Zootaxa 3646 (1): 075–081
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3646.1.6
http://zoobank.org/urn:lsid:zoobank.org:pub:8F1BA6B5-C1E8-4F3B-A1E7-DD688F232D9E

Three new earthworm species of the genus *Amynthas* (Clitellata: Megascolecidae) from Mt. Chiak National Park, Korea

YONG HONG[1] & SAMUEL W. JAMES[2]

[1]*Department of Agricultural Biology, College of Agriculture & Life Sciences, Chonbuk National University, Jeonju 561-756, Korea. E-mail: geoworm@hanmail.net*

[2]*Department of Biology, University of Iowa, Iowa City, Iowa, USA 52242. E-mail: samuel-james@uiowa.edu*

Abstract

Earthworm specimens collected from Mt. Chiak, National Park, Korea were found to represent three new species of megascolecid earthworms: *Amynthas chiakensis* **sp. nov.**, *Amynthas gyeongriae* **sp. nov.**, and *Amynthas wonjuensis* **sp. nov.** *Amynthas chiakensis* **sp. nov.** has two pairs of spermathecae in VII and VIII, small transverse oval male porophores each with C-shaped small patches of genital papillae, 0.22–0.31 circumference apart. *Amynthas gyeongriae* **sp. nov.** has spermathecae in VI–VIII, male field with large circular-shaped raised pads and seminal grooves, with pores 0.16–0.28 circumference apart. *Amynthas wonjuensis* **sp. nov.** has spermathecae in VI and VII, male pores superficial in XVIII on small oval-shaped white porophores lateral to large roughly circular raised genital papillae, 0.15 circumference apart.

Key words: Earthworms, *Amynthas*, Megascolecidae, Clitellata, Mt. Chiak, Korea, new species

Introduction

Earthworms in Korean forests are predominantly species of the genus *Amynthas* (Megascolecidae). This group is diverse and abundant in litter layers and soils. There is a long history of studying earthworms of the Korean peninsula, including taxonomic investigations by Goto and Hatai (1899), Kobayashi (1934, 1936, 1937, 1938), and Song and Paik (1969, 1970a, b, 1971, 1973). Coincidentally continuing the pattern of approximately 30 year intervals between sets of contributions, the senior author and collaborators have reported on *Amynthas* from several local surveys, such as Mt. Gyeryong (Hong & Kim 2002a), Bogildo Island (Hong 2007), and more broadly on species sharing spermathecal battery characters (Hong & James 2001; Hong & Lee 2001; Hong *et al*. 2001; Hong & Kim 2002b).

The Korean peninsula encompasses 221,000 km^2, 45% of which makes up the Republic of Korea. Seventy percent of the 960 km long peninsula is mountainous and the coastline surrounding the three sides is highly indented giving geographically complex terrestrial and marine ecosystems with relatively high biological diversity. The Korean peninsula lies in the east of the temperate forest zone. Mt. Chiak is a National Park in the province of Gangwon-do, South Korea, about 90 km from Seoul. It has a maximum elevation of 1,288 m. The park covers 181.63 km^2, with several peaks more than 1,000 m high such as Namdaebong (1,181 m), and Maehwasan (1,084 m). Mt. Chiak (1,288 m) used to be called 'Dong-akmyeongsan' (the famous mountain in the east) for its beautiful scenic shape and very steep slopes. Mt. Chiak's forests contain about 700 species of plants; the trees consist of pines, firs, oaks, dogwoods, hornbeams, and maples, among others.

There are no earlier reports of the earthworm fauna from Mt. Chiak. In this study, we describe three species new to science: *Amynthas chiakensis* **sp. nov.**, *Amynthas gyeongriae* **sp. nov.**, and *Amynthas wonjuensis* **sp. nov.** These species were collected in forests in Mt. Chiak by digging and hand sorting. Taxonomy in this paper follows Sims & Easton (1972), and Easton (1979). Illustrations are of anatomical views containing important external and internal features, prepared with a camera lucida. Descriptions are based on external examination and dissection

Accepted by R. Schmelz: 14 Mar. 2013; published: 1 May 2013