New data on the anthropochore terrestrial isopod fauna (Isopoda: Oniscidea) of the Asian part of Russia, with a key to known species

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ABSTRACT. Based on abundant fresh and re-examined samples from the Asian part of Russia, the distributions of eleven anthropochore oniscid species have been clarified. Both the genus *Oniscus* Linnaeus, 1758 and the species *O. asellus* Linnaeus, 1758, as well as the family Oniscidae they belong to, are new to Asia. Both the genus *Styloniscus* Dana, 1852 and the species *S. mauritiensis* (Barnard, 1936), as well as the family Styloniscidae they belong to, are new to Russia. Both the genus *Parcylisticus* Verhoeff, 1943 and the species *P. dentifrons* (Budde-Lund, 1885) are recorded from Asian Russia for the first time. The first regional records of woodlice include seven species for the Krasnoyarsk Krai, three species each for the Republic of Khakassia and the Sverdlovsk Oblast, two species each for the Tyumen and the Jewish Autonomous oblasts, and a single species for the Kurgan Oblast. Three more species are also reported from the Chelyabinsk Oblast, two more species from the Altai Krai, as well as one more species from the Primorskii Krai. *Armadillidium nasatum* Budde-Lund, 1885 and *Trichoniscus pygmaeus* Sars, 1898 are excluded from the species list of terrestrial isopods of Asian Russia. The distributions of 11 species encountered are mapped within the study area. An identification key to known species of Oniscidea from the Asian part of Russia is given for the first time.
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KEY WORDS: *Armadillidium*, *Cylisticus*, *Hyloniscus*, *Oniscus*, *Parcylisticus*, *Porcellio*, *Porcellionides*, *Protracheoniscus*, *Styloniscus*, *Trachelipus*, fauna, new records, identification key, Siberia, Russian Far East.

Новые данные по фауне антропохорных мокриц (Isopoda: Oniscidea) азиатской части России с определительной таблицей для известных видов

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РЕЗЮМЕ. По обширному новому и повторно изученному коллекционному материалу из азиатской части России уточнено распространение одиннадцати антропохорных видов мокриц. Род *Oniscus* Linnaeus, 1758 и вид *O. asellus* Linnaeus, 1758, а также семейство Oniscidae, к которому они принадлежат, являются новыми для Азии. Род *Styloniscus* Dana, 1852 и вид *S. mauritiensis* (Barnard, 1936), а также семейство Styloniscidae, к которому они принадлежат, являются новыми для России. Род *Parcylisticus* Verhoeff, 1943 и вид *P. dentifrons* (Budde-Lund, 1885) впервые указываются для азиатской части России. Первые региональные находки мокриц из Красноярского края насчитывают семь видов, Республики Хакасия и Свердловской области — по три, Тюменской и Еврейской Автономной областей — по два, Курганской области — один вид. Еще три новых вида отмечены в Челябинской области, два новых вида в Алтайском крае, а также один новый вид в Приморском крае. *Armadillidium nasatum* Budde-Lund, 1885 и *Trichoniscus pygmaeus* Sars, 1898 исключены из списка видов наземных изопод азиатской России. Для 11 видов выполнено картирование находок в пределах исследуемого региона. Впервые приводится таблица для определения всех известных видов наземных изопод азиатской части России.
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КЛЮЧЕВЫЕ СЛОВА: *Armadillidium*, *Cylisticus*, *Hyloniscus*, *Oniscus*, *Parcylisticus*, *Porcellio*, *Porcellionides*, *Protracheoniscus*, *Styloniscus*, *Trachelipus*, фауна, новые находки, определительная таблица, Сибирь, Дальний Восток России.

Introduction

The first data on the terrestrial isopod fauna of Asian Russia appeared in the middle of XIX century. For the most part, all records relate to the coastline of the Far Eastern seas. Brandt (1851) described a new supralittoral species *Deto spinicornis* from Cape Dschukdshandran (= Dyukchangrandzha, approx. 54.601°N, 136.103°E) on the southern shore of the Sea of Okhotsk (now Khabarovsk Krai, Russian Far East). Budde-Lund (1885) described a new species *Hemilepistus nodosus* (= *Hemilepistus fedtschenkoi* (Uljanin, 1875), see Kashani, 2019) from Siberia (the exact location is unknown, but most likely it refers to Kazakhstan), and recorded *Metoponorthus orientalis* (= *Protracheoniscus orientalis* (Uljanin, 1875)) from the city of Orenburg and Elenovka Village, both the Orenburg Governorate of the Russian Empire, S Urals, and *Porcellio scaber* Latreille, 1804 from Kamchatka, Far East of Russia. One more indigenous terrestrial crustacean from the southern Urals, *Cylisticus orientalis*, was later described by Borutzky (1939) from Ekaterinoslavka Village near Orsk, Orenburg Oblast. A few more species, dwelling in supralittoral habitats of the Russian Far East, viz. *Ligia cinerascens* Budde-Lund, 1885 from the Primorskaya Oblast (now Primorskii Krai), *Trichoniscus papillicornis* Richardson, 1904 (= *Detonella papillicornis* (Richardson, 1904)) from the Kamchatka Oblast (now Kamchatka Krai), as well as *Porcellio scaber* from both the Primorskaya and Kamchatka oblasts (now Primorskii and Kamchatka krais), were recorded by Gurjanova (1936) (see also Gongalsky *et al*., 2014). After that, Verhoeff (1942) described one more supralittoral species *Detonella sachalina* (= *D. papillicornis* (Richardson, 1904)) from Sakhalin and the Kuriles (now Sakhalin Oblast, Russian Far East) (Saito *et al*., 2000; Schmidt, 2000). Another one supralittoral species *Tylos granuliferus* Budde-Lund, 1885 (*Tylos granulatus* Miers, 1877 as nomen praeocc. in Kussakin (1974)) was recorded from the Kuriles (Sakhalin Oblast) and S Primorie (Primorskii Krai) (Kussakin, 1982). *Detonella papillicornis* and *Armadilloniscus ellipticus* (Harger, 1878) were recently recorded from the Primorskii Krai (Golovan, Malyutina, 2010; Check-list of species…, 2013; Kolenko, Petrova, 2011). The pedofaunal cadastres of mesopedobionts of the southern Russian Far East (Ganin, 1999, 2011) contain no data on true woodlice.

In a series of ecological publications on soil macrofauna of the Kemerovo and Tyumen

oblasts, SW Siberia, woodlice were listed at the suborder level without proper species identification (Eremeeva, 2002, 2004, 2006, 2011; Eremeeva *et al*., 2013, 2014; Sergeeva, 2010, 2016). According to the old collections of XIX century, two species, *Porcellionides pruinosus* Brandt, 1833 from near Lake Baikal, E Siberia, and *Porcellio laevis* Latreille, 1804 from the Barnaul Uyezd, Tomsk Governorate, SW Siberia, were added to the regional list as a result of the cartographic analysis of the woodlouse fauna of the former USSR (Kuznetsova, Gongalsky, 2012). Four more new species for Asian Russia, *Trachelipus rathkii* (Brandt, 1833), *Cylisticus convexus* (De Geer, 1778), *Trichoniscus pygmaeus* Sars, 1898, and *Protracheoniscus major* (Dollfus, 1903), were recorded from the anthropogenic habitats of the Altai Krai, SW Siberia (Khisametdinova *et al*., 2016; Nefediev *et al*., 2018). In 2015, the first indigenous species of woodlice for SW Siberia was discovered from the Altai Krai. At first, this species was assigned as *Mongoloniscus* sp. (Gongalsky *et al*., 2017), and only a few years later it was described as *Lucasioides altaicus* Gongalsky, Nefediev et Turbanov (Gongalsky *et al*., 2021). Finally, the recent revision of the alien woodlice of the Russian Far East (Gongalsky, Kuznetsova, 2020), revealed four more terrestrial isopods from the Asian part of Russia, viz. *Armadillidium nasatum* Budde-Lund, 1885, *A. versicolor* Stein, 1859, *Hyloniscus riparius* (Koch, 1838), and *Porcellio spinicornis* Say, 1818.

Thus, at least twelve anthropochore and nine native species of woodlice have hitherto been known to occur in Asian Russia, representing fourteen genera from nine families. The present paper provides new records of anthropochore Oniscidea from the study area.

The distribution maps were composed using QGIS 3.38.3 'Grenoble' and processed using Photoshop CS6.

The material treated here has been deposited in the collections of the A.N. Severtsov Institute of Ecology and Evolution, Russian Academy of Sciences, Russia (IEE), the Zoological Museum of the Lomonosov Moscow State University, Moscow, Russia (ZMUM), and the Altai State University, Barnaul, Russia (ASU), as indicated below. Literature references to the species concern the Asian part of Russia only.

Taxonomy follows the World Catalog of Terrestrial Isopods (Isopoda: Oniscidea) (Schmalfuss, 2003) and the World Marine, Freshwater and Terrestrial Isopod Crustaceans database, Oniscidea (Boyko *et al*., 2008).

Taxonomic part

SUBORDER ONISCIDEA

Family Agnaridae
***Protracheoniscus major* (Dollfus, 1903)**
Map 1.

Protracheoniscus major — Nefediev *et al*., 2018: 34, map.

MATERIAL EXAMINED. 1 ♀ (ASU.NPS.O-029), **Altai Krai**, Barnaul, Depovskaya Street, 53.351025°N, 83.769023°E, ca. 190 m a.s.l., office in residential building, 31.III.2020, J.S. Nefedieva leg.; 1 ♂, 1 ♀ (IEE), **Chelyabinsk Oblast**, Magnitogorsk, 53.43337°N, 59.09417°E, ca. 425 m a.s.l., planting trees on site of Poaceae reclamation, 23.V.2022, D.I. Korobushkin leg.; 1 ♂ (IEE), **Krasnoyarsk Krai**, Krasnoyarsk, 55.9961°N, 92.9735°E, 145 m a.s.l., wasteland, under asphalt pieces, 13.VII.2024, M.S. Matveev leg.

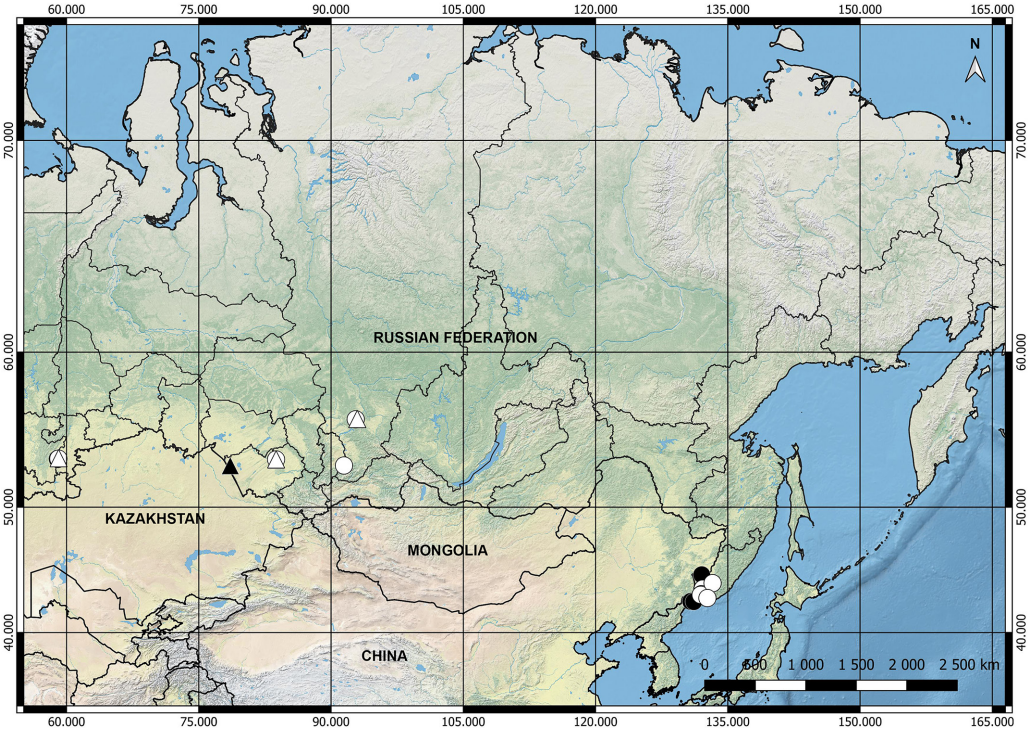
DISTRIBUTION. Being originally described by Dollfus (1903) as *Metoponorthus major* from Turkestan (Russian Empire), this species, according to Schmalfuss (2003), is widespread from SE Germany to Central Asia; recently reported from Kazakhstan (Bragina, Khisametdinova, 2014, 2018). In Russia, this species has previously been known to occur in the Kirov, Rostov and Saratov oblasts of European Russia (Kuznetsova, Gongalsky, 2012; Tselishcheva, 2022; Zhmurova, 2023), and the Altai Krai of Asian Russia (Nefediev *et al*., 2018).

REMARKS. This species is new to the woodlouse fauna of the Chelyabinsk Oblast and the Krasnoyarsk Krai.

Family Armadillidiidae
***Armadillidium versicolor* Stein, 1859**
Map 1.

Armadillidium versicolor — Gongalsky, Kuznetsova, 2020: 57, map.

NEW MATERIAL EXAMINED. 2 ♂♂, 2 ♀♀ (ASU.NPS.O-002), **Republic of Khakassia**, Beya District, shore of Maina Reservoir, mouth of Bolshoi Ustuk River, 52.936796°N, 91.468054°E, ca. 325 m a.s.l., under stones, 1.VI.2018, S.V. Dragan leg.; **Primorskii Krai**: 8 ♂♂, 10 ♀♀, 1 juv. (IEE), Dushkino, 42.9272°N, 132.6895°E, 7.VII.2018, D.I. Korobushkin leg.; 1 ♂ (IEE), Arseniev, 2.X.2019; 1 ♂, 5 ♀♀ (IEE), Muravyov-Amursky Peninsula, Okeanicheskaya Station, seashore of Amur Gulf, 3.V.2020; 1 ♂ (IEE), Vladivostok, Akademicheskaya, road to hothouses, on wet moss, 19.V.2020, all L.A. Prozorova leg.; 1 ♀ (ASU.NPS.O-010), Ussuriysk City Okrug, Gorno-Taezhnoye, 43°41.862′N, 132°09.487′E, 160 m a.s.l., on walls of residential buildings, 8–18.



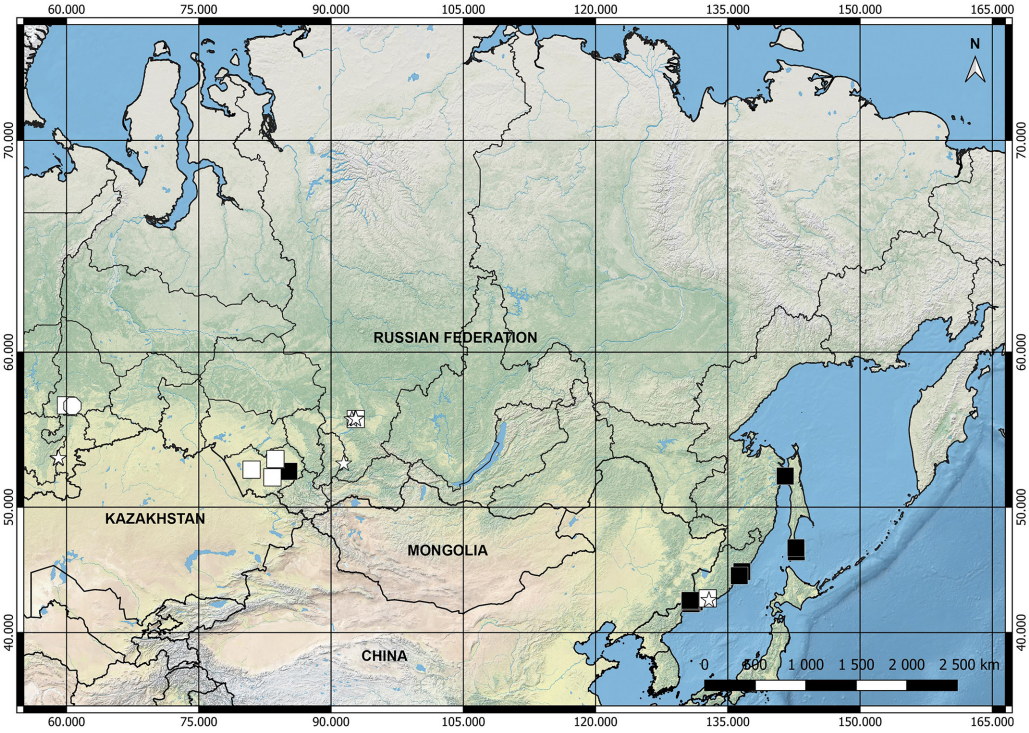
Map 1. Distribution of *Protracheoniscus major* (triangle) and *Armadillidium versicolor* (circle) in Asian Russia. Previously known localities marked in black, new records given in white.
Карта 1. Распространение *Protracheoniscus major* (треугольник) и *Armadillidium versicolor* (круг) в азиатской России. Черным отмечены ранее известные места находок, новые находки отмечены белым.

VII.2022, A.A. Fomichev leg.; **Chelyabinsk Oblast**: 2 ♂♂, 7 ♀♀ (IEE), Magnitogorsk, Sosnovaya Mt., 53.387235°N, 59.02573°E, ca. 375 m a.s.l., steppe grassland with ruderal vegetation, 19.V.2022; 12 ♂♂, 20 ♀♀, 29 juv. (IEE), Magnitogorsk, floodplain of Ural River, 53.380786°N, 59.01697°E, ca. 350 m a.s.l., *Salix alba*, *S. nirga*, *Populus*, and *Acer negundo* riverine forest, 20.V.2022; 18 ♂♂, 13 ♀♀, 2 juv. (IEE), Magnitogorsk, 53.380817°N, 59.015891°E, ca. 350 m a.s.l., *Populus tremula* forest with *Acer negundo* at water edge, on dam, 23.V.2022; 9 ♂♂, 9 ♀♀ (IEE), Magnitogorsk, 53.38757°N, 59.02785°E, ca. 380 m a.s.l., anthropogenic disturbed ruderal grassland with patches of *Acer negundo* and *Elaeagnus commutata*, 12.VII.2022; 4 ♂♂, 1 ♀ (IEE), Magnitogorsk, Internatsionalnaya Street, 53.401189°N, 59.078866°E, ca. 410 m a.s.l., anthropogenic disturbed ruderal Poaceae and *Artemisia* grassland with patches of *Elaeagnus commutata*, 13.VII.2022, all D.I. Korobushkin leg.; 1 ♂, 7 ♀♀ (IEE), **Krasnoyarsk Krai**, Krasnoyarsk, 55.9767°N, 92.7987°E, 145 m a.s.l., roadside, under tree branches, 13.VII.2024, M.S. Matveev leg.; 10 ♂♂, 10 ♀♀, 11 juv. (ASU. NPS.O-001), **Altai Krai**, Barnaul, Krasnoarmeiskii Avenue, 53.346530°N, 83.763180°E, ca. 215 m a.s.l., *Acer negundo*, under bricks and pieces of concrete, 10.IX.2024, P.S. Nefediev leg.

MATERIAL RE-EXAMINED (specimens previously identified as *Armadillidium nasatum* and published by Gongalsky & Kuznetsova (2020)). 3 ♂♂, 4 ♀♀ (IEE), **Primorskii Krai**, Amur Gulf, Okeanicheskaya Station, Brazhnikov Bay, 43.25°N, 132.0065°E, 6.VII.2019, L.A. Prozorova leg.

DISTRIBUTION. Originally described by Stein (1859) from Ragusa, Dalmatia (now Dubrovnik, Croatia). At present, this species is widely distributed across Eastern Europe, viz. southeastern Germany, Austria, former Czechoslovakia, Hungary, former Yugoslavia, Albania, Romania, and Bulgaria (Schmalfuss, 2003). In Russia, this species has previously been recorded from the European part of the country (Kaluga, Penza, Saratov, and Tula oblasts) (Kuznetsova, Gongalsky, 2012; Aleksanov, 2017), and the Russian Far East (Primorskii Krai) (Gongalsky, Kuznetsova, 2020).

REMARKS. The above are the first records of this species from the Chelyabinsk Oblast, the Altai and Krasnoyarsk krais, as well as the Republic of Khakassia. A restudy of the above material from the Primorskii Krai, Amur Gulf, previously determined as *Armadillidium nasatum* by Gongalsky, Kuznetsova



Map 2. Distribution of *Cylisticus convexus* (square), *Parcylisticus dentifrons* (star), and *Oniscus asellus* (octagon) in Asian Russia. Previously known localities marked in black, new records given in white.
Карта 2. Распространение *Cylisticus convexus* (квадрат), *Parcylisticus dentifrons* (звезда) и *Oniscus asellus* (восьмиугольник) в азиатской России. Черным отмечены ранее известные места находок, новые находки отмечены белым.

(2020), shows that all these specimens belong to *A. versicolor*. Thus, *A. nasatum* must be excluded from the species list of Oniscidea of Asian Russia.

Family Cylisticidae
***Cylisticus convexus* (De Geer, 1778)**
Map 2.

Cylisticus convexus — Kuznetsova, Gongalsky, 2012: 7; Khisametdinova *et al*., 2016: 53; Nefediev *et al*., 2018: 34, map; Gongalsky, Kuznetsova, 2020: 56, 57: map.

MATERIAL EXAMINED. 1 ♂, 1 ♀ (IEE), **Sverdlovsk Oblast**, environs of Revda, 1 km of Sredneuralsk Copper Smelting Plant, *Betula* forest, in food lumps of *Ficedula hypoleuca*, 7.VII.2007, E.A. Belskaya leg.; **Altai Krai**: 1 ♀ (ASU.NPS.O-044), Romanovo District, Tambovskii, 19.VIII.2015, I.K. Tyutyunnik leg.; 1 ♀ (ASU.NPS.O-035), Ust-Kalmanka District, 1.5 air-km E of Ust-Kalmanka, 52.120140°N, 83.349729°E, ca. 180 m a.s.l., quarry, under stones, 14.V.2020; 3 ♂♂, 2 ♀♀ (ASU.NPS.O-027), Barnaul, near pond on Ozernaya Street, 53.378608°N, 83.686366°E, ca. 205 m a.s.l., *Acer negundo* and *Salix*, under garbage and stones, 29.VII.2020, all P.S. Nefediev leg.; 3 ♂♂, 7 ♀♀ (IEE), **Primorskii Krai**: near Dushkino, coast of Vostok Bay, 42.9004°N, 132.7195°E, leaf litter of *Quercus*, 8.VII.2018, D.I. Korobushkin leg.; 11 ♂♂, 36 ♀♀, 9 juv. (IEE), near Dushkino, 42.8975°N, 132.7234°E, supralittoral, leaf litter of *Quercus* and *Tilia*, 17.VII.2018, D.I. Korobushkin, I.N. Marin leg.; 1 ♂ (IEE), **Krasnoyarsk Krai**, Krasnoyarsk, 55.9934°N, 92.8037°E, ca. 155 m a.s.l., construction waste, 11.VII.2024, M.S. Matveev leg.

DISTRIBUTION. Being originally described as *Oniscus convexus* presumably from France (De Geer, 1778), this species is widespread in Europe (Switzerland, Ukraine, Finland, Romania, France, Bulgaria, former Czechoslovakia, Belgium, Denmark, Germany, former Yugoslavia, Poland, Austria, Greece, United Kingdom, Slovenia, Italy, insular Spain (the Balearic Islands), and Belarus) and Asia Minor (Turkey), introduced to N Africa (Algeria), St Helena Island and North and South Americas (Canada, USA, Mexico and Argentina) (Harding, Sutton, 1985; Schmalfuss, 2003; Ostrovsky, 2022); very recently mentioned from China (Wang *et al*., 2022). In European Russia, this species is known to occur in the Chelyabinsk, Kaluga,

Kirov, Moscow, Rostov, Voronezh, and Ulyanovsk oblasts, as well as the Republic of Crimea (Kuznetsova, Gongalsky, 2012; Gongalsky, Zolotukhin, 2013; Tselishcheva, 2022). In the Asian part of Russia, this species has hitherto been recorded from the Altai, Primorskii and Khabarovsk krais, and the Sakhalin Oblast (Khisametdinova *et al*., 2016; Nefediev *et al*., 2018; Gongalsky, Kuznetsova, 2020).

REMARKS. This species has hitherto never been recorded from the Krasnoyarsk Krai, and the Sverdlovsk Oblast.

Parcylisticus dentifrons (Budde-Lund, 1885)
Map 2.

MATERIAL EXAMINED. 1 ♀ (ASU.NPS.O-003), **Republic of Khakassia**, Sayanogorsk, Malyi Karak River valley, 53°03′47.8″N 91°25′49.5″E, 325 m a.s.l., *Pinus sylvestris* forest with *Larix sibirica* and *Betula*, 7.VIII.2020, A.A. Kalinnikova leg.; **Chelyabinsk Oblast**: 1 ♀ (IEE), Magnitogorsk, Sosnovaya Mt., 53.387235°N, 59.02573°E, ca. 375 m a.s.l., steppe grassland with ruderal vegetation, 19.V.2022; 1 ♂ (IEE), Magnitogorsk, 53.43337°N, 59.09417°E, ca. 425 m a.s.l., planting trees on site of Poaceae reclamation, 23.V.2022, all D.I. Korobushkin leg.; 2 ♂♂, 4 ♀♀ (IEE), **Primorskii Krai**, Nakhodka, 42.751634°N, 132.864412°E, ca. 75 m a.s.l., forest on hill, under stones, 3.IX.2022, S.B. Bimbirekov leg.; **Krasnoyarsk Krai**: 6 ♂♂, 2 ♀♀ (IEE), Krasnoyarsk, 56.017105°N, 92.734641°E, ca. 270 m a.s.l., *Acer negundo*, under stones, 23.VII.2023, S.V. Osipov leg.; 3 ♀♀ (IEE), Divnogorsk, 55.9650°N, 92.3646°E, ca. 165 m a.s.l., side of railway track, under stones and pine sleepers, 9.V.2024; 4 ♂♂ 2 ♀♀ (IEE), Krasnoyarsk, 55.9956°N, 92.8042°E, 200 m a.s.l., construction waste, 16.VI.2024; 2 ♀♀ (IEE), Krasnoyarsk, 55.9934°N, 92.8037°E, ca. 155 m a.s.l., construction waste, 11.VII.2024, all M.S. Matveev leg.

DISTRIBUTION. Originally described as *Cylisticus dentifrons* by Budde-Lund (1885) from Astrakhan, Russia. This species inhabits presumably the Caucasus, viz. S Russia (Astrakhan and Ulyanovsk oblasts, Stavropol Krai, republics of Chechnya, Dagestan, Kabardino-Balkaria, North Ossetia–Alania, and Crimea), Azerbaijan and Georgia (Kuznetsova, Gongalsky, 2012; Gongalsky, Zolotukhin, 2013). This species has been recently recorded from Kazakhstan (Bragina, Khisametdinova, 2018).

REMARKS. This species is recorded from the Asian part of Russia, viz. the Krasnoyarsk and Primorskii krais, the Chelyabinsk Oblast, and the Republic of Khakassia, for the first time.

Family Oniscidae

Oniscus asellus Linnaeus, 1758
Map 2.

MATERIAL EXAMINED. 1 ♀ (IEE), **Sverdlovsk Oblast**, Yekaterinburg, Botanical Garden, *Pinus* stands, 12.IV.2012, A.I. Ermakov leg.

DISTRIBUTION. Being originally described by Linnaeus (1758) very likely from Sweden (in the original description only habitats are noted: "Domibus, Muris, Hybernaculis, lignis putridis"), this species distributed mainly in Europe, viz. Italy, Ukraine, Iceland, Denmark, Poland, Finland, France, insular Portugal (Madeira), Germany, former Yugoslavia, United Kingdom, Hungary, and also introduced to the Americas (Schmalfuss, 2003). In Russia, this species has previously been known to occur in the Kaliningrad, Leningrad, Pskov, Kirov, and Rostov oblasts (the records in the last two latter oblasts are questionable and need to be verified) (Krulikovsky, 1909; Bonnefoy, Marchal, 1943; Lukash *et al*., 1960; Koroleva, 1971; Agami, Minoransky, 1987; Harding, Sutton, 1985; Bilton, 1992; Kuznetsova, Gongalsky, 2012).

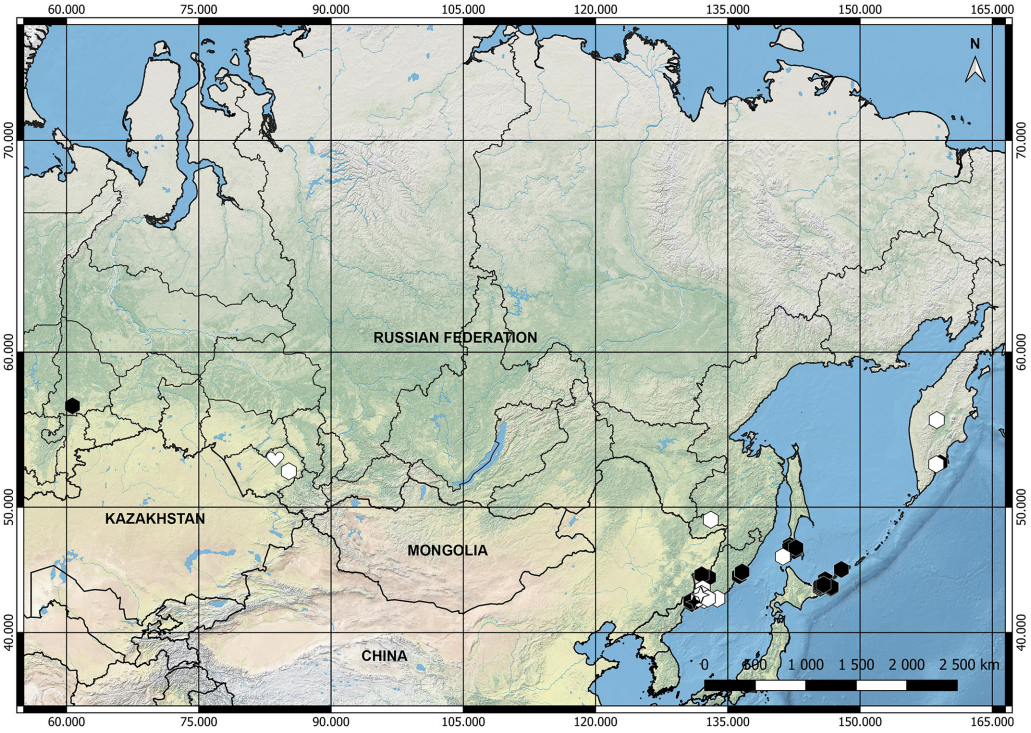
REMARKS. The above is the first record of this species from Asia.

Family Porcellionidae

Porcellio scaber Latreille, 1804
Map 3.

Porcellio scaber — Gurjanova, 1936: 215; Nefediev *et al*., 2018: 35, 34: map; Gongalsky, Kuznetsova, 2020: 56, 57: map.

MATERIAL EXAMINED. **Primorskii Krai**: 1 ♀ (IEE), Peter the Great Gulf, Klykov Island, 42.933417°N, 131.783786°E, ca. 15 m a.s.l., rocky shore, overgrown scree, 18.IX.2001; 3 ♂♂, 12 ♀♀ (IEE), Rikord Island, under stones, 20.IX.2019; 11 ♂♂, 6 ♀♀ (IEE), Lazovskii Nature Reserve, Petrov Bay, under stones and deadwood along seashore, 10.X.2019; 5 ♂♂, 3 ♀♀ (IEE), Vladivostok, Russky Island, Ivantsov Cape, scree, 23.X.2019; 2 ♀♀ (IEE), Muravyov-Amursky Peninsula, Okeanicheskaya Station, seashore of Amur Gulf, 3.V.2020, all L.A. Prozorova leg.; 1 ♂, 3 ♀♀ (ASU.NPS.O-030), Vladivostok, Russky Island, 1 air-km NW Podnozhie, 43.057994°N, 131.805730°E, ca. 50 m a.s.l., *Quercus* forest, 9.VI.2018, litter, P.S. Nefediev leg.; 10 ♂♂, 30 ♀♀, 1 juv. (IEE), near Dushkino, 42.8975°N, 132.7234°E, supralittoral, leaf litter of *Quercus* and *Tilia*, 17.VII.2018; 1 ♀ (IEE), near Dushkino, 42.8898°N, 132.7312°E, *Quercus mongolica* and *Tilia* forest, 17.VII.2018; 1 ♂, 6 ♀♀ (IEE), near Dushkino, 42.8925°N, 132.7332°E, *Tilia*, *Quercus mongolica* and *Betula* forest, 17.VII.2018, all D.I. Korobushkin, I.N. Marin leg.; 7 ♂♂, 14 ♀♀ (IEE), Askold Island, 2019, Vasiliev leg.; 2 ♂♂ (ASU.NPS.O-011), Ussuriysk City Okrug, Gorno-



Map 3. Distribution of *Porcellio scaber* (hexagon), *Hyloniscus riparius* (diamond star), and *Styloniscus mauritiensis* (heart) in Asian Russia. Previously known localities marked in black, new records given in white.
Карта 3. Распространение *Porcellio scaber* (шестиугольник), *Hyloniscus riparius* (четырехконечная звезда) и *Styloniscus mauritiensis* (сердце) в азиатской России. Черным отмечены ранее известные места находок, новые находки отмечены белым.

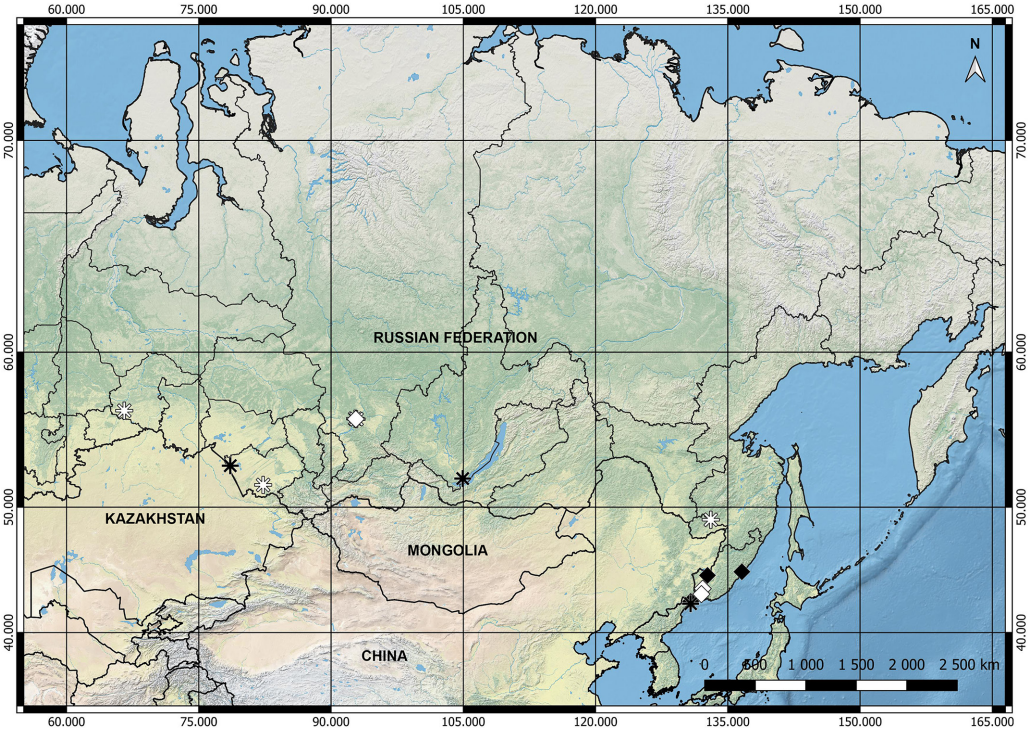
Taezhnoye, 43°41.862′N, 132°09.487′E, 160 m a.s.l., on walls of residential buildings, 8–18.VII.2022, A.A. Fomichev leg.; 2 ♂♂, 5 ♀♀ (ASU.NPS.O-041), **Altai Krai**, Biysk, Centre of Hygiene and Epidemiology of Altai Krai, 52.536175°N, 85.212581°E, ca. 170 m a.s.l., *Betula pendula* stand, 15.VIII.2016, P.S. Nefediev, J.S. Nefedieva leg.; 5 ♂♂, 5 ♀♀ (IEE), **Jewish Autonomous Oblast**, Obluchie District, Bastak Nature Reserve, cordon "39 km", 49.074096°N, 133.070530°E, ca. 170 m a.s.l., July 2019, A.A. Averin leg.; **Kamchatka Krai**: 1 ♂, 5 ♀♀ (IEE), Esso, under stones near thermal pool, 27.VIII.2019, L.A. Prozorova leg.; 9 ♂♂ (IEE), Petropavlovsk-Kamchatsky, Nikolskaya Sopka, [53.020278°N, 158.642222°E], *Betula* forest on slope, under log, 7.XI.2022, A. Bastrakov leg.; 12 ♂♂, 15 ♀♀ (ZMUM), **Sakhalin Oblast**, Moneron Island, Chuprova Bay, Krasny, 46.26291°N, 141.24475°E, forest near buildings, 3–4.V.2024, P.A Smirnov leg.

DISTRIBUTION. Originally described obviously from France (Latreille, 1804), this species is Atlantic in origin and almost cosmopolitan due to human-aided dispersal. Thus, it was recorded from many mainland and insular parts of Eurasia, Africa, both Americas, and Australia as anthropochore introductions (Vandel, 1962; Slabber, Chown, 2002; Schmalfuss, 2003). In European Russia, this species has hitherto been recorded from the Belgorod, Kaluga, Kirov, Moscow, Nizhny Novgorod, Rostov, Saratov, and Ulyanovsk oblasts (Kuznetsova, Gongalsky, 2012; Gongalsky, Zolotukhin, 2013; Tselishcheva, 2021; Zhmurova, 2022). In Asian Russia, this species has been known to occur in the Sverdlovsk Oblast (S Urals), the Altai Krai (SW Siberia), and the Primorskii and Kamchatka krais, and the Sakhalin Oblast, the Kuriles (all Russian Far East) (Budde-Lund, 1885; Ermakov, Vorobeichik, 2013; Nefediev *et al*., 2018; Gongalsky, Kuznetsova, 2020).

REMARKS. This species has hitherto never been recorded from the Jewish Autonomous Oblast.

Porcellio spinicornis Say, 1818
Map 4.

Porcellio spinicornis — Gongalsky, Kuznetsova, 2020: 57, map.



Map 4. Distribution of *Porcellio spinicornis* (diamond) and *Porcellionides pruinosus* (asterisk) in Asian Russia. Previously known localities marked in black, new records given in white.
Карта 4. Распространение *Porcellio spinicornis* (ромб) и *Porcellionides pruinosus* (звездочка) в азиатской России. Черным отмечены ранее известные места находок, новые находки отмечены белым.

MATERIAL EXAMINED. **Primorskii Krai**: 1 ♂, 1 fragm. (IEE), Muravyov-Amursky Peninsula, Okeanicheskaya Station, seashore of Amur Gulf, 3.V.2020, L.A. Prozorova leg.; 1 ♂, 2 ♀♀ (ASU. NPS.O-009), Ussuriysk City Okrug, Gorno-Taezhnoye, 43°41.862′N, 132°09.487′E, 160 m a.s.l., on walls of residential buildings, 8–18.VII.2022, A.A. Fomichev leg.; 3 ♂♂ (IEE), **Krasnoyarsk Krai**, Krasnoyarsk, 55.9921°N, 92.8060°E, ca. 145 m a.s.l., under boards under bridge, 11.VII.2024, M.S. Matveev leg.

DISTRIBUTION. Being indigenous to Northern and Central Europe, this species was originally described by Say (1818) from the United States as anthropochore introduction. To date, this species is known to occur in Europe from Norway, Ukraine, Netherlands, Belgium, former Czechoslovakia, France, Italy, Denmark, Germany, former Yugoslavia, Poland, Austria, Great Britain (England, Scotland and Wales), Ireland, Spain, Hungary, Belarus, Lithuania, and Moldova; also introduced to Canada (Harding, Sutton, 1985; Schmalfuss, 2003; Kuznetsova, Gongalsky, 2012; Ostrovsky, 2022). In Russia, this species has so far been reliably known from the European part of the country, viz. the Kaluga, Kirov, Leningrad, Moscow, Pskov, and Ulyanovsk oblasts, and the Primorskii Krai, Russian Far East (Kuznetsova, Gongalsky, 2012; Gongalsky, Zolotukhin, 2013; Gongalsky, Kuznetsova, 2020; Tselishcheva, 2022).

REMARKS. This species has never been recorded from the Krasnoyarsk Krai.

Porcellionides pruinosus (Brandt, 1833)

Map 4.

Porcellionides pruinosus — Kuznetsova, Gongalsky, 2012: 9; Nefediev *et al*., 2018: 35, 34: map; Gongalsky, Kuznetsova, 2020: 57, map.

MATERIAL EXAMINED. 1 ♀ (IEE), **Jewish Autonomous Oblast**, Obluchie District, Bastak Nature Reserve, cordon “39 km”, 49.074096°N, 133.070530°E, ca. 170 m a.s.l., July 2019, A.A. Averin leg.; 7 ♂♂, 11 ♀♀ (ASU.NPS.O-014), **Altai Krai**, Kuriya District, Kuriya, 51.590365°N, 82.297604°E, ca. 260 m a.s.l., grazing land, 20.VIII.2021, P.S. Nefediev leg.; 1 ♂, 4 ♀♀ (IEE), **Tyumen Oblast**, Zavodoukovsk, 56.51733°N, 66.54367°E, ca. 100 m a.s.l., wasteland, under aerated bricks, 16.VIII.2022,

V.V. Kuznetsov leg.; **Krasnoyarsk Krai**: 3 ♂♂, 3 ♀♀ (IEE), Krasnoyarsk, 56.017105°N, 92.734641°E, 270 m a.s.l., roadside, among stones and asphalt pieces, 23.VII.2023, S.V. Osipov leg.; 1 ♂, 2 ♀♀ (IEE), Krasnoyarsk, 55.9850°N, 92.8864°E, 145 m a.s.l., *Acer negundo*, construction waste, 19.IX.2024, M.S. Matveev leg.

DISTRIBUTION. Originally described as *Porcellio pruinosus* by Brandt (1833) from Germany, this species of Mediterranean origin is synanthropically cosmopolitan (Schmalfuss, 2003). In the European part of Russia, it has been known to occur in the Kaluga, Moscow, Saratov, Rostov, Volgograd, and Ulyanovsk oblasts, the Krasnodar Krai, and the Republic of Crimea (Kuznetsova, Gongalsky, 2012; Gongalsky, Zolotukhin, 2013; Aleksanov, 2017). In Asian Russia, this species has hitherto been recorded from the vicinity of Lake Baikal, as well as the Altai and Primorskii krais (Khisametdinova *et al*., 2016; Nefediev *et al*., 2018; Gongalsky, Kuznetsova, 2020).

REMARKS. The above are the first records of this species from the Tyumen and Jewish Autonomous oblasts, and the Krasnoyarsk Krai.

Family Styloniscidae
***Styloniscus mauritiensis* (Barnard, 1936)**
Map 3.

non *Trichoniscus pygmaeus* — Khisametdinova *et al*., 2016: 52.

MATERIAL RE-EXAMINED (specimens previously identified as *Trichoniscus pygmaeus* and published by Khisametdinova *et al*. (2016)). 1 ♂, 3 ♀♀ (ASU.NPS.O-045), **Altai Krai**, Barnaul, South Siberian Botanical Garden, fern greenhouse, 53.264824°N, 83.674490°E, 200 m a.s.l., 19.VI.2013, P.S. Nefediev leg.

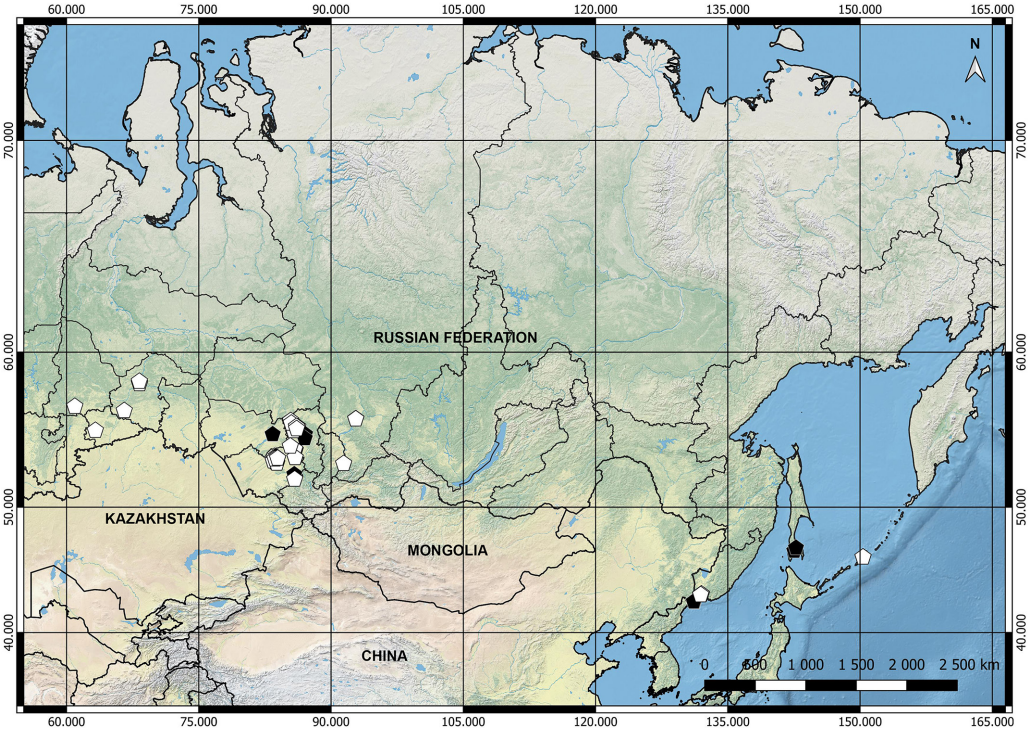
DISTRIBUTION. Being originally described as *Trichoniscus mauritiensis* by Barnard (1936) from Mauritius, this species is known to occur in Hawaii, and tropical glasshouses of England, Scotland and Wales (Schmalfuss, 2003; Gregory, Lugg, 2018).

REMARKS. A restudy of the above material from the South Siberian Botanical Garden, Barnaul, Altai Krai, previously determined as *Trichoniscus pygmaeus* by Khisametdinova *et al*. (2016), shows that all these specimens belong to *Styloniscus mauritiensis*. Thus, *T. pygmaeus* must be excluded from the species list of woodlice of the Asian part of Russia. This is the first record of *S. mauritiensis* in Russia.

Family Trachelipodidae
***Trachelipus rathkii* (Brandt, 1833)**
Map 5.

Trachelipus rathkii — Khisametdinova *et al*., 2016: 52; Nefediev *et al*., 2018: 35, 34: map; Gongalsky, Kuznetsova, 2020: 56, map.

MATERIAL EXAMINED. **Tyumen Oblast**: 2 ♀♀ (IEE), Tobolsk, "Sad Ermaka" Park [58.198010°N, 68.258186°E], Poaceae and *Artemisia*, mixed-grass E slope of root terrace, pitfall traps, 22.IV.–30.V.2008; 4 ♀♀ (IEE), same locality, pitfall traps, 14–26.V.2008; 1 ♀ (IEE), same locality, pitfall traps, 25.V.–2.VI.2008; 1 ♂, 2 ♀♀ (IEE), same locality, pitfall traps, 11–20. VI.2008; 3 ♀♀ (IEE), same locality, pitfall traps, 29.IV.–8.VI.2009; 1 ♂ (IEE), Tobolsk, Irtysh River root terrace, *Tilia* park type forest with Poaceae and mixed-grass vegetation, [58.300061°N, 68.250191°E], pitfall traps, 21.VII.–3.VIII.2009, all S.P. Bukhkalo, D.E. Galitch, E.V. Sergeeva, N.V. Alemasova leg.; 3 ♂♂, 5 ♀♀ (IEE), Tobolsk, 1 Lugovaya Street, 33 [58.162825°N, 68.274728°E], household plot, 2.X.2016, E.V. Sergeeva leg.; 11 ♂♂, 17 ♀♀ (IEE), Zavodoukovsk, 56.51733°N, 66.54367°E, ca. 100 m a.s.l., wasteland, under aerated bricks, 16.VIII.2022, V.V. Kuznetsov leg.; 3 ♀♀ (IEE), **Sverdlovsk Oblast**, environs of Yekaterinburg, 3 km E of Istok, garden, in soil, 12.VIII.2011, E.A. Belskaya leg.; 4 ♀♀ (ASU. NPS.O-004) **Kurgan Oblast**, Shumikha District, 2 km N of Shumikha, 55.260778°N, 63.266056°E, ca. 150 m a.s.l., *Betula pendula* forest, 19.VII.2017, S.Yu. Kniazev leg.; **Kemerovo Oblast–Kuzbass**: 1 juv. (ASU.NPS.O-025), Kemerovo District, Kedrovskii coal mine, 55°30′29.70″N, 86°04′52.64″E, ca. 160 m a.s.l., *Betula pendula* forest with *Populus tremula* and *Salix caprea*, bottom of coal dump, 8.VIII.2017, pitfall traps, S.L. Luzyanin leg.; 3 ♂♂, 12 ♀♀ (ASU.NPS.O-042), Kemerovo, right bank of Tom River, S slopes with xerophytic vegetation, 55°22′11″N, 86°05′51″E, ca. 130 m a.s.l., 6.V.2016; 1 ♂, 3 ♀♀ (ASU.NPS.O-022), Yashkino District, near Yashkino, 55.885131°N, 85.424065°E, ca. 260 m a.s.l., rotten *Betula pendula* log, 20.VI.2018; 1 ♂, 4 ♀♀ (ASU.NPS.O-024), same District, 2–3 km N of Pacha, 55°43′23.8″N, 85°29′28.6″E, ca. 155 m a.s.l., *Betula pendula* forest, 20.VI.2018; 5 ♀♀ (ASU. NPS.O-023), Kemerovo District, plantations of *Pinus sylvestris* forest, 55°29′19.6″N, 86°13′09.5″E, ca. 240 m a.s.l., 14.VIII.2018; 4 ♀♀ (ASU.NPS.O-020), Topki District, "Orbita" Gardening Partnership, open hand-made grounds, 55°14′44″N, 85°45′31″E, ca. 265 m a.s.l., 22.VI.2020; 1 ♂, 1 ♀ (ASU.NPS.O-021), near Kemerovo, *Pinus sylvestris* forest with *Pinus sibirica*, 55°29′24″N, 86°10′55″E, ca. 220 m a.s.l., 14.VIII.2020, all D.A. Efimov leg.; 1 ♀ (ASU. NPS.O-005), **Republic of Khakassia**, Sayanogorsk, Yenisei River valley, 53°03′52.2″N 91°25′48.1″E, 335 m a.s.l., *Pinus sylvestris* forest, 30.VIII.2020, A.A. Kalinnikova leg.; **Krasnoyarsk Krai**: 3 ♂♂, 4 ♀♀ (IEE), Krasnoyarsk, 56.005173°N, 92.808132°E, ca. 225 m a.s.l., roadside, construction waste, 23.VII.2023, S.V. Osipov leg.; 3 ♀♀ (IEE), Krasnoyarsk, 55.9933°N, 92.8038°E, ca. 150 m a.s.l., wasteland, construction waste, 11.VII.2024, M.S. Matveev leg.; **Altai Krai**: 1 ♂, 4 ♀♀ (ASU.NPS.O-039), Pavlovsk



Map 5. Distribution of *Trachelipus rathkii* (pentagon) in Asian Russia. Previously known localities marked in black, new records given in white.
Карта 5. Распространение *Trachelipus rathkii* (пятиугольник) в азиатской России. Черным отмечены ранее известные места находок, новые находки отмечены белым.

District, Novye Zori, 53.240275°N, 83.440748°E, ca. 195 m a.s.l., *Pinus sylvestris* forest edge, in litter, 29.VIII.2015, D.V. Kuzmenkin leg.; 1 ♂, 6 ♀♀ (IEE), Pervomaiskii District, Rasskazikha, kitchen-garden, September 2016, collector unknown; 1 ♀ (IEE), same locality, September 2017, collector unknown; 17 ♂♂, 34 ♀♀ (ASU.NPS.O-046), Novoaltaisk, kitchen-garden, open ground, 2.VI.2016, M.V. Krivosheitsev leg.; 3 ♂♂, 4 ♀♀ (ASU.NPS.O-040), Barnaul, Solnechnaya Polyana Microdistrict, 53.375884°N, 83.645379°E, 245 m a.s.l., ruderal vegetation near agricultural fields, 8.X.2017; 7 ♂♂, 5 ♀♀ (ASU.NPS.O-037), Zalesovo District, Kuzbass–Altai highway, border with Kemerovo Oblast, 54.235533°N, 85.375949°E, *Betula pendula* forest, 400 m a.s.l., 3.VII.2018; 2 ♂♂, 1 ♀ (ASU.NPS.O-028), Barnaul, nearby sports complex "Gorizont", 53.356915°N, 83.678567°E, ca. 215 m a.s.l., *Betula pendula* stand, under bricks and stones, 11.IV.2019; 9 ♀♀ (ASU.NPS.O-026), Barnaul, near pond on Ozernaya Street, 53.378608°N, 83.686366°E, ca. 205 m a.s.l., *Acer negundo* and *Salix*, under garbage and stones, 29.VII.2020; 7 ♂♂, 9 ♀♀, 1 juv. (ASU.NPS.O-012), Togul District, Togul, 53.465428°N, 85.916808°E, ca. 225 m a.s.l., garden, in pile of rotting straw, 27.V.2022; 5 ♂♂, 5 ♀♀ (ASU.NPS.O-013), same District, Togul, backyard of Salair National Park Visitor Center, 53.469237°N, 85.917818°E, ca. 230 m a.s.l., under boards, 16.IX.2022; 3 ♂♂, 14 ♀♀, 8 juv. (ASU.NPS.O-006), Barnaul, Krasnoarmeiskii Avenue, 53.346530°N, 83.763180°E, ca. 215 m a.s.l., *Acer negundo*, under bricks and pieces of concrete, 10.IX.2024, all P.S. Nefediev leg.; 1 ♂ (ASU.NPS.O-036), Barnaul, 0.7 air-km NW of Konyukhi, "Gornyi Len" Gardening Partnership, 53.170844°N, 83.696059°E, ca. 210 m a.s.l., open hand-made grounds, under bricks, 18.V.2020, P.S. Nefediev, J.S. Nefedieva, P.V. Golyakov leg.; 1 ♂, 2 ♀♀ (ASU.NPS.O-007), Zarinsk District, 10 km S of Alambai Railway Station, 53.96467°N, 85.93492°E, 350 m a.s.l., Poludennyi Togul River valley, quarry, S slope, 22.IX.2024; 3 ♀♀ (ASU.NPS.O-008), same District, Alambai Railway Station, 54.02853°N, 85.87763°E, ca. 525 m a.s.l., open ground household plot, 24.IX.2024, all L.Ya. Smirnova leg.; 2 ♂♂, 5 ♀♀ (ASU.NPS.O-034), **Republic of Altai**, Maima District, Maima, near cafe "Beriozka", steep bank of Katun River channel, 51.988804°N, 85.872340°E, ca. 255 m a.s.l., *Salix* and *Acer negundo* with *Urtica dioica*

and ruderal vegetation, 20.VII.2018, under stones, P.S. Nefediev leg.; **Primorskii Krai**: 4 ♂♂, 10 ♀♀ (ASU.NPS.O-033), Vladivostok, environs of Federal Scientific Center of East Asia Terrestrial Biodiversity FEB RAS, 43.192967°N, 131.921757°E, ca. 55 m a.s.l., *Quercus*, *Acer* and *Ulmus* forest, 8.VI.2018, in litter; 2 ♂♂, 6 ♀♀, 1 juv. (ASU.NPS.O-031), Vladivostok, Akademicheskii housing complex, 43.188753°N, 131.926261°E, ca. 125 m a.s.l., *Ulmus* and *Quercus* forest, 10.VI.2018, under bricks, all P.S. Nefediev leg.; 3 ♀♀ (IEE), Vladivostok, Akademicheskaya, road to hothouses, on wet moss, 19.V.2020, L.A. Prozorova, leg.; 3 ♀♀ (IEE), **Sakhalin Oblast**, Urup Island, Novokurilskaya Bay, 46°13′25.6″N, 150°20′13.5″E, ca. 5 m a.s.l., littoral, 2019, A. Yurmanov leg.

DISTRIBUTION. Being originally described as *Porcellio rathkii* by Brandt (1833) from Germany, this species is practically cosmopolitan. It is very widespread in Europe except the Mediterranean Basin, viz. Norway, Switzerland, Ukraine, Moldova, Iceland, Denmark, Finland, Italy, Romania, Netherlands, Belgium, former Czechoslovakia, France, Germany, former Yugoslavia, Poland, Bulgaria, Austria, Hungary, Great Britain (England and the Channel Islands), Abkhazia, Azerbaijan, Armenia, Georgia, Belarus, Latvia, Estonia, Lithuania; also introduced to India and Americas: USA, Canada and Brazil (Schmalfuss, 2003; Kuznetsova, Gongalsky, 2012; Khisametdinova *et al*., 2016; Tabassum *et al*., 2020; Ostrovsky, 2022). In European Russia, this species is known to occur in the Belgorod, Kaluga, Kirov, Kursk, Leningrad, Moscow, Penza, Rostov, Saratov, Tula, Tver, and Ulyanovsk oblasts, republics of Crimea, Mari El and Mordovia (Kuznetsova, Gongalsky, 2012; Tselishcheva, 2021; Gongalsky, Zolotukhin, 2013). In the Asian part of Russia, this species has hitherto been recorded from the Altai and Primorskii krais, Kemerovo, Novosibirsk and Sakhalin oblasts, and the Republic of Altai (Khisametdinova *et al*., 2016; Nefediev *et al*., 2018; Gongalsky, Kuznetsova, 2020).

REMARKS. This species has previously been found in neither the Tyumen, Kurgan and Sverdlovsk oblasts, nor the Krasnoyarsk Krai, nor the Republic of Khakassia, nor the Kuriles. All known habitats of *Trachelipus rathkii* in the study area are connected with human, but the only unexpected record of this species in a natural biotope with *Betula pendula* forest on the Kuzbass–Altai highway on the administrative border of the Altai Krai and the Kemerovo Oblast is of special interest.

Family Trichoniscidae
***Hyloniscus riparius* (Koch, 1838)**
Map 3.

Hyloniscus riparius — Gongalsky, Kuznetsova, 2020: 57, map; Prozorova, 2024: 197.

MATERIAL EXAMINED. 1 ♀ (ASU.NPS.O-032), **Primorskii Krai**, Vladivostok, Akademicheskii housing complex, 43.188753°N, 131.926261°E, ca. 125 m a.s.l., *Ulmus* and *Quercus* forest, 10.VI.2018, under bricks, P.S. Nefediev leg.

DISTRIBUTION. Originally described as *Itea riparius* by Koch (1838) from Germany, this species is widespread in Central and Eastern Europe, viz. Ukraine, Finland, the Netherlands, former Czechoslovakia, France, former Yugoslavia, Poland, Bulgaria, Austria, Serbia, Romania, Hungary, and Belarus; also introduced in North America (Schmalfuss, 2003; Ostrovsky, 2019). In the European part of Russia, this species has been recorded from the Kaluga, Moscow, Penza, Pskov, Rostov, and Tula oblasts (Kuznetsova, Gongalsky, 2012; Gongalsky *et al*., 2013; Aleksanov, 2017). In the Asian part of Russia, *H. riparius* has previously been known to occur in a couple of localities in the Primorskii Krai, Russian Far East (Gongalsky, Kuznetsova, 2020; Prozorova, 2024).

REMARKS. This species turns out to be very rare in Asian Russia.

Key to known species of Oniscidea from the Asian part of Russia[1]

1. Lungs (pseudotracheae) not developed.....2
– Lungs developed.....7
2. Antennal flagellum filamentous, with many segments (about 26). Uropods long, needle-shaped. Eyes very large, with a lot of ommatidia. Along seashores — Ligiidae..... ..... *Ligia cinerascens* Budde-Lund, 1885
– Antennal flagellum with 3–4 segments, often hardly distinguishable. Uropods not needle-shaped. Eyes with small number of ommatidia (1–9).....3
3. Eyes with 1 or 3 ommatidia. Antennal flagellum with 4 hardly distinguishable segments.....4
– Eyes with increased number of ommatidia. Antennal flagellum with 3 well-distinguishable segments. 5
4. Eyes with 1 ommatidium, color brown or brown pink — Trichoniscidae..... ..... *Hyloniscus riparius* (C. Koch, 1838)
– Eyes with 3 ommatidia, color white or beige — Styloniscidae..... .....*Styloniscus mauritiensis* (Barnard, 1936)
5. Telson longer than width, for most of its length in the form of a thin process. Eyes with 18–22 ommatidia — Oniscidae .... *Oniscus asellus* Linnaeus, 1758
– Telson no longer than width, trapezoidal, slightly rounded at the end. Eyes with 6–9 ommatidia. Along seashores — Detonidae 6

[1] with the exception of *Deto spinicornis* Brandt, 1851 as nomen dubium, and *Hemilepistus fedtschenkoi* (Uljanin, 1875) due to likely referring location to Kazakhstan.

6. Pleon-epimeras 3–5 well-developed, pleon and pereon forming continuous body outline. Frontal lobe in the shape of an acute triangle. Eyes with 6 ommatidia. All pereonites pointed at rear corners. Uropod protopodite broad and flat, a small exopodite departs from middle (along length) of protopodite and ends at the same level as protopodite ..... *Armadilloniscus ellipticus* (Harger, 1878)
– Pleon-epimeras 3–5 undeveloped, forming no continuous body outline with pereon. Frontal lobe rounded. Eyes with 8–9 ommatidia. First 4 pereon segments rounded at rear corners. Uropod protopodite subcylindrical, exopodite departs from the end of protopodite ..... *Detonella papillicornis* (Richardson, 1904)
7. Lungs on the first 2 pairs of pleopods 8
– Lungs on 4 pairs of pleopods. Convex, capable of conglobation. Near seas — Tylidae ..... *Tylos granuliferus* Budde-Lund, 1885
– Lungs on all 5 pairs of pleopods 12
8. Body convex, capable of conglobation; uropods not protrude beyond the edge of telson — Armadillidiidae .. *Armadillidium versicolor* Stein, 1859
– Body more or less flattened, not capable of conglobation, uropods protrude beyond the posterior edge of telson — Porcellionidae 9
9. Rear edge of pereonite 1 rounded, pleon conspicuously narrower than pereon, integuments with bluish-grey wax "bloom" (can be erased) ..... *Porcellionides pruinosus* (Brandt, 1833)
– Pereonite 1 with a notch at rear edge, integuments without wax "bloom". Pleon and pereon forming continuous body outline..... 10
10. Notch at rear edge on pereonite 1 weakly developed. Integuments smooth ..... *Porcellio laevis* Latreille, 1804
– Notch at rear edge on pereonite 1 very well-developed. Integuments with small bumps 11
11. Head black, rest of body lighter, motley, with two rows of yellow shiny spots. Integuments more granulated .....*Porcellio spinicornis* Say, 1818
– Coloration almost dark grey, sometimes with light speckles, but then uniform, head not stand out in color. Integuments less granulated..... *Porcellio scaber* Latreille, 1804
12. Body very convex, capable of conglobation — Cylisticidae 13
– Body more or less flattened, not capable of conglobation 15
13. Body narrower. Integuments smooth, shiny, slightly grainy on closer inspection. Telson shorter. Lateral lobes of head rounded. Uropod exopodites 1.5–2 times longer in adult males than in females. Endopodites of pleopod 1 in males bent outwards at the end..... 14
– Body wider. Integuments more opaque, with slightly noticeable wide and flat bumps. Telson longer. Lateral lobes of head angular, with a straight anterior edge, frontal lobe almost undeveloped. Endopodites of pleopod 1 straight at the end in males. Sexual dimorphism is manifested not only in length of uropod exopodites (on average, 3–4 times longer in males than in females), but also in the shape, thus uropod exopodites in males greatly expanded compared to those of females. .. *Parcylisticus dentifrons* (Budde-Lund, 1885)
14. Frontal lobe well-developed. Pleon-epimeras 5 do not extend beyond uropod protopodites ..... *Cylisticus convexus* (De Geer, 1778)
– Frontal lobe almost undeveloped. Pleon-epimeras 5 extend beyond uropod protopodites ..... *Cylisticus orientalis* Borutzky, 1939
15. Pereon-epimeras 1 with noticeable notch at rear edge — Trachelipodidae ..... *Trachelipus rathkii* (Brandt, 1833)
– Pereon-epimeras 1 rounded at rear edge — Agnaridae..... 16
16. Frontal lobe well-developed, triangular. Telson sharp, with very concave lateral sides ..... *Lucasioides altaicus* Gongalsky, Nefediev et Turbanov, 2021
– Frontal lobe almost undeveloped. Telson more or less triangular, with slightly concave lateral sides..... 17
17. Body more or less convex, integuments smooth. Coloration beige grey, sometimes brown, with more light pereon-epimeras ..... *Protracheoniscus major* (Dollfus, 1903)
– Body more flattened, integuments rough. Coloration grey, with longitudinal white stripes on the border of tergites and pereon-epimeras..... *Protracheoniscus orientalis* (Uljanin, 1875)

Conclusions

At this point, the terrestrial isopod fauna of the Asian part of Russia comprises at least twenty-one species from seventeen genera and eleven families. Five of them belong to supralittoral species, viz. *Armadilloniscus ellipticus* (Harger, 1878), *Deto spinicornis* Brandt, 1851, *Detonella papillicornis* (Richardson, 1904), *Ligia cinerascens* Budde-Lund, 1885, and *Tylos granuliferus* Budde-Lund, 1885. The remaining sixteen species are true woodlice: *Armadillidium versicolor* Stein, 1859, *Cylisticus orientalis* Borutzky, 1939, *C. convexus* (De Geer, 1778), *Hemilepistus fedtschenkoi* (Uljanin, 1875), *Hyloniscus riparius* (C. Koch, 1838), *Lucasioides altaicus* Gongalsky, Nefediev et Turbanov, 2021, *Oniscus asellus* Linnaeus, 1758[***], *Parcylisticus dentifrons* (Budde-Lund, 1885)[*], *Porcellio lae-*

vis Latreille, 1804, *P. scaber* Latreille, 1804, *P. spinicornis* Say, 1818, *Porcellionides pruinosus* (Brandt, 1833), *Protracheoniscus orientalis* (Uljanin, 1875), *P. major* (Dollfus, 1903), *Styloniscus mauritiensis* (Barnard, 1936)**, and *Trachelipus rathkii* (Brandt, 1833). The first record from Asian Russia is marked with an asterisk (*), the first record from Russia is denoted above with double asterisks (**), as well as the first record from Asia is tagged with triple asterisks (***).

Both the genus *Armadillidium* Brandt, 1831 and the species *A. versicolor*, as well as the family Armadillidiidae they belong to, are new to the terrestrial crustacean fauna of the Chelyabinsk Oblast (S Urals), the Altai Krai (SW Siberia), as well as the Krasnoyarsk Krai and the Republic of Khakassia (both Central Siberia).

Both the genus *Cylisticus* Schnitzler, 1853 and the species *C. convexus*, as well as the family Cylisticidae they belong to, are new to the woodlouse fauna of the Sverdlovsk Oblast (S Urals).

Both the genus *Cylisticus* and the species *C. convexus*, as well as the family Cylisticidae they belong to; both the genus *Protracheoniscus* Verhoeff, 1917 and the species *P. major*, as well as the family Agnaridae they belong to; both the genus *Porcellio* Latreille, 1804 and the species *P. spinicornis*, as well as the family Porcellionidae they belong to, are new to the terrestrial isopod fauna of the Krasnoyarsk Krai (Central Siberia).

Both the genus *Oniscus* Linnaeus, 1758 and the species *O. asellus*, as well as the family Oniscidae they belong to, recorded from the Sverdlovsk Oblast (S Urals), are new to the woodlouse fauna of Asia as a whole.

Both the genus *Parcylisticus* Verhoeff, 1943 and the species *P. dentifrons* are new to the oniscid fauna of the Asian part of Russia, viz. the Krasnoyarsk Krai and the Republic of Khakassia (both Central Siberia) (together with the family Cylisticidae they belong to), and also the Chelyabinsk Oblast (S Urals) and the Primorskii Krai (Russian Far East).

Both the genus *Porcellio* and the species *P. scaber*, as well as the family Porcellionidae they belong to, are new to the terrestrial isopod fauna of the Jewish Autonomous Oblast (Russian Far East).

Both the genus *Porcellionides* Miers, 1877 and the species *P. pruinosus*, as well as the family Porcellionidae they belong to, are new to the woodlouse fauna of the Tyumen Oblast (SW Siberia), the Krasnoyarsk Krai (Central Siberia), as well as the Jewish Autonomous Oblast (Russian Far East).

Both the genus *Protracheoniscus* and the species *P. major*, as well as the family Agnaridae they belong to, are new to the terrestrial isopod fauna of the Chelyabinsk Oblast (S Urals).

Both the genus *Styloniscus* Dana, 1852 and the species *S. mauritiensis*, as well as the family Styloniscidae they belong to, recorded from the Altai Krai (SW Siberia), are new to the fauna of Oniscidea of Russia.

Both the genus *Trachelipus* Budde-Lund, 1908 and the species *T. rathkii*, as well as the family Trachelipodidae they belong to, are new to the oniscid fauna of the Sverdlovsk Oblast (S Urals), the Tyumen and Kurgan oblasts (both SW Siberia), as well as the Krasnoyarsk Krai and the Republic of Khakassia (both Central Siberia).

Compliance with ethical standards

CONFLICT OF INTEREST: The authors declare that they have no conflict of interest.

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