

Peculiarities of landscape distribution of the Central Asian Tortoise, *Agrionemys horsfieldii*, in Iran

(Reptilia: Testudines)

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Abstract. The range of *Agrionemys horsfieldii* in Iran is outlined and known locality records are mapped, including seven new localities from northern and eastern Iran. New data on habitats and population densities in different landscapes are given. Population density varied between 0.7 and 2.15 ind./ha. An historical analysis of the habitat formation and divergence of the Horsfield tortoise on the Iranian Plateau is given. Information on morphology, ecology and parasitology of the populations from the environs of Mazdavand is presented. The morphometric characteristics of two populations were compared and some morphometric indices were found. The possible co-occurrence of *Agrionemys horsfieldii* and *Testudo graeca zarudnyi* is discussed. These two species show a preference for different conditions and rarely meet together in the same habitat.

Key words. Central Asian tortoise, *Agrionemys horsfieldii*, Iran, landscape distribution, population density.

Introduction

The range of *Agrionemys horsfieldii* (Gray, 1844) encompasses a vast territory in Central Asia. North of Iran, this species is widely distributed in the foothills of the Kopetdag Mountains and on the Turan Plain (SHAMMAKOV 1981, ATAEV 1985, MAKEEV et al. 1986, ATAEV et al. 1994, BONNET et al. 2001, LAGARDE et al. 2001, 2002). For a long time, only a limited amount of data were available in the scientific literature on its distribution and habitat preferences within Iran (ZARUDNOI 1903, ANDERSON 1979). However, KAMI (1999, 2005) recently supplied some basic information on the habitats and ecology of *A. horsfieldii* in this country. In order to investigate the status of the species, we made field trips to eastern Iran in April and May 2006 and May 2009. During this work, the occurrence of the species has been verified, distribution and the population densities in different landscapes have been elucidated, and basic data on ecology have been collected. We also felt it appropriate to compare the available data on the distribution of *Testudo graeca zarudnyi* Nikolsky with those of *A. horsfieldii* in the present paper. Moreover, the literature on *Testudo g. zarudnyi* is rather limited and so our observations may be of some significance.

Material and methods

Quantitative tortoise assessment. The quantitative censuses of tortoises were carried out by the straight-line transect method. We used a variant of the method in which the perpendicular distances from the route line of discovered individuals were registered. The sum of these data were used to calculate the average location distance (\bar{y}) and the effective strip width (B) in each local-