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A NEW SPECIES OF THE GENUS *Darevskia* ARRIBAS, 1999 FROM SOUTH OSSETIA (REPTILIA: SAURIA: LACERTIDAE)

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A new species of rock lizards of the genus *Darevskia* Arribas, 1999 — *Darevskia arribasi* sp. nov. is described from vicinity of Ertso Lake in South Ossetia. In comparison of *Darevskia arribasi* sp. nov. with other species of the "*saxicola-brauneri*" complex [*D. lindholmi* (Szczerbak, 1962), *D. saxicola* (Eversmann, 1834), *D. brauneri* (Mehely, 1909) (including *D. b. brauneri*, *D. b. myusserica* Doronin, 2011, *D. b. darevskyi* (Szczerbak, 1962), and *D. szczerbaki* (Lukina, 1963)], the new species is characterized by the smallest body size among all representatives of this complex *L*♂♂ — 55 – 62 mm; ♀♀ — 58 – 63 mm. The number of scales around the middle of the body (Sq.) in *D. arribasi* sp. nov. (52 – 58, more often 54 – 56) also significantly less than for *D. saxicola* sensu lato in generally. Along the throat from ear to ear fold there are 36 – 42 scales, less than in *D. saxicola* sensu lato. Two large preanal shields present in front of the anal shield in half of the individuals examined; in a quarter of individuals on both sides of the small central preanal there are by one enlarged lateral preanal shield, in another quarter all preanal shields are of the same size. Central temporal (Massetericum) always developed; always six pair of mandibulars, three in contact; collar straight, extremely rarely slightly serrated; ribs on the caudal scales are expressed to some extent; rostral usually separated from frontonasal by nasal shields. The coloration of adult males is olive-lettuce, or olive-brown from above; adult females are grey-brown; juvenile coloration coffee-brown with the blue and black spots on the edge of the outer ventral shields at the middle of trunk. Taxonomical status of new species is well supported with result of analysis of the mitochondrial cytochrome *b* data.

Keywords: Caucasus; South Ossetia; *Darevskia arribasi* sp. nov.

INTRODUCTION

The complicated orographic conditions of the Caucasus and the Frontal Asian highlands contributed to the unique evolutionary processes within genus *Darevskia* Arribas, 1999. The permanent interest in this group of lizards is also confirmed today by the description of new forms (Tuniyev and Petrova, 2019; Kurnaz et al., 2022; Arribas et al., 2022a, b) and, ultimately, brings us closer to understanding the scope of the genus. Morphologically, not assign the South Ossetian *Darevskia* that we collected during two expeditions in 2015 and 2017, to any known species of the genus. According to some formal characters, the animals could be assigned to *D. brauneri*, however, visual differences in external morphology, size and color, an isolated range of disjunctive local range of these dense populations, prompted us to initiate a detailed examination of the morphology and genetic analysis of DNA of the collected material. Analysis indicated that these populations represent undescribed lineages. Herein, we describe these populations as new species of *Darevskia*.

MATERIAL AND METHODS

Material is collected during the summer expeditions of 2015 and 2017 in Republic of South Ossetia. A total of 68 specimens of genus *Darevskia* ("*saxicola-brauneri*" complex) were studied, including 13 *D. brauneri*, originated from 3 populations in Republic of South Ossetia, 7 from 3 populations in Republic of Abkhazia, 7 from 7

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TABLE 1. Examined Specimens of *Darevskia*, Stored in Herpetological Collections of Sochi National Park (SNP) and Zoological Institute RAS (ZISP)

Coll. No.	Species	*N*	Collection locality	Date	Collector
SNP 1928	*Darevskia arribasi* sp. nov.	1	Rocks near Ertso Lake, South Ossetia	17.06.2015	Tuniyev B. S.
SNP 1696	*Darevskia arribasi* sp. nov.	7	Rocks near Ertso Lake, South Ossetia	17.06.2015	Tuniyev B. S., Aliev Kh. U., Timukhin I. N., Lotiev K. Yu.
SNP 1705	*Darevskia arribasi* sp. nov.	1	Mt. Syrkhlabyrdta, Ridge Dagerula, South Ossetia	19.06.2015	Timukhin I. N.
SNP 1776	*Darevskia arribasi* sp. nov.	4	Vicinity of Sinagur village, Kvirila River, South Ossetia	20.09.2017	Tuniyev B. S.
ZISP 19433	*Darevskia arribasi* sp. nov.	10	Ertso Lake, South Ossetia	07.08.1979	Darevsky I. S.
SNP 1886	*Darevskia mixta*	7	Vicinity of Koz Lake, South Ossetia	19.09.2017	Aliev Kh. U., Tuniyev B. S.
SNP 1772	*Darevskia mixta*	1	River Zapadnaya Prone, South Ossetia	22.09.2017	Tuniyev B. S.
SNP 1737	*Darevskia brauneri*	1	Rocks in subalpine meadow, Ridge Kutakheku, Ritza Relic National Park, Abkhazia	13.07.2016	Tuniyev B. S.
SNP 1699	*Darevskia brauneri*	1	Subalpine meadow, Avadkhara River, Ritza Relic National Park, Abkhazia	09.01.2015	Minosyan V. O.
SNP 1531	*Darevskia brauneri*	2	Settlement Sovetkvadzhe, Krasnodar Kray	30.05.2011	Tuniyev S. B.
SNP 1735	*Darevskia brauneri*	1	Mt. Semashkho, Krasnodar Kray	23.06.2016	Tuniyev B. S.
SNP 1768	*Darevskia brauneri*	1	Mt. Khozhash, Sochi National Park, Krasnodar Kray	24.08.2017	Tuniyev B. S.
SNP 1767	*Darevskia brauneri myusserica*	5	Vicinity of Myussera village, Pitzunda-Myussera Reserve, Abkhazia	17.07.2017	Tuniyev B. S.
SNP 1524	*Darevskia lindholmi*	7	Castle Chufut-Kale, Crimea Peninsula	05.09.2010	Timukhin I. N.
SNP 1563	*Darevskia lindholmi*	4	Manguk-Kale Plateau, Crimea Peninsula	06.09.2011	Timukhin I. N.
SNP 1679	*Darevskia saxicola*	23	Kapustina Gorge, vicinity of village Nikitino, Krasnodar Kray	08.2012	Kidov A. A.
SNP 1479	*Darevskia szczerbaki*	1	Settlement Djurso, Krasnodar Kray	23.04.2010	Tuniyev S. B.
SNP 1456	*Darevskia szczerbaki*	1	Settlement Sosnovoe, vicinity of Agoy, Krasnodar Kray	12.04.2009	Tuniyev S. B.
SNP 1517	*Darevskia szczerbaki*	1	Cape Kadosh, vicinity of Tuapse, Krasnodar Kray	07.07.2010	Tuniyev S. B.
SNP 1762	*Darevskia parvula*	1	Village Maradidi, left bank of Choroch River, Lazistan ridge, South Ossetia	01.06.2017	Tuniyev B. S., Aliev Kh. U., Timukhin I. N.
SNP 1761	*Darevskia rudis*	1	Village Maradidi, left bank of Choroch River, Lazistan ridge, South Ossetia	01.06.2017	Tuniyev B. S., Aliev Kh. U., Timukhin I. N.

populations in Krasnodar Territory, and 11 from two populations in Crimea Peninsula (Table 1, Fig. 1). For outgroup eight specimens of *D. mixta* (Mehely, 1909) from two populations in Republic of South Ossetia, one specimen of *D. parvula* (Lantz et Cyren, 1913) and one specimen of *D. rudis* (Bedriaga, 1886) from the mixed population in Georgia (Adjaria) were selected. Additional data on *D. brauneri* from South Ossetia was taken from the paper of I. V. Doronin (2013). Material is stored in herpetological collection of the Sochi National Park, Russia (SNP) and Zoological Institute RAS, Russia (ZISP).

Morphological analyses. Material was examined using traditional character set used by I. S. Darevsky (1967) with some changes (Table 2).

DNA extraction, amplification and sequencing. 21 specimen sampled at 17 localities (Fig. 1) was analyzed. Isolation of genomic DNA from tissues fixed with 96% ethanol was performed using the ExtractDNA Blood and Cells kit (Evrogen, Russia). A segment of the cytochrome *b* (cyt *b*) gene was amplified using primers LgLu and RtHr under PCR conditions published by Doronin et al. (2013). The PCR products were purified using Cleanup S-Cap purification kit (Evrogen, Russia) and were sequenced in both directions. For sequencing mt cyt *b* we also used an additional internal primer Dar_int as published in Tuniyev and Petrova (2019). All sequences obtained in the current study were uploaded to the Genbank under the numbers OQ414961-OQ414981 (Table 3).

Phylogenetic analyses. Nucleotide sequences were assembled, edited and aligned using BioEdit (Hall, 1999). The level of genetic differentiation in cyt *b* based

TABLE 2. The Scheme of Numeral Morphological Examination, Characters

No.	Abbreviation	Name	Notice
1	L.	Longitudo corporis	Distance from point of muzzle to point of cloacae fissure
2	L.cd.	Longitude caudalis	Length from cloacal cleft to point of tail
3	Sq.	Squamae	Number of dorsal scales around the midbody
4	G.	Squamae gularis	Number of gular scales along midline of gullet to middle of collar
5	Gr.	Granulae	Number of granules between superciliary and supraocular shields (left/right)
6	P.fm.	Pori femoralis	Number of femoral pores (right/left)
7	P.g.	Plica gularia seu sulcus gularis	Number of scales on throat from ear to ear
8	Shin		Number of small scales around the middle of the shin (right/left)
9	Femoris		Number of small scales on the lower side of the thigh (right/left)
10	Mas./Tym.		Number of scales between masseteric and tympanum (right/left)
11	Sup./Tym.		Number of shields between central temporal and superior temporal (right/left)
12	Pr.an.1/Pr.an.2	Scuta preanalia	Number of preanal shields/ Number of enlarge preanal shields
13	Ventr.	Scuta abdominata	Number of ventral shields in one central longitudinal row

on p-distances was estimated in MEGA 7 (Kumar et al., 2016). Median-joining haplotype network (Bandelt et al., 1999) was conducted in PopART 1.7 (http://popart.otago.ac.nz). For the network calculation the alignment was shortened to 666 bp according to the shortest sequence.

Phylogenetic reconstruction was performed with Bayesian inference (BI) approach in MrBayes 3.2.2 (Ronquist and Huelsenbeck, 2003) using 24 specimens of *Darevskia* spp. Sequences of *D. parvula* (MH247125) and *D. rudis* (MH247123) were used as an outgroup (Table 3). Each BI analysis started with random trees and performed two independent runs with four Markov chains Monte Carlo (MCMC) for 2 million generations with sampling every 1000th generation under nst = mixed, rates = gamma. Consensus trees constructed based on the trees sampled after the 25% burn-in. Final tree was visualized in FigTree v. 1.4.0 (http://tree.bio.ed.ac.uk/software/figtree).

RESULTS

Morphological analyses. The morphology of the species bears specific features, characterized by minimal body size and a number of meristic characteristics and discussed below in details. The affiliation of the species to the "*saxicola-brauneri*" complex is obvious based on the external similarity (Fig. 2A, B) and the revealed genetic relationship. At the same time, *D. arribasi* sp. nov. is the only representative of the complex in which males are smaller than females.

Phylogenetic reconstruction. Based on the results of the analysis of the mitochondrial cytochrome *b* gene (Fig. 3), the new species forms a separate highly supported cluster, not sister to cluster of *D. brauneri* and *D. b. myusserica* from Abkhazia (locs. 4 – 6). New species cluster groups with cluster formed with *D. brauneri* (locs. 8 and 9), *D. szczerbaki* (loc. 13), and *D. saxicola*, much distant geographically. At the median-joining haplotype network (Fig. 4) the new species is divided with 16 mutation steps from the nearest node.

TABLE 3. Species and Specimens Used in the Phylogenetic Analysis

Species	Voucher	Tissue ID	Locality	GB accession No.
Darevskia arribasi sp. nov.	SNP 1696	171	1	OQ414970
	SNP 1705	21	2	OQ414971
	SNP 1776	184	3	OQ414972
D. brauneri myusserica	SNP 1767	46	4	OQ414973
	SNP 1767	47	4	OQ414974
	SNP 1767	48	4	OQ414975
D. brauneri	SNP 1699	16	5	OQ414968
	SNP 1737	12	6	OQ414965
	SNP 1768	71	8	OQ414967
	SNP 1735	13	9	OQ414966
	SNP 1531	23	10	OQ414969
D. saxicola	SNP 1679	26	7	OQ414981
D. szczerbaki	SNP 1517	77	11	OQ414978
	SNP 1456	19	12	OQ414976
	SNP 1456	74	12	OQ414977
	SNP 1479	17	13	MH247121
D. lindholmi	SNP 1563	92	16	OQ414980
	SNP 1524	44	17	OQ414979
D. mixta	SNP 1700	14	15	OQ414961
	SNP 1700	15	15	OQ414962
	SNP 1772	169	18	OQ414963
	SNP 1886	177	19	OQ414964
D. parvula	SNP 1762	116	14	MH247125
D. rudis	SNP 1761	41	14	MH247123

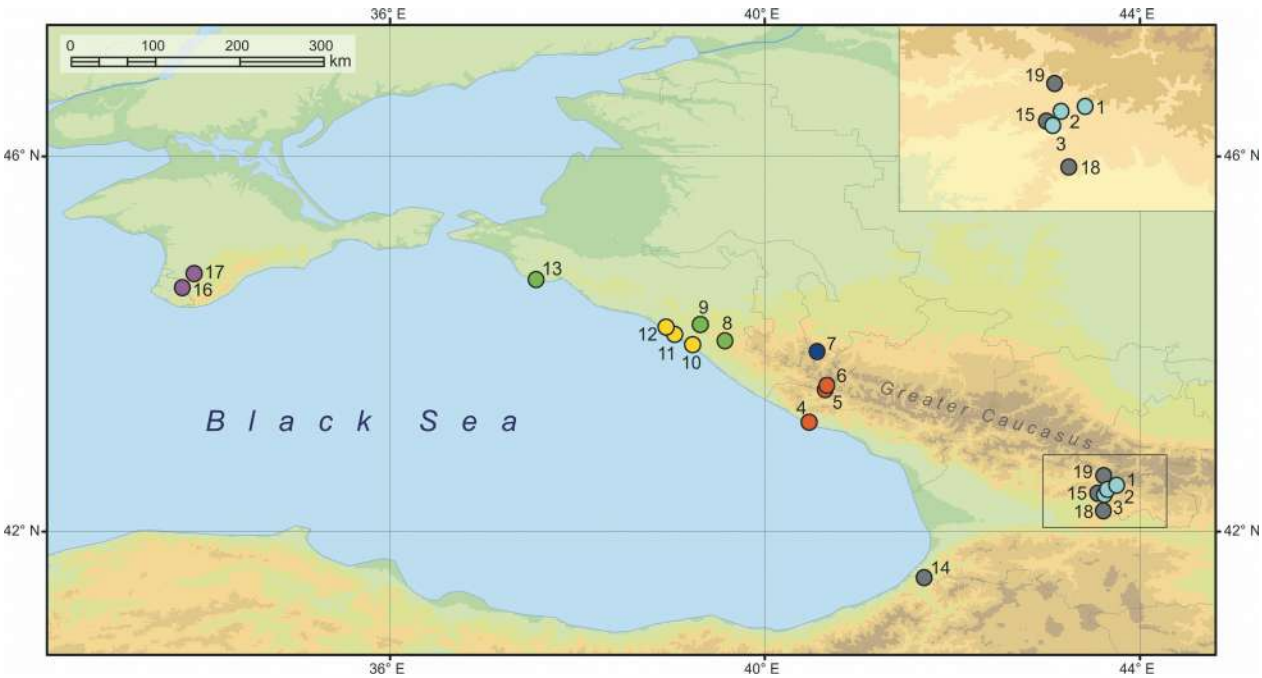

Fig. 1. Localities of collecting of tissues of *Darevskia* spp. for DNA analyses: 1, Ertso Lake, South Ossetia (*Darevskia arribasi* sp. nov. No. 171); 2, Mt. Syrkhlabyrdta, ridge Dagerula, South Ossetia (*D. arribasi* sp. nov. No. 21); 3, vicinity of Sinagur village, Kvirila River, South Ossetia (*D. arribasi* sp. nov. No. 184); 4, Myussera Highland, Abkhazia (*D. brauneri myusserica* Nos. 46, 47, 48); 5, Avadkhara River, Ritza Relic National Park, Abkhazia (*D. brauneri* No. 16); 6, ridge Kutakheku, Ritza Relic National Park, Abkhazia (*D. brauneri* No. 12); 7, Kapustina Gorge, Krasnodar Kray (*D. saxicola* No. 26); 8, Mt. Khozhash, Krasnodar Kray (*D. brauneri* No. 71); 9, Mt. Semashkho, Krasnodar Kray (*D. brauneri* No. 13); 10, settlement Sovetkvadzhe, Krasnodar Kray (*D. brauneri* No. 23); 11, cape Kadosh, Krasnodar Kray (*D. szczerbaki* No. 77); 12, settlement Sosnovoe, Krasnodar Kray (*D. szczerbaki* No. 19, 74); 13, settlement Djurso, Krasnodar Kray (*D. szczerbaki* No. 17); 14, Maradidi, Georgia (*D. rudis* No. 41; *D. parvula* No. 116); 15, vicinity of Sinagur, South Ossetia (*D. mixta* Nos. 14, 115); 16, Manguk-Kale Plateau, Crimea Peninsula (*D. lindholmi* No. 92); 17, castle Chufut-Kale, Crimea Peninsula (*D. lindholmi* No. 44); 18, river Zapadnaya Prone, South Ossetia (*D. mixta* No. 169); 19, vicinity of Koz Lake, South Ossetia (*D. mixta* No. 177).

Genetic distances (Table 4) between *D. arribasi* sp. nov. and other groups of *Darevskia* ("*saxicola-brauneri*" complex) were from 3.4% (with *D. szczerbaki* from Djurso) to 5% (with *D. lindholmi*), that is comparable with distances between well-known species pairs of *Darevskia*, such as *D. raddei* and *D. rostombekovi* (3.9%), and much higher than in *D. rudis* — *D. valentini* pair (0.04%) (Tuniyev and Petrova, 2019).

DESCRIPTION OF A NEW SPECIES

Family Lacertidae Bonaparte, 1831
Genus *Darevskia* Arribas, 1999
Darevskia arribasi sp. nov.

Diagnosis. Small lizards, characterized by smaller sizes than the average for *D. saxicola* sensu lato. Unlike other representatives of *D. saxicola* sensu lato, females of *D. arribasi* are larger than males in body length. The number of scales around the middle of the body (Sq.) in *D. arribasi* sp. nov. also significantly less than for *D. saxicola* sensu lato. Number of scales on throat from ear to ear (P.g.) in *D. arribasi* sp. nov. less than in *D. saxicola* sensu lato. The central temporal is always expressed. Rostral (R) is usually separated from frontonasal (In) by nasal shields (N). Mandibular always six pairs, 3 in contact. The collar is straight, extremely rarely slightly serrated. In half of the individuals above the anal there are two enlarged preanals; in a quarter of the individuals on both sides of the small central preanal there is one enlarged lateral preanal shield, in remining quarter all preanal shields are of the same size. The ribs on the caudal scales are developed to some extent.

Holotype. Herpetological collection of the Sochi National Park. Sochi. SNP No. 1928. Adult male. Republic of South Ossetia, Ertso Lake (1720 m above sea level). Rocks near Lake. 17.06.2015. Collector B. S. Tuniyev (Fig. 5).

Paratypes. 22 specimens. Herpetological collection of the Sochi National Park. Sochi, Russia. SNP (12 speci-

Fig. 2. *Darevskia* "*brauneri*" from South Ossetia in natural rocky habitat: female from Ertso Lake (left) and male from Mt. Syrkhlabyrdta (right).

mens) No. 1696 (seven specimens). Ertso Lake, South Ossetia. 17.06.2015. Collector B. S. Tuniyev, I. N. Timukhin, Kh. U. Aliev, K. Yu. Lotiev; No. 1705 (one specimen). Mt. Syrkhlabyrdta, ridge Dagerula, South Ossetia. 19.06.2015. Collector I. N. Timukhin; No. 1776 (four specimens). Kvirila River, vicinity of Sinagur village, South Ossetia. 20.09.2017. Collector B. S. Tuniyev; Herpetological collection of the Zoological Institute of the RAS. St. Petersburg, Russia. ZISP No. 19433 (10 specimens). Ertso Lake, South Ossetia. 07.08.1979. Collector I. S. Darevsky.

Description of the holotype. An adult male. Snout-vent length (L) — 61 mm, length of tail (L.cd.) — 115 mm. The ratio of body length to tail length L/L.cd. — 0.53. 52 rows of dorsal scales around midbody (Sq). Ventral shields (Ventr.) form 25 transverse rows. In the anterior third, the marginal ventral shields are almost not expressed; in the posterior two thirds, there are six ventral shields in transverse rows, of which the marginal shields are small. 27 scales at midline of throat (G). Collar (Collare) is straight. 36 scales on throat from ear to ear (P.g.); femoral pores (P.fm.): left/right 18/20; 21 small scales around the middle of the shin (right /left); 4 small scales on the lower side of the femur (right/left) (Femoris). Rostral (R) is separated from frontonasal (In) by nasal shields (N) and it does not touch the nostril. Width of frontoparietals (Fp) exceed their length. Width of the frontonasal (In) is less than its length. The suture between the anterior (praenosalia) and posterior nasal (postnasalia) is equal to the suture between the posterior and frontonasal. The sutures between the prefrontal (Pf) and frontal (F) are straight. Four supraoculars (So) on both sides, from which two central are greater. Between supraoculars (So) and supracilliars (Supracilliaria), there is a full range of granules (Gr) left — 9, right — 8. Upper postocular (Upper postocularia) on the left is approximately equal in width to the upper temporal one (Upper temporalia), but three times shorter than the latter; on the right

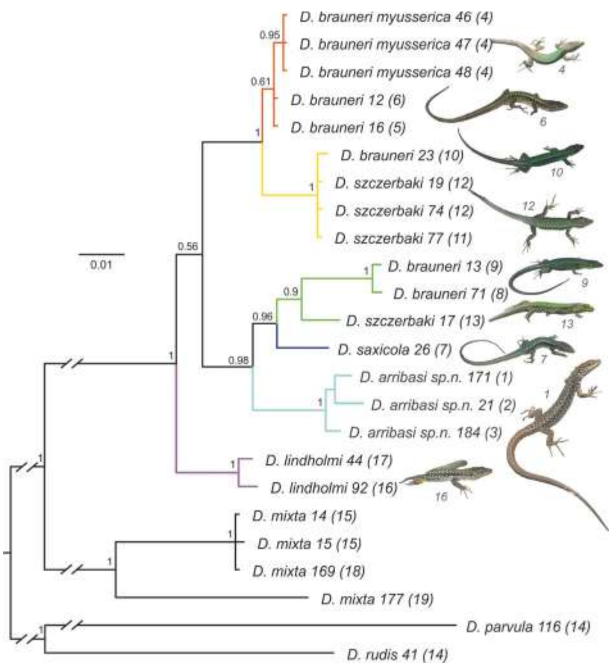

Fig. 3. BI tree for the *Darevskia* spp. constructed using mt cyt *b* haplotypes. Node values are Bayesian posterior probabilities. For specimen codes, see Table 3. For localities numbers (in brackets), see Fig. 1.

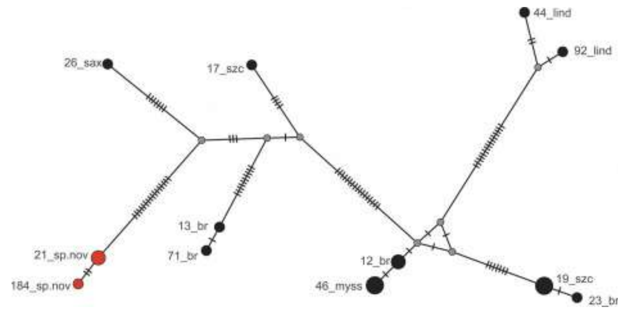

Fig. 4. Median-Joining haplotype network of clade *D.* "*saxicola*" complex (our data). Size of circles diameter is proportional to haplotype frequency; branch length is shown with hatch marks. For localities numbers (in brackets), see Fig. 1.

upper temporal one is not developed. The posterior temporal scutes (Posttemporalia), three on both sides, are weakly expressed. Posttemporals (Posttemporalia) are three in both sides, weakly expressed. Central temporal (Massetericum) is moderately large, on both sides it is separated from the upper temporal (Upper temporalia) by one row of scales (Sup./Tym.). There are no enlarged shields around the central temporal. The lower postorbital (Lower postocularia) is large, larger than the upper postorbital (Upper postocularia). Between the central temporal and tympanic (Mas./Tym.) scutes two on the left, three on the right; in front of the anal (A) — eight preanals, of which two central ones are enlarged (Preanalia). Abdominal scutes border more often with four and rare with three body scales. Between the femoral pores and the outer row of enlarged scales on the underside of the thigh, there are five transverse rows of small scutes.

In vivo coloration of the upper side is olive-green with irregularly shaped transverse spots along the back. From above, the color of the head is olive-gray, slightly speckled. The color of the tail is sandy gray above. *In vivo* coloration of the belly is orange-yellow; including the anal region and the bottom of the thighs, in the fixed one, it is whitish. Irregular black and blue spots are simultaneously located on the marginal ventral shields, their mutual arrangement is staggered, when the ventral scutellum comes into contact with the scales of the body, sometimes with a black spot above, sometimes with a blue one (Fig. 6). From below, the tail is painted in light, contrasting with the belly, tones. The upper edge of the lateral stripes is scalloped, separated from the pattern of the back by a row of light eyes. Two more rows of bright eyes, individual scales of which are colored blue, are located on both sides below the top row. At the level of the chest one blue eye on the lateral sides.

TABLE 4. *p*-Distances Between Forms of *Darevskia saxicola* sensu lato and *D. mixta* Sympatric in South Ossetia

		1	2	3	4	5	6	7	8	9
1	*D. mixta*									
2	*D. lindholmi* Crimea	0.115								
3	*D. b. myusserica* Myussera Highland	0.120	0.030							
4	*D. szczerbaki* set. Djurso	0.109	0.038	0.035						
5	*D. szczerbaki* Kadosh, set. Sosnovoe	0.121	0.037	0.014	0.042					
6	*D. saxicola* Kapustina Gorge	0.119	0.043	0.037	0.023	0.041				
7	*D. brauneri* setl. Sovetkvadzhe	0.123	0.039	0.016	0.041	0.001	0.041			
8	*D. brauneri* Ritza National Park	0.119	0.029	0.001	0.033	0.012	0.036	0.015		
9	*D. brauneri* Mt. Khozhash, Semashkho	0.122	0.050	0.046	0.023	0.046	0.030	0.046	0.041	
10	*D. arribasi* sp. nov.	0.116	0.050	0.045	0.034	0.047	0.038	0.046	0.044	0.044

Fig. 5. Holotype of *Darevskia arribasi* sp. nov. (SNP No. 1928).

Description of the paratypes. The paratypes correspond to the description of the holotype with minor deviations in size and meristic characteristics (Table 5). Compared to females, males have fewer ventral shields (♂♂ 25.6 ± 0.4; ♀♀ 27.6 ± 0.37), fewer shields between the central temporal and tympanic shields (♂♂ 2.2 ± 0.33; ♀♀ 2.9 ± 0.13) and fewer preanal shields (♂♂ 7.9 ± 0.21; ♀♀ 9.4 ± 0.49), but more granules (♂♂ 11.6 ± 0.4; ♀♀ 10.1 ± 0.44) (Table 6).

The coloration of the back of adult males is similar to the holotype — olive-lettuce, or olive-brown. Adult females are grey-brown. Juveniles are coffee brown (Fig. 7A). Irregularly shaped transverse dark spots, or specks are located along the back. In young, a double stripe of speckles is located along the spine. From above, the coloration of the head is lighter than the main tone, slightly speckled. The coloration of the upper side of the tail of the main tone with the back, sometimes a little lighter, on non-regenerated tails with indistinct speckling. The coloration of the lower head and throat is white; the pectoral shields are white or with yellow spots. The belly of adults is orange-yellow, including the anal region and lower thighs. Irregular blue-black spots are located on the marginal ventral shields. Juveniles have a greenish-white belly with light speckles on the marginal ventral shields. Below, the tails are painted in light tones contrasting with the belly (Fig. 7B).

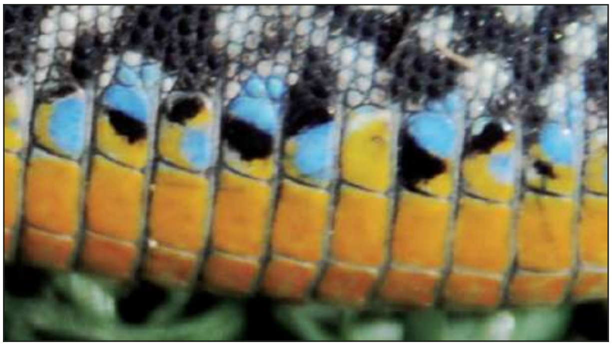

Fig. 6. Spotting of marginal ventral shields (male).

Lateral dark stripes stretch from the neck to the hind limbs. The upper edge of the lateral stripes is scalloped, separated from the pattern of the back by a row of light

Fig. 7. Live coloration and pattern of animals from the type series: A, from above view, B, below view, C, side view (above — male, below — female).

eyes. Two more rows of bright eyes, individual scales of which are colored blue, are located on both sides below the top row. Males have 1 – 2 blue eyes at chest level from the sides. Separate, blue-colored scales, singly or in

TABLE 5. Paratypes Measurements of *Darevskia arribasi* sp. nov.

Collection No.	Sex, age	Character												
		L.	L.cd.	Sq.	G.	P.fm.	Gr.	Inter f.aur.	Shin	Femoris	Mas./ Tym.	Sup./ Tym.	Pr.an.1/ Pr.an.2	Ventr.
SNP 1696/22	♂ ad	58	92	56	27(13)	18/18	12/12	42	19	5/5	3/3	2/1	7/3	25
SNP 1696/24	♂ ad	57	—	54	23(10)	16/15	9/9	38	19	4/3	1/0	0/0	8/0	25
SNP 1696/25	♂ ad	60	110	56	26(11)	19/20	10/9	37	17	5/5	3/3	2/2	7/2	25
SNP 1696/26	♂ ad	55	—	56	27(12)	20/20	10/10	38	19	4/5	3/2	1/2	9/2	27
SNP 1776/1	♂ ad	62	—	54	25(11)	16/17	13/14*	38	18	5/5	2/2	2/3	8/2	26
ZISP 19433.1**	♂ ad	64	—	52	26	22/21	12/15	—	—	—	3/3	—	9/1	—
ZISP 19433.2**	♂ ad	63	—	56	28	18/18	13/14	—	—	—	3/3	—	8/2	—
ZISP 19433.3**	♂ ad	62	—	54	24	19/15	9/10	—	—	—	2/2	—	8/2	—
ZISP 19433.4**	♂ ad	55	—	52	27	18/18	12/13	—	—	—	2/3	—	7/2	—
ZISP 19433.7**	♂ semiad	51	—	54	24	17/18	11/13	—	—	—	2/2	—	8/2	—
ZISP 19433.9**	♂ semiad	50	102	56	27	17/18	12/14	—	—	—	3/3	—	8/2	—
SNP 1696/23	♀ ad	61	—	56	28(11)	18/18	8/9	40	20	4/4	3/3	1/1	9/2	29
SNP 1696/27	♀ ad	63	—	54	22(9)	16/18	7/8	38	18	5/4	2/3	1/1	9/3	28
SNP 1696/28	♀ ad	62	—	54	25(11)	15/16	11/10	36	19	4/5	3/3	1/1	13/3	27
SNP 1705	♀ semiad	58	—	58	25(11)	20/19	8/11	39	18	5/6	3/3	2/2	10/0	28
SNP 1776/2	♀ ad	60	—	54	24(10)	18/21	6/7	36	17	4/4	2/3	1/1	8/2	26
SNP 1776/3	♀ semiad	48	74	57	25(10)	17/18	9/11	38	18	4/4	3/4	2/2	9/0	28
SNP 1776/4	♀ juv	31	—	54	25(12)	16/17	12/12	38	19	4/4	3/3	2/2	10/0	27
ZISP 19433.5**	♀ ad	63	—	57	24	19/18	11/13	—	—	—	2/2	—	7/1	—
ZISP 19433.6**	♀ ad	67	123	56	28	17/17	12/9	—	—	—	3/3	—	10/2	—
ZISP 19433.8	♀ semiad	55	—	52	26	17/16	12/11	—	—	—	3/3	—	11/2	—
ZISP 19433.10	♀ semiad	48	—	52	27	17/18	13/12	—	—	—	2/2	—	8/2	—

* Granules form incomplete two rows; ** data according to I. V. Doronin (2013).

TABLE 6. Sexual Dimorphism in the Type Series of *Darevskia arribasi* sp. nov.

Character	♂♂		♀♀		t
	lim. min. – max.	$X \pm m$	lim. min. – max.	$X \pm m$	
L.	55 – 64	59.5 ± 1.14	60 – 67	62.7 ± 0.99	2.06
Sq	52 – 56	54.5 ± 0.47	52 – 58	54.9 ± 0.6	0.47
Ventr	25 – 27	25.6 ± 0.4	26 – 29	27.6 ± 0.37	3.62**
G	23 – 28	25.8 ± 0.48	22 – 28	25.4 ± 0.54	0.62
G1	10 – 13	11.4 ± 0.5	9 – 12	10.6 ± 0.37	1.32
P.fm.	15 – 22	18.1 ± 0.38	15 – 21	17.5 ± 0.29	1.12
Gr.	9 – 15	11.6 ± 0.4	6 – 13	10.1 ± 0.44	2.57*
Inter f. aur.	37 – 42	38.6 ± 0.87	36 – 40	37.8 ± 0.55	0.72
Shin	17 – 19	18.4 ± 0.4	17 – 20	18.4 ± 0.37	0.05
Femoris	3 – 5	4.6 ± 0.22	4 – 6	4.4 ± 0.17	0.87
Mas./Tym.	0 – 3	2.2 ± 0.33	2 – 4	2.9 ± 0.13	2.08*
Sup./Tym.	0 – 3	1.5 ± 0.3	1 – 2	1.4 ± 0.14	0.21
Pr.an.1	7 – 9	7.9 ± 0.21	7 – 13	9.4 ± 0.49	2.88*
Pr.an.2	0 – 3	1.8 ± 0.23	0 – 3	1.5 ± 0.34	0.67

* $p < 0.05$; ** $p < 0.01$.

groups of 2 – 5 scales, are located along the line of contact with the ventral shields. There are dark stripes on the sides of the upper labials (Fig. 7C).

Etymology. The species is named in honor of the famous outstanding herpetologist Oscar Arribas, a recognized expert in the study of rock and related groups of

Fig. 8. Ertso Lake — type area of *D. arribasi* sp. nov.

Palearctic lizards, who substantiated and defended the separation of rock lizards of the Caucasus and Fronter Asia into an independent genus *Darevskia*.

Geographical distribution and biotopes. The species is distributed in the basin of the upper reaches of the river Kvirila, including the Ertso-Tson basin in South Ossetia, may be located in the nearest adjacent regions of Georgia, in particular in the vicinity of Dzhvarboseli village, Kakheti (Doronin et al., 2019). Thus, a high similarity with lizards from South Ossetia is demonstrated by animals from the environs of village Zhabezhy (gorge of the Mulkhra River) in Upper Svaneti (Darevsky, 1967, p. 47, Table 3), characterized by small size L. (55.9 ± 0.76), low Sq. number (55.9 ± 0.76), G. (24.2 ± 0.51), P.fm. (17.35 ± 0.32), which, along with some other features, closely resembles them to *D. arribasi* sp. nov.

It inhabits rock outcrops in the upper forest and subalpine meadow belts in the altitude range of 1050 m (surrounding the village of Sinagur) — 2050 m (mountain Syrkhlabyrdta), but more often occurs from 1600 to 1700 m a.s.l. Subalpine meadows, due to the underlying limestones, are quite xerophytized, while forest vegetation is typical of the upper belt of Colchis and is formed by beech forests and beech-fir forests with characteristic Colchis species of trees and shrubs: *Abies nordmanniana* (Steven) Spach, *Picea orientalis* (L.) Link, *Fagus orientalis* Lipsky, *Laurocerasus officinalis* M. Roem., *Ilex colchica* Pojark., *Rhododendron ponticum* L., *Vaccinium arctostaphylos* L., *Hypericum androsaemum* L., etc.

DISCUSSION

As we noted earlier (Tuniev et al., 2017), the species was caught for the first time in South Ossetia and identified as *Lacerta saxicola* by V. G. Geptner on 15.08.1929 in the environs of village Tsona (= Tson), about 4 km east of the Ertso Lake (ZM Moscow State University, No. 2864). Half a century later, in 1979, *D. brauneri* near the Ertso Lake was collected by I. S. Darevsky (ZIN, No. 19433) (Doronin, 2013). Our collections, carried out after another 35 years, testify, at least, to the stable state of the population in the vicinity of Ertso Lake (Fig. 8). However, the noted locality of the discovered populations limited us in collecting a large number of specimens, and we recommended the taxon itself for inclusion in the Appendix to the Red Book of the RSO: a list of taxa that need special attention in the natural environment — Near Threatened (Tuniev et al., 2017; Red Book of South Ossetia, 2017).

D. arribasi sp. nov. differs from all representatives of the “*saxicola*” complex by the minimum body size, the above-described features of pholidosis and genetics. For the species, the excess of the body length of females over males is unique. In contrast to *D. brauneri*, in which the central temporal shield is often not pronounced, and the rostral is often in wide contact with the frontonasal, in *D. arribasi* sp. nov. the central temporal is always expressed, and the rostral is separated from the frontonasal by nasal shields.

According to the signs of oligomerization of the folidosis of *D. arribasi* sp. nov. somewhat close to the populations of *D. brauneri* from Svaneti, described by I. S. Darevsky (1967). Given the noted genetic differences, a significant distance from the most eastern representatives of *D. brauneri* in the basin of the Ingur River, at least at the current level of knowledge about the chorology of the considered forms, and the clear relic nature of disjunctive micropopulations of *D. arribasi* sp. nov., in our opinion, its species independence is sufficiently substantiated. However, many questions remain about the taxonomy of "*saxicola-brauneri*" complex as a whole.

The molecular data obtained by us demonstrate the isolation of *D. brauneri* lizards from the westernmost mountain meadow peaks of the Western Caucasus (Semashkho, Khakudzh), the heterogeneity of *D. szczerbaki* and *D. brauneri* in the northwestern part of the Black Sea coast of the Krasnodar Territory in the segment from the Lazarevsky district of Sochi to the Tuapse region. At the same time, there is no doubt in independence of *D. saxicola* s. str. and *D. lindholmi*. It should be noted that both *D. szczerbaki* and *D. saxicola* inhabit territories that still retain common Eastern Mediterranean floristic elements, stopping in the Elbrus region (Galushko, 1986; Timukhin, 2019) and not going further east along the Eastern Caucasus, where in the flora the Frontal Asian (Armenian-Iranian) species have a significant influence (Galushko, 1976; Takhtadzhyan, 1978). In particular, A. I. Galushko (1976), among the "Crimean-Novorossiysk and boreal species" not found east of the Malka River, indicated *Pedicularis palustris* L., *Anthericum ramosum* L., *Clausia aprica* (Stephan ex Willd.) Trotzky, *Cotinus coggygria* Scop., *Asphodeline tenuior* (Fisch. ex M. Bieb.) Ledeb.

Thus, our molecular results indicate the heterogeneity of the populations of the considered lizard species along the entire range. This is also stated in the article by D. Tarkhnishvili et al. (2016). Without going into arguments about possible incorrect definitions, at least the accession KR265104, which, according to our data, turned out to be in a common clade with representatives of *Darevskia mixta*, or falls aside when a large number of species are involved, we note the viability of the "ring range" version expressed by these authors for "*saxicola -brauneri*" complex. This version is consistent with the genetic analysis data obtained by us (Aliev et al., 2020) for the entire species range of the Eastern beech (*Fagus orientalis* Lipsky), according to which the earliest separation occurred in the populations of the mountainous Crimea and the Stavropol Highland, which, under the conditions of island isolation, retained the unique features of the genotype of the ancestral form, and also, apparently, are close to the ancestral form of beeches from relict mid-mountain populations in refugia of mesophilic vegetation: Colchis (Avadkhara, Abkhazia) in the west and Kakheti (Lagodekhi, Georgia) in the east.

The presence of *D. arribasi* sp. nov. in the basin of the upper reaches of the Kvirila River in South Ossetia is determined by the proposed ways of development of the herpetofauna of South Ossetia (Lotiev and Tuniyev, 2017), the high modern representation of Colchis species of flora and herpetofauna, the column of altitudinal-ecological vegetation belts typical for Colchis, and, ultimately, indicated by us (Tuniyev et al., 2017) South Ossetian refugium of the Colchis biota, which occupies an intermediate geographical position between the previously described Colchis, Borjomi and Kakheti refugiums (Tuniyev, 1990).

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