Tr. J. of Zoology
20 (1996) 397-405

A New Subspecies, *Ablepharus kitaibelii* (Bibron & Borry, 1833) *budaki* n. ssp. (Sauria: Scincidae) From the Turkish Republic of Northern Cyprus

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Received: 23 / 1 / 1996

Abstract: A new subspecies, *Ablepharus kitaibelii budaki* n. spp. that is distinguished from previously described subspecies, is recognized. Designation of *A. k. budaki* as a new subspecies, separate from the other subspecies, is based on the following characteristics: (a) the ventral side colouration of the trunk and tail, (b) the number of the vertical rows of scales between the masseteric and ear opening and (c) the size of the ear openings. Moreover, it is pointed out that the population of *A. kitaibelii* and especially the taxonomical status of *A. k. chernovi* in Turkey should be considered again.

Key Words: *Ablepharus kitaibelii budaki* n. ssp. (Sauria: Scincidae), T. R. N. Cyprus, Turkey

Kuzey Kıbrıs Türk Cumhuriyeti'nden Yeni Bir Alttür, *Ablepharus kitaibelii* (Bibron & Borry, 1833) *budaki* n. ssp. (Sauria: Scincidae)

Özet: Kuzey Kıbrıs'tan, önceden tanımlanmış alttürlerden bariz şekilde ayrılan yeni bir alttür, *Ablepharus kitaibelii budaki* n. ssp. tanımlanmıştır. Bu formun diğerlerinden ayrılarak yeni bir alttür halinde tanımlanması aşağıdaki özelliklere duyandırılmıştır: (a) gövde ve kuyruk ventral taraflarının renklenmesi, (b) masseterik ve kulak deliği açıklığı arasındaki düşey pul sırası sayısı ve (c) kulak deliği açıklığının büyüklüğü. Bundan başka, Türkiye'deki *A. kitaibelii* populasyonlarının ve bilhassa *A. k. chernovi*'nin taksonomik durumunun yeniden ele alınması gerektiğine dikkat çekilmiştir.

Anahtar Kelimeler: *Ablepharus kitaibelii budaki* n. ssp. (Sauria: Scincidae), K.K.T.C., Türkiye

Introduction

Mertens & Müller (1) and Mertens & Wermuth (2) considered *Ablepharus kitaibelii* in 3 subspecies: *A. k. kitaibelii, A. k. fabichi* and *A. k. fitzingeri.*

Darevsky (3) described a new species, *A. chernovi,* which was later defined by Fuhn (4, 5) as a subspecies of *A. kitaibelii.* The author divided *A. kitaibelii* into 5 subspecies in view of the samples he examined from Turkey, the Aegean Islands, Greece, Bulgaria, Romania, the Czech Republic, Slovakia, Hungary, Southwestern Caucasia, Cyprus, Syria, Jordan, Iraq, and the Sinai Penissula, as well as a newly defined subspecies (*A. k. stepaneki* Fuhn, 1970) from Bulgaria and Romania. Fuhn (5) also stated that *A. k. chernovi* exists in Turkey (Oltu, Erzurum) in addition to Armenia. Later, Eiselt (6) determined that this subspecies also exists in Yozgat, which is located more than 600 km west of Erzurum. The researcher pointed out that the reason *A. kitaibelii* exhibits this kind of isolated distribution is its dependence on suitable biotopes.

Lastly, Baran (7) and Kumlutaş (8) extended the distrubition area of *A. k. chernovi* and in addition to the previous one, they reported that this subspecies is also found in Tokat, Van and Gaziantep.

Eremcenko & Scerbak (9) prepared a comprehensive monograph about the genus *Ablepharus.* In this study, *chernovi,* which had previously been accepted as a subspecies (4-7), is considered as a separate species. The researchers stated that the *chernovi* form resembles *A. kitaibelii,* differing in the following aspects: the number of vertical rows of scales between the ear opening and masseteric (a), the completeness of nasal plate (b) and also the colouration of the venter in males during the breeding period (c).

In recent studies on the herpetofuna of Cyprus (10-12), *Ablepharus kitaibelii* were considered as *A. k. kitaibelii*. However, Göçmen *et al.* (13) pointed out that this subspecies does not exist in Cyprus and that the from here is closer to *chernovi*.

Aside from Göçmen *et al.* (13), studies on the herpetofauna of Cyprus (5, 9-12) are directly or indirectly based on a few specimens, especially on the ones collected from Southern Cyprus.

The aim of the present study is to reveal the subspecific status of *Ablepharus kitaibelii* population in the Turkish Republic of Northern Cyprus.

Material and Methods

The material examined from Northern Cyprus (T.R.N.C.) in this study consists of 48 adult males (♂♂), 57 adult females (♀♀) and 9 juveniles. Morever, to express some important taxonomical characteristic differences, some specimens collected from the various regions of Turkey are revised. All of the specimens have been deposited in the ZDEU collection (Zooloji Anabilim Dalı, Ege Üniversitesi). The list of the material examined is given below. The localities where the specimens were collected from T.R.N.C. are shown on the map (Figure 1) according to their corresponding numbers in the material list.

a. Material Examined from T.R.N.C. (n=114)

[1] 97/1991: 1-5 (1♂♂; 4♀♀), Lapethos-KYRENIA (Lapta-GİRNE), 25.06.1991, B. Göçmen Leg.

[2] 80/1993: 1-35 (14♂♂; 17♀♀; 4 Juv.), Lapethos-KYRENIA (Lapta-GİRNE), 29.07.1993, B. Göçmen Leg.

[3] 50/1994: 1-28 (10♂♂; 14♀♀; 4 Juv.), Yayla/Güzelyurt-NICOSIA (LEFKOŞA), 24.08.1994, B. Göçmen & O. Sağlam Leg.

[4] 49/1994: 1-17 (8♂♂; 9♀♀), Yeni Erenköy-FAMAGUSTA (GAZİMAGOSA), 26.08.1994, B. Göçmen Leg.

[5] 33/1995: 1-29 (15♂♂; 13♀♀; 1 Juv.) Geçitköy-KYRENIA (GİRNE), 0.90.51995, B. Göçmen & O. Sağlam Leg.

b. Comparison Material Examined from Turkey (n=135)

[1] *Turkish Thrace (Trakya) Region* (n=54) : 97/1981: 1, Keşan-EDİRNE; 25/1979: 1, Saray-TEKİRDAĞ; 139/1981: 1, Malkara-TEKİRDAĞ; 25/1979: 1-2, Saray-TEKİRDAĞ; 36/1973: 1, Metris-İSTANBUL; 108/1984: 1, Şarköy-TEKİRDAĞ; 126/1960: 1-2, Kanlıca-İSTANBUL; 165/1978: 1-3, Saray-TEKİRDAĞ; 106/1984: 1-31, Dereköy-KIRKLARELİ; 121/1981: 1-10, Saray-TEKİRDAĞ.

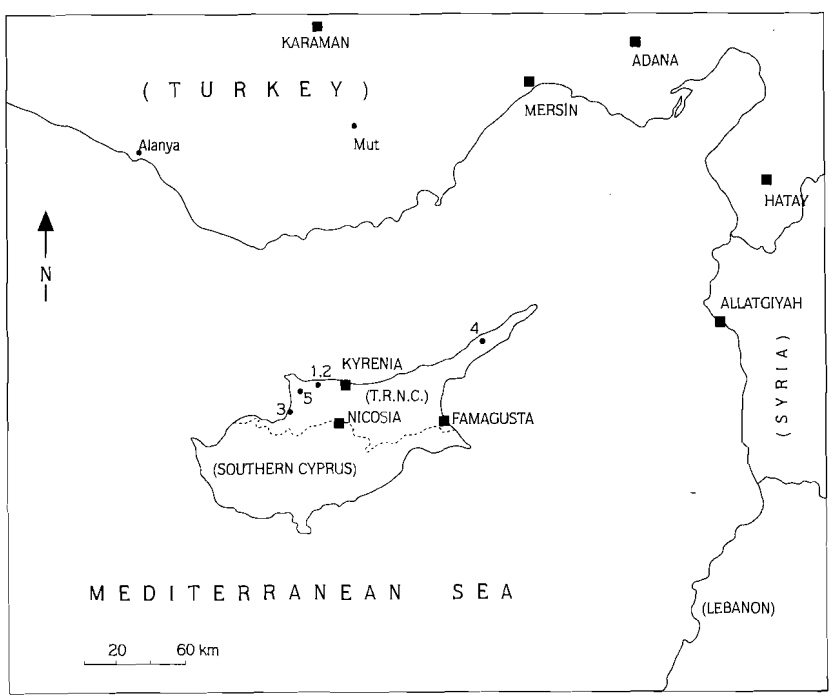

Figure 1. Map of the localities (numbers, correspond to the ones in the material list) where the specimens were collected from the Turkish Republic of Nurthern Cyprus (T.R.N.C.).

[2] *Aegean (Ege) Region* (n=40): 133/1992: 1-9, Alaçatı-İZMİR; 17/1974: 1, Bornova-İZMİR; 273/1975: 1, Bornova-İZMİR; 182/1975: 1, Bornova-İZMİR; 54/1975: 1, Bornova-İZMİR; 7/1967: 1-2, Bornova-İZMİR; 172/1977: 1, Bornova-İZMİR; 5/1959: 1, Bornova-İZMİR; 249/1976: 1, Karşıyaka-İZMİR; 227/1969: 1, Karşıyaka-İZMİR; 22/1969: 1, Yamanlar Dağı-İZMİR; 50/1986: 1-3, Pamucak-İZMİR; 13/1987: 1-6, Ödemiş-İZMİR; 12/1976: 1, Kemalpaşa-İZMİR; 34/1986: 1, Pamucak-İZMİR; 94/1979: 1-2, Foça-İZMİR; 25/1966: 1-2, Manisa Dağları-MANİSA; 89/1978: 1, Tavas-DENİZLİ; 37/1984: 1-2, Marmaris-MUĞLA; 81/1976: 1, Bodrum-MUĞLA; 8/19840 1, Ula-MUĞLA.

[3] *Mediterranean (Akdeniz) and Southeastern Anatolia Regions* (n=31): 2/1980: 1-3, Fethiye-MUĞLA; 28/1985: 1, Göcek-MUĞLA; 21/1978: 1-7, Kaş-ANTALYA; 16/1984: 1-2, Finike-ANTALYA; 211/1957: 1-2, ANTALYA; 62/1976: 1, Akseki-ANTALYA; 22/1987: 1, Alanya-ANTALYA; 9/1981: 1, Alanya-ANTALYA; 30/1983: 1-2, Feke-ADANA; 27/1983: 1, Çamlıyayla-MERSİN; 37/1977: 1, MERSİN; 109/1975: 1, Kilis-GAZİANTEP; 70/1995: 1, GAZİANTEP; 59/1977: 1-7, Kilis-GAZİANTEP.

[4] *Black Sea (Karadeniz), Cenral Anatolia and Eastern Anatolia Regions* (n=10): 219/1957: 1-2, KASTAMONU; 225/1975: 1, KASTAMONU; 183/1976: 1-2, TOKAT; 254/1977: 1-3, NİĞDE; 437/1961: 1-2, VAN.

After noting down the necessary pattern and colouration as well as the biotope characteristics of live specimens collected from the field, colour slides of them were taken. Later, the specimens were killed, through anasthetization with ether sulfuric (pure) or drawning in 70% ethanol, and left to fixation for about 24 hours, after being inwected with 7% formaldehyde solution in 70% ethanol. Then, they were put into 70 ethanol for permanent preservation. For the postmortem measurements of the specimens, a dial caliper of 0.05 mm sensivity and a millimetric ruler were used. The dial caliper was used for the head and body measurements, while the millimetric ruler was preferred for the tail length (TL). To compare the morphometric data of various charcteristics between males and females, the least squares differences [LSD] range test of the analysis of variance [ANOVA] obtained by means of Minitab procedures (14) and the coefficient of differences [CD] values (15) were used. The terminology used in desribing the morphology of the species and new subspecies conforms to the conventional system proposed by Arnold & Burton (16) and Eremcenko & Scerbak (9).

Result and Discussion

Ablebharus kitaibelii (Bibron & Borry, 1833)

Diagnosis. The body is thin, long built; supraoculars 2; supracilaries 2, the second plate in contact with the eye; frontoparitals 2; the number of vertical rows of scales between the masseteric (*massetericum*) and the ear opening (VRSM-EO) is 2-5; nasal complete or partly split.

Type subspecies. Ablepharus kitaibelii kitaibelii (Bibron & Borry, 1833)

Ablepharus kitaibelii budaki n. spp.

Diagnosis. The body is thin and long (avarage, 39,74 mm; 48,00 mm); 2 supraoculars; 2 supraciliaries: the second supraciliary plate is in contact with the eye. Two frontoparietals; the number of VRSM-EO changes between 3-4; nasal plate complete, not split. The ear opening is so evidently big that, it can be seen with the naked eye and it is situated partially at he neck. The number of subdigital lamellae under the fourth toe of the hind limb ranges from 11 to 17. Particularly in males and especially during the breeding period, only the ventral of the trunk (except the ventral aspects of head and tail) (Figure 2C) or all of the ventral side, except the gular region (trunk+tail), (Figure 2B) or only under the tail is coloured, from light orange to dark red. In juveniles this colouration gradually increases and becomes brighter under and over the tail from the vent through its tip.

A. k. budaki n. ssp. shows differences distinct from the other forms of the species. It is different from *A. k. kitaibelii* and *A. k. fitzingeri* in that it has more subdigital lamellae (not more than 15 in these subspecies; whereas, in *A. k. budaki* n. ssp. up to 17) and also, it is different from *A. k. kitaibelii, A. k. fitzingeri, A. k. stepaneki* and *A. k. fabichi* in the çolouration of the underside of the body and also the number of VRSM-EO. In these 4 subspecies, generally the underparts turn to a bluish gray colour (3, 5, 7, 9), and the number of VRSM-EO is not more than 2 (9). However, *A. k. budaki* n. ssp. more resembles *chernovi* more as far as these characteristics are concerned. Meanwhile, it differs from *chernovi* in the following abspects:

[1] During the breeding period, redness is generally observed in males (92.6%) and relatively less in females (20.00%) starting from the gular region on the venter (including te ventral parts of fore and hind limbs, except the gular region). Redness is dominant

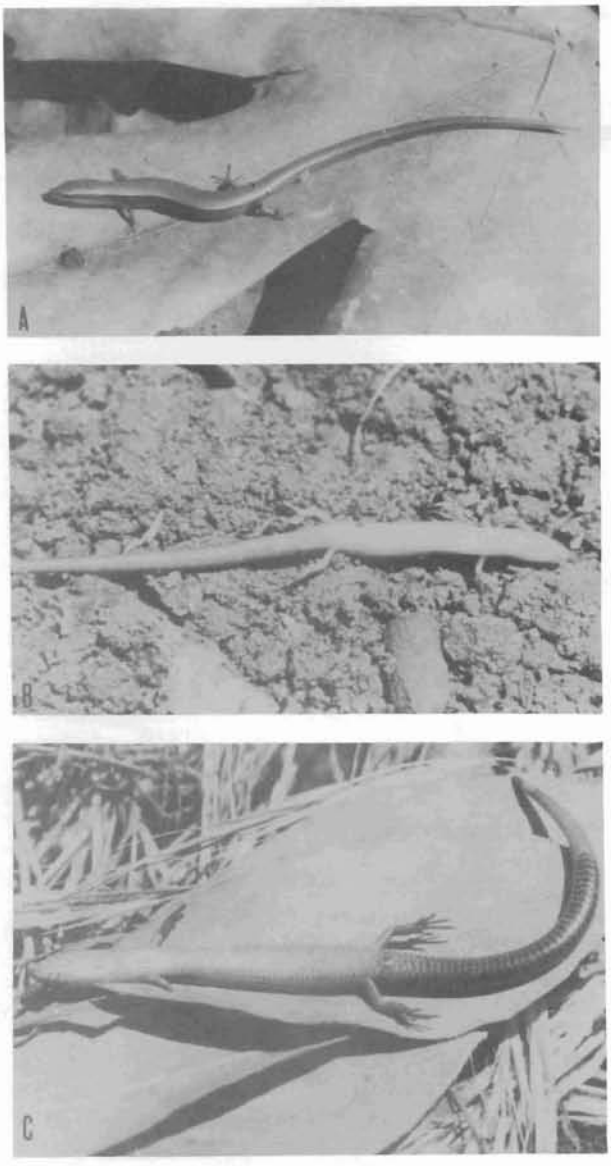

Figure 2. Photographs of the holotype (**A**, **B**) and a paratype (**C**) of *Ablepharus kitaibelii budaki* n. ssp. from T.R.N.C.. **A**: Dorsolateral view, **B** and **C**: Ventrolateral views.

in females only under the body, in a weak form, but in males only on the ventral parts of the trunk, the trunk+tail or only the ventral and dorsal sides of the tail. Redness is seen except during the breding period in all juveniles only at the ventral and dorsal of the tail, whereas in *A. k. chernovi*, this characteristics is seen only during the beeding period and in adult males. It is not observed in juveniles and females. Furthermore, the dorsal and ventral of the tail does not display this kind of colouration.

[2] The number of VRSM-EO is generally 4 or rarely 5 in *A. k. chernovi* (9), whereas in the new subspecies it is usually 3 and rarely 4 (Figure 3A).

[3] Ear opening in *chernovi* is either absent (4, 5) or can be recognized partially (9). However, in *A. k. budaki* n. ssp. there is a clearly visible, distinct ear opening (Figure 3A).

Holotypus and Terra typica (Figures 2A and B). Adult male, ZDEU 80/1993-10, Adatepe Mahallesi, La-

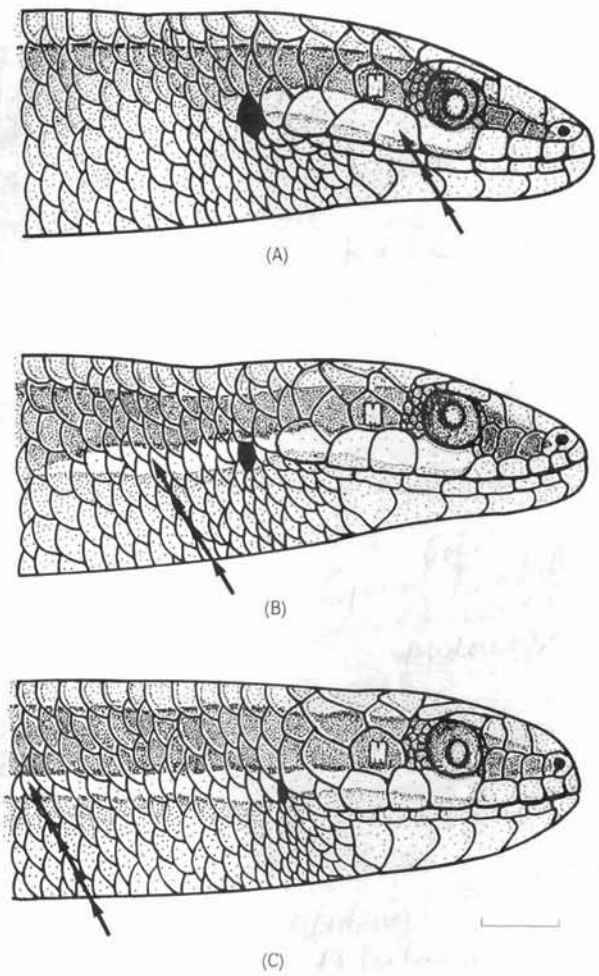

Figure 3. Representative drawings of *Ablepharus kitaibelii* specimens from T.R.N.C. (**A**) and Turkey (**B**, **C**) to show the lateral pattern, size of ear opening and number of VRSM-EO. These drawings were based on photographs and of the specimens examined under steromicroscope from T.R.N.C. (**A**), Turkish Thrace and Aegean (**C**) and Mediterranean/Southeastern Anatolia regions of Turkey (**B**) (M=the masseteric, arrows indicate the sbustemporal band, bar=1.00 mm).

pethos-Kyrenia (Lapta-Girne), T.R.N.C., altitude 105 meters.

Derivatio nominis. The name of the subspecies is attributed to the surname of our lecturer Prof. Dr. **Abidin Budak,** who made valuable contributions to the knowledge of the herpetology of Turkey.

Description of the Holotype. Body measurements obtained from the holotype are as follows: snout-vent length (SVL), 36.5 mm; total body length (TBL) [including the tail lenght (TL)], 103.5 mm; head lenght (HL), 6.6 mm; head width (HW7, 3.8 mm; fore limb length (FLL), 7.0 mm., hind limb length (HLL), 10.8 mm, the length of fourth toe of hind limb (LFTHL), 3.7 mm.

Rostral short and blunt (viewed from above); nasal complete, not split; frontonasal in contact with rostral; prefrontal plates not in touch with each other; 3 preocular plates (lorealia) between eye and nasal; 3 supralabials in front of subocular (fore upper labials); 2 supraciliaries and the second plate in contact with the eye; 2 supraoculars in contact with frontal in their anterolaterals; 2 frontaparietals; interparietal single and 2 parietals; ear opening quite evident; the number of VRSM-EO is 3; 20 scales around mid-body (SAMB); 14 subdigital lamellae under the fourth toe of hind limb (SLFT).

The ground colour of dorsum and flanks are light bronze-brown and light brownish gray, respectively. Over the ground colouration of the dorsum, there is a pattern of a few scattered dark flecks. Wide dark brown temporal bands extend up to the top level of the ear opening from the nostril, their lower borders being evident; however, in the rest of the body they mix with the colour of the lower parts with no borders. There is a dirty white subtemporal band starting from the rostral and extending to the ear opening, which is more obvious on subocular and hind upper labials (Figure 3A). The gular region is bluish white. The other parts of the venter are orange-red towards the posterior up to the tip of the tail, the same colouration being darker on the flanks. This colouration is blackish under the tail, but light red above it. The latter situation is distinctly observed especially on the tip of the tail (Figure 2A and B).

Paratypes and Variation. All of the specimens examined from T.R.N.C. on the material list (excepting the holotype) are accepted as paratypes. Variations observed in some characteristics of the specimens are summarized in Tables 1 and 2.

The rostral is short and blunt. The nasal plates, without any exception, are complete, or in other words, not split. The wide frontonasal is in contact

Table 1. Some morphometric data of *Ablepharus kitaibelii budaki* n. ssp., sexes separate (n=number of specimens, SD=Standard Deviation, SE=Standard Error, CD=Coefficient of Difference).

C	MALES					FEMALES					
	n	Range	Mean	SD	SE	n	Range	Mean	SD	SE	CD
1	48	31.30-43.55	37.56	2.58	0.37	57	32.50±48.00	41.57	3.62	0.47	0.65
2	34	38.00-71.00	50.04	8.55	1.47	37	31.00-69.50	47.35	10.14	1.67	0.14
3	34	77.45±10.555	87.55	8.36	1.43	37	67.00-113.00	87.97	10.95	1.80	0.02
4	48	6.00-8.50	6.68	0.45	0.06	57	5.10-7.05	6.50	0.42	0.05	0.21
5	48	3.35-4.50	3.92	0.28	0.04	57	3.10-4.35	3.84	0.28	0.03	0.14
6	48	6.05-7.90	7.12	0.36	0.05	57	5.85-7.75	6.90	0.43	0.05	0.28
7	48	9.10-12.00	10.63	0.63	0.90	57	9.05-12.00	10.24	0.70	0.09	0.29
8	48	3.00-5.15	3.60	0.36	0.05	57	3.00-4.55	3.49	0.35	0.04	0.15
9	48	50.00-64.28	58.72	3.21	0.46	57	47.51-67.20	59.15	3.39	0.04	0.07
10	48	9.43-11.21	10.44	0.48	0.06	57	7.76-10.88	9.27	0.63	0.08	1.05
11	34	95.46-205.49	134.35	26.91	4.62	37	80.36-165.72	117.50	26.87	4.42	0.31
12	48	6.05-7.90	7.12	0.37	0.05	57	5.85-7.75	6.90	0.43	0.05	0.28
13	48	3.00-5.15	3.60	0.36	0.05	57	3.00-4.55	3.49	0.35	0.04	0.15
14	48	18-21	19.77	0.63	0.09	57	18-20	19.61	0.70	0.09	0.12
15	48	11-17	13.91	0.96	0.13	57	1217	13.93	1.10	0.14	0.01
16	48	3-4	3.16	0.38	0.05	57	3-4	3.24	0.43	0.05	0.10

Characters (C) : [1] Snout-Vent Lenght (SVL), [2] Tail Length (TL), [3] Total Body Length (TBL), [4] Head Length (HL), [5] Head Width (HW), [6] Fore Limb Length (FLL), [7] Hind Limb Length (HLL), [8] Length of Fourth Toe of Hind Limb (LFTHL), [9] HW/HL index, [10] HW/SVL index, [11] TL/SVL index, [12] FLL/HLL index [13] LFTHL/HLL index, [14] Number of dorsal scales around-mid-body (SAMB), [15] Number of subdigital hamellae of the fourth toe of hind limb (SLFT), [16] Number of Vertical rows of scales between the ear opening and masseteric (VRSM-EO).

Table 2. The same data as in Table 1, sexes pooled.

C	MALES + FEMALES				
	n	Range	Mean	SD	SE
1	105	31.30-48.00	39.74	3.75	0.36
2	71	31.00-71.00	48.64	9.44	1.12
3	71	67.00-113.00	87.77	9.73	1.15
4	105	5.10-8.50	6.58	0.43	0.04
5	105	3.10-4.50	3.87	0.28	0.02
6	105	5.85-7.90	7.00	0.41	0.04
7	105	9.05-12.00	10.42	0.69	0.06
8	105	3.00-5.15	3.54	0.35	0.03
9	105	47.51-67.20	58.95	3.29	0.32
10	105	7.76-11.2189.80	9.80	0.81	0.07
11	71	80.36-205.49	125.57	28.01	3.32
12	105	5.85-7.90	7.00	0.41	0.04
13	105	3.00-5.15	3.54	0.35	0.03
14	105	18-21	19.63	0.67	0.06
14	105	11-17	13.92	1.03	1.01
15	105	3-4	3.20	0.40	0.03

with the rostral. Prefrontal plates are usually in contact with each other (67, 63%), occaisonally in contact at a point (20, 95%) while sometimes a wider contact is present (11, 42%). The number of preocular plates (lorealia) between the eye and nasal are 3. The number of supralabials in front of subocular is generally 3 (90.47%), and rarely 4 (8.57%) or 2 (0.95%). There are 2 supraciliaries and the second of these is in contact with the eye. There are 2 supraoculars, which are in contact with the frontal on their anterolateral sides. The numbers of frontaparietals, interparietals and parietals are always 2, 1 and 2, respeticely. The ear opening is distinctly visible and, when viewed from side, is perceived as being towards the neck. The number of VRSM-EO is usually 3 (79.05%), and occasionally 4 (20.95%) (Figure 3A). The number of scales in longitudinal rows around the mid-body (SAMB) are 20 in 79.00% of the 113 specimens examined, 19 in 11.00%, and 18 in the remaining 10.00%. The number of subdigital lamellae under the fourth toe of hind limb (SLFT) ranges from 1 to 17, the average being 14.

The dorsum is light bronze-brown (ca. 85%), dark bronze-brown or olive green (ca. 15%) with distinctly darker sides (the upper border of the temporal bands). The flanks are either dark brownish or light brownish gray. Particularly in juveniles, there is a red colour gradually getting darker both on the lower and upper sides of the tail from the vent towards the tip (Figure 3). In 13.00% of the specimens, there is no pattern over the ground colouration of the dorsum; in the rest, however, there is a dorsal pattern formed by dark flecks, which are often few and irregularly scattered (37.00%) or arranged in 4 longitudianal rows, forming broken strips (37.00%), or sometimes are arranged in 2 longitudinal broken strips (13.00%). Wide dark brown temporal bands continue from nostil to the top level of the ear opening, their lower borders being distinct; however, in other areas they mix with the colour of the lower parts of the body without any bordering (Figure 3). There is a dirty white subtemporal band extending only as far as the ear opening from the rostrale, passing the supralabials (fore and hind upper labials) and subocular plate.

The gular region in males, females and juveniles is bluish white or yellowish gray. Other than this region and the limbs, variations are observed from the viewpoint of venter colouring. Orange red is dominant in males, generally (50.00%) from just posterior of the gular region till just posterior of the anal cleft, the same colouration being darker on the flanks (Figure 2C). Redness is evident in 28.57% of males under the trunk and tail (Figure 2B), and in 14.29% only under the tail. In the remaining male specimens, there is no redness on the venter (7.14%), but rather, a dominant bluish or yellowish-gray. When the tail venter is red, the same colour is also evident on the top. While there is almost no redness under the trunk and tail in females (80.00%) and the ground colour is generally similar to the gular colouration, in approximately 20.00% of females, a slight redness only under the trunk is present. In all of the juveniles, there is a homogeneous bright redness extending from a little anterior of the vent till the end of the tail. In all specimens, with no indication of sexual dimorphism, there is a redness on limbs, most obviously on the fore limbs and at the lower parts. The colouration is quite obvious on the toes (Figure 2).

Data on the body measurements, ratios (in indexes) and some pholidolial counts obtained from the specimens examined are summarized in Table 1. There are no significant differences between the sexes (so males and females are evaluated together in Table 2) from the results of the ANOVA ($P>0.05$) and CD values in Table 1. However, a basic difference on the aspect of SVL is revealed when the CD values of both the mentioned characterictic (0.65) and TL/SVL index (1.05) are considered.

Distrubution and Ecology. *A. k. budaki* n. ssp. is widely distributed from the sea level up to the elevations of 800-900 meters in T.R.N.C., with the excep-

tion of Eastern Messaoria (Messarya, İç Ova) where a weak vegetation is observed. In this region, however, it can be seen under the eucalyptus tress (*Eucalyptus* sp.) or on loamy plains with dry grass and sometimes scattered stones. The air temperature was determined as 37-39°C in the shade and 40-43°C in the sun (11.00 A.M.) in the habitats in which the animals occured. The specimens were generally collected from under plane trees (*Platanus orientalis*) (Figure 4), locust trees (*Ceratonia siliqua*), Japanese plum (*Eribotrya japonica*), Mediterranean medlar (*Crataegus azarolus*), and almond trees (*Amygdalus communis*), especially among the decayed leaves of these trees. They are sometimes encountered in quite moist and sandy habitats, such as the orange and lemon groves of Yayla (Güzelyurt) and Lapethos (Kyrenia). They are often seen in the same habitats as other scincids, *Mabuya vittata* and *Chalcides* ocellatus, and with a lacertid, *Lacerta laevis* cf. *kuzeri (L. l. troodica)* (13). They feed on small invertebrates, especially ants and termites, and they are preyed on by *Lacerta laevis* cf. *kulzeri*. Because they have a bright appearance and they bend their bodies qüickly from side to side like a snake when they travel over the substrate, Cypriot people, refer to these animals as "the sun snakelet" (Güney Yılancığı).

Figure 4. A habitat of *Ablepharus kitaibelii budaki* n. ssp. where the plane trees (*Platanus orientalis*) and Mediterranean medlar (*Crataegus azarolus*) is observed abundantly (Adatepe Mahallesi, Lapethos, Kyrenia).

Breeding Biology. No juvenile samples were encountered in the environment at the beginning of May. During this period, the immature, small spheric or ovoid eggs (2.0-5.0 mm in diameter) were observed both in the right and left uteri of all females whose abdomens were dissected. In the middle of May, mature elliptic eggs (8.0-8.5 mm in lenght) could also be seen in addition to the various smaller sized spherical and ovoid ones. In males whose abdomens were dissected in the same period, a pair of elliptic testes with a length of between 2.5-3.00 mm were observed. The sizes of these testes are remarkable since in specimens from Bornova (İzmir, Turkey) whose venters were dissected and examined during the breeding period, the maximum lenght of the testes were 1.5 mm.

Juvenile individuals are firstly seen in the middle of July, and during the three following months (August, September and October) it is possible to see these in the enviroment. Juveniles are mostly seen between the end of August and the beginning of September; approximately 3 of every 10 specimens that are encountered at this time are juveniles.

Comparisons with the Material Examined from Turkey and Taxonomical Comments

In the material examined from Turkey (n=135), the number of VRSM-EO is generally 2 (77.00%) (Figure 3C), and rarely 3 (23.00%) (Figure 3B). The nasal palate is usually complete (63.00%), and occasionally partly split (37.00%). However, the form of *A. kitaibelii* in T.R.N.C. has a complete, undivided nasal plate with no expection, and has rarely 4 (21.00%), and mostly 3 VRSM-EO (79.00%) (Figure 3A). When the material from Turkey is surveyed regionally, the number of VRSM-EO in *A. kitaibelii* specimens from Turkish Thrace (n=54), the Agean (n=40) and also Central+Eastren+Northern Anatolia regions (n=10) is 2, without exception. Meanwhile, this number is mostly 3 (93.55%), and rarely 2 (6.45%) in the investigated specimens from the Mediterranean (Antalya, Alanya, Mersin, Adana) and Southeastern Anatolia (Gaziantep). Mediterranean and Southeastern Anatolian specimens closely resemble those of Nothern Cyprus in this characteristic (Figure 3A and B). A characteristic which may be also remarkably important between the populations of Turkey and T.R.N.C. is ob-

served in the size of the ear opening (Figure 3). It is readily visible and distinct as being often situated relatively towards the neck in the individuals of Northern Cyprus. It is smaller in the Mediterranean, Southeastern/Eastern and Northern Anatolian (Black Sea) specimens, but almost unobservable in the specimens from the Agean and Turkish Thrace regions; however, when viewed under stereomicroscope, it can be seen as hidden under the scales.

Another important peculiarity which can be diagnostic for *A. k. budaki* is the lateral head pattern: the dirty white subtemporal band extends up to the ear opening from the rostral plate in all specimens (Figure 3A). While in the specimens from Turkey it always goes beyond the ear opening towards the flanks, it extends a bit further to the back of the fore limb in the Turkish Thrace and Aegean specimens (Figure 3C), whereas in the specimens from the other regions of Turkey it reaches at most back to the base of the fore limbs (Figure 3B). As this peculiarity was not mentioned in the other previously described subspecies of *A. kitaibelii* by various authors (3-5, 9), it is not possible to say whether this characteristic is significant in diagnosis or not. Despite of the lack of knowledge mentioned above, this peculiarity distinguishes the specimens of Northern Cyprus from the population of Turkey, and it can be included in the diagnosis of *A. k. budaki* n. spp.

Although the specimens of Gaziantep are considered as *A. k. chernovi* by Baran (7) and Kumlutaş (8), both the populations of *A. kitaibelii* of Mediterranean and Southeastern Anatolian, and also the populations that were previously included in *A. k. chernovi* by Fuhn (5) and Eiselt (6), should be reexamined comparatively in detail with *A. k. budaki* n. ssp., and it should be clearly determined whether *A. k. chernovi* exists in Turkey or not. Eremcenko and Scerback (9) state in *A. chernovi* the number of VRSM-EO, as a diagnostic characteristic, is no less than 4. *A. k. budaki* n. ssp. resembles chernovi rather more than *A. k. kitaibelii* in view of this feature. While Eremcenko & Scerbak (9) considered *chernovi* as a separate species, we think that this assignment point is not appropriate since the new subspecies' diagnostic characteristics appear to be an intermediate position between *A. k. kitaibelii* and the *chernovi* form. On the other hand, the records indicating that *chernovi* exists in Turkey were received skeptically at least for the present, when the results obtained from the comparison between the new subspecies and the material from Turkey were taken into consideration.

The alcohol specimens in the ZDEU collection gathered from the localities where *A. k. chernovi* was reported, especially the Southeastern Anatolian specimens and also the Mediterranean population, resemble *A. k. budaki* n sp. from the aspect of pholidosis. Due to the reasons given above, a detailed study should be done with fresh and abondant material in the near future to reveal the subspectific (or specific ?) states of all populations in Turkey.

Acknowledgements

The authors are greatly indebted to Professor Mehmet K. ATATÜR (The director of Hydrobiology Section, Department of Biology, Faculty of Science, Ege University) for review of manuscript from the viewpoint of English usage and his valuable advices, and to Mr. Orhan SAĞLAM (Lapethos, Kyrenia / T.R.N.C.) for his contributions in collecting of T.R.N.C. material.

References

1. Mertens, R. & Müller, L., Die Amphibien und Reptilien Europas. Abh. senc. naturf. Ges. Frankfurt, 451: 1-56, 1940.
2. Mertens, R. & Wermuth, H., Die Amphibien und Reptilen Europas (Dtitte Liste nach dem Stand vom 1. Januar 1960). Senckb. Buch. Frankfurt, 38: 264 pp., 1960.
3. Darevsky, I.S., Novy, vid gologlaza iz Armanskoj SSR (Ablepharus chernovii sp. nov. Reptilia, sauria). Bull. Soc. Nat. Moskwa, 58 (2): 39-41, 1953.
4. Fuhn, I.E., Revision and Redefinition of the Genus Ablepharus Lichtenstein, 1823 (Reptilia, Scincidae). Rev. Roum. Biol.-Zoologie, 14: 23-41, 1969.
5. Fuhn, I.E., Über die Unterarten von Ablepharus kitaibelii. Acta Soc. Zool. Bohemoslov., 34: 9-17, 1970.
6. Eiselt, J., Ergebnisse zoologischer Sammelreisen in der Türkei Bemerkenswerte Funde von Reptilien, II. Ann. Naturhistor. Mus. Wien, 80: 830-814, 1976.
7. Baran, I., Türkiye'de Scincidae Familyası Türlerinin Taksonomisi [Zur Taxonomie der Türkischen Scincidae] (In Turkish with German summary). Doğa Bilim Dergisi, 1: 217-222, 1977.
8. Kumlutaş, Y., Anadolu'da Ablepharus kitaibelii (Sauria: Scincidae)'nin Bireysel ve Coğrafi Variasyonu Üzerinde Araştırmalar [A Study on the Individual and Geographic Variation of Ablepharus kitaibelii (Sauria: Scincidae) in Anatolia] (in Turkish, with English summary). Doğa-Tr. J. Zoology, 17: 103-115, 1993.
9. Eremcenko, B.K. & Scerbak, H.H., Ablefaridnie jascerizi fauni CCCR i copredelnich ctran. Akademia Nauk Kırgızkoi CCR Institut Biologii, 172 pp., 1986.
10. Schatti, B. & Sigg, H., Die Herpetofauna der Insel Zypern, Teil 2: Schildkröten, Echsen und Schlangen. Herpetofauna, 11 (62): 17-26, 1989.
11. Osenegg, K., Die Amphibien und Reptilien der Insel Zypern. The Thessis of M. Sc., University of Bonn, 200 pp., 1989.

12. Böhme, W. & Wiedl, H., Status and Zoogeography of the Herpetofauna of Cyprus, with Taxonomic and Natural History Notes on Selected Species (Genera Rana, Coluber, Natrix, Vipera). Zoology in the Middle East, 10: 31-52, 1994.

13. Göçmen, B., Tok, C.V., Kaya, U. & Tosunoğlu, M., Kuzey Kıbrıs Herpetofaunası Hakkında Bir Ön Çalışma Raporu [A Preliminary Report on the Herpetofauna of Northern Cyprus] (in Turkish, with English summary). Doğa-Tr. J. of Zoology, Vol. 20, in press.

14. Minitab Reference Manual, P.C. Version, release 8. Qickest Inc.., Rosemont, Pennsylvania, 1991.

15. Mary, E., Principles of Systematic Zoology. Mac Graw-Hill Inc., New York, 428 pp, 1969.

16. Arnold, E.N. & Burton, J.A., A Field Gudie to the Reptiles and Amphibians of Britain and Europe. Williams Collins Sons & Co. Ltd., Glasgow, 272 pp., 1980.