

First camera-trap record of the European Badger *Meles meles* from Iran

Ehsan M. MOQANAKI*, Farshid JAFARZADEH, Elmira SHAERBAFI and Mohammad S. FARHADINIA

Abstract

A minimum sampling effort of 510 camera-trap nights at Anguran Wildlife Refuge led to the first camera-trap photograph of the European Badger *Meles meles* from Iran. This confirms the occurrence of the animal within Anguran Wildlife Refuge and is one of the few records of a free-living individual in Iran.

Keywords: Anguran Wildlife Refuge, camera-trapping, mountainous terrain, temperate semi-arid environment

The European Badger *Meles meles* has a wide distribution across western and central Eurasia from Scandinavia in the north to the Middle East in south, where it is considered to be naturally rare (Corbet 1978, Abramov 2003, Kranz *et al.* 2008). Although Neal & Cheeseman (1996) wrote that the species is “not uncommon” in Iran, there are few confirmed records of its occurrence in the country. Indeed, primary documentation comes mainly from Lay (1967), whose assessment has been often repeated without significant update (e.g. Harrington & Dareshuri 1976, Etemad 1985, Harrison & Bates 1991, Firouz 2005, Ziaie 2008). Thus, the point distribution map of the animal in Etemad (1985), using 12 records from Lay (1967) and only two subsequent ones, is the most detailed available data from Iran (Fig. 1). The species’s current status in Iran is therefore poorly known (Ziaie 2008).

This badger is listed globally as Least Concern by IUCN (Kranz *et al.* 2008) and is not endangered over most of the Western Palearctic, but there are large differences in European Badger population densities within its range. Also, the legal status of this

species in some Middle Eastern countries remains unclear (Hancox 1990, Griffiths & Thomas 1997, Kranz *et al.* 2008).

The study area was located in Zanjan province, northwestern Iran (36°29–43°N, 47°42–47°E) in the Zagros Mountains (Fig. 1). Covering 298 km², Anguran Wildlife Refuge is covered mainly by mountainous rolling lands and ridges with elevations from 1,260 to 3,333 m. The refuge’s temperate semi-arid climate is a result of mean annual precipitation and temperature of 400 mm and 10 °C (Darvishsefat 2006). *Astragalus* spp.–*Festuca* spp. and agricultural plants are the dominant vegetation types of the area (Anon. 1995). Qareh Buq Core Zone, in the western part of the refuge, has had continuous sampling using six to eight camera-traps (DeerCam DC-200 and StealthCam MC2-GV) from January 2010 as a larger study on the Eurasian Lynx *Lynx lynx* and Grey Wolf *Canis lupus*.

The total sampling effort from the beginning of the study until July 2010 was 510 camera-trap nights. The picture of the European Badger was obtained in late July 2010 at 04h00 (Fig.



Fig. 1. Iran, showing location of Anguran Wildlife Refuge (black polygon) and confirmed records of the European Badger *Meles meles* (white dots) by Etemad (1985).

2) from a station with minimum sampling effort of 33 camera-trap nights (36°37'N, 47°41'E). The camera was placed near the boulder-strewn top of a mountain following a dirt trail at a recorded elevation of 1,792 m, covered mainly with two vegetation communities, *Astragalus* spp.–annual grasses and *Artemisia* spp.–*Festuca* spp. Pictures of Wild Cat *Felis silvestris*, Eurasian Wild Pig *Sus scrofa* and Wild Sheep *Ovis (aries) orientalis* were also taken at this location.

To our knowledge, this is the first confirmed record of a European Badger from Anguran Wildlife Refuge. However, footprints consistent with this species were observed in October 2009 along the main stream in the northern portion of Qareh Buq Core Zone (Fig. 3). Furthermore, Lay (1967) reported a European Badger skin purportedly from Zanjan province. Our observation is one of the few records of a free-living European Badger in its natural habitat in Iran by the animal has rarely been observed alive in the country by biologists, and the lack of scientific knowledge in the country is similar to that asserted by several authors for the Asian Badger *Meles leucurus* in comparison with European populations (e.g. Murdoch & Buyandelger 2010).

Like other members of Mustelidae, the European Badger is



Fig. 2. Camera-trap picture of the European Badger *Meles meles* at Anguran Wildlife Refuge, Iran, July 2010 (Photo: Iranian Cheetah Society).

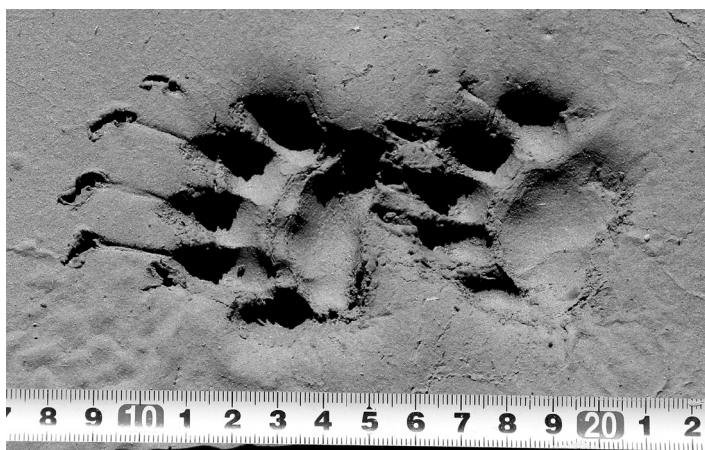


Fig. 3. Footprints consistent with European Badger *Meles meles* along the riverside in Qareh Buq Core Zone of Anguran Wildlife Refuge, Iran (Photo: M. S. Farhadinia/Iranian Cheetah Society).

legally Not Protected in Iran which may not be appropriate based on the absence of any status assessment for this species in the country. Sporadic anecdotal reports of this species's occurrence at new sites throughout the country indicate the need to verify these reports and update its distribution. Finally, we believe ecological investigations are needed to understand the status of European Badger in Iran.

References

- Anon. 1995. *Plants of Zanjan province*. Shabak Engineers Co., Zanjan, Iran (unpublished report). (In Persian.)
- Abramov, A. V. 2003. The head colour pattern of the Eurasian badgers (Mustelidae, *Meles*). *Small Carnivore Conservation* 29: 5–7.
- Corbet, G. B. 1978. *The mammals of the Palaearctic region: a taxonomic review*. British Museum (Natural History), London, U.K.
- Darvishsefat, A. A. 2006. *Atlas of protected areas of Iran*. University of Tehran Press, Tehran, Iran.
- Etemad, E. 1985. *Mammals of Iran*, vol. 2. Iranian Department of the Environment, Tehran, Iran. (In Persian.)
- Firouz, E. 2005. *The complete fauna of Iran*. I.B. Tauris, London, U.K.
- Griffiths, H. J. & Thomas, D. H. 1997. *The conservation and management of the European Badger*. Nature and Environment No. 90. Council of Europe Publishing, Strasbourg, France.
- Hancox, M. 1990. *The Eurasian Badger: status and legislative protection*. *Small Carnivore Conservation* 3: 18.
- Harrington, F. A. & Dareshuri, B. F. 1976. *A guide to the mammals of Iran*. Iranian Department of the Environment, Tehran, Iran. (In Persian.)
- Harrison, D. L. & Bates, P. J. J. 1991. *The mammals of Arabia*, 2nd ed. Harrison Zoological Museum, Sevenoaks, U.K.
- Kranz, A., Tikhonov, A., Conroy, J., Cavallini, P., Herrero, J., Stubbe, M., Maran, T., Fernades, M., Abramov, A. & Wozencraft, C. 2008. *Meles meles*. In: IUCN 2010. *IUCN Red List of Threatened Species*. Version 2010.2. <http://www.iucnredlist.org>. Downloaded on 13 August 2010.
- Lay, D. M. 1967. A study of the mammals of Iran resulting from the Street expeditions of 1962–63. *Fieldiana, Zoology* 54: 1–282.
- Murdoch, J. & Buyandelger, S. 2010. An account of badger diet in an arid steppe region of Mongolia. *Journal of Arid Environments* 47: 1348–1350.
- Neal, E. & Cheeseman, C. 1996. *Badgers*. T and A. D. Poyser, London, U.K.
- Ziaie, H. 2008. *A field guide to the mammals of Iran*, 2nd ed. Iranian Wildlife Center, Tehran, Iran. (In Persian.)

Iranian Cheetah Society (ICS), Tehran 14155-8549, Iran

***Corresponding author email: emoqanaki@wildlife.ir**