

# **ANNOTATED LIST OF INVERTEBRATES OF THE GEORGIAN KARST CAVES**

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## **DEDICATION**

**Dedicated to the memory of Dr. Eristo Kvavadze,  
eminent Georgian zoologist**

## INTRODUCTION

According to the great species and ecosystem diversity, high endemism and high risks of destroying of biodiversity, 34 hot spots of wild life are revealed in the world, among which the Caucasus ecoregion has appropriated place (Mayrs et al., 2000; Zazanashvili et al., 2004; Zazanashvili, 2009).

Western Georgia's karstic outcrops lie along the southern slope of the Greater Caucasus mountain range, extending some 325km from the Psou River to the Ertso Lake area. The total area of karstic rock outcrop amounts to about 4,475km<sup>2</sup>, or 6.4% of the total area of Georgia (Tsikarishvili et al., 2010). The number of the karst caves revealed in Georgia exceeds 1,300 (Tatashidze et al., 2009). Four karst caves from the world's ten deepest karst ones are located in Georgia, including the deepest cave in the world – Krubera-Voronya Cave (2191 m depth) (Tsikarishvili et al., 2010; Klimchouk, 2012).

Cave ecosystems are one of the most fragile ecosystems on the Earth (Elliott, 2000; Hamilton-Smith & Eberhard, 2000; Krajick 2001). Sensitivity of bats and other cavernicoles (obligate cave dwelling organisms) is caused by their vulnerability to human disturbance (Judson Wynne & Pleytez, 2005). Due to the fact that many troglobitic species are endemic to a single cave with low population numbers, most troglobite populations are considered as imperiled (Krajick, 2001). Despite cavernicoles species sensitivity to disturbance, cave ecosystems are poorly understood (Culver et al., 2004).

Obligate cave-dwelling animals (Troglo- and stigobionts) represent quite specific group of animals. They underwent a number of morphological and ecophysiological adaptations for living in the cave environment, where there is a complete darkness, constant temperature, high humidity and low predatory pressure (Pricop & Negrea, 2009). Obligate cave-dwelling animals can be eyeless and pigmentless, have elongated legs and antennae equipped with well-developed sensitive apparatus. They have low rate of metabolism and continuous activity (Pricop & Negrea, 2009).

20 caves and wells are revealed as hotspots of subterranean biodiversity in the world based on high number of obligate cave-dwelling species (troglo- and stigobionts), which vary from 20 to 84 species for each cave and well (Culver & Sket, 2000). D. Culver et al. (2006) suggested presence of potential subterranean hotspots in the karst regions of Western Caucasus in Georgia.

Investigation of the invertebrates in Georgian karst caves has been started at the end of XIX Century, when O. Boettger described new mollusk spe-

cies - *Conulopolita raddei* probably from Shroma (=Stalactite) Cave in Abkhazeti, Georgia (Boettger, 1879). First summarized review of the speleofauna of Georgia was published in 1948 (Zaitzev, 1948), where species sampled in caves were put together with their sampling localities and suitable literature data. Only 103 species were reported from 21 caves of Georgia (Zaitzev, 1948). J. Birstein reviewed cave fauna of the Western Transcaucasia and included 115 species from 36 caves in his paper (Birstein, 1950). J. Birstein also suggested possible Caucasian-Dinaric speleofaunistic connection. D. Kobakhidze reviewed cave fauna of Georgia and underlined reasons why intensive investigation of Georgian cave fauna was interesting (Kobakhidze, 1963). Review of Georgian speleofauna with indicating number of species in each animal phylum or class was published by R. Djanashvili (1980). The Number of cave sampled species reached to 240 species (Djanashvili, 1980). Investigation of the speleofauna proceeded slowly and at the beginning of the 1980s speleofauna had been investigated from only 71 caves (Djanashvili, 1984). 233 species and subspecies were recorded from Georgian caves in a monograph about the cave fauna of Russia and adjacent countries (Kniss, 2001). But, the list, which was basically compiled according to the literature sources, was incomplete and needs to be reviewed and updated. The taxonomic status of many species has been also changed (Tsikarishvili et al., 2010). The data about the speleofauna of each investigated caves were given in the Cadastre of the Karst Caves of Georgia (Tatashidze et al., 2009). However, some animal groups are commonly mentioned without indication of Latin names and citation of biospeleological publications, what indicates that these data were collected by speleologists rather than biospeleologists. Thus, this monograph has less scientific significance.

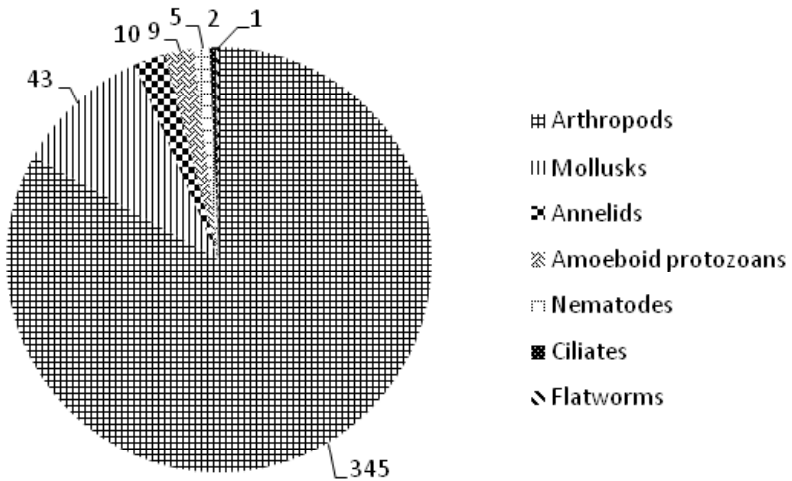
Troglophile - *Trichocera (Saltrichocera) maculipennis* (Meigen 1818) (Diptera: Trichoceridae) is the only one multicellular terrestrial organism in the world, which was found in the depth of 2140 m in Krubera-Voronya Cave, Abkhazeti, Georgia (Sendra & Reboleira, 2012). However, two stygobiont species – *Troglocaris* sp. (Decapoda: Atyidae) and *Zenkevitchia* sp. (Amphipoda: Typhlogammaridae) were sampled at the same depth of the above mentioned cave (Sendra & Reboleira, 2012).

J. Birstein's suggestion about possible Caucasian-Dinaric speleofaunistic connection (Birstein, 1950) was confirmed by phylogenetic study of the cave shrimp – *Troglocaris* sp., which revealed that West Balcanean and Caucasian populations of *Troglocaris* diverged from each other about 6-11 Ma ago (Zakšek et al., 2007).

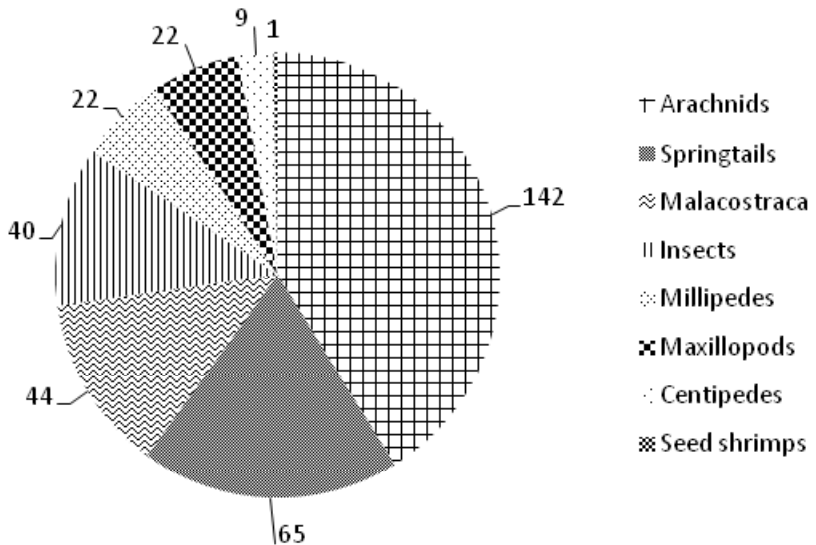
We have reviewed literature data published before 2015 and prepared a list of the invertebrate animals of Georgian karst caves. Besides, we have added new materials, sampled in the caves of Racha, Samegrelo and Imereti regions in 2012-2014. We tried to include in the monograph all the names of each cave in Georgian and Russian, when they had different names. The monograph is composed of 2 parts. In the first part there are listed all invertebrates from unicellular to multicellular animals with their Latin names and synonyms (if synonyms were mentioned in publications), published about Georgian cave fauna. Class, order and family are indicated for each invertebrate species. Also distribution, suitable literature and/or material examined (if we investigated materials) are given for each species. In the second part of the monograph, there is a list of the caves provided in alphabetical order along with their different names (if any), information on cave location and the list of invertebrates known from each cave. All animal groups under each cave are listed in alphabetical order with their common names. Invertebrate species are grouped alphabetically in suitable animal group as well. Along each animal group we write the number of species in parenthesis. Based on literature and our data 415 invertebrate species belonging to 45 orders of 18 classes united in 7 phyla are recorded from 124 karst caves. Maximum number of species belongs to arthropods – 345 species, 43 species – to mollusks, 10 and 9 species - to annelids and amoeboid protozoans respectively; 5, 2 and 1 species – to nematodes, ciliates and flatworms respectively (Diagram 1). Arthropods are represented by 8 classes. Maximum number of species belongs to arachnids – 142 species, while one by one species are registered for seed shrimps and (Diagram 2). Within investigated 124 karst caves, there are only 20 caves with more than 10 invertebrate species registered (Table 1). Maximum number of species - 29 is recorded in Dzudzuana Cave and only 11-11 species are recorded in Sakishore and Sataplia IV caves (Table 1). Invertebrates, belonging to 3 phyla are registered in Kveda Shakurani, Sakishore, Sataplia I, Shroma, Tsebelda and Tskaro caves.

In the conclusion we would like to say that Georgian cave fauna is still poorly investigated, if taking into account that even after our investigations, only about 10% of karst caves are investigated biospeleologically. This should be the result of the absence of local cave biologists for a long time and/or less interest in cave investigation. We hope that, after intensive biospeleological investigation, the number of invertebrate species will be increased due to discovering new endemic troglo- and stygobiont species and hotspots of subterranean diversity will be recognized in Georgia in the future.

**Diagram 1.** The number of invertebrate species in each animal phylum in Georgian karst caves.



**Diagram 2.** The number of invertebrate species in animal classes of the phylum Arthropoda in Georgian karst caves.





**Table 1.** Karst caves with high species number in Georgia.

Abbreviations in table: Amo.: amoeboid protozoans; Ann.: annelids; Art.: arthropods; Cil.: ciliates; Flat.: flatworms; Mol.: mollusks; Nem.: nematodes

Cave	Invertebrate phyla							In total
	Amo.	Cil.	Flat.	Nem.	Ann.	Mol.	Art.	
Dzudzuana	-	-	-	-	-	-	29	29
Tsakhi	-	-	-	-	1	-	27	28
Adzaba	-	-	-	-	1	-	22	23
Kidobana	-	-	-	-	-	-	22	22
Prometheus	-	-	-	-	-	4	13	21
Tetra	-	-	-	-	-	1	19	20
Kveda Shakurani	-	2	-	-	-	5	12	19
Shroma	-	-	-	-	1	4	14	19
Sapichkhia	-	-	-	-	-	2	16	18
Sataplia I	-	-	-	-	1	2	15	18
Kelasuri	-	-	-	-	-	-	17	17
Meliis	-	-	-	-	-	-	17	17
Navenakhevi	-	-	-	-	-	-	17	17
Otapistavi	3	-	-	-	-	-	14	17
Kruber-Voronya	-	-	-	-	-	-	16	16
Tsebelda	-	-	-	-	1	5	11	16
Tskaro	-	-	-	-	1	3	10	14
Motena	-	-	-	-	-	-	13	13
Sakishore	-	-	-	-	1	2	8	11
Sataplia IV	-	-	-	-	-	-	11	11

## **List of caves with more than one name, mentioned in biospeleological and speleological literature**

Abrskili (=Ablaskiri, Achkhi-tizgua, Achkhshe-tiz-gua, Chlou) Cave  
Adzaba (=Eshera) Cave  
Aghmavali (=Old Stalactite, Psirtska, Psyrtska) Cave  
Aghmosavlet Gumista I (=Vostochnaya Gumista I) Cave  
Aghmosavlet Gumista II (=Vostochnaya Gumista II) Cave  
Akhali Atoni (=Anakopia, Iveria ?, Novoafonskaya) Cave  
Akhalshehi (=Andreevka, Andreevskaya) Cave  
Akui (=Chasm of Abkhazian Speleologists) Cave  
Anukhva (=Anukhvinskaya) Cave  
Buja-Karianiklde (=Khreiti) Cave  
Chishura II Cave (=Chishura Cave)  
Dasavlet Gumista (=Zapadnaya Gumista) Cave  
Guma (=Gumi) Cave  
Iluzia-tovliani-mejeni (=Snejnaya, Snezhnaya) Cave  
Jeopse (=Sandripshi) Cave  
Jortsku I (=Jortsku) Cave  
Kelasuri (=Aleksandrovka) cave  
Khvedelidzeebisklde (=Khvedelidze) Cave  
Kuibushevi (=Kuibushevskaya) Cave  
Kveda Akhalshehi (=Nizhnyaya Andreevskaya) Cave  
Kveda Shakurani (=Nizhnyaya Shakuranskaya, Shakurani III) Cave  
Manikvara (=Maanikvara) Cave  
Meliis (=Nikortsminda) Cave  
Mikava (=Okaje) Cave  
Patsristavi (=Novaya, bliz ozera in Tskaltubo) Cave  
Prometheus (=Kumistavi, Orpiri I, Tskaltubo) Cave  
Sakajia (=Virkhovi) Cave

Sakinule (=Nikortsminda) Cave  
 Sakire (=Chuneshi) Cave  
 Sameleklde (=Samele) Cave  
 Samgleklde (=Mgelaklde) Cave  
 Sapichkhia (=Rionhesi) Cave  
 Shua Shakurani (=Shakurani II, Srednyaya Shakuranskaya) Cave  
 Shareula I (=Shareula, Shaora-Shareula) Cave  
 Shroma (=Mikhailovskaya, Stalactite) Cave  
 Simon Kananeli (=St. Simon Canonist, St. Simon kanonik, St. Simon Kananites) Cave  
 Tarkili (=Tarkiladze) Cave  
 Taroklde (=Rachvelebi) Cave  
 Tetra (=Belaya, Tskaltubskaya Stalaktitovaya) Cave  
 Tsakhi (=Gogoleti) Cave  
 Tsebelda (=Tsebeldinskaya) Cave  
 Tsikherva (=St. Ipatia) Cave  
 Tskaltsitela (=Iazoni) Cave  
 Tskaltsitela (=Chakhati) Grotto  
 Tskaro Cave (=Venetsia, peschera u venetsialnogo mosta) Abkhazeti  
 Tsutskhvati Cave Complex (=Maghara, Tsutskhvati I-XI caves)  
 Zeda Akhalsheni Cave (=Verkhnyaya Andreevskaya) Cave  
 Zeda Kvilishori (=Tsikhe) Cave  
 Zeda Shakurani (=Shakurani I, Verkhnyaya Shakuranskaya) Cave  
 Zemo Eshera (=Verkhnyaya Esherskaya) Cave

## PART I. ANNOTATED LIST OF INVERTEBRATES

### Amoeboid Protozoans (Protozoa-Amoebozoa)

*Arcella discoides* Ehrenberg, 1843 (Tubulinea: Arcellinida: Arcellinidae)

**Distribution:** Otapistavi Cave (Chibisova, 1967).

*Centropyxis aculeata* var. *oblonga* deflandre, 1929 (Tubulinea: Arcellinida: Centropyxidae)

**Distribution:** Otapistavi Cave (Chibisova, 1967).

*Cyclopyxis arcelloides* Penard, 1902 (Tubulinea: Arcellinida: Trigonopyxidae)

**Distribution:** Anukhva Cave (Chibisova, 1967).

*Cyclopyxis intermedia* Kufferath, 1932 (= *Cyclopyxis bathystoma* Chibisova, 1967; *Cyclopyxis kahli* var. *grandis* Chibisova, 1967) (Tubulinea: Arcellinida: Trigonopyxidae)

**Distribution:** Anukhva Cave (Chibisova, 1967).

*Cyclopyxis kahli* Deflandre, 1929 (Tubulinea: Arcellinida: Trigonopyxidae)

**Distribution:** Anukhva Cave (Chibisova, 1967).

*Cyclopyxis penardi* var. *minor* Chibisova, 1967 (Tubulinea: Arcellinida: Trigonopyxidae)

**Distribution:** Anukhva Cave (Chibisova, 1967).

*Diffugia oblonga oblonga* Ehrenberg, 1832 (Tubulinea: Arcellinida: Diffugiidae)

**Distribution:** Otapistavi Cave (Chibisova, 1967).

*Plagiopyxis callida* Penard, 1910 (Tubulinea: Arcellinida: Diffugina)

**Distribution:** Anukhva Cave (Chibisova, 1967).

*Pontigulasia incisa* Rhumbler, 1896 (Tubulinea: Arcellinida: Diffugina)

**Distribution:** Anukhva Cave (Chibisova, 1967).

### **Ciliates (Protozoa-Ciliophora)**

***Gymnodinioides* sp.** (Oligohymenophorea: Apostomatida: Foettingeriidae)

**Distribution:** Kveda Shakurani Cave (Dovgal & Vargovitsh, 2010).

***Spelaeophrya troglocaridis* Stammer, 1935** (Phyllopharyngea: Exogonida: Spelaeophryidae)

**Distribution:** Kveda Shakurani Cave (Dovgal & Vargovitsh, 2010).

### **Flatworms (Platyhelminthes)**

***Tricladida* sp. indet. (Turbellaria)**

**Distribution:** Tskaltsitela Cave (Birstein & Lopashov, 1940).

### **Nematodes (Nematoda)**

***Aglenchus agricola* (de Man, 1884) (= *Tylenchus Agricola* de Man, 1884)** (Secernentea: Tylenchida: Tylenchidae)

**Distribution:** Chamkhona Cave (Eliava, 1966).

***Monhystera* sp.** (Chromadorea: Monhysterida: Monhysteridae)

**Distribution:** Chamkhona Cave (Eliava, 1966).

***Plectus rhyzophilus* de Man, 1880** (Chromadorea: Plectida: Plectidae)

**Distribution:** Chamkhona Cave (Eliava, 1966).

***Prismatolaimus dolichurus* de Man, 1880** (Enoplea: Triplonchida: Prismatolaimidae)

**Distribution:** Jeopse Cave (Eliava, 1966).

***Prismatolaimus* sp.** (Enoplea: Triplonchida: Prismatolaimidae)

**Distribution:** Jeopse Cave (Eliava, 1966).

### **Annelids (Annelida)**

#### **Earthworms - Lumbricidae**

***Dendrobaena hortensis* (Michaelsen, 1890) (= *Eisenia birsteini* Malevics, 1947)** (Clitellata: Haplotaxida: Lumbricidae)

**Distribution:** Chlakhe Cave (Malevics, 1947).

***Dendrobaena veneta veneta* (Rosa, 1886) (= *Eisenia veneta* var. *minuta* Malevics, 1947)** (Clitellata: Haplotaxida: Lumbricidae)

**Distribution:** Aiusta Cave (Malevics, 1947).

**Material examined:** Kortskheli Cave, Dark zone, 1 specimen, leg. Sh. Barjadze, det. C. Csuzdi; Samerthkhlekld I Cave, Twilight zone, 2 specimens, leg. Sh. Barjadze, det. C. Csuzdi.

***Eisenia fetida* (Savigny, 1826)** (Clitellata: Haplotaxida: Lumbricidae)

**Distribution:** Chlakhe Cave, Sataplia I Cave, Shroma Cave, Tskaro Cave (Malevics, 1947).

**Material examined:** Sakire Cave, Dark zone, 2 specimens, leg. Sh. Barjadze, det. C. Csuzdi.

***Eophila hypogea* Malevich, 1947** (Clitellata: Haplotaxida: Lumbricidae)

**Distribution:** Tskaltsitela Cave (Malevics, 1947).

#### **Leechs (Annelida – Hirudinea)**

***Dina ratschaensis* Kobakhidze 1958** (Clitellata: Arhynchobdellida: Erpobdellidae)

**Distribution:** Sakishore Cave, Tsvitskala Cave (Kobakhidze, 1958).

**Hirudinea sp. indet.**

**Distribution:** Zeda Kvilishori Cave (Djanashvili, 1980)

#### **Tubificids (Annelida – Tubificida)**

***Embolecephalus velutinus* (Grube 1879) (= *Peloscolex velutinus* Grube)** (Clitellata: Tubificida: Tubificidae)

**Distribution:** Tsebelda Cave (Birstein & Lopashov, 1940).

#### **Haplotaxids (Annelida – Haplotaxida)**

***Archaeodrilus cavaticus* Czerniavsky, 1880** (Clitellata: Haplotaxida: Haplotaxidae)

**Distribution:** Protsenka Cave (near Sokhumi) (Czerniavsky, 1880).

**Comment:** Its taxonomic status is unclear (Malevich, 1947).

***Haplotaxis gordioides* (Hartmann, 1821)** (Clitellata: Haplotaxida: Haplotaxidae)

**Distribution:** Troika Cave (Sidorov, 2014).

**Enchytraeidae sp. indet.** (Clitellata: Haplotaxida)

**Distribution:** Adzaba Cave, Tsakhi Cave (Birstein & Lopashev, 1940; Malevics, 1947).

### **Mollusks (Mollusca)**

***Acrotoma baryshnikovii* Likharev et Schileyko, 2007** (Gastropoda: Pulmonata: Clausiliidae)

**Distribution:** Georgia, South Ossetia, Dzhavsky district, environs of Akhsardgin (about 2 km of Kvaisi settlement), Taling-Leget Cave, 1700 m above sea level (Likharev & Schileyko, 2007).

***Ancylus fluviatilis* (Müller, 1774)** (Gastropoda: Panpulmonata: Planorbidae)

**Material examined:** Sataplia I Cave, Dark zone, 3 specimens, leg. L. Mumladze, det. L. Mumladze.

***Belgrandiella abchasica* Starobogatov, 1962** (Gastropoda: Neotaenioglossa: Hydrobiidae)

**Distribution:** Kveda Shakurani Cave (Starobogatov, 1962).

***Belgrandiella* (?) *abchasica* Starobogatov, 1962** (Gastropoda: Neotaenioglossa: Hydrobiidae)

**Distribution:** Akhali Atoni Cave (Vinarski et al., 2014).

***Bythinella* sp.** (Gastropoda: Littorinimorpha: Amnicolidae)

**Material examined:** Sataplia I Cave, Dark zone, 10 specimens, leg. L. Mumladze, det. L. Mumladze.

***Circassina frutis* (Pfeiffer, 1859)** (Gastropoda: Panpulmonata: Hygromiidae)

**Material examined:** Kortskheli Cave, 1 specimen, leg. T. Arabuli, det. L. Mumladze.

*Cochlicopa lubricella* (Rossmässler, 1834) (Gastropoda: Panpulmonata: Cochlicopidae)

**Material examined:** Prometheus Cave, Dark zone, 1 specimen, leg. L. Mumladze, det. L. Mumladze.

*Codiella* sp. (Gastropoda: Littorinimorpha: Bithynidae)

**Material examined:** Prometheus Cave, Dark zone, 10 specimens, leg. L. Mumladze, det. L. Mumladze.

*Conulopolita cavatica* (Riedel, 1966) (= *Oxychilus cochlospeleus* Tzvetkov in Birshtein, 1950, nomen nudum) (Gastropoda: Pulmonata: Oxychilidae)

**Distribution:** Bacha Cave, Chlakhe Cave, Jeopse Cave, Shroma Cave (Birstein, 1950; Ljovuschkin, 1966).

*Conulopolita raddei* (Boettger, 1879) (= *Hyalinia (Conulopolita) raddei* O. Boettger, 1879) (Gastropoda: Pulmonata: Oxychilidae)

**Distribution:** Anish Cave, Bacha Cave, Chlakhe Cave, Guma Cave, Shroma Cave, Tskaro Cave (Boettger, 1879; Zaitzev, 1948; Birstein, 1950).

*Daudebardia nivea* Schileyko, 1988 (Gastropoda: Pulmonata: Oxychilidae)

**Distribution:** Oficho Cave (Schileyko, 1988).

*Daudebardia* sp. (Gastropoda: Pulmonata: Oxychilidae)

**Distribution:** Tskaro Cave (Zaitzev, 1948).

*Elia derasa* (Mousson, 1863) (Gastropoda: Panpulmonata: Clausiliidae)

**Material examined:** Orpiri II Cave, Dark zone, 1 specimen, leg. L. Mumladze, det. L. Mumladze.

*Euglesa ljevushkini* (Starobogatov, 1962) (= *Pisidium ljevushkini* Starobogatov, 1962) (Bivalvia: Veneroida: Sphaeriidae)

**Distribution:** Tzebelda Cave (Starobogatov, 1962).



***Euglesa subterranea* (Shadin, 1932) (= *Pisidium subterraneum* Shadin, 1932)** (Bivalvia: Veneroida: Sphaeriidae)

**Distribution:** Sapichkhia Cave, Tsebelda Cave (Shadin, 1932; Birstein & Lopashov, 1940; Tzvetkov, 1940).

***Eumilax brandti* (Martens, 1880) (= *Paralimax albocarinatus* Simroth, 1901)** (Gastropoda: Pulmonata: Limacidae)

**Distribution:** Shroma Cave (Birstein & Lopashov, 1940, Tsvetkov, 1940; Zaitzev, 1948; Birstein, 1950).

***Eumilax cf. brandti* (Martens, 1880)** (Gastropoda: Pulmonata: Limacidae)

**Material examined:** Sakishore Cave, Dark zone, 1 specimen, leg. Sh. Barjadze, det. L. Mumladze.

***Geyeria horatieformis* Starobogatov, 1962** (Gastropoda: Neotaenioglossa: Hydrobiidae)

**Distribution:** Kveda Shakurani Cave (Starobogatov, 1962).

***Hyalinia* sp.** (Gastropoda: Stylommatophora: Zonitidae)

**Distribution:** Tskaro Cave (Zaitzev, 1948).

***Lauria* sp.** (Gastropoda: Pulmonata: Lauriidae)

**Distribution:** Chlakhe Cave (Birstein, 1950).

***Lesticulus nocturnus* Schileyko, 1988** (Gastropoda: Stylommatophora: Trigonochlamydidae)

**Distribution:** Oficho Cave (Schileyko, 1988).

***Motsametia borutzkyi* (Shadin, 1932) (= *Horatia borutzkyi* Shadin, 1932)** (Gastropoda: Neotaenioglossa: Hydrobiidae)

**Distribution:** Sapichkhia Cave, Tskaltsitela Cave (Shadin, 1932; Vinarski et al. 2014).

***Mucronaria pleuroptychia* (Boettger, 1878)** (Gastropoda: Panpulmonata: Clausiliidae)

**Material examined:** Bregvadzeebisklde Cave, Entrance zone, 1 specimen, leg. T. Arabuli, det. L. Mumladze.

«*Oxychilus*» *birsteini* Tzvetkov, 1940 (Gastropoda: Pulmonata: Oxychilidae)

**Distribution:** Kveda Akhalsheni Cave (Tzvetkov, 1940; Birstein, 1950).

*Oxychilus koutaisianus* (Mousson, 1863) (Gastropoda: Pulmonata: Oxychilidae)

**Material examined:** Chishura source Cave, 1 specimen, leg. T. Arabuli, det. L. Mumladze; Chishura II Cave, 1 specimen, leg. T. Arabuli, det. L. Mumladze; Kakhidze Cave, Twilight zone, 1 specimen, leg. Sh. Barjadze, det. L. Mumladze; Nagarevi Grotto, Twilight zone, 1 specimen, leg. T. Arabuli, det. L. Mumladze; Orpiri II Cave, Dark zone, 1 specimen, leg. L. Mumladze, det. L. Mumladze; Samertskhleklde I Cave, Dark zone, 1 specimen, leg. T. Arabuli, det. L. Mumladze; Taroklde Cave, Dark zone, 3 specimens, leg. T. Arabuli, det. L. Mumladze; Tsklisklde Cave, Twilight zone, 1 specimen, leg. T. Arabuli, det. L. Mumladze.

*Oxychilus subeffusus* (Boettger, 1879) (= *Vitrea subeffusa* Boettger, 1879) (Gastropoda: Pulmonata: Oxychilidae)

**Distribution:** Tsebelda Cave (Birstein & Lopashov, 1940; Tsvetkov, 1940).

*Oxychilus sucinaceus sucinaceus* (Bottger, 1883) (Gastropoda: Pulmonata: Oxychilidae)

**Material examined:** Kakhidze Cave, Twilight zone, 2 specimens, leg. T. Arabuli, det. L. Mumladze; Nazodelavo Cave, Entrance zone, 1 specimen, Twilight zone, 1 specimen, leg. T. Arabuli, det. L. Mumladze; Orpiri II Cave, Dark zone, 5 specimens, leg. L. Mumladze, det. L. Mumladze; Satsurbliia Cave, Dark zone, 1 specimen, leg. L. Mumladze, det. L. Mumladze; Savekuo Cave, Entrance zone, 2 specimens, Twilight zone, 1 specimen, Dark zone, 1 specimen; leg. T. Arabuli, det. L. Mumladze; Solkota Cave, Entrance zone, 6 specimens, leg. L. Mumladze, det. L. Mumladze; Tetra Cave, Entrance zone, 3 specimens, leg. L. Mumladze, det. L. Mum-

ladze; Tsklisklde Cave, Dark zone, 1 specimen, leg. T. Arabuli, det. L. Mumladze;

***Oxychilus* sp. 1 (as *Oxychilus subreticulata* Tzvetkov (nomen nudum))** (Gastropoda: Pulmonata: Oxychilidae)

**Distribution:** Guma Cave (Birstein, 1950).

***Oxychilus* sp. 2** (Gastropoda: Pulmonata: Oxychilidae)

**Material examined:** Tsvitskala Cave, Entrance zone, 1 specimen, leg. Sh. Barjadze, det. L. Mumladze.

***Paladilhiopsis aculeus* Starobogatov, 1962** (Gastropoda: Neotaenioglossa: Moitessieriidae)

**Distribution:** Kveda Shakurani Cave (Starobogatov, 1962).

***Paladilhiopsis schakuranica* Starobogatov, 1962** (Gastropoda: Neotaenioglossa: Moitessieriidae)

**Distribution:** Kveda Shakurani Cave (Starobogatov, 1962).

***Paladilhiopsis shadini* Starobogatov, 1962** (Gastropoda: Neotaenioglossa: Moitessieriidae)

**Distribution:** Akhali Atoni Cave, Tsebelda Cave (Starobogatov, 1962; Vinnarski et al., 2014).

***Physella acuta* (Draparnaud, 1805)** (Gastropoda: Panpulmonata: Physidae)

**Material examined:** Prometheus Cave, Dark zone, 1 specimen, leg. L. Mumladze, det. L. Mumladze.

***Pontohoratia birsteini* (Starobogatov, 1962) (= *Horatia birsteini* Starobogatov, 1962, *Horatia ljevushkini* Starobogatov, 1962, *Horatia sokolovi* Starobogatov, 1962)** (Gastropoda: Neotaenioglossa: Hydrobiidae)

**Distribution:** Kveda Shakurani Cave, Tsebelda Cave (Starobogatov, 1962).

***Pontohoratia smyri* Vinarski, Palatov, Glöer, 2014** (Gastropoda: Neotaenioglossa: Hydrobiidae)

**Distribution:** Akhali Atoni Cave (Vinarski et al. 2014).

***Schistophallus sucinacius* (Boettger, 1883)** (Gastropoda: Pulmonata: Oxychilidae)

**Material examined:** Sakishore Cave, Dark zone, 1 specimen, leg. Sh. Barjadze, det. L. Mumladze.

***Scrobifera taurica taurica* (Pfeiffer, 1848) (= *Idula foveicollis* Charpentier, 1852)** (Gastropoda: Pulmonata: Clausiliidae)

**Distribution:** Chamkhona Cave (Ljovuschkin, 1966).

***Serrulina* sp. 1 (as *Serrulina birsteini* Tzvetkov (nomen nudum))** (Gastropoda: Pulmonata: Clausiliidae)

**Distribution:** Chlakhe Cave (Birstein, 1950).

***Serrulina* sp. 2 (as *Serrulina inferna* Tzvetkov (nomen nudum))** (Gastropoda: Pulmonata: Clausiliidae)

**Distribution:** Bacha Cave (Birstein, 1950).

***Serrulina* sp. 3 (as *Serrulina serena* Tzvetkov (nomen nudum))** (Gastropoda: Pulmonata: Clausiliidae)

**Distribution:** Shroma Cave (Birstein, 1950).

***Serrulina* sp. 4.** (Gastropoda: Pulmonata: Clausiliidae)

**Distribution:** Zeda Akhalsheni Cave (Birstein, 1950).

***Vitrinoxychilus subsuturalis* (Boettger, 1888)** (Gastropoda: Panpulmonata: Oxychilidae)

**Material examined:** Godogani Cave, Dark zone, 1 specimen, leg. T. Arabuli, det. L. Mumladze.

***Vitrinoxychilus suturalis* (Boettger, 1881)** (Gastropoda: Panpulmonata: Oxychilidae)

**Material examined:** Prometheus Cave, Dark zone, 1 specimen, leg. L. Mumladze, det. L. Mumladze.

**Millipedes (Arthropoda-Diplopoda)**

*Anamastigona mauriesi* Golovatch & Makarov, 2011 (Diplopoda: Chordeumatida: Anthroleucosomatidae)

**Distribution:** Tarkili Cave (Golovatch & Makarov, 2011).

*Archileucogeorgia abchasica* (Lohmander, 1936) (Diplopoda: Julida: Julidae)

**Distribution:** Abrskili Cave, Kelasuri Cave (Lohmander, 1936; Birstein & Lopashov, 1940).

*Archileucogeorgia satunini* (Lohmander, 1936) (Diplopoda: Julida: Julidae)

**Distribution:** Kelasuri Cave (Lohmander, 1936).

*Archileucogeorgia* sp. (Diplopoda: Julida: Julidae)

**Distribution:** Bnelaklde Cave, Sakadzhia Cave, Sakire Cave, Sataplia I, II and IV caves, Tetra Cave, Tkibula-Dzevrula Cave, Tsakhi Cave, Tvishi Cave, Zeda Kvilishori Cave (Golovatch, 1981).

*Brachydesmus ferrugineus* Lohmander, 1936 (Diplopoda: Polydesmida: Polydesmidae)

**Distribution:** Meliis Cave (Golovatch, 1981).

*Brachydesmus kalischewskyi* Lignau, 1911 (Diplopoda: Polydesmida: Polydesmidae)

**Distribution:** Kudaro Cave (Golovatch, 1981).

*Choneiulus* sp. (Diplopoda: Julida: Blaniulidae)

**Distribution:** Cave in the Enguri gorge (Golovatch, 1981).

*Cylindroiulus* sp. (Diplopoda: Julida: Julidae)

**Distribution:** Meliis Cave (Golovatch, 1981).

***Leucogeorgia longipes* Verhoeff, 1930** (Diplopoda: Julida: Julidae)  
**Distribution:** Sapichkhia Cave (Verhoeff, 1930).

***Leucogeorgia rediviva* Golovatch, 1983** (Diplopoda: Julida: Julidae)  
**Distribution:** Sabatchya Cave (Golovatch, 1983).

***Leucogeorgia* sp.** (Diplopoda: Julida: Julidae)  
**Distribution:** Tsakhi Cave (Birstein & Lopashov, 1940)

***Megaphyllum (Pontobrachiulus) dioscoriadis* (Lignau, 1914)** (Diplopoda: Julida: Julidae)  
**Distribution:** Shroma Cave (Lohmander, 1936; Kobakhidze, 1965).

***Nopoiulus (Paranopoiulus) sp.*** (Diplopoda: Julida: Blaniulidae)  
**Distribution:** Kelasuri Cave (Lohmander, 1936; Kobakhidze, 1965).

***Ratcheuma excorne* Golovatch, 1985** (Diplopoda: Chordeumatida: Anthroleucosomatidae)  
**Distribution:** Meliis Cave (Golovatch, 1985).

***Trachysphaera fragilis* Golovatch, 1976** (Diplopoda: Glomerida: Doderiidae)  
**Distribution:** Ghliana Cave, Kumistavi Cave, Motena Cave, Orpiri II Cave, Prometheus Cave, Sataplia I Cave, Sataplia II Cave, Sataplia IV Cave, Solkota Cave, Tetra Cave (Golovatch, 1976, 1990).

***Trachysphaera minuta* Golovatch, 1976** (Diplopoda: Glomerida: Doderiidae)  
**Distribution:** Shareula I Cave (Golovatch, 1990).

***Trachysphaera orientalis* Golovatch, 1976** (Diplopoda: Glomerida: Doderiidae)  
**Distribution:** Bnelakldze Cave, Taroklde Cave, Tsakhi Cave (Golovatch, 1976, 1990).

***Trachysphaera radiosa* (Lignau, 1911)** (Diplopoda: Glomerida: Doderiidae)  
**Distribution:** Sataplia I Cave (Golovatch, 1976).

***Trachysphaera solida* Golovatch, 1976** (Diplopoda: Glomerida: Doderiidae)  
**Distribution:** Prometheus Cave (Golovatch, 1976).

**Family Glomeridae indet.** (Diplopoda: Glomerida)  
**Distribution:** Tsakhi Cave (Birstein & Lopashov, 1940).

**Order Chordeumatida sp. indet.**  
**Distribution:** Adzaba Cave (Birstein & Lopashov, 1940).

**Order Chordeumatida sp. indet.**  
**Distribution:** Krubera-Voronya Cave (Sendra & Reboleira, 2012).

### **Centipedes (Arthropoda-Chilopoda)**

***Harpolithobius birsteini* Zaleskaya, 1972** (Chilopoda: Lithobiomorpha: Lithobiidae)  
**Distribution:** Avidzba Cave (Zaleskaya, 1972).

***Lithobius coloratus* Sseliwanoff, 1881** (Chilopoda: Lithobiomorpha: Lithobiidae)  
**Distribution:** Tsvitskala Cave (Zaleskaya, 1972).

***Lithobius erythrocephalus* Koch, 1847** (Chilopoda: Lithobiomorpha: Lithobiidae)  
**Distribution:** Tsvitskala Cave (Zaleskaya, 1972).

***Lithobius portchinskii* Sseliwanoff, 1881** (Chilopoda: Lithobiomorpha: Lithobiidae)  
**Material examined:** Sataplia I Cave, 25.X.1981, 1 female, leg. S. Golovatch, det. A. Minelli.

***Lithobius reconditus* Zaleskaja, 1972** (Chilopoda: Lithobiomorpha: Lithobiidae)  
**Material examined:** Sataplia I Cave, 25.X.1981, 3 specimens, leg. S. Golovatch, det. A. Minelli.

***Lithobius stuxbergi* Seliwanoff, 1881** (Chilopoda: Lithobiomorpha: Lithobiidae)

**Distribution:** Otapistavi Cave (Zalesskaya, 1972).

**Material examined:** Sataplia I Cave, 25.X.1981, 3 specimens, leg. S. Golovatch, det. A. Minelli.

***Lithobius* sp.** (Chilopoda: Lithobiomorpha: Lithobiidae)

**Distribution:** Anish Cave, Otapistavi Cave, Tsakhi Cave (Birstein, 1950).

***Lithobius* sp.** (Chilopoda: Lithobiomorpha: Lithobiidae)

**Distribution:** Chamkhona Cave (Ljovuschkin, 1966).

***Scutigera coleoptrata* (Linnaeus, 1758)** (Chilopoda: Scutigerozoa: Scutigeridae)

**Distribution:** Tsikherva Cave (Birstein, 1950).

#### **Amphipods – (Arthropoda: Malacostraca: Amphipoda)**

***Anopogammarus revazi* (Birstein & Levuschkin, 1970) (= *Zenkebitchia revazi* Birstein & Levuschkin, 1970)** (Malacostraca: Amphipoda: Typhlogammaridae)

**Distribution:** Motena Cave (Birstein & Levuschkin, 1970).

***Anopogammarus* sp.** (Malacostraca: Amphipoda: Typhlogammaridae)

**Distribution:** Akhali Atoni Cave (Vinarski et al., 2014)

***Gammarus komareki imeretinus* Birstein, 1933** (Malacostraca: Amphipoda: Niphargidae)

**Distribution:** Tskaltsitela Cave (Birstein, 1933).

***Gammarus pulex* Linnaeus, 1758** (Malacostraca: Amphipoda: Niphargidae)

**Distribution:** Adzaba Cave, Tsebelda Cave (Birstein & Lopashov, 1940).

***Niphargus ablaskiri ablaskiri* Birstein, 1940** (Malacostraca: Amphipoda: Niphargidae)

**Distribution:** Abrskili Cave (Birstein, 1940, 1950).



***Niphargus borutzkyi* Birstein, 1933** (Malacostraca: Amphipoda: Niphargidae)  
**Distribution:** Sapichkhia Cave, Sataplia I Cave, Tskaltsitela Cave (Birstein, 1933, 1950).

**Comment:** This species was mentioned as “*Niphargus stygius borutzkyi* Birstein” erroneously in Birstein, 1950 for Tskaltsitela, Sapichkhia and Sataplia I caves.

***Niphargus inermis* Birstein, 1940 (= *Niphargus ablaskiri inermis* Birstein, 1940)** (Malacostraca: Amphipoda: Niphargidae)

**Distribution:** Kelasuri Cave, Kveda Shakurani Cave, Shroma Cave, Troika Cave (Birstein, 1940, 1950; Sidorov, 2014).

***Niphargus iniochus* Birstein, 1941 (= *Niphargus puteanus iniochus* Birstein, 1941)** (Malacostraca: Amphipoda: Niphargidae)

**Distribution:** Kveda Akhalsheni Cave, Kveda Shakurani Cave (Birstein & Lopashov, 1940; Birstein, 1941, 1950; Sidorov, 2014).

***Niphargus magnus* Birstein, 1940 (= *Niphargus longicaudatus magnus* Birstein, 1940)** (Malacostraca: Amphipoda: Niphargidae)

**Distribution:** Kveda Shakurani Cave, Otapistavi Cave, Shua Shakurani Cave, Tsebelda Cave (Birstein & Lopashov, 1940; Birstein, 1940, 1950).

***Niphargus otharicus* Birstein, 1952 (= *Niphargus puteanus otharicus* Birstein, 1952)** (Malacostraca: Amphipoda: Niphargidae)

**Distribution:** Bacha Cave (Birstein, 1952).

***Stygobromus behningi* (Birstein, 1948) (= *Synurella behningi* Birstein, 1948)** (Malacostraca: Amphipoda: Crangonyctidae)

**Distribution:** Bacha Cave (Birstein, 1948).

***Zenkevitchia admirabilis* Birstein, 1941** (Malacostraca: Amphipoda: Typhlogammaridae)

**Distribution:** Agumava Cave, Akhali Atoni Cave?, Kveda Akhalsheni Cave, Kveda Shakurani Cave, Shua Shakurani Cave, Tarkili Cave, Tsebelda Cave, Zeda Shakurani Cave (Birstein & Lopashov, 1940; Birstein, 1940, 1950; Birstein & Levuschkina, 1970; Sidorov, 2014).

***Zenkevitchia* sp. 1** (Malacostraca: Amphipoda: Typhlogammaridae)  
**Distribution:** Krubera-Voronya Cave (Sendra & Reboleira, 2012).

***Zenkevitchia* sp. 2** (Malacostraca: Amphipoda: Typhlogammaridae)  
**Distribution:** Troika Cave (Sidorov, 2014).

**Decapods – (Arthropoda: Malacostraca: Decapoda)**

***Troglocaris (Xiphocaridinella) ablaskiri* Birstein, 1939 (= *Troglocaris schmidti ablaskiri* Birstein, 1939)** (Malacostraca: Decapoda: Atyidae)  
**Distribution:** Abrskili Cave (Birstein, 1939; Birstein & Lopashov, 1940).

***Troglocaris birsteini* Mugue, Zueva & Ershov, 2001** (Malacostraca: Decapoda: Atyidae)  
**Distribution:** Abrskili Cave, Otapistavi Cave (Mugue, Zueva & Ershov, 2001).

***Troglocaris (Xiphocaridinella) fagei* Birstein, 1939 (= *Troglocaris schmidti fagei* Birstein, 1939)** (Malacostraca: Decapoda: Atyidae)  
**Distribution:** Aghmavali Cave, Akhali Atoni Cave (Birstein & Lopashov, 1940; Birstein, 1950; Marin & Sokolova, 2014).

***Troglocaris (Xiphocaridinella) kutaissiana* (Sadowsky, 1930) (= *Troglocaris schmidti kutaissiana* (Sadowsky, 1930)** (Malacostraca: Decapoda: Atyidae)  
**Distribution:** Sapichkhia Cave, Tskaltsitela Cave (Sadowsky, 1930; Birstein, 1950).

***Troglocaris (Xiphocaridinella) osterloffii* Juzbaš'jan, 1940 (= *Troglocaris schmidti ostewrloffii* Juzbaš'jan, 1940)** (Malacostraca: Decapoda: Atyidae)  
**Distribution:** Kveda Shakurani Cave (Juzbaš'jan, 1940; Birstein, 1950).

***Troglocaris schmidti* Dormitzer, 1853** (Malacostraca: Decapoda: Atyidae)  
**Distribution:** Otapistavi Cave, Tskaro Cave (Birstein & Lopashov, 1940).  
**Comment:** This is probably *Troglocaris birsteini* in Otapistavi Cave and possibly undescribed species from Tskaro Cave.

*Troglocaris* sp. (Malacostraca: Decapoda: Atyidae)

**Distribution:** Krubera-Voronya Cave (Sendra & Reboleira, 2012).

### **Isopods – (Arthropoda: Malacostraca: Isopoda)**

*Asellus monticola fontinalis* Birstein, 1936 (Malacostraca: Isopoda: Asellidae)

**Distribution:** Tskaltsitela Cave (Vinarski et al., 2014).

*Asellus* sp. (Malacostraca: Isopoda: Asellidae)

**Distribution:** Adzaba Cave (Zaitzev, 1948).

*Borutzkyella revasi* (Borutzky, 1973) (= *Buddelundiella revasi* Borutzky, 1973) (Malacostraca: Isopoda: Trichoniscidae)

**Distribution:** Akui Cave (Borutzky, 1973).

*Buddelundiella cataractae* Verhoeff, 1930 (Malacostraca: Isopoda: Trichoniscidae)

**Distribution:** Sataplia IV Cave (Borutzky, 1973).

*Caucasoligidium cavernicola ajustae* Borutzky, 1950 (Malacostraca: Isopoda: Ligiidae)

**Distribution:** Aiusta Cave, Jeopse Cave (Borutzky, 1950, 1966; Ljovuschkin, 1966).

*Caucasoligidium cavernicola amtkelicum* Borutzky, 1950 (Malacostraca: Isopoda: Ligiidae)

**Distribution:** Kveda Shakurani Cave (Borutzky, 1950).

*Caucasoligidium cavernicola cavernicola* Borutzky, 1950 (Malacostraca: Isopoda: Ligiidae)

**Distribution:** Adzaba Cave, Shroma Cave (Borutzky, 1950).

*Caucasoligidium cavernicola gogoleticum* Borutzky, 1950 (Malacostraca: Isopoda: Ligiidae)

**Distribution:** Tsakhi Cave (Borutzky, 1950).

*Caucasoligidium cavernicola gumistae* Borutzky, 1950 (Malacostraca: Isopoda: Ligiidae)

**Distribution:** Kveda Akhalsheni Cave, Zeda Akhalsheni Cave (Borutzky, 1950).

*Caucasonethes borutzkyi* Verhoeff, 1932 (Malacostraca: Isopoda: Trichoniscidae)

**Distribution:** Sapichkhia Cave (Verhoeff, 1932).

*Colchidoniscus kutaissianus* Borutzky, 1974 (Malacostraca: Isopoda: Trichoniscidae)

**Distribution:** Orpiri II Cave, Sakadzhia Cave, Solkota Cave, Tetra Cave (Borutzky, 1974).

*Colchidoniscus kutaissianus motenae* Borutzky, 1974 (Malacostraca: Isopoda: Trichoniscidae)

**Distribution:** Motena Cave (Borutzky, 1974).

*Cylisticus caucasius* Verhoeff, 1917 (Malacostraca: Isopoda: Cylisticidae)

**Distribution:** Chlakhe Cave, Likhni Cave, Tsikherva Cave (Birstein, 1950).

*Ligidium fragile* Budde-Lund, 1885 (= *Ligidium euxinum* Verhoeff, 1918; *Ligidium euxinum caucasicum* Verhoeff) (Malacostraca: Isopoda: Ligiidae)

**Distribution:** Bacha Cave, Chlakhe Cave, Likhni Cave (Borutzky, 1950).

*Ligidium nodulosum* Verhoeff, 1918 (Malacostraca: Isopoda: Ligiidae)

**Distribution:** Adzaba Cave, Shroma Cave, Tsikherva Cave (Borutzky, 1950).

*Ligidium oligodentatum* Bor. nomen nudum (Malacostraca: Isopoda: Ligiidae)

**Distribution:** Tskaro Cave (Birstein, 1950).

***Ligidium zaitzevi* Borutzky, 1950** (Malacostraca: Isopoda: Ligiidae)

**Distribution:** Shroma Cave, Tskaro Cave (Borutzky, 1950).

***Ligidium* sp. 1** (Malacostraca: Isopoda: Ligiidae)

**Distribution:** Otapistavi Cave (Birstein & Lopashov, 1940).

***Ligidium* sp. 2** (Malacostraca: Isopoda: Ligiidae)

**Distribution:** Kveda Shakurani Cave (Birstein & Lopashov, 1940).

**Comment:** This is probably *Caucasoligidium cavernicola amtkelicum* Borutzky, 1950 (Borutzky, 1950).

***Ligidium* sp. 3** (Malacostraca: Isopoda: Ligiidae)

**Distribution:** Akhalsheni Cave (Birstein & Lopashov, 1940).

**Comment:** This is probably *Caucasoligidium cavernicola gumistae* Borutzky, 1950 (Borutzky, 1950).

***Ligidium* sp. 4** (Malacostraca: Isopoda: Ligiidae)

**Distribution:** Shroma Cave (Birstein & Lopashov, 1940).

**Comment:** This is probably *Caucasoligidium cavernicola cavernicola* Borutzky, 1950 or *Ligidium nodulosum* Verhoeff, 1918 or *Ligidium zaitzevi* Borutzky, 1950, which were determined later from Shroma Cave (Borutzky, 1950).

***Mingrelloniscus inchhuricus* Borutzky, 1974** (Malacostraca: Isopoda: Trichoniscidae)

**Distribution:** Inchkhuri Cave (Borutzky, 1974).

***Trachelipus* sp. (= *Tracheoniscus* sp.)** (Malacostraca: Isopoda: Trachelipodidae)

**Distribution:** Adzaba Cave (Birstein & Lopashov, 1940).

***Trichoniscus aphoniscus abchasicus* Borutzky, 1977** (Malacostraca: Isopoda: Trichoniscidae)

**Distribution:** Adzaba Cave, Dasavlet Gumista Cave, Kveda Akhalsheni Cave, Shroma Cave, Tskaro Cave, Zeda Akhalsheni Cave (Borutzky, 1977).

*Trichoniscus aponicus aponicus* Borutzky, 1977 (Malacostraca: Isopoda: Trichoniscidae)

**Distribution:** Akui Cave, Akhali Atoni Cave, Anukhva Cave, Apokalin-skaya Cave, Manikvara Cave, Simon Kananeli Cave (Borutzky, 1977).

*Trichoniscus aponicus codoricus* Borutzky, 1977 (Malacostraca: Isopoda: Trichoniscidae)

**Distribution:** Abrskili Cave, Otapistavi Cave (Borutzky, 1977).

*Trichoniscus gudauticus anamalus* Borutzky, 1977 (Malacostraca: Isopoda: Trichoniscidae)

**Distribution:** Unknown cave in Gudauta dostrict, Abkhazeti, Georgia (Borutzky, 1977).

*Trichoniscus gudauticus gudauticus* Borutzky, 1977 (Malacostraca: Isopoda: Trichoniscidae)

**Distribution:** Bacha Cave, Likhni Cave (Borutzky, 1977).

*Trichoniscus* sp. 1 (Malacostraca: Isopoda: Trichoniscidae)

**Distribution:** Aghmavali Cave (Birstein & Lopashov, 1940).

*Trichoniscus* sp. 2 (Malacostraca: Isopoda: Trichoniscidae)

**Distribution:** Otapistavi Cave (Birstein & Lopashov, 1940).

#### **Syncarida - (Arthropoda: Malacostraca: Bathynellacea)**

*Parabathynella stygia* Chappuis, 1926 (Malacostraca: Bathynellacea: Parabathynellidae)

**Distribution:** Kveda Kvilishori Cave (Birstein & Ljovuschkin, 1968).

#### **Maxillopods – (Arthropoda: Maxillopoda)**

*Acanthocyclops vernalis vernalis* (Fischer, 1853) (Maxillopoda: Cyclopoida: Cyclopidae)

**Distribution:** Abrskili Cave, Aghmavali Cave, Sapichkhia Cave (Borutzky, 1930a; Birstein, 1950).

*Attheyella crassa* (Sars, 1863) (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Ghliana Cave, Kveda Kvilishori Cave (Borutzky & Mikhailova-Neikova, 1970).

*Attheyella wulmeroides* Borutzky, 1930 (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Sapichkhia Cave (Borutzky, 1930b, 1940, 1948; Birstein, 1950).

*Bryocamptus birsteini* Borutzky, 1940 (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Tsakhi Cave (Birstein & Lopashov, 1940; Borutzky, 1940, 1948; Birstein, 1950).

*Bryocamptus innominatus* Borutzky, 1940 (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Otapistavi Cave, Tsakhi Cave, Zeda Kvilishori Cave (Birstein & Lopashov, 1940; Borutzky, 1940, 1948; Birstein, 1950; Borutzky & Mikhailova-Neikova, 1970).

*Bryocamptus reductus* Borutzky, 1948 (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Shroma Cave (Borutzky, 1948; Birstein, 1950).

*Bryocamptus zschokkei caucasicus* Kiefer, 1978 (= *Bryocamptus zschokkei caucasicus* Borutzky, 1960) (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Kveda Kvilishori Cave, Zeda Kvilishori Cave (Borutzky & Mikhailova-Neikova, 1970).

*Bryocamptus zschokkei similis* Borutzky, 1930 (= *Bryocamptus similis* Borutzky, 1930) (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Sapichkhia Cave (Borutzky, 1930b).

*Bryocamptus zschokkei tatrensis* (Minkiewicz, 1916) (= *Bryocamptus caucasicus* Borutzky, 1931) (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Sapichkhia Cave (Borutzky, 1930b; Birstein, 1950).

*Ceuthonectes serbicus* Chappuis, 1924 (= *Morariodes colchidana* Borutzky, 1930) (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Kveda Kvilishori Cave, Sakire Cave, Sapichkhia Cave (Borutzky, 1930b, 1940; Birstein, 1950; Borutzky & Mikhailova-Neikova, 1970).

*Cyclops strenuus strenuus* Fischer, 1851 (Maxillopoda: Cyclopoida: Cyclopidae)

**Distribution:** Aghmavali Cave, Simon Kananeli Cave (Birstein & Lopashov, 1940; Birstein, 1950).

*Diacyclops bicuspidatus* (Claus, 1857) (= *Acanthocyclops bicuspidatus* Claus, 1857) (Maxillopoda: Cyclopoida: Cyclopidae)

**Distribution:** Sapichkhia Cave (Borutzky, 1930a; Birstein, 1950).

*Echinocamptus georgevitchi* (Chappuis, 1924) (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Ghliana Cave (Borutzky & Mikhailova-Neikova, 1970).

*Elaphoidella birsteini* Borutzky, 1948 (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Shroma Cave (Birstein, 1950; Borutzky, 1948).

*Eucyclops serrulatus serrulatus* (Fischer, 1851) (?) (Maxillopoda: Cyclopoida: Cyclopidae)

**Distribution:** Sapichkhia Cave (Borutzky, 1930; Zaitzev, 1948).

*Macrocyclus albidus albidus* (Jurine, 1820) (Maxillopoda: Cyclopoida: Cyclopidae)

**Distribution:** Sapichkhia Cave (Borutzky, 1930a; Zaitzev, 1948).

*Moraria colchica* Borutzky & Mikhailova-Neikova, 1970 (Maxillopoda: Harpacticoida: Canthocamptidae)



**Distribution:** Kveda Kvilishori Cave (Borutzky & Mikhailova-Neikova, 1970).

***Moraria cornuta* Borutzky, 1948** (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Shroma Cave (Borutzky, 1948; Birstein, 1950).

***Moraria varica* (Graeter, 1911)** (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Inchkhuri Cave (Borutzky & Mikhailova-Neikova, 1970).

***Moraria* sp.** (Maxillopoda: Harpacticoida: Canthocamptidae)

**Distribution:** Tarkili Cave (Borutzky, 1948; Zaitzev, 1948).

***Nitocrella colchica* Borutzky & Mikhailova-Neikova, 1970** (Maxillopoda: Harpacticoida: Ameiridae)

**Distribution:** Kveda Kvilishori Cave (Borutzky & Mikhailova-Neikova, 1970).

***Nitocrella* sp.** (Maxillopoda: Harpacticoida: Ameiridae)

**Distribution:** Zeda Kvilishori Cave (Borutzky & Mikhailova-Neikova, 1970).

***Paracyclops fimbriatus fimbriatus* (Fischer, 1853)** (Maxillopoda: Cyclopoida: Cyclopidae)

**Distribution:** Adzaba Cave, Aghmavali Cave, Sapichkhia Cave, Simon Kananeli Cave, Tarkili Cave (Borutzky, 1930a; 1948; Birstein & Lopashov, 1940; Birstein, 1950).

***Speocyclops colchidanus* (Borutzky, 1930)** (Maxillopoda: Cyclopoida: Cyclopidae)

**Distribution:** Sapichkhia Cave (Borutzky, 1930a; Birstein, 1950).

#### **Seed shrimp-(Arthropoda: Ostracoda: Podocopida)**

***Mixtacandona riongessa* (Bronstein, 1947) (=Cryptocandona riongessa Bronstein, 1947)** (Ostracoda: Podocopida: Candonidae)

**Distribution:** Sapichkhia Cave (Bronstein, 1947).

### Harvestmen – (Arthropoda-Arachnida-Opiliones)

***Giljarovia redikorzevi* (Charitonov 1946) (= *Nemastoma redikorzevi* Charitonov, 1946, *Malekia redikorzevi* (Charitonov, 1946))** (Arachnida: Opiliones: Nemastomatidae)

**Distribution:** Sataplia 1 Cave, Tsutskhvati Cave (Charitonov, 1946; Ljovushkin & Starobogatov, 1963; Martens, 2006).

***Mitostoma gracile* (Redikorzev, 1936)** (Arachnida: Opiliones: Nemastomatidae)

**Distribution:** MFTI Cave (Martens, 2006).

***Nelima pontica* (Charitonov, 1941)** (Arachnida: Opiliones: Sclerosomatidae)

**Distribution:** Adzaba Cave, Kelasuri Cave, Tskaro Cave (Charitonov, 1941a, 1947; Zaitzev, 1948).

***Nemaspela abchasica* (Ljovuschkin & Starobogatov, 1963) (= *Buresiolla abchasica* Ljovuschkin & Starobogatov, 1963)** (Arachnida: Opiliones: Nemastomatidae)

**Distribution:** Kuibishevi Cave, Kveda Shakurani Cave, L-24 Cave (Ljovushkin & Starobogatov, 1963; Ljovushkin, 1972; Martens, 2006).

***Nemaspela birsteini* Ljovuschkin, 1972** (Arachnida: Opiliones: Nemastomatidae)

**Distribution:** Tarkili Cave, Zemo Eshera Cave (Ljovuschkin, 1972).

***Nemaspela femorecurvata* Martens, 2006** (Arachnida: Opiliones: Nemastomatidae)

**Distribution:** Sakishore Cave (Martens, 2006).

***Nemaspela gagraca* Tchemeris, 2013** (Arachnida: Opiliones: Nemastomatidae)

**Distribution:** Sarma Cave (Tchemeris, 2013).

***Nemaspela* sp.** (Arachnida: Opiliones: Nemastomatidae)

**Distribution:** Krubera-Voronya Cave (Sendra & Reboleira, 2012).

***Odiellus* sp.** (Arachnida: Opiliones: Phalangiidae)

**Distribution:** Chamkhona Cave (Ljovuschkin, 1966).

***Paranemastoma kalischevskiy* (Roewer, 1951)** – as *Nemastoma kalischevskiy* in Ljovuschkin, 1966, 1972 (Arachnida: Opiliones: Nemastomatidae)

**Distribution:** Chamkhona Cave, MFT Cave (Ljovuschkin, 1966, 1972; Martens, 2006).

**False scorpiones – (Arthropoda-Arachnida-Pseudoscorpionida)**

***Chthonius (Chthonius) satapliaensis* Schawaller and Dashdamirov, 1988** (Arachnida: Pseudoscorpionida: Chthoniidae)

**Distribution:** Sataplia II Cave (Schawaller & Dashdamirov, 1988; Dashdamirov & Schawaller, 1992).

***Neobisium (Blothrus) birsteini* (Lapschoff, 1940)** (Arachnida: Pseudoscorpionida: Neobisiidae)

**Distribution:** Krubera-Voronya Cave, Tarkili Cave (Lapschoff, 1940; Mahnert, 1979; Dashdamirov & Schawaller, 1992; Martínez Sánchez-Dehesa & Zaragoza, 2010; Sendra & Reboleira, 2012).

***Neobisium (Neobisium) crassifemoratum* (Beier, 1928)** (Arachnida: Pseudoscorpionida: Neobisiidae)

**Distribution:** Kelasuri Cave (Schawaller, 1983).

***Neobisium (Neobisium) labinskyi* Beier, 1937** (Arachnida: Pseudoscorpionida: Neobisiidae)

**Distribution:** Kelasuri Cave, Tetra Cave (Schawaller, 1983).

***Neobisium (Heoblothrus) sakadzhianum* Krumpál, 1984** (Arachnida: Pseudoscorpionida: Neobisiidae)

**Distribution:** Sakadzhia Cave (Krumpál, 1984; Dashdamirov & Schawaller, 1992).

*Neobisium (Blothrus) verae* (Lapschoff, 1940) (Arachnida: Pseudoscorpionida: Neobisiidae)

**Distribution:** Meliis Cave, Sataplia I Cave, Tsakhi Cave (Birstein & Lopashov, 1940; Lapschoff, 1940; Schawaller, 1983; Schawaller & Dashdamirov, 1988).

*Neobisium (Blothrus) sp.* (Arachnida: Pseudoscorpionida: Neobisiidae)

**Distribution:** Anish Cave (Birstein, 1950).

*Neobisium sp.* (Arachnida: Pseudoscorpionida: Neobisiidae)

**Material examined:** Dolabistavi cave, Dark zone, 3 specimens, leg. Sh. Barjadze, det. J. Zaragoza.

*Roncus birsteini* Krumpál, 1986 (Arachnida: Pseudoscorpionida: Neobisiidae)

**Distribution:** Iluzia-tovliani-mejeni Cave (Krumpál, 1986).

### Spiders - (Arthropoda: Arachnida: Araneae)

*Aituaria pontica* (Spassky, 1932) (= *Nesticus ponticus* Spassky, 1932)  
(Arachnida: Araneae: Nesticidae)

**Distribution:** Tarkili Cave (Charitonov, 1947; Mcheidze, 1964).

*Alopecosa cuneata* (Clerck, 1757) (Arachnida: Araneae: Lycosidae)

**Material examined:** Tsklisklde Cave, Entrance zone, 2 specimens, leg. T. Arabuli, det. V. Pkhakadze.

*Amaurobius fenestralis* (Strom, 1768) (Arachnida: Araneae: Amaurobiidae)

**Material examined:** Tsakhi cave, Entrance zone, 1 specimen, leg. T. Arabuli, det. V. Pkhakadze.

*Arctosa cinerea* (Fabricius, 1777) (Arachnida: Araneae: Lycosidae)

**Material examined:** Khvedelidzeebisklde Cave, Entrance zone, 4 specimens, leg. T. Arabuli, det. V. Pkhakadze.

***Carpathonesticus borutzkyi* (Reimoser, 1930) (= *Nesticus borutzkyi* Reimoser, 1930)** (Arachnida: Araneae Nesticidae)

**Distribution:** Patsristavi Cave, Sapichkhia Cave, Sataplia I Cave, Tetra Cave (Reimoser, 1930; Charitonov, 1941b, 1946, 1947; Mcheidze, 1964).

***Carpathonesticus caucasicus* (Charitonov, 1947) (= *Nesticus caucasicus* Charitonov, 1947)** (Arachnida: Araneae Nesticidae)

**Distribution:** Agumava Cave, Anish Cave, Chlakhe Cave (Charitonov, 1947; Birstein, 1950).

***Carpathonesticus zaitzevi* (Charitonov, 1939) (= *Nesticus zaitzevi* Charitonov, 1939)** (Arachnida: Araneae Nesticidae)

**Distribution:** Adzaba Cave, Afonskaja Cave, Aghmavali Cave, Kelasuri Cave, Otapistavi Cave, Shroma Cave, Tsebelda Cave, Tskaro Cave, Zeda Akhalsheni Cave, Zeda Shakurani Cave (Charitonov, 1939, 1941, 1947; Zaitzev, 1948; Mcheidze, 1964, 1997; Pichka, 1965).

***Cybaeus abchasicus* Charitonov, 1947** (Arachnida: Araneae: Cybaeidae)

**Distribution:** Tarkili Cave (Charitonov, 1947).

***Diplocephalus caucasicus* Tanasevitch, 1987** (Arachnida: Araneae: Linyphiidae)

**Distribution:** Kelasuri Cave (Tanasevitch, 1987).

***Episinus truncatus* Latreille, 1809** (Arachnida: Araneae: Theridiidae)

**Distribution:** Adzaba Cave, Kelasuri Cave, Shroma Cave (Charitonov, 1939, 1947, Birstein, 1950; Mcheidze, 1964).

***Eukoenenia vargovitshi* Christian, 2014** (Arachnida: Araneae: Eukoeneniidae)

**Distribution:** Kveda Shakurani Cave (Christian, 2014).

***Hoplopholcus longipes* (Spassky, 1934)** (Arachnida: Araneae: Pholcidae)

**Distribution:** Agumava Cave, Likhni Cave, Patsristavi Cave, Sataplia I Cave, Tetra Cave (Charitonov, 1941b, 1947; Zaitzev, 1948; Mcheidze, 1964).

*Liniphia* sp. (Arachnida: Araneae: Liniphiidae)

**Material examined:** Nazodelavo Cave, Twilight zone, 1 specimen, leg. T. Arabuli, det. V. Pkhakadze; Savekuo Cave, Dark zone, 1 specimen, leg. T. Arabuli, det. V. Pkhakadze.

*Meta bourneti* Simon, 1922 (Arachnida: Araneae: Tetragnathidae)

**Distribution:** Adzaba Cave, Kelasuri Cave (Charitonov, 1939; 1941, 1947; Mcheidze, 1964).

*Metellina merianae* (Scopoli, 1763) (= *Meta merianae* Scopoli, 1763)  
(Arachnida: Araneae: Tetragnathidae)

**Distribution:** Adzaba Cave, Kelasuri Cave, Kortskheli Cave, Patsristavi Cave, Tarkili Cave (Charitonov, 1947; Mcheidze, 1964; 1997; Kovblyuk et al. 2011).

*Oxyopes lineatus* (Latreille, 1806) (Arachnida: Araneae: Oxyopidae)

**Material examined:** Kortskheli Cave, Twilight zone, 1 specimen, leg. T. Arabuli, det. V. Pkhakadze.

*Pardosa agricola* (Thorell, 1856) (Arachnida: Araneae: Lycosidae)

**Material examined:** Bregvadzeebisklde Cave, Twilight zone, 12.08.14, 1 specimen, leg. T. Arabuli, det. V. Pkhakadze; Garakha Cave, Twilight zone, 2 specimens, leg. T. Arabuli, det. V. Pkhakadze.

*Pardosa hortensis* (Thorell, 1872) (Arachnida: Araneae: Lycosidae)

**Material examined:** Kakhidze cave, Entrance zone, 1 specimen, leg. T. Arabuli, det. V. Pkhakadze.

*Pardosa monticola* (Clerck, 1757) (Arachnida: Araneae: Lycosidae)

**Material examined:** Tsakhi cave, Twilight zone, 2 specimens, leg. T. Arabuli, det. V. Pkhakadze.

*Pardosa* sp. (Arachnida: Araneae: Lycosidae)

**Material examined:** Letsurtsume Cave, Twilight zone, 2 specimens, leg.

T. Arabuli, det. V. Pkhakadze.

***Pirata knorri scopoli, 1763*** (Arachnida: Araneae: Lycosidae)

**Material examined:** Taroklde Cave, Twilight zone, 1 specimen, leg. T. Arabuli, det. V. Pkhakadze.

***Pirata sp.*** (Arachnida: Araneae: Lycosidae)

**Material examined:** Tsakhi cave, Twilight zone, 1 specimen, leg. T. Arabuli, det. V. Pkhakadze.

***Pisaura mirabilis (Clerck, 1757)*** (Arachnida: Araneae: Pisauridae)

**Material examined:** Letsurtsume Cave, Twilight zone, 3 specimens, leg. T. Arabuli, det. V. Pkhakadze; Tsakhi Cave, Entrance zone, 2 specimens, leg. T. Arabuli, det. V. Pkhakadze.

***Porrhomma convexum (Westring, 1851)*** (Arachnida: Araneae: Linyphiidae)

**Distribution:** Cave in Pitsunda/Myussera Reserve (Kovblyuk et al. 2011).

***Segestria senoculata (Linnaeus, 1758)*** (Arachnida: Araneae: Segestriidae)

**Distribution:** Chamkhona Cave (Ljovuschkin, 1966).

***Tegenaria abchasica Charitonov, 1941*** (Arachnida: Araneae: Agelenidae)

**Distribution:** Kelasuri Cave (Charitonov, 1941a, 1947).

***Tegenaria sp.*** (Arachnida: Araneae: Agelenidae)

**Distribution:** Tetra Cave (Charitonov, 1947).

***Theridion impressum (Koch, 1881)*** (Arachnida: Araneae: Theridiidae)

**Material examined:** Tsakhi Cave, Entrance zone, 2 specimens, leg. T. Arabuli, det. V. Pkhakadze.

***Theridion melanorium Hahn, 1831*** (Arachnida: Araneae: Theridiidae)

**Material examined:** Tsakhi Cave, Entrance zone, 1 specimen, leg. T. Arabuli, det. V. Pkhakadze.

***Theridion* sp. 1** (Arachnida: Araneae: Theridiidae)

**Material examined:** Tsivtskala Cave, Entrance zone, 1 specimen, leg. T. Arabuli, det. V. Pkhakadze.

***Theridion* sp. 2** (Arachnida: Araneae: Theridiidae)

**Material examined:** Kortskheli Cave, Twilight zone, 4 specimens, leg. T. Arabuli, det. V. Pkhakadze.

***Theridion* sp. 3** (Arachnida: Araneae: Theridiidae)

**Material examined:** Khvedelidzeebisklde Cave, Dark zone, 1 specimen, leg. T. Arabuli, det. V. Pkhakadze.

***Tibellus macellus* (Simon, 1875)** (Arachnida: Araneae: Philodromidae)

**Material examined:** Letsurtsume Cave, Twilight zone, 1 specimen, leg. T. Arabuli, det. V. Pkhakadze.

***Trochosa ruricola* (De Geer, 1778)** (Arachnida: Araneae: Lycosidae)

**Material examined:** Kortskheli Cave, Twilight zone, 1 specimen, leg. T. Arabuli, det. V. Pkhakadze.

***Troglohyphantes deelemanae* Tanasevitch, 1986** (Arachnida: Araneae: Linyphiidae)

**Distribution:** Nameless cave in the Achibakh plateau, Sirotko Cave, Tupikovaya Cave (Tanasevitch, 1986).

***Troglohyphantes* sp.** (Arachnida: Araneae: Linyphiidae)

**Distribution:** Krubera-Voronya Cave (Sendra & Leboeira, 2012).

**Gnaphosidae sp. indet.** (Arachnida: Araneae)

**Distribution:** Krubera-voronya Cave (Sendra & Leboeira, 2012).

### **Mites - (Arthropoda: Arachnida: Acari)**

**Acari sp. indet.**

**Distribution:** Krubera-Voronya Cave (Sendra & Reboleira, 2012).



**Oribatid mites (Arthropoda: Arachnida: Acari: Sarcoptiformes)**

*Achipteria longisetosa* Murvanidze & Weigmann, 2003 (Arachnida: Sarcoptiformes: Achipteriidae)

**Distribution:** Dzudzuana Cave, Navenakhevi Cave, Sakajia Cave (Murvanidze, 2014).

*Acrogalumna longipluma adjarica* Murvanidze & Weigmann, 2003 (Arachnida: Sarcoptiformes: Galumnidae)

**Distribution:** Mafeli Cave (Murvanidze, 2014).

*Aleurodamaeus setosus* (Berlese, 1883) (Arachnida: Sarcoptiformes: Aleurodamaeidae)

**Distribution:** Dzudzuana Cave, Mikava Cave, Sakajia Cave (Murvanidze, 2014).

*Amerobelba decedens* Berlese, 1908 (Arachnida: Sarcoptiformes: Amerobelbidae)

**Distribution:** Cave between Tkibuli and Kutaisi, Meliis Cave, Tsutskhvati Cave Complex (Japaridze & Gomelauri, 1986).

*Autogneta longilamellata* (Michael, 1885) (Arachnida: Sarcoptiformes: Autognetidae)

**Distribution:** Kidobana Cave (Murvanidze, 2014).

*Belba dubinini* Bulanova-Zachvatkina, 1962 (Arachnida: Sarcoptiformes: Damaeidae)

**Distribution:** Navenakhevi Cave (Murvanidze, 2014).

*Berniniella silvatica* (Vasiliu & Calugar, 1976) (Arachnida: Sarcoptiformes: Oppiidae)

**Distribution:** Dzudzuana Cave (Murvanidze, 2014).

*Brachichthonius* sp. (Arachnida: Sarcoptiformes: Brachychthoniidae)

**Distribution:** Cave between Tkibuli and Kutaisi (Japaridze & Gomelauri, 1986).

***Ceratoppia bipilis* (Hermann, 1804)** (Arachnida: Sarcoptiformes: Astegistidae)

**Distribution:** Tskaltsitela Grotto (Japaridze & Gomelauri, 1986).

***Ceratoppia quadridentata* (Haller, 1882)** (Arachnida: Sarcoptiformes: Astegistidae)

**Distribution:** Kidobana Cave, Sakajia Cave (Murvanidze, 2014).

***Ceratozetes gracilis* (Michael, 1884)** (Arachnida: Sarcoptiformes: Ceratozetidae)

**Distribution:** Kidobana Cave (Murvanidze, 2014).

***Ceratozetes* sp.** (Arachnida: Sarcoptiformes: Ceratozetidae)

**Distribution:** Sakishore Cave (Japaridze & Gomelauri, 1986).

***Chamobates cuspidatus* (Michael, 1884)** (Arachnida: Sarcoptiformes: Chamobatidae)

**Distribution:** Kidobana Cave, Tsakhi Cave (Murvanidze, 2014).

***Chamobates interpositus* Pschorn-Walcher, 1953** (Arachnida: Sarcoptiformes: Chamobatidae)

**Distribution:** Sameleklde Cave, Tsutskhvati II Cave (Murvanidze, 2014).

***Chamobates spinosus* Sellnick, 1928** (Arachnida: Sarcoptiformes: Chamobatidae)

**Distribution:** Leskhulukhe Cave (Murvanidze, 2014).

***Chamobates voigtsi* (Oudemans, 1902)** (Arachnida: Sarcoptiformes: Chamobatidae)

**Distribution:** Dzudzuana Cave, Kidobana Cave, Leskhulukhe Cave, Motena cave, Navenakhevi Cave, Sameleklde Cave, Shareula I Cave, Tsakhi Cave, Tsutskhvati VIII Cave, Tsutskhvati XI Cave (Murvanidze, 2014).

***Conchogneta dalecarlica* (Forsslund, 1947)** (Arachnida: Sarcoptiformes: Autognetidae)

**Distribution:** Dzudzuana Cave, Navenakhevi Cave, Tsakhi Cave (Murvanidze, 2014).

***Dissorhina ornata* (Oudemans, 1900)** (Arachnida: Sarcoptiformes: Oppiidae)

**Distribution:** Dzudzuana Cave (Murvanidze, 2014).

***Dissorhina signata* Schwalbe, 1989** (Arachnida: Sarcoptiformes: Oppiidae)

**Distribution:** Dzudzuana Cave (Murvanidze, 2014).

***Dorycranosus splendens* (Coggi, 1898)** (Arachnida: Sarcoptiformes: Liacaridae)

**Distribution:** Sakinule Cave (Murvanidze, 2014).

***Epidamaeus pinguis* Kulijev, 1967** (Arachnida: Sarcoptiformes: Damaeidae)

**Distribution:** Kidobana Cave, Shareula I Cave (Murvanidze, 2014).

***Eremaeus* sp.** (Arachnida: Sarcoptiformes: Eremaeidae)

**Distribution:** Sakishore Cave (Japaridze & Gomelauri, 1986).

***Eupelops acromios* (Hermann, 1804)** (Arachnida: Sarcoptiformes: Phenopelopidae)

**Distribution:** Kidobana Cave, Navenakhevi Cave, Riv. Chishura source Cave (Murvanidze, 2014).

***Eupelops torulosus* (Koch, 1839)** (Arachnida: Sarcoptiformes: Phenopelopidae)

**Distribution:** Kakhidze Cave (Murvanidze, 2014).

***Galumna alata* (Hermann, 1804)** (Arachnida: Sarcoptiformes: Galumnidae)

**Distribution:** Dzudzuana Cave (Murvanidze, 2014).

***Ghilarovus kvavadzei* Murvanidze, 2014** (Arachnida: Sarcoptiformes: Zetomotrichidae)

**Distribution:** Tsakhi Cave, Tsutskhvati II Cave, Tsutskhvati XI Cave (Murvanidze, 2014).

***Graptoppia foveolata* Paoli, 1908** (Arachnida: Sarcoptiformes: Oppiidae)  
**Distribution:** Meliis Cave, Prometheus Cave (Japaridze & Gomelauri, 1986).

***Gustavia microcephala* (Nicolet, 1855)** (Arachnida: Sarcoptiformes: Gustaviidae)  
**Distribution:** Dzudzuana Cave (Murvanidze, 2014).

***Hoplophthiracarus illinoisensis* (Ewing, 1909)** (Arachnida: Sarcoptiformes: Phthiracaridae)  
**Distribution:** Mafeli Cave, Sakinule Cave, Samelekldede Cave (Murvanidze, 2014).

***Hypochthonius rufulus* Koch, 1835** (Arachnida: Sarcoptiformes: Hypochthoniidae)  
**Distribution:** Dzudzuana Cave (Murvanidze, 2014).

***Liebstadia similis* (Michael, 1888)** (Arachnida: Sarcoptiformes: Scheloribatidae)  
**Distribution:** Meliis Cave (Japaridze & Gomelauri, 1986).

***Lucoppia* sp.** (Arachnida: Sarcoptiformes: Oribatulidae)  
**Distribution:** Meliis Cave (Japaridze & Gomelauri, 1986).

***Machuella draconis* Hammer, 1961** (Arachnida: Sarcoptiformes: Machuellidae)  
**Distribution:** Dzudzuana Cave (Murvanidze, 2014).

***Metabelbella flagelliseta* Bulanova-Zachvatkina, 1965** (Arachnida: Sarcoptiformes: Damaeidae)  
**Distribution:** Kidobana Cave (Murvanidze, 2014).

***Metabelbella macerochaeta* Bulanova-Zachvatkina, 1967** (Arachnida: Sarcoptiformes: Damaeidae)  
**Distribution:** Sakajia Cave (Murvanidze, 2014).

***Metabelba papillipes* (Nicolet, 1855)** (Arachnida: Sarcoptiformes: Damaeidae)  
**Distribution:** Tsvitskala Cave (Murvanidze, 2014).

***Metabelba pseudoitalica* Bulanova-Zachvatkina, 1965** (Arachnida: Sarcotiformes: Damaeidae)

**Distribution:** Dzudzuana Cave (Murvanidze, 2014).

***Microzetes caucasicus* (Krivolutsky, 1967)** (Arachnida: Sarcotiformes: Microzetidae)

**Distribution:** Dzudzuana Cave (Murvanidze, 2014).

***Minunthozetes pseudofusiger* (Schweizer, 1922)** (Arachnida: Sarcotiformes: Mycobatidae)

**Distribution:** Dzudzuana Cave, Kidobana Cave, Mafeli Cave, Mikava Cave, Nagarevi Grotto, Navenakhevi Cave, Riv. Chishura source Cave, Sakajia Cave, (Murvanidze, 2014).

***Miracarus hurkai* Kunst, 1959** (Arachnida: Sarcotiformes: Microzetidae)

**Distribution:** Tsvitskala Cave (Murvanidze, 2014).

***Oppia nitens* Koch, 1836** (Arachnida: Sarcotiformes: Oppiidae)

**Distribution:** Dzudzuana Cave, Nagarevi Grotto, Sakajia Cave (Murvanidze, 2014).

***Oppiella (Rhinoppia) fallax* (Paoli, 1908)** (Arachnida: Sarcotiformes: Oppiidae)

**Distribution:** Chishura II Cave, Mafeli Cave (Murvanidze, 2014).

***Oppiella (Oppiella) nova* (Oudemans, 1902)** (Arachnida: Sarcotiformes: Oppiidae)

**Distribution:** Dzudzuana Cave (Murvanidze, 2014).

***Oppiella (Moritzoppia) splendens* Koch, 1841** (Arachnida: Sarcotiformes: Oppiidae)

**Distribution:** Buja-Karianiklde Cave (Japaridze & Gomelauri, 1986).

***Oppiella (Rhinoppia) subpectinata* (Oudemans, 1900)** (Arachnida: Sarcotiformes: Oppiidae)

**Distribution:** Dzudzuana Cave, Leskhulukhe Cave, Mafeli Cave (Murvanidze, 2014).

***Oppiella (Moritzoppia) unicarinata clavigera (Hammer, 1952)*** (Arachnida: Sarcoptiformes: Oppiidae)

**Distribution:** Buja-Karianiklde Cave (Japaridze & Gomelaury, 1986).

***Oribatella berlesei (Michael, 1898)*** (Arachnida: Sarcoptiformes: Oribatellidae)

**Distribution:** Sakajia Cave (Murvanidze, 2014).

***Oribatula tibialis (Nicolet, 1855)*** (Arachnida: Sarcoptiformes: Oribatulidae)

**Distribution:** Sakajia Cave, Nagarevi Grotto (Japaridze & Gomelaury, 1986; Murvanidze, 2014).

***Oribatula sp.*** (Arachnida: Sarcoptiformes: Oribatulidae)

**Distribution:** Sakishore Cave (Japaridze & Gomelaury, 1986).

***Oribella pectinata (Michael, 1885)*** (Arachnida: Sarcoptiformes: Oribellidae)

**Distribution:** Nagarevi Grotto (Murvanidze, 2014).

***Oribella sp.*** (Arachnida: Sarcoptiformes: Oribellidae)

**Distribution:** Prometheus Cave, Tskaltsitela Grotto (Japaridze & Gomelaury, 1986).

***Oxyoppioides decipiens (Paoli, 1908)*** (Arachnida: Sarcoptiformes: Oppiidae)

**Distribution:** Navenakhevi Cave, Sakinule Cave, Tsakhi Cave, Tsutskhvati VII Cave (Murvanidze, 2014).

***Pantelozetes alpestris Willmann, 1929*** (Arachnida: Sarcoptiformes: Oribellidae)

**Distribution:** Tskaltsitela Grotto, Navenakhevi Cave (Japaridze, 1986; Murvanidze, 2014).

**Comment:** N. Japaridze recorded *Amazoppia tricuspidata* in Tskaltsitela Grotto (Japaridze, 1986), which is now synonym of *Pantelozetes alpestris* (Schatz, unpublished data).

***Parachipteria fanzagoi* (Jacot, 1929)** (Arachnida: Sarcoptiformes: Achipteriidae)

**Distribution:** Kidobana Cave (Murvanidze, 2014).

***Parachipteria punctata* (Nicolet, 1855)** (Arachnida: Sarcoptiformes: Achipteriidae)

**Distribution:** Mafeli Cave (Murvanidze, 2014).

***Phauloppia lucorum* (Koch, 1841)** (Arachnida: Sarcoptiformes: Oribatulidae)

**Distribution:** Navenakhevi Cave, Sakinule Cave (Murvanidze, 2014).

***Phauloppia pilosa* (Koch, 1841)** (Arachnida: Sarcoptiformes: Oribatulidae)

**Distribution:** Sakajia Cave (Murvanidze, 2014).

***Phthiracarus ferrugineus* (Koch, 1841)** (Arachnida: Sarcoptiformes: Phthiracaridae)

**Distribution:** Mafeli Cave, Navenakhevi Cave, Sameleklde Cave (Murvanidze, 2014).

***Phthiracarus globosus* (CL Koch, 1841)** (Arachnida: Sarcoptiformes: Phthiracaridae)

**Distribution:** Nagarevi Grotto (Murvanidze, 2014).

***Pilogalumna tenuiclava* Berlese, 1914** (Arachnida: Sarcoptiformes: Galumnidae)

**Distribution:** Kidobana Cave (Murvanidze, 2014).

***Porobelba spinosa* (Sellnick, 1920)** (Arachnida: Sarcoptiformes: Damaeidae)

**Distribution:** Motena cave (Murvanidze, 2014).

***Protoribates capucinus* Berlese, 1908** (Arachnida: Sarcoptiformes: Haplozetidae)

**Distribution:** Dzudzuana Cave (Murvanidze, 2014).

***Punctoribates punctum* (Koch, 1839)** (Arachnida: Sarcoptiformes: Mycobatidae)

**Distribution:** Dzudzuana Cave, Leskhulukhe Cave (Murvanidze, 2014).

***Punctoribates spunctum* (Koch, 1839)** (Arachnida: Sarcoptiformes: Mycobatidae)

**Distribution:** Mafeli Cave (Murvanidze, 2014).

***Quadroppia (Coronoquadroppia) media* Gordeeva, 1983** (Arachnida: Sarcoptiformes: Quadroppiidae)

**Distribution:** Dzudzuana Cave (Murvanidze, 2014).

***Ramusella clavipectinata* (Michael, 1885)** (Arachnida: Sarcoptiformes: Oppiidae)

**Distribution:** Chishura II Cave, Kidobana Cave, Leskhulukhe Cave, Mikava Cave, Motena cave, Nagarevi Grotto, Riv. Chishura source Cave (Murvanidze, 2014).

***Ramusella insculpta* (Paoli, 1908)** (Arachnida: Sarcoptiformes: Oppiidae)

**Distribution:** Dzudzuana Cave, Navenakhevi Cave, Tsakhi Cave (Murvanidze, 2014).

***Rhysotritia ardua* (Koch, 1841)** (Arachnida: Sarcoptiformes: Euphthiracaridae)

**Distribution:** Dzudzuana Cave, Leskhulukhe Cave, Mikava Cave, Tsutskhvati II Cave (Murvanidze, 2014).

***Scheloribates latipes* (Koch, 1844)** (Arachnida: Sarcoptiformes: Scheloribatidae)

**Distribution:** Dzudzuana Cave, Sameleklde Cave, Tsutskhvati II Cave (Murvanidze, 2014).

***Scheloribates laevigatus* (Koch, 1835)** (Arachnida: Sarcoptiformes: Scheloribatidae)

**Distribution:** Tsutskhvati II Cave, Tsutskhvati XI Cave (Murvanidze, 2014).

***Sphaerozetes tricuspιδatus* Willmann, 1923** (Arachnida: Sarcoptiformes: Ceratozetidae)

**Distribution:** Chishura II Cave, Kidobana Cave, Mafeli Cave, Motena Cave, Navenakhevi Cave (Murvanidze, 2014).



*Steganacarus (Tropacarus) patruelis* Niedbala, 1983 (Arachnida: Sarcop-  
tiformes: Phthiracaridae)

**Distribution:** Kidobana Cave (Murvanidze, 2014).

*Steganacarus (Steganacarus) spinosus* (Sellnick, 1920) (Arachnida:  
Sarcoptiformes: Phthiracaridae)

**Distribution:** Dzudzuana Cave, Kidobana Cave (Murvanidze, 2014).

*Steganacarus (Atropacarus) striculus* (Koch, 1835) (Arachnida: Sarcop-  
tiformes: Phthiracaridae)

**Distribution:** Kidobana Cave (Murvanidze, 2014).

*Tectocephus velatus velatus* (Michael, 1880) (Arachnida: Sarcop-  
tiformes: Tectocephidae)

**Distribution:** Dzudzuana Cave, Kakhidze Cave, Motena cave, Nave-  
nakhevi Cave, Tsvitskala Cave (Murvanidze, 2014).

*Umbellozetes fuscus* Krivolutsky, 1969 (Arachnida: Sarcop-  
tiformes: Tegeribatidae)

**Distribution:** Tskaltsitela Grotto (Japaridze & Gomelauri, 1986).

*Xenillus tegeocranus* (Hermann, 1804) (Arachnida: Sarcop-  
tiformes: Liacaridae)

**Distribution:** Tsutskhvati XI Cave (Murvanidze, 2014).

*Zetorchestes falzonii* Coggi, 1898 (Arachnida: Sarcop-  
tiformes: Zetorchestidae)

**Distribution:** Kakhidze Cave (Murvanidze, 2014).

*Zygoribatula cognata* (Oudemans, 1902) (Arachnida: Sarcop-  
tiformes: Oribatulidae)

**Distribution:** Sameleklde Cave (Murvanidze, 2014).

*Zygoribatula frisiae* (Oudemans, 1900) (Arachnida: Sarcop-  
tiformes: Oribatulidae)

**Distribution:** Kidobana Cave, Sakinule Cave (Murvanidze, 2014).

**Mesostigmatid mites (Arthropoda: Arachnida:  
Acari: Mesostigmata)**

*Hypoaspis aculeifer* (Canestrini, 1883) (Arachnida: Mesostigmata: Dermanssoidae)

**Distribution:** Ghliana Cave (Japaridze & Gomelauri, 1986).

*Macrocheles penicilliger* (Berlese, 1904) (Arachnida: Mesostigmata: Macrochelidae)

**Distribution:** Ghliana Cave, Prometheus Cave (Japaridze & Gomelauri, 1986).

*Parasitus (Vulgarogamasus) modestus* Tikhomirov & Zelia, 1975 (Arachnida: Mesostigmata: Parasitidae)

**Distribution:** Motena Cave, Sarkumali Cave, Sataplia IV Cave, Tetra Cave (Tikhomirov & Zelia, 1975).

*Pergamasus* sp. (Arachnida: Mesostigmata: Parasitidae)

**Distribution:** Motena Cave (Japaridze & Gomelauri, 1986).

*Stigmaeus petrophilus* Kuznetsov & Petrova, 1979 (Arachnida: Mesostigmata: Stigmaeidae)

**Distribution:** Samgleklde Cave (Kuznetsov & Petrova, 1979).

*Veigaia planicola* (Berlese, 1892) (Arachnida: Mesostigmata: Veigaiidae)

**Distribution:** Meliis Cave (Japaridze & Gomelauri, 1986).

**Springtails – (Arthropoda-Collembola)**

*Anurida stereoodorata* Jordana & Baquero, 2012 (Collembola: Poduromorpha: Neanuridae)

**Distribution:** Kruvera-Voronya Cave (Jordana et al. 2012).

*Argonyschiurus multiocellatus* Djanashvili, Barjadze, Jordana & Burkhardt, 2014 (Collembola: Poduromorpha: Onychiuridae)

**Distribution:** Tvishi Cave (Djanashvili et al. 2014).

*Arrhopalites abchasicus* Vargovitsh, 2013 (Collembola: Symphypleona: Arrhopalitidae)

**Distribution:** Aghmavali Cave (Vargovitsh, 2013).

*Arrhopalites caecus* (Tullberg, 1871) (Collembola: Symphypleona: Arrhopalitidae)

**Distribution:** Simon kananeli Cave, Solkota Cave (Barjadze & Djanashvili, 2008)

*Arrhopalites macronyx* Vargovitsh, 2012 (Collembola: Symphypleona: Arrhopalitidae)

**Distribution:** Anukhva Cave (Vargovitsh, 2012).

*Ceratophysella armata* (Nicolet, 1842) (Collembola: Poduromorpha: Hypogastruridae)

**Distribution:** Prometheus Cave (Barjadze & Djanashvili, 2008).

*Ceratophysella cavicola* (Borner, 1901) (Collembola: Poduromorpha: Hypogastruridae)

**Distribution:** Meliis Cave, Tskaro Cave (Barjadze & Djanashvili, 2008).

*Coecobrya* sp. (Collembola: Entomobryomorpha: Entomobryidae)

**Material examined:** Navenakhevi Cave, Entrance zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze; Navenakhevi Cave, Twilight zone, 2 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

*Desoria trispinata* (MacGillivray, 1896) (Collembola: Entomobryomorpha: Isotomidae)

**Distribution:** Akui Cave, Sataplia IV Cave, Shakurani I Cave (Barjadze & Djanashvili, 2008).

*Desoria* sp. (Collembola: Entomobryomorpha: Isotomidae)

**Material examined:** Kidobana Cave, Entrance zone, 3 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

*Deuteraphorura kruberaensis* Jordana & Baquero, 2012 (Collembola: Poduromorpha: Onychiuridae)

**Distribution:** Kruvera-Voronya Cave (Jordana et al. 2012).

*Deuteraphorura variabilis* (Stach, 1954) (Collembola: Poduromorpha: Onychiuridae)

**Distribution:** Manikvara Cave (Barjadze & Djanashvili, 2008).

*Deuterosminthurus* sp. (Collembola: Symphypleona: Bourletiellidae)

**Distribution:** Ghliana Cave (Barjadze & Djanashvili, 2008).

*Folsomia candida* Willem, 1902 (Collembola: Entomobryomorpha: Isotomidae)

**Distribution:** Cave in the Enguri gorge, Khvedelidzeebisklde Cave, Meliis Cave, Prometheus Cave, Sataplia I Cave, Simon Kananeli Cave, Tetra Cave, Tsikhe Cave, Tskaro Cave (Barjadze & Djanashvili, 2008).

**Material examined:** Garakha Cave, Dark zone, 4 specimens, leg. Sh. Barjadze, det. Sh. Barjadze; Samerthkhlekldde I Cave, Dark zone, 7 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

*Folsomia fimetaria* (Linnaeus, 1758) (Collembola: Entomobryomorpha: Isotomidae)

**Distribution:** Sataplia IV Cave, Tetra Cave (Barjadze & Djanashvili, 2008).

*Folsomia inoculata* Stach, 1946 (Collembola: Entomobryomorpha: Isotomidae)

**Distribution:** Meliis Cave (Barjadze & Djanashvili, 2008).

*Folsomia ksenemani* Stach, 1947 (Collembola: Entomobryomorpha: Isotomidae)

**Distribution:** Dzudzuana Cave (Barjadze et al. 2012).

**Material examined:** Nazodelavo Cave, Entrance zone, 5 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

*Folsomia penicula* Bagnall, 1939 (Collembola: Entomobryomorpha: Isotomidae)

**Material examined:** Navenakhevi Cave, Entrance zone, 4 specimens, leg. Sh. Barjadze, det. Sh. Barjadze; Nazodelavo Cave, Entrance zone, 5 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Folsomia spinosa* Kseneman, 1936** (Collembola: Entomobryomorpha: Isotomidae)

**Distribution:** Meliis Cave (Barjadze & Djanashvili, 2008).

***Folsomia* sp.** (Collembola: Entomobryomorpha: Isotomidae)

**Material examined:** Kidobana Cave, Entrance zone, 6 specimens, leg. Sh. Barjadze, det. Sh. Barjadze; Leskhulukhe Cave, Twilight zone, 3 specimens, Sh. Barjadze, det. Sh. Barjadze; Sakinule Cave, Entrance zone, 2 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Folsomides parvulus* Stach, 1922** (Collembola: Entomobryomorpha: Isotomidae)

**Distribution:** Prometheus Cave (Barjadze & Djanashvili, 2008).

***Friesea* sp.** (Collembola: Poduromorpha: Neanuridae)

**Material examined:** Kidobana Cave, Entrance zone, 14 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Heteromurus nitidus* (Templeton, 1835)** (Collembola: Entomobryomorpha: Entomobryidae)

**Distribution:** Tsutskhvati Cave Complex (Barjadze & Djanashvili, 2008).

**Material examined:** Chishura Cave, Twilight zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze; Leskhulukhe Cave, Entrance zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze; Motena Cave, Entrance zone, 2 specimens, leg. Sh. Barjadze, det. Sh. Barjadze; Tetra Cave, Dark zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze.

***Hypogastrura viatica* (Tullberg, 1872)** (Collembola: Poduromorpha: Hypogastruridae)

**Distribution:** Prometheus Cave, Sataplia IV Cave (Barjadze & Djanashvili, 2008)

***Hypogastrura* sp.** (Collembola: Poduromorpha: Hypogastruridae)

**Material examined:** Khvedelidzeebisklde Cave, Twilight zone, 2 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Lepidocyrtus lignorum* (Fabricius, 1793)** (Collembola: Entomobryomorpha: Entomobryidae)

**Material examined:** Kidobana Cave, Entrance zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze; Motena Cave, Entrance zone, 3 specimens, leg. Sh. Barjadze, det. Sh. Barjadze; Navenakhevi Cave, Entrance zone, 2 specimens, leg. Sh. Barjadze, det. Sh. Barjadze; Nazodelavo Cave, Entrance zone, 2 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Lepidocyrtus* sp.** (Collembola: Entomobryomorpha: Entomobryidae)

**Distribution:** Tetra Cave (Barjadze & Djanashvili, 2008).

***Megalothorax* sp.** (Collembola: Neelipleona: Neelidae)

**Distribution:** Sataplia I Cave, Tsakhi Cave (Barjadze & Djanashvili, 2008).

***Mesogastrura ojcoviensis* (Stach, 1919)** (Collembola: Poduromorpha: Hypogastruridae)

**Distribution:** Akui Cave, Samgleklde Cave, Taroklde Cave, Tetra Cave, Tsutskhvati Cave Complex (Barjadze & Djanashvili, 2008).

**Material examined:** Sakajia Cave, Entrance zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze.

***Metaphorura affinis* Börner, 1902** (Collembola: Poduromorpha: Tullbergiidae)

**Distribution:** Dzudzuana Cave (Barjadze et al. 2012).

**Material examined:** Navenakhevi Cave, Twilight zone, 2 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Micranurida pygmaea* Börner, 1901** (Collembola: Poduromorpha: Neanuridae)

**Distribution:** Sakire Cave (Barjadze & Djanashvili, 2008).

***Neanura muscorum* (Templeton, 1835)** (Collembola: Poduromorpha: Neanuridae)

**Distribution:** Meliis Cave (Barjadze & Djanashvili, 2008).

*Neelus murinus* Folsom, 1896 (Collembola: Neelipleona: Neelidae)

**Distribution:** Tetra Cave (Barjadze & Djanashvili, 2008).

*Oligaphorura schoetti* (Lie-Pettersen, 1896) (Collembola: Poduromorpha: Onychiuridae)

**Distribution:** Akui Cave, Shua Shakurani Cave (Barjadze & Djanashvili, 2008).

*Onychiuroides granulosus* (Stach, 1930) (Collembola: Poduromorpha: Onychiuridae)

**Distribution:** Kelasuri Cave, Tskaro Cave (Barjadze & Djanashvili, 2008).

*Orogastrura* sp. (Collembola: Poduromorpha: Hypogastruridae)

**Material examined:** Tsutskhvati II Cave, Twilight zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze.

*Plutomurus birsteini* Djanashvili & Barjadze, 2011 (Collembola: Entomobryomorpha: Tomoceridae)

**Distribution:** Bnelaklde Cave, Khvedlidzeebisklde Cave, Meliis Cave, Sakire Cave, Sakishore Cave, Sataplia IV Cave, Shareula II Cave, Taroklde Cave, Tsakhi Cave, Tsutskhvati Cave Complex, Tvishi Cave (Djanashvili & Barjadze, 2011).

**Material examined:** Khvedlidzeebisklde Cave, Dark zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze; Taroklde Cave, Twilight zone, 2 specimens, leg. Sh. Barjadze, det. Sh. Barjadze; Tsakhi Cave, Dark zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze; Tsklisklde Cave, Twilight zone, 5 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

*Plutomurus kelasuricus* Martynova, 1969 (Collembola: Entomobryomorpha: Tomoceridae)

**Distribution:** Adzaba Cave, Aghmosavlet Gumista I Cave, Aghmosavlet Gumista II Cave, Kelasuri Cave, Leskhulukhe Cave, Sataplia IV Cave, Shakurani IV Cave, Shua Shakurani Cave, Simon Kananeli Cave, Solkota cave, Tsebelda Cave (Martynova, 1969; Barjadze & Djanashvili, 2014).

***Plutomurus ortobalaganensis* Jordana & Baquero, 2012** (Collembola: Entomobryomorpha: Tomoceridae)

**Distribution:** Krubera-Voronya Cave (Jordana et al. 2012).

***Plutomurus* sp. 1** (Collembola: Entomobryomorpha: Tomoceridae)

**Material examined:** Godogani Cave, Dark zone, 3 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Plutomurus* sp. 2** (Collembola: Entomobryomorpha: Tomoceridae)

**Material examined:** Orpiri II Cave, Dark zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze; Prometheus Cave, Dark zone, 3 specimens, leg. Sh. Barjadze, det. Sh. Barjadze; Satsurbliia Cave, Dark zone, 3 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Plutomurus* sp. 3** (Collembola: Entomobryomorpha: Tomoceridae)

**Material examined:** Solkota Cave, Entrance zone, 3 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Plutomurus* sp. 4** (Collembola: Entomobryomorpha: Tomoceridae)

**Material examined:** Garakha Cave, Dark zone, 2 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Plutomurus* sp. 5** (Collembola: Entomobryomorpha: Tomoceridae)

**Material examined:** Dolabistavi Cave, Dark zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze.

***Plutomurus* sp. 6** (Collembola: Entomobryomorpha: Tomoceridae)

**Material examined:** Tetra Cave, Dark zone, 3 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Plutomurus* sp. 7** (Collembola: Entomobryomorpha: Tomoceridae)

**Material examined:** Satevzia Cave, Dark zone, 10 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Plutomurus* sp. 8** (Collembola: Entomobryomorpha: Tomoceridae)

**Material examined:** Shurubumu Cave, Dark zone, 3 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.



***Proisotoma minuta* (Tullberg, 1871)** (Collembola: Entomobryomorpha: Isotomidae)

**Distribution:** Ghliana Cave, Prometheus Cave, Tsikhe Cave (Barjadze & Djanashvili, 2008).

***Protaphorura meridiata* (Gisin, 1952)** (Collembola: Poduromorpha: Onychiuridae)

**Material examined:** Tsutskhvati XI Cave, Entrance zone, 4 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Protaphorura sakatoi* (Yosii, 1966)** (Collembola: Poduromorpha: Onychiuridae)

**Distribution:** Dzudzuana Cave (Barjadze et al. 2012).

***Pseudacherontides zenkevitchi* Djanaschvili, 1971** (Collembola: Poduromorpha: Hypogastruridae)

**Distribution:** Prometheus Cave (Djanaschvili, 1971).

***Pseudachorutes dubius* Krausbauer, 1898** (Collembola: Poduromorpha: Neanuridae)

**Distribution:** Prometheus Cave (Barjadze & Djanashvili, 2008).

***Pseudosinella alba* (Packard, 1873)** (Collembola: Entomobryomorpha: Entomobryidae)

**Material examined:** Kakhidze Cave, Entrance zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze.

***Pseudosinella octopunctata* Börner, 1901** (Collembola: Entomobryomorpha: Entomobryidae)

**Material examined:** Kakhidze Cave, Twilight zone, 4 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

***Ptenothrix kuraschvili* Djanaschvili, 1970** (Collembola: Symphypleona: Dicyrtomidae)

**Distribution:** Sataplia IV Cave (Djanaschvili, 1970).

*Pygmarrhopalites principalis* Stach, 1945 (Collembola: Symphypleona: Arrhopalitidae)

**Distribution:** Bnelaklde Cave, Meliis Cave, Sataplia I Cave, Solkota Cave, Tetra Cave, Tsakhi Cave, Tsutskhvati Cave Complex (Barjadze & Djanashvili, 2008).

*Pygmarrhopalites pygmaeus* (Wankel, 1860) (Collembola: Symphypleona: Arrhopalitidae)

**Distribution:** Sakire Cave (Barjadze & Djanashvili, 2008).

*Schaefferia profundissima* Jordana & Baquero, 2012 (Collembola: Poduromorpha: Hypogastruridae)

**Distribution:** Krubera-Voronya Cave (Jordana et al. 2012).

*Sphaeridia* sp. (Collembola: Symphypleona: Sminthurididae)

**Distribution:** Prometheus Cave (Barjadze & Djanashvili, 2008).

*Tomocerus minor* (Lubbock, 1862) (Collembola: Entomobryomorpha: Tomoceridae)

**Material examined:** Chishura Source Cave, Entrance zone, 2 specimens, leg. Sh. Barjadze, det. Sh. Barjadze; Dzudzuana Cave, Entrance zone, 2 specimens, leg. Sh. Barjadze, det. Sh. Barjadze; Kortskheli Cave, Entrance zone, 2 specimens, leg. Sh. Barjadze, det. Sh. Barjadze; Letsurtsume Cave, Entrance zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze; Mafeli Cave, Entrance zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze; Motena Cave, Entrance zone, 7 specimens, leg. Sh. Barjadze, det. Sh. Barjadze; Orpiri II Cave, Entrance zone, 3 specimens, leg. Sh. Barjadze, det. Sh. Barjadze.

*Tomocerus vulgaris* (Tullberg, 1871) (Collembola: Entomobryomorpha: Tomoceridae)

**Material examined:** Kidobana Cave, Entrance zone, 5 specimens, leg. Sh. Barjadze, det. Sh. Barjadze; Letsurtsume Cave, Entrance zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze; Sameleklde Cave, Entrance zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze; Taroklde Cave, Entrance zone, 1 specimen, leg. Sh. Barjadze, det. Sh. Barjadze;

***Troglopalites stygios* Vargovitsh, 2012** (Collembola: Symphypleona: Arthropalitidae)

**Distribution:** Kveda Shakurani Cave, Tsebelda Cave, Zeda Shakurani Cave (Vargovitsh, 2012).

***Typhlogastrura morozovi* Babenko, 1987** (Collembola: Poduromorpha: Hypogastruridae)

**Distribution:** Iluzia-tovliani-mejeni Cave (Babenko, 1987).

***Willowsia buski* (Lubbock, 1871)** (Collembola: Entomobryomorpha: Entomobryidae)

**Distribution:** Jortsku I Cave (Barjadze & Djanashvili, 2008).

***Willowsia nigromaculata* (Lubbock, 1873)** (Collembola: Entomobryomorpha: Entomobryidae)

**Distribution:** Sakadzhia Cave (Barjadze & Djanashvili, 2008).

#### **Insects – (Arthropoda-Insecta)**

##### **Diplurans – (Arthropoda-Diplura)**

***Campodea (Dicampa) imeretinensis* Chevrizov, 1976** (Insecta: Diplura: Campodeidae)

**Distribution:** Prometheus Cave (Chevrizov, 1976).

##### **Flies – (Arthropoda-Insecta-Diptera)**

***Aedes vexans* (Meigen, 1830)** (Insecta: Diptera: Culicidae)

**Distribution:** Patsristavi Cave, Tetra Cave (Zaitzev, 1948).

***Bradysia* ? (=Neosciara sp. ?)** (Insecta: Diptera: Sciaridae)

**Distribution:** Adzaba Cave (Zaitzev, 1940; Birstein, 1950).

***Fannia scalaris* (Fabricius, 1794)** (Insecta: Diptera: Fanniidae)

**Distribution:** Adzaba Cave (Zaitzev, 1940).

***Heteromyza atricornis* Meigen, 1830 (=Thelida atricornis Meigen, 1830)** (Insecta: Diptera: Helomyzidae)

**Distribution:** Adzaba Cave (Zaitzev, 1940; Birstein, 1950).

***Limonia nubeculosa* Meigen, 1804** (Insecta: Diptera: Limoniidae)

**Distribution:** Adzaba Cave, Aghmavali Cave, Akhalsheni Cave, Otapistavi Cave, Shroma Cave, Tsebelda Cave (Birstein & Lopashov, 1940; Zaitzev, 1940, 1948; Birstein, 1950).

***Nycteribia schmidlii* Schiner, 1853 (= *Listropoda schmidlii* Schiner, 1853)** (Insecta: Diptera: Nycteribidae)

**Distribution:** Adzaba Cave (Zaitzev, 1940).

***Orthocladius* sp. ?** (Insecta: Diptera: Chironomidae)

**Distribution:** Tsakhi Cave (Birstein & Lopashov, 1940; Birstein, 1950).

***Sciara* sp. ? (*Lycoria* sp. ?)** (Insecta: Diptera: Sciaridae)

**Distribution:** Otapistavi Cave (Birstein & Lopashov, 1940; Birstein, 1950).

***Trichocera (Saltrichocera) maculipennis* (Meigen 1818)** (Insecta: Diptera: Trichoceridae)

**Distribution:** Krubera-Voronya Cave (Sendra & Reboleira, 2012).

#### **Silverfishes and firebrats – (Arthropoda-Insecta-Thysanura)**

***Thysanura* sp. indet.**

**Distribution:** Adzaba Cave (Satunin, 1912).

#### **Caddisflies – (Arthropoda-Insecta- Trichoptera)**

***Plectrocnemia* sp. ?** (Insecta: Trichoptera: Polycentropodidae)

**Distribution:** Shua Shakurani Cave, Zeda Shakurani Cave (Birstein & Lopashov, 1940; Lepneva 1940; Birstein, 1950).

#### **Orthopterans (Arthropoda-Insecta-Orthoptera)**

***Dolichopoda euxina* Semenov, 1901** (Insecta: Orthoptera: Rhaphidophoridae)

**Distribution:** Abrskili Cave, Adzaba Cave, Aghmavali Cave, Agumava Cave, Aiusta Cave, Anish Cave, Bacha Cave, Chlakhe Cave, Guma Cave, Jokhra Cave, Kelasuri Cave, Kveda Akhalsheni Cave, Kveda Shakurani Cave, Likhni Cave, Mashe Cave, Otapistavi Cave, Patsristavi Cave, Sapichkhia Cave, Sataplia I Cave, Shua Shakurani Cave, Shroma Cave, Simon Kananeli Cave, Tarkili Cave, Tetra Cave, Tsakhi Cave, Tsebelda Cave, Tsikherva Cave, Tskaro

Cave, Tskhaltsitela Cave, Zeda Akhalsheni Cave, Zeda Shakurani Cave (Semenov, 1901; Shugurov, 1908; Uvarov, 1912; Boldirev, 1913; Satunin, 1912; Birstein & Lopashov, 1940; Zaitzev, 1940, 1948; Birstein, 1950).

**Material examined:** Tsvitskala cave, Entrance zone, 1 adult male, leg. T. Arabuli, det. M. Rampini.

**Grylloidea sp. indet.** (Insecta: Orthoptera)

**Distribution:** Tsikherva Cave (Boldirev, 1913).

### **Beetles (Arthropoda-Insecta-Coleoptera)**

#### **Ground beetles – Carabidae**

***Carabus* sp.** (Insecta: Coleoptera: Carabidae)

**Distribution:** Krubera-Voronya Cave (Sendra & Reboleira, 2012).

***Cimmerites kurnakovi* Jeannel, 1960** (Insecta: Coleoptera: Carabidae)

**Distribution:** Bacha Cave (Jeannel, 1960).

***Cimmerites morozovi* (Dolzhanski et Ljovuschkin, 1990) (= *Birsteinotrechus morozovi* Dolzhanski et Ljovuschkin, 1990)** (Insecta: Coleoptera: Carabidae)

**Distribution:** Cave at Mt. Achibakh (Dolzhanski & Ljovuschkin, 1990).

***Duvalius abyssimus* Reboleira & Ortuño, 2014** (Insecta: Coleoptera: Carabidae)

**Distribution:** Krubera-Voronya Cave (Reboleira & Ortuño, 2014).

***Duvalius iljukhini* (Dolzhanskij et Ljovuschkin, 1985) (= *Jeannelius iljukhini* Dolzhanskij et Ljovuschkin, 1985)** (Insecta: Coleoptera: Carabidae)

**Distribution:** Suveniri Cave (Dolzhanskij & Ljovuschkin, 1985).

***Duvalius sokolovi* Ljovuschkin, 1963** (Insecta: Coleoptera: Carabidae)

**Distribution:** Trekhuza Cave (Ljovuschkin, 1963).

***Inotrechusinjaevae* Dolzhanskij et Ljovuschkin, 1989** (Insecta: Coleoptera: Carabidae)

**Distribution:** Sakishore Cave (Daizhanskij & Ljovuschkin, 1989).

*Inotrechus kurnakovi* Dolzhanskij et Ljovuschkin, 1989 (Insecta: Coleoptera: Carabidae)

**Distribution:** Prometheus Cave (Dolzhanski & Ljovuschkin, 1989).

*Jeannelius gloriosus* Ljovuschkin, 1965 (Insecta: Coleoptera: Carabidae)

**Distribution:** Akhali Atoni Cave (Ljovuschkin, 1965).

*Jeannelius magnificus* Kurnakov, 1959 (Insecta: Coleoptera: Carabidae)

**Distribution:** Kveda Shakurani Cave, Tsebelda Cave (Kurnakov, 1959; Ljovuschkin, 1963).

*Laemostenus (Antisphodroides) ljevushkini* Vereschagina, 1985 (Insecta: Coleoptera: Carabidae)

**Distribution:** Prometheus Cave, Sakadzhia Cave, Solkota, Tetra Cave, Tsutskhvati Cave Complex (Vereschagina, 1985).

*Meganophthalmus kutaissianus* (Zaitzev, 1941) (= *Duvalius kutaissianus* Zaitzev, 1941) (Insecta: Coleoptera: Carabidae)

**Distribution:** Tskaltsitela Cave (Zaitzev, 1941).

*Meganophthalmus medvedevi* Belousov et Koval, 2009 (Insecta: Coleoptera: Carabidae)

**Distribution:** Otapistavi Cave (Belousov & Koval, 2009).

*Meganophthalmus mirabilis* Kurnakov, 1959 (Insecta: Coleoptera: Carabidae)

**Distribution:** Tsebelda Cave, Zeda Shakurani Cave (Kurnakov, 1959; Belousov & Koval, 2009).

*Taniatrechus setosus* Belousov et Dolzhanskij, 1994 (Insecta: Coleoptera: Carabidae)

**Distribution:** Suveniri Cave (Belousov & Dolzhanskij, 1994).

*Troglocimmerites djanaschwilii* Ljovuschkin, 1970 (Insecta: Coleoptera: Carabidae)

**Distribution:** Meliis Cave (Ljovuschkin, 1970).

***Troglocimmerites imeretinus* (Dolzhanskij et Ljovuschkin, 1985)**  
(=*Birsteinotrechus imeretinus* Dolzhanskij et Ljovuschkin, 1985)  
(Insecta: Coleoptera: Carabidae)

**Distribution:** Sataplia IV Cave (Dalzhanski & Ljovuschkin, 1985).

**Trechini sp. indet.** (Insecta: Coleoptera: Carabidae)

**Distribution:** Kelasuri Cave (Zaitzev, 1948).

### **Rove beetles – Staphylinidae**

***Lesteva pubescens* Mannerheim, 1830** (Insecta: Coleoptera: Staphylinidae)

**Distribution:** Chamkhona Cave (Ljovushkin, 1966).

***Bryaxis hypocritus* Plavilshchikov, 1940** (Insecta: Coleoptera: Staphylinidae)

**Distribution:** Tsakhi Cave (Plavilshchikov, 1940).

### **Cholevidae**

***Catops cavicis* Giachino, 2011** (Insecta: Coleoptera: Cholevidae)

**Distribution:** Krubera-Voronya Cave (Giachino, 2011).

### **Hister beetles – Histeridae**

***Gnathoncus rotundatus* (Kugelann, 1792)** (Insecta: Coleoptera: Histeridae)

**Distribution:** Adzaba Cave (Zaitzev, 1948).

### **Ants (Arthropoda-Insecta-Hymenoptera)**

***Lasius fuliginosus* Latreille, 1798** (Insecta: Hymenoptera: Formicidae)

**Material examined:** Usholta Cave, Twilight zone, 3 specimens, leg. Sh. Barjadze, det. N. Gratiashvili.

***Leptothorax acervorum* (Fabricius, 1793)** (Insecta: Hymenoptera: Formicidae)

**Material examined:** Samertskhleklde I Cave, Twilight zone, 3 specimens, leg. Sh. Barjadze, det. N. Gratiashvili.

**Butterflies and moths** (Arthropoda-Insecta- Lepidoptera)

***Scoliopteryx libatrix* (Linnaeus, 1758)** (Insecta: Lepidoptera: Noctuidae)

**Material examined:** Dolabistavi Cave, Twilight and Dark zones, 3 specimens, leg. Sh. Barjadze, det. T. Chunashvili; Sakishore Cave, Dark zone, 2 specimens, leg. Sh. Barjadze, det. T. Chunashvili.

***Triphosa dubitata* (Linnaeus, 1758)** (Insecta: Lepidoptera: Geometridae)

**Material examined:** Dolabistavi Cave, Twilight and Dark zones, 6 specimens, leg. Sh. Barjadze, det. T. Chunashvili; Sakishore Cave, Dark zone, 3 specimens, leg. Sh. Barjadze, det. T. Chunashvili; Usholta Cave, Dark zone, 5 specimens, leg. Sh. Barjadze, det. T. Chunashvili.



## PART II. CAVES AND THEIR INVERTEBRATES' COMMUNITIES

### Abrskili (=Ablaskiri, Achkhi-tizgua, Achkhshe-tizgua, Chlou) Cave

*Fanavi karst massif, Ochamchire district, Abkhazeti, Georgia*

**Amphipods (1):** *Niphargus ablaskiri ablaskiri* Birstein, 1940

**Decapods (2):** *Troglocaris (Xiphocaridinella) ablaskiri* Birstein, 1939 (= *Troglocaris schmidti ablaskiri* Birstein, 1939) and *Troglocaris birsteini* Mugue, Zueva & Ershov, 2001

**Isopods (2):** *Borutzkyella revasi* (Borutzky, 1973) (= *Buddelundiella revasi* Borutzky, 1973), *Trichoniscus aphoniscus codoricus* Borutzky, 1977

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Maxillopods (1):** *Acanthocyclops vernalis vernalis* (Fischer, 1853)

**Millipedes (1):** *Archileucogeorgia abchasica* (Lohmander, 1936)

**In total:** 8 species.

### Adzaba (=Eshera) Cave

*Gumishta-Psirtskha karst massif, Sokhumi district, Abkhazeti, Georgia*

**Amphipods (1):** *Gammarus pulex* Linnaeus, 1758

**Annelids (1):** Enchytraeidae sp. indet.

**Harvestmen (1):** *Nelima pontica* (Charitonov, 1941).

**Insects (8):** *Bradysia* (= *Neosciara* sp. ?), *Dolichopoda euxina* Semenov, 1901, *Fannia scalaris* (Fabricius, 1794), *Gnathoncus rotundatus* (Kugelann, 1792), *Heteromyza atricornis* Meigen, 1830 (= *Thelida atricornis* Meigen, 1830), *Limonia nubeculosa* Meigen, 1804, *Nycteribia schmidlii* Schiner, 1853 (= *Listropoda schmidlii* Schiner, 1853), *Thysanura* sp. indet.

**Isopods (5):** *Asellus* sp., *Caucasoligidium cavernicola cavernicola* Borutzky, 1950, *Ligidium nodulosum* Verhoeff, 1918, *Trichoniscus aphoniscus abchasicus* Borutzky, 1977, *Trachelipus* sp. (= *Tracheoniscus* sp.)

**Maxillopods (1):** *Paracyclops fimbriatus fimbriatus* (Fischer, 1853)

**Millipedes (1):** Chordeumatida sp. indet.

**Spiders (4):** *Carpathonesticus zaitzevi* (Charitonov, 1939) (= *Nesticus zaitzevi* Charitonov, 1939), *Episinus truncatus* Latreille, 1809, *Meta bourneti* Simon, 1922, *Metellina merianae* (Scopoli, 1763) (= *Meta me-*

*rianae* Scopoli, 1763)

**Springtails (1):** *Plutomurus kelasuricus* Martynova, 1969.

**In total:** 23 species.

### Afonskaja Cave

*Gumista-Psirtskha karst massif, Gudauta district, Abkhazeti, Georgia*

Comment: There are not any caves known in Georgia with this name. We think that this is one of the caves, situated near Akhali Atoni.

**Spiders (1):** *Carpathonesticus zaitzevi* (Charitonov, 1939) (= *Nesticus zaitzevi* Charitonov, 1939)

**In total:** 1 species.

### Aghmavali (=Old Stalactite, Psirtskha, Psyrtskha) Cave

*Gumista-Psirthkha karst massif, Gudauta district, Abkhazeti, Georgia*

Comment: Some scientists think that this cave is a part of Akhali Atoni Cave

**Decapods (1):** *Troglocaris (Xiphocaridinella) fagei* Birstein, 1939 (= *Troglocaris schmidti fagei* Birstein, 1939)

**Insects (2):** *Dolichopoda euxina* Semenov, 1901, *Limonia nubeculosa* Meigen, 1804

**Isopods (1):** *Trichoniscus* sp. 1

**Maxillopods (3):** *Acanthocyclops vernalis vernalis* (Fischer, 1853), *Cyclops strenuus strenuus* Fischer, 1851, *Paracyclops fimbriatus fimbriatus* (Fischer, 1853)

**Spiders (1):** *Carpathonesticus zaitzevi* (Charitonov, 1939) (= *Nesticus zaitzevi* Charitonov, 1939)

**Springtails (1):** *Arrhopalites abchasicus* Vargovitsh, 2013

**In total:** 9 species.

### Aghmosavlet Gumista I (=Vastochnaya Gumista I) Cave

*Gumista-Psirtskha karst massif, Sokhumi district, Abkhazeti, Georgia*

**Springtails (1):** *Plutomurus kelasuricus* Martynova, 1969

**In total:** 1 species.

### Aghmosavlet Gumista II (=Vastochnaya Gumista II) Cave

*Gumista-Psirtskha karst massif, Sokhumi district, Abkhazeti, Georgia*

**Springtails (1):** *Plutomurus kelasuricus* Martynova, 1969

**In total:** 1 species.

#### **Agumava Cave**

*Duripshi plateau, Gudauta district, Abkhazeti, Georgia*

**Amphipods (1):** *Zenkevitchia admirabilis* Birstein, 1941

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Spiders (2):** *Carpathonesticus caucasicus* (Charitonov, 1947) (= *Nesticus caucasicus* Charitonov, 1947), *Hoplopholcus longipes* (Spassky, 1934)

**In total:** 4 species.

#### **Aiusta Cave**

*Gudauta district, Abkhazeti, Georgia*

**Annelids (1):** *Dendrobaena veneta veneta* (Rosa, 1886) (= *Eisenia veneta* var. *minuta* Malevics, 1947)

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Isopods (1):** *Caucasoligidium cavernicola ajustae* Borutzky, 1950

**In total:** 3 species.

#### **Akhali Atoni (=Anakopia, Iveria ?, Novoafonskaya) Cave**

*Gumista-Psirtskha karst massif, Gudauta district, Abkhazeti, Georgia*

**Amphipods (2):** *Anopogammarus* sp., *Zenkevitchia admirabilis* Birstein, 1941

**Decapods (1):** *Troglocaris (Xiphocaridinella) fagei* Birstein, 1939 (= *Troglocaris schmidti fagei* Birstein, 1939)

**Insects (1):** *Jeannelius gloriosus* Ljovuschkin, 1965

**Isopods (1):** *Trichoniscus aphoncus aphoncus* Borutzky, 1977

**Mollusks (3):** *Belgrandiella (?) abchastica* Starobogatov, 1962, *Paladilhiopsis shadini* Starobogatov, 1962, *Pontohoratia smyri* Vinarski, Palatov, Glöer, 2014

**In total:** 8 species.

#### **Akhalsheni (=Andreevka, Andreevskaya) Cave**

*Gumista-Psirtskha karst massif, Sokhumi district, Abkhazeti, Georgia*

Comment: As we found in the literature there are 2 caves named after Akhalsheni: Zeda and Kveda Akhalsheni caves (Tatashidze et al. 2009: 376). It is difficult to decide in which cave(s) were sampled bellow listed invertebrates.

**Insects (1):** *Limonia nubeculosa* Meigen, 1804

**Isopods (1):** *Ligidium* sp. 3 - Comment: This is probably *Caucasoligidium cavernicola gumistae* Borutzky, 1950

**In total:** 2 species.

### **Akui (=Chasm of Abkhazian Speleologists) Cave**

*Gumista-Psirtskha karst massif, Gudauta district, Abkhazeti, Georgia*

**Springtails (3):** *Desoria trispinata* (MacGillivray, 1896), *Mesogastrura ojcoviensis* (Stach, 1919), *Oligaphorura schoetti* (Lie-Pettersen, 1896)

**Isopods (1):** *Trichoniscus aphoniscus aphoniscus* Borutzky, 1977

**In total:** 4 species.

### **Anish Cave**

*Gudauta district, Abkhazeti, Georgia*

**Centipedes (1):** *Lithobius* sp.

**False scorpions (1):** *Neobisium (Blothrus)* sp.

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Mollusks (1):** *Conulopolita raddei* (Boettger, 1879) (= *Hyalinia (Conulopolita) raddei* O. Boettger, 1879)

**Spiders (1):** *Carpathonesticus caucasicus* (Charitonov, 1947) (= *Nesticus caucasicus* Charitonov, 1947)

**In total:** 5 species.

### **Anukhva (=Anukhvinskaya) Cave**

*Gumishkha-Psirtskha karst massif, Gudauta district, Abkhazeti, Georgia*

Comment: There are 8 caves named after Anukhva (I-VIII) (Tatashidze et al., 2009: 343-349). It is difficult to decide in which cave(s) were sampled bellow listed invertebrates.

**Amoeboid protozoans (6):** *Cyclopyxis arcelloides* Penard, 1902, *Cyclopyxis intermedia* Kufferath, 1932 (= *Cyclopyxis bathystoma* Chibisova, 1967; *Cyclopyxis kahli* var. *grandis* Chibisova, 1967), *Cyclopyxis kahli* Deflandre, 1929, *Cyclopyxis penardi* var. *minor* Chibisova, 1967, *Plagiopyxis callida* Penard, 1910, *Pontigulasia incisa* Rhumbler, 1896

**Isopods (1):** *Trichoniscus aphoniscus aphoniscus* Borutzky, 1977

**Springtails (1):** *Arrhopalites macronyx* Vargovitsh, 2012

**In total:** 8 species.

### **Apokalinskaya Cave**

*Near Akhali Atoni, Abkhazeti, Georgia*

**Isopods (1):** *Trichoniscus aphoniscus aphoniscus* Borutzky, 1977

**In total:** 1 species.

### **Avidzba Cave**

*Abkhazeti, Georgia*

**Centipedes (1):** *Harpolithobius birsteini* Zalesskaya, 1972

**In total:** 1 species.

### **Bacha Cave**

*Bach-Otkhara karst massif, Gudauta district, Abkhazeti, Georgia*

Comment: There are 2 caves with the name - Bacha: Bacha Kveda and Bacha Zeda caves (Tatashidze et al., 2009: 585-586). It is difficult to decide from which cave(s) were sampled bellow listed invertebrates.

**Amphipods (2):** *Niphargus otharicus* Birstain, 1952 (= *Niphargus puteanus otharicus* Birstain, 1952), *Stygobromus behningi* (Birstein, 1948) (= *Synurella behningi* Birstein, 1948)

**Insects (2):** *Cimmerites kurnakovi* Jeannel, 1960, *Dolichopoda euxina* Semenov, 1901

**Isopods (2):** *Ligidium fragile* Budde-Lund, 1885 (= *Ligidium euxinum* Verhoeff, 1918; *Ligidium euxinum caucasicum* Verhoeff), *Trichoniscus gudauticus gudauticus* Borutzky, 1977

**Mollusks (3):** *Conulopolita cavatica* (Riedel, 1966) (= *Oxychilus cochlospeleus* Tzvetkov in Birshtein, 1950, nomen nudum), *Conulopolita raddei* (Boettger, 1879) (= *Hyalinia (Conulopolita) raddei* O. Boettger, 1879), *Serrulina* sp. 2 (as *Serrulina inferna* Tzvetkov (nomen nudum))

**In total:** 9 species.

### **Bnelaklde Cave**

*Zemo Imereti plateau, Chiatura district, Imereti, Georgia*

**Millipedes (2):** *Archileucogeorgia* sp., *Trachysphaera orientalis* Golovatch, 1976

**Springtails (2):** *Plutomurus birsteini* Djanashvili & Barjadze, 2011, *Pygmarrrhopalites principalis* Stach, 1945

**In total:** 4 species.

#### **Bregvadzeebisklde Cave**

*Zemo Imereti plateau, Chiatura district, Imereti, Georgia*

**Mollusks (1):** *Mucronaria pleuroptychia* (Boettger, 1878)

**Spiders (1):** *Pardosa agricola* (Thorell, 1856)

**In total:** 2 species.

#### **Buja-Karianiklde Cave (=Khreiti Cave)**

*Racha karst massif, Chiatura district, Imereti, Georgia*

Comment: Khreiti Cave, which was given in Japaridze & Gomelauri (1986) is Buja-Karianiklde Cave (Janashvili, personal communication).

**Mites (2):** *Oppiella (Moritzoppia) splendens* Koch, 1841, *Oppiella (Moritzoppia) uncarinata clavigera* (Hammer, 1952)

**In total:** 2 species.

#### **Cave at Mt. Achibakh**

*Cave at Mt. Achibakh, Abkhazia, Georgia*

**Insects (1):** *Cimmerites morozovi* (Dolzhanski et Ljovuschkin, 1990) (= *Birsteinotrechus morozovi* Dolzhanski et Ljovuschkin, 1990)

**In total:** 1 species.

#### **Cave between Tkibuli and Kutaisi**

*Imereti, Georgia.*

Comment: It is difficult to say which cave it is.

**Mites (2):** *Amerobelba decedens* Berlese, 1908, *Brachichtonius* sp.

**In total:** 2 species.

#### **Cave in Pitsunda/Myussera Reserve**

*Abkhazeti, Georgia*

Commen: It is difficult to say which cave it is.

**Spiders (1):** *Porrhomma convexum* (Westring, 1851)

**In total:** 1 species.

### Cave in the Enguri gorge

*Georgia*

**Millipedes (1):** *Choneiulus* sp.

**Springtails (1):** *Folsomia candida* Willem, 1902

**In total:** 2 species.

### Chamkhona Cave

*Arabika karst massif, Gagra district, Abkhazeti, Georgia*

**Centipedes (1):** *Lithobius* sp.

**Harvestmen (2):** *Odiellus* sp., *Paranemastoma kalischevskyi* (Roewer, 1951) (= *Nemastoma kalischevskyi*)

**Insects (1):** *Lesteva pubescens* Mannerheim, 1830

**Mollusks (1):** *Scrobifera taurica taurica* (Pfeiffer, 1848) (= *Idula foveicollis* Charpentier, 1852)

**Nematodes (3):** *Aglenchus agricola* (de Man, 1884) (= *Tylenchus Agricola* de Man, 1884), *Monhystera* sp., *Plectus rhyzophilus* de Man, 1880

**Spiders (1):** *Segestria senoculata* (Linnaeus, 1758)

**In total:** 9 species.

### Chishura source Cave

*Zemo Imereti plateau, Terjola district, Imereti, Georgia*

**Mites (3):** *Eupelops acromios* (Hermann, 1804), *Minunthozetes pseudo-fusifiger* (Schweizer, 1922), *Ramusella clavipectinata* (Michael, 1885)

**Mollusks (1):** *Oxychilus koutaisianus* (Mousson, 1863)

**Springtails (1):** *Tomocerus minor* (Lubbock, 1862)

**In total:** 5 species.

### Chishura II Cave (=Chishura Cave)

*Zemo Imereti plateau, Terjola district, Imereti, Georgia*

Comment: Chishura Cave, mentioned in Murvamidze, 2014 should be Chishura II Cave.

**Mites (3):** *Oppiella (Rhinoppia) fallax* (Paoli, 1908), *Ramusella clavipectinata* (Michael, 1885), *Sphaerozetes tricuspidatus* Willmann, 1923

**Mollusks (1):** *Oxychilus koutaisianus* (Mousson, 1863)

**Springtails (1):** *Heteromurus nitidus* (Templeton, 1835)

**In total:** 5 species.

### Chlakhe Cave

*Gudauta district, Abkhazeti, Georgia*

**Annelids (2):** *Dendrobaena hortensis* (Michaelsen, 1890) (= *Eisenia birsteini* Malevics, 1947), *Eisenia fetida* (Savigny, 1826)

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Isopods (2):** *Cylisticus caucasicus* Verhoeff, 1917, *Ligidium fragile* Budde-Lund, 1885 (= *Ligidium euxinum* Verhoeff, 1918; *Ligidium euxinum caucasicum* Verhoeff)

**Mollusks (4):** *Conulopolita cavatica* (Riedel, 1966) (= *Oxychilus cochlospeleus* Tzvetkov in Birshstein, 1950, nomen nudum), *Conulopolita raddei* (Boettger, 1879) (= *Hyalinia (Conulopolita) raddei* O. Boettger, 1879), *Lauria* sp., *Serrulina* sp. 1 (as *Serrulina birsteini* Tzvetkov (nomen nudum))

**Spiders (1):** *Carpathonesticus caucasicus* (Charitonov, 1947) (= *Nesticus caucasicus* Charitonov, 1947)

**In total:** 10 species.

### Dasavlet Gumista (=Zapadnaya Gumista) Cave

*Gumista-Psirtskha karst massif, Sokhumi district, Abkhazeti, Georgia*

**Isopods (1):** *Trichoniscus aphoniscus abchasicus* Borutzky, 1977

**In total:** 1 species.

### Dolabistavi Cave

*Racha karst massif, Ambrolauri district, Racha, Georgia*

**False scorpions (1):** *Neobisium* sp.

**Insects (2):** *Scoliopteryx libatrix* (Linnaeus, 1758), *Triphosa dubitata* (Linnaeus, 1758)

**Springtails (1):** *Plutomurus* sp. 5

**In total:** 4 species.



### Dzudzuana Cave

*Zemo Imereti plateau, Chiatura district, Imereti, Georgia*

**Mites (25):** *Achipteria longisetosa* Murvanidze & Weigmann, 2003, *Aleurodamaeus setosus* (Berlese, 1883), *Berniniella silvatica* (Vasilii & Calugar, 1976), *Chamobates voigtsi* (Oudemans, 1902), *Conchogneta dalecarlica* (Forsslund, 1947), *Dissorhina ornata* (Oudemans, 1900), *Dissorhina signata* Schwalbe, 1989, *Galumna alata* (Hermann, 1804), *Gustavia microcephala* (Nicolet, 1855), *Hypochthonius rufulus* Koch, 1835, *Machuelia draconis* Hammer, 1961, *Metabelba pseudoitalica* Bulanova-Zachvatkina, 1965, *Microzetes caucasicus* (Krivolutsky, 1967), *Minunthozetes pseudofusiger* (Schweizer, 1922), *Oppia nitens* Koch, 1836, *Oppiella (Oppiella) nova* (Oudemans, 1902), *Oppiella (Rhinoppiella) subpectinata* (Oudemans, 1900), *Protoribates capucinus* Berlese, 1908, *Punctoribates punctum* (Koch, 1839), *Quadroppia (Coronoquadroppia) media* Gordeeva, 1983, *Ramusella insculpta* (Paoli, 1908), *Rhysotritia ardua* (Koch, 1841), *Scheloribates latipes* (Koch, 1844), *Steganacarus (Steganacarus) spinosus* (Sellnick, 1920), *Tectocepheus velatus velatus* (Michael, 1880)

**Springtails (4):** *Folsomia ksenemani* Stach, 1947, *Metaphorura affinis* Börner, 1902, *Protaphorura sakatoi* (Yosii, 1966), *Tomocerus minor* (Lubbock, 1862)

**In total:** 29 species.

### Garakha Cave

*Odishi plain, Chkhorotsku district, Samegrelo, Georgia*

**Spiders (1):** *Pardosa agricola* (Thorell, 1856)

**Springtails (2):** *Folsomia candida* Willem, 1902, *Plutomurus* sp. 4

**In total:** 3 species.

### Ghliana Cave

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

**Maxillopods (2):** *Attheyella crassa* (Sars, 1863), *Echinocamptus georgevitchi* (Chappuis, 1924)

**Millipedes (1):** *Trachysphaera fragilis* Golovatch, 1976

**Mites (2):** *Hypoaspis aculeifer* (Canestrini, 1883), *Macrocheles penicilliger* (Berlese, 1904)

**Springtails (2):** *Deuterostminthurus* sp., *Proisotoma minuta* (Tullberg, 1871)

**In total:** 7 species.

### **Godogani Cave**

*Okriba karst massif, Terjola district, Imereti, Georgia*

**Mollusks (1):** *Vitrinoxychilus subsuturalis* (Boettger, 1888)

**Springtails (1):** *Plutomurus* sp.1

**In total:** 2 species.

### **Guma (=Gumi) Cave**

*Gumista-Psirtska karst massif, Sokhumi district, Abkhazeti, Georgia*

Comment: There are 4 caves named Guma (I-IV) (Tatashidze et al. 2009: 357-360). It is difficult to decide from which cave(s) were sampled bellow listed invertebrates.

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Mollusks (2):** *Conulopolita raddei* (Boettger, 1879) (= *Hyalinia* (*Conulopolita*) *raddei* O. Boettger, 1879), *Oxychilus* sp. 1 (as *Oxychilus subreticulata* Tzvetkov (nomen nudum))

**In total:** 3 species.

### **Iluzia-tovliani-mejeni (=Snejnaya, Snezhnaya) Cave**

*Bzyb (=Bzipi) karst massif, Gudauta district, Abkhazeti, Georgia*

**False scorpions (1):** *Roncus birsteini* Krumpál, 1986

**Springtails (1):** *Typhlogastrura morozovi* Babenko, 1987

**In total:** 2 species.

### **Inchkhuri Cave**

*Odishi plain, Martvili district, Samegrelo, Georgia*

**Isopods (1):** *Mingrelloniscus inchhuricus* Borutzky, 1974

**Maxillopods (1):** *Moraria* (*Moraria*) *varica* (Graeter, 1911)

**In total:** 2 species.

### **Jeopse (=Sandripshi) Cave**

*Arabika karst massif, Gagra district, Abkhazeti, Georgia*

**Isopods (1):** *Caucasoligidium cavernicola ajustae* Borutzky, 1950

**Mollusks (1):** *Conulopolita cavatica* (Riedel, 1966) (= *Oxychilus cochlospeleus* Tzvetkov in Birshstein, 1950, nomen nudum)

**Nematodes (2):** *Prismatolaimus dolichurus* de Man, 1880, *Prismatolaimus* sp.

**In total:** 4 species.

### **Jokhra Cave**

*Gagra district, Abkhazeti, Georgia*

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**In total:** 1 species.

### **Jortsku I (=Jortsku) Cave**

*Askhi karst massif, Martvili district, Samegrelo, Georgia*

Comment: There are 2 caves named Jortsku (Tatashidze et al. 2009: 219-220). Springtail species, which was given in Barjadze & Djanashvili (2008), was sampled in Jortsku I Cave (Janashvili, personal communication).

**Springtails (1):** *Willowsia buski* (Lubbock, 1871)

**In total:** 1 species.

### **Kakhidze Cave**

*Racha karst massif, Ambrolauri district, Racha, Georgia*

**Mites (3):** *Eupelops torulosus* (Koch, 1839), *Tectocepheus velatus velatus* (Michael, 1880), *Zetorchestes falzonii* Coggi, 1898

**Mollusks (2):** *Oxychilus koutaisianus* (Mousson, 1863), *Oxychilus sucinaceus sucinaceus* (Bottger, 1883)

**Spiders (1):** *Pardosa hortensis* Thorell, 1872

**Springtails (2):** *Pseudosinella alba* (Packard, 1873), *Pseudosinella octopunctata* Börner, 1901

**In total:** 8 species.

### **Kelasuri (=Aleksandrovka) cave**

*Tsebelda Karst massif, Gulripshi district, Abkhazeti, Georgia*

**Amphipods (1):** *Niphargus inermis* Birstein, 1940 (= *Niphargus ablaskiri inermis* Birstein, 1940)

**False scorpions (2):** *Neobisium (Neobisium) crassifemoratum* (Beier,

1928), *Neobisium (Neobisium) labinskyi* Beier, 1937

**Harvestmen (1):** *Nelima pontica* (Charitonov, 1941)

**Insects (2):** *Dolichopoda euxina* Semenov, 1901, Trechini sp. indet.

**Millipedes (3):** *Archileucogeorgia abchasica* (Lohmander, 1936), *Archileucogeorgia satunini* (Lohmander, 1936), *Nopoiulus (Paranopoiulus)* sp.

**Spiders (6):** *Carpathonesticus zaitzevi* (Charitonov, 1939) (= *Nesticus zaitzevi* Charitonov, 1939), *Diplocephalus caucasicus* Tanasevitch, 1987, *Episinus truncatus* Latreille, 1809, *Meta bourneti* Simon, 1922, *Metellina merianae* (Scopoli, 1763) (= *Meta merianae* Scopoli, 1763), *Tegenaria abchasica* Charitonov, 1941

**Springtails (2):** *Onychiuroides granulosus* (Stach, 1930), *Plutomurus kelasuricus* Martynova, 1969

**In total:** 17 species.

### **Khvedelidzebisklde (=Khvedelidze) Cave**

Zemo Imereti plateau, Chiatura district, Imereti, Georgia

**Spiders (2):** *Arctosa cinerea* Fabricius, 1777, *Theridion* sp. 3

**Springtails (3):** *Folsomia candida* Willem, 1902, *Hypogastrura* sp., *Plutomurus birsteini* Djanashvili & Barjadze, 2011

**In total:** 5 species.

### **Kidobana Cave**

Racha karst massif, Ambrolauri district, Racha, Georgia

**Mites (17):** *Autogneta longilamellata* (Michael, 1885), *Ceratoppia quadridentata* (Haller, 1882), *Ceratozetes gracilis* (Michael, 1884), *Chamobates cuspidatus* (Michael, 1884), *Chamobates voigtsi* (Oudemans, 1902), *Epidamaeus pinguis* Kulijev, 1967, *Eupelops acromios* (Hermann, 1804), *Metabelbella flagelliseti* Bulanova-Zachvatkina, 1965, *Minunthozetes pseudofusiger* (Schweizer, 1922), *Parachipteria fanzagoi* (Jacot, 1929), *Pilogalumna tenuiclava* Berlese, 1914, *Ramusella clavipectinata* (Michael, 1885), *Sphaerozetes tricuspidatus* Willmann, 1923, *Steganacarus (Tropacarus) patruelis* Niedbala, 1983, *Steganacarus (Steganacarus) spinosus* (Sellnick, 1920), *Steganacarus (Atropacarus) striculus* (Koch, 1835), *Zygoribatula frisiae* (Oudemans, 1900)

**Springtails (5):** *Desoria* sp., *Folsomia* sp., *Friesea* sp., *Lepidocyrtus lignorum* (Fabricius, 1793), *Tomocerus vulgaris* (Tullberg, 1871)

**In total:** 22 species.

### Kortskheli Cave

*Odishi plain, Zugdidi district, Samegrelo, Georgia*

**Annelids (1):** *Dendrobaena veneta veneta* (Rosa, 1886)

**Mollusks (1):** *Circassina frutis* (Pfeiffer, 1859)

**Spiders (4):** *Metellina merianae* (Scopoli, 1763) (= *Meta merianae* Scopoli, 1763), *Oxyopes lineatus* Latreille, 1806, *Theridion* sp. 2, *Trochosa ruricola* (De Geer, 1778)

**Springtails (1):** *Tomocerus minor* (Lubbock, 1862)

**In total:** 7 species.

### Krubera-Voronya Cave

*Arabika karst massif, Place Ortobalagan, Gagra district, Abkhazeti, Georgia*

**Amphipods (1):** *Zenkevitchia* sp.1

**Decapods (1):** *Troglocaris* sp.

**False scorpions (1):** *Neobisium (Blothrus) birsteini* (Lapschoff, 1940)

**Harvestmen (1):** *Nemaspela* sp.

**Insects (4):** *Carabus* sp., *Catops cavicis* Giachino, 2011, *Duvalius abyssinus* Reboleira & Ortuño, 2014, *Trichocera (Saltrichocera) maculipennis* (Meigen 1818)

**Millipedes (1):** Chordeumatida sp. indet.

**Mites (1):** Acari sp. indet.

**Spiders (2):** Gnaphosidae sp. indet., *Troglohyphantes* sp.

**Springtails (4):** *Anurida stereoodorata* Jordana & Baquero, 2012, *Deuteraphorura kruberaensis* Jordana & Baquero, 2012, *Plutomurus ortobalaganensis* Jordana & Baquero, 2012, *Schaefferia profundissima* Jordana & Baquero, 2012

**In total:** 16 species.

### Kudaro Cave

*Kudaro karst massif, Java district, Samachablo (=Southern Osetia), Georgia*

Comment: There are 6 caves in Georgia named after Kudaro (I-VI) (Tsikarishvili et al., 2009: 282-287). It is difficult to say from which cave was sampled millipede species.

**Millipedes (1):** *Brachydesmus kalischewskyi* Lignau, 1911

**In total:** 1 species.

### **Kuibishevi (=Kuibyshevskaya) Cave**

*Arabika karst massif, Abkhazia, Georgia*

**Harvestmen (1):** *Nemaspela abchasica* (Ljovuschkin & Starobogatov, 1963) (= *Buresiolla abchasica* Ljovuschkin & Starobogatov, 1963)

**In total:** 1 species.

### **Kveda Akhalshehi (=Nizhnyaya Andreevskaya) Cave**

*Gumista-Psirtskha karst massif, Sokhumi district, Abkhazeti, Georgia*

**Amphipods (2):** *Niphargus iniochus* Birstein, 1941 (= *Niphargus puteanus iniochus* Birstein, 1941), *Zenkevitchia admirabilis* Birstein, 1941

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Isopods (2):** *Caucasoligidium cavernicola gumistae* Borutzky, 1950, *Trichoniscus aphoniscus abchasicus* Borutzky, 1977

**Mollusks (1):** «*Oxychilus*» *birsteini* Tzvetkov, 1940

**In total:** 6 species.

### **Kveda Kvilishori Cave**

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

Comment: There was written about the cave which was near village Kvilishori in Borutzky and Mikhailova-Neikova (1970). Two caves are located near Kvilishori village: Zeda and Kveda Kvilishori caves (Tatashidze et al., 2009: 454-455). Based on the location and characteristics of the cave, given in Borutzky and Mikhailova-Neikova (1970) make us think that maxillopods must have been taken from Kveda Kvilishori Cave. Besides, based on the location and characteristics of the cave, given in Birstein and Ljovuschkin (1968) make us think that syncarida species must have been taken from Kveda Kvilishori Cave.

**Maxillopods (5):** *Attheyella crassa* (Sars, 1863), *Bryocamptus zschokkei caucasicus* Kiefer, 1978 (= *Bryocamptus zschokkei caucasicus* Borutzky, 1960), *Ceuthonectes serbicus* Chappuis, 1924 (= *Morariodes colchidana* Borutzky, 1930), *Moraria colchica* Borutzky & Mikhailova-Neikova, 1970, *Nitocrella colchica* Borutzky & Mikhailova-Neikova, 1970.

**Syncarida (1):** *Parabathynella stygia* Chappuis, 1926

**In total:** 6 species.

**Kveda Shakurani (=Nizhnyaya Shakuranskaya,  
Shakurani III) Cave**

*Tsebelda karst massif, Gulripshi district, Abkhazeti, Georgia*

**Amphipods (4):** *Niphargus inermis* Birstein, 1940 (= *Niphargus ablaskiri inermis* Birstein, 1940), *Niphargus iniochus* Birstein, 1941 (= *Niphargus puteanus iniochus* Birstein, 1941), *Niphargus magnus* Birstein, 1940 (= *Niphargus longicaudatus magnus* Birstein, 1940), *Zenkevitchia admirabilis* Birstein, 1941

**Ciliates (2):** *Gymnodinioides* sp., *Spelaeophrya troglocaridis* Stammer, 1935

**Decapods (1):** *Troglocaris (Xiphocaridinella) osterloffii* Juzbaš'jan, 1940 (= *Troglocaris schmidti ostewrloffii* Juzbaš'jan, 1940)

**Harvestmen (1):** *Nemaspela abchastica* (Ljovuschkin & Starobogatov, 1963) (= *Buresiolla abchastica* Ljovuschkin & Starobogatov, 1963)

**Insects (2):** *Dolichopoda euxina* Semenov, 1901, *Jeannelius magnificus* Kurnakov, 1959

**Isopods (2):** *Caucasoligidium cavernicola amtkelicum* Borutzky, 1950, *Ligidium* sp. 2 - Comment: This is probably *Caucasoligidium cavernicola amtkelicum* Borutzky, 1950 (Borutzky, 1950).

**Mollusks (5):** *Belgrandiella abchastica* Starobogatov, 1962, *Geyeria horatiformis* Starobogatov, 1962, *Paladilhiopsis aculeus* Starobogatov, 1962, *Paladilhiopsis schakuranica* Starobogatov, 1962, *Pontohoratia birsteini* (Starobogatov, 1962) (= *Horatia birsteini* Starobogatov, 1962, *Horatia ljovushkini* Starobogatov, 1962, *Horatia sokolovi* Starobogatov, 1962)

**Spiders (1):** *Eukoenenia vargovitshi* Christian, 2014

**Springtails (1):** *Troglocalites stygios* Vargovitsh, 2012

**In total:** 19 species.

**Leskhulukhe Cave**

*Askhi karst massif, Martvili district, Samegrelo, Georgia*

**Mites (6):** *Chamobates spinosus* Sellnick, 1928, *Chamobates voigtsi* (Oudemans, 1902), *Oppiella (Rhinoppia) subpectinata* (Oudemans, 1900), *Punctoribates punctum* (Koch, 1839), *Ramusella clavipectinata* (Michael, 1885), *Rhysotritia ardua* (Koch, 1841)

**Springtails (3):** *Folsomia* sp., *Heteromurus nitidus* (Templeton, 1835), *Plutomurus kelasuricus* Martynova, 1969

**In total:** 9 species.

### Letsurtsume Cave

*Odishi plain, Chkhorotsku district, Samegrelo, Georgia*

**Spiders (3):** *Pardosa* sp., *Pisaura mirabilis* Clerck, 1757, *Tibellus macellus* Simon, 1875

**Springtails (2):** *Tomocerus minor* (Lubbock, 1862), *Tomocerus vulgaris* (Tullberg, 1871)

**In total:** 5 species.

### Likhni Cave

*Duripshi plateau, Gudauta district, Abkhazeti, Georgia*

Comment: There are 2 caves named after – Likhni: Kvemo and Zemo Likhni caves (Tatashidze et al., 2009: 588-589). It is difficult to decide in which cave(s) where sampled bellow listed invertebrates.

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Isopods (3):** *Cylisticus caucasicus* Verhoeff, 1917, *Ligidium fragile* Budde-Lund, 1885 (= *Ligidium euxinum* Verhoeff, 1918; *Ligidium euxinum caucasicum* Verhoeff), *Trichoniscus gudauticus gudauticus* Borutzky, 1977

**Spiders (1):** *Hoplopholcus longipes* (Spassky, 1934)

**In total:** 5 species.

### L-24 Cave

*Abkhazeti, Georgia*

**Harvestmen (1):** *Nemaspela abchasica* (Ljovuschkin & Starobogatov, 1963) (= *Buresiolla abchasica* Ljovuschkin & Starobogatov, 1963)

**In total:** 1 species.

### Mafeli Cave

*Gaucha karst massif, Chkhorotsku district, Samegrelo, Georgia*

**Mites (9):** *Acrogalumna longipluma adjarica* Murvanidze & Weigmann, 2003, *Hoplophthiracarus illinoisensis* (Ewing, 1909), *Minunthozetes pseudofusiger* (Schweizer, 1922), *Oppiella (Rhinoppia) fallax* (Paoli, 1908), *Oppiella (Rhinoppia) subpectinata* (Oudemans, 1900), *Parachip-*



*teria punctata* (Nicolet, 1855), *Phthiracarus ferrugineus* (Koch, 1841), *Punctoribates spunctum* (Koch, 1839), *Sphaerozetes tricuspидatus* Willmann, 1923

**Springtails (1):** *Tomocerus minor* (Lubbock, 1862)

**In total:** 10 species.

### **Manikvara (=Maanikvara) Cave**

*Gumista-Psirthkha karst massif, Gudauta district, Abkhazeti, Georgia*

**Isopods (1):** *Trichoniscus aphonius aphonius* Borutzky, 1977

**Springtails (1):** *Deuteraphorura variabilis* (Stach, 1954)

**In total:** 2 species.

### **Mashe Cave**

*Gudauta district, Abkhazeti, Georgia*

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**In total:** 1 species.

### **Meliis (=Nikortsminda) Cave**

*Racha karst massif, Ambrolauri district, Racha, Georgia*

**False scorpions (1):** *Neobisium (Blothrus) verae* (Lapschoff, 1940)

**Insects (1):** *Troglocimmerites djanaschwilii* Ljovuschkin, 1970

**Millipedes (3):** *Brachydesmus ferrugineus* Lohmander, 1936, *Cylindroiulus* sp., *Ratcheuma excorne* Golovatch, 1985

**Mites (5):** *Amerobelba decedens* Berlese, 1908, *Graptoppia foveolata* Paoli, 1908, *Liebstadia similis* (Michael, 1888), *Lucoppia* sp., *Veigaia planicola* (Berlese, 1892)

**Springtails (7):** *Ceratophysella cavicola* (Borner, 1901), *Folsomia candida* Willem, 1902, *Folsomia inoculata* Stach, 1946, *Folsomia spinosa* Kseneman, 1936, *Neanura muscorum* (Templeton, 1835), *Plutomurus birsteini* Djanashvili & Barjadze, 2011, *Pygmarrhopalites principalis* Stach, 1945

**In total:** 17 species.

### **MFT Cave**

*Bzyb karst massif, Gudauta district, Abkhazeti, Georgia*

**Harvestmen (1):** *Paranemastoma kalischevskyi* (Roewer, 1951) (= *Nemastoma kalischevskyi* Roewer, 1951)

**In total:** 1 species.

### MFTI Cave

*Bzyb karst massif, Gudauta district, Abkhazeti, Georgia*

**Harvestmen (1):** *Mitostoma gracile* (Redikorzev, 1936)

**In total:** 1 species.

### Mikava (=Okaje) Cave

*Gaucha karst massif, Tsalenjikha district, Samegrelo, Georgia*

**Mites (4):** *Aleurodamaeus setosus* (Berlese, 1883), *Minunthozetes pseudofusiger* (Schweizer, 1922), *Ramusella clavipectinata* (Michael, 1885), *Rhysotritia ardua* (Koch, 1841)

**In total:** 4 species.

### Motena Cave

*Askhi karst massif, Martvili district, Samegrelo, Georgia*

**Amphipods (1):** *Anopogammarus revazi* (Birstein & Levuschkin, 1970) (= *Zenkevitchia revazi* Birstein & Levuschkin, 1970)

**Isopods (1):** *Colchidoniscus kutaissianus motenae* Borutzky, 1974

**Millipedes (1):** *Trachysphaera fragilis* Golovatch, 1976

**Mites (7):** *Chamobates voigtsi* (Oudemans, 1902), *Parasitus (Vulgarogamasus) modestus* Tikhomirov & Zelia, 1975, *Pergamasus* sp., *Porobella spinosa* (Sellnick, 1920), *Ramusella clavipectinata* (Michael, 1885), *Sphaerozetes tricuspидatus* Willmann, 1923, *Tectocephus velatus velatus* (Michael, 1880)

**Springtails (3):** *Heteromurus nitidus* (Templeton, 1835), *Lepidocyrtus lignorum* (Fabricius, 1793), *Tomocerus minor* (Lubbock, 1862)

**In total:** 13 species.

### Nagarevi Grotto

*Okriba karst massif, Terjola district, Imereti, Georgia*

**Mollusks (1):** *Oxychilus koutaisianus* (Mousson, 1863)

**Mites (4):** *Minunthozetes pseudofusiger* (Schweizer, 1922), *Oppia nitens* Koch, 1836, *Oribatula tibialis* (Nicolet, 1855), *Oribella pectinata* (Michael, 1885)

**In total:** 5 species.

### Nameless cave in the Achibakh plateau

15 km South-east of lake Ritsa, Abkhazeti, Georgia

**Spiders (1):** *Troglohyphantes deelemanae* Tanasevitch, 1986

**In total:** 1 species.

### Navenakhevi Cave

Okriba karst massif, Terjola district, Imereti, Georgia

**Mites (13):** *Achipteria longisetosa* Murvanidze & Weigmann, 2003, *Belba dubinini* Bulanova-Zachvatkina, 1962, *Chamobates voigtsi* (Oudemans, 1902), *Conchogneta dalecarlica* (Forsslund, 1947), *Eupelops acromios* (Hermann, 1804), *Minunthozetes pseudofusiger* (Schweizer, 1922), *Oxyoppioides decipiens* (Paoli, 1908), *Pantelozetes alpestris* Willmann, 1929, *Phauloppia lucorum* (Koch, 1841), *Phthiracarus ferrugineus* (Koch, 1841), *Ramusella insculpta* (Paoli, 1908), *Sphaerozetes tricuspидatus* Willmann, 1923, *Tectocephus velatus velatus* (Michael, 1880).

**Springtails (4):** *Coecobrya* sp., *Folsomia penicula* Bagnall, 1939, *Lepidocyrtus lignorum* (Fabricius, 1793), *Metaphorura affinis* (Börner, 1902)

**In total:** 17 species.

### Nazodelavo Cave

Odishi plain, Martvili district, Samegrelo, Georgia

**Mollusks (1):** *Oxychilus sucinaceus sucinaceus* (Bottger, 1883)

**Spiders (1):** *Liniphia* sp.

**Springtails (3):** *Folsomia ksenemani* Stach, 1947, *Folsomia penicula* Bagnall, 1939, *Lepidocyrtus lignorum* (Fabricius, 1793)

**In total:** 5 species.

### Oficho Cave

Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia

**Mollusks (2):** *Daudebardia nivea* Schileyko, 1988, *Lesticulus nocturnus* Schileyko, 1988

**In total:** 2 species.

### Orpiri II Cave

Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia

**Isopods (1):** *Colchidoniscus kutaissianus* Borutzky, 1974

**Millipedes (1):** *Trachysphaera fragilis* Golovatch, 1976

**Mollusks (3):** *Elia derasa* (Mousson, 1863), *Oxychilus koutaisianus* (Mousson, 1863), *Oxychilus sucinaceus sucinaceus* (Bottger, 1883)

**Springtails (2):** *Plutomurus* sp. 2, *Tomocerus minor* (Lubbock, 1862)

**In total:** 7 species.

### Otapistavi Cave

*Fanavi karst massif, Ochamchire district, Abkhazeti, Georgia*

**Amoeboid protozoans (3):** *Arcella discoides* Ehrenberg, 1843, *Centropyxis aculeata* var. *oblonga* deflandre, 1929, *Diffflugia oblonga oblonga* Ehrenberg, 1832

**Amphipods (1):** *Niphargus magnus* Birstein, 1940 (= *Niphargus longicaudatus magnus* Birstein, 1940)

**Centipedes (2):** *Lithobius stuxbergi* Seliwanoff, 1881, *Lithobius* sp.

**Decapods (2):** *Troglocaris birsteini* Mugue, Zueva & Ershov, 2001, *Troglocaris schmidti* Dormitzer, 1853 - Comment: This is probably *Troglocaris birsteini*.

**Insects (4):** *Dolichopoda euxina* Semenov, 1901, *Limonia nubeculosa* Meigen, 1804, *Meganophthalmus medvedevi* Belousov et Koval, 2009, *Sciara* sp. ? (*Lycoria* sp. ?)

**Isopods (3):** *Ligidium* sp. 1, *Trichoniscus aphoniscus codoricus* Borutzky, 1977, *Trichoniscus* sp. 2

**Maxillopods (1):** *Bryocamptus innominatus* Borutzky, 1940

**Spiders (1):** *Carpathonesticus zaitzevi* (Charitonov, 1939) (= *Nesticus zaitzevi* Charitonov, 1939)

**In total:** 17 species.

### Patsristavi (=Novaya, bliz ozera in Tskaltubo) Cave

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

Comment: “Novaya pestchera, bliz ozera, Tskaltubo” (Zaitzev, 1948) in English is “New Cave near lake, Tskaltubo”. Patsristavi (=Platina) Lake is located in Tskaltubo. Patsristavi Cave is situated near Patsristavi Lake (Tatashidze et al., 2009: 451). We think that “Novaya pestchera, bliz ozera, Tskaltubo” is Patsristavi Cave.

**Insects (2):** *Aedes vexans* (Meigen, 1830), *Dolichopoda euxina* Semenov, 1901

**Spiders (3):** *Carpathonesticus borutzkyi* (Reimoser, 1930) (= *Nesticus borutzkyi* Reimoser, 1930), *Hoplopholcus longipes* (Spassky, 1934), *Metellina merianae* (Scopoli, 1763) (= *Meta merianae* Scopoli, 1763)

**In total:** 5 species.

### **Prometheus (=Kumistavi, Orpiri I, Tskaltubo) Cave**

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

**Diplurans (1):** *Dicampa imeretinensis* (Chevrizov, 1976) (= *Campodea imeretinensis* Chevrizov, 1976)

**Insects (2):** *Inotrechus kurnakovi* Dolzhanskij et Ljovuschkin, 1989, *Laemostenus* (*Antisphodroides*) *ljovushkini* Vereschagina, 1985

**Millipedes (2):** *Trachysphaera fragilis* Golovatch, 1976, *Trachysphaera solida* Golovatch, 1976

**Mites (3):** *Graptoppia foveolata* Paoli, 1908, *Macrocheles penicilliger* (Berlese, 1904), *Oribella* sp.

**Mollusks (4):** *Cochlicopa lubricella* (Rossmässler, 1834), *Codiella* sp., *Physella acuta* (Draparnaud, 1805), *Vitrinoxychilus suturalis* (Boettger, 1881)

**Springtails (9):** *Ceratophysella armata* (Nicolet, 1842), *Folsomia candida* Willem, 1902, *Folsomides parvulus* Stach, 1922, *Hypogastrura viatica* (Tullberg, 1872), *Plutomurus* sp. 2, *Proisotoma minuta* (Tullberg, 1871), *Pseudacherontides zenkevitchi* Djanaschvili, 1971, *Pseudachorutes dubius* Krausbauer, 1898, *Sphaeridia* sp.

**In total:** 21 species.

### **Protsenka Cave (near Sokhumi)**

*Near Sokhumi, Abkhazeti, Georgia*

**Annelids (1):** *Archaeodrilus cavaticus* Czerniavsky, 1880

**In total:** 1 species.

### **Sabatchya Cave**

*Gumista-Psirtskha karst massif, Sokhumi district, Abkhazeti, Georgia.*

Comment: As S. Golovatch wrote this cave is situated near village Zemo (Verkhni) Eshera (Golovatch, 1983).

**Millipedes (1):** *Leucogeorgia rediviva* Golovatch, 1983

**In total:** 1 species.

#### **Sakadzhia Cave**

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

**False scorpions (1):** *Neobisium (Heoblothrus) sakadzhianum* Krumpál, 1984

**Insects (1):** *Laemostenus (Antisphodroides) ljevushkini* Vereschagina, 1985

**Isopods (1):** *Colchidoniscus kutaissianus* Borutzky, 1974

**Millipedes (1):** *Archileucogeorgia* sp.

**Springtails (1):** *Willowsia nigromaculata* (Lubbock, 1873)

**In total:** 5 species.

#### **Sakajia (=Virkhovi) Cave**

*Okriba karst massif, Terjola district, Imereti, Georgia*

**Mites (9):** *Achipteria longisetosa* Murvanidze & Weigmann, 2003, *Aleurodamaeus setosus* (Berlese, 1883), *Ceratoppia quadridentata* (Haller, 1882), *Metabelbella macerochaeta* Bulanova-Zachvatkina, 1967, *Minunthozetes pseudofusiger* (Schweizer, 1922), *Oppia nitens* Koch, 1836, *Oribatella berlesei* (Michael, 1898), *Oribatula tibialis* (Nicolet, 1855), *Phauloppia pilosa* (Koch, 1841)

**Springtails (1):** *Mesogastrura ojcoviensis* (Stach, 1919)

**In total:** 10 species.

#### **Sakinule (=Nikortsminda) Cave**

*Racha karst massif, Ambrolauri district, Racha, Georgia*

**Mites (5):** *Dorycranosus splendens* (Coggi, 1898), *Hoplophthiracarus illinoisensis* (Ewing, 1909), *Oxyoppioides decipiens* (Paoli, 1908), *Phauloppia lucorum* (Koch, 1841), *Zygoribatula frisiae* (Oudemans, 1900)

**Springtails (1):** *Folsomia* sp.

**In total:** 6 species.

#### **Sakire (=Chuneshi) Cave**

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

**Annelids (1):** *Eisenia fetida* (Savigny, 1826)

**Maxillopods (1):** *Ceuthonectes serbicus* Chappuis, 1924 (= *Morariodes colchidana* Borutzky, 1930) – Comment: Borutzky and Mikhailova-Neikova (1970) wrote sampling site as cave in Chunesi village. Maxillopod species was sampled by S. Ljovuschkin (Borutzky and Mikhailova-Neikova, 1970) in Sakire Cave (Janashvili, personal communication).

**Millipedes (1):** *Archileucogeorgia* sp. – Comment: S. Golovatch wrote sampling cave as Chunesi Cave (Golovatch, 1981). Millipede species probably was sampled in Sakire Cave.

**Springtails (3):** *Micranurida pygmaea* Börner, 1901, *Plutomurus birsteini* Djanashvili & Barjadze, 2011, *Pygmarrhopalites pygmaeus* (Wankel, 1860) – Comment: Sh. Barjadze and R. Djanashvili wrote sampling cave as Chunesi Cave (Barjadze & Djanashvili, 2008). Springtail species were sampled by R. Djanashvili and S. Ljovuschkin in Sakire Cave (Janashvili, personal communication).

**In total:** 6 species.

### Sakishore Cave

*Racha karst massif, Ambrolauri district, Racha, Georgia*

**Annelids (1):** *Dina ratschaensis* Kobakhidze 1958

**Harvestmen (1):** *Nemaspela femorecurvata* Martens, 2006

**Insects (3):** *Inotrechusinjaevae* Dolzhanskij et Ljovuschkin, 1989, *Scoliopteryx libatrix* (Linnaeus, 1758), *Triphosa dubitata* (Linnaeus, 1758)

**Mites (3):** *Ceratozetes* sp., *Eremaeus* sp., *Oribatula* sp.

**Mollusks (2):** *Eumilax* cf. *brandti* (Martens, 1880), *Schistophallus sucinacius* (Boettger, 1883)

**Springtails (1):** *Plutomurus birsteini* Djanashvili & Barjadze, 2011

**In total:** 11 species.

### Samelekld (=Samele) Cave

*Zemo Imereti plateau, Chiatura district, Imereti, Georgia*

**Mites (6):** *Chamobates interpositus* Pschorn-Walcher, 1953, *Chamobates voigtsi* (Oudemans, 1902), *Hoplophthiracarus illinoisensis* (Ewing, 1909), *Phthiracarus ferrugineus* (Koch, 1841), *Schelorbitates latipes* (Koch, 1844), *Zygoribatula cognata* (Oudemans, 1902)

**Springtails (1):** *Tomocerus vulgaris* (Tullberg, 1871)

**In total:** 7 species.

#### **Samertskhleklde I Cave**

*Zemo Imereti plateau, Chiatura district, Imereti, Georgia*

**Annelids (1):** *Dendrobaena veneta veneta* (Rosa, 1886)

**Insects (1):** *Leptothorax acervorum* (Fabricius, 1793)

**Mollusks (1):** *Oxychilus koutaisianus* (Mousson, 1863)

**Springtails (1):** *Folsomia candida* Willem, 1902

**In total:** 4 species.

#### **Samgleklde (=Mgelaklde) Cave**

*Zemo Imereti plateau, Chiatura district, Imereti, Georgia*

**Mites (1):** *Stigmaeus petrophilus* Kuznetsov & Petrova, 1979

**Springtails (1):** *Mesogastrura ojcoviensis* (Stach, 1919)

**In total:** 2 species.

#### **Sapichkhia (=Rionhesi) Cave**

*Okriba karst massif, Tskaltubo district, Imereti, Georgia*

**Amphipods (1):** *Niphargus borutzkyi* Birstein, 1933

**Decapods (1):** *Troglocaris (Xiphocaridinella) kutaissiana* (Sadowsky, 1930) (= *Troglocaris schmidti kutaissiana* (Sadowsky, 1930))

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Isopods (1):** *Caucasonethes borutzkyi* Verhoeff, 1932

**Maxillopods (9):** *Acanthocyclops vernalis vernalis* (Fischer, 1853), *Attheyella wulmeroides* Borutzky, 1930, *Bryocamptus zschokkei similis* Borutzky, 1930 (= *Bryocamptus similis* Borutzky, 1930), *Bryocamptus zschokkei tatrensis* (Minkiewicz, 1916) (= *Bryocamptus caucasicus* Borutzky, 1931), *Ceuthonectes serbicus* Chappuis, 1924 (= *Morariodes colchidana* Borutzky, 1930), *Diacyclops bicuspidatus* (Claus, 1857) (= *Acanthocyclops bicuspidatus* Claus, 1857), *Eucyclops serrulatus serrulatus* (Fischer, 1851) (?), *Macrocylops albidus albidus* (Jurine, 1820), *Paracyclops fimbriatus fimbriatus* (Fischer, 1853), *Speocyclops colchidanus* (Borutzky, 1930)

**Millipedes (1):** *Leucogeorgia longipes* Verhoeff, 1930



**Mollusks (2):** *Euglesa subterranea* (Shadin, 1932) (= *Pisidium subterraneum* Shadin, 1932), *Motsametia borutzkyi* (Shadin, 1932) (= *Horatia borutzkyi* Shadin, 1932)

**Seed shrimps (1):** *Mixtacandona riongessa* (Bronshstein, 1947) (= *Cryptocandona riongessa* Bronshstein, 1947)

**Spiders (1):** *Carpathonesticus borutzkyi* (Reimoser, 1930) (= *Nesticus borutzkyi* Reimoser, 1930)

**In total:** 18 species.

### Sarkumali Cave

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

**Mites (1):** *Parasitus (Vulgarogamasus) modestus* Tikhomirov & Zelia, 1975

**In total:** 1 species.

### Sarma Cave

*Arabika karst massif, Gagra district, Abkhazeti, Georgia*

**Harvestmen (1):** *Nemaspela gagraica* Tchemeris, 2013

**In total:** 1 species.

### Sataplia I Cave

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

**Amphipods (1):** *Niphargus borutzkyi* Birstein, 1933

**Annelids (1):** *Eisenia fetida* (Savigny, 1826)

**Centipedes (3):** *Lithobius portchinskii* Seliwanoff, 1881, *Lithobius reconditus* Zalesskaja, 1972, *Lithobius stuxbergi* Seliwanoff, 1881

**False scorpions (1):** *Neobisium (Blothrus) verae* (Lapschoff, 1940)

**Harvestmen (1):** *Giljarovia redikorzevi* (Charitonov 1946) (= *Nemastoma redikorzevi* Charitonov, 1946, *Malekia redikorzevi* (Charitonov, 1946))

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Millipedes (3):** *Archileucogeorgia* sp., *Trachysphaera fragilis* Golovatch, 1976, *Trachysphaera radiosa* (Lignau, 1911)

**Mollusks (2):** *Ancylus fluviatilis* (Muller, 1774), *Bythinella* sp.

**Spiders (2):** *Carpathonesticus borutzkyi* (Reimoser, 1930) (= *Nesticus borutzkyi* Reimoser, 1930), *Hoplopholcus longipes* (Spassky, 1934)

**Springtails (3):** *Folsomia candida* Willem, 1902, *Megalothorax* sp., *Pyg-*

*marrhopalites principalis* Stach, 1945

**In total:** 18 species.

### Sataplia II Cave

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

**False scorpions (1):** *Chthonius (Chthonius) satapliaensis* Schawaller and Dashdamirov, 1988

**Millipedes (2):** *Archileucogeorgia* sp., *Trachysphaera fragilis* Golovatch, 1976

**In total:** 3 species.

### Sataplia IV Cave

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

**Insects (1):** *Troglocimmerites imeretinus* (Dolzhanskij et Ljovuschkin, 1985) (= *Birsteinotrechus imeretinus* Dolzhanskij et Ljovuschkin, 1985)

**Isopods (1):** *Buddelundiella cataractae* Verhoeff, 1930

**Millipedes (2):** *Archileucogeorgia* sp., *Trachysphaera fragilis* Golovatch, 1976

**Mites (1):** *Parasitus (Vulgarogamasus) modestus* Tikhomirov & Zelia, 1975

**Springtails (6):** *Desoria trispinata* (MacGillivray, 1896), *Folsomia fime-taria* (Linnaeus, 1758), *Hypogastrura viatica* (Tullberg, 1872), *Plutomurus birsteini* Djanashvili & Barjadze, 2011, *Plutomurus kelasuricus* Martynova, 1969, *Ptenothrix kuraschvili* Djanaschvili, 1970

**In total:** 11 species.

### Satevzia Cave

*Sataplia-Tskaltubo karst massif, Khoni district, Imereti, Georgia*

**Springtails (1):** *Plutomurus* sp. 7

**In total:** 1 species.

### Satsurbliia Cave

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

**Mollusks (1):** *Oxychilus sucinaceus sucinaceus* (Bottger, 1883)

**Springtails (1):** *Plutomurus* sp. 2

**In total:** 2 species.

### Savekuo Cave

*Odishi plain, Chkhorotsku district, Samegrelo, Georgia*

**Mollusks (1):** *Oxychilus sucinaceus sucinaceus* (Bottger, 1883)

**Spiders (1):** *Liniphia* sp.

**In total:** 2 species.

### Shakurani IV Cave

*Tsebelda karst massif, Gulripshi district, Abkhazeti, Georgia*

**Springtails (1):** *Plutomurus kelasuricus* Martynova, 1969

**In total:** 1 species.

### Shareula I (=Shareula, Shaora-Shareula) Cave

*Racha karst massif, Ambrolauri district, Racha, Georgia*

**Millipedes (1):** *Trachysphaera minuta* Golovatch, 1976

**Mites (2):** *Chamobates voigtsi* (Oudemans, 1902), *Epidamaeus pinguis* Kulijev, 1967

**In total:** 3 species.

### Shareula II Cave

*Racha karst massif, Ambrolauri district, Racha, Georgia*

**Springtails (1):** *Plutomurus birsteini* Djanashvili & Barjadze, 2011

**In total:** 1 species.

### Shroma (=Mikhailovskaya, Stalactite) Cave

*Chaama karst massif, Sokhumi district, Abkhazeti, Georgia*

**Amphipods (1):** *Niphargus inermis* Birstein, 1940 (= *Niphargus ablaskiri inermis* Birstein, 1940)

**Annelids (1):** *Eisenia fetida* (Savigny, 1826)

**Insects (2):** *Dolichopoda euxina* Semenov, 1901, *Limonia nubeculosa* Meigen, 1804

**Isopods (5):** *Caucasoligidium cavernicola cavernicola* Borutzky, 1950, *Ligidium nodulosum* Verhoeff, 1918, *Ligidium zaitzevi* Borutzky, 1950, *Ligidium* sp. 4 – Comment: This is probably *Caucasoligidium cavernicola cavernicola* Borutzky, 1950 or *Ligidium nodulosum* Verhoeff, 1918 or *Ligidium zaitzevi* Borutzky, 1950, which was determined later (Borutzky,

1950), *Trichoniscus aphoniscus abchasicus* Borutzky, 1977

**Maxillopods (3):** *Bryocamptus reductus* Borutsky, 1948, *Elaphoidella birsteini* Borutsky, 1948, *Moraria cornuta* Borutsky, 1948

**Millipedes (1):** *Megaphyllum (Pontobrachiulus) dioscoriadis* (Lignau, 1914)

**Mollusks (4):** *Conulopolita cavatica* (Riedel, 1966) (= *Oxychilus cochlospeleus* Tzvetkov in Birshstein, 1950, nomen nudum), *Conulopolita raddei* (Boettger, 1879) (= *Hyalinia (Conulopolita) raddei* O. Boettger, 1879), *Eumilax brandti* (Martens, 1880) (= *Paralimax albocarينات Simroth, 1901*), *Serrulina* sp. 3 (as *Serrulina serena* Tzvetkov (nomen nudum))

**Spiders (2):** *Carpathonesticus zaitzevi* (Charitonov, 1939) (= *Nesticus zaitzevi* Charitonov, 1939), *Episinus truncatus* Latreille, 1809

**In total:** 19 species.

### **Shua Shakurani (=Shakurani II, Srednyaya Shakuranskaya) Cave**

*Tsebelda karst massif, Gulripshi district, Abkhazeti, Georgia*

**Amphipods (2):** *Niphargus magnus* Birstein, 1940 (= *Niphargus longicaudatus magnus* Birstein, 1940), *Zenkevitchia admirabilis* Birstein, 1941

**Insects (2):** *Dolichopoda euxina* Semenov, 1901, *Plectrocnemia* sp. ?

**Springtails (2):** *Oligaphorura schoetti* (Lie-Pettersen, 1896), *Plutomurus kelasuricus* Martynova, 1969

**In total:** 6 species.

### **Shurubumu Cave**

*Migaria karst massif, Chkhorotsku district, Samegrelo, Georgia*

**Springtails (1):** *Plutomurus* sp. 8

**In total:** 1 species.

### **Simon Kananeli (=St. Simon Canonist, St. Simon kanonik, St. Simon Kananites) Cave**

*Gumista-Psirtskha karst massif, Gudauta district, Abkhazeti, Georgia*

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Isopods (1):** *Trichoniscus aphoniscus aphoniscus* Borutzky, 1977

**Maxillopods (2):** *Cyclops strenuus strenuus* Fischer, 1851, *Paracyclops fimbriatus fimbriatus* (Fischer, 1853)

**Springtails (3):** *Arrhopalites caecus* (Tullberg, 1871), *Folsomia candida* Willem, 1902, *Plutomurus kelasuricus* Martynova, 1969

**In total:** 7 species.

### Sirotkka Cave

*Achibakh plateau, Abkhazeti, Georgia*

**Spiders (1):** *Troglohyphantes deelemanae* Tanasevitch, 1986

**In total:** 1 species.

### Solkota Cave

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

**Insects (1):** *Laemostenus (Antisphodroides) ljevushkini* Vereschagina, 1985

**Isopods (1):** *Colchidoniscus kutaissianus* Borutzky, 1974

**Millipedes (1):** *Trachysphaera fragilis* Golovatch, 1976

**Mollusks (1):** *Oxychilus sucinaceus sucinaceus* (Bottger, 1883)

**Springtails (4):** *Arrhopalites caecus* (Tullberg, 1871), *Plutomurus kelasuricus* Martynova, 1969, *Plutomurus* sp. 3, *Pygmarrrhopalites principalis* Stach, 1945

**In total:** 8 species.

### Suveniri Cave

*Bzyb karst massif, Gudauta district, Abkhazeti, Georgia*

**Insects (2):** *Duvalius iljukhini* (Dolzhanskij et Ljovuschkin, 1985) (= *Jeanneilius iljukhini* Dolzhanskij et Ljovuschkin, 1985), *Taniatrechus setosus* Belousov et Dolzhanskij, 1994

**In total:** 2 species.

### Taling-Leget Cave

*About 2 km of Kvaisi settlement, Java (=Dzhavsky) district, Samachablo (=South Ossetia), Georgia*

**Mollusks (1):** *Acrotoma baryshnikovii* Likharev et Schileyko, 2007

**In total:** 1 species.

### **Tarkili (=Tarkiladze) Cave**

*Duripshi plateau, Gudauta district, Abkhazeti, Georgia*

**Amphipods (1):** *Zenkevitchia admirabilis* Birstein, 1941

**False scorpions (1):** *Neobisium (Blothrus) birsteini* (Lapschoff, 1940)

**Harvestmen (1):** *Nemaspela birsteini* Ljovuschkin, 1972

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Maxillopods (2):** *Moraria* sp., *Paracyclops fimbriatus fimbriatus* (Fischer, 1853)

**Millipedes (1):** *Anamastigona mauriesi* Golovatch & Makarov, 2011

**Spiders (3):** *Aituaria pontica* (Spassky, 1932) (= *Nesticus ponticus* Spassky, 1932), *Cybaeus abchasicus* Charitonov, 1947, *Metellina merianae* (Scopoli, 1763) (= *Meta merianae* Scopoli, 1763)

**In total:** 10 species.

### **Taroklde (=Rachvelebi) Cave**

*Zemo Imereti plateau, Chiatura district, Imereti, Georgia*

**Millipedes (1):** *Trachysphaera orientalis* Golovatch, 1976

**Mollusks (1):** *Oxychilus koutaisianus* (Mousson, 1863)

**Spiders (1):** *Pirata knorri* scopoli, 1763

**Springtails (3):** *Mesogastrura ojcoviensis* (Stach, 1919), *Plutomurus birsteini* Djanashvili & Barjadze, 2011, *Tomocerus vulgaris* (Tullberg, 1871)

**In total:** 6 species.

### **Tetra (=Belaya, Tskaltubskaya Stalaktitovaya) Cave**

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

**False scorpions (1):** *Neobisium (Neobisium) labinskyi* Beier, 1937

**Insects (3):** *Aedes vexans* (Meigen, 1830), *Dolichopoda euxina* Semenov, 1901, *Laemostenus (Antisphodroides) ljevushkini* Vereschagina, 1985

**Isopods (1):** *Colchidoniscus kutaissianus* Borutzky, 1974

**Millipedes (2):** *Archileucogeorgia* sp., *Trachysphaera fragilis* Golovatch, 1976

**Mites (1):** *Parasitus (Vulgarogamasus) modestus* Tikhomirov & Zelia, 1975

**Mollusks (1):** *Oxychilus sucinaceus sucinaceus* (Bottger, 1883)

**Spiders (3):** *Carpathonesticus borutzkyi* (Reimoser, 1930) (= *Nesticus borutzkyi* Reimoser, 1930), *Hoplopholcus longipes* (Spassky, 1934), *Tegenaria* sp.

**Springtails (8):** *Folsomia candida* Willem, 1902, *Folsomia fimetaria*

(Linnaeus, 1758), *Heteromurus nitidus* (Templeton, 1835), *Lepidocyrtus* sp., *Mesogastrura ojcoviensis* (Stach, 1919), *Neelus murinus* Folsom, 1896, *Plutomurus* sp. 6, *Pygmarrhopalites principalis* Stach, 1945  
**In total:** 20 species.

#### **Tkibula-Dzevrula Cave**

*Okriba karst massif, at the border between Terjola and Tkibuli districts, Imereti, Georgia*

**Millipedes (1):** *Archileucogeorgia* sp.

**In total:** 1 species.

#### **Trekhuza Cave**

*Arabika karst massif, Gagra district, Abkhazeti, Georgia*

**Insects (1):** *Duvalius sokolovi* Ljovuschkin, 1963

**In total:** 1 species.

#### **Troika Cave**

*Arabika karst massif, Abkhazeti, Georgia*

**Amphipods (2):** *Niphargus inermis* Birstein, 1940 (= *Niphargus ablaskiri inermis* Birstein, 1940), *Zenkevitchia* sp. 2

**Annelids (1):** *Haplotaxis gordioides* (Hartmann, 1821)

**In total:** 3 species.

#### **Tsakhi (=Gogoleti) Cave**

*Racha karst massif, Ambrolauri district, Racha, Georgia*

**Annelids (1):** Enchytraeidae sp. indet.

**Centipedes (1):** *Lithobius* sp.

**False scorpions (1):** *Neobisium (Blothrus) verae* (Lapschoff, 1940)

**Insects (3):** *Bryaxis hypocritus* Plavilshchikov, 1940, *Dolichopoda euxina* Semenov, 1901, *Orthocladus* sp. ?

**Isopods (1):** *Caucasoligidium cavernicola gogoleticum* Borutzky, 1950

**Maxillopods (2):** *Bryocamptus birsteini* Borutzky, 1940, *Bryocamptus in-nominatus* Borutzky, 1940

**Millipedes (4):** *Archileucogeorgia* sp., Glomeridae sp. indet., *Leucogeorgia* sp., *Trachysphaera orientalis* Golovatch, 1976

**Mites (6):** *Chamobates cuspidatus* (Michael, 1884), *Chamobates voigtsi*

(Oudemans, 1902), *Conchogneta dalecarlica* (Forsslund, 1947), *Ghilarovus kvavadzei* Murvanidze, 2014, *Oxyoppioides decipiens* (Paoli, 1908), *Ramusella insculpta* (Paoli, 1908)

**Spiders (6):** *Amaurobius fenestralis* Strom, 1768, *Pardosa monticola* (Clerck, 1757), *Pirata* sp., *Pisaura mirabilis* Clerck, 1757, *Theridion impressum* Koch, 1881, *Theridion melanorium* Hahn, 1831

**Springtails (3):** *Megalothorax* sp., *Plutomurus birsteini* Djanashvili & Barjadze, 2011, *Pygmarrhopalites principalis* Stach, 1945

**In total:** 28 species.

### Tsebelda Cave

*Tsebelda karst massif, Gulripshi district, Abkhazeti, Georgia*

**Amphipods (3):** *Gammarus pulex* Linnaeus, 1758, *Niphargus magnus* Birstein, 1940 (= *Niphargus longicaudatus magnus* Birstein, 1940), *Zenkevitchia admirabilis* Birstein, 1941

**Annelids (1):** *Embolocephalus velutinus* (Grube, 1879) (= *Peloscolex velutinus* Grube, 1879)

**Insects (4):** *Dolichopoda euxina* Semenov, 1901, *Jeannelius magnificus* Kurnakov, 1959, *Limonia nubeculosa* Meigen, 1804, *Meganophthalmus mirabilis* Kurnakov, 1959

**Mollusks (5):** *Euglesa ljovushkini* (Starobogatov, 1962) (= *Pisidium ljo-vuschkini* Starobogatov, 1962), *Euglesa subterranea* (Shadin, 1932) (= *Pisidium subterraneum* Shadin, 1932), *Oxychilus subeffusus* (Boettger, 1879) (= *Vitrea subeffusa* Boettger, 1879), *Paladilhiopsis shadini* Starobogatov, 1962, *Pontohoratia birsteini* (Starobogatov, 1962) (= *Horatia birsteini* Starobogatov, 1962, *Horatia ljo-vushkini* Starobogatov, 1962, *Horatia sokolovi* Starobogatov, 1962)

**Spiders (1):** *Carpathonesticus zaitzevi* (Charitonov, 1939) (= *Nesticus zaitzevi* Charitonov, 1939)

**Springtails (2):** *Plutomurus kelasuricus* Martynova, 1969, *Troglopalites stygios* Vargovitsh, 2012

**In total:** 16 species.

### Tsikherva (=St. Ipatia) Cave

*Arabika karst massif, Gagra district, Abkhazeti, Georgia*

**Centipedes (1):** *Scutigera coleoptrata* (Linnaeus, 1758)



**Insects (2):** *Dolichopoda euxina* Semenov, 1901, *Grylloidea* sp. indet.  
**Isopods (2):** *Cylisticus caucasius* Verhoeff, 1917, *Ligidium nodulosum* Verhoeff, 1918  
**In total:** 5 species.

#### **Tsivtskala Cave**

*Racha karst massif, Ambrolauri district, Racha, Georgia*

**Annelids (1):** *Dina ratschaensis* Kobakhidze 1958

**Centipedes (2):** *Lithobius coloratus* Sseliwanoff, 1881, *Lithobius erythrocephalus* Koch, 1847

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Mites (3):** *Metabelba papillipes* (Nicolet, 1855), *Miracarus hurkai* Kunst, 1959, *Tectocephus velatus velatus* (Michael, 1880)

**Mollusks (1):** *Oxychilus* sp. 2

**Spiders (1):** *Theridion* sp. 1

**In total:** 9 species.

#### **Tskaltsitela (=Iazoni) Cave**

*Okriba karst massif, Tskaltubo district, Imereti, Georgia*

**Amphipods (2):** *Gammarus komareki imeretinus* Birstein, 1933, *Niphargus borutzkyi* Birstein, 1933 – Comment: This species was mentioned as “*Niphargus stygius borutzkyi* Birstein” in Birstein, 1950 for Tskaltsitela, Sapichkhia and Sataplia I caves.

**Annelids (1):** *Eophila hypogea* Malevich, 1947

**Decapods (1):** *Troglocaris (Xiphocaridinella) kutaissiana* (Sadowsky, 1930) (= *Troglocaris schmidti kutaissiana* (Sadowsky, 1930))

**Flatworms (1):** *Tricladida* sp. indet. (Turbellaria)

**Insects (2):** *Dolichopoda euxina* Semenov, 1901, *Meganophthalmus kutaissianus* (Zaitzev, 1941) (= *Duvalius kutaissianus* Zaitzev, 1941)

**Isopods (1):** *Asellus monticola fontinalis* Birstein, 1936

**Mollusks (1):** *Motsametia borutzkyi* (Shadin, 1932) (= *Horatia borutzkyi* Shadin, 1932)

**In total:** 9 species.

#### **Tskaltsitela (=Chakhati) Grotto**

*Okriba karst massif, near Tskaltsitela Cave, Imereti, Georgia*

**Mites (4):** *Ceratoppia bipilis* (Hermann, 1804), *Oribella* sp., *Pantelozetes*

*alpestris* Willmann, 1929, *Umbellozetes fuscus* Krivolutsky, 1969

**In total:** 4 species.

### **Tskaro (=Venetsia, peschera u venetsialnogo mosta) Cave**

*Chaama karst massif, Sokhumi district, Abkhazeti, Georgia*

**Annelids (1):** *Eisenia fetida* (Savigny, 1826)

**Decapods (1):** *Troglocaris schmidti* Dormitzer, 1853 – Comment: This is possibly undescribed species from Tskaro Cave.

**Harvestmen (1):** *Nelima pontica* (Charitonov, 1941)

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Isopods (3):** *Ligidium oligodentatum* Borutzky nomen nudum, *Ligidium zaitzevi* Borutzky, 1950, *Trichoniscus aphoniscus abchasicus* Borutzky, 1977

**Mollusks (3):** *Conulopolita raddei* (Boettger, 1879) (= *Hyalinia* (*Conulopolita*) *raddei* O. Boettger, 1879), *Daudebardia* sp., *Hyalinia* sp.

**Spiders (1):** *Carpathonesticus zaitzevi* (Charitonov, 1939) (= *Nesticus zaitzevi* Charitonov, 1939)

**Springtails (3):** *Ceratophysella cavicola* (Borner, 1901), *Folsomia candida* Willem, 1902, *Onychiuroides granulatus* (Stach, 1930)

**In total:** 14 species.

### **Tsklisklde Cave**

*Zemo Imereti plateau, Chiatura district, Imereti, Georgia*

**Mollusks (2):** *Oxychilus koutaisianus* (Mousson, 1863), *Oxychilus sucinaceus sucinaceus* (Bottger, 1883)

**Spiders (1):** *Alopecosa cuneata* (Clerck, 1757)

**Springtails (1):** *Plutomurus birsteini* Djanashvili & Barjadze, 2011

**In total:** 4 species.

### **Tsutskhvati Cave Complex (=Maghara, Tsutskhvati I-XI caves)**

*Okriba karst massif, Tkibuli district, Imereti, Georgia*

Comment: We think that this is only one cave with different entrances.

**Harvestmen (1):** *Giljarovia redikorzevi* (Charitonov 1946) (= *Nemastoma redikorzevi* Charitonov, 1946, *Malekia redikorzevi* (Charitonov, 1946))

**Insects (1):** *Laemostenus (Antisphodroides) ljevushkini* Vereschagina, 1985

**Mites (1):** *Amerobelba decedens* Berlese, 1908

**Springtails (4):** *Heteromurus nitidus* (Templeton, 1835), *Mesogas-*

*trura ojcoviensis* (Stach, 1919), *Plutomurus birsteini* Djanashvili & Barjadze, 2011, *Pygmarrhopalites principalis* Stach, 1945  
**In total:** 7 species.

#### **Tsutskhvati II Cave – part of Tsutskhvati Cave Complex**

*Okriba karst massif, Tkibuli district, Imereti, Georgia*

**Mites (5):** *Chamobates interpositus* Pschorn-Walcher, 1953, *Ghilarovus kvavadzei* Murvanidze, 2014, *Rhysotritia ardua* (Koch, 1841), *Scheloribates laevigatus* (Koch, 1835), *Scheloribates latipes* (Koch, 1844)

**Springtails (1):** *Orogastrura* sp.

**In total:** 6 species.

#### **Tsutskhvati VII Cave - part of Tsutskhvati Cave Complex**

*Okriba karst massif, Tkibuli district, Imereti, Georgia*

**Mites (1):** *Oxyoppioides decipiens* (Paoli, 1908)

**In total:** 1 species.

#### **Tsutskhvati VIII Cave - part of Tsutskhvati Cave Complex**

*Okriba karst massif, Tkibuli district, Imereti, Georgia*

**Mites (1):** *Chamobates voigtsi* (Oudemans, 1902)

**In total:** 1 species.

#### **Tsutskhvati XI Cave - part of Tsutskhvati Cave Complex**

*Okriba karst massif, Tkibuli district, Imereti, Georgia*

**Mites (4):** *Chamobates voigtsi* (Oudemans, 1902), *Ghilarovus kvavadzei* Murvanidze, 2014, *Scheloribates laevigatus* (Koch, 1835), *Xenillus tegeocranus* (Hermann, 1804)

**Springtails (1):** *Protaphorura meridiata* (Gisin, 1952)

**In total:** 5 species.

#### **Tupikovaya Cave**

*Achibakh plateau, Abkhazeti, Georgia*

**Spiders (1):** *Troglohyphantes deelemanae* Tanasevitch, 1986

**In total:** 1 species.

#### **Tvishi Cave**

*Khvamli karst massif, Tsageri district, Lechkhumi, Georgia*

**Millipedes (1):** *Archileucogeorgia* sp.

**Springtails (2):** *Argonychiurus multiocellatus* Djanashvili, Barjadze, Jordana & Burkhardt, 2014, *Plutomurus birsteini* Djanashvili & Barjadze, 2011

**In total:** 3 species.

#### **Unknown cave**

*Gudauta dostrict, Abkhazeti, Georgia*

**Isopods (1):** *Trichoniscus gudauticus anamalus* Borutzky, 1977

**In total:** 1 species.

#### **Usholta Cave**

*Racha karst massif, Oni district, Racha, Georgia*

**Insects (2):** *Lasius fuliginosus* Latreille, 1798, *Triphosa dubitata* (Linnaeus, 1758)

**In total:** 2 species.

#### **Zeda Akhalsheni Cave (=Verkhnyaya Andreevskaya) Cave**

*Gumista-Psirtskha karst massif, Sokhumi district, Abkhazeti, Georgia*

**Insects (1):** *Dolichopoda euxina* Semenov, 1901

**Isopods (2):** *Caucasoligidium cavernicola gumistae* Borutzky, 1950, *Trichoniscus aphoniscus abchasicus* Borutzky, 1977

**Mollusks (1):** *Serrulina* sp. 4.

**Spiders (1):** *Carpathonesticus zaitzevi* (Charitonov, 1939) (= *Nesticus zaitzevi* Charitonov, 1939)

**In total:** 5 species.

#### **Zeda Kvilishori (=Tsikhe) Cave**

*Sataplia-Tskaltubo karst massif, Tskaltubo district, Imereti, Georgia*

Comment: In Borutzky and Mikhailova-Neikova (1970) there was written about the cave near village Kvilishori with the river inside it. Two caves are located near Kvilishori village: Zeda and Kveda Kvilishori caves. Underground river exists only in Zeda Kvilishori (=Tsikhe) Cave (Tatashidze et al., 2009: 455) and we think that bellow listed maxillopod species were sampled in Zeda Kvilishori (=Tsikhe) Cave.

**Annelids (1):** Hirudinea sp. indet.

**Maxillopods (3):** *Bryocamptus innominatus* Borutzky, 1940, *Bryocamptus zschokkei caucasicus* Kiefer, 1978 (= *Bryocamptus zschokkei caucasi-*

*cus* Borutsky, 1960), *Nitocrella* sp.

**Millipedes (1):** *Archileucogeorgia* sp.

**Springtails (2):** *Folsomia candida* Willem, 1902, *Proisotoma minuta* (Tullberg, 1871)

**In total:** 7 species.

**Zeda Shakurani (=Shakurani I, Verkhnyaya Shakuranskaya) Cave**

*Tsebelda karst massif, Gulripshi district, Abkhazeti, Georgia*

**Amphipods (1):** *Zenkevitchia admirabilis* Birstein, 1941

**Insects (3):** *Dolichopoda euxina* Semenov, 1901, *Meganophthalmus mirabilis* Kurnakov, 1959, *Plectrocnemia* sp. ?

**Spiders (1):** *Carpathonesticus zaitzevi* (Charitonov, 1939) (= *Nesticus zaitzevi* Charitonov, 1939)

**Springtails (2):** *Desoria trispinata* (MacGillivray, 1896), *Troglopalites stygios* Vargovitsh, 2012

**In total:** 7 species.

**Zemo Eshera (=Verkhnyaya Esherskaya) Cave**

*Gumista-Psirtskha karst massif, Sokhumi district, Abkhazeti, Georgia*

**Harvestmen (1):** *Nemaspela birsteini* Ljovuschkin, 1972

**In total:** 1 species.

## რეზიუმე

### საქართველოს კარსტული მღვიმეების უხერხემლო ცხოველთა ანოტირებული სია

შალვა ბარჯაძე, მაკა მურვანიძე, თეა არაბული, ლევან მუმლაძე, ვერა ფხაკაძე, რევაზ ჯანაშვილი, მერი სალაყაია

საკუთარ და ლიტერატურულ მონაცემებზე დაყრდნობით საქართველოს 124 კარსტულ მღვიმიდან რეგისტრირებულია უხერხემლო ცხოველთა 415 სახეობა. აღნიშნული ცხოველები მიეკუთვნებიან 7 ტიპის 18 კლასსა და 45 რიგს. მღვიმეებში სახეობათა მაქსიმალური რაოდენობით არიან წარმოდგენილი ფეხსახსრიანების ტიპი (345 სახეობა), მოლუსკები წარმოდგენილია 43 სახეობით, 10 სახეობა მიეკუთვნება რგოლოვან ჭიებს, 9 სახეობა – ამებებს, 5, 2 და 1 სახეობა კი შესაბამისად მრგვალ ჭიებს, წამწამიან ინფუზორიებსა და ბრტყელ ჭიებს. მღვიმეებში ფეხსახსრიანთა ტიპი წარმოდგენილია 8 კლასით, რომელთაგან სახეობათა მაქსიმალური რაოდენობით გამოირჩევა ობობასნაირთა კლასი (142 სახეობა), ხოლო ნიჟარიანი კიბოსნაირები (ოსტრაკოდები) წარმოდგენილია მხოლოდ ერთი სახეობით. 124 კარსტული მღვიმიდან მხოლოდ 20 მღვიმეშია დაფიქსირებული უხერხემლო ცხოველთა 10 სახეობაზე მეტი. უხერხემლოთა მაქსიმალური რაოდენობა (29 სახეობა) არის რეგისტრირებული ძუძუანას მღვიმეში, როდესაც მხოლოდ 11-11 სახეობაა წარმოდგენილი საკიშორესა და სათაფლია IV მღვიმეებში. იმის გათვალისწინებით, რომ ბიოსპელეოლოგიურად გამოკვლეულია საქართველოში აშკამად რეგისტრირებული მღვიმეების მხოლოდ 10%-მდე, მომავალში მღვიმეების ინტენსიური კვლევების შედეგად უხერხემლო ცხოველთა რიცხვი მკვეთრად გაიზრდება ტროგლო- და სტიგობიონტი ენდემული სახეობების აღმოჩენის ხარჯზე და გამოვლენილი იქნება მიწისქვეშა მრავალფეროვნების ცხელი წერტილები.

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### Figures 1-8 from paperback

1. *Plutomurus ortobalaganensis* Jordana & Baquero, 2012 from Krubera-Voronya Cave (Photo: E. Baquero);
2. *Niphargis iniochus* Birstein, 1941 from Kveda Shakurani Cave (Photo: D. Sidorov);
3. *Dolichopoda euxina* Semenov, 1901 from Tsvitskala Cave (Photo: T. Arabuli);
4. *Neobisium* sp. from Dolabistavi Cave (Photo: Sh. Barjadze)
5. *Dina ratschaensis* Kobakhidze 1958 from Sakishore Cave (Photo: Sh. Barjadze);
6. *Meganophthalmus medvedevi* Belousov et Koval, 2009 from Otapistavi Cave (Photo: www.carabidae.org);
7. *Anamastigona mauriesi* from Tarkili Cave (Photo: S. Makarov);
8. *Motsametia borutzkyi* (Shadin, 1932) from Tskaltsitela Cave (Photo: D. Palatov).