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A NEW RECORD OF PIPISTRELLUS PIPISTRELLUS ALADIDN FOR TURKEY

İ. ALBAYRAK

Department of Biology, Faculty of Sciences, University of Ankara

ABSTRACT

Between April 1977 and November 1981, during taxonomical researches on Turkish bats in Eastern Turkey, the presence of *Pipistrellus pipistrellus aladdin* Thomas, 1905, was first recorded from Turkey.

This study is based on a total of 163 specimens comprising 131 *Pipistrellus pipistrellus pipistrellus* (Schreber, 1774) and 32 *P. p. aladdin*. Out of 131 specimens, 81 were obtained from Western Turkey and used only for the determination of the distribution map of *P.p. pipistrellus* in this paper.

Field notes were also recorded. Weight and 37 external and cranial measurements were taken, they were used for comparison and statistical evaluation.

The results revealed that two subspecies of *P. pipistrellus*, the nominate form and *P. p. aladdin* exist in Turkey.

INTRODUCTION

Ellerman and Morrison-Scott (1951) noted that the distribution area of *P. p. pipistrellus* has included Asia Minor (Anatolia). Lewis and Harrison (1962) recorded the specimens (Nat. Hist. B.M.) from Çankırı as the nominate form. Lehmann (1966) recorded the four specimens from Bedirge near Antakya as *P. p. mediterraneus* Cabrera, 1904. Neuhauser and DeBlase (1971) stated that two specimens (Nat. Hist. B.M.) from Yalnız near Antalya represented the nominate form. Corbet (1978) also confirmed that Asia Minor (Anatolia) was in the distribution area of *P. p. pipistrellus*

As a native research - maker I intended to revise and clarify the situation in this study.

MATERIAL AND METHOD

During our researches, between April 1977 and November 1981, I obtained 82 specimens of *Pipistrellus pipistrellus* in Eastern Turkey and prepared them in the conventional museum type according to Mursaloğlu (1965).

As all of the female specimens except one were obtained from the breeding colonies, the majority of females were either pregnant or nursing adult. Therefore, all comparisons were made between only these adult females.

All the measurements were taken according to Thomas (1905b), Harrison (1964) and Albayrak (1985). Weight and 37 external and cranial measurements taken from each specimen were compared and statistically evaluated. For comparison the specimens were divided into age groups: infants, juveniles and adults according to the procedures of Andersen (1917) and Baagoe (1977). Only adult were taken into consideration.

To obtain the distribution area of *P. p. pipistrellus* in entire Turkey, I considered 81 specimens obtained from the other part of Turkey but their statistical data were not used.

All of the specimens have been deposited in the mammalian collection of the Department of Biology, Faculty of Science, University of Ankara.

RESULTS

Out of the 163 specimens, 131 were presenting the nominate form and 32 *P. p. aladdin*.

Pipistrellus pipistrellus pipistrellus (Schreber, 1774)

1774. *Vespertilio pipistrellus* (Schreber, Säugethiere, 1: 67.
Type locality: France.
1897. *Pipistrellus pipistrellus*, Miller, Ann. Mag. Nat. Hist., 6 (20): 384-385.

Our specimens have the same diagnostic characters as colour and colour pattern recorded before by Schreber (1774).

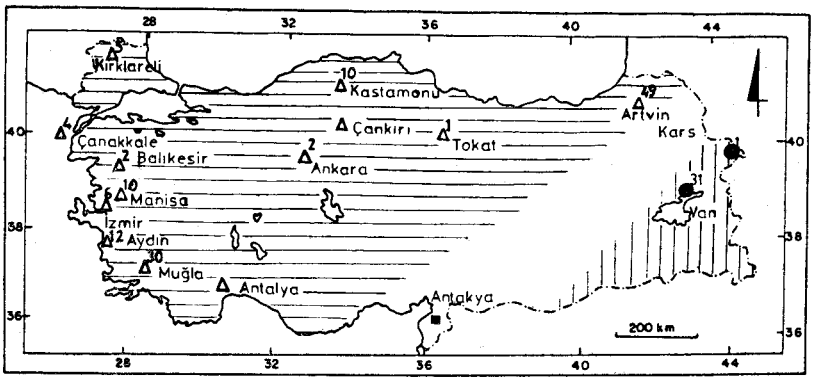

Fig. 1. Map of Turkey showing the collection localities and tbe approximate distribution of *P.p. pipistrellus* (Δ) and *P.p. aladdin* (●). Tbe distribution of *P.p. pipistrellus* (≡) and *P.p. aladdin* (Ⅲ), the previos record of *P.p. mediterraneus* (■) and the transition area □ between *P.p. pipistrellus* and *P.p. aladdin.*

Four external and seven cranial measurements given by Miller (1912) for *P. p. pipistrellus* agreed with the measurements (see Table 1) of our specimens.

Habitat: 49 specimens were collected in a very narrow space between the walls of two buildings in Artvin and another one was netted during a low flight in the field in Tokat at night.

During mid-July the colonies were consisting of 40–50 individuals. Adult females were either pregnant having twin embrios or nursing mother with twin infants. The colonies did not include adult males.

The daily flight would begin after sunset.

The identification of my specimens obtained from the Western, Middle and Northeast Turkey showed that the distribution of *P. p. pipistrellus* covers the whole Western, Middle and Norteast Turkey (Fig. 1)

Specimens examined: Total number, 144 from the following localities: Balıkesir province, Dinkçiler district (1 adult ♀ and 1 adult ♂, 18/6/1977); Tokat province, Turhal city, Pazar town (1 juvenile ♀, 12/8/ 1978); Ankara province, Çankaya (2 adult ♀♀, 23/9/1978); Artvin province, Hotel Genya (22 adult ♀♀, 14 juvenile ♀♀ and 13 juvenile ♂♂, 16/7/1979); Çanakkale province, Gökçeada (1 adult ♀, 3

Table 1. The statistical data of external and cranial measurements of adult *P.p. pipistrellus*: number of individuals (N), range (R), mean (X) and standart deviations (±Sd).

♀ ♀ Measurements	N	R	X	±Sd
Total length	22	75–87	80.0	3.23
Length of head and body	22	43–55	49.4	2.65
Length of tail	22	28–33	30.7	1.56
Length of hindfoot	22	8–9	8.7	0.45
Length of ear	22	8.5–11	10.1	0.76
Length of tragus	14	4–6–5.4	5.1	0.24
Length of forearm	15	29.8–32.4	30.8	0.84
Length of tibia	15	9.4–10.7	10.1	0.37
2nd metacarpal length	15	27.3–29.6	28.2	0.67
3rd metacarpal length	15	28.2–30.5	29.4	0.68
Length af 1st phalange of 3rd digit	15	10.4–11.7	11.0	0.41
Length of 2nd phalange of 3rd digit	15	7.7–9.3	8.4	0.45
4th metacarpal length	15	28–30	29.0	0.58
Length of 1st phalange of 4th digit	15	9.7–10.8	10.3	0.35
Length of 2nd phalange of 4th digit	15	5.7–7.1	6.2	0.41
5th metacarpal length	15	27.0–29.4	28.0	0.73
Length of 1st phalange of 5th digit	15	6.4–7.4	6.8	0.30
Length of 2nd phalange of 5th digit	15	3.3–4.3	3.8	0.27
Greatest length of skull	22	11.8–12.7	12.3	0.25
Total length of skull	22	11.4–12.3	11.9	0.25
Condylobasal length	22	10.8–11.8	11.3	0.26
Basal length	21	9.9–10.7	10.4	0.24
Palatal length	21	3.6–4.4	4.0	0.21
Rostral length	22	2.9–3.4	3.1	0.12
Zygomatic breadth	21	7.2–7.7	7.4	0.14
Interorbital constriction	22	3.3–3.7	3.5	0.11
Breadth of braincase	22	6.1–6.5	6.3	0.12
Mastoid breadth	22	6.3–6.8	6.6	0.11
Rostral breadth	21	3.4–3.8	3.6	0.10
Infraorbital breadth	22	3.5–4.0	3.7	0.13
Height of skull	20	5.2–5.7	5.5	0.15
Length of maxillary toothrow	21	4.1–4.5	4.2	0.11
Length of upper molar	21	2.6–2.9	2.7	0.10
Length of mandibular toothrow	22	4.2–4.7	4.5	0.13
Length of lower molar	22	2.8–3.3	3.1	0.13
Length of mandible	21	7.9–8.8	8.4	0.25
Diameter of tympanic bulla	20	2.6–3.1	2.9	0.13
Weight (g)	22	3.5–5.0	4.5	0.53

adult ♂♂, 12/9/1983); İzmir province, Çeşme city, Alaçatı town (6 adult ♀ ♀, 25/8/1984); Kastamonu province, Araç city (10 adult ♀ ♀, 18/8/1984); Aydın province, Kuşadası city (12 adult ♀ ♀, 13/6/1985; Kırklareli province, Alpullu city (4 adult ♀ ♀, 1 adult ♂, 8/7/1985); Manisa province, Muradiye town (10 adult ♀ ♀, 14/6/1985) and Muğla province, Dalyan town, Ortaca (30 adult ♀ ♀, 26/5/1985).

Pipistrellus pipisturellus aladdin thomas, 1905

1905. *Pipistrellus aladdin* Thomas, Proc. Zool. Soc., London, 2: 521.

Typeo lcality: 75 km. Wst of Islahan, Iran.

1971. *Pipistrellus pipistrellus aladdin*, Neuhauser and DeBlase Mammalia, 35 (2): 273–282.

Table 2. The statistical data of external and cranial measurements of adult *P.p. aladdin*: number of individuals (N), range (R), mean (X) and standart deviations (±Sd).

♀♀ Measurements	N	R	X	±Sd
Total length	30	83–92	87.0	2.20
Length of head and body	30	50–57	54.0	1.97
Length of tail	30	30–37	33.0	1.40
Length of hindfoot	31	7.0–8.5	7.9	0.38
Length of ear	31	9–12	10.7	0.84
Length of tragus	25	4.5–6.5	5.5	0.53
Length of forearm	31	29–33	31.4	0.99
Length of tibia	17	10.0–11.7	10.9	0.48
2nd metacarpal length	18	27.5–30.5	28.8	0.90
3rd metacarpal length	18	29.0–31.6	30.3	0.72
Length of 1st phalange of 3rd digit	18	10.5–12.6	11.5	0.58
Length of 2nd phalange of 3rd digit	18	7.7–9.6	8.8	0.45
4th metacarpal length	18	28.3–31.5	29.9	0.91
Length f 1st phalange of 4th digit	18	10.2–11.6	10.9	0.42
Length of 2nd phalange of 4th digit	18	5.8–7.3	6.6	0.36
5th metacarpal length	18	27.4–30.6	28.8	0.92
Length of 1st phalange of 5th digit	18	6.2–8.0	7.3	0.45
Length of 2nd phalange of 5th digit	18	3.6–4.8	4.1	0.31
Greatest length of skull	30	12.0–12.9	12.5	0.23
Total length of skull	30	11.6–12.9	12.2	0.27
Condylobasal length	30	11.3–12.1	11.7	0.22
Basal length	30	10.3–11.0	10.7	0.20
Palatal length	27	3.6–4.2	3.9	0.20
Rostral length	31	3.0–3.6	3.3	0.15
Zygomatic breadth	20	7.3–7.9	7.6	0.14
Interorbital constriction	30	3.3–3.7	3.5	0.10
Breadth of braincase	30	6.2–6.7	6.5	0.11
Mastoid breadth	31	6.5–7.2	6.9	0.14
Rostral breadth	30	3.5–3.8	3.7	0.08
Infraorbital breadth	30	3.5–4.0	3.8	0.11
Height of skull	31	5.5–6.0	5.8	0.13
Length of maxillary toothrow	31	4.2–4.4	4.3	0.07
Length of upper molar	31	2.7–3.0	2.9	0.09
Length of mandibular toothrow	31	4.4–4.8	4.6	0.09
Length of lower molar	31	3.1–3.3	3.2	0.07
Length of mandible	31	8.3–8.9	8.7	0.16
Diameter of tympanic bulla	31	2.9–3.3	3.0	0.11
Weight (g)	31	4.5–8.0	5.5	0.99

Our specimens have the same diagnostic character as colour and colour pattern recorded before by Thomas (1905 a), Neuhauser and DeBlase (1971). These authors indicated an additional diagnostic character for *P. p. aladdin*, a white border, which was found in all of our specimens also.

The measurements of our specimens (see Table 2) agree with five external and nine cranial measurements taken by Neuhauser and DeBlase (1971) from the satisfactory samples series.

Habitat: The specimens were obtained from a roof covering of a small building in the early July.

During early July, colonies were consisting of about 100 female individuals. Adult females were either pregnant having embrios or nursing mother with twin infants. The colonies did not include adult males.

The daily flight would begin after sunset.

Specimens examined: Total number, 32 from the following localities: Kars province, Aralık city, The State Farm of Iğdır (1 adult ♀, 25/8/1968); Van province, Erciş city (30 adult ♀♀ and 1 infant ♀, 3/7/1979).

DISCUSSION

Although I did not have chance to see the type specimen of *P. p. pipistrellus* and that of *P.p. aladdin*, the original descriptions of them are clear enough to differ them easily. Therefore, I could differ them in my specimens from each other basing on the original descriptions, but unfortunately, I could not obtain any specimen from transition area between the two population, *P.p. pipistrellus* and *P.p. aladdin*. So I could not give any marginal records. Thus I have to leave a large blank space between two distribution areas in the map, Fig. 1.

As can be seen in Fig. 1. the four specimens obtained from Bedirge near Antakya and identified as *P.p. mediterraneus* are located in this blank space that is to say in the transition area between the *P.p. pipistrellus* and *P.p. aladdin*.

In this case *P. p. mediterraneus* may be considered as an intermediate form between well defined subspecies, *P.p. pipistrellus* and *P.p. aladdin*. This conclusion coincides with that revealed by Neuhauser and DeBlase (1971).

But, Lehmann (1966) identified the four specimens from Bedirge in the vicinity of Antakya as *P.p. mediterraneus*. However, the taxonomic identity of the four specimens from Bedirge will be clarify exactly after obtaining satisfactory sample series from the transition area between the distribution of the well defined subspecies, *P.p. pipistrellus* and *P.p. aladdin*.

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