which is evidently related to the altitude of their habitat (2000 m above sea level).

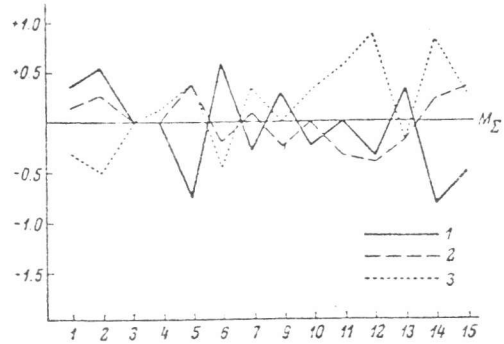

Fig. 60. Summary graph of variation of L. unisexualis.

1 - Gorge of river Marmarik; 2 - Sevan peninsula; 3 - Basargechar

Comparative notes. We have shown before (Darevsky, 1962) that the bisexual subspecies L. s. defilippii (= L. s. nairensis) widely distributed in Armenia and northeastern Turkey has also a morphologically distinct parthenogenetic race possessing on independent distribution. Later, in accordance with the views expressed before,( ) this parthenogenetic race was described as an independent agamic species L. unisexualis (Darevsky, 1966a).

Specimens examined. Armenia: ZIL 14375 (1), Gyunei, northern bank of Sevan lake, 14383 (3), Shordzha, northern bank of Sevan Lake; 14380 (3), Leninakan; 14399 (7), Shordzha, northern bank of Lake Sevan; 15403 (2), Kavtarly, Artik region; 16982 (8), Tsamakaberd, western bank of Sevan lake; 17465 (3), between villages Tsovak and Karchakhpiur, eastern bank of Lake Sevan; 17734 (18), around Basargecha. 17804 (6), Takyarlu, gorge of Marmarik River; 17832 (6), Takyarlu, gorge of Marmarik River; 17832 (6), Razdan, right bank of Razdan River; ZIA (4), Noraduz, Nor-Bayazet region; (12) around Artik town; (4) Apnagiug, Aparan region; (3) gorge of Pambak River above Spitak. Turkey (northeastern): ZIL 17970 (1), Zanzak, Erzerum vilayet.

SPECIES OF PROBABLE HYBRID ORIGIN

Lacerta mixta Méhely, 1909
(Fig. 5D, 61; Photo 20)

L. muralis, Boettger, 1893: 83.-- Lacerta derjugini Nik. x Lacerta saxicola Eversm. = Lacerta mixta Méhely, 1909:581.-- Nikolskii, 1913:82; 1915:384; Mertens, 1922:173. -- saxicola mixta, Lantz and Cyren, 1936:165.

Holotype. Senckenbergische Natur-Museum (Germany), 12087, ♂ Abastumani in Georgia, collected by G. Leder, May 1, 1879.

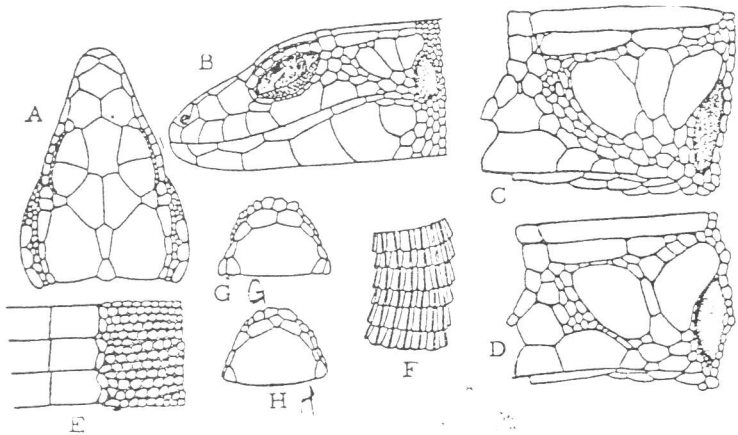

Fig. 61. Major scalation of L. mixta.

A - Head, dorsal view; B - head, lateral view; C, D - temporal region; E - contact zone between body and ventral scales; F - dorsal anterior third of tail; G, H - anal region (D, H - Banis-Khevi; rest - Abastumani).

Description. The frontonasal is noticeably wider than long. The rostral is separated from the frontonasal or reaches it through a fairly broad suture. The width of the suture between the frontonasal and postnasal scales varies widely; in several cases, the postnasal is completely separated from the frontonasal. An interrupted, or rarely a full, row of 2 - 15 granules is present between the supraciliary and supraocular scales. The upper postorbital usually reaches the parietal. The first supraciliary is short or moderately long, slightly elongated, and truncated posteriorly; posterior of it, 1 - 4 well-developed, subequal posttemporals are present. Between the very large midtemporal and the large tympanic, there is a very large wedge-shaped scale in most cases, frequently larger than the tympanic; rarely, the midtemporal and tympanic are separated by 2 large scales lying one above the other. The collar is faintly serrated. Along the midline of the throat, there are 20 - 28 scales. The body scales are moderately bulging, smooth, or weakly keeled on the posterior third of the back; the lateral scales differ little in dimensions from the dorsals. Around midbody, 40 - 45 scales are set in single file. The outer ventral scales laterally meet 2 - 3 body scales in males and 2, rarely 3, in females; these scales are arranged in 21 - 29 and 24 - 27 transverse rows in males and females, respectively. Two slightly enlarged preanals are seen anterior of the large anal or all the preanals are small and more or less equal in size. The femoral pores number 13 - 21. On

the underside of the thigh, between the rows of pores and the outer row of enlarged scales, there are 3 - 6 transverse scale rows. The dorsal scales of the crus have faint keels and are not larger than the dorsal scales. Around the middle of the ankle, 14 - 23 scales are set in a single row. The scales on the anterior third of the tail are moderately keeled dorsally and laterally, the posterior edge of the scales is usually somewhat pointed or projecting weakly at an acute angle. The snout-vent length is 49 - 63 mm in males and 51 - 60 mm in females; the ratio of the body length to that of the whole tail is 0.48 - 0.58 in males and 0.52 - 0.62 in females.

The dorsal coloration of males and females is bright emerald, green green, grass green, bluish green, or brownish-gray, and usually much darker along the spine. The occipital stripe is formed usually of small, often faint blotches and spots concentrated along the spine. Broad dark-brown or dark-fawn temporal stripes consist of 3 closely-spaced longitudinal rows of dark ocelli, whose outlines are often barely visible. Bright centers characteristic of the temporal stripes are faint, completely absent or are prominent only in the pectoral zone. Along the upper, generally sharply sectioned edge of the temporal stripes, bright ciliary lines usually occur or there are rows of tiny blotches which are more distinct on the anterior third of the body. Along the lower edge of the temporal stripes, bright blotches lined with dark ones are set in a row. The venter, including the throat and head, is greenish-yellow, yellow, or yellowish-green. The outer ventral scales at the border with the body scales carry small dark blue and black blotches. In some cases, the blotches may extend even onto the adjacent ventral areas. Dark, tiny blotches are seen on the top of the head.

Geographical distribution. Unlike the other rock lizards, L. mixta does not possess a distinct range; this is evidently the result of its hybrid origin. At present, it occurs sporadically in the Meskhet and Trialet ranges in western Transcaucasia and on the southern slopes of the Bolshoy Kavkaz in the Rioni and Ingiri drainage. Some localities are also known in the northwestern foothills of the Meskhet range in Adzhariya and western Georgia (specially around Makharadze), on the southern slopes of the Egris and Rachin range (around Kutaisi, Tkvibuli, and Labarde health resort), on the southern slopes of the Meskhet range at the Zekari pass and around Abastumani, at several points in the Borzhomi gorge in the Kura valley, and on the northwestern slopes of the Trialet range around Bakuriani and Tskhra-Tskaro pass (Fig. 53, 2). In the Georgia State Museum, a sample has been preserved from around Martkopi on the southern spurs of the Kartalin range close to Tbilisi, but this find needs to be confirmed. The 3 adult specimens from around Kutaisi identi-

fied by S.F. Tsarevskii (1914) as L.s. armeniaca also belong to this species. Stray specimens are also known from northeastern Turkey (Yavuzkemal, vilayet Giryusun). In the Caucasus, it is sympatric almost everywhere with L. derjugini and L. saxicola. Around Bakuriani, it occurs with L. armeniaca and L. r. obscura.

Geographical variation. Samples were investigated from 3 isolated populations in southwestern Georgia, set 55 and 75 km apart. The degree of their variations is depicted in table 26 and fig. 62. It may be seen that the maximum negative deviation of the majority of the characters is noticed in the southern populations from the Zekari pass; the variation, however, does not go beyond the mean square deviation for all the characters. At the same time, several characters reveal a definite clinal variation in a north and northeast direction.

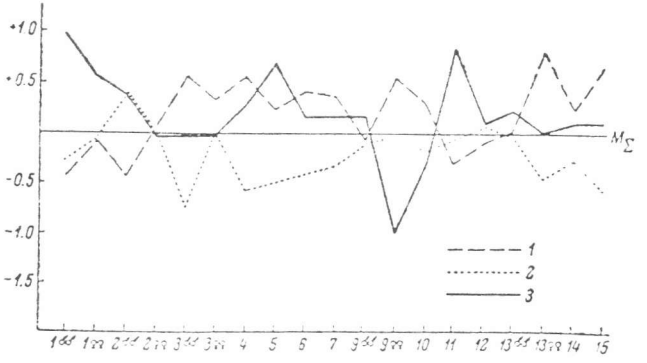

Fig. 62. Summary graph o variation of L. mixta.

1 - Banis-Khevi gorge; 2 - Zekari pass; 3 - Kutaisi.

As demonstated by V.F. Polozhikhina (1965), the individuals from populations sympatric with the forest species (L. derjugini, around Bakuriani) have a distinct hybrid character, differing considerably in several characters from individuals from other parts of the range.

The specimen from northeastern Turkey preserved in the British Museum (Nat. Hist.) differs significantly from the lizards of both Adzhariya and Georgia; the former possesses, in particular, temporal scales which are much smaller than the normal ones.

Comparative notes. Méhely (1909) described his Lacerta mixta from around Abastumani as probably an interspecific hybrid of L. derjugini Nik. x L. saxicola Eversmann, since the only specimen available to him combined in itself the characteristics of both these species. Later,

Table 26

Geographical variation of Lacerta mixta

Characters	Gorge of Banis-Khevi near Borzhomi (Georgia), N = 25 (17 ♂♂, 8 ♀♀)		Zekari pass above Abastumani (Georgia) N = 25 (8 ♂♂, 17 ♀♀)		Kutaisi and Tkvibuli (Georgia), N = 13 (10 ♂♂, 3 ♀♀)		Subspecies as a whole, N = 63 (35 ♂♂, 28 ♀♀)		
	Range of variation	$M \pm m$	Range of variation	$M \pm m$	Range of variation	$M \pm m$	Range of variation	$M \pm m$	σ
1 ♂♂	49—60	53.18±0.75	50—58	53.88±1.03	54—63	58.30±0.82	49—63	54.80±0.62	3.68
1 ♀♀	52—59	55.50±1.02	51—60	55.65±0.72	56—60	57.33±1.33	51—60	55.78±0.54	2.89
2 ♂♂	91—111	102.50±1.19	100—116	108.17±2.54	101—115	108.00±7.00	91—116	105.37±1.26	7.45
2 ♀♀	98—104	100.80±1.02	85—116	100.50±2.18	96—105	100.50±4.50	85—116	100.58±0.13	7.22
3 ♂♂	0.48—0.58	0.52±0.006	0.48—0.52	0.49±0.006	0.50—0.53	0.51±0.01	0.48—0.58	0.51±0.03	0.022
3 ♀♀	0.53—0.58	0.56±0.01	0.52—0.62	0.55±0.007	0.53—0.58	0.55±0.02	0.52—0.62	0.55±0.05	0.028
4	42—55	48.52±0.70	40—49	44.56±0.52	43—52	47.46±0.80	40—55	46.73±0.44	3.55
5	21—28	23.96±0.39	20—25	22.60±0.31	21—27	24.77±0.46	20—28	23.59±0.24	1.93
6	14—21	17.78±0.30	14—19	16.52±0.26	13—20	17.50±0.39	13—21	17.22±0.19	1.51
7	3—15	9.70±0.53	2—13	7.78±0.66	4—15	9.12±0.83	2—15	8.82±0.39	3.10
7a	48	—	60	—	53.8	—	—	—	—
9 ♂♂	21—29	23.47±0.47	22—24	22.88±0.23	22—26	24.60±0.40	21—29	23.66±1.67	9.87
9 ♀♀	24—27	25.50±0.38	23—26	24.94±0.24	24—24	24.00±0.00	24—27	25.00±0.20	1.06
10	1—4	2.60±0.15	2—4	2.32±0.15	2—3	2.23±0.12	1—4	2.41±0.08	0.71
11	1—2	1.08±0.05	1—2	1.18±0.08	1—2	1.54±0.14	1—2	1.21±0.05	0.41
12	2—3	2.56±0.10	1—4	2.64±0.15	1—4	2.65±0.20	1—4	2.61±0.08	0.656
13 ♂♂	2—3	2.88±0.08	2—3	2.86±0.14	2—3	2.90±0.10	2—3	2.88±0.05	0.32
13 ♀♀	2—3	2.81±0.14	2—3	2.24±0.10	2—3	2.50±0.32	2—3	2.43±0.092	0.49
14	16—23	18.44±0.30	14—21	17.80±0.35	15—21	18.23±0.31	14—23	18.14±0.19	1.56
15	4—6	5.04±0.12	3—5	4.24±0.10	4—6	4.69±0.18	3—6	4.65±0.08	0.67

Lantz and Cyren (1936) leaving unanswered the question of hybrid origin of this form, maintained the name L. saxicola mixta for the common specimens from around Borzhomi. As we would see later, L. mixta could have originated initially by hybridization between the species mentioned above with which it is invariably found throughout the extent of its range. The absence of intermediate forms in areas sympatric with other forms of rock lizards, and also distinct morphological features, are convincing proof of its specific independence.

Specimens examined. Georgia: ZIL 8543 (3), around Tkvibuli: 8563 (4), around Kutais: 14415 (1), Bakuriani; 14453 (1), Bakuriani; No 16915 (2), gorge of Banis-Khevi near Borzhomi; 17121 (10), gorge of Banis-Khevi near Borzhomi; 17425 (25), road to Zekari pass above Abastumani; 17895 (2), around Makharadze; 17426 (20), gorge of Banis-Khevi near Borzhomi; 17451 (20), gorge of Banis-Khevi near Borzhomi; 17906 (3), around Kutaisi; SMG (?), Gomis-Mta, Adzhariya· (4) around Lebarde, Gegechkor region; ZMMSU, 2977 (6), road from Bakuriani to Tsikhisdzhavari; and ZIU, (2), Akhaldaba, Borzhomi region Turkey (northeastern): BMNH 1964.392 (1), Yavuzkemal, Giryusun vilayet.