Comparative notes. Lantz and Cyren (1913) first demonstrated that the rock lizards of Adzharia and the adjacent regions of Turkey, which were regarded by several investigators as type subspecies of L. saxicola, did, in fact, form a well-developed and independent subspecies, L.s. parvula. We have established that the numerous specimens of Lacerta saxicola saxicola and also some specimens of Lacerta saxicola gracilis mentioned by Nesterov (1911a,1912) from several regions of northeastern Turkey belong to this same subspecies.

Specimens examined. Adzharia: ZIL 17045 (3), Zelenyi cape near Batumi; 17524 (4), Keda, road to Oktomberi; 17525 (3), Keda, road to Merisi; 17526, Chvana, Khuloi region; 17527 (8), valley of the Chakvis-Tskali River Kobulet region; 17528 (3), Khinchaluri, Khuloi region; 17529 (16), Chvana, Khuloi region, 17530 (5), Barataull, Khuloi region; 17532 (1), Shuakhevi Khuloi region; 17535 (1), Oktomberi Khuloi region. Georgia: ZIL 16001 (8), gorge of the Kurtskhan River close to Abastumani; 16314 (2), Meriya, Makharadzev region; 17433 (28), 17449 (1), gorge of Banis-Khevi, Borzhomi region; 17533 (2), Atskuri, Akhaltsikh region; 17440 (21), Abastumani, road to Zekari pass; ZIU (7), Akhaldaba, Borzhomi region. Turkey (northeastern): ZIL 9097 (3), Atvin; 9082, Borchka, Artvin vilayet; 9099 (10), around Artvin; 10692 (5), Ipkhreul-Su River Artvinskii Vilayet; 10695 (14), Lomasheny, Artvin vilayet; 10810 (12), Singot post, Artvin vilayet, 10813 (4), Gurzhany, Artvin vilayet 10817 (4), Olty, Erzerum vilayet vilayet; 10821 (1), around Ardagan; 17890 (2), Zanzak Erzerum vilayet; BMUH 1961516 (1), 475 (1), Baiburt, vilayet Gyumyushane.

Lacerta saxicola portshinskii Kessler, 1878
(Table I, C; Fig. 5 A, 31 Photo 17)

L. portschinskii Kessler, 1878:160, Table I.-- muralis var. depressa, Boettger, 1899:281.-- muralis var. portschinskii, Boulenger, 1904:337, Table XXII, Fig.6; 1913:193, Table XXIII, Fig. 1, 1a, 1b 1920:286.-- saxicola var. chalybdea, Méhely, 1909:513.--saxicola var. portschinskii, Nikolsky, 1913:70.-- saxicola portschinskii, Nikolsky 1915:368; Lantz and Cyren, 1936:165; Terentiev and Chernov, 1949:188.-- saxicola defilippii, Rostombekov (non Camerano), 1930:6.

Holotype. Not designated. Described by Kessler (1878) from specimens from around Tiflisi(Tbilisi).

Description -- The width of the frontonasal scale is equal to or slightly greater than its length. The rostral is separated from the

frontonasal or very rarely joined to it at one point. The suture between the frontonasal and postnasal is not shorter or only slightly so than that between the anterior and posterior nasals. The frontal is joined to the prefrontal by straight or slightly convex suture. The supraciliaries are separated from the supraoculars by a continuous, sometimes partly doubled, row of 8 - 18 granules. The upper postorbital generally touches the parietal. The first supratemporal is short or moderately long, slightly constricted posteriorly where it is cut off straight or obliquely; the 2 - 5 tiny posttemporals located posterior of it are nearly subequal in very rare cases, the posttemporals are not visible. The midtemporal is moderate, small, or absent and separated from the first supratemporal by 1 - 5 longitudinal rows of tiny scales. The well-developed tympanic is separated at the narrowest place from the midtemporal by 2 - 5 enlarged scales. Along the midline of the throat, there are 25 - 34 scales. The collar is straight, rarely very slightly serrated. The dorsal body scales are smooth, slightly prominent, and sometimes very large at the contact with the ventrals.

Around midbody, 49 - 61 scale rows are present. Each external ventral scale touches laterally 3 body scales in males and 2, rarely 3, in females. The ventral scales are arranged in 23 - 27 and 26 - 30 transverse rows in males and females, respectively. The anal scale is large and broad; anterior of it, there is a single large preanal scale more or less rounded along its posterior edge. The femoral pores number 14 - 22. On the underside of the thigh between the pores and outer row of large scales, there are 4 - 7 longitudinal rows of tiny scales. The dorsal scales covering the crus have distinct longitudinal keels or spinules and are more or less equal in size to the body scales. Around the middle of the crus exclusive of the large ventral scales 15 - 23 scales lie in a single row. Dorsally the scales on the anterior third of the tail have moderately, and laterally well-developed keels sometimes with an upturned posterior edge. The posterior edge of the caudal scales are truncate or somewhat outstretched at a right angle.

The snout-vent length varies widely in the range of 48 - 67 mm in males and 45 - 65 mm in females. The ratios of body length to that of the unregenerated tail are 0.41 - 0.55 and 0.50 - 0.62.

The chief background of the dorsum is gray, mouse-gray, dark-gray, grayish-beige or brownish-gray.

The occipital stripe usually forms a reticular pattern covering the entire middle of the back. The pattern is formed of irregular black blotches extending across and joining with each other. In some cases, this pattern, specially in the posterior section of the body, is partly or completely

absent. The major background color of the ciliary stripes without spots is very distinct or completely absent, depending upon the degree of development of the occipital stripes. The moderately developed black or brown temporal stripes traversing the body sides carry 1 - 4 longitudinal rows of bright ocelli which are bluish in the pectoral zone. Sometimes, small bright centers often merged to form a continuous line are seen along the toothed upper edge of the temporal stripes. Bright supramaxillary stripes are usually slightly developed. During the breeding season, the venter, head through belly is bright-yellow or yellowish-orange. At this time in males, the outer rows of ventral scales and adjacent body scales including the ocelli located on the temporal stripes acquire a bright-blue coloration. The identical color of the small spots may even be seen in the temporal region of the head. In the summer, the bright coloration of the breeding season is considerably faded and is preserved in some specimens only on the abdomen.

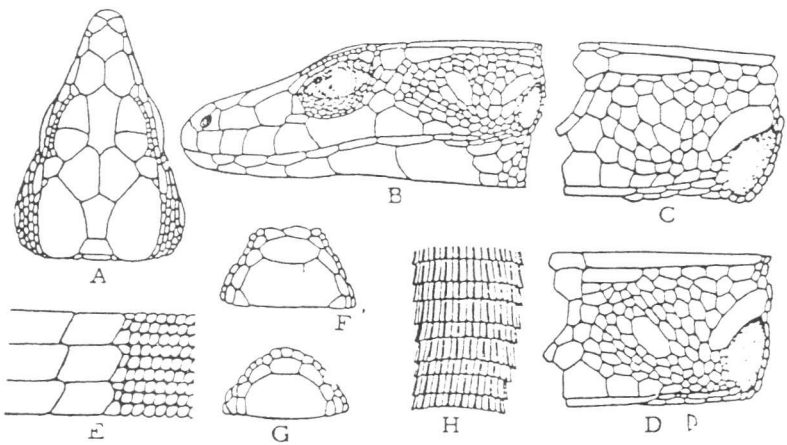

Fig. 31. Major scalation of L. s. portschinskii.

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

Geographical distribution. The main range of this subspecies covers first of all the right bank of the valley section of the midcourse of Kura in Georgia, northern Armenia, and northwestern Azerbaijan from Gora in the west to the northern foothills of Little Caucasus in the lower course of the Algeta, Khrama, Debet, Akstafachai, and Giandzhachai Rivers in the southeast. A large, isolated population exists in the valley of the midcourse of the left tributary of Kura, the Iora River on the southern slopes of the Tsivombor range. The northern edge of the range extends along

the left bank of Kura, the immediate neighborhood of Tbilisi (Mtskheta, Avchala, Saganlugi, Martkopi, etc.), spurs of the Martalin and Tsivgombor ranges and the valley of the midcourse of the Iora River roughly up to the village Bochorma in the north. In the south, the spread of the subspecies is limited by the foothills of Trialet, Somkhet, Murguz, and Sevan ranges where it ascends quite high into the mountains along the valleys of the rivers falling into the Kura. The extreme southern records from west to east are around Manglisi and Kodzhori health resorts in Georgia, around Tumaniar (gorge of the Debet, River, Stepanavan town, the village of Kuibyshev (gorge of the Agstev River) and in the valley of the midcourse of the Giandzhanchai River in Azerbaijan (fig. 32,1). Both the latter localities are presently well segregated from the main range. In the gorge of the Tana River, L.s. portschinskii occurs with L.r. obscura while it cohabits with L.s. raddei in the gorge of Debet and Agstev valley. In the northwest, the range of this subspecies is locally sumpatric with that of the parthenogenetic species L. dahli.

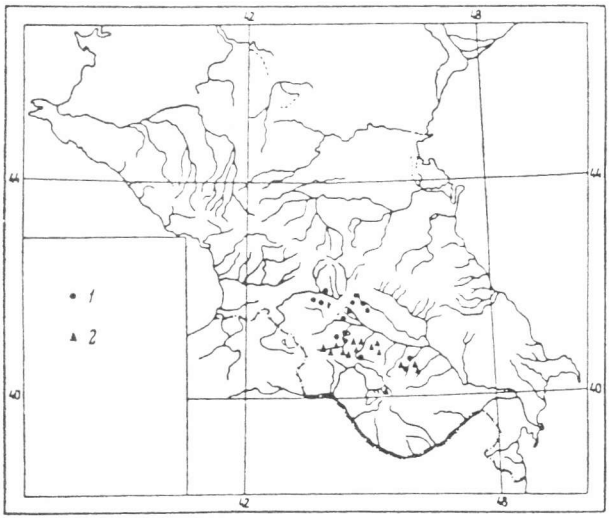

Fig. 32. Main occurrences in the Caucasus.
1 - L.s. portschinskii; 2 - L. rostombekovi.

Geographical variation. Samples were examined from 7 populations from west to east spaced at distances of 35, 15, 15, 35, 30 and 40 km, the last 3 of these are now isolated from the main range (table 12). As may be seen from Fig.33, each of the sampled populations is characterized by an extremely wide range of variations of the basic characters though, on the whole, all of them differ only very little from each other with respect to many characters

Table 12

Geographical variation of Lacerta saxicola portschinskii

Characters	Atensk gorge (Georgia), N = 26 (16 ♂♂, 10 ♀♀)		Around Manglisi (Georgia), N = 21 (12 ♂♂, 9 ♀♀)		Around Tbilisi, N = 10 (4 ♂♂, 6 ♀♀)		Around Kodzhori close to Tbilisi, N = 18 (10 ♂♂, 8 ♀♀)	
	Range of variation	$M \pm m$	Range of variation	$M \pm m$	Range of variation	$M \pm m$	Range of variation	$M \pm m$
1 ♂♂	48—55	51.81±0.52	51—61	56.5 ±0.86	48—55	50.75±1.49	49—59	52.8 ±0.95
1 ♀♀	51—55	52.7±0.36	51—59	54.00±0.94	45—58	53.17±2.31	53—60	55.88±0.97
2 ♂♂	106—119	112.23±1.24	105—130	111.89±2.45	95—110	102.0 ±2.95	107—122	112.9 ±1.50
2 ♀♀	85—103	96.89±1.83	91—93	92.5 ±0.49			100—109	104.4 ±1.86
3 ♂♂	0.44—0.50	0.46±0.01	0.46—0.55	0.50±0.009	0.47—0.59	0.53±0.02	0.42—0.49	0.46±0.002
3 ♀♀	0.53—0.62	0.54±0.01	0.51—0.57	0.54±0.01			0.50—0.55	0.53±0.005
4	52—60	55.65±0.47	52—60	56.67±0.37	51—56	53.3 ±0.59	50—60	54.61±0.71
5	25—32	27.96±0.34	26—32	28.86±0.36	28—32	29.0 ±0.48	26—34	28.89±0.47
6	15—22	18.54±0.28	16—19	17.62±0.21	17—20	19.15±0.25	15—21	18.22±0.29
7	9—16	11.81±0.29	8—14	11.57±0.30	10—16	11.95±0.49	9—16	11.5 ±0.35
7a	0	—	0	—	0	—	0	—
9 ♂♂	23—25	23.94±0.13	23—25	24.17±0.20	24—25	24.5 ±0.28	23—25	24.00±0.21
9 ♀♀	26—28	27.00±0.29	26—29	27.22±0.36	26—28	27.33±0.33	26—29	27.25±0.31
10	1—1	1.00±0.00	1—2	1.09±0.06	1—2	1.10±0.1	1—2	1.27±0.10
11	2—4	2.73±0.12	2—4	2.47±0.12	3—5	3.30±0.2	2—4	3.00±0.10
11a	0	—	19	—	40	—	11.1	—
12	3—5	3.84±0.12	2—5	3.26±0.13	3—5	3.85±0.20	2—4	3.22±0.13
13 ♂♂	2—3	2.87±0.08	2—3	2.91±0.08	3—3	3.00±0.00	2—3	9.9±0.09
13 ♀♀	2—3	2.30±0.14	2—3	2.72±0.15	3—3	3.00±0.00	2—3	2.62±0.17
14	15—20	17.69±0.24	16—20	18.76±0.23	16—18	16.6 ±0.24	16—21	18.39±0.34
15	5—6	5.57±0.09	4—6	5.19±0.14	4—5	4.8 ±0.13	4—6	4.89±0.13

Characters	Gorge of the Iora River (Georgia) N = 13 (9 ♂♂, 4 ♀♀)		Stepanavan (northern Armenia), N = 29 (21 ♂♂, 8 ♀♀)		Gorge of the Debet River (northern Armenia), N = 11 (9 ♂♂, 2 ♀♀)		Subspecies as a whole, N = 128 (81 ♂♂, 47 ♀♀)		
	Range of variation	$M \pm m$	Range of variation	$M \pm m$	Range of variation	$M \pm m$	Range of variation	$M \pm m$	
1 ♂♂	55—62	58.33±0.74	55—67	61.00±0.76	52—57	53.44±0.62	48—67	55.86±0.41	4.59
1 ♀♀	55—61	58.25±1.37	52—65	58.38±1.4	55—57	56.0 ±1.00	45—65	53.98±0.6	4.11
2 ♂♂	115—134	123.5 ±2.61	112—142	124.18±3.05	112—127	117.0 ±3.43	105—142	116.60±0.90	8.14
2 ♀♀			98—112	102.71±1.89	—	—	85—112	91.01±2.1	14.10
3 ♂♂	0.45—0.48	0.46±0.003	0.47—0.50	0.49±0.003	0.41—0.48	0.45±0.01	0.41—0.55	0.48±0.003	0.030
3 ♀♀			0.52—0.59	0.57±0.009	—	—	0.50—0.62	0.50±0.0079	0.053
4	50—60	55.15±0.76	49—61	55.72±0.49	53—61	58.27±0.62	49—61	55.68±0.24	2.72
5	25—32	28.39±0.52	25—31	27.86±0.3	26—32	28.91±0.64	25—34	28.42±0.164	1.86
6	16—20	18.5 ±0.4	14—20	17.95±0.22	17—22	18.77±0.38	14—22	18.27±0.11	1.29
7	9—14	11.08±0.30	8—14	11.28±0.22	9—18	13.09±0.73	8—18	11.65±0.13	1.58
7a	0	—	0	—	0	—	—	—	—
9 ♂♂	24—26	25.11±0.26	25—27	25.95±0.15	23—25	24.12±0.99	23—27	24.68±0.12	1.09
9 ♀♀	27—28	27.75±0.24	27—30	28.63±0.39	26—28	27.00±1.00	26—30	26.90±0.12	1.26
10	1—2	1.03±0.05	1—1	1.00±0.00	1—1	1.00±0.00	1—2	1.06±0.02	0.24
11	3—5	3.62±0.16	2—4	2.53±0.10	2—4	2.81±0.18	2—5	2.82±0.019	0.67
11a	38.4	—	10.3	—	18.1	—	—	—	—
12	3—5	4.11±0.17	3—5	4.01±0.09	2—4	3.5 ±0.59	2—5	3.70±0.059	0.678
13 ♂♂	2—3	2.72±0.15	2—3	2.57±0.10	3—3	3.00±0.00	2—3	2.81±0.107	0.97
13 ♀♀	2—3	2.75±0.23	2—3	2.31±0.16	2—2	2.00±0.00	2—3	2.50±0.07	0.50
14	16—20	18.15±0.37	17—21	19.10±0.19	17—23	19.80±0.51	15—23	18.43±0.12	1.47
15	4—6	5.54±0.18	4—7	5.31±0.12	4—6	5.45±0.20	4—7	5.28±0.05	0.66

On the other hand, the extreme values of some characters.for example, the number of transverse rows of pectoral and ventral scales, are noticed in the isolated hill populations around Stepanavan in Armenia. The populations from the gorge of the Debet River (around Tumanian) and valley of the Agstev River in northern Armenia possess well-developed hybrid characteristics as a result of sympatry with L.s. raddei.

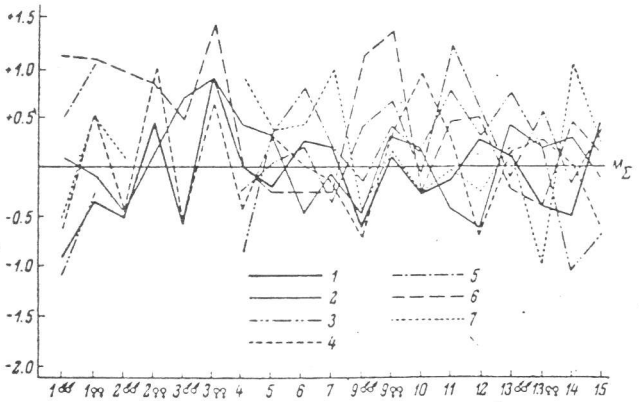

Fig. 33. Summary graph of variation of L. s. portschinskii.

1 - Atensk gorge; 2 - Manglisi; 3 - Tbilisi; 4 - Kodzhori; 5 - valley of the Iora River; 6 - Stepanavan; 7 - gorge of the Debet River.

The clear association between the body dimensions of these lizards and the height above the sea level of their habitation is striking. As a result of this, the specimens of these populations differ considerably in this respect from each other (fig. 63 F).

Comparative notes. Méhely (1909) included Lacerta portschinskii described by Kessler in 1878 among the synonyms of L. saxicola var. chalybdea Eichw. assuming that Eichwald (1841) in his Fauna Caspio-Caucasia described one of the forms of Lacerta saxicola Eversmann under the name Zootoca chalybdea. The fallacy of this view was convincingly demonstrated by Nikolskii (1910) and Lantz and Cyren (1936) who retained the original name, L. saxicola portschinskii for the form described by Kessler.

Specimens examined. Georgia : ZIL 14471 (1), Tbilisi; 14477 (1), Tbilisi, 16988 (1), Tbilisi; 17096 (5), Atensk gorge, 17103 (3), Tbilisi; 17429 (20), around boshuri, Atensk gorge; 17435 (35), between Atena and Tbilisi, Atensk gorge; 17403 (10), around Tetri-Tskaro; 17547 (20), Manglisi, gorge of Algeti River 17774 (13), southeastern Tsivgombor range; 17900 (19); 17903 (2), gorge of Tedzama. ZIL 14421 (1), Alaverdy:

16545 (4), around Kolageran station; 16755 (7), Alaverdy; 17457 (20), gorge of the Dzoraget River, Stepanavan; 17541 (7), Stepanavan; 17941 (13), gorge of the Getikr River. Azerbaijan: ZIL 3130 (1), Kirovabad; 17067 (2), gorge of the Gyandzhachai River.

Lacerta saxicola raddei Boettger 1892

(Fig. 34; photo. 12).

L. muralis var. raddei, Boettgar, 1892 142; Mertens, 1922:173; muralis var. defilippii, Boulenger, 1904:337; 1920:288;- saxicola var. defilippii Mehely, 1909:519, Table XVIII, Fig. 1, 3, Nikolskii, 1913:71, 1915:370; - caucasica var. tenuis, Nikolskii, 1910:496; - saxicola defilippii, 1929:102; Lantz and Cyren, 1936:164; Chernov, 1939:111; Terentiev and Chernov, 1949:188; Darevsky, 1957:28.

Lectotype. Senckenbergische Natur-Museum (Germany), 12054, village Nyuvadi in Araks valley, southeastern Armenia, collected by Radde and Valentin in 1890.

Description. The width of the frontonasal exceeds its length. The rostral is separated from the frontonasal, or very rarely joins it at one point. The suture between the frontonasal and postnasal scales is usually somewhat shorter than or equal to that between the anterior and posterior nasals.

The supracilliary and supraocular scales are usually separated by a complete row of 6 - 15 granules. The upper postorbital reaches the parietal roughly in 40 percent of the specimens. The first supratemporal is long or moderately so, slightly constricted and truncated posteriorly; anterior of it along the edge of the parietal, there are 1 - 5 well-developed posttemporals. 2-5 tiny scales of size between that of the midtemporal and the small tympanic are arranged in a very narrow place. Along the midline of the throat up to the collar, there are 20 - 29 scales. The body scales are smooth, fairly prominent; around the midbody 48-62 scale rows are present. Each outer ventral scale meets laterally 2 - 3 body scales in males and more often with 2 than 3 in females; the posterior most boundary scale is usually somewhat enlarged. The ventral scales are arranged in 21 - 27 transverse rows in males and 23-30 in females. The anal scale is large; anterior of it, 2 fairly large preanal scales are arranged symmetrically; often, between these a tiny third one is wedged. The femoral pores number 13 to 23. On the underside of the thigh, between the pores and the outer row of large scales, lie 5 - 8 transverse rows of tiny scales. The dorsal scales of the crus have pronounced keels not exceeding the