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A new lizard species of the genus *Darevskia* Arribas, 1997 from Southern Armenia

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ABSTRACT

A new species of rock lizards of the genus *Darevskia* Arribas, 1997 – *Darevskia aghasyani* sp. nov. is described from Urts Ridge in Southern Armenia. This species is characterized by a combination of the following characters: small size L – 49–54 mm, L. cd – 107, Sq – 52–56, Ventr – 26–27, G – 24, P. g. – 32–34, P. fm. – 18–20; it is painted in brownish-beige tones from above; the belly is whitish in both sexes, males in the anal area have yellow with ochre femoral pores; bluish spots appear on the edge of the outer ventral shields at the middle of trunk through one shield; on the sides of the trunk (chest area) there are two blue spots in males and one in females; rostral is separated from frontonasal by nasal shields and it does not touch the nostril; upper postocular is twice wider than upper temporal shield; posterior temporal shields are not pronounced, or slightly pronounced; in front of central temporal (Massetericum), there is one enlarged temporal shield; along the throat from ear to ear fold there are 32–34 scales; two large preanal shields present in front of the anal shield. A comparison of *Darevskia aghasyani* sp. nov. with other species of the genus from Armenia and representatives of "*raddei*" complex from neighboring regions of Turkey and Iran (*Darevskia dahli* (Darevsky, 1957), *D. unisexualis* (Darevsky, 1966), *D. raddei* (Boettger, 1892), *D. raddei vanensis* (Eiselt et al., 1993), *D. nairensis* (Darevsky, 1967), and *D. defilippii* (Camerano, 1877)) is given. Conservation status of taxa assessed as CR B2ac(iv) "CRITICALLY ENDANGERED".

Keywords: conservation assessment, *Darevskia aghasyani* sp. nov., South Armenia, Urts Ridge

Новый вид ящерицы рода *Darevskia* Arribas, 1997 из Южной Армении

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РЕЗЮМЕ

Описывается новый вид скальной ящерицы рода *Darevskia* Arribas, 1997 с Урцского хребта в Южной Армении – *Darevskia aghasyani* sp. nov. Мелких размеров ящерица, характеризующаяся следующими признаками: L – 49–54 мм, L. cd – 107, Sq – 5256, Ventr – 26–27, G – 24, P. g. – 32–34, P. fm. – 18–20; сверху окрашена в коричневато-бежевые тона. Брюхо у представителей обоих полов беловатое; у самцов в анальной области – желтое, с охристыми бедренными порами; голубоватые пятна проступают на краевых брюшных щитках середины туловища через один щиток; по бокам туловища в грудной области у самцов по 2, у самок по 1 голубому пятну; межчелюстной щиток отделен от лобоносового носовыми щитками, не касается ноздри; верхний заглазничный щиток в два раза шире верхневисочного;

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задневисочные щитки не выражены, или слабо выражены; перед центральновисочным слева и справа имеется увеличенный височный щиток; вдоль горловой складки от уха до уха 32–34 чешуйки; перед анальным – 2 увеличенных преанальных. Приведено сравнение *Darevskia aghasyani* sp. nov. с другими видами рода из Армении и представителями комплекса "*raddei*" из сопредельных регионов Турции и Ирана (*Darevskia dahli* (Darevsky, 1957), *D. unisexualis* (Darevsky, 1966), *D. raddei* (Boettger, 1892), *D. raddei vanensis* (Eiselt et al., 1993), *D. nairensis* (Darevsky, 1967), *D. defilippii* (Camerano, 1877)). Природоохранный статус таксона оценен нами, как CR B2ac(iv) – «Находящийся в критическом состоянии».

Ключевые слова: природоохранный статус, *Darevskia aghasyani* sp. nov., Южная Армения, Урцский хребет

INTRODUCTION

Armenia is one of the centers of the taxonomic diversity of rock lizards of the genus *Darevskia* Arribas, 1997 and inhabited by nine species of approximately 35 known species of this genus.

The fauna of rock lizards of Armenia has a long history of investigation and is well known, due to the studies of leading herpetologists working directly in this area (Chernov 1939; Darevsky 1958, 1966; Danielyan 1967; Darevsky and Danielyan 1968; Darevsky et al. 1972; Ananjeva et al. 2006; Arakelyan et al. 2008, 2011) and first of all, due to the classic work of Ilya Sergeevich Darevsky (1967) "Rock lizards of the Caucasus". The complex orographic conditions of the Caucasus and unique evolutionary processes in representatives of the genus *Darevskia* contribute to speciation and development of species on the volume of this genus and description of new forms.

This paper is devoted to description of a new species of the genus *Darevskia* from Southern Armenia – *Darevskia aghasyani* sp. nov.

MATERIAL AND METHODS

Two lizards (male and female) of the new species collected by B.S. Tuniyev at Urts Ridge 17.05.2016, during an expedition of the Scientific Department of the Sochi National Park to Armenia. The material is stored in the herpetological collection of the Sochi National Park (SNP), City of Sochi, Russia.

Morphological analysis. The material was described using a traditional set of character proposed by I.S. Darevsky (1967) with some changes (Table 1).

DNA extraction, amplification and sequencing. Genomic DNA was isolated from tissues fixed with 96% ethanol using standard salt extraction protocol using a lysis buffer and proteinase K, deproteinized

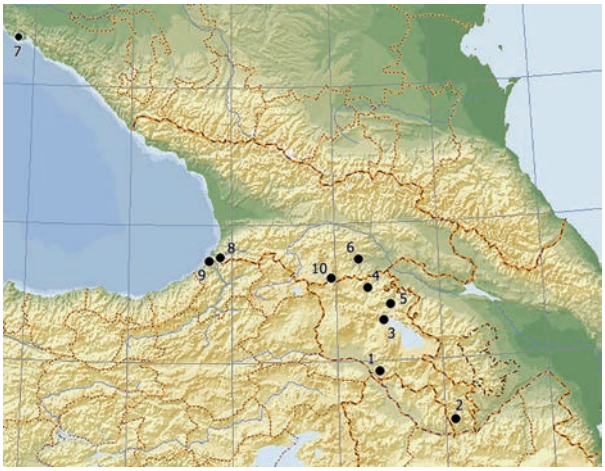

Fig. 1. Localities of collecting of tissues of *Darevskia* spp. for DNA analyses: 1. Armenia, Urts Ridge (No 61, 62 – *D. aghasyani* sp. nov.). 2. Armenia, Tashtun Village (88 – *D. raddei*). 3. Armenia, Sevan (55 – *D. nairensis* (Darevsky, 1967)). 4. Armenia, Debet River (52 – *D. nairensis*). 5. Armenia, Dilijan (63 – *D. rostombekowi* (Darevsky, 1957)). 6. Georgia, Hokhnari (96 – *D. armeniaca* (Mehely, 1909)). 7. Russia, Djurso Settlement (17 – *D. szczerbaki* (Lukina, 1963)). 8. Georgia, Maradidi Village (41, 42 – *D. rudis* (Bedriaga, 1886), 119 – *D. parvula* (Lantz et Cyren, 1913)). 9. Georgia, Sarpi Village (116 – *D. parvula*). 10. Georgia, Madatapa Mountain (110 – *D. valentini* (Boettger, 1892)).

with NaCl and precipitated with 96% ethanol (Miller et al. 1988). A segment of the cytochrome *b* (*cytb*) gene was amplified using primers LgLu and RtHr under PCR conditions published in Doronin et al. (2013). Two nuclear protein-coding genes, melanocortin 1 receptor (MC1R) and oocyte maturation factor Mos (cmos) were amplified using primers MC1R F/MC1R R, Mos-F/Mos-R and PCR conditions published in Godinho et al. (2005) and Pinho et al. (2010). Each PCR included a negative control. The PCR products were purified on columns of an Omnix kit (Omnix, Saint Petersburg, Russia) and were sequenced in both directions using the BigDye Terminator Cycle Sequencing Ready Reaction Kit

Table 1. Characters used in this study.

No.	Abbreviation	Name	Notice
1	L.	*Longitudo corporis*	Snout-vent length
2	L.cd.	*Longitudo caudalis*	Length from cloacal cleft to point of tail
3	G.	*Squamae gularis*	Number of gular scales along midline of gullet to middle of collar
4	Sq.	*Squamae*	Number of dorsal scales around midbody
5	P.fm.	*Pori femoralis*	Number of femoral pores (right/left)
6	Gr.	*Granulae*	Number of granules between superciliary and supraocular shields (left/right)
7	Pr.an.	*Scuta preanalia*	Number of enlarged preanal shields
8	Ventr.	*Scuta abdominata*	Number of ventral shields in one central longitudinal row
9	P.g.	Plica gularia seu sulcus gularis	Number of scales on throat from ear to ear

on an ABI PRISM 3130 (Applied Biosystems Inc., Foster City, CA, USA). For sequencing mt *cytb* we also used an additional internal primer Dar_int 5'-GGCTACGTCCTACCCTGAGGACAA-3'.

Phylogenetic analyses. 13 specimens of *Darevskia* spp. sampled at 10 localities (Fig. 1) were analyzed. Sequences of *Darevskia kamii* Ahmadzadeh et al., 2013, *D. caspica* Ahmadzadeh et al., 2013, *D. chlorogaster* (Boulenger, 1908), *D. defilippii* (Camerano, 1877), *D. kopetdaghica* Ahmadzadeh et al., 2013, *D. schaekeli* Ahmadzadeh et al., 2013, *D. steineri* (Eiselt, 1995) and *Lacerta agilis* L., 1758 for outgroup were taken from Genbank (Table 2). The nucleotide sequences were assembled, edited and aligned using BioEdit. *Cytb* sequences obtained in the current study were 667–967 bp and those downloaded from Genbank – 899 bp. The level of genetic differentiation in *cytb* based on p-distances was estimated in MEGA 7 (Kumar et al. 2016). For the computation of p-distances the alignment was shortened to 667 bp, according to the shortest sequence. Alignments of MC1R and Mos genes comprised 636 bp and 547 bp fragment respectively. Several MC1R sequences demonstrated some heterozygous nucleotide positions that were determined as double peaks on paired chromatograms. Heterozygous sequences were phased using the program PHASE 2.1.1 (Stephens and Donnelly 2003) implemented in DnaSP v5.10.01 (Librado and Rozas 2009).

A multilocus phylogenetic reconstruction on the basis of mt *cytb*, MC1R and Mos genes was performed using the species-tree coalescent-based method implemented in *BEAST v2.5.1 (Bouckaert et al. 2014). We used 28 specimens of *Darevskia* spp. and *Lacerta agilis* as an outgroup. The best-fit of several substitution models for each locus was assessed using jModelTest 2.1.10 (Darriba et al. 2012) under the corrected Akaike information criterion (AICc). If the specific model was not implemented in *BEAST, the next most parameterized model was selected. The relaxed clock lognormal model was selected using Bayes factors (Kass and Raftery 1995; Suchard et al. 2001) as implemented in TRACER v1.6 (Rambaut et al. 2014). All remaining priors were set to the defaults. Results of two independent runs of 100 mln generations, each constructed under the Yule process, were examined using TRACER v1.6, and concatenated using LOGCOMBINER, discarding the first 25% as burn-in. Trees were then summarised with TREEANNOTATOR as the maximum clade credibility tree and fixing node heights as mean heights. Final trees obtained in FIGTREE v1.4.0 (http://tree.bio.ed.ac.uk/software/figtree/).

Conservation status of the species was evaluated according to IUCN categories (2012).

RESULTS OF THE ANALYSES

Morphological analysis

Morphology of the new species combines the characteristics of different species and discussed in more detail in the Discussion section. The new species is most similar to the parthenogenetic species *Darevskia dahli* (Darevsky, 1957), from which it differs by presence of both sexes. The comparative taxonomic observations with other species of the genus from Armenia and representatives of "*raddei*"

Table 2. Species and specimens used in the phylogenetic analysis.

Species	Isolate* / Tissue	Voucher	Genbank accession numbers		
			CYTB	CMOS	MC1R
Darevskia aghasyani sp. nov.	61	1770	MH247118	MK168361	MK168348
	62	1770	MH247119	MK168362	MK168349
D. szczerbaki	17	1479	MH247121	MK168356	MK168343
D. nairensis	52	1505	MH247114	MK168359	MK168346
	55	1495	MH247115	MK168360	MK168347
D. rostombekowi	63	1499	MH247116	MK168363	MK168350
D. raddei	88	1579	MH247117	MK168364	MK168351
D. armeniaca	96	1657	MH247120	MK168365	MK168352
D. rudis	41	1761	MH247123	MK168357	MK168344
	42	1761	MH247124	MK168358	MK168345
D. valentini	110	1656	MH247122	MK168366	MK168353
D. parvula	116	1762	MH247125	MK168367	MK168354
	119	1759	MH247126	MK168368	MK168355
D. kamii	DB13818	–	KF717183	KF717124	KF717242
	DB6146	ZFMK 94121	KF717185	KF717126	KF717244
D. caspica	DB6170	ZFMK 94216	KF717187	KF717130	KF717248
	DB6160	ZFMK 94159	KF717194	KF717137	KF717256
	DB6181	ZFMK 94108	KF717190	KF717133	KF717251
D. chlorogaster	DB13815	–	KF717196	KF717141	KF717260
	DB6130	ZFMK 94130	KF717203	KF717148	KF717267
D. defilippii	DB6302	–	KF717213	KF717158	KF717277
	DB6201	ZFMK 94178	KF717217	KF717162	KF717281
D. kopetdaghica	DB13797	–	KF717220	KF717166	KF717286
	DB6319	ZFMK 94124	KF717222	KF717168	KF717288
D. schaekeli	DB6218	ZFMK 94101	KF717225	KF717170	KF717290
	DB13808	–	KF717228	KF717173	KF717293
D. steineri	DB6111	ZFMK 94211	KF717231	KF717176	KF717296
	DB6115	ZFMK 94209	KF717237	KF717181	KF717302
Lacerta agilis	–	–	KC665513	EF632267	KX080752

Note: *Isolate for GB samples.

complex from neighboring regions of Turkey and Iran (*Darevskia dahli* (Darevsky, 1957), *D. unisexualis* (Darevsky, 1966), *D. raddei* (Boettger, 1892), *D. raddei vanensis* (Eiselt et al., 1993), *D. nairensis* (Darevsky, 1967), *D. defilippii* (Camerano, 1877)) is given in the Discussion section.

Phylogenetic analyses

The species-tree (Fig. 2) shows several well supported clusters: the first cluster supported with 1.0 BI includes *Darevskia* sp. from Urts Ridge, *D. raddei*, *D. nairensis* and *D. rostombekowi*. Independence of

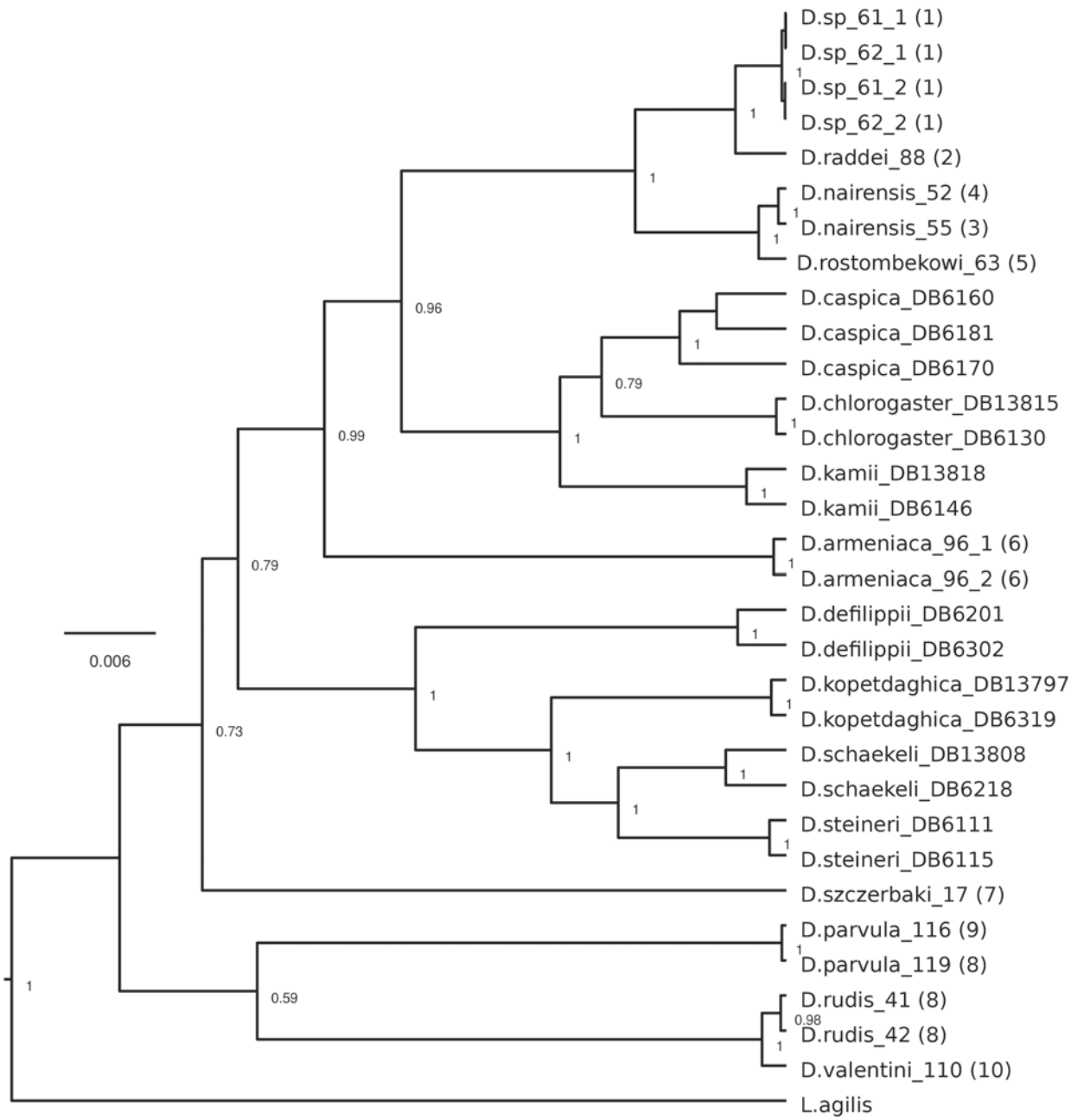

Fig. 2. Species-tree of *Darevskia* spp. constructed using "species-tree" approach on the basis of mt *cytb* and two nuclear genes. Bayesian probabilities below 0.7 are not shown. See Table 2 for specimen codes. For *Darevskia* sp. and *D. armeniaca* numbers 1 and 2 mark allele numbers in MC1R gene. For location numbers (in brackets) see Fig. 1.

Darevskia sp. is supported with 1.0 bootstrap value. The listed species are found in southern and eastern Transcaucasia. The second cluster combines the species of the *Darevskia chlorogaster* complex (*D. chlorogaster, D. caspica,* and *D. kami*). Representatives of this complex are distributed from Talysh across Caspian Alborz to Central Kopet Dagh. Another good cluster is formed by the *Darevskia defilippii* complex (*D. defilippii, D. kopetdaghica, D. schaekeli,* and *D. steineri*). These species can be found from the

Central Alborz Ridge in Iran to Central Kopet Dagh in Turkmenistan. Both latter clusters are supported with 1.0 BI.

P-distance from *Darevskia* sp. to the nearest species *D. raddei* is 1.1% (Table 3) that is higher than p-distance within well-known species pairs *D. rostombekowi* – *D. nairensis* and *D. rudis* – *D. valentini* (0.7% and 0.4%, respectively).

Based on morphological and molecular results, *Darevskia* sp. from Urts Ridge, in our view, deserve the status of a distinct species.

Etymology. The species is named in honor of the famous herpetologist – Aram Levonovich Aghasyan, who studies reptiles of Armenia and has made a huge contribution to the development of protected areas (econet) of Armenia.

SYSTEMATICS

Family Lacertidae Bonaparte, 1831

Genus *Darevskia* Arribas, 1997

Darevskia aghasyani Tuniyev et Petrova sp. nov.

Holotype. SNP 1770a, adult male, Armenia, Ararat District, crest of Urts Ridge (2000 m above sea level), 17.05.2016, collector B.S. Tuniyev (Fig. 3).

Paratype. SNP 1770b, adult female, Armenia, Ararat District, crest of Ridge Urts (2000 m above sea level), 17.05.2016, collector B.S. Tuniyev.

Diagnosis. Small sized lizard. It is painted in brownish-beige tones from above (Fig. 4A). The belly is whitish in both sexes, males have yellow with ochre femoral pores in the anal area (Fig. 4B). Bluish spots appear on the edge of the outer ventral shields at the middle of the trunk through one shield. On the sides of the trunk (chest area) there are two blue spots in males and one in females. Rostral is separated from frontonasal by nasal shields and it does not touch the nostril. Upper postocular is twice wider than upper temporal shield. Posterior temporal shields are not pronounced, or slightly pronounced. In front of central temporal (Massetericum), there is one enlarged temporal shield. Along the throat from ear to ear fold

Fig. 3. Holotype of *Darevskia aghasyani* sp. nov.

Fig. 4. View of dorsal (A) and ventral (B) sides of the type specimens of *Darevskia aghasyani* sp. nov., top – male (holotype – SNP No. 1770a), the female below (paratype – SNP No. 1770b).

Table 3. P-distances between and within *Darevskia* species.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1) *D. kamii*	0.014															
2) *D. caspica*	0.087	**0.035**														
3) *D. chlorogaster*	0.082	0.070	**0.004**													
4) *D. defilippii*	0.132	0.119	0.124	**0.015**												
5) *D. kopetdaghica*	0.150	0.143	0.143	0.103	**0.006**											
6) *D. schaekeli*	0.142	0.137	0.144	0.095	0.083	**0.022**										
7) *D. steineri*	0.154	0.143	0.138	0.099	0.086	0.064	**0.007**									
8) *D. szczerbaki*	0.144	0.137	0.126	0.119	0.145	0.147	0.142	**n/c**								
9) *D. rudis*	0.143	0.129	0.121	0.114	0.140	0.140	0.146	0.137	**0.000**							
10) *D. nairensis*	0.129	0.119	0.124	0.133	0.148	0.151	0.144	0.141	0.138	**0.003**						
11) *D. aghasyani* sp. nov.	0.131	0.122	0.125	0.124	0.149	0.146	0.136	0.142	0.138	0.046	**0.000**					
12) *D. rostombekowi*	0.126	0.116	0.121	0.131	0.144	0.148	0.142	0.142	0.135	0.007	0.044	**n/c**				
13) *D. raddei*	0.122	0.118	0.118	0.124	0.146	0.146	0.139	0.137	0.131	0.043	0.011	0.039	**n/c**			
14) *D. armeniaca*	0.116	0.093	0.100	0.093	0.126	0.118	0.121	0.109	0.102	0.093	0.083	0.089	0.078	**n/c**		
15) *D. valentini*	0.147	0.134	0.125	0.115	0.144	0.138	0.148	0.135	0.004	0.142	0.137	0.140	0.130	0.104	**n/c**	
16) *D. parvul*a	0.156	0.146	0.146	0.131	0.133	0.151	0.150	0.141	0.126	0.142	0.142	0.138	0.141	0.120	0.124	**0.000**

there are 32–34 scales. Two large preanal shields present in front of the anal shield.

Description of the holotype. An adult male having the following morphological features: snout-vent length (L) – 49 mm; length of tail (L. cd) – 107 mm; ratio L/L. cd. – 0.46. Rows of dorsal scales around middle of body (Sq) – 56. Ventral shields (Ventr.) form 26 rows. At midline of throat (G) – 24 scales. Collar (Collare) is straight. Along the throat between ear openings (P. g.) 32 scales. Femoral pores (P. fm.) are 18 on both sides.

Rostral (R) is separated from frontonasal (In) by nasal shields (Nasalia) and it does not touch the nostril. Width of frontoparietals (Fp) exceed their length. Width of frontonasal (In) exceeds its length. Suture between postnasal and frontonasal shields is wider than between nasal shields. Suture between prefrontal (Pf) and frontal (F) is slightly bend. Supraoculars (So) are 4 in both sides, from which the 2 central are greater. Between supraoculars (So) and supracilliars (Supracilliaria), there is a full range of 12 granules (Gr) in both sides. Upper postocular is twice wider than upper temporal. Posttemporals are not pronounced. Central temporal (Massetericum) scale is moderately large, on the left side it touches the upper temporal shield, on the right side it is separated by one row of scales. In front of central temporal, there is one enlarged temporal shield in both sides. Lower postocular is very large and it exceeds the upper postocular. Tree rows of small shields between tympanic (Tympanale) and central temporals (Masseteric) on both sides.

In front of anal (A) there are two enlarged preanal scales (Preanalia). Usually three, rarely two small body scales border the ventrolateral edge of each of the outer ventral scales, from which the back one is often triangular in shape, size increased in the chest area. Between femoral pores and the outer close enlarged scales on the underside of the thighs there are 5 transverse series of small shields. Some scales below the series of continuous femoral pores from the center of the hip also carry pores.

The coloration of the upper side is brownish-beige with small dots along its back. The brown head is darker than the body. Belly with whitish coloration. On the edge of the outer ventral shields of the middle trunk appear bluish spots. The inner side of the thighs, shins and the anal area is yellow, tail base is greenish, femoral pores are ochre (Fig. 5). From lower postocular, it goes light temporal streak to the ear which continuing to the forelimbs. Lateral dark strips are slightly expressed. At the level of the front legs there is a dark-edge spot with blue center, a smaller circle with a blue center exists in the chest area. On the sides of the body, there are several fuzzy circles with whitish centers.

Fig. 5. Pholidosis and coloration of anal and perianal area of the holotype of *Darevskia aghasyani* sp. nov.

Description of the paratype. An adult female. Snout-vent length (L) – 54 mm; length of regenerated tail (L. cd) – 65 mm. Rows of dorsal scales around middle of body (Sq) – 52. Ventral shields (Ventr.) form 27 rows. At midline of throat (G) – 24 scales. Collar (Collare) is straight. Along the throat from ear to ear folds 34 scales. There are 18 and 20 femoral pores (P. fm.) on the left and right respectively.

Rostral is separated from frontonasal by nasal shields and it does not touch the nostril. Width of frontoparietals equal their length. Width of frontonasal exceeds its length. Suture between postnasal and frontonasal shields wider than between nasal shields. Suture between prefrontal and frontal shields is slightly bend. There are 4 supraoculars on both sides, from which the two centralmost are increased in size.

Between supraoculars and supracilliars, there is a full range of granules: 12 on the left side and 13 on the right side. Upper postocular is wider than upper temporal. Posttemporals are not pronounced. Central temporal is moderately large; separated on both sides from upper temporal by one row of scales. In front of central temporal (Masseteric), there is one enlarged temporal shield on the left side. Lower postocular is very large and exceeds upper postocular. There are 3

Fig. 6. Paratype of *Darevskia aghasyani* sp. nov.: A – from above, B – from below.

rows of small shields between tympanic and central temporals (Masseteric) on both sides.

In front of anal, there are two enlarged preanals. Usually three, rare two small body scales border the ventrolateral edge of each of the outer ventral scales, of which the posterior one is often triangular in shape, increased in size in the chest area, but does not differ from the front two in the middle and back of the trunk. Between femoral pores and the outer close enlarged scales on the underside of the thighs, there are four transverse series of small shields.

Coloration of the top side is brown in the front and brownish-beige in the back, with a few small dots along the back. Belly whitish in coloration. On the

Fig. 7. Urts Ridge in December. Rocky outcrops along the crest. In the background – the Great and Small Ararat (photo Alexander Malkhasyan, WWF Armenia).

Fig. 8. Urts Ridge in June. Flowering phrygana of *Onobrychis cornuta* (photo Alexander Malkhasyan, WWF Armenia).

Fig. 9. Habitat of *Darevskia aghasyani* sp. nov. with *Onobrychis cornuta*, *Gypsophilla aretioides*, *Campanula raddeana*, etc. (photo Alexander Malkhasyan, WWF Armenia).

boundary of outer ventrals there appear bluish spots. The inner side of the thighs, shins, the anal area and tail is whitish, not different from belly coloration (Fig. 6). A light temporal streak runs from lower postocular to the ear, continuing to the forelimbs. Lateral dark strips are slightly expressed. At the level of the front limb, there is one small dark-edged spot with blue center.

Geographical distribution and biotopes. The species is currently known only from the type territory – crest of the Urts (Saraybulag) Ridge in Armenia (Figs 7, 8).

Habitats are represented by rock outcrops in mountain steppe with characteristic species such as *Onobrychis cornuta* (L.) Desv., *Gypsophilla aretioides* Boiss., *Campanula raddeana* Trautv., *Fritillaria pinardii* ssp. *hajastanica* Gabrieljan, *Tulipa julia* K. Koch, etc. (Figs 8, 9).

DISCUSSION

Urts Ridge is the first ridge, framing the Ararat Valley from the North. On the figurative expression of the great botanist Eleanora Tzolakovna Gabrielyan, it is a piece of Iran, located on the territory of Armenia (pers. com.). Really, this is middle-altitude range, at the highest point it is slightly exceeding 2000 m, never affected by glaciations and Pleistocene volcanism. At the bottom of the southern slope of the semi-desert landscape developed above alternate by Juniper light forest and along the crest of the Ridge developed xerophyte mountain steppe. On the northern slope of Urts Ridge, there are *Onobrychis cornuta* and *Astragalus* spp. – *Onobrychis cornuta* phrygana predominance in phyto-landscapes. Thus, refugium conditions persist on Urts Ridge from the Pliocene in strong contrast to the neighboring mountain ranges of the Armenian Highlands. Given these circumstances, there are reasons to believe that *Darevskia aghasyani* sp. nov. is an ancient relic species close to the ancestor form of the South Transcaucasian bisexual and parthenogenetic representatives of the genus *Darevskia*.

Indeed, in the morphology of *D. aghasyani* sp. nov. combines the characteristics of different species. *Darevskia aghasyani* sp. nov. is similar to parthenogenetic species *D. dahli* (Darevsky, 1957) (Fig. 10) in coloration of upper and lateral sides of trunk, but differs from it in both sexes by a reduced number of granules (12–13), while *D. dahli* has 14–20 granules,

Fig. 10. *Darevskia dahli* (vicinity of Village Shamlug, Armenia).

Fig. 11. *Darevskia unisexualis* (vicinity of Village Shamlug, Armenia).

Fig. 12. *Darevskia nairensis* (vicinity of Village Lchashen, Armenia).

Fig. 13. *Darevskia raddei* (Shvanidzor Gorge, Armenia).

Fig. 15. *Darevskia raddei vanensis* (Village Muradie, Turkey).

Fig. 14. *Darevskia defilippii* (Lar Walley, Iran) (photo Borja de las Heras).

and a suture between postnasal and frontonasal shields which is wider than between nasal shields.

Whitish coloration of the belly with bluish spots on the edges of the ventral outer shields of the middle trunk located with a pass through one shield makes *D. aghasyani* sp. nov. similar to parthenogenetic species *D. unisexualis* (Darevsky, 1966). In addition, the new species shows similarities in coloration with parthenogenetic *D. unisexualis* (Fig. 11) because of one small dark spot with blue center at the level of the forelimbs. Unlike *D. unisexualis*, *D. aghasyani* sp. nov. does not have a net figure on the back and contact between rostral and frontonasal.

In the presence of small dots on a brownish-beige background grouped along the center of the back *D. aghasyani* sp. nov. shows some similarities with *D. raddei* (Boettger, 1892) (Fig. 12), whereas in the presence of two enlarged preanals in front of anal shield and usually three small body scales at the ventrolateral edge of each of the outer ventral scales *D. aghasyani* sp. nov. is similar to *D. nairensis* (Darevsky, 1967) (Fig. 13). *Darevskia aghasyani* sp. nov. differs from both latter species by almost white belly, the existence of just 1–2 blue spots on the sides of the trunk, and poorly expressed bluish spots on the outer ventral shields.

White belly of *D. aghasyani* sp. nov. is different from the brick-red belly of *D. defilippii* (Fig. 14) distributed southward in Iran. In the lack of dark spots across the whole upper side, *D. aghasyani* sp. nov. differs from *D. raddei vanensis* (Eiselt et al., 1993) distributed southward in Turkey (Fig. 15).

It is worth mentioning that previously considered subspecies of *D. raddei, D. defilippii* is now regarded as a complex of four cryptic species (Ahmadzadeh et al. 2013). A well-supported molecular cluster of these species has much greater distance from *D. raddei*, than species of the *D. chlorogaster* complex.

A conservation status of *D. aghasyani* sp. nov. is assessed as CR B2ac(iv) "CRITICALLY ENDANGERED", because based on expert estimates the habitat area is less than 10 km^2 and may be fragmented, but at the moment consists of only one locality and marked by extreme fluctuations in number of mature individuals.

Previously Urts Ridge was a part of "Khosrov Forest" State Reserve, as a cluster area. Given the exceptional uniqueness of flora and fauna of this ridge, description of about ten species of plants from Urts Ridge, location of the mouflon breeding area there, and description of *D. aghasyani* sp. nov., a relic lizard species, we suggest to return Urts Ridge into the "Khosrov Forest" State Reserve.

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