely is distributed to Ertix He (Tcherny Irtysh) valley; South-West Turkmenia near Chardzhou (Farab); north half of Tadzhikistan reaching southwards south slope of Gissar mountain ridge; west half of Kirgizia, including mountains around Fergana valley, Talas valley and Chu valley with north slope of Kirgizsky mountain ridge to about Bishkek eastwards (Figs. 13-14). The species is unknown from Issyk-Kul lake depression; no records from North Turkmenia, though its occurrence is very possible in the north and north-east parts of the republic: near Mangyshlak Peninsula and along Amu-Daria river.

*Remarks.* - Among close Asian forms of genera *Mesoprionus* Jakovlev, 1887 and *Lobarthron* Semenov, 1900a: *M. zarudnyi* (Semenov, 1933) and *M. persicus* (Redtenbacher, 1850) have similar antennae, but tarsi lobes not spined, simply angulated; *M. asiaticus* and *M. angustatus* (Jakovlev, 1887) have 11-segmented male and female antennae; *L. balassogloi* (Jakovlev, 1885) with similar spined tarsi has 3<sup>d</sup>-12<sup>th</sup> antennal joints lamellate, strongly vertically flattened, with very long lobes. Two species recently described by C. Holzschuh (1981) from Iran as *Prionus* (? *Psilotarsus*) *petrovitzi* Holz. and *P. (Psilotarsus) consimilis* Holz. belong to *Mesoprionus* Jak. because of not spined (but acute) tarsi lobes; moreover the latter has only 11-segmented antennae. *Prionus lesnei* Semenov, 1933 described from Iran in subgenus *Psilotarsus*, is unknown to me, and most probably also belongs to *Mesoprionus*.

***Psilotarsus brachypterus* (Gebler, 1830) (Figs 1-5)**

Type locality. Irtysh river valley in east Kazakhstan.

*Prionus brachypterus* Gebler, 1830: 179; 1833: 301; 1842: 387-388; Faldermann, 1836: 394-396; Lameere, 1912: 209-214 (part); Plavilstshikov, 1936: 81-84 (part.).

*Psilopus brachypterus*: Gebler, 1859: 504; Motschoulsky, 1875: 152 (part.).

*Psilotarsus brachypterus*: Motschoulsky, 1860: 537 (part.).

*Otiartes asiaticus*: Thomson, 1865: 284.

*Prionus (Brachyprionus) brachypterus*: Jakovlev, 1887: 334-335, 339 (part.).

*Prionus (Psilotarsus) brachypterus*: Semenov, 1899: 106; 1900b: 331-332; Semenov-Tian-Shansky, 1907: 259 (part.); Lameere, 1913: 73; Winkler, 1929: 1137 (part.).

The original description was based on two females: « alterum ad fl. Irtysch, alterum in deserto Kirghisico » (both unknown to me). I regard Irtysh river valley as type locality, because such indication as « deserto Kirghisico » is too uncertain.

*Description.* - Body and elytrae brown or dark-brown, nearly black, very rarely reddish or light-brown. Head with more or less rough sculpture, nearly glabrous, or (in males with hairy pronotum) with dense pubescence and rougher sculpture; subfossal process short, obtuse or angulate; exposed lateral part of head behind eyes usually much shorter than ventral eye lobe. Antennae relatively long, in males reaching posterior elytral 5<sup>th</sup>, 4<sup>th</sup> or only 3<sup>rd</sup>; in females never reaching elytral half, usually hardly surpassing basal elytral 3<sup>rd</sup>, or surpassing basal elytral 4<sup>th</sup> not reaching posterior border of basal elytral 3<sup>rd</sup>. Antennal joints 3<sup>rd</sup>-10<sup>th</sup> triangular, flattened, pointed apically, not lamellate. Middle lateral tooth of prothorax always very long, anterior tooth usually well developed. Tarsi lobes with very long spines and poorly developed pads: spines of 3<sup>rd</sup> joint (both in males and in females) of anterior tarsus usually about as long or longer than its pads; pads usually very narrow, covering less than a half width of a lobe. In all subspecies two forms of males are known: with pronotum densely pubescent or glabrous; pubescence of metathorax and abdomen usually connected with pronotal pubescence.

Body length in males: 20.5-40 mm, width: 8.5-16 mm; body length in females: 24.5-47.5 mm, width: 9-18 mm.

*Distribution.* - The species area is in general coinciding with the borders of the Kazakhstan Republic: from Ural river valley (including Orenburg region of Russia) and Caspian sea (including Ustiurt plateau with neighbour West Karakalpakia of Uzbekistan) eastwards to about Irtysh river valley: from Semei (earlier Semipalatinsk) and Uskaman (earlier Ust-Kamenogorsk) to Zaisan lake and neighbour regions of China) and from about Astana (earlier Akmolinsk, then Tzelinograd, then Akmola) southwards to Chu-Ili mountains and Bishkek environs in Kirgizia; Zailiisky Alatau and Dzhungrsky Alatau, with neighbour regions of China in Yining (Kuldzha) environs (Fig. 13: a-e).

*Remarks.* - Many different morphological races are observed within this vast area. For the moment I am ready to separate 5 subspecies. Most of known populations are characterized by strong degree of individual variability. Distinguishing characters are more manifested in males. In certain localities *P. brachypterus* occurs sympatrically with other taxa of the genus *Psilotarsus*. In Samarkand environs of Uzbekistan it seems to occur with *P. turkestanicus* (Sem.). In Zailiisky Ridge and may be in Chu-Ili mountains it coincides with local subspecies of *P. hirticollis* Motsch.

***Psilotarsus brachypterus brachypterus* (Gebler, 1830) (Fig. 1)**

*Type locality* - Irtysh river valley in east Kazakhstan.

*Prionus brachypterus* Gebler, 1830 : 179.

*Psilotarsus latidens* Motschulsky, 1860 : 537-538 (« des steppes de la Mongolie »), **syn. n.**  
*Prionus (Psilotarsus) brachypterus brachypterus* : Semenov, 1900b : 331-332 (part.); Lameere, 1913 : 74 (part.); Winkler, 1929 : 1137 (part.).

*Prionus brachypterus brachypterus* : Lameere, 1912 : 211 (part.); Plavilstshikov, 1936 : 83 (part.).

*Description.* - Body slender, dark-brown, nearly black, antennae usually reddish. Head relatively narrow, with moderately rough sculpture, subfossal process acute; male antennal joints with relatively short lobes. Male prothorax with relatively poor development of pronotal pubescence, shining, usually glabrous or with scattered setae which are considerably denser laterally; pronotal cuticula relatively smooth with small uniform scarce punctuation. Anterior pronotal tooth usually long, sometimes longer than middle, very rare abbreviated; hind tooth small, but acute; scutellum transverse, shining, with rare punctures. Prosternum and metasternum densely setose, setae long or very short; specimens with hairy pronotum always have long pubescence on pro- and metasternum; metepisternum usually with same pubescence as metasternum, but sometimes with much sparser pubescence and smoother sculpture. Elytrae finely irregularly rugose with indistinct punctuation. Abdomen with short scattered pubescence or nearly glabrous in specimens with glabrous pronotum.

Body length in males : 20.5-32.5 mm, width : 8.9-14.4 mm; body length in female : 29-40 mm, width : 10.4-14.8 mm.

*Materials.* - Two males and one female, Semipalatinsk; one male and three females, NE Kazakhstan, Ulbinskoe, 2-4.7.1910, A. Jakobson *leg.* (Zoological Institute, S.-Petersburg); one male, Semipalatinsk; one male, « Kaldzhir » [a river near Zaisan lake] (Zoological Museum of Moscow University); 12 males, North bank of Zaisan lake near Slavianka, 420 m, 24.6.1997, S. Lukhtanov *leg.*; one male, Monrak ridge, Priozernyi, 900 m, 20.6.1997, S. Lukhtanov *leg.*; one male, Saur ridge, Kenderlik river, 900 m, 5.7.1997, S. Lukhtanov *leg.* (author's collection).

*Distribution.* - East Kazakhstan : Irtysh river valley, from about Semei to Zaisan depression; and, evidently, allied regions of China (Fig. 13a). In Semei environs certain specimens can be rather similar to *P. b. hemipterus* (Motsch.).

*Remark.* - A. Lameere (1912), basing on original description only, regarded *Psilotarsus latidens* Motschulsky, 1860 as the eldest name for *Prionus brachypterus alpherakii* Semenov, 1900b. This position was accepted by later authors (Semenov, 1927; Plavilstshikov, 1936; Gressit, 1951). I (as well as all other authors) could not find the type of *Psilotarsus latidens*, but I preliminarily regard this name as a synonym of the nominative subspecies. Only two characters were mentioned in the original description : rugose elytrae and strong development of middle pronotal spines. Both characters can be observed in any taxon of *Psilotarsus*. Still, I believe, that « steppes de Mongolie » in Motschulsky's sense is the region to the east from about Zaisan lake - the area of *Psilotarsus b. brachypterus* (Gebl.), but not Dzhungarie - the area of *P. b. alpherakii* (Sem.).

***Psilotarsus brachypterus hemipterus* (Motschulsky, 1845) (Fig. 2)**

*Type locality* - Tersakan river valley near Arkalyk in north Kazakhstan.

*Prionus hemipterus* Motschulsky, 1845 : 90.

*Psilotarsus hemipterus* : Motschulsky, 1860 : 537 (part.).

*Psilotarsus longipennis* Motschulsky, 1860 : 537 (part.).

*Psilopus hemipterus* : Motschulsky, 1875 : 152 (part.?).

*Prionus (Psilopus) longipennis* : Jakovlev, 1887 : 331-332, 339 (part.).

*Prionus brachypterus brachypterus* : Lameere, 1912 : 211 (part.); Plavilstshikov, 1936 : 83 (part.).

*Prionus brachypterus hirticollis* : Lameere, 1912 : 212 (part.).

*Prionus (Psilotarsus) brachypterus brachypterus* : Lameere, 1913 : 74 (part.); Winkler, 1929 : 1137 (part.).

*Prionus brachypterus* morpha *hirticollis* : Plavilstshikov, 1936 : 83 (part.).

The taxon was described from « Steppes des Kirguises » as a species, after one pair mentioned later (Motschulsky, 1860), as collected by the author in « steppes des Kirghises méridionales » during his travel in « centre des steppes des Kirghises » in 1839. I don't know the types, but according to the map of that travel (Motschulsky, 1860b), the beetles were collected in Tersakan river valley, not far from the source of Turgai river (Arkalyk env.). I have got a series just from the type locality.

The original description is too short, but the next author's description of the taxon (Motschulsky, 1860a), marking pubescent thorax, makes my identification rather precise.

*Description.* - Body slender; dark-brown, nearly black, antennae usually reddish; dorsal body-side in general more rugose than in nominative subspecies. Head with rough sculpture, subfossal process usually rounded; male antennal joints with very long lobes. Male prothorax usually densely setose with moderately dense punctuation and uneven surface, more or less dull; female pronotum shining, with dense regular punctuation. Anterior pronotal tooth usually long, sometimes abbreviated; hind tooth small, but acute; scutellum transverse, usually densely punctured. Prosternum and metasternum with dense long pubescence; metepisternum with same pubescence as metasternum. Elytrae moderately rugose with indistinct punctuation. Abdomen with short adpressed scattered pubescence.

Body length in males : 22.2-34.2 mm, width : 8.5-13.5 mm; body length in females : 26-47.5 mm (with totally exposed abdomen full of eggs, but without ovipositor), width : 9-18 mm.

*Materials.* - One female with Motschulsky's label : « Lac Inder »; one male, Kauldzhur (east slope of Mugodzhary Mts), 6.6.1906, Vorontzovsky *leg.*; one female, « prov. Turgai, 4.7 »; one male, Katta-Kurgan, 16.5.1911, S. Zhuravlev *leg.*; one female, Sary-Su river, 2.8.1911, Zhuravlev *leg.* (Zoological Museum of Moscow University); one male (in poor condition: antennal and elytral apices are lost as well as abdomen), Djan-Darja (westwards from Kzyl-Orda), 1859, M. Severtzef *leg.* - this specimen was mentioned by V. Motschulsky (1860) as *Prionus hemipterus*; one female, between Kazalinsk and Karkaralinsk, 1887, Bateson *leg.*; one male and one female, Kunduzda river (confluent of Nura), 2-16.6.1900, Balykleisky *leg.*; two females, Nura river, 18.7.1900, Balykleisky *leg.*; one female, Akmolinsk, Dzhelandy, 12.7.1900, Balykleisky *leg.*; one male, Emba river valley, 17.6.1900; four males and one female, Turgai region, Karmak river valley, 15.6.1913; four males, west bank of Inder lake, 4.6.1927, V.V. Galitzky *leg.*; one female, low level of Sary-Su river, 90 km S Dzhezkazgan, 7.7.1949, Bei-Bienko *leg.*; one male, 6 km W Kyzylzhar (Sary-Su valley), 5.6.1961, L. Arnoldi *leg.*; seven males and 10 females, Akmolinsk region, Tersakan river valley near Kokshetau (Arkalyk env.), 24-25.6.1957, L. Arnoldi and E. Gurieva *leg.*; one female, 4 km E from Dzhezkazgan, 6.6.1961, L. Arnoldi *leg.* (Zoological Institute, S.-Petersburg); one female, Orenburg, 6.1929 (collection of S. Saluk, Minsk); one male, north bank of Inder lake, 4.6.1927, V. V. Galitzky *leg.*; one male and one female, Akmolinsk region, Tersakan river valley near Kokshetau, 24.6.1957, L. Arnoldi *leg.*; 23 males and seven females, Kazakhstan, 100 km S Dzhezkazgan, Sary-Su river, 250 m, 28.6-1.7.1999, M. Danilevsky *leg.* (author's collection).

*Distribution.* - North-west, north and partly central Kazakhstan : from Orenburg district of Russia southwards to Sary-Su river and low Syr-Darja river in Kazakhstan and further south to Samarkand region in Uzbekistan; and from Ural-river valley, through Aktiube region, south of Kustanai region (Arkalyk environs) to about Akmola and Karaganda regions (Fig. 13b).



*Remark.* - The taxon, which was described as *Prionus (Brachyprionus) hemipterus*, Jakovlev, 1887 based on three females from the environs of the mouth of Ili river belongs to *P. b. pubiventris* (Sem.) stat. n.

I regard *Psilotarsus longipennis* Motschulsky, 1860 (described without indication of locality) as a synonym of *Psilotarsus b. hemipterus* (Motsch.) because the author mentioned in the original description peripherally pubescent pronotum - the most characteristic feature of the taxon.

I preliminary treat the male from Djan-Darja collected by M. Severtzev in 1859 as *P. b. hemipterus* because of its rather long antennal lobes, though the specimen differs by several characters from all other known specimens of the taxon : it is very large (elytral width - 12.7 mm), with robust body, large head, relatively thick antennal joints, less transvers prothorax. The locality of the specimen is one of the marginal points of the taxon area, so in fact it can represent a separate subspecies.

### *Psilotarsus brachypterus aralensis* ssp. n. (Fig. 3)

*Type locality* - Zhaslyk environs in west Karakalpakia, Uzbekistan.

*Description.* - Male (Fig. 3: a-b) : Body slender, with sculpture similar to the nominative subspecies, moderately rugose; dark-brown, nearly black, antennae sometimes a little reddish. Head with rough or moderately rough sculpture; with short strong pubescence, much denser ventrally; exposed lateral part of head much shorter than ventral eye lobe; subfossal process angulate or rounded. Antennae relatively long, reaching last elytral 4th; antennal joints with very long and thin lobes, lobes of middle antennal joints always longer than its basal parts. Prothorax slightly narrowed anteriorly or about as wide anteriorly as posteriorly; about 2 times wider than long; pronotum shining, with even glabrous surface, only lateral areas with single short indistinct setae, with punctuation indistinct or poorly developed only near middle; or uneven, with more or less dense pubescence and differently developed punctuation; with nearly straight, thinly bordered anterior margin; pronotal lateral teeth long, middle pair very long and thin, much longer, than anterior, posterior teeth short, but acute. Scutellum a little transverse, glabrous with small scattered indistinct punctures, or (in form with pubescent pronotum) strongly punctured with dense strong setae. Elytrae strongly converging posteriorly, about 1.7-1.8 times longer than basal width, moderately rugose or relatively smooth with sometimes indistinct punctuation. Prosternum and metasternum always with very long and dense pubescence, even in forms with glabrous pronotum; metepisternum often relatively glabrous, with sparse erect setae, with much smoother sculpture. Tarsi lobes extremely long, needle-like, with poorly developed pads. Abdomen with short or moderately short erect and adpressed dense or scattered pubescence, or nearly glabrous.

Female (Fig. 3c) : Body dark-brown. Head relatively smooth, dorsally nearly glabrous, ventrally with short strong setae; with very short lateral exposed part of head. Antennae long, nearly reaching elytral half, middle joints with relatively long and very acute lobes; 4th joint about as long as 1st and 1.7 times shorter than 3d. Prothorax slightly narrowed anteriorly, about 1.8 times wider than long. Pronotum convex, glabrous, shining, smooth, with indistinct punctuation, with very long and thin middle lateral spines, anterior spines shorter with wide bases, posterior spines relatively long and acute. Prosternum with

scattered erect setae. Scutellum transverse, glabrous, shining with very small punctuation. Elytrae nearly parallelsided, roundly widened near middle, moderately rugose near base, 1.6-1.7 times longer than basal width. Metathorax with sternum and episternum, as well as abdomen glabrous, shining, with indistinct punctuation.

The taxon is similar to the nominative subspecies, because of usually glabrous pronotum, but antennal and tarsi lobes are much longer. Pubescent thoracic metasternum of *P. b. brachypterus* (Geb.) and *P. b. hemipterus* (Motsch.) is always accompanied by pubescent metepisternum, while in *P. b. aralensis* ssp. n. metepisternum is nearly glabrous with only several scattered setae.

Body length in males : 23-25.8 mm, width : 9-11.1 mm; body length in females : 31-34.2 mm; width : 11-13 mm.

*Materials.* - HOLOTYPE, male, Uzbekistan, Kara-Kalpakia, 30 km to the north from Zhaslyk, 15-16.6.1991, M. Kalashian leg. (author's collection); PARATYPES : one male and one female with same label (collection of M. Kalashian, Erevan); two males, Karakalpakia, Ustiurt, spring Dzhidelibulak, 22.6.1971, Pirnazarov leg.; one female, Karakalpakia, Ustiurt, Kentekshe, 19.6.1971, Pirnazarov leg.; one male, Karakalpakia, Ustiurt, Kosbulak, 6.1972, Nietullaev leg. (Zoological Institute, S.-Petersburg); one male, Kazakhstan, west scarp of Ustiurt, 1.6.1964, Salomatina and Ushakova leg. (author's collection).

*Distribution.* - Ustiurt plateau - East Kazakhstan and West Karakalpakia in West Uzbekistan, between Caspian and Aral seas (Fig. 13c).

### *Psilotarsus brachypterus pubiventris* (Semenov, 1900b) (Fig. 4)

*Type locality* - Almaty (earlier Verny, then Alma-Ata) environs in Kazakhstan.

*Prionus (Psilotarsus) brachypterus* var. *pubiventris* Semenov, 1900b : 332 (« Vernyj »).

*Prionus (Psilotarsus) brachypterus* var. *hypogymna* Semenov, 1900b : 331 (« Vernyj ») (part.).

*Prionus (Brachyprionus) hemipterus* : Jakovlev, 1887 : 325, 335-337, 339.

*Prionus brachypterus brachypterus* : Lameere, 1912 : 211 (part.); Plavilstshikov, 1936 : 83 (part.).

*Prionus brachypterus* var. *hypogymna* : Lameere, 1912 : 211 (part.); Plavilstshikov, 1936 : 83 (part.).

*Prionus brachypterus* var. *pubiventris* : Lameere, 1912 : 211 (part.); Plavilstshikov, 1936 : 83 (part.).

*Prionus (Psilotarsus) brachypterus brachypterus* : Lameere, 1913 : 74 (part.); Winkler, 1929 : 1137 (part.).

The taxon was described from near « Vernyj » (now Almaty in Kazakhstan).

*Description.* - Body robust, wide with very large head, usually dark-brown, sometimes reddish, brown, very rarely yellowish, antennae often reddish. Head with moderately rough sculpture, subfossal process rounded or slightly angulate; male antennal joints with moderately long lobes; 4<sup>th</sup> joint relatively short, about as long as 1<sup>st</sup> or slightly longer. Male

pronotum densely covered with long pubescence, with very dense irregular deep punctuation (sometimes with small smooth areas) or glabrous (var. *hypogymna* Semenov, 1900b; Fig. 4b) smooth, shining, with scattered fine punctuation; anterior margin usually slightly raised, posterior marginal transverse elevation more or less distinct; in females pronotum strongly convex with more or less distinct irregular moderately dense punctuation; anterior pronotal margin less prominent and posterior elevation less developed. Anterior pronotal tooth usually long, sometimes longer than middle; hind tooth small, acute, or rounded, or nearly absent; scutellum transverse, dull, densely punctured and setose or shining, glabrous with small punctures. Prosternum, metasternum and metepisternum with very dense and long pubescence, or (var. *hypogymna*) with dense very fine and short pubescence. Elytrae more or less roughly rugose near base with often indistinct punctuation. Elytral costae sometimes very distinct. Abdomen with very long and dense pubescence or (var. *hypogymna*) nearly glabrous with very short indistinct fine hairs. Females with glabrous pronotum, metasternum and abdomen; pronotum smooth, finally punctured; elytrae strongly rugose near base.

*P. b. pubiventris* differs from other subspecies by wide and robust body; large head; abdomen of hairy forms of *P. b. brachypterus* and *P. b. hemipterus* with poor pubescence while in *P. b. pubiventris* abdomen pubescence dense and long. Glabrous forms of *P. b. brachypterus* differ by short lobes of antennal joints.

Body length in males : 23-40 mm, width : 11.2-16 mm; body length in females : 24.5-46.5 mm, width : 9.8-16.2 mm.

*Remark* . - I preliminary regarded as *P. b. pubiventris* (Sem.) a Kirgizian population (which most probably represents a new subspecies) known after three specimens only (one male and two females). Females from Kirgizia are very similar to females from Kurdai pass, but the male is abnormally large (length-width : 40mm to 16mm) and some of its exceptional characters can be connected with its size : head very large, about 1.3 times narrower than pronotal base; eye relatively narrow, about as wide as posterior part of head; head and pronotal punctuation relatively regular, very dense and deep; pronotum glabrous, evenly convex, with moderately developed lateral teeth; metasternum with dense but very short pubescence; abdomen nearly glabrous. Three females described as *Prionus (Brachyprionus) hemipterus*, Jakovlev, 1887 from Ili river mouth (all unknown to me) must belong to *Psilotarsus b. pubiventris*. No other materials from this locality available.

*Materials* . - Two males (SYNTYPES), Semirechie, Vernoje, 1890; one male (type of var. *hypogymna* Sem.), Semirechie, Vernoje, 1889; one male, Vernyi env., Buruldai upland, 20.7.1909, Artamonov *leg.*; one female, Alma-Ata region, Chilik, 25.6.1939, P.Matekin *leg.*; one male, Kurdai pass, 3.7.1906, N. Radkevitch *leg.*; two females with label : « Chu-river valley, Khantau, 27.5.1903, Nedzvetzky »; two males, Alma-Ata region, Malovodnoe, 17-20.6.1907, A. Jakobson *leg.*; one female, Dzhungarsky Alatau, Kopal region, Tzaritzynskaia (now Rudnichnyi), Koksus river, 7.6.1909, Malchevsky *leg.*; one female, Kirgizsky ridge, Uzun Bulak (Kara-Balta environs), 6.7.1978, S. Ovtchinnikov *leg.* (Zoological Institute, S.-Petersburg); two

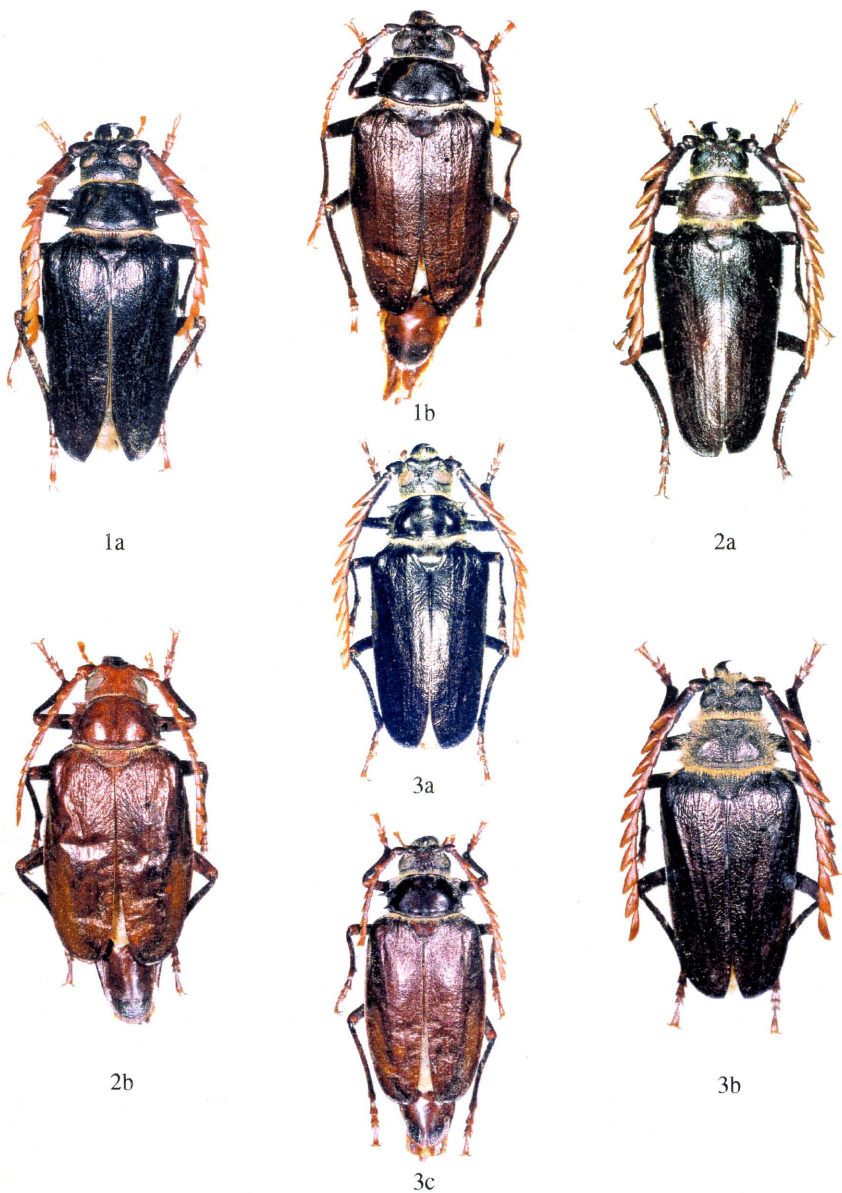


Fig. 1. *Psilotarsus brachypterus brachypterus* (Gebl.): a - male (N Zaisan lake, Slavianka, 24.6.1997, V. Lukhtanov leg.); b - female (Ulbinskoe, 4.7.1910, A. Jakobson leg.). Fig. 2. *Psilotarsus brachypterus hemipterus* (Motsch.) (from type locality): a - male (Tersakan river valley near Kokshetau Mt., 24.6.1957, L. Arnoldi leg.); b - female (same locality, 25.6.1957, L. Arnoldi leg.). Fig. 3. *Psilotarsus brachypterus aralensis* ssp. n.: a - male, holotype; b - male, paratype, pubescent form (Ustiurt, Karakalpakia, Dzhidelibulak, 22.6.1971, Pirnazarov leg.); c - female, paratype (Ustiurt, Karakalpakia, Kentekshe, 19.6.1971, Pirnazarov leg.).

males and four females, « Wernyi, Matthiessen »; nine females, « pr. Wernyi, st. Samsy [Chu-Ili Mts.], Matthiessen » one male, Vernyi; 1 female, Vernyi, 2.7.1914; one male, « Kopal region [Dzhungarsky Alatau], Tzaritzyn pass, 6.1915 »; one female, Alma-Ata, 16.5.1924 (Zoological Museum of Moscow University); one male, Kazakhstan, Ily valley, Bazoi, 22.6.1966, V. Kambum *leg.* one male and one female, Kazakhstan, 230<sup>th</sup> km of the road Alma-Ata - Karaganda (near Kolshengel), 9.6.1989, S. Murzin *leg.*; one female from near Dostar (about same region), 10.6.1989, S. Murzin *leg.*; one female, Kurdai pass, Arkhangelskoe, 31.7.1929, Madatov *leg.*; one male, Taldy-Kurgan env., Ashchi-Bulak, 14.7.1985, A.V. Belousov *leg.* (author's collection); one female, Kurdai pass, Arkhangelskoe, 29.7.1929 (collection of S. Saluk, Minsk); one male and one female, Kirgizia, Ala-Archa, 16.7.1980, S. Ovtchinnikov *leg.* (collection of A.Klimenko, Tver).

*Distribution.* - Known area occupies planes and foothills from Chu-Ili mountains in the West to about Chilik and Dzungarsky Alatau eastwards; and from Balkhash lake in the North to about north slope of Kirgizsky Ridge, as the population from north Kirgizia, distributed from about Kara-Balta to Bishkek most probably belongs to this subspecies (Fig. 13d). Specimens from Taldy-Kurgan environs (Fig. 4d) and Koksuy river valley (Fig. 4e) in Dzhungarsky Alatau show a number of transitional characters to *P. b. alpherakii* (Sem.).

***Psilotarsus brachypterus alpherakii* (Semenov,1900b), n.rest. (Fig.5)**

*Type locality.* - China, Yining env.

*Prionus (Psilotarsus) brachypterus alpherakii* Semenov, 1900b : 324-325 (« Sujdun »).

*Prionus brachypterus latidens* : Lameere, 1912: 212-213; Plavilstshikov, 1936 : 84; Gressitt, 1951 : 24-25.

*Prionus (Psilotarsus) brachypterus latidens* : Lameere, 1913 : 74; Winkler, 1929 : 1137; Semenov, 1927 : 236.

The taxon was described from « Sujdun in valle fluvii Ili» (now Huocheng in China Dzhungarie, between Yining and Kazakhstan border). Later the name was regarded as a synonym of *Psilotarsus latidens* Motschulsky, 1860 (Lameere, 1912) on the base of original descriptions only. Then such position was accepted by A. Semenov-Tian-Shanskij (1927) and J. L. Gressitt (1951). N.N. Plavilstshikov (1936) did not mention the name *alpherakii* under the name *latidens*, but, in fact, described the holotype of *P. b. alpherakii* Sem. as *Prionus brachypterus latidens* (because only holotype has smooth shining pronotum, other specimens with strongly punctured pronotum). Actually, it is very difficult to recognize which taxon was described under the name *Psilotarsus latidens* Motschulsky, 1860. A. Semenov (1900b) supposed this name as a synonym of *Prionus angustatus* Jak., but it was an evident mistake. I regard it (see above) as a synonym of *P. b. brachypterus* (Geb.).

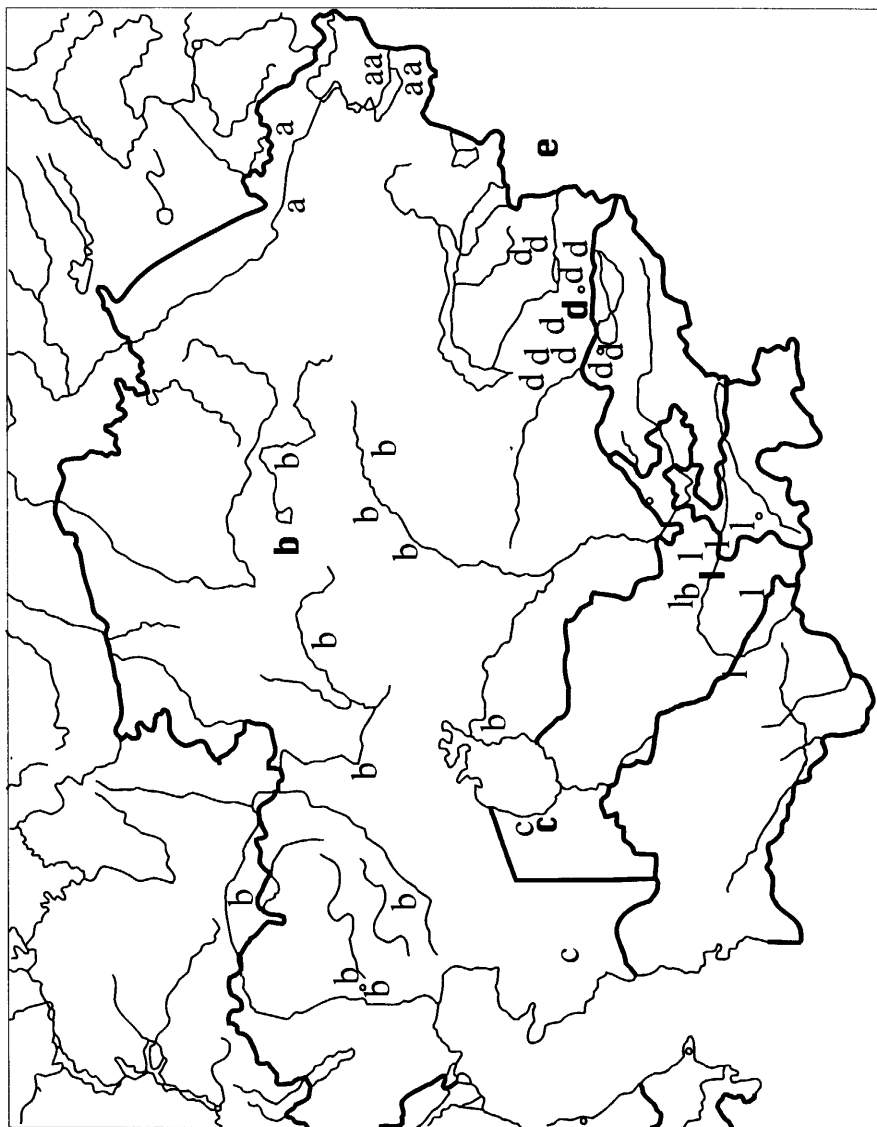


Fig. 13. Localities of *P. brachypterus brachypterus*, *P. b. hemipterus*, *P. b. aralensis*, *P. b. pubiventris*, *P. b. alpherakii* and *P. turkestanicus*. a - localities of *P. brachypterus brachypterus*. b - localities of *P. b. hemipterus*, b - type locality. c - localities of *P. b. aralensis* ssp. n., c - type locality. d - localities of *P. b. pubiventris*, d - type locality. e - type locality of *P. b. alpherakii*. 1 - localities of *P. turkestanicus*, 1 - type locality.

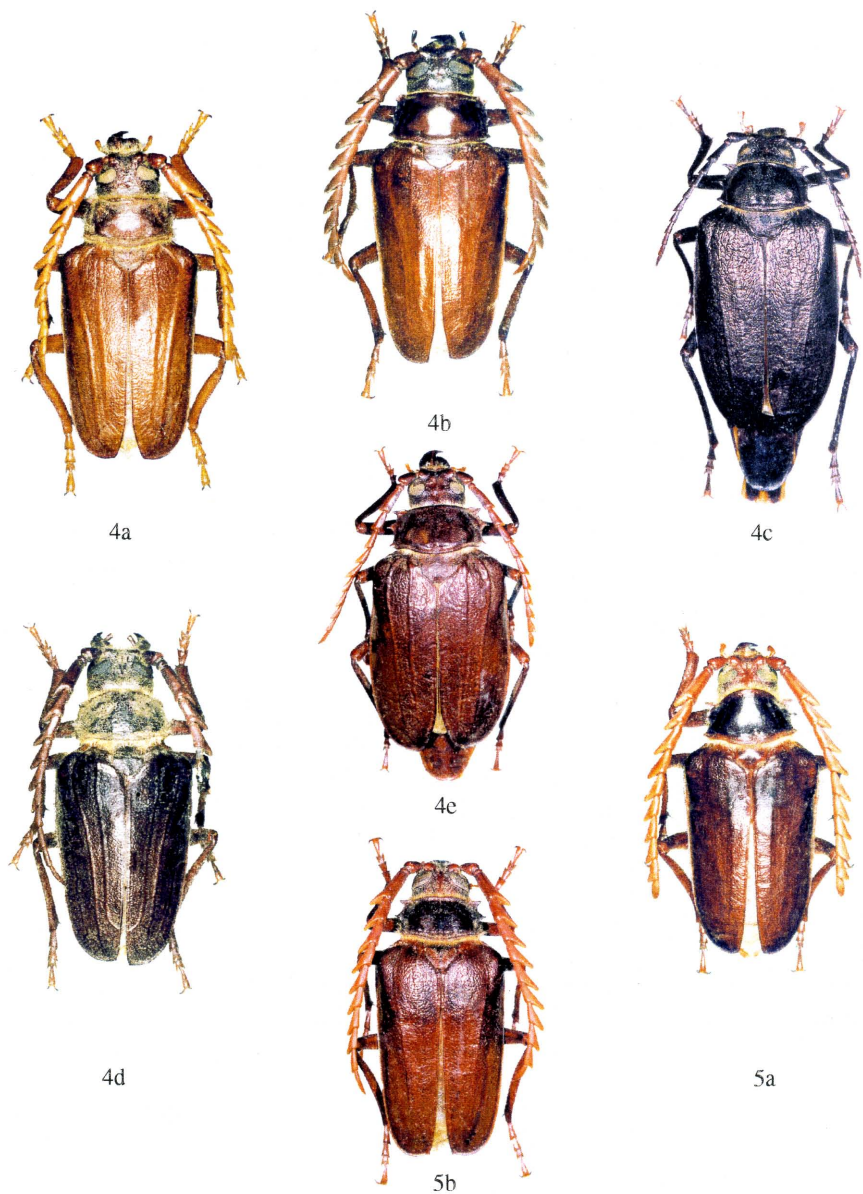


Fig. 4. *Psilotarsus brachypterus pubiventris* (Sem.): a - male, pubescent form (Almaty env., Buruldai, 20.7.1909, Artamonov leg.); b - male (syntype of ab. *hypogymna* Sem.), glabrous form (Almaty env., 1889); c - female (Dostar, 10.6.1989, S. Murzin leg.); d - male, pubescent form (Taldy-Kurgan env., Ashi-Bulak, 14.7.1985, A.V. Belousov leg.); e - female (Dzhungarski Alatau, Koxsu river valley, Rudnichnyi, 7.6.1909, Malchevsky leg.). Fig. 5. *Psilotarsus brachypterus alpherakii* (Sem.): a - male, holotype; b - male, pubescent form (China, Kunguss river valley, Przhvevsky leg.).

*Description.* - Male (Fig. 5ab). Body robust, light-brown or dark-brown; antennae often lighter than body (not shining beneath, as it was mistakenly mentioned in the original description). Head with moderately rough sculpture; subfossal process acute; exposed lateral part of head behind eyes shorter than length of ventral eye lobe. Antennae very long, attaining last elytral 4<sup>th</sup>; lobes of 4<sup>th</sup>-5<sup>th</sup> joint much shorter than its bases; lobes of 7<sup>th</sup>-8<sup>th</sup> joints about as long as their bases; 1<sup>st</sup> joint shorter than basic part of 4<sup>th</sup> and about 2 times shorter than basic part of 3<sup>d</sup>. Prothorax about as wide anteriorly as posteriorly; in holotype (Fig. 5a) pronotum strongly exposed anteriorly, without strongly bordered anterior margin, very smooth, shining, glabrous, with very small scattered punctuation. Pronotum of other known males (Fig. 5b) with nearly straight, strongly bordered anterior margin, uneven, with irregular, moderately dense punctuation and long, moderately dense pubescence. Posterior and anterior borders always with very dense and long setae. Lateral thoracic teeth well developed: anterior usually longer than middle and much wider, posterior short, but acute. Prosternum, metasternum, metepisternum and abdomen with very long, dense pubescence, also in holotype with glabrous pronotum. Scutellum transverse, triangular; in holotype smooth, shining, glabrous, lacking punctuation; in other males with deep, more or less dense punctuation and short setae. Elytrae relatively smooth, shining, with small scattered indistinct punctuation (holotype), or with moderately rough sculpture, with sides strongly converging posteriorly. Tarsi lobes with very long spines and poor developed pads: spines of 3<sup>d</sup> joint of anterior tarsus longer (holotype) or shorter than its pads; pads narrow, covering usually less than half wide of a lobe.

Female (Fig. 5c). Head dorsally glabrous, ventrally with short setae; with nearly smooth vertex; exposed lateral part of head behind eyes much shorter than length of ventral eye lobe; subfossal angles strong. Antennae reach posterior border of first elytral third, serrate; 3<sup>d</sup> joint with strongly protruding outer angle; 1<sup>st</sup> joint about as long as 4<sup>th</sup>, about 1.5 times shorter than 3<sup>d</sup>. Prothorax about 2 times wider than long; pronotum strongly convex, relatively even, glabrous, with scattered small irregular punctuation, with straight anterior margin; anterior and middle lateral teeth strongly widened, long, of about same length; posterior teeth distinct, rounded. Scutellum about 2 times wider than long, with scattered irregular punctuation and several peripheral setae. Elytrae moderately sculptured, with sides strongly converging posteriorly, about 1.5 times longer than its width near base. Tarsi pads very narrow, but relatively long, usually longer, than spines of respective joints. Metasternum, metepisternum and abdomen glabrous, shining with indistinct punctuation.

Body length in males : 31.5-32 mm, width : 13.5-13.7 mm; body length in female : 40.7 mm, width : 14 mm.

*Materials.* - Male, HOLOTYPE with labels : « Suidan, 31.5.89, Gr.-Grzhimailo; *P. brachypterus alpherakii* m., male, type, 12.99, A. Semenov det.; *P. brachypterus latidense* Motsch., A. Semenov-Tian-Shansky det."; one male with label : « fl. Kunguss, Tjan-Schan, Przewalski »; one male with label : « Suidun, May »; one female with label : « Soudoun, Dsougaria, V.80, Alferaki » (Zoological Institute, S.-Petersburg).



*Distribution.* - Several known specimens were collected in China Dzhungarie between Kuldzha (now Yining) and Kazakhstan border (Fig. 13e), so most probably the taxon occurs also in Kazakhstan in the environs of Dzsharkent.

***Psilotarsus hirticollis* Motschulsky, 1860** (Figs 6-8)

*Type locality* - East border of Kyzylkum desert from Karatau mountains to Tashkent environs in Kazakhstan and Uzbekistan.

*Psilotarsus hirticollis* Motschulsky, 1860 : 537

*Prionus (Psilopus) hirticollis* : Jakovlev, 1887 : 332, 339

*Prionus (Psilotarsus) brachypterus hirticollis* : Semenov, 1900b : 332; Lameere, 1913 : 74

*Prionus (Psilotarsus) brachypterus morpha hirticollis* : Semenov-Tian-Shanskij, 1927 : 236

*Prionus (Psilotarsus) brachypterus brachypterus* : Winkler, 1929 : 1137 (part.)

*Prionus brachypterus morpha hirticollis* : Plavilstshikov, 1936 : 83 (part.)

The species was described from « déserts méridionaux des Kirghises ». I do not know the type, but two characters, mentioned in the original description : « de forme plus allongée et plus étroite que le *brachypterus*, avec le corselet plus fortement ponctué et plus velu chez le mâle. » allow to recognize in the description the species with densely pubescent prothorax, known to me from the east border of Kyzylkum desert (south Kazakhstan and Tashkent environs in Uzbekistan). I consider here this region as type locality. The species is characterized by very special antennal structure with lamellate lobes of antennal joints. The same morphological forms were identified as *Prionus hirticollis* by B.E. Jakovlev (1887) or as *P. brachypterus hirticollis* by A. Semenov (1900b), at that time the area of the taxon was unknown, because all available specimens were with uncertain geographical labels. Another, wider interpretation of Motschulsky's description was accepted by N.N. Plavilstshikov (1936), who also included in his « *morpha hirticollis* » pubescent forms of *Psilotarsus b. brachypterus* and *P. b. hemipterus*. So Plavilstshikov's data on geographical occurrence of *Prionus b. morpha hirticollis* (north-west and west Kazakhstan : Inder lake, north-east coasts of Aral sea) agree with the distribution of *Psilotarsus b. hemipterus*. His remark about rare occurrence of « *m. hirticollis* » in North-East Kazakhstan refers to the rare pubescent form of *P. b. brachypterus*.

*Description.* - Body slender, dark-brown, nearly black, or light-brown, or light-orange; sometimes body, legs and antennae dark-brown, while elytrae light-orange; antennae of dark males often lighter than body. Head relatively smooth or with moderately rough sculpture, nearly glabrous, or (in males with hairy pronotum) with very rough sculpture and dense pubescence; subfossal process short, obtuse, or angulate, or rather sharp; exposed lateral part of head behind eyes usually much shorter than length of ventral eye lobe, or about as long as eye lobe, slightly longer or slightly shorter. Antennae short or moderately long, in males hardly protruding beyond elytral half, very rarely reaching posterior elytral third; in

females reaching posterior border of 1<sup>st</sup> elytral 5<sup>th</sup>, or hardly protruding beyond 1<sup>st</sup> elytral 4<sup>th</sup>. Male antennal joints 3<sup>rd</sup>-9<sup>th</sup> with lamellate, scale-like lobes, each of these joints is in form of an asymmetrical funnel with strongly protruding outer margin; sometimes lamellae are so wide, that look like lamellae of *Polylobarthron margelanicus* (Thery, 1896), though without apical emargination; or lamellae narrow and rather thick (often in same population); or joints 3<sup>rd</sup>-11<sup>th</sup> with elongate, strongly thickened, finger-like lobes, lobes of 7-8<sup>th</sup> joints with nearly parallel sides at middle, internal surface convex, sometimes flattened, but not concave (*P. h. auliensis* ssp. n.); middle joints with lamellae about 1.5-2 times longer than basal part of a joint; in females antennae with usually enlarged lamellae, so its funnel-like character specially in middle joints is more or less evident. Prothorax with very long middle lateral teeth, anterior teeth sometimes short, posterior often absent. Male pronotum usually with very long and dense erect pubescence, dull, with very dense conjugated punctuation and vermiculate sculpture or glabrous, shining, uneven, with more or less dense irregular punctuation, which can be very fine. Pronotum in females glabrous, shining, with irregular, more or less dense, deep and distinct or rather small punctuation. In males with hairy pronotum prosternum, metasternum and metepisternum with very long and dense pubescence or prosternum, metasternum and metepisternum with moderately dense, short pubescence; pubescence and punctuation of metepisternum often less dense than in metasternum, sometimes metepisternum nearly glabrous shining. In females prosternum with irregular poor sculpture and very short scattered pubescence, more distinct anteriorly; metasternum and metepisternum glabrous, shining with indistinct punctuation. Elytrae in both sexes about 1.7-1.8 times longer than near humeri; in females shortened, never covering last abdominal tergite. Tarsi lobes with long spines, pads poorly or moderately developed: spines of 3<sup>rd</sup> joint (both in males and in females) of anterior tarsus about as long or longer than its pads; pads narrow, usually covering less than half width of lobes or about half. Abdomen in males with hairy pronotum usually with long dense pubescence, though much shorter than pubescence of metasternum, or abdominal pubescence very short, scattered, often nearly indistinct. In males pygidium widely rounded or with small angle at middle, postpygidium narrowly rounded, or truncate, or with apical emargination; last sternite more or less concave with slightly or strongly extended posterolateral angles. In females last abdominal tergite rounded, sternite emarginated.

Body length in males : 21.5-40.2 mm, width : 9.1-17 mm; body length in females : 27-43 mm, width : 9.2-15.4 mm.

*Distribution.* - Uzbekistan : Tashkent environs; Tadzhikistan : to the north from Khodzhen; South Kazakhstan : from Chimkent region (Keles river valley, Chimkent environs, Karatau Mts) to Taraz environs, then to Chu valley (Chu environs) and about as far to the east as Almaty environs; Kirgizia : Talas environs and Kara-Balta environs (Fig. 14: f-h).

*Remark.* - *P. hirticollis* is a transition from genus *Psilotarsus* to neighbour genera *Polylobarthron* Semenov, 1900a, including a single species *P. margelanicus* (Thery, 1896) and *Lobarthron* Semenov, 1900a, including a single species *L. balassogloi* (Jakovlev, 1885). Male antennal lamellae of *L. balassogloi* much longer and thinner than in *P. hirticollis*. Male antennae of *P. margelanicus* consist of 13-17 joints (usually - 15) and each lamella with a more or less deep apical emargination.

***Psilotarsus hirticollis hirticollis* Motschulsky, 1860 (Fig. 6)**

*Type locality* - East border of Kyzylkum desert from Karatau mountains to Tashkent environs in Kazakhstan and Uzbekistan.

*Description.* - Body dark-brown, nearly black. Antennae usually short, in males hardly protruding beyond elytral half; in females reaching posterior border of 1<sup>st</sup> elytral 5<sup>th</sup>. Male antennal joints 3<sup>d</sup>-9<sup>th</sup> with lamellate, scale-like lobes, each of these joints in form of an asymmetrical funnel with strongly protruding outer margin, very rarely lamellae narrow and rather thick; in females antennae with slightly enlarged lamellae, so its funnel-like character specially in middle joints is more or less evident. In males prothorax always covered with long pubescence, dull, with very dense deep punctuation; pronotal teeth well developed; in females pronotum glabrous with dense irregular punctuation or with fine scattered punctuation; anterior teeth moderately long, hind teeth absent. Scutellum transverse, in males densely punctured with long pubescence, in females punctured, glabrous. In males prosternum, metasternum, metepisternum and abdomen with long, dense pubescence, abdominal pubescence usually shorter and sparser; in females prosternum glabrous or with scattered long setae, metathorax and abdomen glabrous, shining. Elytrae moderately or finely irregularly rugose.

Body length in males : 26.5-40.2 mm, width : 11.5-17 mm; body length in females : 31.3-43 mm, width : 12.4-14.7 mm.

*Materials.* - One male and one female, Kauli-Sai, Dalverzinskaia steppe, (Tadzhikistan, about 50km to the North from Khodzhen near border with Uzbekistan), 17.5.1927; one female, Dalversinskaia steppe, 13.5.1927, N. Umelov *leg.*; one male, locality illegible, 6.1937; (Zoological Institute, S.-Petersburg); one male, Antonovka (between Chimkent and Tiulkubas), 8.6.1906, E. Fisher *leg.*; one male, Chimkent distr., Antonovka, 30.5.1912; one male, « Muiunkum », W. Uberg. [most probably Karatau Mts.], 5.1903; one female, Tashkent, 7.1903; one female, Uzbekistan, Vrevskaia env. (now Almazar near Tashkent), 25.5.1934; one male without label (Zoological Museum of Moscow University); one male, Kazakhstan, west of Talas ridge, Ak-Su river, 15.9.1935, Shulpin *leg.*; two males and four females, Kazakhstan, Keles distr., Moldybaeva state farm, 18-20.5.1983, F. Melekh *leg.*; four males and nine females, Kazakhstan, Keles river, Abai, 21.5.2000, M. Danilevsky *leg.*; one female, Uzbekistan, Vrevskaia env., 25.6.1935; one male, Kazakhstan, Karatau ridge, Boialdyr river (near Kentau), 22.6.1982, M. Volkovitch *leg.*; one male (dead, damaged specimen when collected), Kazakhstan, Karatau ridge, Boialdyr river (near Kentau), 600m, 4.7.99, M. Danilevsky *leg.*; two males and seven females, same locality, 25.5.2000, M. Danilevsky *leg.*; one female, Kazakhstan, Karatau ridge, Turlan pass, 900m, 6.7.1999, M. Danilevsky *leg.* (author's collection); one male, Tadzhikistan, Mogoltau Mts, NW Khodzhen (earlier - Leninabad), 22.6.1981; one male and one female, Kazakhstan, Chimkent reg., Keles distr., 18.5.1983, F. Melekh *leg.* (collection of M. Kalashian, Erevan).

*Distribution.* - Uzbekistan : Tashkent environs; Tadzhikistan : to the north from Khodzhen; South Kazakhstan : from Keles river valley eastwards to the north slope of Talas ridge and to the north-west of Karatau ridge (Fig. 14f).

*Psilotarsus hirticollis nudicollis* ssp. n. (Fig. 7)

*Type locality* - Kaskelen narrow near Almaty in Kazakhstan.

*Description.* - Body dark-brown, nearly black, or brown, or orange. Head with moderately rough sculpture, subfossal process short, obtuse or indistinct. Male antennae relatively longer, considerably protruding beyond elytral half; in females antennae short, reaching posterior border of 1<sup>st</sup> elytral 5<sup>th</sup>. Male antennal joints 3<sup>rd</sup>-9<sup>th</sup> with lamellate, scale-like lobes, though lamellae usually less developed than in nominative subspecies; sometimes lamellae narrow and rather thick; in females lamellate character of antennal joints less pronounced. Pronotum glabrous with dense or sparse rough or fine irregular punctuation; anterior lateral teeth moderately long, hind teeth short, but usually acute. Scutellum transverse, glabrous with dense, sparse or indistinct punctuation. In males prosternum and metasternum with dense but very short pubescence, metepisternum glabrous or with several scattered setae; in females all these parts glabrous; abdomen glabrous, shining. Elytrae moderately or finely irregularly rugose with more or less distinct punctuation.

Body length in males : 21.5-25.3 mm, width : 9.1-10.3 mm; body length in females : 27-31 mm, width : 9.2-11.7 mm.

*Materials.* - HOLOTYPE, male, Alma-Ata region, Kaskelen narrow, 15.8.1968, A.S. Badenko leg.; six paratypes, one male and one female with same label; one male and one female, South-East Karatau Mts., near Biilikul lake, 15-16.6.1972, A.S. Badenko leg. (author's collection); one male, Biilikul lake, 22.5.1912; one female, Biilikul lake, 6.6. (Zoological Museum of Moscow University).

*Distribution.* - Two rather distant populations in South Kazakhstan are known : Kaskelen narrow in Zailiisky Alatau not far from Almaty and Biilikul lake environs in South-East Karatau (Fig. 14g). So, similar forms must occur in between, most probably in Chu-Ili Mountains.

*Remark.* - Available specimens from the populations (Karatau Mts. and Zailiisky Alatau) are a little different and can represent two different subspecies. In Zailiisky Alatau (Kazakhstan) *P. h. nudicollis* ssp. n. occurs sympatrically with *P. brachypterus pubiventris* Sem.

*Psilotarsus hirticollis auliensis* ssp. n. (Fig. 8)

*Type locality* - Taraz (earlier Aulie-Ata, then Dzhambul) environs in south Kazakhstan.

*Description.* - Body dark-brown, nearly black, or light-brown, or light-orange; sometimes body, legs and antennae dark-brown, while elytrae light-orange; antennae of dark males usually lighter than body. Head with moderately rough sculpture, nearly glabrous, or (in males with hairy pronotum) with very rough sculpture and dense pubescence; subfossal process short, obtuse or angulate; exposed lateral part of head behind eyes about as long as length of ventral eye lobe, slightly longer or slightly shorter; in females sometimes much longer. Antennae moderately long, in males protruding beyond elytral half; in females hardly reaching posterior border of 1<sup>st</sup> elytral 4<sup>th</sup>. Antennal joints 3<sup>rd</sup>-11<sup>th</sup> in males with elongate, strongly thickened, finger-like lobes; lobes of 7-8<sup>th</sup> joints with nearly parallel sides at middle, much longer than basic parts, its internal surface convex, sometimes flattened, but never concave; lobe of 3<sup>rd</sup> joint about 2 times shorter as base and about as long as 1<sup>st</sup> antennal joint. In females antennae serrate with sharply angulated, slightly thickened joints; 3<sup>rd</sup> joint with distinctly protruding outer angle; 3<sup>rd</sup> joint slightly longer than 1<sup>st</sup> and about 1.5 times longer than 4<sup>th</sup>. Prothorax about 1.6-1.8 times wider than long; about as wide anteriorly as posteriorly, or slightly wider posteriorly; lateral spines always well developed, in males anterior spine about two times shorter than middle, posterior spine more or less reduced; in females anterior spine longer, sometimes about as long as middle, and always wider, posterior spine short rounded or nearly absent. Male pronotum usually glabrous, shining, uneven, with dense irregular punctuation; or sometimes with very long and dense erect pubescence, dull, with very dense conjugated punctuation and vermiculate sculpture. Pronotum in females glabrous, shining, with irregular, more or less dense, deep and distinct or rather small punctuation. In males prosternum, metasternum and metepisternum usually with moderately dense, short pubescence; pubescence and punctuation of metepisternum often less dense than in metasternum, sometimes metepisternum nearly glabrous shining. In males with hairy pronotum prosternum, metasternum and metepisternum with very long and dense pubescence. In females prosternum with irregular poor sculpture and very short scattered pubescence, more distinct anteriorly; metasternum and metepisternum glabrous, shining with indistinct punctuation. Scutellum large, in males as wide as long, triangular or nearly half-rounded, glabrous, with irregular, moderately dense punctuation, or (in form with hairy pronotum) with very dense contiguous punctuation and short dense setae; in females - transverse, glabrous, with scattered punctuation. Elytrae in males with sides converging posteriorly, moderately punctated, relatively smooth, apically rounded, internal elytral angle sometimes distinct; in females parallelsided, or roundly widened near middle, or sometimes strongly converging posteriorly as in males; usually with more rough sculpture, rounded apically. Legs usually glabrous, or (in males with hairy pronotum) with dense strong setae; tarsi lobes with long spines, pads of tarsi joints moderately developed, pad of 3<sup>rd</sup> joint of anterior tarsus covers about half of its width, a little shorter or about as long as its spines. Pads in females a little smaller, but always very distinct. 1<sup>st</sup> joint of posterior tarsi much longer than 2<sup>nd</sup>-3<sup>rd</sup> united. Abdomen in males usually with very short, scattered, indistinct pubescence, or (in males with hairy pronotum) with very long, dense pubescence; in females - glabrous. In males pygidium rounded or with small angle at middle, postpygidium truncate or slightly emarginate; last sternit more or less concave with slightly or strongly extended posterolateral angles. In females last abdominal tergite rounded, sternit emarginated.

Body length in males : 26.5-35.6 mm, width : 10.9-14.5 mm; body length in females : 36.8-41.4 mm, width : 12.2-15.4 mm.

*Materials.* - HOLOTYPE, male with label : « Turkestan, Auli-Ata, C. Aris » (Zoological Institute, Sankt-Petersburg); nine paratypes : one female with same label; two males and one female with label : « Aulie-Ata, W. Uberg, Stgr. 900 »; one female with label : « Aulie-Ata, Syrdaria region, 12.6.1913, Tchernavin »; one female with label : « Dmitrievsk-Pokrovsk [about 50 km to the south-east from Taraz], Aulie-Ata distr., 18.5.1913, Tchernavin »; one male and one female with label : « Sretenka [Kirgizia, between Kara-Balta and Bishkek, near Ak-Su], Chu river valley, 1.6.1931, Zimin » (Zoological Institute, Sankt-Petersburg); one male, Aulie-Ata distr., Dmitrievsky (now Talas), 18.6.1924; one female, « Fl. Tschu, Matthiessen »; three males, Tashkent; one male, Chu station, 7.7.1931 (Zoological Museum of Moscow University); one male, with label : « Aulie-Ata, W. Uberg, Stgr. 900 » (author's collection).

*Distribution.* - South Kazakhstan and North Kirgizia : Chu valley from about Chu to Kara-Balta, Taraz (earlier Aulie-Ata, then Dzhambul) environs, Talas environs; Uzbekistan : Tashkent environs - most probably to the east from the city (Fig. 14h).

*Remark.* - *P. h. auliensis* ssp. n. occupies an intermediate position (both morphologically and geographically) between four taxa of the genus : *P. brachypterus*, *P. h. hirticollis*, *P. turkestanicus* and *P. heydeni*. This form was known to A. Semenov-Tian-Shansky (1908) and A. Lameere (1912) and both authors treated it as a transition between *P. brachypterus* and *P. turkestanicus*. In Kara-Balta environs (Kirgizia) *P. h. auliensis* ssp. n. occurs sympatrically with *P. brachypterus pubiventris* Sem. and in Talas environs - with *P. heydeni talassicus* ssp. n.

### ***Psilotarsus turkestanicus* (Semenov, 1888) (Fig. 9)**

*Type locality* - Samarkand environs in Uzbekistan.

*Prionus (Psilopus?) turkestanicus* Semenov, 1888: 157-158 (« Samarkand »)

*Prionus curticornis* Ganglbauer, 1888: 266 ("Farab")

? *Prionus (Brachyprionus) ruficornis* Fairmaire, 1892 : 123 (« Turkestan »).

*Prionus (Psilotarsus) turkestanicus* : Semenov, 1900b : 330; Semenov-Tian-Shanskij, 1935 : 249 (part.).

*Prionus (Psilotarsus) brachypterus turkestanicus* : Semenov-Tian-Shansky, 1908 : 259; Lameere, 1913 : 74; Winkler, 1929 : 1137.

*Prionus brachypterus turkestanicus* : Lameere, 1912 : 210

*Prionus turkestanicus* : Plavilstshikov, 1936 : 84-86 (part)

*Prionus turkestanicus* morpha *major* Plavilstshikov, 1936 : 86 (part.)

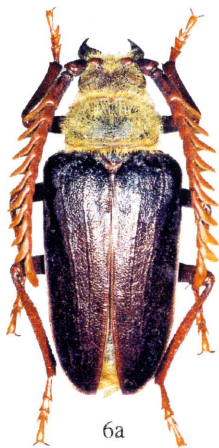
*Description.* - Body slender, dark-brown, nearly black, or light-brown, or light orange; antennae of dark forms often lighter than body. Head with moderately rough sculpture; subfossal process short, obtuse or angulate; exposed lateral part of head behind eyes usually much longer than length of ventral eye lobe. Antennal joints 3<sup>d</sup>-11<sup>th</sup> triangular, flattened, pointed apically, not lamellate; 1<sup>st</sup> joint about as long as 4<sup>th</sup>. Lateral pronotal teeth well developed or nearly totally reduced. Pronotum glabrous; dull, with more or less dense deep punctuation and microsculpture in between; or dull, without microsculpture, but with very dense deep punctuation; or dull, with microsculpture, but nearly without deep punctuation; or shining, without microsculpture, with more or less dense, more or less distinct deep punctuation. In males prosternum, metasternum and metepisternum usually with dense but very short pubescence; sometimes only prosternum with short pubescence, metasternum and metepisternum glabrous. In females prosternum usually with moderately short, scattered setae, metasternum and metepisternum glabrous; or prosternum also glabrous; or metasternum and metepisternum with very short, scattered setae. Scutellum glabrous; in males often elongated or about as long as wide; in females transverse; dull or shining, with or without microsculpture, with more or less dense deep punctuation. Elytral sculpture also rather variable, mostly dull, more or less finely rugose with inconspicuous punctuation. Tarsi lobes with very long spines and poor developed pads: spines of 3<sup>d</sup> joint (both in males and in females) of anterior tarsus about as long or longer than its pads; pads very narrow, covering less than a half wide of a lobe. Abdomen in males usually with very short, scattered, indistinct pubescence; in females - glabrous.

Body length in males : 24.2-38.5 mm, width : 9.8-15.5 mm; body length in females : 20.5-51 mm; width : 11.5-16.5 mm.

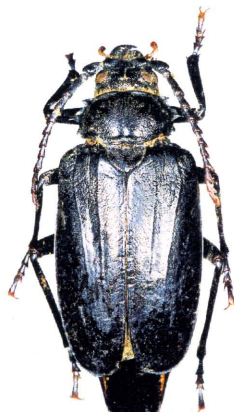
*Materials.* - HOLOTYPE, male, Samarkand, J. Haberhauer *leg.*; two males and female, Kattakurgan, 9.5.1892, D.Glazunov *leg.*; one female, Guzar (Uzbekistan); two females, Pendzhikent (Tadzhikistan), 27.5.1889, D.Glazunov *leg.*; one male, Artuch, 9.6.1892, D.Glazunov *leg.*; one male and two females, Tohta-Karachor, to the south from Samarkand, 1896, Verigin *leg.*; one female, Samarkand, Kshiput, 1900, Meinsgauzen *leg.*; two males and one female, Samarkand, 18-29.7.1907, V. Peltz *leg.*; one male and one female, Vagor near Urgut, 29.5.1909, Golberg *leg.*; one female, Aman-Kutan, 20.6.1910, V. Peltz *leg.*; one female, Samarkand, Abolyn, 13.5.1932, L. Popov *leg.*; one male and four females, Dzhizak, Kala-Kuduk, 5.1932, L. Popov *leg.*; one male, Dzhizak, 16.6.1936, Stirkas *leg.*; one male, Gissar ridge, Kondara, 12.7.1953, A. Tsvetaev *leg.* (Zoological Institute, S.-Petersburg); 10 males and two females, Samarkand reg., Golodnaia steppe, Tash-Kisken [eastwards Dzhizak], 21.5.1912, G. Sobolevsky *leg.* (eight of them syntypes of *morpha major*); one male, Kattakurgan, 16.5.1914, S. Zhuravlev *leg.* (syntype of *morpha major*); one male, Turkestan; one female, Samarkand (Zoological Museum of Moscow University); one male - holotype of *Prionus curticornis* Ganglb., Turkmenia, Farab (Deutsches Entomologisches Institut, Eberswalde); 127 males and 24 females, Uzbekistan, Samarkand region, Kattakurgan env., 800 m, 12.6.1992, M. Danilevsky *leg.*; one male, « Ishkent » (?), 20.6.1942, K. Arnoldi *leg.* (author's collection).



5c



6a



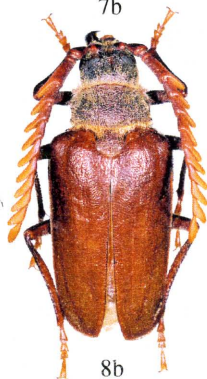
6b



7b



7a



8b



8a

Fig. 5. *Psilotarsus brachypterus alpherakii* (Sem.): c - female (China, "Souidoun", V.1880, Akferaki leg.). Fig. 6. *Psilotarsus hirticollis hirticollis* Motsch.: a - male (Chimkent region, Keles distr., Maldybaeva, 18.5.1983); b - female (same locality, 20.5.1983). Fig. 7. *Psilotarsus hirticollis nudicollis* ssp. n.: a - male, holotype; b - female, paratype (Bililikul lake env., 15.6.1972, A. Badenko leg.). Fig. 8. *Psilotarsus hirticollis auliensis* ssp. n.: a - male, holotype; b - male, paratype, pubescent form (Taraz environs, 1900, Staudinger leg.).



*Distribution.* - From Samarkand and Dzhizak regions in Uzbekistan westwards to Karshi region and Turkmenia (Farab), southwards through west parts of Turkestan and Zeravshan ridges including Zeravshan river valley to Kandara in south slope of Gissar ridge in Tadzhikistan (Fig. 131). N.N. Plavilstshikov (1936) described much larger area : north limits along latitude 42°, westwards to Farab and eastwards to Fergana valley. The last position is an undoubted mistake, because all records of *Prionus* from Fergana valley were connected with rather variable *Psilotarsus heydeni* (Ganglb.).

*Bionomy.* - I observed mass flight of males of *Psilotarsus turkestanicus* (Sem.) in low grass hills near Kattakurgan in a hot sunny day from about 11.00 to about 16.00. Virgin females attracted a lot of males resting motionless on the soil surface, swinging with exposed ovipositor.

*Remark.* - The holotype of *Prionus curticornis* Ganglb., described from Farab (Turkmenia : Amu-Daria valley at Uzbekistan border), is preserved in Deutsches Entomologisches Institut (Eberswalde) and was studied by me. The types of *P. ruficornis* Fairm., described from « Turkestan » are unknown to me, and I accepted the synonymization just after other authors (Semenov, 1900b; Lameere, 1912 : Plavilstshikov, 1936), who did not separate *P. heydeni*, so *P. ruficornis* can be a synonym of *P. heydeni*.

***Psilotarsus heydeni* (Ganglbauer, 1888) (Figs 10-12)**

*Type locality.* - Fergana valley in Uzbekistan.

*Prionus heydeni* Ganglbauer, 1888 : 265 (« Namangan »)

? *Prionus (Brachyprionus) ruficornis* Fairmaire, 1892 : 123, (« Turkestan »)

*Prionus turkestanicus* : Plavilstshikov, 1936 : 85 (part.)

The species was described from « Namangan » (Fergana valley in Uzbekistan). HOLOTYPE (male) is preserved in Deutsches Entomologisches Institut (Eberswalde), and was studied by me. It really has 12-joint antennae, as it was mentioned by L. Ganglbauer in the original description, so A. Semenov's (1900b) synonymization with *Mesoprionus angustatus* (Jak.), accepted later by N.N. Plavilstshikov (1936), is wrong.

*Description.* - Body slender, dark-brown, nearly black, or light-brown, or light orange (var. *lividipennis*); antennae of dark forms often lighter than body. Head with moderately rough sculpture; subfossal process short, obtuse, or angulate, or acute; exposed lateral part of head behind eyes usually shorter than length of ventral eye lobe. Antennal joints 3<sup>rd</sup>-10<sup>th</sup> triangular, flattened, pointed apically, not lamellate. Lateral pronotal teeth often shortened or nearly totally reduced, or well developed. Pronotum glabrous; usually slightly shining, microsculpture indistinct, deep irregular punctuation more or less dense. In males

prosternum, metasternum and metepisternum with dense, moderately long pubescence. In females prosternum with moderately short, scattered setae, metasternum and metepisternum glabrous. Scutellum glabrous; transverse with moderately dense deep punctuation. Elytrae more or less finely rugose with often inconspicuous punctuation. Tarsi lobes usually with short spines and well developed pads; spines of 3<sup>d</sup> joint (both in males and in females) of anterior tarsus several times shorter than its pads; pads covering whole width of lobes. Abdomen in males glabrous, or with very short indistinct pubescence, or at least partly with distinct pubescence; in females - glabrous.

Body length in males : 17.4-45.5 mm, width : 7.9-16.5 mm; body length in females : 30.5-50.1 mm, width : 9.5-17.7 mm.

*Distribution.* - Uzbekistan and Kirgizia : Fergana valley and neighbour mountains (Chatkal Ridge, west slope of Fergana Ridge, north slope of Alai Ridge), northwards reaching Talas valley and possibly Tashkent (Fig. 14 : i-k).

*Remark.* - *P. heydeni* (Ganglb.) was mixed by N. N. Plavilstshikov (1936) with *P. turkestanicus* (Sem.), though he accepted the separation of Arslan-Bob population in « natio » or « morpha » *minusculus* Sem.

### ***Psilotarsus heydeni heydeni* (Ganglbauer, 1888) (Fig. 10)**

*Type locality.* - Fergana valley in Uzbekistan.

*Prionus heydeni* Ganglbauer, 1888 : 265 (« Namangan »)

*Prionus turkestanicus* nat. *minusculus* Semenov-Tian-Shanskij, 1935 : 249 (Arslan-Bob) (part.); Plavilstshikov, 1936 : 85 (part.)

*Prionus turkestanicus* var. *lividipennis* Plavilstshikov, 1936 : 86, (Fergana)

*Description.* - Antennal joints with relatively longer lobes, in males lobes of middle joints about as long or longer than its basal parts; basal part of 4<sup>th</sup> joint usually about as long as 1<sup>st</sup> joint; in females 4<sup>th</sup> joint with distinctly protruding outer angle. Subfossal process obtuse or angulated.

Body length in male s: 17.4-45.5 mm, width : 7.9-16.5 mm; body length in females : 30.5-50.1 mm, width: 9.5-17.7mm. Only one male from near Maili-Sai (Osh env.) is of exceptionally big size: length : 45.5mm, width : 16.5mm.

*Materials.* - HOLOTYPE, male, Uzbekistan, « Namangan » (Deutsches Entomologisches Institut, Eberswalde); one male, Osh, 1887, Grum-Grzhimailo *leg.* with label : « *Pr. (Psilopus) dilutipennis* m., typ., A. Semenov. »; one female, Dzhahalabad, 17.6.1907, Gorsky *leg.*; three males, Dzhahalabad, 28.7.1909, Ryzhikova *leg.*; one male, Shatak-Tepe, near Zarkent, 29.6.1912, Knorring *leg.*; one female, Kokand, 14.5.1926; nine males and one female (syntypes of *Prionus turkestanicus* nat. *minusculus* Sem., 1935), Arslan-Bob, 15.7.-4.8.1927, D. Kashkarov *leg.*; one

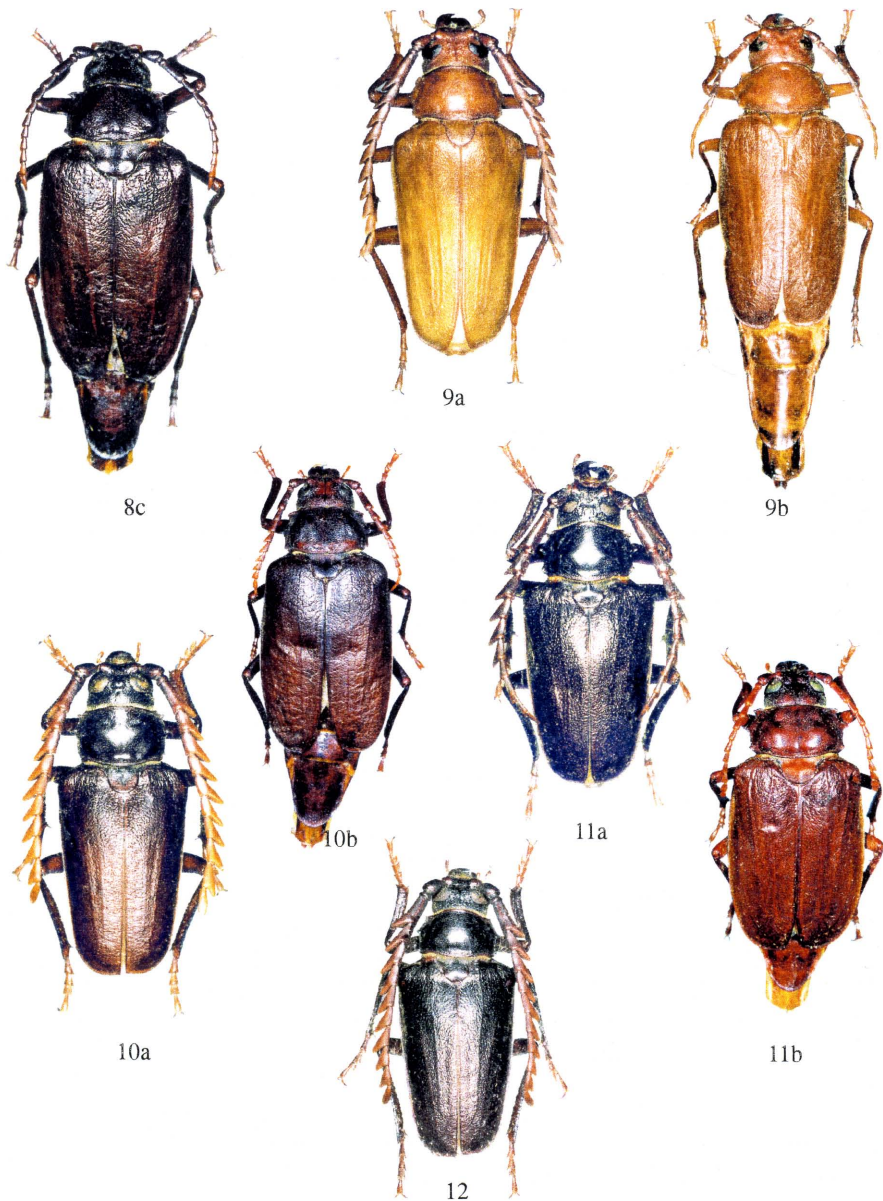


Fig. 8. *Psilotarsus hirticollis auliensis* ssp. n.: c - female, paratype (Taraz environs, G. Aris leg.). Fig. 9. *Psilotarsus turkestanicus* (Sem.) (Uzbekistan, Kattakurgan env., 800m 12.6.1992, M. Danilevsky leg.): a - male, b - female. Fig. 10. *Psilotarsus heydeni heydeni* (Ganglb.): a - male (Kirgizia, Kara-Alma, 10.8.1945, K. Arnoldi leg.); b - female (same locality, 26.6.1945, K. Arnoldi leg.). Fig. 11. *Psilotarsus heydeni arkitensis* ssp. n.: a - male, holotype; b - female, paratype (Kirgizia, Sary-Chelek natural reserve, 6.8.1965). Fig. 12. *Psilotarsus heydeni talassicus* ssp. n., male, holotype.

male, Parkent, 13.6.1934, Sainovsky *leg.*; two males and one female, Arslan-Bob, 12-15.7.1936; one male, 19.7.1937, A. Kirichenko *leg.*; one male, Osh region, Maili-Sai, 18.6.1963, K. E. Romanenko *leg.* (Zoological Institute, S.-Petersburg); one male, Fergana, Arslan-Bob, Ak-Terek, 22.7.1937, D. Prutenski *leg.*; one male, Turkestan, N Margelan, 27.5.1924; one male, Nov. Margelan; two males, Andizhan, 28.6.1925; one male, Andizhan, 7.7.1925; nine males (identified by N.N. Plavilstshikov as var. *minusculus*) : six males, Fergana Mont, Arslan-Bob, Uzbek-gava, 28.6.1938, 2.7.1938, D. Prutenski *leg.*; two males, Fergana, Arslan-Bob, Ak-Terek, 22.7.1932, D. Prutenski *leg.*; one male, Fergana, Dzhalalabad, 10.8.1930, Jankovsky *leg.*; four syntypes of var. *lividipennis* : one male, Fergana, Zharkent, 29.6.1915; one male, Fergana, 15.7.1915; one male, Namangan; one male, Fergana, circ. Osh, 24.6. (Zoological Museum of Moscow University); three males and three females, Kirgizia, Kara-Alma, 26.6, 24.7, 8, 10.8.1945, K. Arnoldi *leg.*; one male, Kirgizia, Fergansky Mts., Alash, 2000 m, 25.7.1996, S. Ovchinnikov *leg.*; one male, Kirgizia, Dzhalalabad, 1000 m, 1.6.1997, A. Klimenko *leg.* (author's collection).

*Distribution.* - Fergana valley and mountains eastwards and southwards : from about Dzhalalabad and Arslan-Bob to Osh environs (west slope of Fergana Ridge, north slope of Alai Ridge). Old materials are available from south environs of Tashkent (Fig. 14i).

*Psilotarsus heydeni arkitensis* ssp. n. (Fig. 11)

Type locality - Sary-Chelek National Reserve in Kirgizia.

*Description.* - Antennal joints with relatively short lobes, in males lobes of middle joints shorter than their basal parts; basal part of 4<sup>th</sup> joint usually longer than 1<sup>st</sup> joint; in female 4<sup>th</sup> joint cylindrical, without protruding outer angle; subfossal process often acute.

Body length in males : 27.4-32.2 mm, width : 10.9-13 mm; body length in a female : 36.5 mm, width : 12.8 mm.

*Materials.* - HOLOTYPE, male, Kirgizia, Sary-Chelek, 5-15.8.1995, A. Klimenko *leg.*; five PARATYPES . one male, Sary-Chelek, 5.7.1990, Dubanaev *leg.*; one male, Sary-Chelek, 19.6.1972; one female, Sary-Chelek, 6.8.1965 (author's collection); one male, Arkit, 12.8.1957 (Zoological Institute of S.-Petersburg); one male, Arkit, 4.8.1952 (collection of S. Saluk, Moscow).

*Distribution.* - Kirgizia : South-east part of Chatkal ridge : Sary-Chelek National Reserve (Fig. 14j).

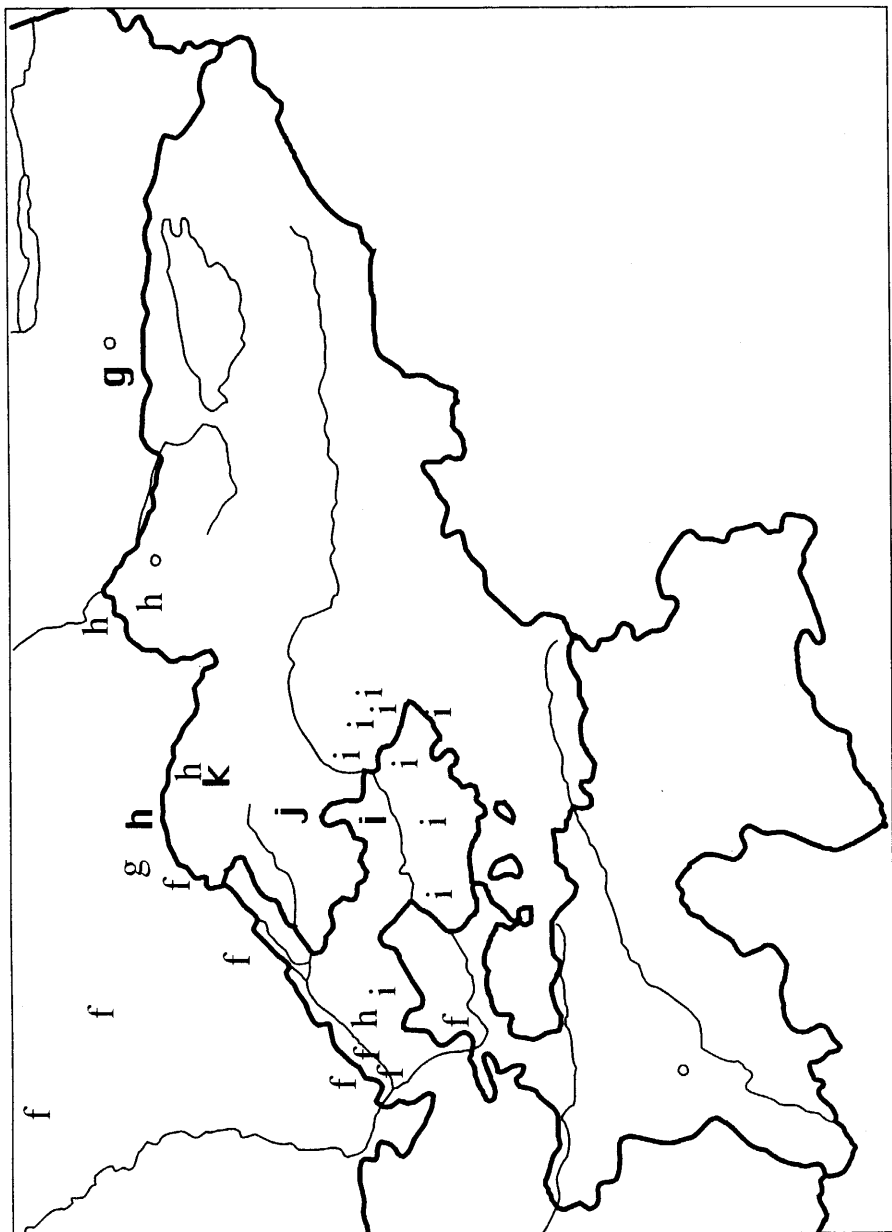


Fig. 14. Localities of *P. hirticollis hirticollis*, *P. h. nudicollis* ssp. n., *P. h. auliensis* ssp. n., *P. heydeni heydeni*, *P. h. arkitensis* ssp. n., *P. h. talassicus* ssp. n. f - localities of *P. hirticollis hirticollis*, f - type locality. g - localities of *P. h. nudicollis* ssp. n., g - type locality. h - vcc localities of *P. h. auliensis* ssp. n., h - type locality. i - localities of *P. heydeni heydeni*, i - type locality. j - type locality of *P. h. arkitensis* ssp. n. k - type locality of *P. h. talassicus* ssp. n.

***Psilotarsus heydeni talassicus* ssp. n.** (Fig. 12)

*Type locality* - Talas environs in Kirgizia.

*Description.* - Male. Body dark-brown, nearly black; exposed lateral part of head behind eyes much shorter than length of ventral eye lobe; antennae long, reaching last elytral 8th, lighter than elytrae; antennal joints with long lobes, lobes of middle joints about as long as their basal parts; basal part of 4<sup>th</sup> joint longer than 1<sup>st</sup> joint; subfossal process rather acute; lateral pronotal teeth poorly developed: anterior teeth in form of short angles, middle teeth very acute, but short, posterior teeth nearly totally reduced; pronotum shining, microsculpture indistinct, deep irregular punctuation moderately dense; prosternum, metasternum and metepisternum with long dense pubescence; elytrae with moderately rough sculpture; abdomen with short but distinct pubescence, which is longer and denser at the peripheral areas of each sternite. Female unknown.

Body length : 21.7-25.5 mm, width : 8.5-10.2 mm.

*Materials.* - HOLOTYPE, male, Kirgizia, north slope of Talas ridge near Talas city, 15.7.1997, collector unknown (author's collection); PARATYPE, one male with same label (collection of A. Klimenko, Tver).

*Distribution.* - Kirgizia : north slope of Talas ridge near Talas city (Fig. 14k).

**Key to the taxa of genus *Psilotarsus* Motschulsky, 1860 for males**

1 (18) Antennal joints 3d-11th triangular, with dorso-ventrally flattened, apically sharp lobes; sometimes lobes thickened, but sides always converging apically.

2 (13) Tarsi lobes with very long spines and poorly developed pads : spines of 3d joint of anterior tarsus usually about as long or a little shorter than its pads; pads very narrow, usually covering less than half width of a lobe.

3 (12) Exposed lateral part of head behind eyes usually shorter than length of ventral eye lobe; abdomen with long or short, but usually distinct pubescence; pronotum often pubescent; anterior and middle thoracic spines never reduced, always distinct, rather sharp; body and elytrae usually dark-brown, sometimes reddish or light-brown; 20.5-40 mm.

From Ural river valley and Caspian sea (including plateau Ustiurt) eastwards to about Irtysh river valley (from Semei and Uskaman to Zaisan lake and neighbour regions of China) and from about Orenburg and Akmolinsk southwards to low Syr-Darja river and further southwards to Samarkand region in Uzbekistan, Chu-Ili mountains, Zailiisky Alatau, Dzhungarsky Alatau and neighbour regions of China near Yining (Fig. 13: a-e) ..... *P. brachypterus* (Gebl.) Fig. 1-5.

4 (9) Body slender and in general smaller; head small; prothorax narrower, usually posterior part wider than anterior; pronotum with more or less dense punctuation, sometimes with very rare punctuation, shining, very rare roughly rugose; male abdomen usually with less developed pubescence, which is mostly short and sparse; body and elytrae brown or dark-brown.

North part of the area.

5 (6) Lateral process of each middle antennal joint shorter, usually much shorter than length of joint base; pronotum usually glabrous shining, rarely covered with more or less dense pubescence peripherally; sternum of metathorax with different pubescence, from very short to rather long; body and elytrae usually dark-brown nearly black; 20.5-32.5 mm.

East Kazakhstan : Irtysh river valley, from about Semei to Zaisan depression; allied regions of China (Fig. 13a) ..... *P. b. brachypterus* (Gebl.) Fig. 1.

6 (5) Lateral antennal process of each middle antennal joint longer, about as long or longer than length of joint base; sternum of metathorax always with long pubescence; body and elytrae brown.

7 (8) Antennal joints distinctly thicker; pronotum usually covered with distinct irregular punctuation with more or less dense pubescence; metathorax with sternum and episternum always covered with dense long pubescence; 22.2-34.2 mm.

Orenburg region of Russia; North-west, north and partly central Kazakhstan : from Ural-river valley, through Aktiube region, south of Kustanai region (Arkalyk environs) to about Akmola and Karaganda regions, southwards through Sary-Su river valley to low Syr-Darja valley and further south to Samarkand region in Uzbekistan (Fig. 13b) ..... *P. b. hemipterus* (Motsch.) Fig. 2.

8 (7) Antennal joints distinctly thinner; pronotum and abdomen often glabrous, shining; metasternum with dense long pubescence, while episternum often with scattered long setae and rare punctuation; 23-25.8 mm.

Ustiurt plateau (east Kazakhstan and east Uzbekistan, between Caspian and Aral seas) (Fig. 13c) ..... *P. b. aralensis* ssp. n. Fig. 3.

9 (4) Body larger and wider, robust; head large; prothorax wider, usually posterior part as wide as anterior; pronotum often roughly rugose, but sometimes glabrous, shining; abdomen usually with more developed pubescence, which is mostly long and dense, but in forms with glabrous pronotum abdomen can be covered with very short indistinct pubescence.

South part of the area.

10 (11) Antennae relatively shorter, with shorter and thicker joint lobes; if pronotum glabrous and shining then metathorax and abdomen with very short indistinct pubescence; body and elytrae usually dark-brown, sometimes reddish, brown, very rare yellowish; 23-40 mm.

Kazakhstan and Kirgizia : planes and foothills from Chu-Ili mountains to about Chilik river valley and Dzungarsky Alatau; and from Balkhash lake to Kirgizsky Ridge (Fig. 13d) ..... *P. b. pubiventris* (Sem.) Fig. 4.

11(10) Antennae relatively longer, with longer and thinner joint lobes; if pronotum glabrous, then metathorax and abdomen with long dense pubescence; body light-brown or dark-brown; 31.5-32 mm.

Chinese Dzhungarie between Yining and Kazakhstan border and possibly south east part of Dzhungarsky Alatau in Kazakhstan (environs of Dzharkent) (Fig. 13e) ..... *P. b. alpherakii* (Sem.) Fig. 5.

12 (3) Exposed lateral part of head behind eyes longer than length of ventral eye lobe; abdomen glabrous or nearly glabrous, with very short, indistinct pubescence; pronotum always glabrous; thoracic spines often reduced, specially anterior and posterior, but sometimes all spines absent; body and elytrae from dark-brown to light-orange; 24.2-38.5 mm.

From Samarkand region of Uzbekistan westwards to about Farab in Turkmenia; southwards as far as Gissar ridge, including its south slope in Tadzhikistan (where it is very rare) (Fig. 13l) ..... *P. turkestanicus* (Sem.) Fig. 9.

13 (2) Tarsi lobes usually with short spines and well developed pads: spines of 3d joint of anterior tarsus usually more than 2 times shorter than its pads; pads cover whole or nearly whole lobe width; exposed lateral part of head behind eyes usually shorter than length of ventral eye lobe; pronotum never pubescent; thoracic spines often reduced, specially anterior and posterior; body and elytrae mostly dark-brown, sometimes a little paler, very rarely light-orange; 17.4-45.5 mm.

Uzbekistan and Kirgizia : Fergana valley and neighbour mountains (Chatkal Ridge, west slope of Fergana Ridge, north slope of Alai Ridge), northwards reaching Talas valley and possibly Tashkent (Fig. 14 : i-k) .... *P. heydeni* (Ganglb) Figs. 10-12.

14 (17) Abdomen relatively glabrous.

15 (16) Antennal joints with relatively longer lobes, lobes of middle joints about as long or longer than their basal parts; basal part of 4th joint usually about as long as 1st joint; 17.4-45.5 mm.

Uzbekistan and Kirgizia: Fergana valley and mountains eastwards and southwards: from about Dzhahalabad and Arslan-Bob to Osh environs (west slope of Fergana Ridge, north slope of Alai Ridge); possibly Tashkent environs (Fig. 14i) ..... *P. h. heydeni* (Ganglb.) Fig. 10.

16 (15) Antennal joints with relatively short lobes, lobes of middle joints shorter than their basal parts; basal part of 4th joint usually longer than 1st joint; 27.4-32.2 mm.

Kirgizia : South-east part of Chatkal ridge : Sary-Chelek National Reserve (Fig. 14j) ..... *P. h. arkitensis* ssp. n. Fig. 11.



17 (14) Abdomen with distinct pubescence, which is longer and denser in peripheral areas of each sternite; 21.7-25.5 mm.

Kirgizia : North slope of Talas ridge near Talas city (Fig. 14k) .....  
..... *P. heydeni talassicus* ssp. n. Fig. 12.

18 (1) Antennal joints 3d-9th with lobes in form of vertical, flat, scale-like lamellae, with internal surface always concave; or lobes elongate, strongly thickened, finger-like, with lobes of 7-8th joints with nearly parallel sides at middle, their internal surface convex, sometimes flattened, but never concave; 21.5-40.2 mm.

Uzbekistan : Tashkent environs; Tadzhikistan : to the north from Khodzhent; South Kazakhstan : from Chimkent region (Keles river valley, Chimkent environs, Karatau Mts) to Taraz environs, then to Chu valley (Chu environs) and about as far to the east as Almaty environs; Kirgizia : Talas environs and Kara-Balta environs (Fig. 14 : f-h) ..... *P. hirticollis* Motsch. Figs. 6-8.

19 (22) Antennal joints 3d-9th with lobes in form of vertical, flat, scale-like lamellae, with internal surface always concave.

20 (21) Pronotum with dense long pubescence; all known specimens dark-brown; 26.5-40.2 mm.

Uzbekistan : Tashkent environs; Tadzhikistan : to the north from Khodzhent; South Kazakhstan : from Keles river valley eastwards to the north slope of Talas ridge and to the north-west of Karatau ridge (Fig. 14f) .....  
..... *P. h. hirticollis* Motsch. Fig. 6.

21 (20) Pronotum glabrous; body and elytrae from brown to light-orange; 21.5-25.3 mm

South Kazakhstan : South-East Karatau, Biilikul lake environs and Kaskelen narrow in Zailiisky Alatau near Almaty (Fig. 14g) .....  
..... *P. h. nudicollis* ssp. n. Fig. 7.

22 (19) Antennal lobes elongate, strongly thickened, finger-like; lobes of 7-8th joints with nearly parallel sides at middle, their internal surface convex, sometimes flattened, but never concave; body and elytrae from dark-brown to light-orange; 26.5-35.6mm.

South Kazakhstan and North Kirgizia : Chu valley from about Chu to Kara-Balta, Taraz (earlier Aulie-Ata, then Dzhambul) environs, Talas environs; Uzbekistan : Tashkent environs - most probably to the east from the city (Fig. 14h) .....  
..... *P. h. auliensis* ssp. n. Fig. 8.

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