



# Checklist of Georgian centipedes (Myriapoda: Chilopoda)

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## Abstract

The Caucasus ecoregion is distinguished by its biodiversity. The flora and fauna of the ecoregion became the study area of many zoologists and botanists. Georgia, as a part of it, is important for its valuable and impressive diversity. However, despite many years of scientific research, certain groups, among them centipedes, are not so well studied. This is the first comprehensive summary of current knowledge about centipedes distributed in the territory of Georgia, based on literature data. It provides information about 59 taxa (57 species and two subspecies) known from Georgia, belonging to 16 genera in seven families from four orders. Nineteen species are endemic to the Caucasus, eight of which are Georgian endemics. Among them, two species: *Cryptops datviensis* Tuf, Barjadze, and Maghradze, 2022, and *Harpolithobius birsteini* Zaleskaja, 1972, are troglobiotic. Another four species (*Lithobius caucasicus* Sselivanoff, 1881; *Lamyctes coeculus* (Brölemann, 1889); *Lithobius semperi* (Haase, 1887); and *Scolopocryptops nigridus* McNeill, 1887) are considered doubtful records. An overview of local and global distribution for each taxon is included. *Lithobius fasciatus* Muralevitch, 1929, **syn. nov.** is formally synonymized with *Lithobius striatus* Muralevitch, 1926.

## Key words

South Caucasus, endemic species, species inventory, review

## Introduction

Centipedes are predatory soil invertebrates mostly found in moist habitats. They spend the day under stones, bark, and leaf litter and go hunting at night. Their habit is mainly cryptozoic; they are rarely seen in daylight (Voigtländer 2011). Morphologically, they are elongated, flattened, active forms, found in various biomes, from forests to deserts (Coleman et al. 2004).

The presented checklist of Georgian centipedes includes all recorded species from the territory of Georgia, Caucasus. The first recorded centipede taxa from the country belongs to Eichwald (1841), who recorded *Geophilus electricus*

(Linnaeus, 1758), *Scolopendra cingulata* Latreille, 1829, and *Scutigera coleoptrata* (Linnaeus, 1758). Kessler (1874) mentioned *S. cingulata* from Georgia, but the precise sampling location is not specified in the paper. In 1881, Sselivanoff recorded six taxa from Georgia, including three new species for science (*Lithobius erythrocephalus cronebergii* Sselivanoff, 1881; *L. lapidicola* Meinert, 1872; *L. mutabilis* L. Koch, 1862; *L. portchinskii* Sselivanoff, 1881; *L. taczanowski* Sselivanoff, 1881; and *L. viriatus* Sselivanoff, 1880). Later on, Muralevitch (1907, 1910, 1926, 1929) and Zaleskaja (1972, 1972a, 1976, 1978) made a valuable contribution to the research of Georgian centipedes. They published several papers about the Caucasus and the USSR. Since Georgia was

a Soviet country, we got valuable information by processing the publications that were related to the USSR. Muralevitch (1907, 1926) described three new species (*Lithobius circasus* Muralevitch, 1907; *L. striatus* Muralevitch, 1926; and *L. verrucifer* Muralevitch, 1926) from the territory of Georgia. After that, Zaleskaja (1972) described two more species, *Harpolithobius birsteini* Zaleskaja, 1972, and *H. perplexus* Zaleskaja, 1972, from Abkhazia, western Georgia. In addition, they published information about new records from Georgia. Therefore, both scientists have greatly contributed to the accumulation of current knowledge.

Since most of the literature referring to old records of centipedes in Georgia is not readily available, here we attempt to comprehensively review the knowledge accumulated to date on Georgian centipedes and develop the first checklist of taxa.

## Materials and methods

To compile the centipede species list for Georgia, we have reviewed all the literature published so far dealing with the fauna of centipedes in Georgia and the Caucasus in general. The classification of centipedes and the currently valid names of the individual taxa, as well as the synonyms, are given according to Chilobase (Bonato et al. 2016). The Latin names are arranged alphabetically for genera in the families and species in the genera.

A map showing the distribution of centipedes in Georgia has been prepared using QGIS (3.22.3) and Google Earth Pro v. 7.3.6. The geographic data given in the literature were usually without precise geographical coordinates, and in most cases, we were unable to locate sampling points at a fine scale. Therefore, the localities were geo-referenced by their geo-names using the Google Earth engine and geo-r on the map with varying accuracy. Altogether, 57 localities were found in published literature. On the map (Figure 1), the georeferenced localities were coded by numbers increasing from the west to the east. The following alphabetical list of localities is completed by the codes of localities, as used in Fig. 1 and in relevant paragraphs for every species. List of localities: Akhagori (46); Akhali Atoni (4); Akhalkalaki (34); Akhalsheni (6); Ambrolauri (29); Bakuriani (35); Batumi (12); Bichvinta (2); Borjomi (33); Borjom-Kharagauli National Park (31); Chakvi (17); Chkhalta (13); Chiatura (32); Chunesi Cave (22); Datvi Cave (23); Gromi (40); Kvemo Ermani (41); Eshera (5); Efremovka (37) Gagra (1); Gudauri (45); Jvari pass (44); Karsani (50); Kaspi (43); Kazbegi (48); Kevselta (38); Khorga (19); Kintrishi protected areas (21); Kobi (47); Kobuleti (18); Kojori (52); Kvaisi (36); Lagodekhi (57); Lata (10); Machkhaani (52); Makhinjauri (15); Manglisi (42); Marukhi summit (9); Mirzaani (56); Mtskheta (51); Mtsvane Kontskhi (16); Orpiri Cave (27); Otapistavi Cave (11); Ozurgeti (20); Poti (14); Sakishore Cave (30); Sataplia Nature Reserve (26); Sataplia cave (24); Sioni (54); Sokhumi (7); Tbilisi (53); Tetrtskala (3); Tkibuli (28); Tsebelda (8); Tsodoreti (49); Tusrebi (39); Zeda Kvilishori Cave (25).

## Results

### Order Scutigermorpha Pocock, 1895

#### Family Scutigeridae Leach, 1814

#### Genus *Scutigera* Lamarck, 1801

##### 1. *Scutigera coleoptrata* (Linnaeus, 1758)

**Distribution in Georgia.** **Abkhazia** • Tsikherva Cave (Gagra) (1) (Birstein 1950; Barjadze et al. 2015). • Sokhumi (7) (Muralevitch 1926, 1929 as *Scutigera morpha genuina* Verhoeff, 1905; Muralevitch 1929 as *S. morpha aranea*). **Adjara** • Batumi (12) (Attems 1907). • Kobuleti (18) (Muralevitch 1926, 1929 as *S. morpha genuina* Verhoeff, 1905; Muralevitch 1929 as *S. morpha aranea*). **Mtskheta-Mtianeti** • Gudauri (45) (Muralevitch 1926 as *S. morpha araneoides*). • Tbilisi (53) (Eichwald 1841; Muralevitch 1926, 1929, as *S. morpha araneoides* Pallas, 1772; Muralevitch 1929 as *S. morpha aranea* Scopoli, 1763).

**Global distribution.** Native to the Mediterranean region, synanthropic throughout much of the world (Zuev 2016).

### Order Lithobiomorpha Pocock, 1895

#### Family Lithobiidae Pocock, 1895

#### Genus *Australobius* Chamberlin, 1920

##### 2. *Australobius devertens* (Trotzina, 1894)

**Distribution in Georgia.** **Adjara** • Batumi (12) (Attems 1907; Muralevitch 1926 as *Lithobius devertens* Trotzina, 1894).

**Global distribution.** Georgia (Attems 1907; Bonato et al. 2016; Muralevitch 1926), Kyrgyzstan (Bonato et al. 2016).

#### Genus *Harpolithobius* Verhoeff, 1904

##### 3. *Harpolithobius anodus* (Latzel, 1880)

**Distribution in Georgia.** **Kakheti** • Lagodekhi (57) (Muralevitch 1926, 1929 as *Lithobius anodus aberrans* Muralevitch, 1926).

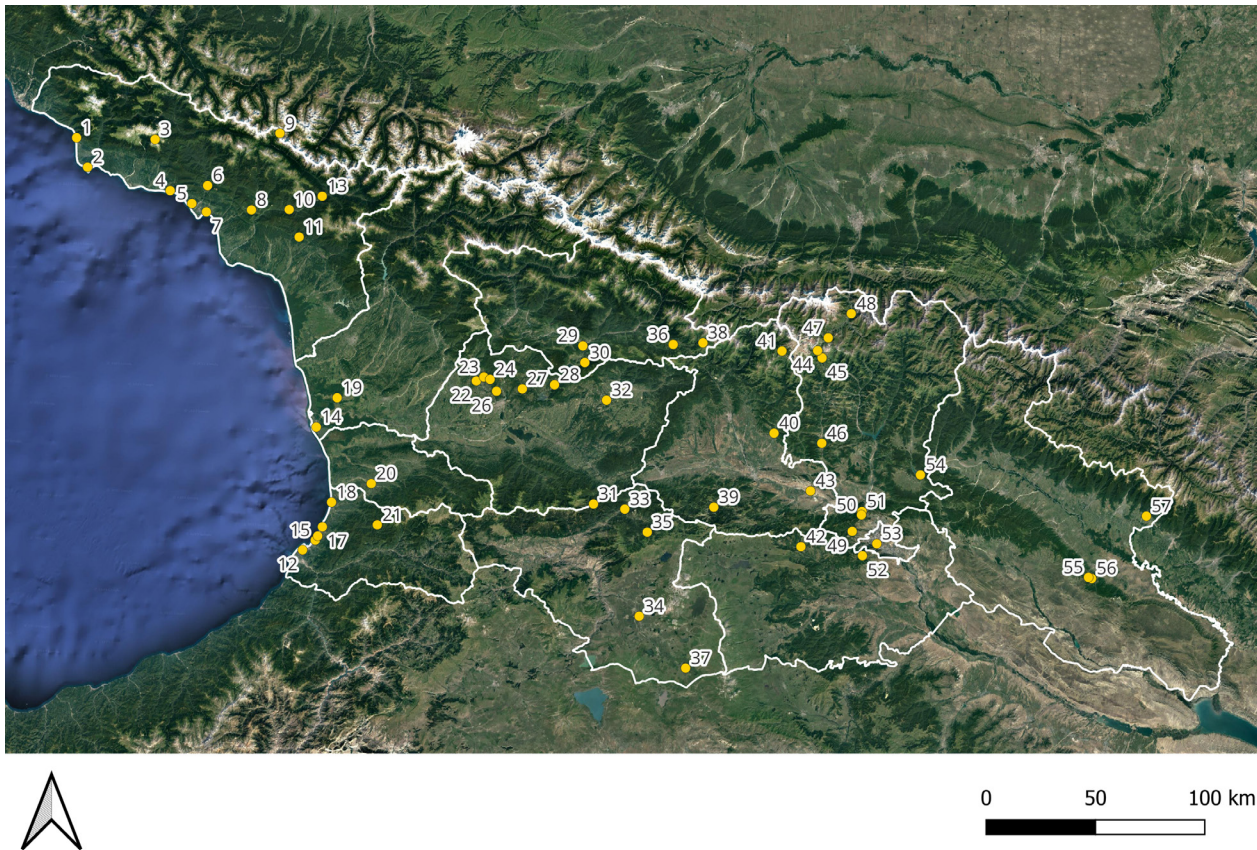
**Global distribution.** Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia, Turkey, Ukraine (Bonato et al. 2016), Georgia (Muralevitch 1926, 1929).

##### 4. *Harpolithobius birsteini* Zaleskaja, 1972

**Distribution in Georgia.** **Abkhazia** • Sokhumi (Avidzba Cave) (7) (Zaleskaja 1972, 1978).

**Global distribution.** Georgia (Zaleskaja 1972, 1978; Bonato et al. 2016).

**Note.** Endemic to Georgia.



**Figure 1.** Distribution map of centipede species recorded in Georgia, Caucasus, based on literature data. Yellow circles represent the localities from which records of centipedes were published (for codes see Materials and methods).

### 5. *Harpolithobius perplexus* Zalesskaja, 1972

**Distribution in Georgia.** Abkhazia • Akhalsheni (6) (Zalesskaja 1972, 1978). • Sokhumi (7) (Zalesskaja 1978). • unnamed caves near Sokhumi (7) (Turbanov et al. 2016). Adjara • Batumi (12) (Zalesskaja 1972, 1978). • Makhinjauri (15) (Zalesskaja 1972, 1978). • Mtsvane Kontskhi (16) (Zalesskaja 1972, 1978). • Kintrishi Strict Nature Reserve (21) (Zalesskaja 1972, 1978). Guria • Ozurgeti (20) (Zalesskaja 1972, 1978). Samegrelo-Zemo Svaneti • Khorga (19) (Zalesskaja 1978). Imereti • Sataplia Nature Reserve (26) (Zalesskaja 1972, 1978). Samtskhe-Javakheti • Borjomi National Park (now called as Borjom-Kharagauli National Park; specimens are found in Borjomi territory) (31) (Zalesskaja 1972, 1978).

**Global distribution.** Azerbaijan, Turkey (Bonato et al. 2016), Georgia (Bonato et al. 2016; Turbanov et al. 2016; Zalesskaja 1972, 1978).

### Genus *Lithobius* Leach, 1814

#### 6. *Lithobius aeruginosus* L. Koch, 1862

**Distribution in Georgia.** Abkhazia • Tetrtskala (3) (Muralevitch 1910, 1926, 1929). • Akhalsheni (6) (Za-

lesskaja 1972). Samtskhe-Javakheti • Bakuriani (35) (Zalesskaja 1972).

**Global distribution.** Albania, Austria, Bosnia and Herzegovina, Caucasus, Croatia, Czech Republic, France, Germany, Greece, Italy, Netherlands, Romania, Slovakia, Slovenia, Spain, Switzerland, Turkey, Ukraine (Simaiakis et al. 2016), Azerbaijan (Bababekova 1996), Georgia (Muralevitch 1910, 1926, 1929; Zalesskaja 1972), Iran (Zarei et al. 2020).

#### 7. *Lithobius asper* Muralevitch, 1926

**Distribution in Georgia.** Samtskhe-Javakheti • Village Efremovka (37) (Muralevitch 1926).

**Global distribution.** Distributed only in the Caucasus (Zalesskaja 1978), Georgia (Muralevitch 1926).

**Note.** Endemic to the Caucasus.

#### 8. *Lithobius circassus* Muralevitch, 1907

**Distribution in Georgia.** Kvemo Kartli • Manglisi (42) (Muralevitch 1907).

**Global distribution.** Georgia (Muralevitch 1907; Bonato et al. 2016).

**Note.** Endemic to Georgia.

### 9. *Lithobius colchicus* Muralevitch, 1907

**Distribution in Georgia.** **Kakheti** • Lagodekhi (57) (Muralevitch 1926, 1929).

**Global distribution.** Georgia (Muralevitch 1926, 1929), Russia (Muralevitch 1907).

**Note.** Endemic to the Caucasus.

### 10. *Lithobius coloratus* Sselivanoff, 1881

**Distribution in Georgia.** **Abkhazia** • Akhali Atoni (=Novy Afon) (4) (Muralevitch 1926, 1929). • Akhalsheni (6) (Zalesskaja 1972). **Racha-Lechkhumi and Kvemo Svaneti** • Tsvitskala II Cave (Ambrolauri) (29) (Zalesskaja 1972). • Tsvitskala Cave (Ambrolauri) (29) (Barjadze et al. 2015; Turbanov et al. 2016). **Mtskheta-Mtianeti** • Kobi (47) (Muralevitch 1929). • Stepantsminda (=Kazbegi) (48) (Muralevitch 1926, 1929).

**Global distribution.** Azerbaijan (Bababekova 1996), Georgia (Muralevitch 1926, 1929; Zalesskaja 1972; Turbanov et al. 2016), Russia (Muralevitch 1929).

### 11. *Lithobius corniger* Lignau, 1914

**Distribution in Georgia.** **Abkhazia** • Eshera (5) (Lignau 1914). • Tsebelda (8) (Lignau 1914). • Lata (10) (Lignau 1914). • Chkhalta (13) (Lignau 1914). • Abkhazia, without precise locality (Zalesskaja 1972a).

**Global distribution.** Georgia (Lignau 1914).

**Note.** Endemic to Georgia.

### 12. *Lithobius crassipes* L. Koch, 1862

**Distribution in Georgia.** **Abkhazia** • village Eshera (5) (Lignau 1914). • Akhalsheni (6) (Zalesskaja 1972). • Lata (10) (Lignau 1914). • bank of the river Chkhalta at 1180-1200 m a.s.l. (13) (Lignau 1914). **Adjara** • Mtsvane Kontskhi (16) (Zalesskaja 1972). • Batumi (12) (Attems 1907). **Samtskhe-Javakheti** • Bakuriani (35) (Zalesskaja 1972).

**Global distribution.** Albania, Algeria, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Lithuania, Luxembourg, North Macedonia, Netherlands, Norway, Poland, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tunisia, Turkey, Ukraine, United Kingdom (Bonato et al. 2016), Azerbaijan (Bababekova 1996), Georgia (Attems 1907; Lignau 1914; Zalesskaja 1972).

### 13. *Lithobius curtipes* C. L. Koch, 1847

**Distribution in Georgia.** **Abkhazia** • Akhali Atoni (=Novy Afon) (4) (Muralevitch 1910, 1929). • near Sokhumi (on the road to Akhali Atoni monastery, about 5 km from the city) (7) (Lignau, 1914 as *Lithobius curtipes caucasicus* Lignau, 1914). • Marukhi summit at 1800-2100 m a.s.l.

(9) (Attems 1901, Muralevitch 1910). • bank of the river Chkhalta at 1130 m a.s.l. (13) (Attems 1901, Muralevitch 1910). **Adjara** • Kobuleti (18) (Muralevitch 1910, 1926, 1929). **Shida Kartli** • Tusrebi (39) (Attems 1901, Muralevitch 1910, 1929). • Kaspi (43) (Zalesskaja 1972 as *Monotarsobius baloghi baloghi* Loksa, 1947, according to Zalesskaja's own handwritten notes in printout in Tuf's private collection). **Mtskheta-Mtianeti** • Jvari pass (44) (Zalesskaja 1972 as *Monotarsobius baloghi baloghi* Loksa, 1947, according to Zalesskaja's own handwritten notes in printout in Tuf's private collection). • Gudauri (45) (Muralevitch 1910, 1926, 1929). • Kobi (47) (Muralevitch 1910, 1926, 1929). • Stepantsminda (=Kazbegi) (48) (Muralevitch 1910, 1926, 1929). • Tbilisi (53) (Muralevitch 1910, 1926, 1929). **Kakheti** • Machkhaani (=Maschchan) (55) (Muralevitch 1910). • Mirzaani (=Mrzajan) (56) (Muralevitch 1910).

**Global distribution.** Austria, Belgium, Belarus, Czech Republic, Denmark, France, Germany, Hungary, Lithuania, Moldova, Netherlands, Norway, Poland, Romania, Russia, Slovakia, Sweden, Switzerland, Ukraine, United Kingdom (Zalesskaja 1978, Bonato et al. 2016), Azerbaijan (Bababekova 1996), Georgia (Lignau 1914; Muralevitch 1910, 1926, 1929; Zalesskaja 1972).

### 14. *Lithobius elegans* Sselivanoff, 1881

**Distribution in Georgia.** **Abkhazia** • Eshera (5) (Muralevitch 1926, 1929). • Near Sokhumi (7) (Muralevitch 1926, 1929). • Sokhumi (7) (Muralevitch 1926, 1929). • Tsebelda (8) (Muralevitch 1926, 1929). • Marukhi summit (9) (Lignau 1914). • Lata (10) (Muralevitch 1926, 1929). • Chkhalta (13) (Muralevitch 1926, 1929). **Mtskheta-Mtianeti** • Kobi (47) (Muralevitch 1926, 1929). **Kakheti** • Mirzaani (56) (Muralevitch 1926). • Lagodekhi (57) (Muralevitch 1926, 1929).

**Global distribution.** Georgia (Lignau 1914; Muralevitch 1926, 1929; Bonato et al. 2016).

**Note.** Endemic to Georgia

### 15. *Lithobius erythrocephalus* C. L. Koch, 1847

**Distribution in Georgia.** **Abkhazia** • Bichvinta (2) (Zalesskaja 1972; Barjadze et al. 2015). **Racha-Lechkhumi and Kvemo Svaneti** • Tsvitskala II Cave (Ambrolauri) (29) (Zalesskaja 1972; Barjadze et al. 2015). • Tbilisi (53) (Muralevitch 1929; Muralevitch 1926 as *Lithobius illyricus* Latzel, 1880). • Georgia, without precise locality (Zapparoli 2002).

**Global distribution.** Albania, Austria, Belarus, Bosnia and Herzegovina, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, North Macedonia, Monaco, Montenegro, Netherlands, Norway, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Sweden, Switzerland, Ukraine (Bonato et al. 2016), Azerbaijan (Bababekova 1996), Georgia (Muralevitch 1926, 1929; Zalesskaja 1972; Zapparoli 2002), Iran (Zarei et al. 2020), Vietnam (Tran et al. 2013).

### 16. *Lithobius erythrocephalus cronebergii* Sseliwanoff, 1881

**Distribution in Georgia.** • Tbilisi (53) (Sseliwanoff 1881; Lignau 1914 as *Lithobius cronebergii*; Muralevitch 1926). • Georgia, without precise locality (Zapparoli 2002, Zalesskaja and Golovatch 1996; page 267, fig. 1).

**Global distribution.** Georgia (Sseliwanoff 1881; Lewis 1996; Lignau 1914; Muralevitch 1926; Zapparoli 2002), Azerbaijan (Bababekova 1996), Greece, Yemen (Lewis 1996).

### 17. *Lithobius ferganensis* (Trotzina, 1894)

**Distribution in Georgia.** **Abkhazia** • Akhali Atoni (=Novy Afon) (4) (Zalesskaja 1972). • Akhalshehi (6) (Zalesskaja 1972). **Adjara** • Batumi (12) (Dobroruka 1958; Zalesskaja 1972; Zalesskaja 1978 as *Monotarsobius nodonotatus* Verhoeff, 1943). • Mtsvane Kontskhi (16) (Zalesskaja 1972). **Racha-Lechkhumi and Kvemo Svaneti** • Kevselta (38) (Dyachkov and Zuev 2023 as *Lithobius monotarsobius sseliwanoffi* Garbowski, 1897). **Samtskhe-Javakheti** • Borjomi National Park (now called as Borjom-Kharagauli National Park, specimens are found in Borjomi territory) (31) (Zalesskaja 1972). • Bakuriani (35) (Zalesskaja 1972). **Shida Kartli** • Kvemo Ermani (41) (Dyachkov and Zuev 2023 as *Lithobius monotarsobius sseliwanoffi* Garbowski, 1897). **Kvemo Kartli** • Kojori (52) (Zalesskaja 1972). **Mtskheta-Mtianeti** • Karsani (50) (Zalesskaja 1972). • Tbilisi (53) (Zalesskaja 1972). • Georgia, without exact locality (Zalesskaja and Golovatch 1996 as *Monotarsobius sseliwanoffi*; Zalesskaja 1978 as *Monotarsobius turkestanicus* (Attems, 1904)).

**Global distribution.** Armenia, Greece, Kazakhstan, Kyrgyzstan, Romania, Stavropol, Turkey (Bonato et al. 2016), Azerbaijan (Bababekova 1996), Georgia (Dobroruka 1958; Zalesskaja 1972, 1978), Iran (Zarei et al. 2020).

**Note.** In Zalesskaja 1972, for her misidentification, this species was mentioned as *Monotarsobius curtipes*, according to Zalesskaja's handwritten correction to *Monotarsobius sseliwanoffi* in the printed copy in Tuf's private collection.

### 18. *Lithobius forficatus* (Linnaeus, 1758)

**Distribution in Georgia.** **Abkhazia** • Akhali Atoni (=Novy Afon) (4) (Zalesskaja 1972). • village Eshera (5) (Lignau 1914; Zalesskaja 1972). • Sokhumi (7) (Muralevitch 1926, 1929). • near Sokhumi (5 km on the way to Akhali Atoni) (Lignau 1914; Zalesskaja 1972) (7). **Imereti** • Tkibuli (28) (Muralevitch 1926, 1929). • Georgia, without precise locality (Zapparoli 2002).

**Global distribution.** Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, North Macedonia, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Malta, Montenegro, Netherlands, Norway, Poland, Romania, Russia, Serbia, Slovenia, Switzerland, Turkey, United Kingdom, Introduced in North America, South America, St. Elena, Kuriles (Zapparoli 2002), Iran (Zarei et al. 2020).

### 19. *Lithobius kessleri* Sseliwanoff, 1881

**Distribution in Georgia.** **Mtskheta-Mtianeti** • Stepantsminda (=Kazbegi) (48) (Muralevitch 1926, 1929). **Kakheti** • Lagodekhi (57) (Muralevitch 1926, 1929). • Georgia, without precise locality (Sseliwanoff 1881).

**Global distribution.** Azerbaijan (Bonato et al. 2016), Georgia (Muralevitch 1926, 1929; Sseliwanoff 1881), Russia (Sseliwanoff 1881).

**Note.** Endemic to the Caucasus.

### 20. *Lithobius lapidicola* Meinert, 1872

**Distribution in Georgia.** **Adjara** • Batumi (12) (Attems 1907 as *Lithobius pusillus* Latzel, 1880). **Mtskheta-Mtianeti** • Gudauri (45) (Sseliwanoff 1881). • Stepantsminda (=Kazbegi) (48) (Sseliwanoff 1881).

**Global distribution.** Albania, Austria, Belgium, Bermuda, Bosnia and Herzegovina, Canary Islands, Croatia, Crete, Czech Republic, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Moldova, Montenegro, Netherlands, Norway, Poland, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, United Kingdom (Bonato et al. 2016), Azerbaijan (Bababekova 1996), Georgia (Sseliwanoff 1881; Attems 1907).

### 21. *Lithobius lenkoranicus* (Zalesskaja, 1976)

**Distribution in Georgia.** **Adjara** • Mtsvane Kontskhi (16) (Zalesskaja 1978 as *Monotarsobius lenkoranicus* Zalesskaja, 1976).

**Global distribution.** Azerbaijan, Georgia (Zalesskaja 1978).

**Note.** Endemic to the Caucasus.

### 22. *Lithobius liber* Lignau, 1903

**Distribution in Georgia.** **Kakheti** • Mirzaani (56) (Muralevitch 1926). •

**Global distribution.** Georgia (Muralevitch 1926; Turbanov et al. 2016), Caucasus and Crimea (Turbanov et al. 2016).

### 23. *Lithobius lucifugus* L. Koch, 1862

**Distribution in Georgia.** **Abkhazia** • Sokhumi (7) (Zalesskaja 1978). **Racha-Lechkhumi and Kvemo Svaneti** • Ambrolauri (29) (Zalesskaja 1978). **Kakheti** • Lagodekhi (57) (Muralevitch 1926, 1929). • Georgia, without precise locality (Zalesskaja and Golovatch 1996; page 267, fig. 2).

**Global distribution.** Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Lithuania, Montenegro, Poland, Romania, Slovakia, Slovenia, Sweden, Switzerland, Turkey, Ukraine, United Kingdom (Bonato et al. 2016), Georgia (Muralevitch 1926, 1929; Zalesskaja 1978; Zalesskaja and Golovatch 1996).

#### 24. *Lithobius mutabilis* L. Koch, 1862

**Distribution in Georgia.** Mtskheta-Mtianeti • Stepantsminda (=Kazbegi) (48) (Sseliwanoff 1881; Muralevitch 1926, 1929). • Tbilisi (53) (Muralevitch 1926). • Georgia, without precise locality (Zapparoli 2002, 2011).

**Global distribution.** Austria, Bulgaria, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Switzerland, Ukraine (Zapparoli 2002), Belgium (Lock 2009), Georgia (Sseliwanoff 1881; Muralevitch 1926, 1929; Zapparoli 2002, 2011).

#### 25. *Lithobius peregrinus* Latzel, 1880

**Distribution in Georgia.** Abkhazia • Sokhumi (7) (Zalesskaja 1978). Racha-Lechkhumi and Kvemo Svaneti • caves of Ambrolauri municipality (29) (Zalesskaja 1978). Mtskheta-Mtianeti • Akhgori (46) (Dyachkov and Zuev 2023). Kakheti • Lagodekhi (57) (Muralevitch 1926). • Georgia, without precise locality (Barber 2022).

**Global distribution.** Albania, Bosnia and Herzegovina, Bulgaria, Caucasus, Greece, Italy, North Macedonia, Montenegro, introduced in Africa, Bermuda Island, France, Panama, Spain, United Kingdom (Barber & Eason 1986), Georgia (Muralevitch 1926; Zalesskaja 1978; Barber 2022).

#### 26. *Lithobius piceus* L. Koch, 1862

**Distribution in Georgia.** Abkhazia • Village Veli (Gagra) (1) (Muralevitch 1926, 1929 as *Lithobius piceus caucasica* Muralevitch, 1926). • Abkhazia, without precise locality (Muralevitch 1926, 1929 as *Lithobius piceus caucasica* Muralevitch, 1926). • Georgia, without precise locality (Zalesskaja and Golovatch 1996).

**Global distribution.** Austria, Bosnia and Herzegovina, Croatia, Czech Republic, France, Germany, Hungary, Italy, Luxembourg, Netherlands, Poland, Romania, Slovakia, Slovenia, Spain, Ukraine, United Kingdom (Bonato et al. 2016), Azerbaijan (Bababekova 1996), Georgia (Muralevitch 1926, 1929; Zalesskaja and Golovatch 1996).

#### 27. *Lithobius portchinskii* Sseliwanoff, 1881

**Distribution in Georgia.** Abkhazia • Akhalsheni (6) (Zalesskaja 1972). Adjara • Chakvi (17) (Zalesskaja 1972). Imereti • Sataplia I Cave (25) (Barjadze et al. 2015; Turbanov et al. 2016). • Sataplia protected area (26) (Zalesskaja 1972). Samtskhe-Javakheti • Borjomi National Park (now called as Borjom-Kharagauli National Park, specimens are found in Borjomi territory) (31) (Zalesskaja 1972). • Akhalkalaki (34) (Muralevitch 1926, 1929). Mtskheta-Mtianeti • Stepantsminda (=Kazbegi) (48) (Sseliwanoff 1881; Muralevitch 1926, 1929). Kakheti • Lagodekhi (57) (Muralevitch 1926, 1929).

**Global distribution.** Azerbaijan (Bababekova 1996), Georgia (Sseliwanoff 1881; Muralevitch 1926, 1929; Zalesskaja 1972; Turbanov et al. 2016).

**Note.** Endemic to the Caucasus.

#### 28. *Lithobius reconditus* Zalesskaja, 1972

**Distribution in Georgia.** Abkhazia • Akhalsheni (6) (Zalesskaja 1972). • Sokhumi (Avidzba Cave) (7) (Zalesskaja 1972; Turbanov et al. 2016). Imereti • Sakire Cave (=Chuneshi Cave) (22) (Zalesskaja 1972; Turbanov et al. 2016). • Sataplia Cave (24) (Zalesskaja 1972). • Sataplia I Cave (24) (Barjadze et al. 2015; Turbanov et al. 2016). • Tsikhe Cave (Zeda Kvilishori Cave) (25) (Zalesskaja 1972). • Zeda Kvilishori Cave (25) (Turbanov et al. 2016). • Orpiri Cave (27) (Zalesskaja 1972; Turbanov et al. 2016). • Sakishore Cave (30) (Zalesskaja 1972; Turbanov et al. 2016). • Mgelaklde Cave (Chiatura) (32) (Zalesskaja 1972). • Bnelaklde Cave (Chiatura) (32) (Turbanov et al. 2016). • Georgia, without precise locality (Zalesskaja 1978).

**Global distribution.** Georgia (Zalesskaja 1972, 1978; Bonato et al. 2016), Russia (Zalesskaja 1978).

**Note.** Endemic to the Caucasus.

#### 29. *Lithobius sectilis* (Zalesskaja, 1976)

**Distribution in Georgia.** Abkhazia • Sokhumi (7) (Zalesskaja 1976). Adjara • Batumi (12) (Zalesskaja 1976). • Mtsvane Kontskhi (16) (Zalesskaja 1976). Samtskhe-Javakheti • Borjomi National Park (31) (Zalesskaja 1976). Mtskheta-Mtianeti • Tsodreti (49) (Zalesskaja 1976). • Georgia, without precise locality (Zalesskaja 1978 as *Monotarsobius sectilis*).

**Global distribution.** Armenia, Azerbaijan, Georgia (Zalesskaja 1976, 1978; Bonato et al. 2016).

**Note.** Endemic to the Caucasus. In Zalesskaja 1976, this species was mentioned as *Monotarsobius sectilis* Zalesskaja, 1976. This species was sooner reported by Zalesskaja (1972, 1972a) under the name *Monotarsobius burzenlandicus euxinicus* Prunescu, 1965 (Zalesskaja 1976)..

#### 30. *Lithobius striatus* Muralevitch, 1926 (= *Lithobius fasciatus* Muralevitch, 1929, syn. nov.)

**Distribution in Georgia.** Abkhazia • Akhalsheni (6) (Zalesskaja 1972). • Sokhumi (7) (Zalesskaja 1978). Adjara • Batumi (12) (Zalesskaja 1978). • Mtsvane Kontskhi (16) (Zalesskaja 1972). • Kintrishi Strict Nature Reserve (21) (Zalesskaja 1972). Samegrelo-Zemo Svaneti • Poti (14) (Zalesskaja 1978). Imereti • Sataplia Nature Reserve (26) (Zalesskaja 1972). Kakheti • Lagodekhi (57) (Muralevitch 1926, Muralevitch 1929 and Zalesskaja 1978 as *Lithobius fasciatus* Muralevitch, 1929).

**Global distribution.** Azerbaijan, Georgia, Russia (Muralevitch 1926, 1929; Zalesskaja 1972, 1978).

**Note.** Endemic to the Caucasus. Bonato et al. (2016) noted that “number of specimens, collecting localities and original description published by Muralevitch (1929 - Mém. Séct. Zool. Soc. Amis Sci. Nat., Anthr., Etnogr., 4: 102) are perfectly coincident with the data published by Muralevitch (1926 - Zool. Anz., 69: 36) for *Lithobius striatus* n. sp.”. It is true that Muralevitch described several species of Lithobiidae twice, firstly in 1926 in Zoologischer Anzeiger and for the second time three

years later [in Russian] in Memoires de la Section Zoologique de la Societe des Amis des Sciences Naturelles, d'Anthropologie et d'Ethnographie. The second description is much more precise, but this paper is devoted just to *Lithobiomorpha* and *Scutigermorpha* with a note in the introduction, that the next volume will contain data for other orders. A typographic footnote in Russian paper contains the year 1926 (see Muralevitch 1929: 4). Probably the delay in publishing of the Russian first part (in freshly created journal) forced Muralevitch (1926) to publish the “second” part in *Zoologischer Anzeiger* with a shortened version of the first part. Despite differences in morphology used by Zaleskaja (1978) in her key, descriptions of both species, *L. striatus* and *L. fasciatus*, are identical. Moreover, species *L. fasciatus* is missing in the later paper, the only missing species among all other previously described species. Zaleskaja's (1978: 84–85) notes on localities of *L. striatus* in papers of Lignau (1903) and Muralevitch (1907, 1929) are confusing. It is obvious that Muralevitch (1926) changed his opinion about the name of this taxon and *L. fasciatus* is a junior objective synonym of *L. striatus*. Homonymous species *L. fasciatus* Newport, 1844, described from Italy, was transferred into the genus *Eupolybothrus* Verhoeff, 1907. Perhaps recognized homonymy with Newport's species by Muralevitch was the reason for the name shifting of his *L. fasciatus* to *L. striatus*.

### 31. *Lithobius striatus monosulcatus* Folkmanová, 1958

**Distribution in Georgia.** Abkhazia • Akhalsheni (6) (Zaleskaja 1972). • Sokhumi (7) (Zaleskaja 1978). Adjara • Batumi (12) (Zaleskaja 1978). • Mtsvane Kontskhi (16) (Zaleskaja 1972). • Kintrishi Strict Nature Reserve (21) (Zaleskaja 1972). Samegrelo-Zemo Svaneti • Poti (14) (Zaleskaja 1978). Imereti • Sataplia Nature Reserve (26) (Zaleskaja 1972).

**Global distribution.** Georgia (Zaleskaja 1972, 1978), Russia (Zaleskaja 1978).

**Note.** Endemic to the Caucasus.

### 32. *Lithobius stuxbergii* Sseliwanoff, 1881

**Distribution in Georgia.** Abkhazia • Otapistavi Cave (11) (Zaleskaja 1972, Barjadze et al. 2015, Turbanov et al. 2016). • Bank of river Chkhalta at 1130 m a.s.l. (13) (Lignau 1914 as *Lithobius vehemens* Lignau, 1903). Imereti • Sataplia Protected Area (26) (Zaleskaja 1972 as *L. vehemens*). • Sataplia I Cave (25) (Turbanov et al. 2016). Kakheti • Mirzaani (56) (Muralevitch 1926, 1929, as *L. vehemens*).

**Global distribution.** Georgia (Muralevitch 1926, 1929; Zaleskaja 1972; Turbanov et al. 2016). This species could be found in caves of Crimea and in caves of the Caucasus (Turbanov et al. 2016).

### 33. *Lithobius subtilis* Latzel, 1880

**Distribution in Georgia.** Abkhazia • Akhali Atoni (=Novy Afon) (4) (Muralevitch 1926, 1929; Zaleskaja 1978).

**Global distribution.** Georgia (Muralevitch 1926, 1929; Zaleskaja 1978), Austria, France, Germany, Hungary, Netherlands, Slovakia, Switzerland (Bonato et al. 2016).

### 34. *Lithobius taczanowski* Sseliwanoff, 1881

**Distribution in Georgia.** Mtskheta-Mtianeti • Stepantsminda (=Kazbegi) (48) (Sseliwanoff 1881; Muralevitch 1926, 1929).

**Global distribution.** Georgia (Sseliwanoff 1881; Muralevitch 1926, 1929).

**Note.** Endemic to Georgia.

### 35. *Lithobius tuberculipes* (Folkmanová, 1958)

**Distribution in Georgia.** Abkhazia • Akhalsheni (6) (Zaleskaja 1972 as *Monotarsobius tuberculipes* Folkmanová, 1958).

**Global distribution.** Georgia (Zaleskaja 1972), Krasnodar, Krasnaja Poljana (Zaleskaja 1978 as *M. tuberculipes*).

**Note.** Endemic to the Caucasus.

### 36. *Lithobius validus* Meinert, 1872

**Distribution in Georgia.** Adjara • Batumi (12) (Dobroruka 1958; Zaleskaja 1978 as *Lithobius validus rotteri* Dobroruka, 1958).

**Global distribution.** Albania, Austria, Bosnia and Herzegovina, Croatia, Czech Republic, France, Germany, Hungary, Italy, Poland, Portugal, Romania, Slovakia, Slovenia, Turkey, former Yugoslavia (Zapparoli 2011), Georgia (Dobroruka 1958; Zaleskaja 1978).

### 37. *Lithobius verrucifer* Muralevitch, 1926

**Distribution in Georgia.** Abkhazia • Akhali Atoni (=Novy Afon) (4) (Muralevitch 1926, 1929; Zaleskaja 1978 as *Monotarsobius verrucifer* (Muralevitch, 1926)).

**Global distribution.** Georgia (Muralevitch 1926, 1929; Zaleskaja 1978 as *M. verrucifer*).

**Note.** Endemic to Georgia.

### 38. *Lithobius viriatus* Sseliwanoff, 1880

**Distribution in Georgia.** Abkhazia • Sokhumi (7) (Sseliwanoff, 1881; Muralevitch 1926, 1929). • near Sokhumi (7) (Lignau 1914). • Tsebelda (8) (Lignau 1914). • Marukhi summit (9) (Lignau 1914). • Lata (10) (Lignau 1914). Adjara • Batumi (12) (Attems 1907, as *Lithobius corcyraeus pontica* Attems, 1907). Racha-Lechkhumi and Kvemo Svaneti • Kvaisi (36) (Dyachkov and Zuev 2023). Samtskhe-Javakheti • Borjomi (33) (Sseliwanoff, 1881; Muralevitch 1926, 1929). Shida Kartli • Gromi (40) (Dyachkov and Zuev 2023). Kvemo Kartli • Manglisi (42) (Muralevitch 1926, 1929 as *Lithobius oblongus* Sseliwanoff, 1881). • Manglisi (43) (Sseliwanoff 1881; Muralevitch 1926, 1929). Mtskheta-Mtianeti • Stepantsminda (=Ka-

zbeği) (48) (Sseliwanoff 1881 as *Lithobius viriatus similis* Sseliwanoff, 1881; Muralevitch 1926, 1929). • Tbilisi (53) (Sseliwanoff, 1881; Muralevitch 1926, 1929; Zalesskaja 1972). • Georgia, without precise localities (Zalesskaja and Golovatch 1996).

**Global distribution.** Albania, Azerbaijan, Bulgaria, Israel, Italy, Jordan, Turkey, Ukraine (Bonato et al. 2016), Georgia (Attems 1907; Lignau 1914; Muralevitch 1926, 1929; Zalesskaja 1972; Zalesskaja and Golovatch 1996), Iran (Zarei et al. 1986).

## Family Henicopidae Pocock, 1901

### Genus *Lamyctes* Meinert, 1868

#### 39. *Lamyctes emarginatus* (Newport, 1844)

**Distribution in Georgia. Abkhazia** • Akhali Atoni (=Novy Afon) (4) (Muralevitch 1910, 1929 as *Lamyctes fulvicornis* Meinert, 1868). • Georgia, without precise locality (Zalesskaja 1978 as *Lithobius fulvicornis*).

**Global distribution.** Australia, Fiji, Hawaii, New Caledonia, New Zealand, widespread in Europe and North America, introduced to Africa and several islands (Voigtländer 2011), Georgia (Muralevitch 1910, 1929; Zalesskaja 1978).

## Order Scolopendromorpha Pocock, 1895

### Family Cryptopidae Kohlrausch, 1881

#### Genus *Cryptops* Leach, 1814

#### 40. *Cryptops anomalans* Newport, 1844

**Distribution in Georgia. Abkhazia** • village Eshera (5) (Lignau 1914). • Kakheti, without precise locality (Sseliwanoff 1884 as *Cryptops punctatus* C. L. Koch 1847).

**Global distribution.** Albania, Algeria, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, France, North Macedonia, Georgia, Germany, Greece, Hungary, Italy, Montenegro, Morocco, Netherlands, Romania, Serbia, Slovakia, Slovenia, Spain, Switzerland, Tunisia, Turkey, Ukraine, United Kingdom (Simaiakis et al. 2016), Azerbaijan (Bababekova 1996), Georgia (Sseliwanoff 1884; Lignau 1914), Russia (Zalesskaja & Shileyko 1992).

#### 41. *Cryptops caucasicus* Verhoeff, 1934

**Distribution in Georgia. Shida Kartli** • Gromi (40) (Dyachkov and Zuev 2023). **Kakheti** • Lagodekhi Nature Reserve (57) (Tuf et al. 2022).

**Global distribution.** Azerbaijan, Kazakhstan, Ukraine (Bonato et al. 2016), Georgia (Tuf et al. 2022).

#### 42. *Cryptops datviensis* Tuf, Barjadze & Maghradze, 2022

**Distribution in Georgia. Imereti** • Datvi Cave (23) (Tuf et al. 2022).

**Global distribution.** This species is known from the type locality only. Probably it can be found in the neighbouring caves (Tuf et al. 2022).

**Note.** Endemic to Georgia.

#### 43. *Cryptops hortensis* (Donovan, 1810)

**Distribution in Georgia. Abkhazia** • Gagra (1) (Muralevitch 1926). • Near Sokhumi (7) (Lignau 1914). Tsebelda (8) (Lignau 1914). • Georgia, without precise locality (Zapparoli 2002).

**Global distribution.** Albania, Armenia, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, North Macedonia, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Montenegro, Morocco, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan, introduced to North America, Island Hawaii, Island St. Helena (Zapparoli and Biondi 2007), Georgia (Lignau 1914; Muralevitch 1926; Zapparoli 2002).

## Family Scolopendridae Newport, 1844

### Genus *Scolopendra* Linnaeus, 1758

#### 44. *Scolopendra canidens* Newport, 1844

**Distribution in Georgia.** • Tbilisi (53) (Muralevitch 1926).

**Global distribution.** Algeria, Egypt, Iran, Italy, Libya, Morocco, Tunisia, Turkey (Bonato et al. 2016), Azerbaijan (Bababekova 1996), Georgia (Muralevitch 1926).

#### 45. *Scolopendra cingulata* Latreille, 1829

**Distribution in Georgia. Abkhazia** • Gagra (1) (Muralevitch 1926). • Tbilisi (53) (Eichwald 1841). • Georgia, without precise locality (Kessler 1874).

**Global distribution.** Albania, Algeria, Bulgaria, Caucasus, Croatia, Cyprus, Egypt, France, North Macedonia, Greece, Hungary, Iran, Israel, Italy, Jordan, Lebanon, Libya, Malta, Moldova, Montenegro, Morocco, Palestine, Portugal, Romania, Serbia, Slovenia, Spain, Syria, Tajikistan, Tunisia, Turkey, Ukraine (Simaiakis et al. 2016), Azerbaijan (Bababekova 1996), Georgia (Kessler 1874; Muralevitch 1926).

## Order Geophilomorpha Pocock, 1895

### Family Geophilidae Leach 1816

#### Genus *Clinopodes* C. L. Koch, 1847

#### 46. *Clinopodes caucasicus* (Sseliwanoff, 1884)

**Distribution in Georgia. Racha-Leckhumi and Kvemo Svaneti** • Kvaisi (36) (Dyachkov and Zuev 2023). **Mtskheta-Mtianeti** • Gudauri (45) (Sseliwanoff 1884; Bonato et al. 2011; Dyachkov et al. 2022). • Akhgori (46) (Dyachkov and Zuev 2023). • Sioni (54) (Bonato et al. 2011). •



Tbilisi (53) (Bonato et al. 2011). • Kakheti, without precise locality (Sseliwanoff 1884; Dyachkov et al. 2022).

**Global distribution.** Caucasus and eastern Anatolia (Bonato et al. 2011), Georgia (Sseliwanoff 1884; Bonato et al. 2011; Dyachkov et al. 2022), Turkey (Bonato et al. 2016).

#### 47. *Clinopodes escherichii* (Verhoeff, 1896)

**Distribution in Georgia.** • Tbilisi (53) (Attems 1901; Muralevitch 1910; Dobroruka 1958).

**Global distribution.** From the Balkan Peninsula north to the Carpathians, as well as in Turkey, Greece and Russia (Bonato et al. 2011), Azerbaijan (Bababekova 1996), Georgia (Dobroruka 1958).

#### 48. *Clinopodes flavidus* C. L. Koch, 1847

**Distribution in Georgia.** Mtskheta-Mtianeti • Mtskheta (51) (Muralevitch 1926 as *Geophilus flavidus setosus*). Kakheti • Lagodekhi (57) (Muralevitch 1926 as *G. flavidus*, *G. flavidus setosus* Lignau, 1903 and *G. flavidus polytrichus* Attems, 1903).

**Global distribution.** Albania, Austria, Bosnia and Herzegovina, Bulgaria, Caucasus, Croatia, Cyprus, Czech Republic, North Macedonia, Greece, Italy, Montenegro, Palestine, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Syria, Turkestan, Turkey, Ukraine (Simaiakis et al. 2016), Azerbaijan (Bababekova 1996), Georgia (Muralevitch 1926; Lignau 1914), Iran (Zarei et al. 2020).

#### Genus *Geophilus* Leach, 1814

##### 49. *Geophilus electricus* (Linnaeus, 1758)

**Distribution in Georgia.** • Tbilisi (53) (Eichwald 1841).

**Global distribution.** Austria, Bosnia and Herzegovina, Croatia, Czech Republic, Germany, Hungary, Italy, Luxembourg, Poland, Romania, Serbia, Slovenia, Slovakia, Switzerland, United Kingdom (Barber 2022), Georgia (Eichwald 1841), Georgia (Eichwald 1841).

##### 50. *Geophilus truncorum* (Bergsøe & Meinert, 1866)

**Distribution in Georgia.** Abkhazia • Tetrtskala (3) (Muralevitch 1926).

**Global distribution.** Belgium, Czech Republic, Denmark, Germany, Morocco, Netherlands, Poland, Slovakia, Spain, United Kingdom (Barber 2022), Georgia (Muralevitch 1926).

#### Genus *Henia* C.L. Koch, 1847

##### 51. *Henia bicarinata* (Meinert, 1870)

**Distribution in Georgia.** Shida Kartli • Akhgori (46) (Dyachkov and Zuev 2023).

**Global distribution.** Bosnia and Herzegovina, Bulgaria, Croatia, France, Greece, Hungary, Italy, Portugal, Spain, Maghreb, Turkey, Caucasus (Zapparoli & Iorio 2012), Azerbaijan (Bababekova 1996), Cyprus (Simaiakis et al. 2013), Georgia (Dyachkov and Zuev 2023), Iran (Zarei et al. 2020).

#### 52. *Henia phruxi* Lignau, 1914

**Distribution in Georgia.** Abkhazia • Village Eshera (5) (Lignau 1914).

**Global distribution.** Georgia (Lignau 1914).

**Note.** Endemic to Georgia.

#### Genus *Pachymerium* C. L. Koch, 1847

##### 53. *Pachymerium ferrugineum* (C. L. Koch, 1835)

**Distribution in Georgia.** Samtskhe-Javakheti • Borjomi (33) (Muralevitch 1926). Kakheti • Lagodekhi (57) (Muralevitch 1926).

**Global distribution.** Alaska, Albania, Algeria, Austria, Bosnia and Herzegovina, Bulgaria, Caucasus, Croatia, Cyprus, Czech Republic, Finland, France, North Macedonia, Greece, Hungary, Iran, Italy, Latvia, Morocco, Netherlands, Norway, Palestine, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Turkey, Tunisia, Turkestan, United Kingdom (Zapparoli 2002), Azerbaijan (Bababekova 1996), Georgia (Muralevitch 1926).

#### Genus *Schizopleres* Folkmanová, 1956

##### 54. *Schizopleres giljarovi* Folkmanová, 1956

**Distribution in Georgia.** • Adjara, without precise locality (Titova 1969).

**Global distribution.** Russia: Krasnodar (Folkmanová 1956), Georgia (Titova 1969).

**Note.** Endemic to the Caucasus.

#### Genus *Strigamia* Gray, 1843

##### 55. *Strigamia acuminata* (Leach, 1815)

**Distribution in Georgia.** Abkhazia • Marukhi summit (9) (Lignau 1914 as *Scolioplanes acuminatus*), • Abkhazia, without precise locality (Titova 1969 as *S. acuminatus*).

**Global distribution.** Albania, Austria, Belgium, Bosnia and Herzegovina, Caucasus, Croatia, Czech Republic, Denmark, France, Germany, Hungary, Italy, Luxembourg, Netherlands, Poland, Romania, Slovakia, Slovenia, Spain, Switzerland, Turkey, United Kingdom (Barber 2022), Georgia (Lignau 1914; Titova 1969).

##### 56. *Strigamia* cf. *transsilvanica* (Verhoeff, 1928)

**Distribution in Georgia.** Shida Kartli • Kvemo Ermani (41) (Dyachkov and Zuev 2023).

**Note.** The range of *S. transilvanica* extends to Greece on the south and to the Carpathians on the east (Bonato et al. 2012), its occurrence in the Caucasus seems therefore unlikely. The taxonomic identity of the species quoted by Dyachkov and Zuev (2023) should be assessed.

## Genus *Pleurogeophilus* Verhoeff, 1901

### 57. *Pleurogeophilus caucasicus* Folkmanová, 1958

**Distribution in Georgia.** Adjara • Mtsvane Kontskhi (16) (Titova 1975 as *Pleurogeophilus goricensis caucasicus* Folkmanová, 1958).

**Global distribution.** Ukraine (Bonato et al. 2016), Georgia (Titova 1975).

## Family Himantariidae Bollman, 1893

### Genus *Bothriogaster* Sselivanoff, 1879

### 58. *Bothriogaster signata* (Kessler, 1874)

**Distribution in Georgia.** • Tbilisi (53) (Sselivanoff 1881 as *Bothriogaster affinis* Sselivanoff, 1879).

**Global distribution.** Albania, Bulgaria, Cyprus, North Macedonia, Kazakhstan, Tadjikistan, Turkey, Turkmenistan, Uzbekistan (Bonato et al. 2016), Azerbaijan (Bababekova 1996), Georgia (Sselivanoff 1881), Iran (Zarei et al. 2020).

## Genus *Thracophilus* Verhoeff, 1926

### 59. *Thracophilus cilicius* Attems, 1947

**Distribution in Georgia.** Adjara • Batumi (12) (Titova 1978).

**Global distribution.** Cyprus (Simaiakis et al. 2013), Georgia (Titova 1978), Turkey (Bonato et al. 2016)

## Discussion

The territory of Georgia is part of the Caucasus ecoregion and therefore of great interest in terms of biodiversity research. Nevertheless, most reports on the presence of centipede species in Georgia have not been updated for many years, with the exceptions of two publications published in recent years (Tuf et al. 2022; Dyachkov & Zuev 2023). As shown in Figure 1, a large part of the country's territory is unexplored. Due to the diversity of landscapes and habitats that centipedes inhabit, we believe that additional research is important.

At present, there are 59 centipede taxa (57 species and 2 subspecies) that are known to exist in Georgia. These taxa are organized into 16 genera (the following are listed alphabetically: *Australobius*, *Bothriogaster*, *Clinopodes*, *Cryptops*, *Geophilus*, *Harpolithobius*, *Henia*, *Lamyctes*, *Lithobius*, *Pachymerium*, *Pleurogeophilus*, *Schizopleres*, *Scolopendra*, *Scutig-*

*era*, *Strigamia*, *Thracophilus*) in seven families (Cryptopidae, Geophilidae, Henicopidae, Himantariidae, Lithobiidae, Scolopendridae, Scutigerae) within four orders (14 taxa in Geophilomorpha, 38 in Lithobiomorpha, six in Scolopendromorpha, and one in Scutigerae). Nineteen taxa are endemic to Caucasus (*Lithobius asper*, *L. colchicus*, *L. kessleri*, *L. lenkoranicus*, *L. portchinskii*, *L. reconditus*, *L. sectilis*, *L. striatus*, *L. striatus monosulcatus*, *L. tuberculipes*, *Schizopleres giljarovi*) including eight endemic to Georgia (*Cryptops datviensis*, *Harpolithobius birsteini*, *Henia phixi*, *Lithobius circassus*, *L. corniger*, *L. elegans*, *L. taczanowski*, *L. verrucifer*). Of the 59 taxa, 11 species are found in caves, although only two of them are troglobionts (*C. datviensis* and *H. birsteini*).

The main part of the species records is from the end of the late 19th century to the nineties of the 20th century. The latest description of a centipede from Georgia is about *C. datviensis*, which is described from Datvi Cave in the Imereti region of western Georgia (Tuf et al. 2022). Dyachkov and Zuev (2023) published an article about centipedes distributed in one of the regions of Georgia, Samachablo = South Ossetia. Seven species were recorded for the first time in this area, including *Henia bicarinata* (Meinert, 1870) not known from Georgia before. Several species are mentioned in the literature, but their existence in the territory of Georgia is considered doubtful and is not mentioned in the list. One of these doubtful species is *Lithobius caucasicus* Sselivanoff, 1881. Muralevitch (1910, 1926) mentioned Lars among localities, where this species was collected. Lars is a village on the territory of Russia (near the Georgian-Russian border) and also the name of a certain geographical area in Georgia, where there is a checkpoint. Another doubtful record is *Lamyctes coeculus* (Brölemann, 1889). Nefediev et al. (2016) mentioned that this species is distributed in Georgia, but there is no information about Georgia in the literature referred to in this article.

*Australobius semperi* (Haase, 1887), reported in Abkhazia, Georgia, as *Lithobius semperi* Haase, 1887, by Lignau (1914), should be a misidentification as this species is known from the Philippines, Vietnam, and Laos only (Tran et al. 2013). The last doubtful species is *Scolopocryptops nigrinus* McNeill, 1887, for which Bonato et al. (2016) listed Georgia (in the Asia-Temperate section) in distribution, but this species is common in the US. The American state of Georgia and the country of Georgia are probably confused.

It is important to note that unidentified species of *Lithobius* and *Harpolithobius* are mentioned in some caves (Birstein 1950; Barjadze et al. 2015) and in surface localities (Dyachkov and Zuev 2023) of the study area. Consequently, the number of species can increase.

It should be mentioned that 32% of centipede taxa (species and subspecies) known from Georgia are endemic to the Caucasus. There are no endemic genera or families among the Georgian centipedes. Taking into consideration the fact that Georgian centipede fauna is poorly investigated and Georgia is a country with high landscape diversity, there is a higher probability of finding new species and even new genera of centipedes in its territory in the future.

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## References

- Attems C (1901) Myriopódák / Myriopoden. In: Horváth G (Ed.) Zoologische Ergebnisse der dritten asiatischen Forschungsreise des Grafen Eugen Zichy. Hornyánsky, Budapest / Hiersemann, Leipzig, 276–310. [+ Tables IX–XI]
- Attems C (1907) Myriopoden aus der Krim und dem Kaukasus, von Dr. A. Stuxberg gesammelt. Arkiv för Zoologi 3(25): 1–16. [in German]
- Bababekova LA (1996) The subphylum of tracheates – Tracheata. In: Aliev SV, Kasymov AG (Eds) Animal life of Azerbaijan. Vol. 2: The Phylum of Arthropods. Elm Publisher, Baku, 89–97. [in Russian]
- Barber AD (2022) Atlas of the centipedes of Britain and Ireland. Field Studies Council of behalf of the UK Centre for Ecology & Hydrology's Biological Records Centre, 390 pp.
- Barber AD, Eason EH (1986) A redescription of *Lithobius peregrinus* Latzel, a centipede new to Britain (Chilopoda: Lithobiomorpha). Journal of Natural History 20(2): 431–437. <https://doi.org/10.1080/00222938600770321>
- Barjadze S, Murvanidze M, Arabuli T, Mumladze L, Pkhakadze V, Djanashvili R, Salakaia M (2015) Annotated list of invertebrates of the Georgian karst caves. Georgian Academic Book, Tbilisi, 120 pp.
- Birstein I (1950) Cave fauna of Western Trans-Caucasia. Zoologicheskii zhurnal 29(5): 354–366. [in Russian]
- Bonato L, Iorio É, Minelli A (2011) The centipede genus *Clinopodes* CL Koch, 1847 (Chilopoda, Geophilomorpha, Geophilidae): reassessment of species diversity and distribution, with a new species from the Maritime Alps (France). Zoosystema 33(2):175–205. <https://doi.org/10.5252/z2011n2a3>
- Bonato L, Dányi L, Soccia AA, Minelli A (2012) Species diversity of *Strigamia* Gray, 1843 (Chilopoda: Linotaeniidae): a preliminary synthesis. Zootaxa, 3593(1): 1–39.
- Bonato L, Chagas Junior A, Edgecombe GD, Lewis JGE, Minelli A, Pereira LA, Shelley RM, Stoev P, Zapparoli M (2016) ChiloBase 2.0 – A World Catalogue of Centipedes (Chilopoda). <https://chilobase.biologia.unipd.it>
- Coleman DC, Crossley DA, Hendrix PF (2004) Secondary production: Activities of heterotrophic organisms – the soil fauna. In: Coleman DC, Callahan MA, Crossley Jr DA (Eds) Fundamentals of Soil Ecology. Academic Press, San Diego, 51–106. <https://doi.org/10.1016/B978-012179726-3/50005-8>.
- Dobroruka LJ (1958) Chilopoden aus Batumi und Tbilisi gesammelt von J. Rotter. Zoologischer Anzeiger 160: 204–206. [in German]
- Dyachkov YV, Zuev RV (2023). Myriapoda (Chilopoda, Diplopoda) of the South Ossetia. Acta Biologica Sibirica 9: 157–165.
- Dyachkov YV, Zuev RV, Gichikhanova UA (2022) Centipedes (Chilopoda) from the Dagestan, northern Caucasus, Russia. Ecologica Montenegrina 52: 68–89. <https://doi.org/10.37828/em.2022.52.10>
- Eichwald CEV (1841) Fauna Caspio-Caucasia nonnullis observationibus novis. Litteris Typhographiae Diarii Gall. Politic, Petropol, 290 pp. [in Latin] <https://doi.org/10.5962/bhl.title.126375>
- Folkmanová B (1956) On new forms of Geophilomorpha from Southern provinces of USSR toward the knowledge of the Myriapoda of USSR. Zoologicheskii Zhurnal-35: 1633–1646. [in Russian]
- Google LLC (2023) Google Earth [Computer software]. Retrieved from <https://www.google.com/earth/>
- Kessler KF (1874) On Russian Scolopendridae and Geophilidae. Trudy Russkago entomologicheskago obshchestva, St. Petersburg, Vol. 8, 28–45. [in Ukrainian]
- Lewis JGE (1996) Further records of scolopendromorph and geophilomorph centipedes from the Arabian Peninsula with a note by DrE, H. Eason on *Lithobius erythrocephalus cronebergii* Sselivanoff. Fauna of Saudi Arabia 15: 137–156.
- Lignau NG (1914) Vielfüssler aus Abchasien. News of the Russian Academy of Sciences, Mathematical series 8(3): 185–186. [in German]
- Lock K (2009) Updated checklist of the Belgian centipedes (Chilopoda). Entomologie faunistique–Faunistic Entomology 62 (1): 35–39.
- Muralevitch WS (1907) Zur Myriapodenfauna des Kaukasus. Zoologischer Anzeiger 31: 329–351. [in German]
- Muralevitch WS (1910) Übersicht über die Myriapoden–fauna des Kaukasus. Teil I. Mitteilungen des Kaukasischen Museums 5, 1–80. [in Ukrainian]
- Muralevitch WS (1926) Übersicht über die Chilopodenfauna des Kaukasus. II. Mitteilung. Zoologischer Anzeiger 69: 27–44. [in German]
- Muralevitch WS (1929) Scutigerae et Lithobiidae de la faune du Caucase. Memoires dela Section Zoologique de la Societe des Amis des Sciences Naturelles, d'Antropologie et d'Ethnographie Moscou 4: 4–120. [in Russian]
- Nefediev PS, Tuf IH, Farzalieva GSh (2016) Centipedes from urban areas in southwestern Siberia, Russia (Chilopoda). Part 1. Lithobiomorpha. Arthropoda Selecta 25(3): 257–266. <https://doi.org/10.15298/arth-sel.25.3.04>
- QGIS Development Team (2023) QGIS Geographic Information System (3.22.3) [Computer software]. <https://qgis.org>
- Sselivanoff AV (1881) Myriapoden des Kaukasus. Trudy russkogo entomologicheskogo obshchestva, St. Petersburg, 12(6):177–198. [in Ukrainian]
- Sselivanoff AV (1884) Materials towards the study of Russian myriapods. Trudy russkogo entomologicheskogo obshchestva, St. Petersburg, 18: 69–121. [in Ukrainian]
- Simaiakis SM, Zapparoli M, Minelli A, Bonato L (2013) The centipede fauna (Chilopoda) of the island of Cyprus, with one new lithobiomorph species. Zootaxa 3647(2): 279–306. <https://doi.org/10.11646/zootaxa.3647.2.3>
- Simaiakis SM, Akkari N, Zapparoli M (2016) The centipedes of Peloponnisos and first records of genus *Eurygeophilus* in the East Mediterranean (Myriapoda: Chilopoda). Zootaxa 4061(4): 301–346. <https://doi.org/10.11646/zootaxa.4061.4.1>
- Titova LP (1969) Geophilids of the USSR fauna and news in the distribution of the fam. Mecistocephalidae. In: Aleinikova MM (Ed.) Problems of Soil Zoology. Materials of the 3rd All-Union Conference. Moscow, “Nauka” Publishers, 165–166. [in Russian]
- Titova LP (1975) The centipede genera *Clinopodes*, *Pleurogeophilus* in the USSR fauna (Chilopoda, Geophilomorpha, Geophilidae). In: Eit-

- minaviciute IS (Ed.) Problems of Soil Zoology. Materials of the 5th All-Union Conference. SSR Lithuania Academ of Science Publishers, Vilnius, 308–309. [in Russian]
- Titova LP (1978) Distribution of the geophilomorph family Himantariidae Cook. in the USSR. In: Sushchenya LM, Khotko EI (Eds) Problems of Soil Zoology. Materials of the 6th All-Union Conference. “Nauka i tekhnika” Publishers, Minsk, 241 pp. [in Russian]
- Tran TTB, Le SX, Nguyen AD (2013) An annotated checklist of centipedes (Chilopoda) of Vietnam. *Zootaxa* 3722(2): 219–244. <https://doi.org/10.11646/zootaxa.3722.2.6>
- Tuf IH, Barjadze S, Maghradze E (2022) The first troglobiotic cryptopid centipede (Chilopoda: Scolopendromorpha: Cryptopidae) from the Caucasus. *Zootaxa* 5205(5): 436–444. <https://doi.org/10.11646/zootaxa.5205.5.2>
- Turbanov IS, Palatov DM, Golovatch SI (2016) The state of the art of biospeleology in Russia and other countries of the former Soviet Union: a review of the cave (endogean) invertebrate fauna. 2. Arachnida-Acknowledgments. *Entomological Review* 96: 1297–1333. <https://doi.org/10.1134/S0013873816090116>
- Voigtländer K (2011) 15 Chilopoda – Ecology. In: Minelli A (Ed.) *Treatise on Zoology – Anatomy, Taxonomy, Biology. The Myriapoda*, Brill, Volume 1, 309–325. [https://doi.org/10.1163/9789004188266\\_016](https://doi.org/10.1163/9789004188266_016)
- Zalesskaja NT (1972) Biospeologica Sovietica L: Une nouvelle espèce cavernicole de *Harpolithobius* (Chilopoda, Lithobiidae) du Caucase, *Harpolithobius birsteini* n. sp. *International Journal of Speleology* 4(3): 8. [in French] <https://doi.org/10.5038/1827-806X.4.3.8>
- Zalesskaja NT (1976) Nouvelles especes du genre *Monotarsobius* en USSR (Chilopoda, Lithobiomorpha), *Zoologicheskii Zhurnal* 55(4): 607–608. [in Russian]
- Zalesskaja NT (1972a) Fauna of Lithobiidae of the Caucasus. Problems of Soil Zoology – Materials of the 4th All-Union Conference. “Nauka” Publishers, Moscow, 55 pp. [in Russian]
- Zalesskaja NT (1978) Key to Centipedes of USSR: (Chilopoda, Lithobiomorpha). Nauka, 213 pp. [in Russian]
- Zalesskaja NT, Golovatch SI (1996) Some patterns in the distribution and origin of the Lithobiomorph centipede fauna of the Russian Plain (Chilopoda: Lithobiomorpha). *Mémoires du Muséum national d'histoire naturelle* 169[1993]: 265–268. [in Russian]
- Zalesskaja, NT, Shileyko AA (1992) The distribution of Scolopendromorpha in the USSR (Chilopoda). *Berichte des Naturwissenschaftlich-Medizinischen Vereins in Innsbruck, Supplement* 10: 367–372.
- Zapparoli M (2002) A catalogue of centipedes from Greece (Chilopoda). *Fragmenta Entomologica* 34: 1–146.
- Zapparoli M (2011) Centipedes in relic wetlands of Northeastern Italy: faunistic and ecological remarks (Chilopoda). *Gortania* 32(2010): 135–66.
- Zapparoli M, Biondi I (2007) Chilopodi della Riserva Naturale Regionale Monte Rufeno e aree adiacenti (Lazio, Italia centrale) (Chilopoda). *Bollettino della Associazione Romana di Entomologia* 62: 1–40. [in Italian]
- Zapparoli M, Iorio É (2012) The centipedes (Chilopoda) of Corsica: catalogue of species with faunistic, zoogeographical and ecological remarks. *International Journal of Myriapodology* 7: 15–68. <https://doi.org/10.3897/ijm.7.3110>
- Zarei R, Rahimian H, Mirmonsef H, Bona.to L (2020) Geophilomorpha from Alborz Mountains and a checklist of Chilopoda from Iran. *Zootaxa*, 4780 (1): 132–146. <https://doi.org/10.11646/zootaxa.4780.1.6>
- Zuev RV (2016) Centipedes (Chilopoda) from the Stavropol Territory, northern Caucasus, Russia. *Arthropoda Selecta*. 25 (1): 23–38. <https://doi.org/10.15298/arthsel.25.1.03>