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A new record of *Allactaga euphratica* from Ilam province, West of Iran

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The five-toed Jerboa genus *Allactaga* includes 12 morphospecies, the majority of which were described in the 19th century. Five morphospecies are native to Iran, including *A. elater* (Lichtenstein, 1828), *A. williamsi* Thomas, 1897, *A. hotsoni* Thomas, 1920, *A. firouzi* Womochel, 1978, and *A. toussi* Darvish et al., 2008. However, Shenbrot (2009) determined, by multivariate analysis, that *A. firouzi* is synonymous with *A. hotsoni.*

Attallah and Harrison (1968) demonstrated that *A. euphratica* Thomas, 1881, and *A. williamsi* are conspecific. They reduced *A. williamsi* to subspecific status under *A. euphratica*, based on the examination of external and cranial characters. Recent data have shown that *A. euphratica* and *A. williamsi* are two distinct species (Colak and Yigit, 1998). The presence of *A. euphratica* has been reported in Iraq, Kuwait, Saudi Arabia, Jordan, and Syria (Abi-Said, 2004). It is probable that *A. euphratica* is present in southwestern Iran (Kryštufek and Vohralik, 2005).

Apart from being slightly smaller, *A. euphratica* most closely resembles to *A. williamsi* in shape, color and body proportions (Kryštufek and Vohralik, 2005). In the present study, we report one specimen of *A. euphratica* for the first time from Ilam province, west of Iran (Fig. 1). Sampling was performed in the W and NW of Iran in Ardebil, Hamedan, Zanjan and Ilam Province.

The complete cytochrome *b* gene of mtDNA was amplified by PCR. The PCR products were digested with the restriction enzyme *Hin*fI (G/ANTC) and incubated at 37°C for 3-4 h until completely digested. The products were then separated by electrophoresis on 1% agarose gel, according to the different patterns of band distribution on the gel. However, restriction fragments of *A. euphratica* produced unique patterns on the agarose gel in RFLP analyses (Fig. 2).

In the second part, the specimens of five-toed jerboas were analyzed morphometrically. Following the method by Shenbrot (2009), we measured 24 cranial and dental morphometric variables. The dendrogram based on morphometric variables was drawn by SPSS 16 and could differentiate *A. euphratica* from *A. williamsi* (Fig. 3).

Morphological characters of *A. williamsi* and *A. euphratica* (Table 1) were compared and revealed differences between these two species. In the present study, we report *A. euphratica* from the west of Iran for the first time based on RFLP, along with morphometric and morphological analyses. The presence of *A. euphratica* in Iran was uncertain until now, but this analysis demonstrated that the single specimen from Ilam belongs to this species.

Material Examined: Zoological Museum, Ferdowsi University of Mashhad (ZMFUM-2129), adult female, Ilam province, 37° 57.447´N; 47° 1.649´E, *leg.* M. Tarahomi.

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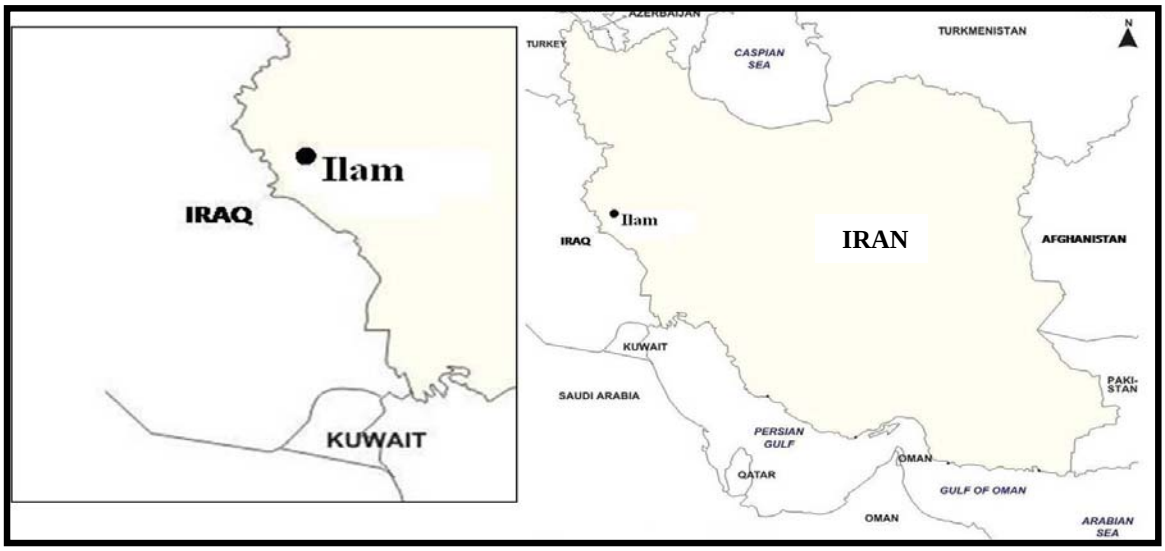

FIGURE 1. Sampling locality of *A. euphratica* (Ilam).

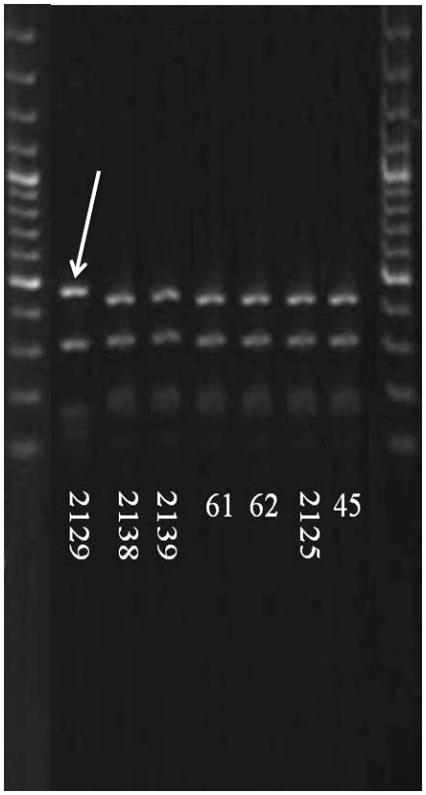

FIGURE 2. Restriction patterns of cytochrome *b* with *Hin*fI on 1% agarose gel [2129: Ilam (indicated with arrow); 2139, 2138, 2125: Ardebil; 61, 62: Zanjan; 45: Hamedan].

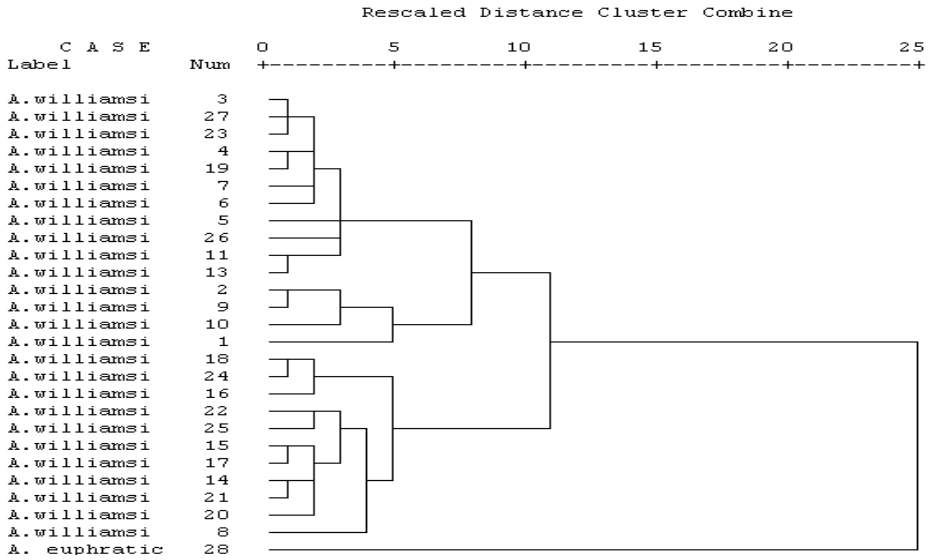

FIGURE 3. Dendrogram based on Euclidean distance of morphometric variables.

TABLE 1. Morphological characters of *A. euphratica* from Ilam and *A. williamsi* from western Iran.

Characters	***A. euphratica***	***A. williamsi***
Total length	320 mm	360 mm
Dorsal fur color	Light yellow with blackish on the sides	Dark brown with reddish yellow
Ventral fur color	White	White
Color of external side of femur	Yellow	Reddish yellow
Dorsal color of tail	Light yellow	Dark reddish yellow
Ventral color of tail	Lighter than dorsal	Lighter than dorsal
Lacrimal bones	Small and slender	Large with wide base
Second incisive foramen relative to skull size	Very large	Small

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