

New Data on the Distribution of the tribe Psammodiini Mulsant, 1842 (Coleoptera: Scarabaeidae) in Georgia

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Abstract: *Psammodius laevipennis* Costa, 1844 and *Rhysssemus annaedicatus* Pierotti, 1980 are reported from Georgia for the first time. New records for *Pleurophorus caesus* (Panzer, 1796), *Psammodius caucasicus* Pittino & Shokhin, 2006 and *Rhysssemus germanus* (Linnaeus, 1767) are given.

Key words: Scarabaeoidea, *Pleurophorus*, *Psammodius*, *Rhysssemus*, new records, Georgia

Introduction

Knowledge about the distribution of the tribe Psammodiini Mulsant, 1842 in Georgia is still insufficient. DZHAMBASHVILI (1979) has recorded three species from the country: *Platytomus variolosus* (Kolenati, 1846), *Pleurophorus caesus* (Panzer, 1796) and *Rhysssemus germanus* (Linnaeus, 1767). RAKOVIČ et al. (2006) has recorded only two species for the Georgian fauna: *Pleurophorus caesus* and *Rhysssemus germanus*. In addition, on the basis of a museum specimen, SHOKHIN (2006) informed about the occurrence of *Platytomus variolosus* in Georgia. Recently, RAKOVIČ et al. (2016) have listed *Pleurophorus caesus* and *Rhysssemus germanus* among the species representing the tribe Psammodiini in Georgia, including also another species that has been described and recorded: *Psammodius caucasicus* Pittino & Shokhin, 2006. In summary, four species representing the tribe Psammodiini have been recorded from Georgia so far: *Platytomus variolosus*, *Pleurophorus caesus*, *Psammodius caucasicus* and *Rhysssemus germanus*.

The present study is aimed at supplementing the knowledge on the Georgian fauna of the coleopteran tribe Psammodiini.

Materials and Methods

During our entomological expeditions in Georgia in 2012, 2014 and 2016, we collected 297 specimens of the tribe Psammodiini.

Sand samples were taken below grass roots on the banks of the Chorokhi (Fig. 1a) and Kura (Fig. 1b) Rivers and specimens of the Psammodiini were collected by floating the samples. Other samples were collected under the dried cow dung on xerothermic turf near the bank of the Kura River (Fig. 1c) and sifted. The third type of samples was insects attracted to UV-illuminated screen in the steppe (Fig. 1d). The above-mentioned localities are shown in Fig. 2. All samples were collected by the authors themselves.

Systematic arrangement and nomenclature follow the *Catalogue of Palaearctic Coleoptera* (LÖBL & LÖBL 2016). Specimens are preserved in the personal collections of the authors.

Results

Pleurophorus caesus (Panzer, 1796)

From most countries of Central and Southern Europe (from Portugal to Azerbaijan, also from Georgia), Near East, Kazakhstan, Uzbekistan and

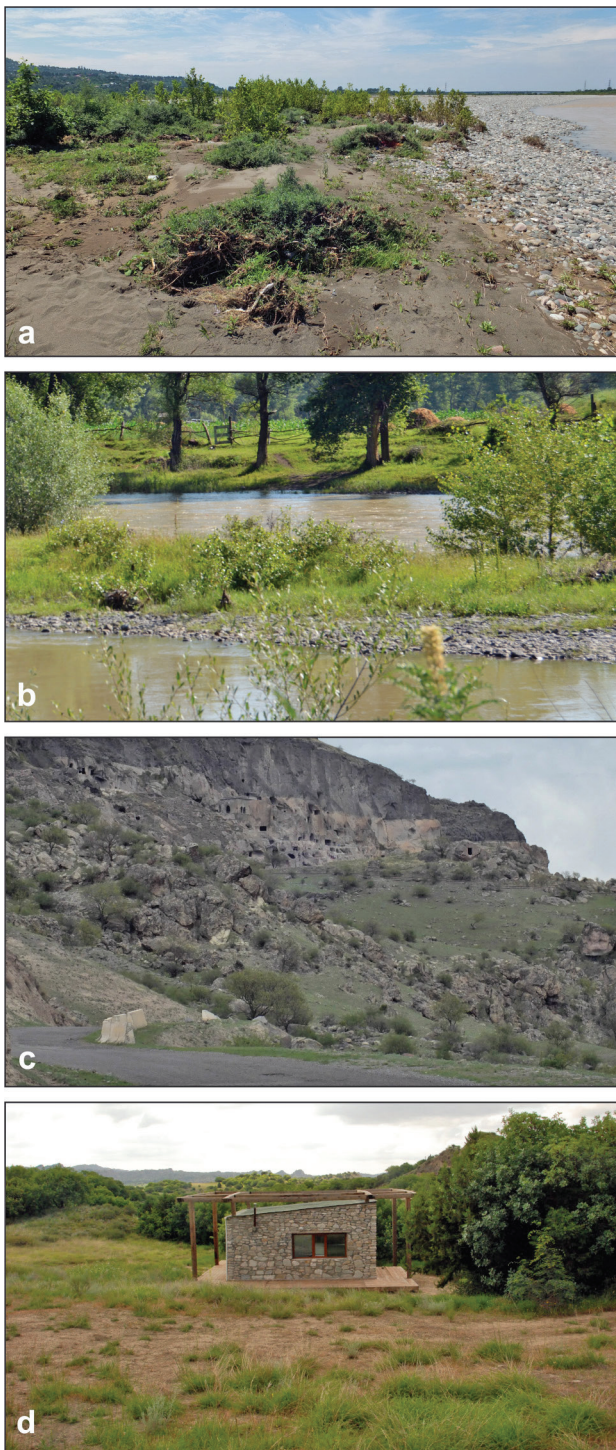


Fig. 1. Habitats: a – *Psammodymus caucasicus* Pittino & Shokhin, 2006 and *Rhyssesmus* sp. on the bank of the Chorokhi River in Ombolo near Batumi (Photo by Cezary Nowak), b – *Psammodymus caucasicus*, *P. laevipennis* A. Costa, 1844 and *Rhyssesmus annaedicatus* Pierotti, 1980 on the bank of the Kura River in Mugareti near Achalciche (Photo by Łukasz Mielczarek), c – *R. germanus* (Linnaeus, 1767) on the xerothermic turf near the bank of the Kura River in Vardzia (Photo by Cezary Nowak), d – *Pleurophorus caesus* (Panzer, 1796) and *Rhyssesmus germanus* in the Vashlovani Nature Reserve (Photo by Cezary Bystrowski).

North Africa; introduced to Afrotropical, Nearctic and Neotropical Regions (RAKOVIČ et al. 2016).

New data:

Vashlovani Nature Reserve, steppe, on UV light, N 41°09'35" E 46°34'01", 27-29.V.2012, 8 exx, leg. et det. A. Byk.

***Psammodymus caucasicus* Pittino & Shokhin, 2006**

Described by PITTINO & SHOKHIN (2006), based on specimens from the Asian part of Turkey (north-eastern Anatolia), Georgia and South Russia (North Osetia, the Krasnodar Region, the Kabardino-Balkar Republic). Subsequent localities from Georgia were given by RAKOVIČ & KRÁL (2015) and from Russia by SHOKHIN (2007).

New data:

Mugareti near Achalciche, bank of the Kura River, in sand among grass roots, flotation, N 41°41'10" E 43°04'04", 29-30.VI.2016, 52 exx. (leg. C. Nowak), 34 exx. (leg. M. Bidas), 33 exx. (leg. M. Kaźmierczak), det. Ł. Minkina;

Ombolo near Batumi, bank of the Chorokhi River, in sand among grass roots, flotation, N 41°35'06" E 41°37'33", 2.VII.2016, 11 exx. (leg. M. Kaźmierczak), 11 exx. (leg. C. Nowak), 8 exx. (leg. M. Bidas), det. Ł. Minkina.

***Psammodymus laevipennis* A. Costa, 1844**

From southern and eastern Europe as well as from Azerbaijan, Near East and North Africa; introduced to the Azores and Nearctic Region (RAKOVIČ et al. 2016). No previous records from Georgia. The nearest known localities of this species are: Azerbaijan, Turkey and South Russia (Northern Osetia) (SHOKHIN 2007). Recently reported for the first time from Jordan (ZIANI et al. 2015). Specifying the distribution of the species, BALTHASAR (1964) wrote about Transcaucasia and BARAUD (1992) mentioned Caucasus and Transcaucasia, without giving any specific locality. PITTINO & SHOKHIN (2006) in their description of *P. caucasicus*, wrote that the newly described species and *P. laevipennis* were collected together in the Caucasus but the authors did not specify the exact locality either.

The present study is the first record for Georgia.

New data:

Mugareti near Achalciche, bank of the Kura River, in sand among grass roots, flotation, N 41°41'10" E 43°04'04", 29-30.VI.2016, 13 exx. (leg. C. Nowak), 3 exx. (leg. M. Bidas), 2 exx. (leg. M. Kaźmierczak), det. C. Nowak.

***Rhyssesmus annaedicatus* Pierotti, 1980**

From Albania, Bulgaria, Greece, Italy,



Fig. 2. New localities of the Psammodiini in Georgia (Photos shown in Fig. 1a-d were taken in localities marked as dots a, b, c and d, respectively).

Macedonia, Montenegro, Turkey and Syria (RAKOVIČ & KRÁL 2015, RAKOVIČ et al. 2016).

The present study is the first record for Georgia.

New data:

Mugareti near Achalciche, bank of the Kura River, in sand among grass roots, flotation, N 41°41'10" E 43°04'04", 29-30.VI.2016, 36 exx. (leg. C. Nowak), 21 exx. (leg. M. Bidas), 11 exx. (leg. M. Kaźmierczak), det. Ł. Minkina.

***Rhyssesus germanus* (Linnaeus, 1767)**

Widely distributed all over Europe, North Africa (Morocco, Tunisia) and Asia (China, Mongolia, Far East of Russia, Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan, Syria and Turkey) (Rakovič et al. 2016). The distribution of this species in European countries should be revised, because the similar species *Rhyssesus puncticolis* (Brown 1929) described from Canada, has been reported in recent years from Germany, Austria, the Czech Republic (Rössner 2012), Poland and Latvia (Byk & Minkina 2014).

New data:

Georgia, Vashlovani Nature Reserve, steppe, UV light, N 41°09'35" E 46°34'01", 27-29.V.2012, 3 exx, leg. A. Byk, det. Ł. Minkina;

Vardzia, Kura River valley, under dried cow dung on xerothermic turf, sifting, N 41°22'35" E 43°16'33", 1.V.2014, 18 exx. (leg. M. Bidas), 17 exx. (leg. C. Nowak), det. Ł. Minkina.

***Rhyssesus* sp.**

Unknown new species, which will be described elsewhere by Łukasz Minkina and David Král.

New data:

Ombolo near Batumi, bank of the Chorokhi River, in sand among grass roots, flotation, N 41°35'06" E 41°37'33", 2.VII.2016, 9 exx. (leg. C. Nowak), 4 exx. (leg. M. Kaźmierczak), 3 exx. (leg. M. Bidas), det. Ł. Minkina.

Discussion

So far, four species of the tribe Psammodiini have been recorded from Georgia: *Platytomus variolosus*, *Pleurophorus caesus*, *Psammodius caucasicus* and *Rhyssesus germanus*. In the present work, three species are reported for the first time from Georgia: *Psammodius laevipennis*, *Rhyssesus annaedicatus* and one new, still undescribed species of the genus *Rhyssesus* Mulsant, 1842. Thus, the number of currently known valid species in Georgian Psammodiini fauna has increased to six and, after the new species of the genus *Rhyssesus* is described, it will increase to seven.

The discovery of three species new to Georgia (during three short entomological expeditions) points to the insufficient state of knowledge of the country's fauna of the Psammodiini and, consequently, to the need of continuation and intensification of faunistic studies, especially in the areas that have not been extensively explored before.

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