

Short communication

A new locality record for the Desert long-eared bat, *Otonycteris leucophaea* (Severcov, 1873) in IranSohrab ASHRAFI^{1*}, Mohammad ZARRINTAB², Soheil EAGDERI³¹Department of Environmental Sciences, Faculty of Natural Resources, University of Tehran, Karaj, Iran.²Department of Environmental Science, University of Kashan, Kashan, Iran.³Department of Fisheries, Faculty of Natural Resources, University of Tehran, Karaj, Iran.*Corresponding author: sohrab.ashrafi@ut.ac.ir

Abstract: Bat fauna of Iran has been well-studied and documented. Up to now, 50 species of bats belonging to 16 genus have been reported from Iran. Here we report collection of two desert long-eared bat, *Otonycteris leucophaea* specimens from the Parvand Protected Area in the north-east of Iran as a new locality for this rare bat species, showing its range extension toward the central part of Iran.

Keywords: Long-eared bat, Distribution, Range extension, Khorasan Razavi, the Parvand Protected Area, Iran.

Introduction

Mammals of Iran, including bats have been widely studied through last decades (see Lay, 1967; Etemad, 1969; DeBlase, 1980; Benda et al., 2012). Lay (1967) and Etemad (1969) reported 28 species of bats from Iran, and later DeBlase (1980) and Karami et al. (2008) extended this list to 38 and 45, respectively. Finally, a comprehensive review was published by Benda et al. (2012) reporting 50 species of bats belonging to 16 genus from Iran.

The genus *Otonycteris* Peters 1859, was comprised only one species namely *O. hemiprichii* (Koopman, 1994; Simmons, 2005). In addition, five subspecies have been described for this species, which live in arid and semi-arid regions (Koopman, 1994; Gharaibeh and Qumsieh, 1995). *Otonycteris leucophaea* (Severcov, 1873) occurs in the western and central Palaearctic realm and from Morocco and Niger to the north-west of India (IUCN, 2013). Benda (2010) suggested three distinct morphotypes of this species for North Africa, western part of the Middle East, and Central Asia. Recently, the molecular evidences showed two separate species of this genus i.e. *O. hemiprichii* in the eastern part of the Middle East and *O. leucophaea* in the Central Asia (Benda et al., 2012).

These two long-eared bat species inhabit in desert and sub-desert regions of central, east and south-eastern parts of Iran. Up to now, *O. leucophaea* has been reported only from north-east of Iran along the border of Iran and Turkmenistan (Fig. 1). Here we report the collection of two desert long-eared bat, *O. leucophaea* specimens from the Parvand protected area in east of Iran as a new locality for this rare bat species, showing its range extension toward the central part of Iran.

Materials and Methods

Two specimens (Male and Female) of *O. leucophaea* were collected by mist-net on June 5, 2011 from the Parvand Protected Area located in the eastern part of Khorasan Razavi Province (north-east of Iran). Bats were captured in the mountainous rocky area with the relatively poor vegetation cover (N35°51'08.1", E57°02'51.5", elevation: 653 m) (Figs. 1, 2).

Results and Discussion

Morphometric characteristics and measurements of the two collected specimens of *O. leucophaea* from the Parvand Protected Area indicated clear identification of *O. leucophaea* (Table 1). However, identification of these

Table 1. Morphometric measurements of *Otonycteris leucophaea* from the Parvand Protected Area (cm).

	FA	D5	D3	D1	Tib	HF	earL	earW	tragL	tragW	CM ³	HB	TL	TTL
Male	58.73	76.44	96.56	7.83	26.52	11.90	29.82	14.81	14.09	4.04	9.54	119.42	4.08	46.29
Female	64.15	82.86	102.12	8.91	28.68	12.45	31.46	26.68	14.68	4.41	9.95	129.70	9.6	51.73

FA: Forearm-length, D5: Length of fifth finger, D3: Length of third finger, D1: Length of thumb, Tib: Length of tibia, HF: Length of hind foot, earL: Length of ear, earW: Width of ear, tragL: Length of tragus, tragW: Width of tragus, CM3: Length of upper tooth row, HB: head and body length (Tip of snout to end of tail), TL: Tail-length, TTL: The tip of the tail to vent.



Figure 1. Distribution of *Otonycteris leucophaea* in Iran (white circle: previous records and white star: Newly found locality in the Parvand Protected Area).

this species, large arthropods such as coleoptera, blattodea, orthoptera, solpugida and scorpionida could be its food items (Arlettaz et al., 1995; Fenton et al., 1999; Benda et al., 2006).

As mentioned by Breda et al. (2012), distribution of *O. leucophaea* is a Turanic biogeographic place in north-eastern Khorasan. Here we report the range extension of this rare bat species toward the central part of Iran from its previous locations in the north-east of Iran along the border of Iran and Turkmenistan i.e. this new locality is western and southern most record of this species in Iran.

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References

- Arlettaz R., Dandliker G., Kasybekov E., Pillet J.-M., Rybin S., Zima J. 1995. Feeding habits of the long-eared Desert bat, *Otonycteris hemprichi* (Chiroptera: Vespertilionidae). *Journal of Mammalogy*, 76: 873-876.
- Benda P., Andreas M., Kock D., Lučan R.K., Munclinger P., Nova P., Obuch J., Ochman K., Reiter A., Uhrin M., Weinfurtova D. 2006. Bats (Mammalia: Chiroptera) of the Eastern Mediterranean. Part 4. Bat fauna of Syria: distribution, systematics, ecology. *Acta Societatis Zoologicae Bohemicae*, 70: 1-329.
- Benda P., Gvozdik V. 2010. Taxonomy of the genus *Otonycteris* (Chiroptera: Vespertilionidae: Plecotini) as inferred from morphological and mtDNA data. *Acta Chiropterologica*, 12(1): 83-102.
- Benda P., Faizolâhi K., Andreas M., Obuch J., Reiter A., Ševčík M., Uhrin M., Vallo P., Ashrafi S. 2012. Bats (Mammalia: Chiroptera) of the Eastern Mediterranean and Middle East. Part 10. Bat fauna of Iran. *Acta Societatis Zoologicae Bohemicae*, 76: 163-582.
- DeBlase A.F. 1980. The bats of Iran: systematics, distribution,



Figure 2. Habitat of *Otonycteris leucophaea* in the Parvand Protected Area.

specimens based on molecular analysis is quite vital to draw an effective management plan to keep safe these sparse and cryptic bat species in the Parvand Protected Area.

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- ecology. Fieldiana Zoology New Series. 460 p.
- Etemad E. 1969. The Bats of Iran, and the Keys to Identify Them. Tehran: University of Tehran, 228 p. (In Farsi)
- Fenton M.B., Shalmon B., Makin D. 1999. Roost switching, foraging behaviour, and diet of the vespertilionid bat, *Otonycteris hemprichii*. Israel Journal of Zoology, 45: 501-506.
- Gharaibeh B.M., Qumsiyeh M.B. 1995. *Otonycteris hemprichii*. Mammalian Species, 514: 1-4.
- IUCN. 2013. IUCN Red List. Available from: <http://www.iucnredlist.org>. Retrieved 11 August, 2015.
- Karami M., Hutterer R., Benda P., Siahsarvie R., Kryštufek B. 2008. Annotated check-list of the mammals of Iran. Lynx, 39: 63-102.
- Koopman K.F. 1994. Chiroptera: Systematics. In: J. Niethammer, H. Schliemann, D. Starck (Eds). Handbuch der Zoologie. Band VIII. Mammalia. Teilband 60 (JWalter de Gruyter, Berlin. pp: 1-217.
- Lay D.M. 1967. A study of the mammals of Iran resulting from the Street Expedition of 1962-63. Fieldiana: Zoology, 54: 1-282.
- Simmons N.B. 2005. Order Chiroptera. In: D.E. Wilson, D.M. Reeder (Eds.). Mammal species of the World: a taxonomic and geographic reference, 3rd edition, Johns Hopkins University Press, Baltimore, USA. pp: 312-529.