



<http://dx.doi.org/10.11646/zootaxa.3670.4.2>

<http://zoobank.org/urn:lsid:zoobank.org:pub:60B0B7E6-E6DD-4A38-80D9-3CF11871C202>

Review of the earthworm fauna of Iran with emphasis on Kohgiluyeh & Boyer-Ahmad Province

ZEINAB FARHADI, MASOUMEH MALEK¹ & ELAHE ELAHI

School of Biology and Center of Excellence in Phylogeny of Living Organisms, College of Science, University of Tehran, Tehran, Iran

¹Corresponding author. E-mail: mmalek@khayam.ut.ac.ir

Abstract

Earthworms were collected in forests, damp habitats, springs, orchards and agricultural fields of the Kohgiluyeh & Boyer Ahmad Province, Iran, from April 2009 to April 2010. Specimens were collected at 20 established stations by digging and by diluted formalin methods. Ten species belonging to family Lumbricidae were identified based on morphology: *Aporrectodea caliginosa* (Savigny, 1826), *Ap. rosea* (Savigny, 1826), *Ap. jassyensis* (Michaelsen, 1891), *Dendrobaena veneta* (Rosa, 1886), *D. byblica* (Rosa, 1893) complex, *D. orientalis orientalis* Černosvitov 1940, *Eisenia fetida* (Savigny, 1826), *Eiseniella tetraedra* (Savigny, 1826), *Octolasion lacteum* (Örley, 1881), *Perelia kaznakovi* (Michaelsen, 1910). *Ap. caliginosa* was the dominant species in this province and *D. orientalis orientalis* is a new record for Iran. A checklist of all earthworms species from Iran is presented, containing 19 species. Then, in order to show earthworm geographical affinities, hierarchical analysis were applied to available data on earthworm of Iran.

Key words: Earthworm, New record, Iran, Kohgiluyeh & Boyer Ahmad Province, Clitellata

Introduction

Earthworms significantly affect the physical, chemical and biological characteristics of soil and consequently, are considered as soil ecosystem engineers (Brown, *et al.*, 2004). Furthermore, nowadays earthworms serve as bioindicators (Römbke *et al.* 2005) and they are regularly used in traditional medicine (Shen 2010), in vermicomposting, as bait and nutrition for aquatic organisms (Edwards & Bohlen 1996: pp: 238, 309). Earthworms improve soil quality and provide various benefits for animals, humans and plants. In spite of these well-recognized benefits, research studies on the taxonomy of earthworms are limited, especially in Iran. The first taxonomic study on earthworms of Iran was carried by Omrani (1973) in a sporadic survey mainly focused on parts of north, central, and southwest Iran. More recently, further investigations were conducted by Yousefi *et al.* (2009), Ezzatpanah *et al.* (2010), Latif *et al.* (2009), and Zirak-Mobaraki (2010). Earthworms in the north and northwest of Iran were surveyed in these studies. Thanks to the present study in which the earthworm fauna from the Kohgiluyeh & Boyer-Ahmad Province of Iran is described, this information gap is becoming minimized.

Material and methods

Earthworm specimens were collected by digging and hand-sorting in 20 stations selected randomly from Kohgiluyeh & Boyer-Ahmad Province (Fig. 1, Table 1). The sampling campaign was performed from April 2009 to April 2010. Kohgiluyeh & Boyer-Ahmad Province is located in the southwest of Iran, encircling the Zagros mountain chain in part. This long mountain chain forms a barrier between the Iran plateau (north-east) and the Mesopotamian lowlands (south-west), and at the same time constitutes a corridor for the southward distribution of northern faunal elements (Anderson 1999). Hence it facilitates distribution of the species from northern to the southern regions, and forms a barrier for species migration from eastern to the western areas. In terms of climate conditions, the province is divided into two parts: The Kohgiluyeh benefits from a dry climate with a mean annual