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Cossidae (Lepidoptera) of the Russian Caucasus with the description of a new species

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Abstract

An annotated list of the Cossidae of the Russian portion of the Caucasus including 20 species from 11 genera and two subfamilies is presented for the first time. A new species *Cryptoholcocerus daghestanica* **sp. nov.** is also described.

Key words: Cossidae, new species, fauna, Caucasus, Daghestan, *Cryptoholcocerus daghestanica*

Introduction

With a global distribution, Cossidae (Insecta, Lepidoptera) comprise about 1000 known species, 800 of them being recorded from the Old World (Yakovlev 2011; Nieukerken *et al.* 2011). The first records of Cossidae from the North Caucasus were given by Alpheraky (1877: 15), who listed two species ("*Cossus Cossus* L." represented by pupal exuviae found in a park near the city of Zheleznovodsk, Russia and "*Hypopta Thrips* Hb." from city of Kislovodsk, Russia and by Christoph (1877: 206), who recorded "*Endagria salicicola* Ev." from Derbent, Republic of Dagestan, Russia. Ballion (1886: 252–253) mentioned four species of this family from the vicinity of Novorossiysk, Russia: "*Cossus lignipeda* Fab.", "*Zeuzera pyrina* Lin.", "*Endagria ulula* Borkh.", "*E. salicicola* Ev". Later Grum-Grshimailo (1902: 202) described "*Hypopta caestrum caucasica"* from Derbent. Subsequently, the Grand Duke N.M. Romanoff (1885: 1−6) recorded from Derbent the following species of Cossidae: "*Hypopta thrips* Hb.", "*Hypopta caestrum* Hb." and " *Endagria salicicola* Ev." Later. Shaposhnikov (1904: 258) reported three species of Cossidae, providing general comments on their distribution in the foothill plains of the middle mountains of Northwest Caucasia (to the East of the present day Krasnodar Territory, Russia): "*Cossus cossus* L.—from the foothills; *Hypopta trips* Hb.—from the steppe belt and foothills; *Zeuzera pyrina* L.—for the foothills". In May–July, 1907, Kirichenko (1909: 16) investigated the Lepidoptera fauna in the middle reaches of the Mzymta River (at confluence of the Laura River—the area of present day Krasnaya Polyana, Russia) and listed caterpillars of "*Cossus cossus* L.".

After a long interval, additional general data on Cossidae of the Caucasus were provided by Zagulyaev (1978). Shchurov (2002; 2004a; 2004b, 2007a, b, 2012) recorded for the Caucasia, *Parahypopta caestrum* and *Paracossulus thrips* from the Taman Peninsula and the Abrau Peninsula. Yakovlev (2005; 2006; 2007; 2011) summarized the available data on some genera and described *Dyspessa kostyuki* Yakovlev, 2005 and *Phragmataecia pacifica* Yakovlev, 2007 from Caucasia.

The Great Caucasus Mountain Range (GCMR) separates North Caucasus from the Transcaucasia and stretches 1100 km from the Black Sea near the city of Anapa to the Northwest and to the Caspian Sea in the Southeast. In the

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western portion, ridges reach altitudes of 600 m, in the central portion 5633 m, and in the east, 4466 m. At the northern slope of GCMR and its ranges, altitudinal zones of the landscapes are not uniform. The structures of mountain belts become more diverse from West to the East. The altitudinal zones are more striking in the western part of the Great Caucasus in Krasnodar Territory where the foothill forest-steppes, the deciduous forest belt (reaching 1400 m), the mixed and coniferous forests belts (reaching 2000 m), and subalpine and alpine belts reaching 2600 m. Subnival and nival belts with glaciers are usually observed at the ridges higher than 3000 m East of GCMR. at different elevations are occupied by the xerophyte vegetation also known as "mountain steppes". The most diverse and varying landscape occur in the East Caucasus in the territory of Daghestan. Five orographic zones co-occur, the Lowlands, the Foothills, the External mountains, the Central mountains, and the Highland mountains (Gurlev 1972).

The Taman Peninsula is located West of the Caucasus with altitudes reaching 162 m. In orographic respect, it has little in common neither with the Caucasus ridges, nor with Ciscaucasia plains. The characteristic elements of peninsular landscape are the dome-shaped hills, some of which represent mud volcanoes. Along the Azov Sea shore and Taman Peninsula are numerous estuaries. The drainless or shallow flowing lakes are often brackish.

The area of the Black Sea coast, nearly from Anapa to Tuapse, resembles East Mediterranean and Crimea. Distinctly expressed features of the Mediterranean climatic mode, such as dry hot summers and rainy soft winters shape this landscape. From a botanical biogeography perspective, this area falls within the Pontic Province of the Mediterranean Hemixerophyle zone. To the east from Lazarevskoe settlement, the climate is a more humid and subtropical. At the eastern portion of the southern macroslope of GCMR to the border with Abkhazia, damp deciduous woods occur of the Colchis type.

The Ciscaucasia plain is located to the north from GCMR, which in the East passes into Caspian Depression. Climate on the plain is moderate and continental. High temperatures in combination with relative lack of humidity characterize this area. Continentality and xerophytisation of climate amplify from the West to the East. Natural landscapes are presented by various types of steppes transitioning east of Ciscaucasia into semi-deserts.

In the developed agricultural regions of the Rostov, Krasnodar and Stavropol areas, the cultivated landscapes occupy 80−90% of the territory. The Caspian lowland in the east of the region has the total area of 200,000 km^2; with the minimum altitude at 28 m. Soils are light brown and saline. In the North occurs the wormwood and cereal vegetation, and in the South the abundance of cereals decreases and wormwood starts to prevail.

The main rivers of Ciscaucasia are Kuban (with inflows flowing into the Sea of Azov) and Kuma, Terek, Sulak, and Samur (flowing into the Caspian Sea). On the Caspian Depression, river banks are covered with lowland woods or Tugai thickets. Interfluve of Terek and Sulak is densely cut by stream channels and is partially boggy. A characteristic feature of the plains is Kuma-Manytch Depression, which stretches 900 km from the river Don in the lower current to the Caspian Sea. Kuma-Manytch Depression separates Ciscaucasia from East European Plain, and throughout its length is occupied by natural lakes and artificial reservoirs. Its eastern part is strongly saline and covered with saline deserts. The geographical division of Eurasia between two subcontinents is drawn either across Kuma-Manytch Depression, or across the GCMR.

Material and methods

Adult Cossidae were collected using light traps. The genitalia slides were examined using MBI-3 stereoscope and images taken with a Nikon D-70 camera. In this article the fauna of the following regions of Russia is reviewed: Krasnodar Territory, Stavropol Territory, Rostov Province, Republic of Adygea, Republic of Kabardino-Balkaria, Karachai-Cherkess Republic, Republic of North Ossetia (Alania), Republic of Ingushetia, Chechen Republic, and Republic of Daghestan.

List of collecting localities (Fig. 1)

1 Abin—Krasnodar Reg., Abinsk distr., Abin river, vic. Veseliy vill., ash-forest, floodplain meadow (44°58'34.5" N, 38°04'32.0"E);
2 Agrakhan Bay—Daghestan Rep., Tersko-Sulaksky lowland (43°28'29.5" N, 47°25'54.7" E);
3 Agvali—Daghestan Rep., Tsumada distr., 3 km higher Agvali vill. (42°31'08.2" N, 46°06'41.3" E);

4 Aibga 3—Krasnodar Reg., Adler distr. of Sochi city, Aibga 3 vill., Psou river, 800 m, oak-forest (43°34'24.3" N, 40°13'07.5" E);
5 Akhilleon—Krasnodar Reg., Temrjuk distr., Taman Peninsula, coast of Temrjuk bay, vic. Akhilleon cape, hawthorn-bushes, steppe (45°26'37.0" N, 36°48'17.3" E);
6 Azish-Tau—Krasnodar Reg., Apsheronsk distr., Lago-Naki highland, Azish-Tau mountain range, vic. Kamyshanova Poljana—biological station of Kuban state university (Krasnodar), 1250 m, beech-fir forest (44°10'05.4" N 40°02'23.0" E);
7 Azov-Alexandrovski—Rostov Reg., Azov distr., Alexandrovka vill. (46°46′59″ N, 38°59′55″ E);
8 Bagaevskaja—Rostov Reg., Bagaevsky distr., Bagaevskaja vill. (47°21'4.56" N, 40°22'49.52" E);
9 Barshamaj—Daghestan Rep., Kajtag distr., Barshamaj vill. (42°06′29″ N, 47°51′01″ E);
10 Belidzhi—Daghestan, Derbent dist., Belidzhi vill. (41°52′32″ N, 48°23′25″ E);
11 Berikej—Daghestan, Derbent dist., Berikej vill. (42°13′21″ N, 48°03′38″ E);
12 Beshtau—Stavropol' Reg., Beshtau Mt. (44°05′53″ N, 43°01′20″ E);
13 Bessergenevskaja—Rostov Reg., Oktjabrsky distr., Bessergenevskaja vill. (47°23'11.18" N, 40°19'56.17" E);
14 Bolshekrepinskaja—Rostov Reg., Rodionovo-Nesvetaisky distr., Bolshekrepinskaja vill. (47°36'14.90" N, 39°22'51.63" E);
15 Budennovsk—Stavropol Reg., Budennovsk city (44°47′ N, 44°08′ E);
16 Derbent—Daghestan Rep., Derbent city (42°04′09″ N, 48°17′45″ E);
17 Dylym—Daghestan, Kazbek distr., Dylym vill. (43°04′17″ N, 46°37′54″ E);
18 Dzhubga—Krasnodar Reg., Tuapse distr., Dzhubga vill. (44°19′05″ N, 38°42′12″ E);
19 Efremo-Stepanovka—Rostov Reg., Tarasovsky distr., Efremovo-Stepanovka vill. (48°43′13″ N, 40°49′55″ E);
20 Eya river—Krasnodar Reg., Kushchevskaja distr., Eya river, 3 kilometers on west from Krylovskaja cossack vill., high riverside, steppe, floodplain meadow and rice bays in the bottom-land (46°23'22.7" N, 39°52'07.9" E);
21 Elanskaja—Rostov Reg., Sholohovsky distr., Elanskaja vill. (49°36'21.34" N, 42°5'15.33" E);
22 El'buzd river—Krasnodar Reg., Kushchevskaja distr., El'buzd river, vic. Alekseevskoe vill., high riverside, steppe (46°45'56.6" N 39°42'39.2" E);
23 Ekaterinodar—Krasnodar city (after 1920; 45°02′ N, 38°59′ E);
24 Furtoug—Ingushetia Rep., Dzhejrakh distr., Furtoug vill. (42°50′37″ N, 44°39′27″ E);
25 Gajduk—Krasnodar Reg., Novorossiysk distr., vic. Gajduk vill., south slope of Markotkh mountain range, 540 m, scrub forest, ash-oak forest, mountain steppe (44°48'00.4" N, 37°43'36.9" E);
26 Gazardkam-Kazmalyar—Daghestan Rep., Magaramkent distr., Gazardkam-Kazmalyar vill. (41°46′01″ N, 48°28′56″ E);
27 Gelendzhik—Krasnodar Reg., Gelendzhik city (44°33′39″ N, 38°04′36″ E);
28 Gerpegem—Krasnodar Reg., Mostovskiy distr., Rocky Mountain Range, Gerpegem mountain range, vic. Psebay vill., 750 m, mountain steppe (44°09'23.0" N, 40°49'37.0" E);
29 Gigant—Rostov Reg., Salsky distr., Gigant vill. (46°30'18.89" N, 41°19'34.98" E);
30 Gyrlovsky—Rostov Reg., Azov distr., cordon Gyrlovsky—control point of "Donskoy Natural Park" (47°12'40.7" N, 39°14'54.4" E);
31 Groznyi—Chechen Rep., Groznyi city (43°19′ N, 45°42′ E);
32 Gubden—Daghestan Rep., Karabadukkhent distr., Gubden vill. (42°33′57″ N, 47°33′47″ E);
33 Gul'kevichi—Krasnodar Reg., Gul'kevichi city (45°21′37″ N, 40°41′40″ E);
34 Gunib—Daghestan Rep., Gunib vill. (42°23′12″ N, 46°57′42″ E);
35 Il'skaja—Krasnodar Reg., Severskaja distr., Il' river, Il'skaja cossack vill., gardens (44°49'02.4" N, 38°33'51.7" E);
36 Inal—Krasnodar Reg., Tuapse distr., Inal bay, oak forest (44°19'25.4" N, 38°38'03.6" E);
37 Inozemtsevo—Stavropol' Reg., Zheleznovodsk distr., Inozemtsevo vill. (44°06′ N, 43°06′ E);
38 Jakhno—Krasnodar Reg., Temrjuk distr., Taman Peninsula, west coast of Tsokur Liman, Lysaja Mt., Jakhno ash-forest, steppe (45°09'25.5" N, 36°58'16.9" E);
39 Janina Gorge—Krasnodar Reg., Gelendzhik distr., vic. Gelendzhik town, south slope of Markotkh mountain range, Janina Gorge, 500–600 m, scrub forest, juniper-oak forest, mountain steppe (44°36'15.6" N, 38°04'18.0" E);

40 Kalinin—Rostov Reg., Bagaevsky distr., Kalinin vill. (47°21'51.56" N, 40°23'0.60" E);
41 Kamensk—Rostov Reg., Kamensk-Shahtinsky city, (48°19'34.87" N, 40°11'29.12" E);
42 Kapchugaj—Daghestan Rep., Buinaksk distr., Kapchugai vill. (42°58'0" N, 47°10'58" E);
43 Karaman-2—Daghestan Rep., Makhachkala city, Karaman-2 distr. (42°58′ N, 47°29′ E);
44 Kayakent—Daghestan Rep., Kayakent distr., Kayakent vill. (42°23′07″ N, 47°54′19″ E);
45 Kazanskaja—Rostov Reg., Upper Don distr., Kazanskaja vill. (49°46'55.5" N, 41°09'29.0" E);
46 Kirsanovka—Rostov Reg., Semikorakorsk distr., Kirsanovka vill. (47° 22' 02.5" N, 41° 00' 00.4" E);
47 Kiselevka—Rostov Reg., Zavetnoe distr., Kiselevka vill. (47°18′10″ N, 44°09′14″ E);
48 Kisljakovskaja—Krasnodar Reg., Kushchevskaja distr., Eya river, 2 kilometers on north from Kisljakovskaja cossack vill., high riverside, steppe, floodplain meadow (46°28'44.0" N, 39°38'52.0" E);
49 Kislovodsk—Stavropol' Reg., Kislovodsk city (43°54′12″ N, 42°43′28″ E);
50 Khanskaja—Krasnodar Reg., Maikop dist., Khanskaja vill. (44°41'46.8" N, 39°56'57.7" E);
51 Komsomolsky—Kalmyk Republic, Tchernozemelsky disr., Komsomolsky vill. (45°19'35.3" N 46°02'03.5" E);
52 Konygin—Rostov Reg., Ust-Donetzk distr., Konygin vill. (47°36'22.81" N, 40°42'31.71" E);
53 Korsun—Krasnodar Reg., Novopokrovskaja distr., Korsun river, 3 kilometers on north from Zaretchniy vill., meadow (45°50'37.0" N, 40°38'15.2" E);
54 Kosob—Daghestan Rep., Tlyarata distr., Kosob vill. (42°14′35″ N, 46°22′06″ E);
55 Krasnaya Polyana—Krasnodar reg., Adler Distr., Krasnaya Polyana vill. (43°40′43″ N, 40°12′19″ E);
56 = 23. Krasnodar − Krasnodar city (after 1920; 45°02′ N, 38°59′ E);
57 = 23. Krasnodar east—Krasnodar Reg., Krasnodar city, east part (45°02'18.1" N, 39°05'28.0" E);
58 Krasnogorovka—Krasnodar Reg., Krylovskaja distr., Kugo-Eya river, vic. Krasnogorovka vill., high riverside, steppe, floodplain meadow (46°32'42.0" N, 40°03'17.1" E);
59 Krutaja Gorge—Krasnodar Reg., Krylovskaja distr., Eya river, 1 kilometers on east from Kazatchy farm, high riverside, steppe, floodplain meadow (46°19'01.2" N, 40°08'50.1" E);
60 Kruzhilinsky—Rostov Reg., Bokovsky distr., Kruzhilinsky vill. (49°27'13.83" N, 41°47'50.95" E);
61 Kugo-Eya—Krasnodar Reg., Kushchevskaja distr., Kugo-Eya river, 2 kilometers on east from Kushchevskaja cossack vill., high riverside, steppe, floodplain meadow (46°34'30.3" N, 39°42'10.0" E);
62 Kumtor-Kala—Daghestan Rep., Kumtor-Kala vill. (42°59′48″ N, 47°14′46″ E);
63 Kurinskij Reid—Krasnodar Reg., Apsheron distr., Kurinskaya vill. (44°24′48″ N, 39°25′14″ E);
64 Kuibyshevo—Rostov Reg., Kuibyshevo city (47°48'52.54" N, 38°53'42.44" E);
65 = 61. Kushchevskaja—Krasnodar Reg., Kushchevskaja distr., Eya river, Kushchevskaja cossack vill., floodplain meadow (46°33'57.6" N, 39°38'06.8" E);
66 Lagutnik—Rostov Reg., Azov distr., Lagutnik vill. (47°13'51.47" N, 39°19'46.24" E);
67 Lebjazhensky– Rostov Reg., Sholohovsky distr., Lebjazhensky vill. (49°35'59.0" N, 41°55'04.3" E);
68 Lenina—Krasnodar Reg., Krasnodar city, Lenina vill., gardens (45°01'17.9" N, 39°13'13.4" E);
69 Leninskiy Put—Krasnodar Reg., Novorossiysk distr., Main Caucasus Mountain Range, 450 m., vic. Leninskiy Put vill., scrub forest, mountain steppe (44°52'38.0" N, 37°39'37.6" E);
70 Loo—Krasnodar Reg., Lazarevskoe distr. of Sochi city, Loo vill., Loo river, garden (43°42'36.3" N, 39°35'33.6" E);
71 Lysaja 1—Krasnodar Reg., Severskaja distr., Schebsch river, Lysaja Mt., 450 m, oak forest, mountain steppe (44°30'55.7" N, 38°41'48.5" E);
72 Lysaja 2—Krasnodar Reg., Tuapse distr., Main Caucasus Mountain Range, Psekups river, Lysaja Mt., 900 m, oak-beech forest (44°17'24.8" N, 39°10'57.2" E);
73 Lysaja 3—Krasnodar Reg., Anapa distr., Lysaja Mt., 260 m, vic. Varvarovka vill., arid light forest, juniper-forest, oak-forest, mountain steppe (44°50'24.5" N, 37°21'01.4" E);
74 Maikop—Adygeya Rep., Maikop city (44°37′ N, 40°07′ E);
75 = 43. Makhachkala—Daghestan Rep., Makahchkala city (42°58′ N, 47°29′ E);
76 Manytch—Rostov Reg., Orlovsky distr., Manytch vill. (46°25'53.28" N, 42°43'7.03" E);
77 Manytch-Gudilo—Rostov Reg., lake Manytch-Gudilo (46°19′ N, 42°52′ E);
78 Masalovka—Rostov Reg., Kamensk-Shahtinsky distr., Masalovka vill. (48°25'29.13" N, 40°15'28.89" E);
79 = 27. Markotkh—Krasnodar Reg., Gelendzhik distr., vic. Gelendzhik town, east side, south slope of Markotkh mountain range, 460 m, scrub forest, juniper-oak forest, mountain steppe (44°35'01.4" N, 38°05'53.3" E);

80 = 37. Mashuk—Stavropol' Reg., Mashuk Mt. (44°03′01″ N, 43°05′18″ E);
81 Miljutinskaja—Rostov Reg., Miljutinsky distr., Miljutinskaja vill. (48°36'51.89" N, 41°41'13.59" E);
82 = 12. Mineral'nye Vody—Stavropol Reg., Mineral'nye Vody city (44°12′03″ N, 43°06′45″ E);
83 = 66. Nedvigovka—Rostov Reg., Myasnikovsky distr., Nedvigovka vill. (47°16′07″ N, 39°20′48″ E);
84 Neftekumsk—Stavropol' Reg., Neftekumsk city (44°45′02″ N, 44°58′47″ E);
85 Nesvetay—Rostov Reg., Rodionovo-Nesvetaisky distr., Nesvetay vill. (47°27'10.77" N, 39°39'6.80" E);
86 Nikel—Adygeya, Maikop distr., Nikel village (44°10′41″ N, 40°09′21″ E);
87 Nizhnekundrjuchenskaja—Rostov Reg., Ust-Donetzk distr., Nizhnekundrjuchenskaja vill. (47°45'3.12" N, 40°57'39.83" E).
88 Nizhnematveevsky—Rostov Reg., Sholohovsky distr., Nizhnematveevsky vill. (49°34'40.79" N, 41°46'51.00" E);
89 Nizhnesazonov—Rostov Reg., Kamensk-Shahtinsky distr., Nizhnesazonov vill. (48°13'49.20" N, 40°28'40.22" E);
90 Novodzerelievskaja—Krasnodar Reg., Brjuchovetskaja distr., Novodzherelievskaja cossack vill., rice bays (45°46'14.5" N, 38°38'48.5" E);
91 Oblego—Krasnodar Reg., Gelendzhik distr., Pschada river, south slope of Oblego mountain range, 500 m, oak forest, mountain steppe (44°31'14.6' N, 38°27'19.9" E);
92 Olympia-camp—Rostov Reg., White Kalitva distr., Olympia-camp (48°15'15.11" N, 40°44'56.51" E);
93 Papay—Krasnodar Reg., Severskaja distr., Ubin river, Papay mountain range, 750–800 m, scrub forest, juniper-oak forest, mountain steppe (44°38'25.2" N, 38°24'58.0" E);
94 = 43. Petrovsk-Kavkazskij—Daghestan Rep., Petrovsk-Kavkazskij vill. (after 1935—Makhachkala; 43°00′03″ N, 47°28′02″ E);
95 Puzanovsky—Rostov Reg., Upper Don distr., Puzanovsky vill. (49°45'52.9" N, 41°15'08.6" E);
96 = 37. Pyatigorsk—Stavropol' Reg., Pyatigorsk city (44°05′53″ N, 43°01′20″ E);
97 Rasswet—Rostov Reg., Aksay distr., Rasswet vill. (47°22'2.13" N, 39°52'54.90" E);
98 Razdorskaja—Rostov Reg., Ust-Donetzk distr., Razdorskaja vill. (47°32'40.60" N, 40°39'25.08" E);
99 Red October—Krasnodar Reg., Slavjansk distr., vic. Red October vill., Kuban river, scrub forest, high riverside, steppe, humid meadow, rice bays (45°11'16.9" N, 37°36'40.2" E);
100 = 30. Rogozhkino—Rostov Reg., Azov distr., Rogozhkino vill. (47°10'49.26" N, 39°20'21.61" E);
101 Rostov-on-Don—Rostov Reg., Rostov-on-Don city, central part (47°14′ N, 39°43′ E);
102 = 101. Rostov-West—Rostov Reg., Rostov-on-Don city, western part (47°11'29.26" N, 39°37'6.91" E);
103 = 101. Rostov Botanical Garden—Rostov Reg., Rostov-on-Don city, Botanical Garden of Southern Federal University (47°13'49.53" N, 39°39'35.15" E);
104 Sadki—Krasnodar Reg., Primorsko-Akhtarsk distr., Sadki vill., maritime marsh, floodplain meadow, rice bays (45°57'01.3" N, 38°06'41.9" E);
105 = 25. Sapun—Krasnodar Reg., Novorossiysk distr., Main Caucasus Mountain Range, south slope of Sapun Mt., 500 m, scrub forest, oak-forest, mountain steppe (44°48'09.4" N, 37°47'13.5" E);
106 Sarkel—Rostov Reg., Cymliansk distr., Sarkel vill. (47°40'50.32" N, 42°9'1.52" E);
107 Shakhan—Krasnodar Reg., Gelendzhik distr., Jatlikova Gorge, south slope of Schakhan Mt., 650 m, ash-oak forest, mountain steppe (44°35'42.4" N, 38°14'20.0" E);
108 Shebunjaevsky—Rostov Reg., Sholohovsky distr., Shebunjaevsky vill. (49°39'3.86" N, 41°33'29.48" E);
109 = 101. Shepkinsky forestry—Rostov Reg., Rostov-on-Don city, forestry at the northern suburb (47°21'0.59" N, 39°44'58.74" E);
110 = 107. Shize—Krasnodar Reg., Abinsk distr., Abin river, Gruzinka mountain range, Shize Mt., 550 m., vic. Erivanskaja cossack vill., scrub forest, oak forest, mountain steppe (44°44'44.1" N, 38°09'21.3" E);
111 Small Utrisch—Krasnodar Reg., Novorossiysk distr., Abrau Peninsula, Small Utrisch cape, scrub forest, juniper forest, steppe (44°42'45.5" N, 37°27'22.7" E);
112 Sober-Oaschkh—Krasnodar Reg., Severskaja distr., Ubin river, Sober-Oaschkh Mt., 450–700 m, oak-forest, mountain steppe (44°41'41.0" N, 38°33'52.4" E);
113 Sochi—Krasnodar Reg., Sochi city (43°5' N, 39°40' E);
114 Stavropol'—Stavropol' Reg., Stavropol' city (45°04' N, 41°54' E);
115 Stavropol' Hill—Krasnodar Reg., Uspenskaja distr., vic. Ubezenskaja cossack vill., Kuban river, 300 m,

mountain steppe (44°56'55.3" N, 41°16'59.6" E);
116 Sukko—Krasnodar Reg., Anapa distr., Abrau Peninsula, Sukko river, Economic Mt., juniper-oak forest, steppe (44°47'24.8" N, 37°22'41.6" E);
117 Suzdal'skaja—Krasnodar Reg., Gorjatchiy Kljutch distr, vic. Suzdal'skaja cossack vill., Tsyzal river, oak-forest, meadow (44°46'01.6" N, 39°23"51.1" E);
118 Talgi—Daghestan Rep., Karabudakhent distr., Talgi vill. (42°51′56″ N, 47°27′31″ E);
119 = 43. Tarki—Daghestan Rep., Tarki vill. in the suburb of Makahchkala city (42°57′ N, 47°30′ E);
120 Tbilisskaja—Krasnodar Reg., Tbilisskaja distr., Kuban river, 7 kilometers on west from Tbilisskaja cossack vill., high riverside, poplar-oak forest, floodplain meadow, steppe (45°20'50.6" N, 40°04'01.4" E);
121 = 116. Tchemburka—Krasnodar Reg., Anapa distr., Anapka river, floodplain meadow (44°55'48.7" N, 37°20'08.7" E);
122 Tchertkowo—Rostov Reg., Tchertkowsky distr., Tchertkowo vill. (49°23'38.78" N, 40°9'41.59" E);
123 Teberda—Karachaevo-Cherkesia Rep., Teberda city (43°27′ N, 41°45′ E);
124 Temir-Chan-Shura—Daghestan Rep., Temir-Chan-Shura vill. (after 1922 − Bujnaksk city, 42°49′00″ N, 47°07′00″ E);
125 Ternovoy—Rostov Reg., Millerovsky distr., Ternovoy vill. (49°4'1.35" N, 40°39'58.30" E);
126 Terskol—Kabardino-Balkaria Rep., Terskol vill. (43°15′24″ N, 42°30′45″ E);
127 Tsudakhar − Dagestan Rep., Levashinsky distr., 5 km SE Tsudakhar vill. (42°19'42.0" N, 47°09'52.5"E);
128 Tuapse—Krasnodar Reg., Tuapse city (44°06′00″ N, 39°05′00″ E);
129 Urma—Daghestan, Levashi Distr., Urma vill. (42°32′08″ N, 47°17′17″ E);
130 Ust'-Donetskij—Rostov Reg., Ust'-Donetskij vill. (47°38′23″ N, 40°51′59″ E);
131 Verbjanaja foreland—Krasnodar Reg., Temrjuk distr., Verbjanaja foreland of the Sea of Azov, maritime marsh, floodplain meadow (45°22'32.2" N, 37°31'22.5" E);
132 = 25. Verkhnebakanskiy—Krasnodar Reg., Novorossiysk distr., Markotkh mountain range, Verkhnebakanskiy mouting pass, 260 m, mountain steppe (44°49'27.7" N, 37°38'26.1" E);
133 Vishnevka—Krasnodar Reg., Vishnevka vill. (44°00′25″ N, 39°11′15″ E);
134 Volochaevsky—Rostov Reg., Orlovsky distr., Volochaevsky vill. (46°32'46.21" N, 42°38'8.55" E);
135 Voronezhskaja—Krasnodar Reg., Ust-Labinsk distr., 2 kilometers on west from Voronezhskaja cossack vill., Kuban river, high riverside, floodplain meadow, steppe (45°10'29.0" N, 39°31'57.0" E);
136 Voskresenskoe—Krasnodar Reg., Otradnoe distr., Voskresenskoe vill. (44°30′39″ N, 41°27′36″ E);
137 Yaman-Aul—Chechnya Rep., Shelkovskaya distr., Borozdinovskaya vill. (43°48′54″ N, 46°35′27″ E);
138 Woronovo—Rostov Reg., Celynsky distr., Woronovo vill. (46°28'32.20" N, 40°55'38.09" E);
139 Zavodskoy—Krasnodar Reg., Kushchevskaja distr., Eya river, vic. Zavodskoy vill., high riverside, steppe, floodplain meadow (46°36'58.9" N, 39°29'37.2" E);
140 Zheleznovodsk—Stavropol Reg., Zheleznovodsk city (44°08′00″ N, 43°02′00″ E);
141 Zimnyaya Stavka—Stavropol' Reg., Neftekumsk Distr., Zimnyaya Stavka vill. (44°54′55″ N, 45°19′49″ E);
142 = 107. Zybza—Krasnodar Reg., Severskaja distr., Zybza river, Karpov Bugor Mt., 160 m, poplar-oak forest (44°47'43.0" N, 38°25'56.4" E).

Abbreviation list

APC—collection of Alexander N. Poltavsky (Rostov-on-Don, Russia);
BMNH—The Natural History Museum (London, G.B.);
LSL— Linnean Society (London, G.B.);
MHUB—Museum für Naturkunde der Humboldt-Universität (Berlin, Germany);
MSW—collection of Manfred Ströhle (Weiden, Germany);
MWM—Museum of Thomas Witt (Munich, Germany);
RYB—collection of Roman Yakovlev (Barnaul, Russia);
VSC—collection of Valeryi I. Shchurov (Krasnodar, Russia);
ZISP—Zoological Institute of Science Academy of Russian Federation (Sankt-Petersburg, Russia);
ZMKU—Zoological Museum at Kiev State University (Kiev, Ukraine);
ZMMU—Zoological Museum of Moscow University (Moscow, Russia).

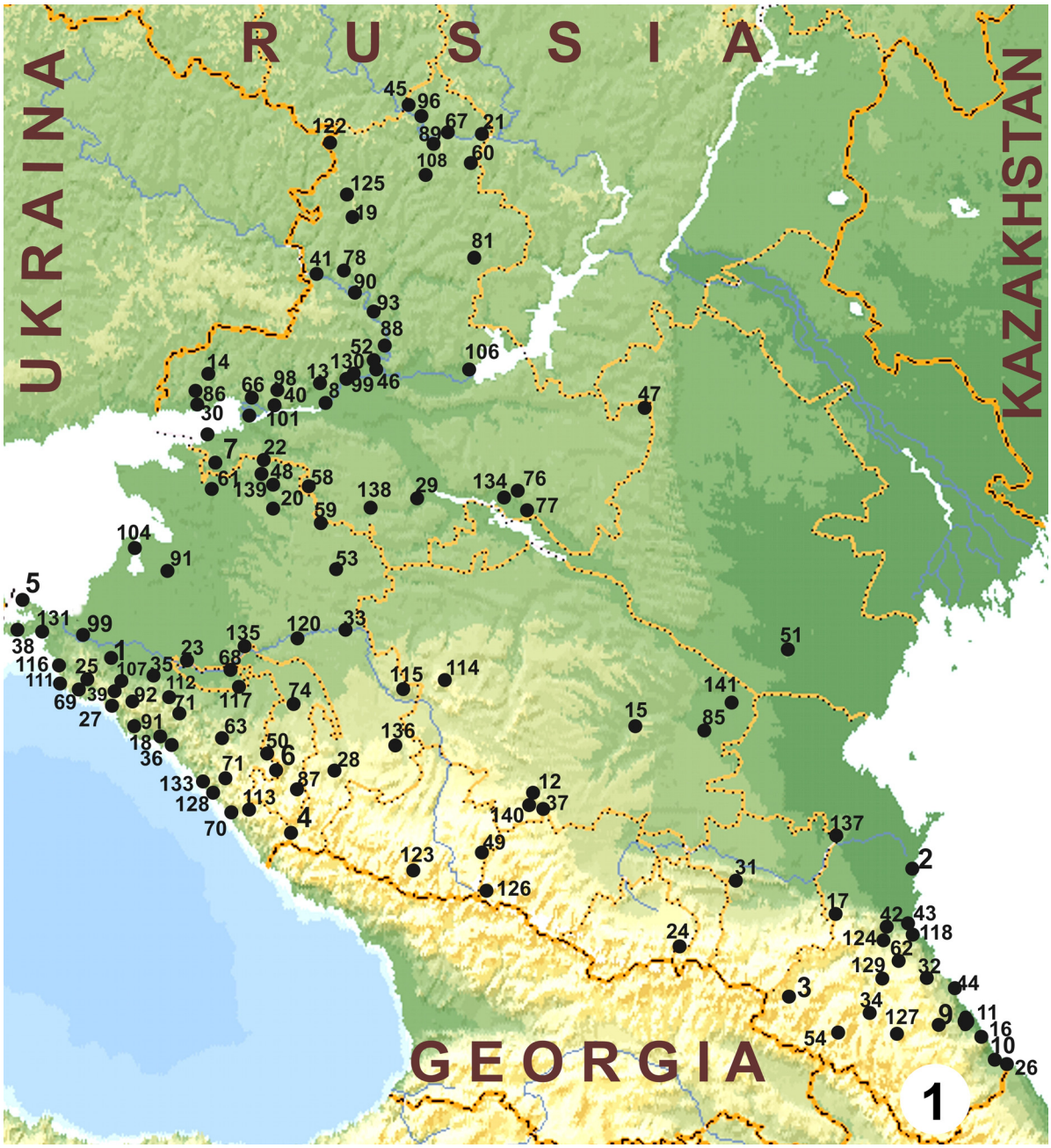


FIGURE 1. Map of collecting localities.

Annotated list of species

Family Cossidae Leach, [1815]

Subfamily Cossinae Leach, [1815]

***Acossus terebrus* ([Denis & Schiffermüller], [1776])**

Bombyx terebra [Denis & Schiffermüller], [1776]: 60.

Type locality: Wien [Austria]
Type material is lost.

Distribution: Eurasia: Israel, Turkey, S. Europe, S. Sweden, Finland, Baltic States, the Ukraine, central part of European Russia, Caucasus, S. Siberia including the Altai and Sayan Mts. to S. Yakutia, S. part of Fare East, Korea, China (Heilongjiang, Jilin, Manchuria, Inner Mongolia) (Yakovlev 2011).

Material examined: 1 male, Sochi, 9.07.[19]59 (ZISP); 2 males, Teberda, M. Khatipara Mts. (ZMMU); 1 male, Nordcaucasus, Maikop—Nikel, 6.07.1978, Poltavskj (MWM); 1 male, Caucasus, Teberda, Dzhemagat Tal, 11.07.1972, Elze (MWM); 1 male, Krasnodar reg., Dzhubga, 15.07.1973 (MWM); 1 male, Krasnodar reg., Lazarevskoe distr., Vishnevka (MWM); 1 male, Caucasus, Sochi, 22.06.1959 (MWM); 1 male, Lysaja 2, 15.07.2000; 1 male, Lysaja 1, 19.06.2003 (VSC); 1 female, Il'skaja, 17.05.2014 (E. Zhukov) (VSC); Rostov Don Reg.: 1 male, Rostov Botanical Garden, 27.07.1985 (APC).

Kotchevnik durrelli Yakovlev, 2004

Yakovlev, 2004: 363.

Type locality: Armenia, Garni.

Type material (holotype) in MWM, examined.

Distribution: Armenia, Russia (Daghestan), Turkey (Yakovlev 2011). Reported for Daghestan as *Cossus modestus* (Zagulyaev 1978: 184).

Cossus cossus (Linnaeus, 1758)

Phalaena-Bombyx cossus Linnaeus, 1758: 504.

Type locality: Sweden

Type material (syntypes) in LSL.

Distribution: Europe (including Scandinavia, England and S. Ireland), Caucasus, Middle East, Iran, Siberia, East Russia, Mongolia, C. Asia, Korea, N. and Central China, Japan, Algeria, Morocco, Tunisia (Yakovlev 2011).

Material examined: 1 male, Daghestan, Avarskij Koisu, 30.07.926, Rjabov leg. (ZISP); 2 males, Makhachkala, 12.06.50, Rjabov leg. (ZISP); 1 male, Caucasus (ZISP); 1 female, Krasnaya Polyana, 3.07.909 (ZISP); 1 male, N. Caucasus, Mineral'nye Vody, 6.953, Pokorzhewsky leg. (ZISP); 1 male, Caucasus, Mashuk Mt., 4.08.47 (ZISP); 1 male, Kuban (MWM); 1 male, Sochi (MWM); 2 males, near Majkop (ZMMU); 1 male, Pyatigorsk (MWM); 1 male, Daghestan, Dylym, 13.08.2014 (APR); 1 male, Daghestan, Gazardkam-Kazmalyar, 19.07.2014 (APR); 1 male, Daghestan, Gunib, 22.04.2001 (APR); Bessergenevskaja, 1 male, 3.06.2009, 2 males, 6.06.2010 (APC); Bolshekrepinskaja, 1 male, 28.05.2005, 1 male, 9.06.2005 (APC); Volochaevsky, 1 male, 26.07.2011, 1 male, 31.05.2013 (APC); Gigant, 1 male, 7.06.2007, 3 males, 17.07.2007, 1 male, 26.07.2011, 1 male, 1.08.2011, 1 male, 21.05.2013; 1 male, 29.05.2014; 2 male, 17–24.06.2014 (APC); Kalinin, 2 males, 4–9.06.2007, 2 male, 16.06.2011, 1 male, 20.06.2012; 9 males, 19.05.2013 (APC); 2 male, Kamensk, 27.06.2009 (APC); 1 male, Konygin, 2.06.2007 (APC); Kruzhilinsky, 1 male, 30.06.2003, 1 male, 6.07.2004 (APC); 1 male, Kuibyshevo, 12.06.2012 (APC); 2 male, Masalovka, 26.07.2009 (APC); 1 male, Nizhnematveevsky, 30.06.2004 (APC); Razdorskaja, 1 male, 12.06.2003, 1 male, 3.07.2008 (APC); 1 male, Rogozhkino, 20.06.2008 (APC); Ternovoy, 1 male, 26.06.2003 (APC); 2 ex., 15.06.2012 (APC); Krasnodar Reg.: Khanskaja, 1 male, 17.05.2014, 1 ex., 18.06.2014 (APC); 1 female, Loo, 6.07.1991, 1 female, 3.08.1997, 1 female, 12.07.1999 (VSC); 1 female, Sober-Oaschkh, 7.06.1998, 2 males, 29.06.2006, 1 male, 1 female, 25.07.2008 (VSC); 2 male, Papay, 18.06.1998 (VSC); 1 male, Azish-Tau, 15.07.1998 (VSC); 2 male, Janina Gorge, 28.06.2000 (VSC); 2 males, Shize, 22.06.2004, 1 male, 11.08.2004, Aibga 3, 8.06.2000 (VSC); 3 males, Abin, 31.07.2008 (VSC); 1 male, Voronezhskaja, 30.08.2003, 2 males, 31.05.2006; 1 female, 6.06.2008 (VSC); 1 male, Gerpegem, 03.06.2009 (VSC); the mature larvae in trunk of *Populus alba* L., Zybza, 25.06.2009 (VSC); 2 males, Suzdal'skaja, 26.06.2009 (VSC); 2 females, Markotkh, 19.09.2009 (VSC); 1 male, Eya river, 13.06.2010 (VSC); 1 male, Small Utrisch, 18.06.2010 (N. Okhrimenko) (VSC); 1 male, Inal, 22.05.2012 (VSC); 1 female, Il'skaja, 19.05.2014 (VSC); 1 female, 11.07.2014 (E. Zhukov) (VSC); 1 female, Lysaja 3, 07.07.2014 (VSC).

Deserticossus arenicolus (Staudinger, 1879)

Cossus Arenicola Staudinger, 1879: 317.

Type locality: [Narün, nordöstlich von Astrachan zwischen Wolga- und Ural-Fluß, etwa 15 deutsche Meilen ostwärts von der Wolga] (NW Kazakhstan, European part).

Type material (lectotype) in MHUB, examined.

In the Caucasus *Deserticossus arenicola transcaucasicus* (Zukowsky, 1936)

Holcocerus arenicola transcaucasica Zukovsky: 535.

Type locality: Armenia ross., Dschulfa, Daratshitshag [Dzhul'fa, Nahichevan', Azerbaidzhan].

Type material (lectotype) in MWM, examined.

Distribution: Caucasus (Daghestan, Armenien, Georgia, Azerbaidjan) (Yakovlev 2011).

Material examined: 2 males, Makhachkala, 6.08.925, Rjabov (ZISP); 1 male, Yaman-Aul, near Tersk, pesky Kizlyar, 16.07.927, Kirichenko (ZISP); 1 male, Dagestan, pag. Dzhuga, 9.07.1932, M. Rjabov leg. (ZMKU); Rostov Don Reg., 5 males, Kiselevka, 23.07.2008 (APC); 2 males, Kalmyk rep., Komsomolsky, 4.08.2006 (APC).

Deserticossus campicola (Eversmann, 1854)

Cossus campicola Eversmann, 1854: 184.

Type locality: Kirgisensteppen, Sir [S. Kazakhstan, Syr-Darja].

Type material (lectotype) in ZISP (Yakovlev, 2005b), examined.

Distribution: Russia (Daghestan, Astrakhan reg., Kalmykia), Azerbaijan, Kazakhstan, Uzbekistan, ?W. China, ?Turkmenistan (Yakovlev 2011).

Material examined: 1 male, 3 females, Zimnyaya Stavka, uppper stream Kuma river, Stavropol'je, 16.06.911, Uvarov (ZISP); 1 female, Daghestan, Kapchugaj, 24.07.945, Rjabov (ZISP); 1 female, Petrovsk-Kavkazskij [Makhachkala], 7.07.943, Rjabov (ZISP).

Deserticossus volgensis (Christoph, 1893)

Holcocerus volgensis Christoph, 1893: 88.

Type locality: Sarepta [Krasnoarmeisk, Volgograd Oblast' Region, S. part of European Russia].

Type material (holotype) in ZISP, examined.

Distribution. S. Volga reg., N. Caucasus (Stauropol'skii Krai, Daghestan), NW Kazakhstan (Yakovlev 2011).

Material examined: 3 males, Rostov Reg., Zavetninskoe distr., Kiselevka vill., 24.07.2008, A. Poltavsky (ZISP); 2 males, Dagestan, Kumtor-Kala (ZMKU); 1 male, Budennovsk, 20.07.1952, N. Goryshin (ZISP); 2 males, Daghestan Rep., Tersko-Sulaksky lowland, Agrakhan Bay, 07.06.2014 (APR).

Deserticossus sareptensis (Rothschild, 1912)

Cossus sareptensis Rothschild, 1912: 451.

Locus typicus: Sarepta [Krasnoarmeisk, Volgograd Region, European Russia].

Type material (holotype) in BMNH, examined.

Distribution. S. Volga reg., N. Caucasus (Daghestan).

Material examined: 4 males, Daghestan Rep., Tersko-Sulaksky lowland, Agrakhan Bay, 07.06.2014 (APC).

***Cryptoholcocerus daghestanica* Yakovlev, Poltavsky & Ilyina sp. nov.**
(figs 2–7)

Type material. Holotype: male, Tsudakhar, 16.07.2014; paratype: 4 males, Agvali 10.07.2005; paratype: male, Agrakhan Bay, 20.06.1999. Holotype and paratypes are deposited in ZISP.

Description. Antennae simple, tape-like. Patagya light brown, abdomen from above light brown with spots of dark hairs from above on the basal segments. Length of a forewing 29 mm. Forewing rather wide, light brown with a golden dusting, with thin grid drawing and two thin black bands with discal and postdiscal areas. Poorly outlined dark brown spots between bands in a cubital area. Fringe motley, light brown between veins and dark brown at veins. Forewing underside light brown with black fields in postdiscal and submarginal areas. Hindwings brown, practically without color pattern, with a black hairs field in basal and anal parts of wing. Fringe light-brown. On hindwings underside with black fields in discal area.

Uncus with a beaklike pointed top, tegumen midsize, gnathos branch rather thick and long, gnathos midsize and covered with small spikes, valva lanceolate and gradually narrowed to their tops with almost smooth costal edge and a poorly revealed crest on internal surface of valva on the border between basal sclerotized part and distal membranous part, transtilla's ledges are short with slightly bent spiky tops, juxta saddle-like with the short lateral ledges divorced by an angle 180º, saccus semicircular, small aedeagus thick on one third and shorter than valva, the opening of vesica holds dorso-apical position and equal to half of aedeagus length, vesica without cornuti.

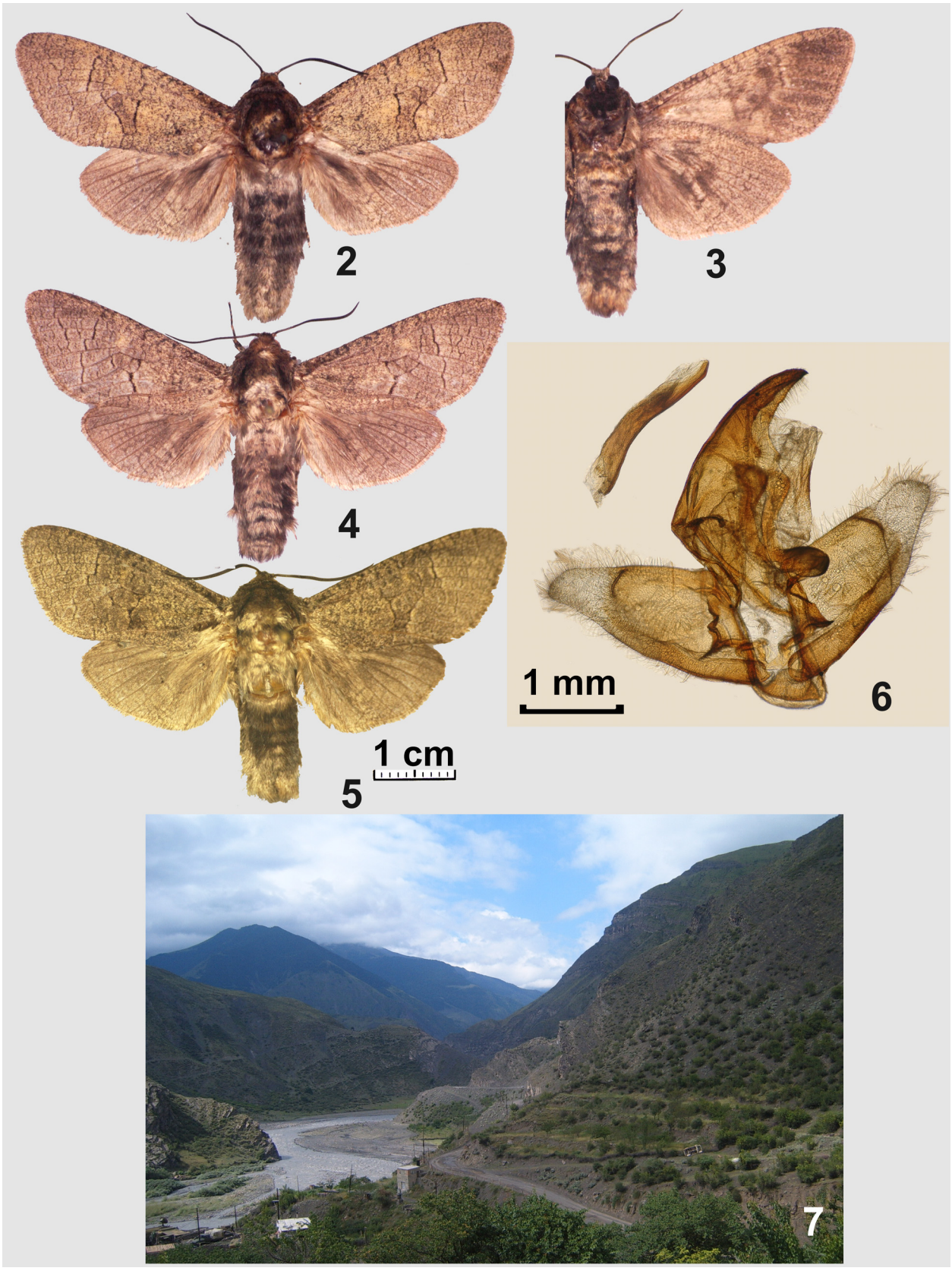
Female unknown.

Diagnosis. The new species belongs to the genus *Cryptoholcocerus* Yakovlev, 2006 (type species: *Cossus mongolicus* Erschoff in Alpheraky, 1882), which was thus far considered monotypical. *Cryptoholcocerus mongolicus* (Erschoff in Alpheraky, 1882) is widespread in SE Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, N. Pakistan and NE China (Yakovlev 2006). The new species differs from *C. mongolicus* in a number of features:

- light brown coloring of the background of wings,
- less developed spotty markings on forewings,
- more pointed thin transtilla's ledges,
- the lateral ledges of juxta separated at an 180º angle.

Ecology. Tsudakhar (central mountainous area of Daghestan). The type locality is situated in a gorge of the Kazikumukh Koysu mountain system, in the lower watercourse of river Sana, where the Mountain Botanical Garden of Daghestan Scientific Centre of Russian Academy of Sciences is also located. The mountain ranges in elevations from 1100 to 1500 m above sea level. Slopes of the gorge are formed by the spurs of Mount Barkal. The geology is limestone and sandstone. The northern slope with sandstone rocks is covered with a coniferous forest of undersized Koch's pine (*Pinus kochiana*, Pinaceae), which in the lower part of slopes thins out and is replaced by a light forest with juniper (*Juniperus polycarpos*, Cupressaceae), spire (*Spiraea hypericifolia*, Rosaceae), buckthorns (*Lonicera pallasii*, Rhamnaceae) and cock's head (*Onobrychis daghestanica*, Fabaceae) thickets. On the bottom of the river Sana gorge there are thickets of elaeagnus *(Elaeagnus angustifolia*, Elaeagnaceae), poplar (*Populus x canadensis*, *P. x euamerican*, Salicaceae), willow (*Salix caprea*, Salicaceae) and a Botanical Garden orchard. Our light trap was set up on this garden (1100 m). Small terraces on the slopes are covered with steppe-meadows. The southern slope is dry, strongly bald-headed and stony, and is covered with xerophyte grassy vegetation. The climate is arid (400–600 mm of rainfall per year) and warm; and snow cover is unstable.

Agvali (central mountainous area of Daghestan)**.** The type locality is located in a valley of the river Andi's Koysu, 3 km upstream the village Agvali. Elevation ranges from 1000 up to 1500 m. The valley is wide with long lateral gorges formed by high mountain ridges—Snow and Bogoss. The geology primarily includes clay slates with sandstone exits. The Andiiskoe Koysu River forms a wide flood plain lacking woody riparian vegetation because of the erosional nature of the river. The woody vegetation exits only in small bosks on the high bottom-land terraces and slopes and consists of *Paliurus spina-christi* (Rhamnaceae), sea-buckthorn (*Hippophae rhamnoides*, Elaeagnaceae), felt cherry (*Prunus tomentosa*, Rosaceae) and separate trees of celtis (*Celtis planchoniana* Ulmaceae). Apricot gardens also grow on artificial terraces. An light-trap was placed in an apricot garden (east slope) at the altitude of 1000 m. Slopes are generally very stony and covered with grassy xerophyte vegetation and astragals (*Astragalus* sp., Fabaceae). The top belt of the mountain wood consists of pine and birch of Rudde



FIGURES 2–7. *Cryptoholcocerus daghestanica* Yakovlev, Poltavsky & Ilyina **sp. nov.** (adults, male genitalia and type locality) : 2. holotype, male, upperside; 3. holotype, male, underside; 4. paratype, male, upperside; 5. paratype, male, upperside; 6. Genitalia of the holotype; 7. Type locality (photo by E. Ilyina).

(*Betula raddeana*, Betulaceae). The steppe-meadows are located on treeless slopes. The climate is arid (400–600 mm of rainfall a year) and warm; snow cover is infrequent.

Agrakhan Bay (Tersko-Sulaksky lowland) is formed by Agrakhan Peninsula which separates part of the sea waters of the Caspian Sea. The southern part of the gulf is not connected with the sea now; it is shallows and covered with marsh vegetation. The moths were caught in the southern part of the gulf (Glavkut point) which represents the waterlogged coast of the Caspian Sea, and is covered with vegetation such as reed (plavny), common bulrush (*Typha latifolia*, Typhaceae), cane (*Scirpus maritimus*, Cyperaceae), calamagrostis (*Calamagrostis epigeios*, Poaceae), sedge (*Carex riparia*, Cyperaceae) and other marsh plants. The trap was set up on the shore. The flood-free zone is located further from the coast and represents a kind of the semi-desert habitat with *Artemisia* sp., *Salsola* sp. and *Goniolimon* sp. vegetation complexes; as well as light forest of *Elaeagnus* sp. and *Tamarix* sp. In the southeast of this locality (2–3 km) occur the barkhan ridges of Agrakhan Peninsula, which are half covered with psammophyle vegetation. Climate is moderate and continental, with cool winters and hot, dry summers.

***Paracossulus thrips* (Hübner, 1818)**
(fig. 8)

Bombyces thrips Hübner, 1818: fig. 265.

Type locality: [Europe].

Type material is lost.

Distribution: Ukraine, European part of Russia (central and southern parts), SW Siberia, Kazakhstan, Turkey, Iran, Caucasus, Transcaucasia, Hungary, Bulgaria (Yakovlev 2011).

Material examined: 1 male, Northern Caucasus, [18]91, Keler leg. (ZISP); 1 male, Stavropol Reg., Gul'kevichi, 16.07.976 (ZISP); 1 male, Gelendzhik, 4.09.[19]08, Vorobjev leg. (ZISP); 2 males, Grozny, 12.07.906, Rodnensky (ZISP); 12 males, Mashuk Mt., 30.07.948 (ZISP, ZMKU); 1 male, Kuban' River bank, Ekaterinodar [Krasnodar], 906, Vorobjev leg. (ZISP); 1 female, Kislovodsk, 19.07.953 (ZISP); 1 male, Tarki, 4.08.940, Rjabov (ZISP); 1 male, Mineral'nye Vody, 8.50 (ZISP); 1 male, Beshtau, 9.07.938, Egorov leg. (ZISP); 1 male, Gelendzhik, 910, Vorobjev leg. (ZISP); 1 male, Ciscaucasia, Inozemtsevo (ZMKU); 1 male, Rostov-on-Don(ZMKU); 2 males, Derbent (ZMKU); 2 males, Bolshekrepinskaja, 11–28.07.2005 (APC); Volochaevsky, 2 males, 20.07.2006, 2 males, 15.07.2007, 3 males, 1–10.08.2007, 1 male, 20.07.2008, 2 males, 22.06.2009, 11 males, 26–30.07.2011 (APC); Gigant, 1 male, 5.06.2008, 1 male, 19.07.2011, 1 male, 8.08.2011; 2 males, Elanskaja, 24–30.06.1999 (APC); 1 male, Kazanskaja, 17.07.2014 (APC); 1 male, Kalinin, 9.07.2007 (APC); 3 males, Kamensk, 27.06.2009 (APC); 1 male, Konygin, 15.07.2005 (APC); 4 males, Manytch, 23.07.2005 (APC); 1 male, Miljutinskaja, 21.07.2014 (APC); 3 male, Nizhnesazonov, 22.06.2011 (APC); 4 males, 2 females, Puzanovsky, 26.06.2007 (APC); 1 male, Razdorskaja, 28.06.2003 (APC); 2 males, Rostov Botanical Garden, 4.08.2011 (APC); 1 male, Ternovoy, 26.07.2009 (APC); 1 male, Tchertkowo, 19.07.2013 (APC); 2 males, Shebunjaevsky, 21–25.07.2004 (APC); 1 male, Jakhno, 13.07.2003 (VSC); 1 male, 1 female, Kugo-Eya, 26.07.2011 (VSC); 1 male, 1 female , Krutaja Gorge, 16.07.2011, 1 male, 16.08.2013 (VSC); 7 males, Zavodskoy, 18.07.2012 (VSC).

***Parahypopta caestrum* (Hübner, 1804)**
(fig. 9)

Bombyx caestrum Hübner, 1804: 151.

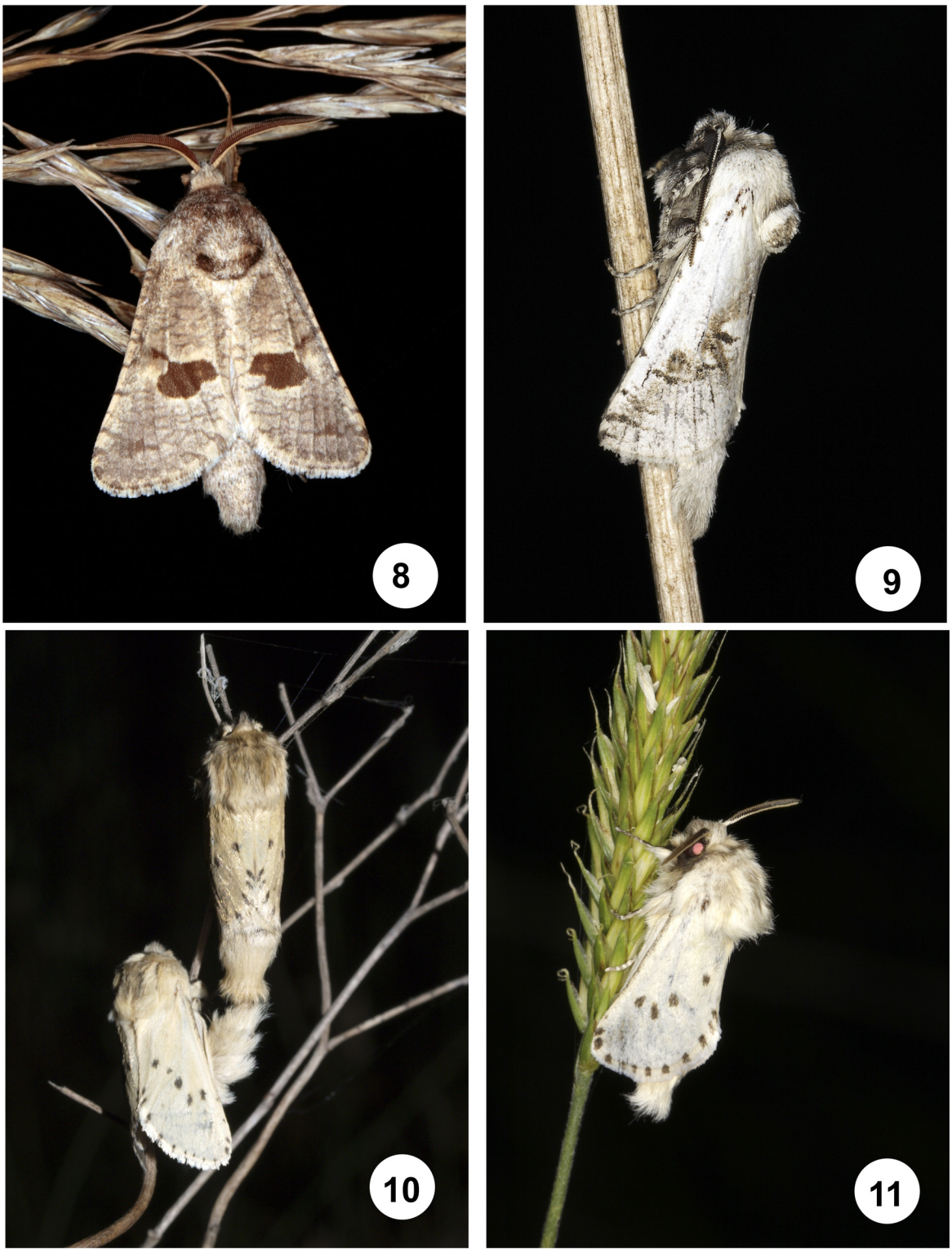
Type locality: [Europe].

Type material is lost.

Distribution: Turkey, Italy, Spain, Bulgaria, ex-Yugoslavia, Czechia, Hungary, SW Russia, Kazakhstan (Yakovlev 2011).

In the Caucasus *Parahypopta caestrum caucasica* (Grum-Grshimailo, 1902)

Hypopta caestrum caucasica Grum-Grshimailo, 1902: 202.



FIGURES 8–11. Cossidae in nature (photo by V. Shchurov): 8. *Paracossulus thrips*, male, Zavodskoy, July 2012; 9. *Parahypopta caestrum*, male, Krutaja Gorge, July 2011; 10. *Dyspessa salicicola*, pair in copula, Jakhno forest, May 2007; 11. *Dyspessa salicicola*, male, Jakhno forest, June 2012.

Type locality: Caucasus, Derbent [Russia, Dagestan, Derbent].

Type material (syntypes) in ZISP, examined.

Material examined: 4 males, Mashuk Mt., 27.06.47 (ZISP; ZMKU); 1 male, Daghestan, Kapchugaj, 4.07.945, Rjabov leg. (ZISP); 6 males, Groznyi, 17.05.908, Rodnensky leg. (ZISP); 1 male, Caucasus, Mineral'nye Vody,

16.07.1977, A. Korovin (RYB); 2 males, ChI ASSR, Voskresenskoe (MWM); 3 males, Rostov Don Reg., Nedvigovka vill. (MWM); 2 males, Daghestan, Derbent (ZMKU); 12 males, Bagaevskaja, 10.07.2009 (APC); 2 males, Bolshekrepinskaja, 28.05.2005 (APC); Kalinin, 5 males, 15.06.2007; 3 males, 6.06.2013; Kamensk, 1 male, 4.07.2008, 2 males, 27.06.2009 (APC); Konygin, 1 male, 15.07.2005, 1 male, 2.06.2007, 1 male, 18.6.2007 (APC); Lagutnik, 4 males, 9.07.2009, 4 males, 3.07.2010 (APC); 1 male, Lebjazhensky, 10.07.2005 (APC); 1 male, Masalovka, 26.06.2009 (APC); 1 male, Nizhnekundrjuchenskaja, 25.05.2010 (APC); 1 male, Nizhnesazonov, 22.06.2011 (APC); 15 males, Olympia-camp, 6–8.06.2011 (APC); 1 male, Razdorskaja, 5.06.2007 (APC); 3 males, Rogozhkino, 3.07.2008 (APC); 1 male, Rostov Botanical Garden, 9.06.2008 (APC); 27 males, 3 females, Ternovoy, 9–16.06.2012 (APC); 10 males, Jakhno, 13–14.06.2003, 3 males, 13.07.2003, 1 male, 3.06.2005; 1 male, 31.05.2007; 5 males, 6.06.2012 (VSC); 2 males, Lysaja 3, 20.06.2007 (VSC); 20 males, Akhilleon, 13.06.2009 (VSC); 2 males, Tbilisskaja, 26.06.2013 (VSC).

Stygioides tricolor (Lederer, 1858)

Stygia tricolor Lederer, 1858: 143.

Type locality: Damask.

Type material (holotype) in MHUB, probably lost.

Distribution: SW Russia, Syria, Turkey, Transcaucasia, Lebanon (Yakovlev 2011).

Material examined: 3 males, Tarki, 19.05.948, Rjabov leg. (ZISP).

Dyspessa ululа (Borkhausen, 1790)

Phal.[*aena*] *Bombyx ululа* Borkhausen, 1790: 142

Type locality: Europe.

Type material is lost.

Distribution: S. Europe, Caucasus, Transcaucasia.

Material examined: 7 males, 10 females, Mashuk Mt., 15.06.938 (ZISP); 12 males, 2 females, Makhachkala, 12.06.950, Rjabov leg. (ZISP); 2 females, Pyatigorsk, 21.06.1936 (ZISP); 1 male, Daghestan, Gubden, 29.06.2006 (APR); 1 male, Daghestan, Kosob, 10.07.1999 (APR); 1 male, Daghestan, Kayakent, 28.05.2002 (APR); 1 male, Bolshekrepinskaja, 28.05.2005 (APC); 3 ex., Volochaevsky, 28.05.2011 (APC); 2 males, Kirsanovka, 25.06.2014 (APC); 1 ex., Rasswet, 25.05.2013 (APC); 1 male, Sukko, 23.05.1997 (VSC); mass flying in light trap, Papay, 18.06.1998 (VSC); 1 male, 3 female, Lysaja 3, 31.05.2007, 3 males, 9.05.1998, 2 males, 8.06.1998 (VSC); 1 female, Shakhan, 7.06.2002, 1 female, 28.05.2008, 8 males, 2 females, mass flying in light trap (more than 120 individuals for 150 minutes), 17.06.2009 (VSC); 1 male, Lysaja 1, 19.06.2003 (VSC); 7 males, 1 females, Shize, 22.06.2004, 4 males, 29.05.2005 (VSC); 6 males, 1 females, Verkhnebakanskiy, 18.05.2007 (VSC); 3 males, Janina Gorge, 28.06.2000, 1 male, 2 females, 27.05.2008 (VSC); 1 male, 1 female, Oblego, 18.06.2009 (VSC).

Dyspessa infuscata (Staudinger, 1892)

End. [*agria*] *Ululа* ab. *Infuscata* Staudinger, 1892: 284.

Type locality: Amasia.

Type material (cotypes) in MHUB, examined.

Distribution: Syria, Turkey, Russia (N. Caucasus), Ukraine (Crimea) (Yakovlev 2011).

Material examined: 1 female, Pyatigorsk, Beshtau, 15.06.1992, Tikhonov (MWM); 1 male, N. Caucasus, Terskol Mts., 2100 m, 30.07.04, leg. Kljuchko Z. (MSW); 1 male, Ciscaucasia, Mashuk (ZMKU); 2 males, Daghestan, Kapshugaj, Temir-Chan-Shura (ZMKU).

Dyspessa pallidata (Staudinger, 1892)

Endagria fuscula ab. *pallidata* Staudinger, 1892: 284.

Type locality: Amasia.

Type material (cotypes) in MHUB, examined.

Distribution: Russia (Daghestan), Turkey, Armenia, Georgia, Azerbaidzhan, Iran, Lebanon, Jordan, Israel (Yakovlev 2011)

Material examined: 1 male, USSR, NE Caucasus, Furtoug, 1100 m, 2.07.1991, leg. Herczig, Marco et Meszaros (MWM).

Dyspessa salicicola (Eversmann, 1848)

(fig. 10–11)

Cossus Salicicola Eversmann, 1848: 211.

Type locality: Saratovischen Gournevement, in der Gegend von Wolsk [Russia, Saratov Reg., Volsk].

Type material (syntypes) in ZISP, examined.

Distribution: Bulgaria, Macedonia, Albanien, Grecee, Ukraine, SW Russia, Transcaucasia, Turkey, China (Xinjang), Kazakhstan (Yakovlev 2011).

Material examined: 7 males, Groznyi, 17.05.908, Rodnensky leg. (ZISP); 8 males, Mashuk Mt., 9.06.908 (ZISP); 1 male, Gelendzhik, 9.06.908 (ZISP); 2 males, Stavropol', 12.06.920, Filip'jev leg. (ZISP); 2 males, Tarki, 2.07.945, Rjabov leg. (ZISP); 2 males, Neftekumsk (MWM); 1 male, Derbendt (MWM); 1 male, 1 female, Rostov Don Reg., Manytch Gudilo lake (MWM); 2 males, Daghestan, Kapchugaj (ZMKU); 1 male, Gigant, 1 ex., 17.06.2014 (APC); Rasswet, 9 males, 23–25.05.2013, 6 males, 12–18.06.2014, 3 males, 2.07.2014 (APC); 4 males, 1 female, Sober-Oaschkh, 19.06.1999, 5 male, 2 females, 29.06.2006 (VSC); 2 males, Janina Gorge, 26.06.2000, 11 males, 1 female 27.05.2008 (VSC); 6 males, 1 female, Jakhno, 13–15.06.2003, 11 males, 13.07.2003, 1 male, 3.06.2005, 3 males, 2 females, mass flying in light trap, 31.05–1.06.2007 (VSC); 1 male, Shize, 22.06.2004 (VSC); 1 female, Voronezhskaja, 31.06.2006 (VSC); 3 male, Lysaja 3, 31.05.2007, 3 males, 20.06.2007, 1 male, 5.07.2010 (G. Schemberger) (VSC); 4 males, Akhilleon, 13.06.2009 (VSC); more than 30 individuals for 150 minutes, Shakhan, 17.06.2009 (VSC); 3 males, mass flying in light trap, Oblego, 18.06.2009 (VSC); 3 males, Leninskiy Put, 25.06.2009 (VSC); 1 male, Suzdal'skaja, 26.06.2009 (VSC); 1 male, 1 female, Gajduk, 23.06.2010 (VSC); 2 males, Red October, 23.06.2011 (VSC); 1 male, Sapun, 22.07.2011 (VSC); 3 males, 1 female Lysaja 3, 26.06.2004, 3 males, 7.07.2014 (VSC); 1 male, Il'skaja, 16.06.2014, 1 male, 29.06.2014 (E. Zhukov) (VSC).

Dyspessa kostyuki Yakovlev, 2005

Yakovlev, 2005: 22.

Type locality: Ukraine, "Proval'skaya Stepp" Naturschutsgebiete.

Type material (holotype) in MWM, examined.

Distribution: SE Ukraine and SW Russia (Yakovlev 2011).

Material examined: 9 males (paratypes), Russland, Rostov-Don, 40km W Nedwigovka, 12.06.1993, ex coll. Schintlmeister (MWM); 1 male, 8 km S Makhachkala (MWM); 1 male, Daghestan, Makhachkala city, Karaman-2 distr., 25.06.2009 (APC); 1 male, Daghestan, Makhachkala city, Karaman-2 distr., 21.06.2011 (APC); 1 male, Bessergenevskaja, 3.06.2009 (APC); 1 ex., Volochaevsky, 7.07.2009 (APC); Gigant, 1 male, 7.06.2011, 2 males, 4.06.2012 (APC); 2 males, Kamensk, 9.06.2008 (APC); Konygin, 1 males, 16.06.1993, 3 males, 2–18.06.2007, 1 male, 5.06.2010 (APC); 2 males, Kuibyshevo, 20.05.2009 (APC); 4 males, Nesvetay, 9.06.2008 (APC); 4 males, Nizhnesazonov, 22.06.2011 (APC); 7 males, Olympia-camp, 6–8.06.2011 (APC); Rasswet, 1 male, 29.05.2013, 6 males, 9–30.06.2013 (APC); 1 male, Ternovoy, 10.06.2012 (APC).

Subfamily Zeuzerinae Boisduval, [1828]

***Phragmataecia castaneae* (Hübner, 1790)**

Phalaena castaneæ Hübner, 1790: 9, Taf. 1 (C).

Type locality: Europe.

Type material is lost.

Distribution: Central and Southern Europe, S. England, M. East, Caucasus, Transcaucasia, Turkmenistan, Kazakhstan, NW Iran, Iraq, Syria, Lebanon, Turkey, W. China (Xinjang), SW Siberia, Egypt, Tunisia, Morocco (Yakovlev 2011).

Material examined: 2 males, Makhachkala, 15.06.945, Rjabov leg. (ZISP); 2 male, Daghestan, Kapchugaj, 14.06.932, Rjabov leg. (ZISP; ZMKU); 1 male, Kurinskij Reid, Caspian Lake, 3.06.915, Knipovich leg. (ZISP); 3 females, Zimnyaya Stavka, Kuma river, 4.06.911, Uvarov leg. (ZISP); 1 male, Derbendt, 28.08.928, Rjabov leg. (ZISP); 1 male, Mashuk Mt. (ZISP); Nedvigovka (MWM); 2 males, Rostov, Red Sulin (MWM); 1 male, Azov-Alexandrovski (MWM); 2 males, 1 female, Rostov Reg., Ust'-Donetzk (MWM); 1 male, 1 female, 90 km N Rostov (MWM); 2 males, 15 km SW Pjatigorsk (MWM); 2 males, Maikop, Dorf Nikel (MWM); 3 males, 1 female, Neftekumsk (MWM); 2 males, Daghestan, Berikej vill. (ZMKU); 1 male, Daghestan, Makhachkala city, Karaman-2 distr., 25.05.2014 (APC); 3 males, Daghestan Rep., Tersko-Sulaksky lowland, Agrakhan Bay, 07.06.2014 (APC); Bolshekrepinskaja, 1 male, 9.06.2005, 5.06.2008 (APC); 2 males, Volochaevsky, 22.06.2012 (APC); Woronovo, 4 males, 28.06.2004, 19 males, 2–17.07.2004 (APC); Gigant, 1 male, 17.07.2009, 1 male, 31.05.2011, 1 male, 7.06.2011, 1 male, 19.07.2011, 1 male, 19.06.2012, 2 males, 2–17.07.2012, 2 males, 13–14.05.2014, 12 males, 21.06.2013 (APC); Gyrlovsky, 7 males, 14.05.2012, 18 males, 4–17.06.2014 (APC); 1 male, Kazanskaja, 4.06.2014 (APC); Kalinin, 2 males, 25.05.2007, 2 males, 15.06.2007, 1 male, 20.05.2008, 5 males, 21.06.2008, 2 males, 6–16.06.2011, 2 males, 19.05.2013 (APC); 1 male, Kiselevka, 23.07.2008 (APC); 10 males; Lagutnik, 3.07.2010 (APC); Miljutinskaja, 2 males, 13.06.2013, 1 male, 22.05.2014 (APC); Nizhnekundrjuchenskaja, 1 male, 23.05.2005, 2 males, 15–17.05.2010 (APC); 1 male, Nizhnesazonov, 22.06.2011 (APC); 2 males, Olympia-camp, 7.06.2011 (APC); 1 male, Puzanovsky, 26.06.2007 (APC); Razdorskaja, 5 males, 25.06.2008, 1 male, 3.07.2008 (APC); 1 male, Rasswet, 31.05.2013 (APC); Rogozhkino, 4 males, 2 females, 29.05.2008, 3 males, 20.06.2008, 20 males, 1 female, 1–12.07.2008, 2 males, 2.08.2008, 6 males, 24.05.2012, 5 males, 5–26.06.2012 (APC); 8 males, Rostov Botanical Garden, 16.05.2013 (APC); 1 males, Ternovoy, 13.06.2012 (APC); 3 males, Ternovoy, 29.05.2013 (APC); 3 males, Shepkinsky forestry, 15–17.07.2014 (APC); Krasnodar Reg.: 1 male, Khanskaja, 18.06.2014 (APC); 2 males, 1 female, Sadki, 28.06–5.07.1989 (VSC); 1 male, Voronezhskaja, 6.05.2002 (VSC); 1 female, Novodzerelievskaja, 6.08.2003 (D. Kuznetsov) (VSC); 3 male, 4 females, Tchemburka, 27.06.2004 (VSC); 1 male, 3.06.2005, 2 females, Jakhno, 31.05.2007 (VSC); 4 males, Kushchevskaja, 20.06.2007 (R. Mnatsekanov) (VSC); 2 females, Verbjanaja foreland, 21.06.2008, 2 males, 2 females, 8.08.2008, 2 male, 1 female, 12.06.2009, 1 male, 1 female, mass flying in light trap, 25.07.2009, 1 female, 28.08.2009 (VSC); 1 female, Kisljakovskaja, 6.06.2009 (VSC); 1 female, Stavropol' Hill, 8.06.2011 (VSC); 21 males, Eya river, 13.06.2011, 2 females, 5.07.2011, 1 female, 29.06.2014 (VSC); 2 males, Red October, 23.06.2011 (VSC); 1 female, Korsun, 13.07.2011 (VSC); 1 male, 1 female, Krutaja Gorge, 16.07.2011 (VSC); 5 males, Kugo-Eya, 26.07.2011 (VSC); 1 female, Krasnogorovka, 29.05.2013 (VSC).

***Phragmataecia albida* Erschoff, 1874**

Phragmataecia castaneae var. *albida* Erschoff, 1874: 34.

Type locality: Kisil-Kum desert [SW Uzbekistan].

Type material (lectotype) in ZISP, examined.

Distribution: Iran, Turkmenistan, Uzbekistan, Kazakhstan, NW China, Afghanistan, SW Russia (Yakovlev 2011).

Material examined: 1 male, Derbendt, 26.06.928, Rjabov leg. (ZISP); 2 males, S Russia, Efremo-Stepanovka env., 200 km N Rostov na Donu, 7–11.9.1999, V. Murzin (MWM).

Phragmataecia pacifica Yakovlev, 2007

Yakovlev, 2007: 22–23.

Type locality: Russia, Daghestan, 5 km E. Urma.

Type material (holotype) in MWM, examined.

Distribution: Russia, Caucasus, Daghestan (Yakovlev 2007).

Material examined: holotype (male), Russia, Dagestan, 5 km E. Urma, H 1000 m, 42°32N; 47°21E; 23.06.2004, leg. Kostjuk & Tikhonov (MWM).

Zeuzera pyrina (Linnaeus, 1761)

PH. NOCTUA Pyrina Linnaeus, 1761: 306.

Type locality: Sweden.

Type material (syntypes) in LSL.

Distribution: Europe including S. England, N. Africa (Egypt, Tunisia, Morocco, Algeria, Mauritania), Iran, Lebanon, Syria, Turkmenistan, Turkey, Caucasus, Transcaucasia, SW Siberia, N. America (Massachusetts, Connecticut, New York, New Jersey), Central Africa (Ghana) (Yakovlev 2011).

Material examined: 1 male, Tuapse, 1913, N.S. Bryansky leg. (ZISP); 1 male, 1 female, Mashuk Mt., 4.07.938 (ZISP); 1 male, Mineral'nye Vody, 7.53 (ZISP); 1 male, Derbendt, 28.08.926, Rjabov (ZISP); 1 male, Rostov (MWM); 2 males, Krasnodar (MWM); 4 males, 8 km S Makhachkala, Talgi (MWM); 2 males, Daghestan, Belidzhi (ZMKU); 1 male, Daghestan, Makhachkala city, Karaman-2 distr., 18.06.2014 (APR); 1 male, Daghestan, Gazardkam-Kazmalyar, 19.07.2014 (APR); 1 male, Daghestan, Makhachkala, 30.07.2012 (APR); 2 males, Daghestan, Barshamaj, 29.06.2010 (APR); 4 males, Bagaevskaja, 15.07.2009 (APC); Veshenskaja, 1 male, 17.07.1999, 1 male, 5.07.2003 (APC); Volochaevsky, 1 male, 7.07.2009, 1 male, 26.07.2011 (APC); 1 male, Woronovo. 17.07.2004 (APC); Gigant, 1 male, 11.07.2007, 6 males, 7–17.07.2009, 3 males, 12–19.07.2011, 2 males, 26.06.2012, 2 males, 17–23.07.2012, 2 males, 21.06.2013, 1 male, 4.08.2013, 3 males, 1 female, 2–20.07.2014 (APC); 1 male, Kazanskaja, 17.07.2014 (APC); Kalinin, 1 male, 9.07.2007, 1 male, 18.07.2009, 4 males, 20.06.2012 (APC); 1 male, Kamensk, 6.07.2008 (APC); 1 male, Kirsanovka, 1.07.2014 (APC); 1 male, Kiselevka, 23.07.2008 (APC); Konygin, 1 male, 15.07.2005, 1 male, 05.06.2010 (APC); 3 males, Lagutnik, 9.07.2009 (APC); 1 male, Masalovka, 26.07.2009 (APC); Nizhnekundrjuchenskaja, 3 males, 16.06.2010, 2 males, 24.07.2010 (APC); 1 male, Nizhnesazonov, 22.06.2011 (APC); Rasswet, 1 male, 11.06.2009, 1 male, 7.07.2010, 1 male, 29.05.2013, 3 males, 26–30.06.2013, 1 male, 15.07.2013 (APC); 3 males, Rostov Botanical Garden, 9.07.2008 (APC); 3 males, 1 female, Rostov-West, 13–28.06.2010 (APC); Sarkel, 2 males, 15.05.2013, 1 male, 5.07.2014 (APC); Ternovoy, 10 males, 2 females, 15.07.2009, 1 male, 10.06.2012 (APC); 1 male, Lenina, 12.06.1998; 1 male, 1.07.1998, 1 male, 12.07.1998 (VSC); 2 males, Papay, 18.06.1998 (VSC); 1 male, Janina Gorge, 28.06.2000 (VSC); 1 male, Shize, 22.06.2004 (VSC); 3 males, Sober-Oaschkh, 29.06.2006, 1 male, 25.07.2008 (VSC); 1 male, Gajduk, 23.06.2010 (VSC); 1 male, Lysaja 3, 5.07.2010 (G. Schemberger), 2 males, 7.07.2014 (VSC); 1 male, Korsun, 12.07.2011 (VSC); 4 males, Krutaja Gorge, 16.07.2011 (VSC); 3 males, El'buzd river, 5.07.2013 (VSC); 1 male, Il'skaja, 1.07.2014, 1 male, 16.07.2014 (E. Zhukov) (VSC); 1 female, Krasnodar east, 17.07.2014 (VSC).

Discussion

The cossid fauna of Russian Caucasus includes 11 genera and 20 species placed in two subfamilies. Two species are considered to be Daghestan endemic, *Cryptoholcocerus daghestanica* **sp. nov.** and *Phragmataecia pacifica*. Cossidae of the Russian part of Caucasus includes six assemblages, (1) endemic of Caucasus (3 species: *Kotchevnik durrelli*, *Cryptoholcocerus daghestanica*, *Phragmataecia pacifica*), (2) species distributed from Turkey or Iran to Southern Volga region (3 species: *Stygioides tricolor, Dyspessa infuscata, D. pallidata*), (3) species distributed from Caucasus or Southern Volga region to Central-Asian region (3 species: *Deserticossus campicola*,

D. arenicola, *Phragmataecia albida*), (4) species distributed in steppe of Eastern Europe (3 species: *Deserticossus sareptensis, D. volgensis, Dyspessa kostyuki*), (5) Westpalaearctic species (6 species: *Paracossulus thrips, Parahypopta caestrum, Dyspessa ululа, D. salicicola, Phragmataecia castaneae*, *Zeuzera pyrina*), (6) Transpalaearctic species (2 species: *Acossus terebra*, *Cossus cossus*).

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