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First record of Blanford's Short-nosed Desert Lizard *Mesalina brevirostris* BLANFORD, 1874, from Anatolia
(Squamata: Sauria: Lacertidae)

Erstnachweis von *Mesalina brevirostris* BLANFORD, 1874 aus Anatolien
(Squamata: Sauria: Lacertidae)

YUSUF KUMLUTAŞ & ERTAN TAŞKAVAK & İBRAHIM BARAN & ÇETIN ILGAZ & AZIZ AVCI

KURZFASSUNG

Die Vorliegende Studie belegt das Vorkommen von *Mesalina brevirostris* BLANFORD, 1874 in der Türkei. Neun Exemplare (fünf Männchen, vier Weibchen) wurden in Akçakale (Şanlıurfa) nahe der türkisch-syrischen Grenze am 6 und 7. Mai 2002 gefangen. Die Pholidosemerkmale der neun Exemplare aus Akçakale ähneln denen, wie sie mehrere Autoren für syrische Tiere angeben. Die Anzahl der Dorsalia-Querreihen ist bei den Exemplaren von Akçakale (49,0 - 57,0; Mittelwert 53,2) deutlich größer als bei Tieren aus dem östlichen und zentralen Syrien (36,0 - 47,0; Mittelwert 40,3). Nach metrischen, meristischen und Farbmuster-Merkmalen sind die neun Exemplare von Südost-Anatolien der typischen Form *Mesalina brevirostris brevirostris* zuzuordnen.

ABSTRACT

This study substantiates the presence of *Mesalina brevirostris* BLANFORD, 1874 in Turkey. A total of nine specimens (five males and four females) was collected from Akçakale (Şanlıurfa) in the vicinity of the Turkish-Syrian border on May 6 and 7, 2002. The pholidosis characteristics of the nine specimens recorded from Akçakale are quite similar to those given by various researchers for Syrian specimens. According to the numbers of dorsalia, the Akçakale specimens (49.0 - 57.0, mean 53.2) have clearly greater values than those in eastern and central Syria (36.0 - 47.0, mean 40.3). Regarding metric, meristic, colour and pattern characteristics, the nine specimens from south-eastern Anatolia appear assignable to the typical form, *M. brevirostris brevirostris*.

KEY WORDS

Reptilia: Squamata: Sauria: Lacertidae: *Mesalina brevirostris*, new country record, Turkey

INTRODUCTION

Blanford's Short-nosed Desert Lizard *Mesalina brevirostris* BLANFORD, 1874, lives in the Sinai Desert, Northern Saudi Arabia, Syria, Jordan, Lebanon, Iraq, Kuwait, South Western Iran, the islands of the Arabian Gulf, Pakistan, the Iranian Plateau, Bahrain, Qatar, and the United Arab Emirates (WEBER 1960; MINTON 1966; HAAS & WERNER 1969; ARNOLD 1986; ROSS 1988; LEVITON et al. 1992; ANDERSON 1999; IN DEN BOSCH 2001). The genera *Eremias* and *Mesalina* were recognized as sister taxa, and the species *brevirostris*, which previously was assigned to *Eremias*, has been included in *Mesalina* today (SZCZERBAK 1974; ARNOLD 1986; MAYER & BENYR 1994; MAYER & BISCHOFF 1996).

ANGEL (1936) described *Mesalina brevirostris microlepis* from the area between Homs and Qariatein in Syria. HAAS & WERNER (1969) took specimens from eastern Syria, Iraq, Jordan and Pakistan for *M. brevirostris brevirostris*, and assigned 22 specimens collected from south-eastern Iran to the new subspecies *M. brevirostris fieldi*. In spite of an unsubstantiated record given by CLARK & CLARK (1973), who reported the observation of *Mesalina olivieri schmidti* (HAAS, 1951) on stony islets and in dry river beds with fine gravel and woody shrubs, none of the species and/or subspecies of the genus *Mesalina* has been specified in any of the herpetofaunal lists given by various researchers (BAŞOĞLU & BARAN 1977; BARAN 1996; BARAN & ATATÜR 1998).

This study presents the first Turkish specimens of *Mesalina brevirostris brevirostris*, the northernmost known record of which was from Syria so far.

MATERIALS AND METHODS

A total of 9 specimens (5 males and 4 females) was collected from Akçakale, (Şanlıurfa, fig. 1) on May 6 and 7, 2002, fixed (95%) and preserved (70-75%) in ethanol after etherisation according to the method described by BAŞOĞLU & BARAN 1977. The specimens were incorporated into the collection of ZDEU (Zoology Department Ege University, Izmir).

Material: ZDEU-10/2002-1-9 (1-5 ♂♂, 6-9 ♀♀), Akçakale, 06.05-07.05.2002 leg. I. BARAN, Y. KUMLUTAŞ, Ç. ILGAZ, A. AVCI. The following measurements were made to the nearest 0.01 mm using digital callipers (Mitutoyo, 500 - 162U): snout-vent length (tip of snout to anal cleft), tail length (anal cleft to the tip of tail), pileus width (at widest point between parietal plates), pileus length (tip of snout to the posterior margins of parietals), forelimb length (shoulder joint to tip of toe), hindlimb length (pelvic joint to tip of toe), head width (at widest point of head), head length (tip of snout to posterior margin of ear opening). Meristic characters taken into consideration here comprise the following counts: transversal series of dorsal scales at the middorsal line, transversal series of gular scales between inframaxillar symphysis and collar, collar plates, series of ventral plates (transversal and longitudinal), preanal scales, femoral pores (left and right) and subdigital lamellae in the longest (4th) toe (left and right).

Table 1 comprises the basic statistics (range, mean value, standard error, standard deviation) of the metric data; the meristic data are represented by the complete series of counts. However, in order to compare our meristic data with those given by HAAS & WERNER (1969), we also computed their mean values, standard errors and standard deviations.

In order to compare similarities and differences, one-way analyses of variance (ANOVA) were applied to the morphometric characters of males and females. In addition, the distribution functions of the non-parametric characters of females and males were tested with the Kolmogorow-Smirnov two-sample test.

RESULTS

Pholidosis
(figs. 2, 3)

The nostril is surrounded by three nasal plates. The infranasal is in contact with and separates the nostril from the 1st supralabial. Four supralabials in front of the subocular, except for a single specimen having three on the right side. The supraciliar plates are usually six, although two specimens have seven on the right side. The subocular enters the mouth in two out of nine specimens The transparent area of the lower eyelid is not edged with a black margin. The occipital plate is indistinct (very tiny) in a single specimen (11%), and absent in the rest (89%). The number of the transversal scale rows counted at the middle ridge of the body ranges from 49 to 57. The gular scales start at the level of the third inframaxillar and are arranged in 21 to 30 (mean 24.0) rows when counted along a straight median line; number of collaria from 8 to 11 (mean 9.3).

The number of longitudinal rows of ventral plates across belly is 10 in a single specimen (11%) and 12 in the remaining (89%). The ventral scales are arranged in transversal (not oblique) series. The number of transverse series of ventral plates ranges from 29 to 38 (mean 33.1); lower counts were observed in males (29-34; mean 31.6), higher in females (34-38; mean 35.0). The counts of the femoral pores range from 14 to 21 (mean 16.6) and of the lamellae under the 4th toe from 20 to 24 (mean 21.3).

Morphometry
(table 1)

Maximum total length measured was 170.82 mm for a male specimen. In general, the average body length (snout-vent length + tail length) of the males was longer than that

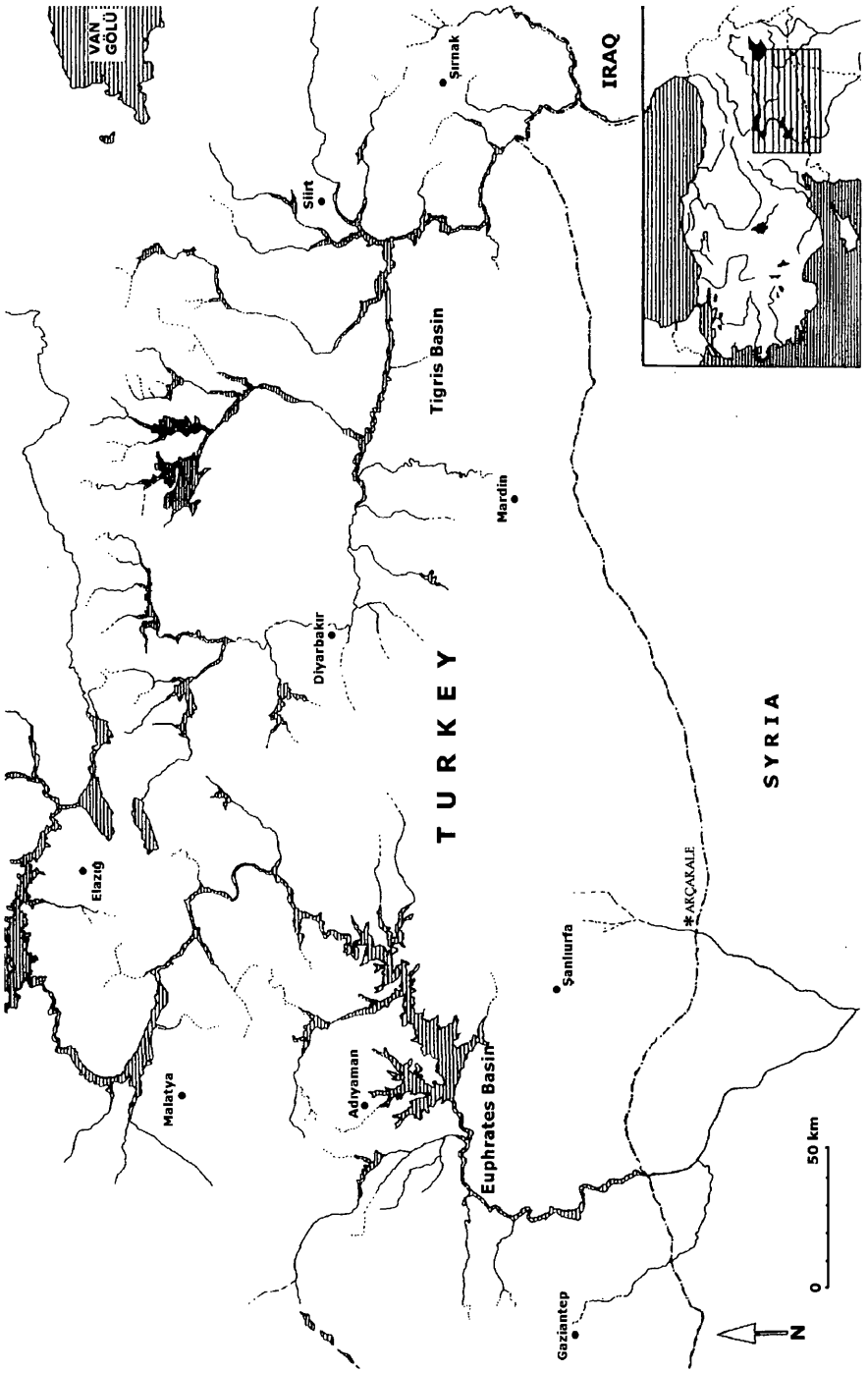

Fig. 1: Geographic position of Akçakale in SE Turkey (marked by an asterisk) where *Mesalina brevirostris* BLANFORD, 1874 was collected.
Abb. 1: Die Lage von Akçakale in der SE-Türkei (durch ein Sternchen markiert), dem Fundort von *Mesalina brevirostris* BLANFORD, 1874.

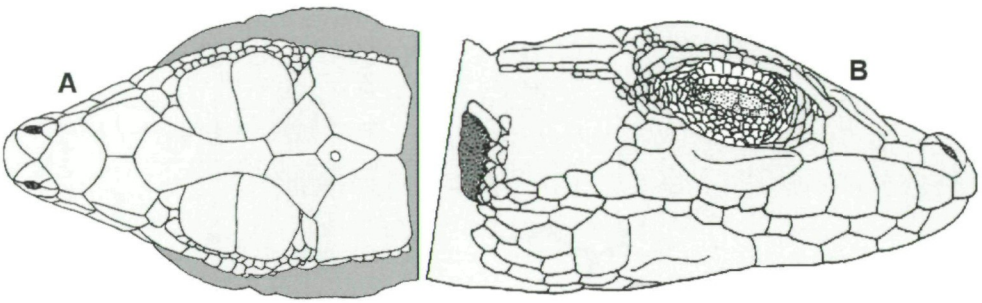

Fig. 2 (top): *Mesalina brevirostris* BLANFORD, 1874 collected from Akçakale (SE Turkey). Schematic dorsal (A) and lateral (B) aspects of the head, modified from HAAS & WERNER (1969).

Abb. 2 (oben): *Mesalina brevirostris* BLANFORD, 1874 aus Akçakale (SE-Türkei). Schematische Dorsal- (A) und Lateralansicht (B) des Kopfes, verändert nach HAAS & WERNER (1969).

Fig. 3 (right): Lateral view of the head of *Mesalina brevirostris* BLANFORD, 1874 collected from Akçakale (SE Turkey).

Abb. 3 (right): *Mesalina brevirostris* BLANFORD, 1874 aus Akçakale (SE-Türkei). Kopf von lateral.

of the females, whereas the females have relatively longer snout-vent lengths (56.10-58.50; mean 57.05) than the males (51.70-57.82; mean 54.08). However, one-way ANOVA showed that the difference between male and female snout-vent lengths was not significant ($df = 1, 7$; $F = 4.80$; $P = 0.07$). In spite of small sample size, one-way ANOVA revealed differences between males and females in pileus length ($df = 1, 7$; $F = 11.83$; $P = 0.01$), head width ($df = 1, 7$; $F = 8.95$; $P = 0.02$), head length ($df = 1, 7$; $F = 7.67$; $P = 0.03$), forelimb length ($df = 1, 7$; $F = 7.23$; $P = 0.03$) and hindlimb length ($df = 1, 7$; $F = 28.72$; $P = 0.001$). No significant differences were found in tail length ($df = 1, 5$; $F = 0.70$; $P = 0.45$) and pileus width ($df = 1, 7$; $F = 4.29$; $P = 0.07$) between males and females. The Kolmogorow-Smirnov two-sample test also showed that there were significant differences between males and females in the number of preanal scales and longitudinal and transversal series of ventral plates ($P < 0.05$). Thus, a set of eight characters (pileus length, head width, head length, forelimb length, hindlimb length, preanal scales, longitudinal and transversal series of ventral plates) differentiated males from females. The ratios of head length to head width were computed as 1.69 ± 0.02 (range 1.66-1.79; SD 0.05), 1.68 ± 0.03 (range, 1.58-1.72; SD, 0.06) and 1.69 ± 0.02 (range, 1.58-1.79; SD, 0.06) for males, females and overall specimens, respectively.

Colour and pattern (figs. 4, 5)

Regarding the colour and pattern characteristics of the specimens, no difference was observed between the males and females. The plates on the head are brown and unmarked. Background colouration of the back is grey or greyish brown, with longitudinal pale, or dark specks. There are numerous whitish or dirty white ocelli on the back and their margins are usually characterized by dark colours. These ocelli are found on the upper part of the tail as well as the front and rear limbs. In addition to ocelli, small brown coloured dots are also present on the dorsum. The ventral side is whitish, the outermost ventral plates are greyish.

Character Merkmal	Males + Females / Männchen + Weibchen n	Mean±SE Mittel±SE	Range Spannweite	SD	Males / Männchen n	Mean±SE Mittel±SE	Range Spannweite	SD	Females / Weibchen n	Mean±SE Mittel±SE	Range Spannweite	SD
Snout-vent length Kopf-Rumpf-Länge	9	55.40±0.82	51.70-58.50	2.46	5	54.08±1.13	51.70-57.82	2.52	4	57.06±0.53	56.10-58.50	1.05
Tail length Schwanzlänge	7	102.14±4.90	80-115	12.97	5	104.80±6.42	80-115	14.36	2	95.50±5.50	90-101	7.78
Pileus width Pileusbreite	9	5.67±0.14	5.02-6.34	0.42	5	5.89±0.18	5.30-6.34	0.39	4	5.40±0.15	5.02-6.32	0.53
Pileus length Pileuslänge	9	11.84±0.28	10.48-12.90	0.84	5	12.40±0.23	11.66-12.90	0.51	4	11.14±0.30	10.48-11.76	0.60
Forelimb length Vorderbeinlänge	9	17.85±0.22	16.84-18.58	0.65	5	18.24±0.14	18.00-18.58	0.31	4	17.37±0.32	16.84-18.26	0.65
Hindlimb length Hinterbeinlänge	9	32.22±0.60	29.76-34.44	1.79	5	33.57±0.42	32.56-34.44	0.94	4	30.53±0.35	29.76-31.32	0.71
Head width Kopfbreite	9	7.44±0.16	6.50-8.00	0.47	5	7.74±0.12	7.42-8.00	0.27	4	7.07±0.20	6.50-7.44	0.40
Head length Kopflänge	9	12.57±0.32	10.92-13.60	0.95	5	13.15±0.23	12.32-13.60	0.52	4	11.85±0.44	10.92-12.78	0.88
Dorsal scales (transversal) Dorsalia (quer)	9	53.22±0.89 (49-51-52-52-53-53-55-57-57)	49-57	2.68	5	52.20±1.32 (49-51-52-52-57)	49-57	2.95	4	54.50±0.96 (53-53-55-57)	53-57	1.91
Gular scales Gularia	9	24.00±0.83 (21-22-23-24-24-24-24-24-30)	21-30	2.50	5	24.20±1.56 (21-22-24-24-30)	21-30	3.49	4	23.75±0.25 (23-24-24-24)	23-24	0.50
Collar plates Collaria	9	9.33±0.29 (8-9-9-9-9-9-10-10-11)	8-11	0.87	5	9.40±0.51 (8-9-9-10-11)	8-11	1.14	4	9.25±0.25 (9-9-9-10)	9-10	0.50
Ventral plates (transversal) Ventralia (quer)	9	33.11±0.87 (29-30-32-33-34-34-34-34-38)	29-38	2.62	5	31.60±0.93 (29-30-32-33-34)	29-34	2.07	4	35.00±1.00 (34-34-34-38)	34-38	2.00
Ventral plates (longitudinal) Ventralia (längs)	9	11.78±0.22 (10-12-12-12-12-12-12-12-12)	10-12	0.67	5	11.60±0.40 (10-12-12-12-12)	10-12	0.89	4	12.00±0.00 (12-12-12-12)	12-12	0.00
Preanal scales Präanalschuppen	9	5.22±0.15 (5-5-5-5-5-5-5-6-6)	5-6	0.44	5	5.40±0.24 (5-5-5-6-6)	5-6	0.55	4	5.00±0.00 (5-5-5-5)	5-5	0.00
Femoral pores (left) Femoralporen (links)	9	16.56±0.69 (14-15-15-16-16-17-17-18-21)	14-21	2.07	5	16.60±1.21 (14-15-16-17-21)	14-21	2.70	4	16.50±0.65 (15-16-17-18)	15-18	1.29
Femoral pores (right) Femoralporen (rechts)	9	17.11±0.61 (15-15-16-16-16-17-17-19-20)	15-20	1.83	5	17.00±0.84 (15-16-17-17-20)	15-20	1.87	4	17.25±1.03 (15-16-16-19)	15-19	2.06
Subdigital lamellae (left) Subdigitallamellen (links)	9	21.33±0.47 (20-20-20-21-21-21-22-23-24)	20-24	1.41	5	21.60±0.81 (20-20-21-23-24)	20-24	1.82	4	21.00±0.41 (20-21-21-22)	20-22	0.82
Subdigital lamellae (right) Subdigitallamellen (rechts)	9	21.44±0.29 (20-21-21-21-21-22-22-22-23)	20-23	0.88	5	21.40±0.51 (20-21-21-22-23)	20-23	1.14	4	21.50±0.29 (21-21-22-22)	21-22	0.58

Table 1: Basic statistics of the metric [mm] and meristic characters of nine specimens (5 males and 4 females) of *Mesalina brevirostris* BLANFORD, 1874 collected from Akçakale, SE Turkey. n - sample size, SD - Standard deviation, SE - Standard error of the mean. Series of counts in parentheses.

Tab. 1: Statistische Kenngrößen metrischer [mm] und meristischer Merkmale von neun Exemplaren (5 Männchen, 4 Weibchen) von *Mesalina brevirostris* BLANFORD, 1874 aus Akçakale, SE-Türkei. n - Stichprobengröße, SD - Standardabweichung, SE - Standardfehler des Mittelwertes. Zählwerte in Klammern.

Biological and ecological observations

The first three specimens were captured between 15.00 and 17.00 on May 6, 2002. The environmental temperature where these specimens were captured ranged from 27°C to 30°C. The remaining 6 specimens were caught between 10.00 and 17.00 May 7. The temperature ranged from 28 to 30°C. WEBER (1960) stated that the Iraqi specimens are active at temperatures between 38°C and 46°C. The specimens were captured in the futile zones of wheat fields. At these zones, numerous small stones, as well as various weeds are found and among the weeds the dominant one is *Peganum harmala*. We determined that Blanford's Short-nosed Desert Lizard, *Mesalina brevirostris*, hides in the holes at the roots of *Peganum harmala*. The altitude where the sampling was carried out is 550 m a.s.l. The sympatric reptile and amphibian species were *Ophisops elegans* MÉNÉTRIES, 1832, *Trapelus ruderata* (OLIVIER, 1805), *Cyrtopodion scaber* (HEYDEN, 1827), *Coluber ventromaculatus* GRAY, 1834 and *Bufo viridis* LAURENTI, 1768. A specimen of *Coluber ventromaculatus* regurgitated its stomach contents including an undigested *M. brevirostris* specimen. This observation determined *C. ventromaculatus* as one of the predators of *M. brevirostris*.

DISCUSSION

The pholidosis characteristics of the nine specimens of *Mesalina brevirostris* recorded from Akçakale are quite similar to those given by HAAS & WERNER (1969) for the Syrian specimens. Only a single Syrian specimen and three Iraqi specimens (HAAS & WERNER 1969) have the subocular entering the mouth, whereas, there is a subocular-mouth contact in the two Akçakale specimens. This variation seen in the subocular-mouth contact was not taken into consideration by LEVITON et al. (1992) and ANDERSON (1999). LEVITON et al. (1992) stated that the head of *M. brevirostris* is not strongly depressed and $1^1/_5$ to $1^1/_3$ (1.2 - 1.33) times as long as broad. Here, we calculated the ratio of head length to head width as 1.69 for the Akçakale specimens. Some average values of the Syrian (HAAS & WERNER 1969) and Akçakale specimens are as follows, respectively: number of ventral plates in transverse series, 33.0 | 33.1; number of longitudinal series of ventral plates, 12.0 | 12.0; plates in collar, 10.0 | 9.3; gular scales, 25.3 | 24.0; femoral pores, 15.5 | 16.5 and lamellae under the 4th toe, 21.0 | 21.3. According to the numbers of dorsalia, the Akçakale specimens (49.0 - 57.0, mean 53.2) have absolutely greater values than those in Syria (36.0 - 47.0, mean 40.3). HAAS & WERNER (1969) specified the number of the dorsalia as 45 - 50 for the three specimens caught in the Rutba region of Iraq. The number of the dorsalia indicated by BOULENGER (1921) for four specimens captured from Northern Jordan and Amman is between 54 and 60, these latter counts being similar to those of the Akçakale specimens. According to morphometric, colour, and pattern characteristics, our specimens in this study coincide with the descriptions given by various researchers (HAAS & WERNER 1969; LEVITON et al. 1992; ANDERSON 1999) for *M. b. brevirostris*. Consequently, considering the morphometric, meristic, colour, and pattern characteristics of the nine specimens from south-eastern Anatolia, we have assigned them to the typical form, *M. b. brevirostris*. A review of the literature did not reveal any previous reports of the Blanford's Short-nosed Desert Lizard in Turkey. Although occurrence of *M. olivieri schmidti* (HAAS, 1951) was claimed by CLARK & CLARK (1973), neither a provenance nor voucher specimen were available for their observations. Thus, not only may this be the first report of *M. b. brevirostris* for the territory and herpetofauna of Turkey, but also an extension for the known northernmost range of the species.

Fig. 4: Male specimen of *Mesalina brevirostris* BLANFORD, 1874 collected from Akçakale (SE Turkey).
Abb 4: Männchen von *Mesalina brevirostris* BLANFORD, 1874 von Akçakale (SE-Türkei).

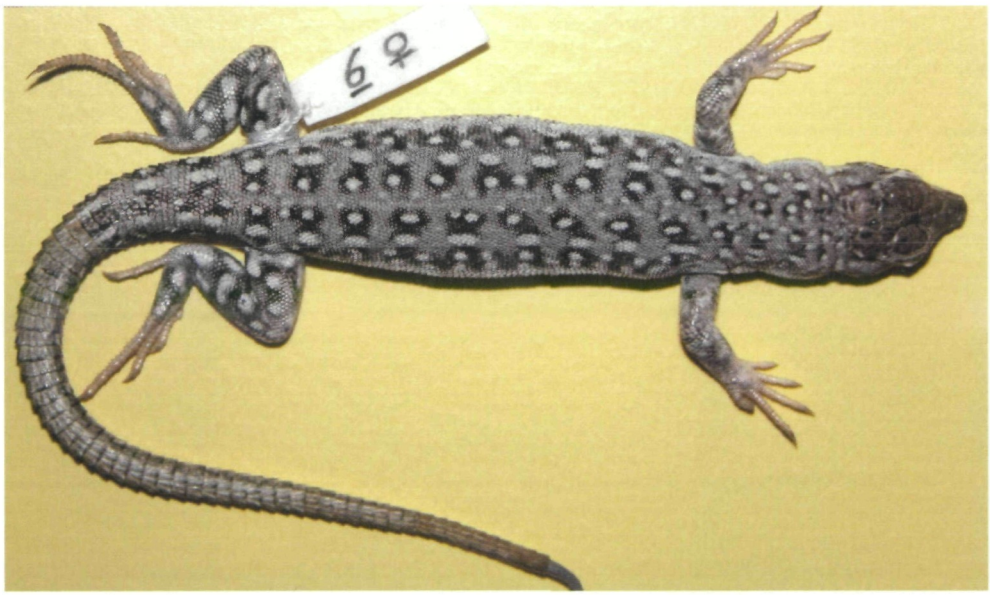

Fig. 5: Female specimen of *Mesalina brevirostris* BLANFORD, 1874 collected from Akçakale (SE Turkey).
Abb 5: Weibchen von *Mesalina brevirostris* BLANFORD, 1874 von Akçakale (SE-Türkei).

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