New records of the millipede genus *Schizoturanius* Verhoeff, 1931 from Asian Russia (Diplopoda: Polydesmida: Polydesmidae)

**Introduction**

The polydesmid genus *Schizoturanius* Verhoeff, 1931 is presently known to comprise eight species, almost all being confined to Central Asia [Mikaljova, 2017]. Only one species, *S. dmitriewi* (Timotheew, 1897), originally described from eastern Ukraine [Timotheew, 1897], later recorded from much of Ukraine and southern Russia [Lokshina, 1966], considered sub-endemic to the forested steppe belt of the Russian Plain [Golovatch, 1984, 1992], or strictly endemic to the Plain’s areas lying between the Dniepr (= Dnjejper) and Don rivers [Wytwer et al., 2009], has recently been found in Asian Russia [Krugova, Nefediev, 2018; Nefediev, Nefedieva, 2018]. Detailed new records of *S. dmitriewi* allow for both the distribution area of this species to be refined and the main differences in its gonopodal structure from congeners to be clarified.

**Material and methods**

SEM micrographs were prepared at the Laboratory of Phylogeny and Faunogenesis, Institute of Systematics and Ecology of Animals, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia (ISEA), using a Hitachi TM-1000 scanning electron microscope.
microscope, as well as at the Laboratory of Aquatic Ecology, Institute for Water and Environmental Problems, Siberian Branch, Russian Academy of Sciences, Barnaul, Russia (IWEF), using a Hitachi S-3400N scanning electron microscope. Mounts for SEM were made through air-drying, mounting on stubs, and coating with platinum (in IWEF only). SEM material was removed from stubs and returned to alcohol after examination. Digital images were prepared with the help of Helicon Focus 6 image stacking software. The distribution maps were composed using QGIS 3.6.1-Noosa.

The material treated herein has been deposited mainly in the collection of the Altai State University, Barnaul, Russia (ASU), partly shared also with the collection of the Zoological Museum of the Lomonosov Moscow State University, Moscow, Russia (ZMUM). Literature references to the species concern only their distribution maps were composed using QGIS 3.6.1-Noosa.

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New records of *Schizoturanius* from Asian Russia

333

from the Russian Altai generally [Nefediev, Nefedieva, 2018] and from the Tigirek State Nature Reserve in particular [Krugova, Nefediev, 2018], but without precise faunistic data presented (Fig. 1).

REMARKS. Originally described in a new genus, *Trachynotus* [Timofeev, 1897], this species was later transferred to *Schizoturanius* [Lohmander, 1933], because the name *Trachynotus* had been preoccupied. A restudy of the specimens from the south of the Altai Province previously determined by Nefediev, Nefedieva [2017] and Nefediev et al. [2017, 2018] as *Schizoturanius clavatipes* (Stuxberg, 1876) shows that they actually belong to *S. dmitriewi*.

The species *Schizoturanius dmitriewi* is very similar to *S. clavatipes*, but differs from it and other species of the genus mainly in the absence of a small triangular blade at the inner edge of the middle part of the gonopod exomere (ex) (Figs 4–5), as well as the serrate/denticulate outer edge of the gonopod endomere (en) (Figs 6–9), in which the distal part is directed caudad, shortened and swollen ventrally, and it carries a well-developed, long and thin process (p) near the pad/pulvillus (Figs 2–3).

*Schizoturanius dmitriewi* sometimes occur syntopically with *S. tabescens* (Stuxberg, 1876) (Figs 1, 12), but the former species is easily distinguished from the latter by the larger body (adults 912 vs. 79 mm long, respectively) and coloration (pinkish beige vs. milky white, respectively). At the same time, *S. dmitriewi* is quite similar to *S. clavatipes* in habitus, as well as in gonopodal structure, but they never live together, being allopatric.

Fig. 1. Distribution of *Schizoturanius* species: *dmitriewi* in Asian Russia (black circle) and *clavatipes* (white circle).

Рис. 1. Распространение видов *Schizoturanius: dmitriewi* в азиатской части России (черный круг) и *clavatipes* (белый круг).
**Schizoturanius clavatipes** (Stuxberg, 1876)

_Figs 1, 10–11._

**Polydesmus clavatipes** Stuxberg, 1876: 85. **Polydesmus clavatipes** — Lohmander, 1933: 27; Hoffmann, 1979: 81, 82; figs; Lokin, Golovatch, 1979: 384; Golovatch, 1979: 993; Mikhailova, 1993: 31, 32; fgs; 2002: 206; 2004: 238, 239; fgs; 2022: map 2013a: 221; 2013b: 9; 2017: 288, 289; fgs 290: map; Mikhailova, Golovatch, 2001: 116; Nefediev, 2001: 85; 2002c: 139; Vorobiova et al., 2002: 62; Mikhailova, Nefediev, 2003: 81; Neera Area and District, near Zorkaltsevo, 57.316881°N, 88.139437°E, 150 m a.s.l., 5.VII.2017; 1, 2 fragm. (ASU), same Area, Kemerovo District, near Novoislambul, 57.418825°N, 83.878022°E, mixed forest, 115 m a.s.l., 21.IX.2003, leg. P.N.; 5 juv. (ASU), same Area, Tomsk District, near Zorkaltsevo, Pinus sibirica forest, p.t., 12.VII.–24.VIII.2006, leg. S.A. Krivets; 10, 1 fragm. (ASU), Russia, Novosibirsk Area, Topuchyn, near Yuryt, 14.VIII.2007, leg. A.S. Babenko; 1, 3, 3 juv. (ASU), Russia, Kemerovo Area, Kemerovo District, 45 km N of Tenehnovka, 55°23'11"N, 86°22'37"E, Abies sibirica forest with Betula pendula and Populus tremula, 170 m a.s.l., 30.VIII.2016; 1 juv. (ASU), same Area, Krapivinski District, 8 km SSW of Salytmakovo, 54°45’N, 87°01’E, Kemerovo State University Field Station “Azhendarovo”, floodplain of Tom River, 165 m a.s.l., 26.VII.2017; 1, 5 (ASU), same Area and District, 56 km S of Taranadon, 54°40’N, 86°41’E, Populus tremula forest, 300 m a.s.l., in litter and rotten logs, 13.VIII.2017, all leg. D.A. Efimov; 2 juv. (ASU), Russia, Altai Province, Zalesovo District, at border with Kemerovo Area, 54.35533’N, 85.35794’E, Betula pendula forest with Ribes nigrum, 400 m a.s.l., 3.VII.2018, leg. P.N.; 1 juv. (ASU), Russia, Republic of Altai, Shebalin District, 3.5 air-km SE of Topuchyna, 51.11189’N, 85.63219’E, Betula pendula, Larix sibirica, Pinus sibirica and Picea obovata forest with Alnus, Lonicera, Ribes nigrum and tall grass vegetation on hummocks, along brook, ca. 1435 m a.s.l., siflet leaf litter, 22.VII.2018, leg. V.G., M.M., V.L.

**DISTRIBUTION.** This species is widespread in southwestern Siberia (SE districts of the Tomsk Area, E districts of the Novosibirsk Area and Altai Province, N and central districts of the Republic of Altai, the entire Kemerovo Area, NW districts of the Republic of Khakassia) and the southwest of central Siberia (SW districts of the Krasnoyarsk Province) (Fig. 1).

**REMARKS.** Originally described in _Polydesmus_ Latreille, 1802–1803 from the territory between Achinsk (Krasnoyarsk Province) and Mariinsk (Kemerovo Area) [see Stuxberg, 1876a, b], this species was later transferred to _Schizoturanius_ [Lohmander, 1933].

Being very close to *S. dmitrievi*, *S. clavatipes* differs from it and other species of the genus mainly by the presence of a small triangular blade (b) at the inner edge of the middle part of the gonopod exomere (ex) (Fig. 11), as well as the smooth, non-dentate outer edge of the gonopod endomere (en), which is directed caudad, elongated and distally pointed, carrying a small, thin process (p) on the inner side near the pad/pulvillus (Fig. 10). These two species are also quite similar in habitus, but due to their non-overlapping distribution areas even their females and juveniles are easily distinguishable. Living together over much of their distribution ranges, *S. clavatipes* and *S. tubescens* are not only sympatric, but often even sympatric congeners (Figs 1, 12).
Schizoturanius clavatipes, male (Altai Province, near Zalesovo): 10 — gonopod, lateral view; 11 — gonopod, mesal view.
Scale bar: 0.5 mm. Designations explained in text.

Fig. 10–11. Schizoturanius clavatipes, самец (Алтайский край, около Залесово): 10 — гонопод, сбоку; 11 — гонопод, изнутри. Масштаб: 0,5 мм. Объяснение обозначений дано в тексте.

MATERIAL EXAMINED. 1 $^\circ$ (ASU), Russia, Krasnoyarsk Province, Sorokino Railway Station, Betula forest with Pinus sibirica and Alnus, in litter, 23.VIII.1994, leg. A.B. Ryvkin; 1 $^\circ$ (ASU), Russia, Tomsk Area, Tomsk District, 15 km N of Tomsk, mixed forest, 11.VI.2000; 9 $^\circ$, 4 juv., 2 fragm. (ASU), same Area,

Fig. 12. Distribution of Schizoturanius tabescens.

Рис. 12. Распространение Schizoturanius tabescens.
Teguldet District, near Chet-Kontorka, 57.064860°N, 88.115124°E, *Populus tremula* forest, 190 m a.s.l., 19.VI.2000; 4 juv. (ASU), same Area and District, near Nosovka (abandoned), 57.363360°N, 88.073710°E, *Betula pendula* and *Alnus sibirica* forest, 135 m a.s.l., h.s., 22.VI.2000; 9 juv. (ASU), same Area and District, near Teguldet, 57.316881°N, 88.139437°E, *Populus tremula* forest, 135 m a.s.l., 4.VI.2000; 1 juv. (ASU), same Area and District, near Chioriyn Ya, 57.040621°N, 87.301126°E, 130 m a.s.l., 5.VII.2000, all leg. P.N.; 4 juv. (ASU), same Area, Tomsk District, near Zorkaltsevo, 56.521320°N, 84.733903°E, *Pinus sibirica* forest, s.s., 16–19.VI.2001; 5 juv., 1 fragm. (ASU), s.s., s.s., 24.VIII.2001; 14 juv. (ASU), s.s., s.s., 24.VIII.2001; 59 juv., 5 fragm. (ASU), Russia, Altai Province, Barnaul, “Lesnaya Skazka” Park, 53.359283°N, 83.682242°E, *Acer negundo* and *Betula pendula* stand, under boards, pieces of concrete, in litter, 215 m a.s.l., 1.V.2015, leg. P.N.; 1 juv. (ASU), same Province, Charyshskoye Patch, 14.VI.2018, leg. P.N.; 1 fragm. (ASU), s.s., s.s., 16.X.2001, all leg. P.N., J.N.; 7 juv. (ASU), same Area and District, Tomsk, “Bulf-Sad” Park, 56.471503°N, 84.962563°E, *Acer negundo* and *Populus*, 110 m a.s.l., 15.V.2008, leg. P.N., 1 juv. (ASU), same Area and District, near Zorkaltsevo, *Pinus sibirica* forest, p.t., 12.VII–24.VIII.2006, leg. S.A. Krivets; 1 juv. (ASU), Russia, Kemerovo Area, Krapivinskiy District, near Zelenogorskiy, 55°01′N, 87°05′E, bank of Tom River, under bark, 140 m a.s.l., h.s., 18–22.VII.2001; 1 juv. (ASU), same Area, S. dmitriewi in the Tomsk Area, its easternmost range limit.

Sometimes occurring even syntopically with *S. dmitriewi* at the southwestern periphery of its distribution area, *S. tabescens* can easily be distinguished from it by the smaller body and lighter coloration (see above), same as from *S. clavatipes*, with which *S. tabescens* is a sympatric species.

The following key can be proposed to *Schizoturanius* species from Asian Russia.

1(2) Gonopod broadened, with a short exomere. Gonopod endomere without a lateral outgrowth........... *tabescens*

2(3) Gonopod elongated and crescent, with an exomere longer than endomere. Gonopod endomere with a lateral outgrowth (lo) (Figs 3, 10)................................. 3

3(4) Outer edge of gonopod endomere smooth, non-dentate.................................................. *clavatipes*

4(3) Outer edge of gonopod endomere serrate (Figs 8–9) ..

Conclusions

At least three species of *Schizoturanius* are currently known to occur in Asian Russia. All presently known records of *S. dmitriewi* from the Asian part of Russia are provided, where the species is found in the Republic of Altai for the first time. The easternmost, new records of *S. tabescens* from the Irkutsk Area are also given. A direct comparative re-examination of the gonopods of *S. dmitriewi* from a European population with specimens from the southwestern Siberian populations shows their identity (Figs 2–9). Hence, *S. dmitriewi* reveals a disjunct distribution area, being among the few very few examples of millipede migration from Siberia to the Russian Plain. These two species are close, but differ from each other and their congeners mainly by the presence or absence of a small triangular blade (b) at the inner edge of the middle part of the exomere (ex) (Fig. 11 vs. Figs 4–5), and by a smooth or serrate outer edge of the endomere (en) (Fig. 10 vs. Figs 8–9); also the tip of the endomere can be elongated and distally pointed or shortened and swollen ventrally (Fig. 10 vs. Fig. 2), but anyway it carries a thin, more or less elongated process (p) near the pad/pulvillus (Figs 2–3, 10).

All three *Schizoturanius* species inhabiting the Asian part of Russia can easily be distinguished from each other taking into account (1) the habitus, i.e. body size and coloration, and (2) distribution areas. Thus, *S. tabescens*, being sympatric with *S. clavatipes* and occasionally dwelling syntopically with *S. dmitriewi*, differs easily from both by the smaller body and white coloration. At the same time, *S. dmitriewi* and *S. clavatipes*, being very similar in habitus and having non-overlapping distribution areas, are fully allopatric.

Acknowledgements

I am very thankful to S.I. Golovatch (Moscow, Russia) who kindly edited the text and checked its English. I am most grateful to Arkady A. Schileyko and E.N. Kudravtseva (both ZMUM) for the access to the ZMUM diplopod collection under their care. My deepest gratitude is extended to all persons who provided material for

**New records of Schizoturanius from Asian Russia**
References

Attems C. 1904. Myriopoden // Fauna Arctica. Bd.3. S.33–54.
Attems C. 1940. Myriapoda 3. Polydesmoidea III. Fam. Polydesmidae, Vanhoefeniidae, Cryptodermidae, Omiscodermidae, Sphaerotrichopoda, Peripontodesmidae, Rhachidodermidae, Macelloydipoda, Pandiromesmidae // Das Tierreich. Lfg.70. S.1–577.
Babenko A.S., Nefediev P.S., Nefedieva J.S. 2009. [The fauna and population dynamics of the millipedes (Diplopoda) of the Salair chern taiga] // Vestnik Tomskago gosudarstvennoago universiteta, Seriya Biologiya. No.319. P.182–185 [in Russian].
Bukhkalto S.P., Galitch D.E., Sergeeva E.V., Vazhenina N.V. 2014. [A synopsis of the invertebrate fauna in the southern taiga of Western Siberia (basin of the Lower Irtysh River)] Moscow: KMK Scientific Press. 189 pp. [in Russian].
Byzova Yu.B., Chadaeva Z.V. 1965. [Comparative characteristics of soil fauna of various associations in an Abies sibirica forest (Kemerovo Area)] // Zoologicheski Zhurnal. Vol.44. No.3. P.331–339 [in Russian, with English summary].
Evsyakov A.P., Golovatch S.I. 2013. Millipedes (Diplopoda) from the Rostov-on-Don Region, southern Russia // Arthropoda Selecta. Vol.22. No.3. P.207–215.
Golovatch S.I. 1979. [The composition and zoogeographic relationships of the diplopod fauna of Middle Asia. Part 1] // Zoologicheski Zhurnal. Vol.58. No.7. P.987–1001 [in Russian, with English summary].
Golovatch S.I. 1984. [Distribution and faunogenesis of millipedes in the USSR European part] // Y. Chernov (Ed.), Faunogenie i filotsenogenez. Moscow: Nauka. P.92–138 [in Russian].
Golovatch S.I. 1992. Some patterns in the distribution and origin of the millipede fauna of the Russian Plain (Diplopoda) // Berichte des naturwissenschaftlich-medizinischen Vereins Innsbruck. Suppl.10. P.363–373.
Golovatch S.I. 2014. Review of the millipede genus Epanerchodes Attems, 1901 in continental China, with descriptions of new species (Diplopoda: Polydesmidae) // Zootaxa. Vol.3760. No.2. P.275–288.
Golovatch S.I. 2015. Two new species of the millipede order Polydesmida from Southern China (Diplopoda) // Zoologicheskii Zhurnal. Vol.94. No.9. P.1023–1028.
Galicka J. 1963. [New millipedes (Diplopoda) from the USSR. Part 1] // Zoologicheski Zhurnal. Vol.42. No.4. P.518–524 [in Russian, with English summary].
Hoffman R.L. 1975. A note on the status of Polydesmus clavatipes Hoffman, 1901 in continental China, with notes on their ecological preferences and distribution area // Trudy Tigrinskogo zapovednika. Vol.10. P.108–122 [in Russian, with English summary].
Hohmarder H. 1933. Über Diplopoden aus Zentralasien // Ark. Zool. Bd.25A. Nr.6. S.1–71.
Lokshina I.E. 1966. [An analysis of the distribution of millipedes (Diplopoda) over the Russian Plain in a zonal aspect] // Zoologi Cheski Zhurnal. Vol.45. No.12. P.1773–1778 [in Russian, with English summary].
Lokshina I.E., Golovatch S.I. 1979. Diplopoda of the USSR fauna // Pedobiologia. Bd.19. S.381–389.
Mikhaljova E.V. 1993. The millipedes (Diplopoda) of Siberia and the Far East of Russia // Arthropoda Selecta. Vol.2. No.2. P.3–36.
Mikhaljova E.V. 2002. [for 2001]. On some poorly-known millipedes from Siberia (Diplopoda) // Arthropoda Selecta. Vol.10. No.3. P.201–207.
Mikhaljova E.V. 2004. The millipedes (Diplopoda) of the Asian part of Russia. Sofia-Moscow: Pensoft Publishers. Series Faunistica 39. 292 pp.
Mikhaljova E.V. 2013a. [Endemism of the millipedes (Diplopoda) of the Asian part of Russia] // Izkuchenie, sokhranenie i vostanovlenie estestvennykh landshtafot. Materialy III Mezhdunarodnoi nauchno-prakticheskoi konferentsii. Volgograd. Moscow: Planeta Publ. P.220–223 [in Russian].
Mikhaljova E.V. 2013b. New data on the millipede fauna (Diplopoda) of Altai, Russia // Far Eastern Entomologist. No.265. P.1–10.
Mikhaljova E.V. 2016. New species and new records of millipedes (Diplopoda) from the Asian part of Russia // Far Eastern Entomologist. No.316. P.1–25.
Mikhaljova E.V. 2017. [The millipede fauna (Diplopoda) of the Asian part of Russia]. Vladivostok: Dalnauka Publ. 336 pp. [in Russian, with English summary].
Mikhaljova E.V., Golovatch S.I. 2001 [for 2000]. A review of the millipede fauna of Siberia (Diplopoda) // Arthropoda Selecta. Vol.9. No.2. P.103–118.
Mikhaljova E.V., Marusik Y.M. 2004. New data on taxonomy and fauna of the millipedes (Diplopoda) from the Russian Far East, Siberia and Mongolia // Far Eastern Entomologist. No.133. P.1–12.
Mikhaljova E.V., Nefediev P.S. 2003 [for 2002]. A contribution to the millipede fauna of Siberia (Diplopoda) // Arthropoda Selecta. Vol.11. No.1. P.81–87.
Nefediev P.S. 2001. [On the fauna and ecology of Myriapoda in the environs of the village of Smolenskoe, Altai Province] // Landshly Zapadnyj Sibir: problemy isledovaniy, ekologiya i racionalseopolzovanie. Materialy VII Mezhdunarodnoj mezhyvuzovskoj konferentsii, posvyashchennomu Dnyu Zemli. Biysk: Biysk Pedagogical State University Publ. P.84–86 [in Russian].
Nefediev P.S. 2002a. [Eco-faunistic investigations of myriapods in the Teguldet District, Tomsk Area] // Materialy Mezhdunarodnoi konferentsii studentov i molodykh uchenykh "Lomonosov-2002". Vol.7. Moscow: Moscow State University Publ. P.40–41 [in Russian].
Nefediev P.S. 2002b. On the Diplopoda fauna of the South-West Siberia // Abstracts of 12th International Congress of Myriapodology. 28 July–3 August 2002, Mtuзunzi, KwaZulu-Natal, South Africa. P.30.
Nefediev P.S. 2002c. [Population and some ecological peculiarities of myriapods of gray forest soils in the south of the Tomsk Area] // Biology, a science of the XXI century. Materialy 6 shkoly-konferentsii molodyh uchenykh. Pushchino-on-Oka: Pushchino Scientific Center RAS Publ., P.138–139 [in Russian].
Nefediev P.S. 2002d. [The fauna and ecology of myriapods (Myriapoda) of a relief lime grove (village of Kuzedeyevo)] // Student i nauchno-tekhnicheskii progress: Biologiya. Materialy XL konferentsii molodyh uchionykh. Sofia-Moscow: Pensoft Publishers. Series Faunistica, No.35. P.220–223 [in Russian].
Nefediev P.S., Farzalieva G.Sh., Tuf I.H., Nefediev P.S., Niyazov S.T. 2017. Millipede and centipede assemblages on the northern and southern slopes of the lowland Altai, southwestern Siberia, Russia (Diplopoda, Chilopoda) // Tropical Natural History. and southern slopes of the lowland Altais, southwestern Siberia, Russia (Diplopoda, Chilopoda) // P. Stoev, G.D. Edgecombe (eds). Proceedings of the 17th International Congress of Myriapodology. Krabi, Thailand. ZookEys. No.741. P.219–254. doi: 10.3897/zookeys.741.21936.
Nefediev P.S., Nefedieva J.S. 2005. [Seasonal fluctuations of diplopod density in some forests of Western Siberia] // B.R. Strigano-va (ed.). Ekologicheskoye raznoobrazie pochvennogo biota i biologicheskaya produktivnost pochv. Materialy dokladov IV (XIV) Vserossiskoi konferentsii po pochvennoi zoologii. 1–4 February 2005, Tyumen. Tyumen: Tyumens State University Publ. P.177–178 [in Russian].

Nefediev P.S., Nefedieva J.S. 2006. [Regional peculiarities of the millipede fauna (Diplopoda) in the south-east of Western Sibe-ria] // V.V. Anyushkin (ed.). Ekologiya Yuzhnoi Sibiri i sopredelnykh territorii. Sbornik materialov X Mezhdunarodnoi shkoly-konferentsii studentov i molodykh uchenykh. Abakan: Khakassian State University Publ. Vol.10. No.1. P.98 [in Russian].

Nefediev P.S., Nefedieva J.S. 2007a. A brief analysis of the biotopic distribution of millipedes (Diplopoda) in the south-east of Western Siberia // I.A. Taskaev (ed.). Lesnoye pochvovedenie. Itogi, problemy, perspektivy. Tezisy dokladov Mezhdunarodnoi nauchnoi konferentsii. 4–11 September 2007, Syktyvkar. Syktyvkar: Institute of Biology, Komi Scientific Center, Ural Divi-sion of RAS Publ. P.139–140.

Nefediev P.S., Nefedieva J.S. 2007b. [Biogeographical characteristics of the millipede fauna in the southeast of Western Siberia] // G.P. Ostroverkhova (ed.). Bioraznoobrazie bespozvonochnykh zhivotnykh. Sbornik materialov II Vserossiiskoi shkoly-semi-nara s mezhdunarodnym uchastiem. 24–26 October 2007, Tomsk. Tomsk: Deltaplan Publ. P.159–164 [in Russian].

Nefediev P.S., Nefedieva J.S. 2007c. [Seasonal dynamics of locomotor activity of the millipedes (Diplopoda) in forests of Western Siberia] // V.N. Kazin (ed.). Ekologicheskie problemy unikal-nykh prirodnihykh i antropogennyh landscapes. Sbornik mate-rialov Vserossiiskoi nauchno-prakticheskoi konferentsii. 29 November 2007, Yaroslavl. Yaroslavl: Yaroslavl State University Publ. P.98–103 [in Russian].

Nefediev P.S., Nefedieva J.S. 2008a. [A historical review of faunist-ic investigations of the millipedes (Diplopoda) in western Siberia] // V.M. Vazhov (ed.). Altai: ekologiya i prirodopolzovanie. Trudy VII rossiiskoi-mongoloi nauchnoi konferentsii molodykh uchenykh i studentov. Vol.1. Biysk: Biysk Pedagogical State University Publ. P.117–120 [in Russian].

Nefediev P.S., Nefedieva J.S. 2008b. Zoogeographical analysis of the millipede fauna (Diplopoda) assemblages in oak woodlands of the Eastern European Plain // Soil Organisms. Vol.81. No.3. P.791–813.

Nefediev P.S., Nefedieva J.S. 2011. [Morphological and distributional zonation of the myriapod fauna of the Russian Altais, southwestern Siberia (Diplopoda)] // Arthropoda Selecta. Vol.26. No.4. P.288–296.

Nefediev P.S., Nefedieva J.S. 2012a. [Some peculiarities of the millipede fauna (Diplopoda) in the environs of Lake Teletskoye, Altai Mts] // H. Tuf, K. Tajovskij (eds.). 16th International Congress of Myriapodology. Book of abstracts. Institute of Soil Biology, BC ASCR & Faculty of Science, Palacky University, Olomouc. P.65.

Nefediev P.S., Nefedieva J.S., Sakhnevich M.B., Dyachkov Yu.V. 2014. Distribution of millipedes (Diplopoda) along an altitudi-nal gradient in the south of Lake Teletskoye, Altai Mts // ZooKeys. Vol.510. P.141–161.

Nefedieva J.S., Nefediev P.S., Sakhnevich M.B., Dyachkov Yu.V. 2015. Distribution of millipedes (Diplopoda) along an altitudi-nal gradient in the south of Lake Teletskoye, Altai Mts, Russia // ZooKeys. Vol.510. P.141–161.

Stuxberg A. 1876a. Myriopoder från Sibirien och Waigatsch ön samlade under Nordenskiöldska expeditionen 1875 // Öfversigt af Kongliga Vetenskaps-Akademiens Förhandlingar. Årg.33. No.2. S.11–38.

Stuxberg A. 1876b. Myriopoder från Siberien och Waigatsch öns samla i samband med Nordenskiöldens expeditionen 1875 // Öfversigt af Kongliga Vetenskaps-Akademiens Förhandlingar. Årg.33. No.2. S.11–38.

Stuxberg A. 1876c. Myriopoder från Siberien och Waigatsch öns samla i samband med Nordenskiöldens expeditionen 1875 // Öfversigt af Kongliga Vetenskaps-Akademiens Förhandlingar. Årg.33. No.2. S.11–38.

Stuxberg A. 1876d. Myriopoder från Siberien och Waigatsch öns samla i samband med Nordenskiöldens expeditionen 1875 // Öfversigt af Kongliga Vetenskaps-Akademiens Förhandlingar. Årg.33. No.2. S.11–38.

Timotheev T.E. 1897. [Two new species of Diplopoda] // Trudy Obshchestva inyatilei prirody pri Kharkovskom universitete. Vol.31. P.319 [in Russian].

Vorobiova I.G. 1999. [An ecofaunistic characteristic of the myriapod population (Myriapoda) in the midflow region of the Ye-nisei River] // B.R. Strigano-va (ed.). Problemy pochvennoi zoologii. Bioraznoobrazie i zhizn pochvennoi sistemy. Materi-ali II(XII)Vserossiiskogo soveshchaniya po pochvennoi zoologii. Moscow: KMK Scientific Press. P.33 [in Russian].

Vorobiova I.G., Rybalov L.B., Rossolimo T.E., Zaleskaja N.T. 2002. [Zonal and landscape distribution of the myriapod fauna and populations (Myriapoda) in the Yenisei River basin] // Izuchenie, sokhranenie i vosstanovlenie bioraznoobrazia ekosistem na Yeniseiskom ekologicheskom transekte: Zhivotnye mir, etno-ekologicheskie issledovniya. Vol.2. Moscow: IEERAS Publ. P.8–42 [in Russian].

Wytwer J., Golovatch S.I., Peckiana. Vol.6. P.123–124.

Zalesskaja N.T., Titova L.P., Golovatch S.I. 1982. [The myriapod fauna of the Moscow Region] // M.S. Chilirlov (ed.). Polscheny bespozvonochnyche Moskovskih oblasti. Moscow: Nauka Publ. P.179–200 [in Russian].

New records of *Schizoturanius* from Asian Russia

Nefediev P.S., Nefedieva J.S. 2005. [Seasonal fluctuations of diplopod density in some forests of Western Siberia] // B.R. Strigano-va (ed.). Ekologicheskoye raznoobrazie pochvennogo biota i biologicheskaya produktivnost pochv. Materialy dokladov IV (XIV) Vserossiskoi konferentsii po pochvennoi zoologii. 1–4 February 2005, Tyumen. Tyumen: Tyumens State University Publ. P.177–178 [in Russian].

Nefediev P.S., Nefedieva J.S. 2006. [Regional peculiarities of the millipede fauna (Diplopoda) in the south-east of Western Sibe-ria] // V.V. Anyushkin (ed.). Ekologiya Yuzhnoi Sibiri i sopre-delnykh territorii. Sbornik materialov X Mezhdunarodnoi sh-