

# Habitat associations and conservation of *Eremias acutirostris* (Boulenger, 1887) in the Sistan region, Zabol, Iran

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**Abstract.**—During a field survey in the Sistan region of Iran in October 2011, habitat of *Eremias acutirostris* was surveyed and four specimens of the species were collected. We report a locality situated along the road from Zabol to Doost Mohammad, near the town of Bonjar. The fragile habitat, consist of immobile sand dunes, is situated in proximity to an industrial zone, placing this remnant population under threat of pollution and other anthropogenic edge effects. We call the Zabol Environmental Protection Agency to act and insure the species' future in Iran.

**Key words.** *Eremias acutirostris*, Zabol, sand dune, Doost Mohammad, conservation

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## Introduction

*Eremias* is a widespread Lacertid genus that is distributed from China to eastern Europe and southward to the Iranian plateau (Anderson 1999; Rastegar-Pouyani et al. 2007). The genus comprises approximately 15 species in Iran. *Eremias acutirostris* (Fig. 1) occurs in Iran, Afghanistan, and Pakistan, and listed as “Least Concern” by the IUCN (Anderson 1999, Rastegar-Pouyani et al. 2008). As a specialist species, *E. acutirostris* requires a suitable habitat, perhaps critical for its survival.

Within the distribution range of the species, its occurrence in Iran is limited to a small area (Zabol region) (Fig. 2). This particular habitat, characterized by vegetated sand dunes, is consumedly degraded by the high human population density in the area; main threats are overgrazing and industrial activities. In this study, we examined the species' habitat preferences and provide suggestions about its conservation, in association to these environmental problems.

## Materials and methods

During a three day field survey in the Sistan region of Iran in October 2011, we observed 12 specimens of *E. acutirostris* in the field; four were collected and deposited in the Hakim Sabzevari Zoological Museum (SUHC 1084, 1085, 1086, and 1087). The locality was in an arid area of the Hamoon basin, approximately 20 km W of Bonjar on the road between Zabol and Doost Mohammad ( N 31° 05' 15.6", E 061° 37' 32.8", elevation 440 m).

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The habitat consisted of immobile sand dunes with large shrubs (*Tamarix* sp. and *Haloxylon* sp.) (Fig. 3). The snake *Echis carinatus* and the gecko *Bunopus tuberculatus* were also observed and collected in the same habitat.

## Results and discussion

Reptiles inhabit a diverse array of habitats, but are known to be sensitive to habitat destruction and degradation (Goode et al. 1995). Lizards in the genus *Eremias* inhabit xeric habitats in Iran, which are threatened mainly by grazing and industrial development. Human activity in the study area is evident and an industrial park has recently been constructed along the road between the villages. The construction of the industrial township, with all its accompanying structures, inevitably destroyed some of the fragile habitat. Drought conditions resulting in loss of vegetation have deteriorated the habitat, as shrubs are viable resources for food (via insect attraction) and shelter (refuge from predators) for the lizards. We presume that these recent modifications are negatively affecting the species' population within the area and may possibly lead to extinction of this lizard in Iran, if not restricted and protected.

Conservation of *E. acutirostris* and other rare species that may occur in the studied habitat are significantly depended on the decision making of the Department of Environment of the region, and the establishment of protected area(s). We hope that publication of our findings will improve the conservation of this rare species, with its restricted distribution in Iran.

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### Literature cited

Anderson SC. 1999. *The Lizards of Iran*. Society for the Study of Amphibians and Reptiles, Ithaca, New York, USA. 137 text-figs., distribution maps [unnumbered], 25 col. pls., 442 p.

Goode MJ, Howland JM, Sredl MJ. 1995. *Effects of microhabitat destruction on reptile abundance in*

*Sonoran Desert rock outcrops*. Nongame and Endangered Wildlife Program Heritage Report. Arizona Game and Fish Department, Phoenix, Arizona, USA. 25 p.

Rastegar-Pouyani N, Johari M, Rastegar-Pouyani E. 2007. *Field Guide to the Reptiles of Iran* (Volume 1: Lizards). Razi University Press, Kermanshah, IRAN. 298 p.

Rastegar-Pouyani N, Kami HG, Rajabizadeh M, Shafiei S, Anderson SC. 2008. Annotated checklist of amphibians and reptiles of Iran. *Iranian Journal of Animal Biosystematics* 4(1):43-66.

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**Figure 1.** Adult male *Eremias acutirostris* from the Zabol region, Iran.



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Figure 2. Map of Iran and the location of limited population (A) of *Eremias acutirostris* in east of Iran.



Figure 3. Habitat of *Eremias acutirostris* along the road from Bonjar to Doost Mohammad, Sistan region, Iran.



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