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# Contribution to the knowledge of Palaearctic Cantharidae (Coleoptera). Notes on Dichelotarsus Motschulsky.

by **S. Kasantsev**

Abstract: All *Dichelotarsus* species reported from Russia are revised. *D. amurensis* Heyd., *bytonii* Mannh., *callosus* Sahlb, *labiatus* Motsch., *nervosus* Motsch., *obscuripes* Sahlb. are synonymized. *D. kolymensis* n.sp. is described.

Key words: Coleoptera, Cantharidae – *Palocardia* – systematics – new species.

In 1859, Motschulsky introduced *Dichelotarsus* as a genus, nominating *Rhagonycha piniphila* Eschsch. from the Pacific North-West as the type species. The genus was characterized as having «... crochets des tarses simples» (MOTSCHULSKY, 1859), in contrast to *Podabrus* Westwood, which has cleft claws, and was long considered as a subgenus of *Podabrus* by most authors. Fender and Wittmer made further contributions to the study of the group at the superspecific level: Fender divided *Podabrus* of North America into groups I - VIII based on the shape of the claws (Fender, 1949) and established the genus *Hatchiana* for one species differing from other Nearctic *Podabrus* (FENDER, 1966) in the terminal antennal joint, maxillae and aedeagus; Wittmer described a new subgenus *Asiopodabrus* for species with the anterior claws finely cleft at apex, and the aedeagus lacking visible laterophyses and provided with two long processus dorsally (WITTMER, 1982).

I examined type material deposited in Moscow, St. Petersbourgh and Helsinki and a vast number of other specimens in the collections St. Petersbourgh of scientific institutes and museums of Basel, Moscow and with respect to the form of the aedeagus and especially the internal sack. These morphological characters had not been applied before to many species of this complex, and some taxonomic changes became necessary.

First, it should be stated that two genera are perfectly well distiguishable in the group usually referred to as Podabrini, namely *Podabrus* and *Dichelotarsus*. In addition to external differences which are evident in Palaearctic species of the two genera, they differ from each other in having (*Podabrus*) or lacking (*Dichelotarsus*) laterophyses in the aedeagus. The shape of the claws is extremly diverse, especially in North America, and evidently cannot serve in most cases as a basis for generic separation. As for *Hatchiana* arizonensis Fender, the aedeagus

and terminal antennal joint are very similar to those of *D. rosinae* Pic (Fig. 1), and the two species should probably be united in *Hatchiana*. On the other hand, a curved and sharpened terminal antennal joint is not rare in some other *Podabrus* species. Therefore, *Hatchiana* is regarded as a subgenus of *Podabrus*. A key to genera and subgenera follows:

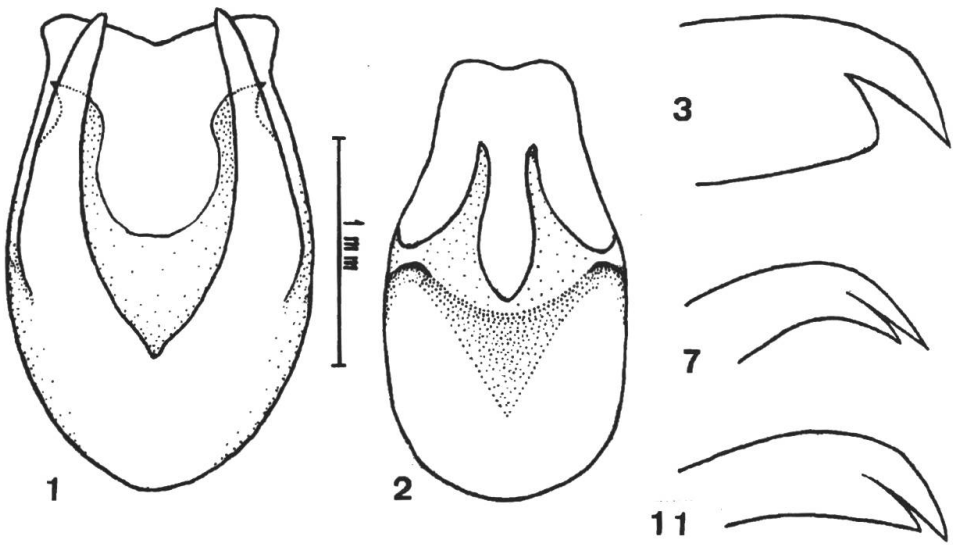
Key to genera and subgenera of Palaearctic Podabrini.

1. Laterophyses present. Larger: Length exceeds 10 mm. . . . . **Podabrus** 2
– Laterophyses absent. Smaller: usually not longer than 9 mm. . . . . **Dichelotarsus** 3
2. Anterior claws in male broadly cleft at apex. Dorsal plate of aedeagus deeply emarginate. . . . **Podabrus** (s.str.) Westwood
– Anterior claws in male finely cleft at apex or toothed at base. Dorsal plate of aedeagus no emarginate. . . . . **Podabrus** subgen. Hatchiana *Fender*
3. Slender, with prominet eyes. Second antennal joint longer than 3rd. Dorsal plate of aedeagus transformed apically into 2 long processes. **Dichelotarsus** subgen. **Asiopodabrus** Wittmer
– Usually more robust, eyes less prominent. Second antennal joint much shorter than 3rd, especially in male. Dorsal plate of aedeagus simple. **Dichelotarsus** (s.str.) Motschulsky

DELKESKAMP (1977) introduced a new type species for the subgenus - *D. flavimanus* Motschulsky. In my opinion however *D. piniphilus* (Eschsch.) should be restored as the type species, the more so as Fender's groups II - VIII belong, at least partially, to the same subgenus and include *D. piniphilus*.

The following species of *Dichelotarsus* (s.str.) have been reported or described from the territory of the Soviet Union: *lapponicus* Gyllh., 1810, *lunulatus* Fish., 1844, *nigriventris* Fisch., 1844, *vittatus* Fisch., 1844, *bytonii* Mannh., 1849, *angusticollis* Motsch., 1860, *flavimanus* Motsch., 1860, *labiatus* Motsch., 1860, *nervosus* Motsch., 1860, *recticollis* Motsch., 1860, *obscuripes* Sahlb., 1871, *amurensis* Heyden, 1880/81 and *callosus* Sahlb., 1887.

Of these I have been able to examine the types of *D. flavimanus* and *D. recticollis* (the only ones found in the Motschulsky collection in the Zoological Museum of Moscow University and the Cantharidae collection of the Zoological Institute in St. Petersbourg) and *D. obscuripes* from the Zoological Museum, Helsinki. At the




Figs 1-3, 7, 11: 1-2: Aedeagus ventrally of: 1, *Podabrus (Hatchiana) rosinae* Pic. 2, *Dichelotarsus* (s.str.) *lapponicus* Gyllh. 3,7,11: Male protarsal claw of: 3, *Dichelotarses* (s.str.) *lapponicus Gyllh.* 7, *D*, (s.str.) *angusticollis* Motsch. 11, *D.* (s.str.) *flavimanus* Motsch.

same time the studies on the subgenus allow to report only 5 species from the region.

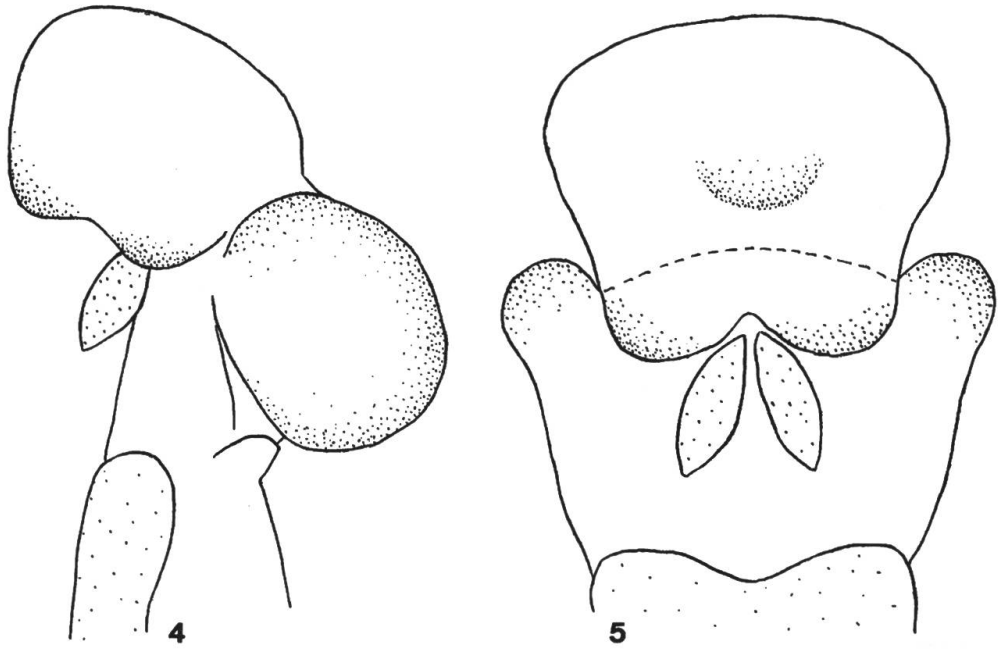
**1. Dichelotarsus lapponicus** Gyllenhal, 1810 Figs 2-5.

*D. bytonii* Mannerheim, 1849, *n.syn.*
*D. labiatus* Motschulsky, 1860, *n.syn.*
*D. nervosus* Motschulsky, 1860, *n.syn.*
*D. amurensis* Heyden, 1880/81, *n.syn.*

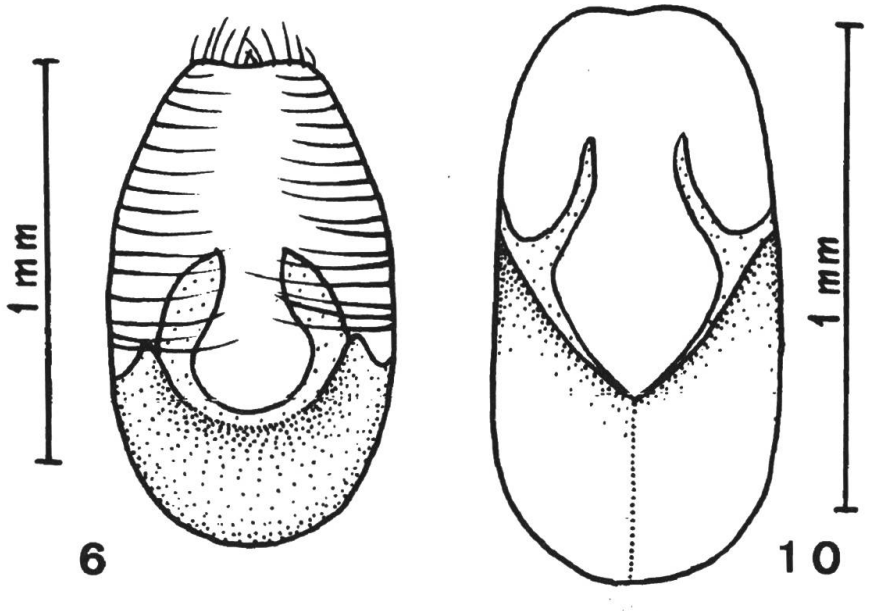
Specimens of *D. bytonii from the type locality have proved to be identical with D. lapponicus.* The form with reddish pronotum (or reddish propleures) which was found only in this species seems to be quite common in the Baikal region and is nothing but a colour variation.

All specimens of *Dichelotarsus* studied from East Siberia with testaceous legs *(D. flavipes* Motsch. = *D. amurensis* Heyden) were found to belong to *D. lapponicus*. This includes supposed specimens of *D. nervosus* (à jambes testacées et à élytres marquées de deux fortes nervures sur chacune) and *D. labiatus* (with testaceous legs and labrum). Since obviously no types of the latter two taxa exist, in my opinion they should be considered as junior synonyms of *D. lapponicus*.

Distribution: North Europe, Urals, Siberia, Mongolia, Sakhalin, Kurils.

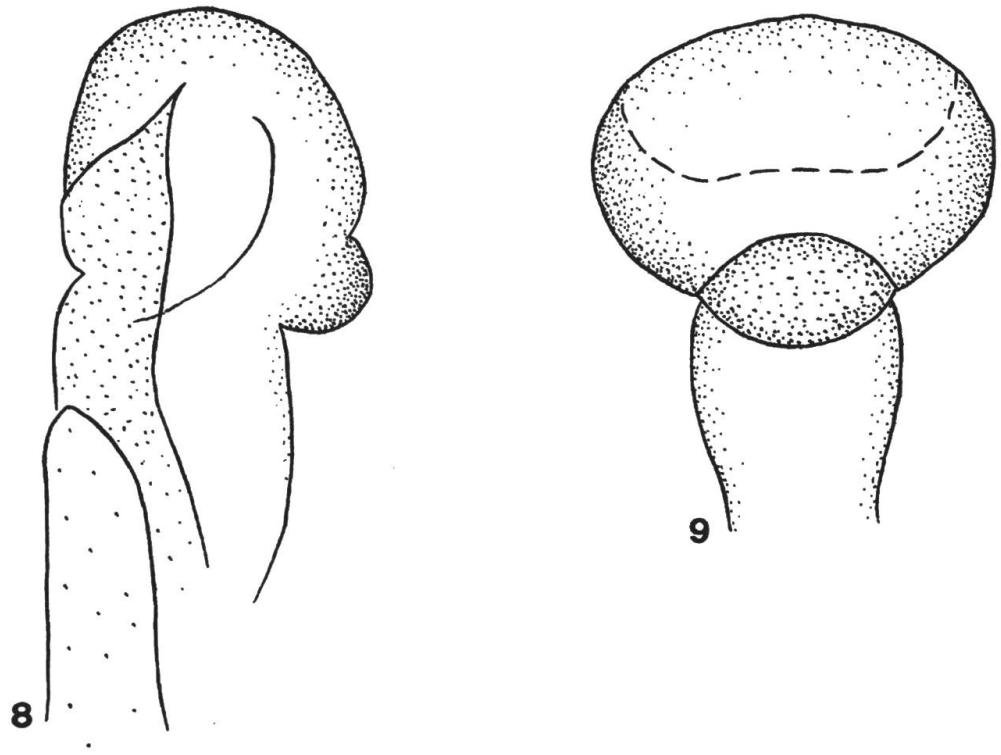



Figs 4-5: Internal sac of aedeagus of *Dichelotarsus* (s.str.) *lapponicus* Gyll.: 4, laterally, 5, dorsally.




Figs 6,10: Aedeagus ventrally of: 6, *Dichelotarsus* (s.str.) *angusticollis* Motsch. 10, *D.* (s.str.) *flavimanus* Motsch.

Material: 45 ♂: Lapp., Petsamo, 13.VI.1929, Hakan Lindberg; Cola P., L. Vudyavr, 5.VII.1930, Fridolin; Urals, env. Sverdlovsk, 1979, E. Tamplon; Irkutsk, V.Yakovlev; Krasnoyarsk reg., st. Chunoyar, 3.VII.1983, Bessolitsyna;




Figs 8-9: Internal sac of aedeagus of *Dichelotarsus* (s.str.) angusticollis Motsch.: 8, laterally. 9, ventrally.

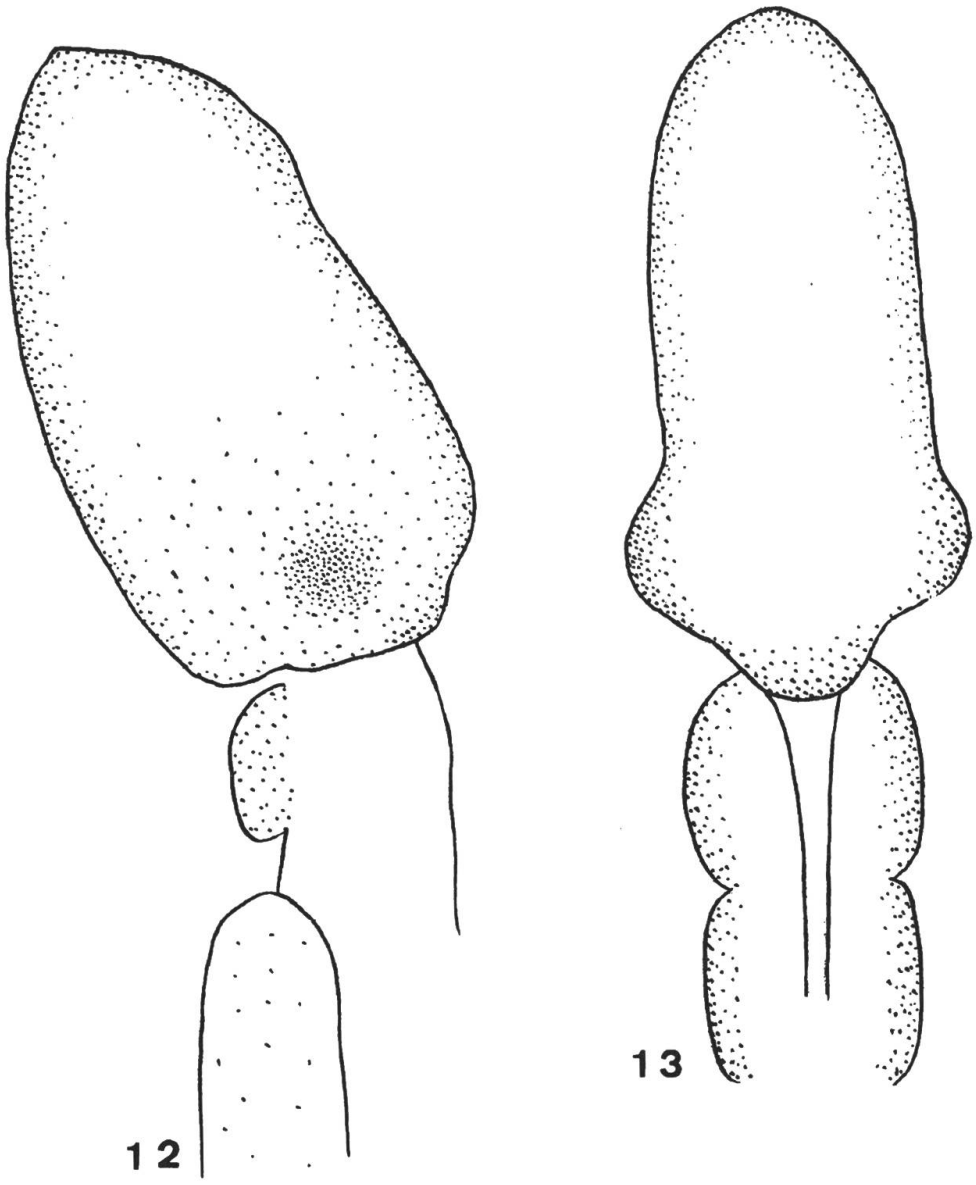
Baikal reg., R. Vitim, Nakholodny, 28.VI.1961, O.Chernova; R.Zeya, 50 km E Blagoveshchensk, 6.VI.1914, Popov; Amur reg., Fevralsk, 31.V-1.VI.1983, Cherezova; various localities of Magadan reg., 1973-1980, E.Matis, L.Glushkova, L. Mangshina; Kurils, Kunashir Is., Sernovodsk, 7.VI.1973, Kerzhner; Kunashir Is., env. Sernovodsk, 23.VI.1962, Konovalova; Sakhalin, Kuegda Bay, 10.VII.1908, Soldatov (Zool. Inst. St.Petersbourg, Zool. Mus. Moscow, Nat. Hist. Mus. Basel and Ins. Centre Moscow).
This species is very diverse in appearance, especially in the form and structure of the pronotum and coloration of legs and labrum.

**2. Dichelotarsus angusticollis** Motschulsky, 1860 Figs 6-9.

No types of this taxon are preserved. Yet all specimens from East Siberia (type locality) agreeing with Motchulsky's description belong to one species which therefore undoubtedly can be regarded as *D. angusticollis*.

A neotype has been designated and placed in the Zoological Museum of Moscow University where Motchulsky's collection is deposited.

Distribution: East Siberia, Mongolia, Kamthatka.




Figs 12-13: Internal sac of aedeagus of *Dichelotarsus* (s.str.) *flavimanus* Motsch.: 12, laterally. 13, ventrally.

Material: 1♂, Neotype (Zool. Mus.Moscow), 35 km N Magadan, 4.VII. 1980, L. Glushkova; 31 ♂♀: Mongolia' Central Aimak, Tereldjin Gol, on birch, V.Yanovsky; Ulan-Bator, 15 km from Djin-Djil, 18.VI.1970; Enisei reg., Kansk distr., Bunbui, 13.VI.1915, Valdaev; Amur, 20-26.VI.1915, Chernavin; various localities of Magadan reg., 1976-1981, E. Matis, V. Vedernikov, L. Glushkova, A. Egorov; Kamtchatka, env. Ustj-Kamtchatsk, L. Azhabachje, 17.VII.1976, V.Kuznetosv; Kamtchatka, env. Kljutchi, 12.VII.1976, V. Kuznetsov (Zool. Inst. St.Petersbourg, Zool. Mus. Moscow, Nat. Hist. Mus. Basel and Ins. Centre Moscow).

*D. angusticollis* is easily distinguishable from other Dichelotarsus species by its finely cleft anterior claws combined with the long and strongly narrowed toward base pronotum which is not wider than the head. In the female the last character is less evident but still can be applied.

**3. Dichelotarsus flavimanus** Motchulsky, 1860 Figs 10-13.
*D. obscuripes* Sahlberg, 1871, *n.syn.*
*D. callosus* Sahlberg, 1880/1881, *n.syn.*

A type of this species exists in Motchulsky's collection at he Zoological Museum of the Moscow University. Though a female it can be separated froms ather *Dichelotarsus* species of the territory in question by the rather broad pronotum with almos straight sides and the completely dark legs, except knees and protibiae which are only slightly lighter, brownish.

No difference could be found in specimens with such characters which had been or could be identified as *D. obscuripes* (North Europe), *D. flavimanus* (East Siberia) and *D.callosus* (Tchuktcha). The junior taxa therefore are regarded synonyms.

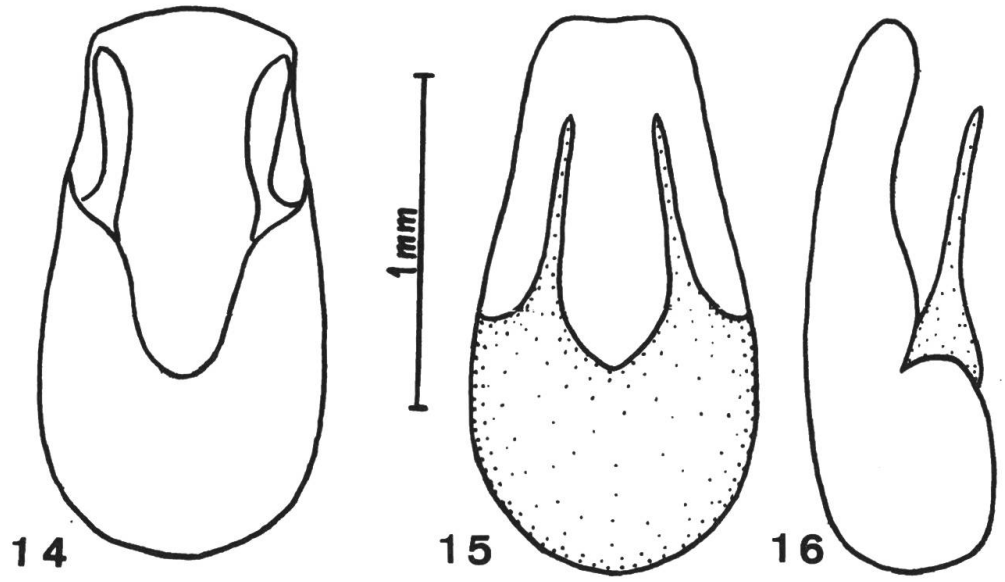
Distribution: North Europe, Urals, Siberia, Thuktcha, Tuva, Mongolia, kurils.

Material: 1 ♀, Lectotype, hereby designated (Zool. Mus. Moscow), «Dichelotarsus flavimanus Motsch., Ochotsk, Typus»; 1♂ (Mus. Zool. H-fors, spec. typ, No. 546, Podabrus obscuripes J. Sahlb.), Enontekis; 1♀ (Mus. Zool. H-fors, spec.typ No. 547, Podabrus obscuripes J. Sahlb.), Enontekis, J.Sahlb.; 44 ♂: Le, Saana, 18.VII.1924, Hakan Lindb.; Polar Urals, st. Harp, tundra, 17.VII.1971, V. OLSCHWANG; Polar Urals, R. Sobj, Obdorsk, 28.VII.1925, Fridolin; Tumenj reg., Srednee Stuschuchje, 11.VII. 1979, T. Andreeva; Tuva, Sagly, 19.VI.1972, B. Korotyaev; Tuva, 30 km NW Kyxyl, 22.VII.1972, B. Korotyaev; Kultik: Baik., Frkl. Müller; Mongolia Archangai aimak, Changai Gebi rge, 9 km NO vom Pass Egijn davaa, 2500 m, 19.VII.1966, Exp. Dr.Z. Kaszab; Mongolia, Ara-Hangai aimak, 7 km SW Tarjata, 24-26.VI.1975, Gurjeva; Mongolia, Ara-Hangai aimak, Khukh-Nur, 30 km N Gurvan-Bulak, 3000-3500 m, 10.VII.1971, L.Medvedev; R.Amur, Zeya res., Takuringra Mt.ch., 22-24.VII.1979, S. Murzin; various localities of Magadan reg., 1971-1979, E. Matis, L.Kotova, B.Korotyaev, L. Glushkova, V. Vedernikov, V. Marshakov; Krils, Paramushir Is., env. Severokurilsk, 19.VII.1964, Kupyanskaya (Zool. Inst. St. Petersbourg, Zool. Mus. Moscow, Nat. Hist. Mus. Basel and Ins. Centre Moscow).

**4. Dichelotarsus recticollis** Motschulsky, 1860 Fig. 14.

Only one type specimen is known, which lacks head and legs. The aedeagus is also partly destroyed.

Material: 1 ♂, holotype (Zool. Mus. Moscow), «*Dichelotarsus recticollis* Motsch., Sib.or.», «Typus».




Figs 14-16: 14-15: Aedeagus ventrally of: 14, *Dichelotarsus* (s.str.) *recticollis* Motsch., holotype. 15, *D.* (s.str.) *kolymensis* n.sp., holotype. 16, idem laterally.

**5. Dichelotarsus kolymensis** n.sp. Figs 15-18.

Black; labrum, cheeks, basal antennal joints and knees brownish, mouth parts, front and middle trochanters and protibiae testaceous.

Male. Head across eyes as wide as pronotum, densely punctulate, vertex with a wide smooth impression, labrum transverse. Antennae rather robust, about two thirds as long as the body, joints 4th and 11th subequal and the longest, 5th - 10th subequal and slightly shorter, 2nd joint half as long as 3rd and only slightly longer than wide, semispherical apically.

Pronotum transverse (about 1.3 times wider than long), with sides almost straight in front and sinuate before hind angles, densely and rather coarsely punctulate, median ridge long and well formed.

Scutellum almost parallel sided, rounded at apex.

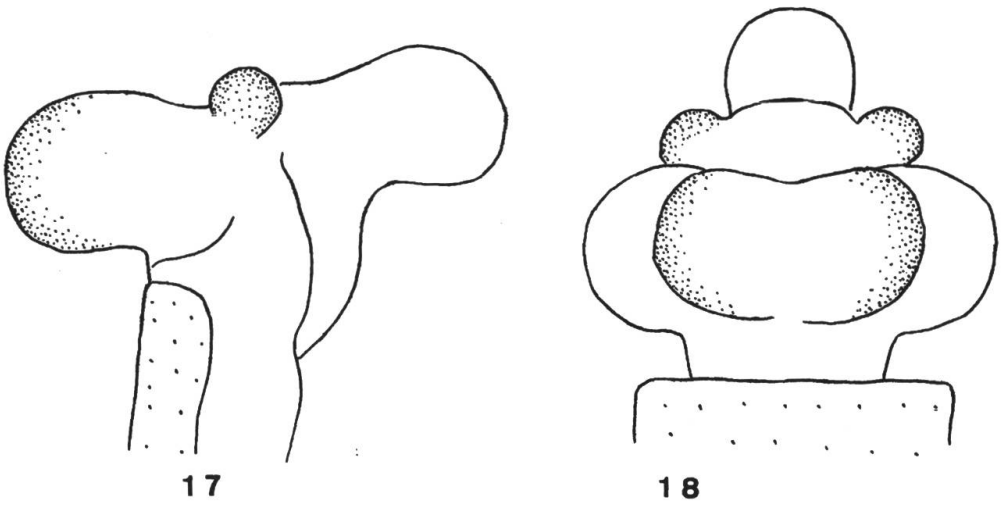
Elytra parallel sided, 5 times longer than pronotum and 2.5 times longer than wide at base, rather densely rugulose, with short, greyish, inclined pubescence.

Legs slender, anterior claws armed with a broad basal tooth. Teeth of middle and hind tarsal claws shorter.

Abdomen shining, finely punctulate, covered with dense and rather long pubescence.

Aedeagus: Figs 15-18.

Length: 6.5.-7.5 mm; width (humerally): 1.6-1.7 mm.




Figs 17-18: Internal sac of aedeagus of *Dichelotarsus* (s.str.) *kolymensis* n.sp.: 17, laterally. 18, dorsally.

Female. Similar to male. Head slightly longer, 2nd antennal joint only 1.5 times shorter than 3rd, abdomen with shorter pubescence.

Length: 8 mm; width (humerally): 1.9 mm.

Types: 1♂ and 1♀, Holo- and Allotype (Zool. Inst. St.Petersbourg), Magadan, Khatynnah distr., R. Khatynnah, 600 m, 28.VI.1974, B., Korotyaev; Paratypes (Nat. Hist. Mus. Basel and Ins. Centre Moscow): Magadan, 40 km N Vetrenny, 24.VI.1976, E.Matis; Upper Kolyma, 18 km N Orotukan, 17.VI.1980, V. Vedernikov; Upper Kolyma, 7 km NNE Omsuktchan, 3.VII.1980, E.Matis; Upper Kolyma, 7 km NNE Omsuktchan, 7.VII.1980, L.Kotova.

*D. kolymensis* is very similar in appearance to *D. lapponicus*, but can be separated by the shorter 2nd antennal joint (in *lapponicus* it is about two thirds the length of 3rd), the fuscous labrum (in *lapponicus* it is only rarely fuscous) and the densely rugulose pronotum clearly sinuate before hind angles. However the best distinction can be found in the shape of the internal sac of the aedeagus (Figs 17-18).

## Key to Dichelotarsus of the USSR:

1. Parameres of the aedeagus broad and long (Fig 14)
**D.** (s.str.) **recticollis** Mostch.
– Parameres of the aedeagus narrow and/or shor ..... 2
2. Anterior claws with a broad tooth at base in male (Fig. 3) ..... 3
– Anterior clax cleft at apex in male (Figs 7,11) ..... 4
3. Labrum mostly darkened. 3rd antennal joint in male twice as long as 2nd. Aedeagus (Figs 15-16) ..... 5
**D.** (s.str.) **kolymensis** n.sp.
– Labrum mostly fulvous. 3rd antennal joint in male about 1,5 times longer than 2nd. Aedeagus (Fig. 2) ..... 6
**D.** (s.str.) **lapponicus** (Gyll.)
4. Robust. Pronotum often transverse, slightly narrowed toward base. Pronotum (Fig. 10). **D.** (s.str.) **flavimanus** Motsch.
– Slender. Pronotum distinctly longer than wide, strongly narrowed toward base. Aedeagus (Fig. 6) ..... 7
**D.** (s.str.) **angusticollis** Motsch.

Three species described by Fischer (*nigriventris, lunulatus, vittatus*) the types of which have not yet been found are included in *Dichelotarsus* (s. str.) as incertae sedis, but probably belong to other genera: from neither of the three mentioned localities (Volhynia, Rossia merid. and Tartaria magna) have *Dichelotarsus* species ever since been reported.

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Author's address:
Sergei Kasantsev
Institute of Evolution any Morphology and Ecology of Animals
USSR Academy of Sciences
Leninsky Prospect 33
Moscow 117 071, Russia.