

New Zoogeographic Record for the Silvered Bat, *Glauconycteris argentata* (Dobson, 1875) from the Sudan

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Abstract: Two adult males and five adult females of the silvered bat, *Glauconycteris argentata* (Dobson, 1875) were, collected from the Dinder National Park, Sudan by mist nets. The collected specimens are small vespertilionid bats with white or creamy skin. The hairs on the dorsal side have dark brown base and grey tips, while in the ventral side the tips are pale grey in colour. The wings and the large interfemoral membrane are transparent to pale brown, without venations+, and enclose the whole tail. The ears are relatively large compared to the small skull. The muzzle is short and the lower lip bears a flap of a flesh on its internal side. The dental formula is $\frac{2.1.1.3}{3.1.2.3}$. The literature showed no previous record of this species in the Sudan.

Keywords: *Glauconycteris*, bat, Sudan, Dinder

1. Introduction

Bats of the previous Sudan have been, studied by few authors. Happold described 10 bat species in his study of the mammalian fauna of Khartoum Province, Sudan [1]. Koch studied the bat fauna of the previous Sudan with reference to their systematic status and distribution [2]. Koopman revised the bats species of the previous Sudan and grouped them in nine eco-geographical categories. He recognized 66 species occurring within the boundaries of the country in addition to 38 species known from nearby areas that may cross the boundaries of the Sudan [3].

The silvered bat, *Glauconycteris argentata* which is widespread in Central and East Africa [4] was not, recorded before in the Sudan, but Koopman thought it may cross the boundary of the Sudan from nearby areas [2].

2. Materials and Methods

Two adult males and five adult females small vespertilionid bats were collected from the Dinder National Park (600 km south east of Khartoum), Sudan by mist nets. The morphometric characters used for the description of these bats were, chosen following Rosevear, Happold, Peterson and Koopman [5] [1] [6] [3]. The body, tail, ears and tragus lengths were, measured in millimeters by a ruler. The tibia, wing characters (forearm, third, fourth and fifth metacarpal and their first and second phalanx), skull and lower jaw characters (maxillary tooth row, mandibular condyloincisive, mandibular tooth row, condylocanine, palatal, rostral and manibular length, postorbital constriction, third upper molar to third upper molar, upper and lower canine to canine zygomatic, mastoid, braincase, width and the braincase, and upper and lower canine height) were measured in millimeters by a vernier caliber.

3. Results

The collected specimens were, identified as *G. argentata* based on their external feature and measurements (Table 1). The collected specimens are small vespertilionid bats with white or creamy skin. The hairs on the dorsal side are with dark brown base and grey tips that give the bat a dull brown colour. Hairs covering the ventral side are with pale grey tips. The wings and the large interfemoral membrane which encloses the whole tail are transparent or pale brown and without a reticulated pattern. The ears are relatively large compared to the small skull. The muzzle is short and the lower lip bears a flap of a flesh on its internal side. The dental formula is $\frac{2.1.1.3}{3.1.2.3}$ (fig 1 and table 1).

4. Discussion

Glauconycteris was erected by Dobson [7] for certain vespertilionid African bats merely as a subgenus of *Chalinolobus* erected by Peters [8] but it was raised to generic status by de Winton [9] and Miller [10]. Ellerman *et al.* [11], Rosevear [5], Hayman and Hill [12], Peterson and Smith [13], Peterson [14], Hill and Harison [15] and Happold [16] dealt with it as a genus following de Winton [9] and Miller [10]. On the other hand Simpson [17], Koopman [18] [3] [19] [20], and Smithers [21] considered it as a subgenus of the Australian *Chlinolobus*. The molecular evidence supports the generic status of *Glauconycteris* and places it in the tribe Nycticeiini while placing *Chalinolobus* in the tribe Vespertilionini [22]. However, Simmon [23] place them both in the tribe Vespertilionini. Koopman [18] considered the number of species as seven and Peterson [6] described another species. On the other hand, Simmons [23] recognized twelve species and Fahr and Kalko [24] added another new species.

The description and morphometric characters of the collected specimens are similar to *G. argentata* described by Rosevear [5] and Hayman and Hill [12], except that they have a shorter third metacarpal, tibia, tail, forearm, and narrower mastoid width compared to that described by Rosevear [5]. The collected specimens are different from *G. variegata* in lacking dark venation on their wings and interfemoral membrane.

The distribution of *Glauconycteris argentata* Central and East Africa spread from Cameroon and Equatorial Guinea up to the Democratic Republic of the Congo, Rwanda, Burundi, Uganda, Kenya, and Tanzania and possibly to northern Malawi and northwestern Angola [4]. The range of *G. argentata* Africa is not well known and the distribution of the species is expected to be more wide than currently known [4]. This new record of *G. argentata* Sudan gave an evident that the distribution of this species spread to the south east Sudan.

Table 1: Measurements of different morphometric characters of *Glauconycteris argentata* collected from the Dinder National Park

Morphometric Character	Males		Females		
	N	Measurement (mm)	N	Mean (mm)	Average (mm)
Body length	2	46.7, 50.85	5	52.5	49.25-55
Tail length	2	34, 41	5	37.71	35-41
Ear length	2	11.3, 11.65	5	11.14	10.8-11.7
Tragus length	2	4.1, 4.65	5	4.31	3.75-4.9
Tibia length	2	10.55, 11.65	5	11.65	10.55-12.9
Forearm	2	33.4, 35.85	5	34.54	33.2-36.37
Third metacarpal	2	33.75, 34.95	5	34.21	33-36.5
First phalanax of the third metacarpal	2	10.8, 12.85	5	12.21	11.1-13.2
Second phalanax of the third metacarpal	2	8.7, 9.65	5	9.49	8.7-10.55
Fourth metacarpal	2	32.85, 34.75	5	34	32.4-36.55
First phalanax of the fourth metacarpal	2	10.35, 11.8	5	11.59	10.75-12.2
Second phalanax of the fourth metacarpal	2	5.9, 8.0	5	7.31	6.5-8.3
Fifth metacarpal	2	31.75, 33.1	5	32.76	31.2-35.3
First phalanax of the fifth metacarpal	2	7.45, 8.25	5	8.19	8-8.65
Second phalanax of the fifth metacarpal	2	4.35, 5.1	5	4.95	4.5-5.7
Condylolincisive length	2	12.5	5	12.76	12.4-12.95
Condyllocanine length	2	12.5	5	12.48	12-12.8
Palatal length	2	5.7	5	5.77	5.65-6
Zygomatic breadth	2	8.9	5	8.79	8.5-8.9
Mastoid breadth	2	7.7	5	7.62	7.5-7.75
Braincase breadth	2	6.95	5	7	6.9-7.2
Braincase height	2	4.45	5	4.39	4.3-4.7
Rostral length	2	4.9	5	5.13	4.9-5.3
Postorbital constriction	2	3.95	5	3.87	3.8-3.95
Mandibular condylolincisive length	2	9.5	5	9.19	9-9.5
Greatest length of mandible	2	9.8	5	9.83	9.75-10



Figure 1: The silvered bat, *Glauconycteris argentata*

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