

<https://doi.org/10.25221/fee.418.2>

<http://zoobank.org/References/138DCD32-03B0-453F-9E80-5024A5C9F202>

**NEW DATA ON LITHOBIOMORPH CENTIPEDES (CHILOPODA,
LITHOBIOMORPHA) FROM ANTHROPOGENIC HABITATS OF
SIBERIA**

P. S. Nefediev^{1,2,3)}, G. Sh. Farzalieva^{4,5)}, D. A. Efimov⁶⁾

1) *Altai State University, Barnaul, 656049, Russia. E-mail: p.nefediev@mail.ru*

2) *Tomsk State University, Tomsk, 634050, Russia.*

3) *Tigirek State Nature Reserve, Barnaul, 656049, Russia.*

4) *Perm State University, Perm, 614600, Russia. E-mail: fgsh@psu.ru*

5) *Perm Regional Museum, Perm, 614000, Russia.*

6) *Kemerovo State University, Kemerovo, 650043, Russia. E-mail: efim_d@mail.ru*

Summary. An annotated list of nine species of centipedes found in the urban, suburban, agricultural and anthropogenic habitats of Siberia is given. *Lamyctes africanus* (Porath, 1871) is recorded from Russia for the first time. *Lamyctes emarginatus* (Newport, 1844) is new for the fauna of the Republic of Altai, *Lithobius nordenskiöldii* Stuxberg, 1876 is new for Irkutskaya Oblast, and *Lithobius lucifugus* L. Koch, 1862 is newly reported from Krasnoyarskii Krai and the Republic of Khakassia.

Key words: centipedes, Henicopidae, Lithobiidae, fauna, new records, Russia.

П. С. Неведьев, Г. Ш. Фарзалиева, Д. А. Ефимов. Новые сведения по многоножкам-костянкам (Chilopoda, Lithobiomorpha) из антропогенных местообитаний Сибири // Дальневосточный энтомолог. 2020. N 418. С. 9-14.

Резюме. Приводится аннотированный список 9 видов многоножек-костянок из урбанизированных, пригородных, сельскохозяйственных и других антропогенных местообитаний Сибири. Впервые из России указывается *Lamyctes africanus* (Porath, 1871). Впервые для Республики Алтай приводится *Lamyctes emarginatus* (Newport, 1844), для Иркутской области – *Lithobius nordenskiöldii* Stuxberg, 1876, а для Красноярского края и Республики Хакасия – *Lithobius lucifugus* L. Koch, 1862.

INTRODUCTION

The first review on the fauna of anthropochore lithobiomorph centipedes from southwestern Siberia appeared relatively recently (Nefediev *et al.*, 2016). Most of them, being strongly synanthropic, were found introduced to hothouses of botanical gardens, city parks and open hand-made grounds. The present paper contributes new records of Lithobiomorpha from anthropogenic habitats of Siberia.

The material treated herein has been deposited mainly in the collection of the Perm State University (PSU), partly shared also with the collection of the Altai State University, Barnaul, Russia (ASU).

NEW RECORDS

Order Lithobiomorpha Pocock, 1895

Family Henicopidae Pocock, 1901

Lamyctes (Metalamyctes) africanus (Porath, 1871)

Fig. 1

MATERIAL. Russia: **Altaiskii Krai**: Barnaul, Yuzhnyi settlement, South Siberian Botanical Garden, 53.264443°N, 83.674569°E, hothouses, h=210 m, summer 2013, 2 ♀ (PSU-1276), 1 ♀ (ASU), leg. V.M. Mamina; **Kemerovskaya Oblast**: Topkinskii District, Kuznetsk Depression, near Unga village, 55.248889°N, 85.765833°E, open hand-made grounds, h=255 m, 31.VIII–7.IX 2019, 4 ♀ (PSU-1234), 2 ♀ (ASU), leg. D.A. Efimov.



Fig. 1. Female 12th tibia with a distal spinose projection (indicated by arrow) of *Lamyctes africanus* (Porath, 1871) from the environs of Unga village, Kemerovskaya Oblast, Russia. Scale: 0.1 mm.

REMARKS. This species was originally described from South Africa. Later it has been found in some localities of Africa and Madagascar, as well as in Australia, the Hawaiian Islands, the Juan Fernández Islands, and the St. Paul Island (Enghoff *et al.*, 2013; Bonato *et al.*, 2016). In Europe, this species was found in greenhouses in Great Britain (Barber, 1992) and the Czech Republic (Dányi & Tuf, 2016), and also in garden flowerpots in France (Iorio,

2016), as well as in outdoor habitats in Denmark and Germany (Enghoff *et al.*, 2013; Decker *et al.*, 2017). Females examined are characterized as follows: body length about 10 mm, antennae with 28–29 articles, and 12th tibia with a distal spinose projection (Fig. 1). Here *L. africanus* is recorded from Russia for the first time.

***Lamyctes (Lamyctes) emarginatus* (Newport, 1844)**

MATERIAL. Russia: **Altaiskii Krai**: Smolenskii District, Smolenskoye village, 52.302183°N, 85.076675°E, *Populus* stand with *Acer negundo* and *Salix*, h=175 m, pitfall traps, 22–28.VIII 2000, 1 ♀ (PSU-1268); Barnaul, “Mizyulinskaya Roshcha” Park, 53.36144°N, 83.66759°E, *Betula pendula* stand with *Larix sibirica*, *Tilia*, *Acer negundo* and *Pinus sylvestris*, h=200 m, hand sampling, under stone, 10.X 2019, 1 ♀ (ASU), all leg. P.S. Nefediev; **Republic of Altai**: Ust-Koksinskii District, Amur village, 50.398330°N, 85.117780°E, old sawmill, h=1070 m, 22.VII 2014, 2 ♀ (PSU-1239), 1 ♀ (ASU), leg. A.A. Streltsova.

REMARKS. This species is new for the fauna of the Republic of Altai.

Family Lithobiidae Newport, 1844

***Lithobius (Monotarsobius) alticus* Loksa, 1965**

MATERIAL. Russia: **Irkutskaya Oblast**: Angarskii District, Angarsk, right bank of Kitoi River, near mouth of Malaya Elovka River, 52°29'21.1"N, 103°48'47.4"E, h=500 m, 5.VI 2018, 2 ♂ (PSU-806); Irkutsk, Akademgorodok, left bank of Angara River, 52°14'48.1"N, 104°15'13.4"E, h= 520 m, 25.IX 2018, 1 subadult ♂, 1 juv. (PSU-808), all leg. I.V. Enushchenko.

REMARKS. This species is reported from suburban areas for the first time. It should be noted that we faced with the lack of a group of setae distodorsally on the last tibia in males from Angarsk.

***Lithobius (Monotarsobius) crassipes* L. Koch, 1862**

MATERIAL. Russia: **Altaiskii Krai**: Barnaul, Yuzhnyi settlement, South Siberian Botanical Garden, 53.264443°N, 83.674569°E, hothouses, 210 m a.s.l., summer 2013, 1 ♂, 3 ♀, 1 juv. (PSU-1275), leg. V.M. Mamina; **Kemerovskaya Oblast**: Topkinskii District, Kuznetsk Depression, near Unga village, 55.248889°N, 85.765833°E, open hand-made grounds, h=255 m, 31.VIII.–7.IX 2019, 1 ♀ (PSU-1235), leg. D.A. Efimov.

REMARKS. Recently this species was recorded from the Kuzedeevo relic lime grove in Kemerovskaya Oblast (Nefediev *et al.*, 2020). Here it is found within agrocoenoses of this region for the first time.

***Lithobius (Lithobius) forficatus* (Linnaeus, 1758)**

MATERIAL. Russia: **Altaiskii Krai**: Barnaul, “Mizyulinskaya Roshcha” Park, 53.36144°N, 83.66759°E, *Betula pendula* stand with *Larix sibirica*, *Tilia*, *Acer negundo* and *Pinus sylvestris*, h=200 m, hand sampling, 22.VII 2004, 1 ♀ (PSU-1269), leg. P.S. Nefediev; **Novoaltaisk**, 53.423734°N, 83.937758°E, open hand-made grounds, 21.VII 2016, 1 ♂, 2 ♀ (PSU-1279), leg. M.V. Krivosheitsev.

REMARKS. This is new anthropogenic localities of *L. forficatus* in Altaiskii Krai.

***Lithobius (Lithobius) lucifugus* L. Koch, 1862**

MATERIAL. Russia: **Krasnoyarskii Krai:** Minusinskii District, near Verkhnyaya Koya village, 53°30'23.4"N, 92°10'21.7"E, *Pinus sylvestris* forest, h=400 m, 3.IX 2007, 1 ♂ (PSU-820), leg. S.V. Dragan; **Republic of Khakassia:** Ust-Abakanskii District, near Teplichnyi settlement, 53.789364°N, 91.332937°E, open hand-made grounds, h=250 m, 3.VIII 2006, 1 ♂, 1 ♀ (PSU-822), 1 ♂, 1 ♀ (ASU), leg. I.A. Bizyaeva, A.A. Asochakov; Ust-Abakanskii District, near Rastsvet settlement, 53°47'13.1"N, 91°20'56.0"E, open hand-made grounds, h=245 m, 29.VIII 2017, 1 ♂, 4 ♀ (PSU-821), leg. S.V. Dragan.

REMARKS. In Asian Russia, *L. lucifugus* has previously been known to occur in a hothouse of the Siberian Botanical Garden in the city of Tomsk, Tomskaya Oblast (Nefediev *et al.*, 2016). This species is new for the fauna of Krasnoyarskii Krai and the Republic of Khakassia. It is obviously found introduced to a near-village forest and agricultural open hand-made grounds, respectively.

***Lithobius (Monotarsobius) nordenskoeldii* Stuxberg, 1876**

MATERIAL. Russia: **Irkutskaya Oblast:** Irkutsk, Akademgorodok, left bank of Angara River, 52°14'48.1"N, 104°15'13.4"E, h=520 m, 10.IX 2018, 1 ♂ (PSU-810), leg. I.V. Enushchenko.

REMARKS. This species has been recently recorded from Altaiskii Krai and the Republic of Altai (Nefediev *et al.*, 2017; Nefediev & Farzalieva, 2020). The above record of *L. nordenskoeldii* is new to Irkutskaya Oblast, its easternmost range limit, where it is collected in a semi-natural habitat.

***Lithobius (Ezembius) proximus* Sselivanoff, 1880**

MATERIAL. Russia: **Irkutskaya Oblast:** Angarskii District, Angarsk, right bank of Kitoi River, near mouth of Malaya Elovka River, 52°29'21.1"N, 103°48'47.4"E, h=500 m, 5.VI 2018, 1 ♀ (PSU-807); Irkutsk, Akademgorodok, left bank of Angara River, 52°14'48.1"N, 104°15'13.4"E, h=520 m, 25.IX 2018, 1 subadult ♂ (PSU-808), all leg. I.V. Enushchenko.

REMARKS. This Eastern European-Siberian species is also known from Eastern Kazakhstan (Tuf *et al.*, 2010; Dyachkov, 2019). *L. proximus* is recorded in anthropogenic habitats in cities of Irkutskaya Oblast for the first time.

***Lithobius (Ezembius) sibiricus* Gerstfeldt, 1859**

MATERIAL. Russia: **Altaiskii Krai:** Smolenskii District, Smolenskoye village, 52.311635°N, 85.0854°E, *Populus* stand with *Acer negundo* and *Salix*, pitfall traps, hand sampling, 22–28.VIII 2000, 21 ♂, 38 ♀, 16 juv. (ASU); Smolenskii District, Smolenskoye village, 24.VIII 2000, 5 ♂, 1 ♀, 1 juv. (ASU); Smolenskii District, Smolenskoye village, 52.315051°N, 85.075229°E, *Betula pendula* patch with *Malus* and *Acer negundo*, 26.VIII 2000, 2 ♂, 3 ♀ (ASU), all leg. P.S. Nefediev, J.S. Nefedieva; **Kemerovskaya Oblast:** Topkinskii District, Kuznetsk Depression, near Unga village, 55.248889°N, 85.765833°E, open hand-made grounds, h=255 m, 31.VIII–7.IX 2019, 1 ♀ (PSU-1236), leg. D.A. Efimov; **Republic of Altai:** Maiminskii District, Maima, bank of Maima River sleeve, 51.988804°N, 85.872340°E, *Salix* and *Acer negundo* with ruderal vegetation, h=260 m, under stones, 20.VII 2018, 2 ♀ (ASU), leg. P.S. Nefediev.

REMARKS. This species has been recently recorded in natural habitats of Kemerovskaya Oblast (Nefediev *et al.*, 2020). Being characterized by high ecological plasticity, *L. sibiricus* easily adopted to dwell in suburban semi-anthropogenic habitats and open hand-made grounds. The above record is new to anthropogenic habitat of Kemerovskaya Oblast.

CONCLUSION

To date, at least 12 species from two families of Lithobiomorpha are known to occur in urban, suburban and anthropogenic habitat in Siberia (Nefediev *et al.*, 2016; present paper). Herein *Lamyctes africanus* is recorded from Russia for the first time. *Lamyctes emarginatus* is new for the fauna of the Republic of Altai, *Lithobius nordenskioeldii* is new for Irkutskaya Oblast and *Lithobius lucifugus* is newly reported from Krasnoyarskii Krai and the Republic of Khakassia.

ACKNOWLEDGEMENTS

We are very grateful to I.V. Enushchenko (Irkutsk, Russia) and S.V. Dragan (Abakan, Russia) who provided material for the present study. We are indebted to I.H. Tuf (Olomouc, Czech Republic) who kindly reviewed and significantly improved the manuscript.

REFERENCES

- Barber, A.D. 1992. Distribution and habitat in British centipedes (Chilopoda). *Berichte des naturwissenschaftlich-medizinischen Vereins in Innsbruck*, 10: 339–352.
- Bonato, L., Chagas Junior, A., Edgecombe, G.D., Lewis, J.G.E., Minelli, A., Pereira, L.A., Shelley, R.M., Stoev, P. & Zapparoli, M. 2016. *ChiloBase 2.0 – A World Catalogue of Centipedes (Chilopoda)*. Available at <http://chilobase.biologia.unipd.it> (accessed 15 October 2019).
- Dányi, L. & Tuf, I.H. 2016. Out of Africa: The first introduced African geophilomorph centipede record from a European greenhouse (Chilopoda: Geophilidae). *Zootaxa*, 4067(5): 585–588. DOI: <https://doi.org/10.11646/zootaxa.4067.5.6>
- Decker, P., Wesener, T., Spelda, J., Lindner, E.N. & Voigtländer, K. 2017. Barcoding reveals the first record of *Lamyctes africanus* (Porath, 1871) in Germany (Chilopoda: Lithobiomorpha). *Bonn zoological Bulletin*, 66(1): 3–10.
- Dyachkov, Yu.V. 2019. New data on lithobiomorph centipedes (Chilopoda: Lithobiomorpha: Anopsobiidae, Henicopidae, Lithobiidae) from Kazakhstan. *Arthropoda Selecta*, 28(1): 8–20. DOI: <https://doi.org/10.15298/arthsel.28.1.02>
- Enghoff, H., Akkari, N. & Pedersen, J. 2013. Aliquid novi ex Africa? *Lamyctes africanus* (Porath, 1871) found in Europe (Chilopoda: Lithobiomorpha: Henicopidae). *Journal of Natural History*, 47: 1–24. DOI: <https://doi.org/10.1080/00222933.2012.763062>
- Iorio, E. 2016. Confirmation of the presence of *Lamyctes africanus* (Porath, 1871) in France (Chilopoda, Lithobiomorpha: Henicopidae). *Bulletin of the British Myriapod & Isopod Group*, 29: 44–48.
- Nefediev, P.S. & Farzaliyeva, G.Sh. 2020. New records of lithobiid centipedes from Siberia, Russia (Chilopoda: Lithobiomorpha: Lithobiidae). *Arthropoda Selecta*, 29(2): 185–198. DOI: <https://doi.org/10.15298/arthsel.29.3.03>
- Nefediev, P.S., Farzaliyeva, G.Sh. & Tuf, I.H. 2017. A preliminary review of the centipede fauna of the Altai State Nature Biosphere Reserve, southwestern Siberia, Russia (Chilopoda: Lithobiomorpha, Geophilomorpha). *Arthropoda Selecta*, 26(3): 217–224. DOI: <https://doi.org/10.15298/arthsel.26.3.02>

- Nefediev, P.S., Farzalieva, G.Sh., Tuf, I.H. & Efimov, D.A. 2020. The first records of lithobiid centipedes (Chilopoda: Lithobiomorpha: Lithobiidae) from the Kemerovo Area, southwestern Siberia, Russia. *Invertebrate Zoology*, 17(1): 36–43. DOI: <https://doi.org/10.15298/invertzool.17.1.04>
- Nefediev, P.S., Tuf, I.H. & Farzalieva, G.Sh. 2016. Centipedes from urban areas in southwestern Siberia, Russia (Chilopoda). Part 1. Lithobiomorpha. *Arthropoda Selecta*, 25(3): 257–266. DOI: <https://doi.org/10.15298/arthscl.25.3.04>
- Tuf, I.H., Dányi, L., Kuda, F. & Chlachula, J. 2010. Centipedes of Kazakhstan – new records from Altai. *High Mountain Soils Biodiversity*, Tbilisi: 11–12.