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New records for the Georgian springtail fauna (Collembola)

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Detailed studies of Georgian springtails were performed from the end of the 1940s until about 1980. Up to that time 84 species of springtails had been recorded from Georgia (BARJADZE & DJANASHVILI 2008). Since then, one genus, *Troglopalites* Vargovitsh, 2012, and eight species, i.e. *Plutomurus birsteini* Djanashvili & Barjadze, 2011, *Willowsia potapovi* Zhang, Chen, Deharveng, 2011, *Arrhopalites macronyx* Vargovitsh, 2012, *Troglopalites stygios* Vargovitsh, 2012, *Anurida stereoodorata* Jordana, Baquero, Reboleira, Sendra, 2012, *Deuteraphorura kruberaensis* Jordana, Baquero, Reboleira, Sendra, 2012, *Plutomurus ortobalaganensis* Jordana, Baquero, Reboleira, Sendra, 2012 and *Schaefferia profundissima* Jordana, Baquero, Reboleira, Sendra, 2012 have been described from Georgia, and another species, *Willowsia platani* (Nicolet, 1842), has been recorded for the first time for Georgia (DJANASHVILI & BARJADZE 2011, ZHANG et al. 2011, VARGOVITSH 2012, JORDANA et al. 2012). One species, *Tetracanthella caucasica* (Stach, 1947), collected in Stepantsminda (Kazbegi) by KOVAC (1993), was not added to the checklist (BARJADZE & DJANASHVILI 2008). Thirteen species of springtails listed in this checklist were later recognised by authors as doubtful records for the Georgian springtail fauna. This Georgian springtail fauna is poor-

ly studied, and many regions of Georgia are still completely unexplored. Five species of springtails are reported here for the first time from Georgia. With these new records, the number of Collembola species known from Georgia increases to a total of 86. The material was collected between 2009 and 2011.

Dicyrtomina saundersi (Lubbock, 1862) (Symphypleona: Dicyrtomidae)

Material: 1 ♂, village Mghvimevi (Chiatura district), Imereti region (42°19'N, 43°17'E), 568 m a.s.l., 29.iii.2011.

Biology: Bisexual. This species lives in a wide variety of habitats, from moist forests to dunes (BRETTFELD 1999). – Distribution: Western Europe, Western Mediterranean area (BRETTFELD 1999).

Folsomia ksenemani Stach, 1947 (Entomobryomorpha: Isotomidae)

Material: 1 ♀, Kolkheti National Park, Samegrelo-Zemo Svaneti Region (42°11'N, 41°57'E), 8 m a.s.l., 23.vii.2010. 1 ♀, Urta mountain, broadleaved forest (Khobi district), Samegrelo-Zemo Svaneti Region (42°20'N, 41°56'E), 109 m a.s.l., vii.2010. 1 ♂, 2 ♀, Algeti National Park, broadleaved forest, Kvemo Kartli Region (41°41'N, 44°19'E), 1328 m a.s.l., 29.iv.2011. 1 juvenile, Mtirala National Park, broadleaved forest, Adjara Autonomous Republic (41°39'N, 41°50'E), 493 m a.s.l., 12.vi.2011. 1 ♀, 1 juvenile, meadow along oak forest, Darkveti village (Chiatura district), Imereti Region (42°19'N, 43°19'E), 614 m a.s.l., 28.iii.2011. 1 ♂, 3 juveniles, Mghvimevi village, broadleaved forest (Chiatura district), Imereti Region (42°18'N, 43°17'E), 626 m a.s.l., 28.iii.2011. 1 ♂, 1 juvenile, Dzudzuana cave, cave entrance (Chiatura district), Imereti Region (42°18'N, 43°19'E), 600 m a.s.l., 12.viii.2011.

Biology: Bisexual. – Distribution: Europe (POTAPOV 2001).

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

Material: 5 ♀, Dzudzuana cave, cave entrance (Chiatura district), Imereti Region (42°18'N, 43°19'E), 600 m a.s.l., 12.viii.2011.

Biology: Bisexual. The species lives in drained meadow soils, in woods and in marshy soils (DUNGER & SCHLITT 2011). – Distribution: Palearctic (FJELLBERG 1998).

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

Material: 1 juvenile, village Darkveti, sand quarry (Chiatura district), Imereti Region (42°19'N, 43°19'E), 625 m a.s.l., 28.iii.2011. 2 ♀, Mghvimevi village, broadleaved forest (Chiatura district), Imereti Region (42°18'N, 43°17'E), 626 m a.s.l., 28.iii.2011. 1 ♂, Rgani village, meadow (Chiatura district), Imereti Region (42°17'N, 43°15'E), 681 m a.s.l., 29.iii.2011. 1 ♂, 1 ♀, Dzudzuana cave, cave entrance (Chiatura district), Imereti Region (42°18'N, 43°19'E), 600 m a.s.l., 12.viii.2011.

Biology: This species lives in xerophytic habitats. Bisexual (KAPRUS & POMORSKI 2008). – Distribution: Europe and Asia (KAPRUS & POMORSKI 2008).

Stenaphorura quadrispina Börner, 1901 (Poduromorpha: Tullbergiidae)

Material: 2 ♀, 1 juvenile, Kolkheti Lowland, Anaklia, seashore, dunes, Samegrelo, Zemo Svaneti Region (42°21'N, 41°35'E), 5 m a.s.l., 04.xi.2009.

Biology: Bisexual? This species lives in meadows, open and agrarian habitats, conifer and deciduous forests and vineyards (DUNGER & SCHLITT 2011). – Distribution: Europe, Medi-

terranean, East Russia, Central Asia, Macaronesian Region, Australia (DUNGER & SCHLITT 2011).

Species of doubtful occurrence

The following species were included in the checklist of Collembola of Georgia (BARJADZE & DJANASHVILI 2008) based on records by GRINBERG (1960) and STACH (1954). *Anurophorus laricis* Nicolet, 1842, *Desoria violacea* (Tullberg, 1877), *Deuteraphorura inermis* (Tullberg, 1869), *Folsomia diplophthalma* (Axelson, 1902), *Heteraphorura variotuberculata* (Stach, 1934), *Isotoma viridis* Bourlet, 1839, *Isotomiella minor* (Schäffer, 1896), *Mesaphorura krausbaueri* (Börner, 1901), *Oncopodura crassicornis* Shoebbotham, 1911, *Protaphorura armata* (Tullberg, 1869), *P. octopunctata* (Tullberg, 1877), *Pseudosinella duodecimocellata* Handschin, 1928, and *P. sexoculata* Schött, 1902. However, the occurrence of these species in Georgia is doubtful because their taxonomy has changed substantially since they were recorded and their status needs to be re-examined.

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First record of *Palaemonetes mesopotamicus* Pesta, 1913 (Decapoda: Palaemonidae) from Turkey

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Based on the published literature, six species of *Palaemonetes* are known from the circum-Mediterranean region: *P. antennarius* (H. Milne Edwards, 1837 [in H. Milne Edwards, 1834-1840]); *P. mesogenitor* Sollaud, 1912; *P. mesopotamicus* Pesta, 1913; *P. turcorum* Holthuis, 1961; *P. varians* (Leach, 1813 [in Leach, 1813-1814]); and *P. zariquieyi* Sollaud, 1938 (UDEKEM D'ACÓZ 1999). *P. varians* typically inhabits brackish waters whilst the remaining species are regarded as freshwater inhabitants. To date, two species of *Palaemonetes* shrimps have been reported from Turkey: *P. antennarius* and *P. turcorum* (ÖZBEK & USTAĞLU 2006).

The Orontes River (Asi River) rises near the city of Baalbek, Lebanon, and flows in a northerly direction between the Lebanon and Anti-Lebanon mountains into Syria, and forms part of the borders between Lebanon and Syria and between Syria and Turkey. It flows north to the Turkish city of Antakya and reaches the sea just south of Samandağ. During an



Fig. 2. *Palaemonetes mesopotamicus* Pesta, 1913 (♀ TL: 30.1 mm); Lateral view (Photo T. ÖZCAN).