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New Roosting site of Microbat (*Rhinopoma microphyllum kinneri)* in Khed, Balotra, India

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ABSTRACT:

The Great Indian Desert (Thar Desert), Barmer (latitudes 24°85'04" to 26°32'20"N, longitudes 70°05'35" to 72°52'14"E) is one of the most active biodiversity hotspots in the world. Microchiropteran species and Megachiropteran species are the two types of chiropteran species. For the first time in November 2021, chiropteran species new roosting place in RanchorRai temple (Khed), Barmer was studied, and insectivorous bat *Rhinopoma microphyllum kinneri* was discovered in cave.

Keywords: Rhinopoma microphyllum kinneri, Khed, Balotra,Barmer

Introduction:

Barmer, in the Thar Desert, is a biodiversity hotspot. During the summer and winter, the temperature at Barmer varied significantly. Summer temperatures range from 24°C to 45°C, while winter temperatures range from 18°C to 22°C (Soni, 2019). During a survey in November 2021, we discovered a new microbat *(Rhinopoma microphyllum kinneri)* roosting location in Khed, Balotra (Barmer). Microchiroptera and megachiroptera are the two suborders of Chiroptera. All bats in the Microchiroptera suborder that make echolocation noises. The suborder Megachiroptera (Old World fruit bats, non-echo locating bats) was assigned to all other bats (Hill and smith 1984; Ming and Dong 2016).

These mammals offer us with resources, but their value is undervalued, and many of their populations and species are endangered or vulnerable (Charles et al, 2006). Micro bats are nocturnal mammals that only come out at night. Bats of the insectivorous species Rhionopoma microphyllum kinneri, Rhinopoma hardwickii ,Taphozous nudiventris,Taphozous melanopogon,Taphozous perforatous roost in natural caves, wells, man-made tunnels, old buildings, and various historical monuments such as forts, havelies, and artificial structures. Bats are nocturnal and can be hostile (Soni, 2019; Soni, 2021).

Many microchiroptera have a temperature-sensitive body, and some hibernate (Hill and Smith, 1984; Nowak, 1991; Soni, 2021).Chiropterans also perform vital functions in agriculture, such as guano, pollination, seed dispersal, and pest control, but they are threatened by a variety of factors, including climate change (Hassi, 2018;Soni,2019; Soni,2021).

Many environmental conditions, such as temperature (maximum and minimum), relative humidity (maximum and minimum), building activities, soil erosion, noise pollution, and threat, all influenced chiropteran diversity. 2021) (Soni).

Material and methods:

Several approaches were used during the experiment, including direct roost count methods (Thomas et al., 1979).Bats were counted using Fenton and Bell's (1979) catches and recaptures method, Kunz's (1988), Kunz and Kurta's (1988), and other methods such as videography and photographic counts by Thomas and Laval (1998). The thermometer and hygrometer were used to record the microclimatic changes observed, such as temperature and humidity (maximum minimum). The roosting position was determined using a global positioning system. Purohit et al., 2013; Soni 2019, Soni 2021).

Fig. (1). Ranchor Rai Temple, Khed.

Fig. (2). *Rhinopoma microphyllum kinneri* in cave.

New roosting site:
Microchiropteran species (*Rhinopoma microphyllum kinneri*)
Khed/Kher (25° 51' 46" North, 72° 10' 16" East), Balotra(Barmer).

First time explored November 2021 new roosting site Ranchor rai Temple, Khed/Kher. It is a village and located between Balotra and Tilwara. This is the world famous temple of Lord Ranchor Rai Bhagwan (Shri Vishnu JI) .The temple is a historical monument. About 142 Km from Barmer, situated on the banks of the Luni River in Balotra. Kehd temple is ten km away from Balotra Fig. (1).There is microbat *Rhinopoma microphyllum kinneri* present in cave Fig. (2).

Discussion:

During survey period 2010-2013,we investigated five new species two megachiropteran species (*Pteropus giganteous giganteous and Cynopterix spinix*) and three microchiropteran species *Rhinopoma hardwickii, Taphozous melanopogon, Taphozous nudiventris* (Purohit *et al*., 2013; Soni, 2019; Soni,2021) .Up to 1982, Prakash (1963) Advani (1982) Sinha (1980) reported three Microchiropteran species (*Rhinopoma microphyllum kinneri, Taphozous perforatus, Pipistrillus tenuis*) Microchiropterans of Thar Desert Barmer. In this way positively change in chiropteran diversity November 2021 found new roosting site in Balotra, district Barmer.

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