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Three new earthworms of the genus *Pheretima* (Oligochaeta: Megascolecidae) from Mt. Makiling, Luzon Island, Philippines

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Abstract

Earthworm material collected from Mt. Makiling, Laguna Province, Philippines contained three new species of the genus *Pheretima* as defined by Sims and Easton (1972): *Pheretima makilingensis* **sp. nov.** in the *P. urceolata* group, characterized by spermathecal pores in 5/6; *Pheretima mariae* **sp. nov.** and *Pheretima lagunaensis* **sp. nov.** in the *P. sangirensis* group, having spermathecal pores in 7/8. *Pheretima makilingensis* **sp. nov.** has spermathecal pores 0.15 circumference ventrally apart and male openings 0.17 circumference ventrally apart. *Pheretima mariae* **sp. nov.** has spermathecal pores 0.04 circumference ventrally apart, male openings 0.09 circumference ventrally apart, copulatory bursae without pads, and a large digitate penis filling bursa. *Pheretima lagunaensis* **sp. nov.** has spermathecal pores 0.03 circumference ventrally apart, male openings 0.10 circumference ventrally apart, copulatory bursae lacking pads, and a large irregularly shaped penis from the bursa roof.

Key words: Earthworms, Oligochaeta, Megascolecidae, *Pheretima*, new species, Mt. Makiling, Philippines

Introduction

This paper is one of a series of reports on the largely unknown earthworm fauna of the Philippines (James et al, 2004; James 2004; Hong and James 2004). Beginning in early 2001, we surveyed numerous sites in the northern Philippines, one of which is partly covered here. The second author described 5 new species of the *urceolata* species group from Mt. Kitangland, Mindanao Island (James 2004). James et al (2004) also listed one new species of the *urceolata* group from Mt. Arayat, Luzon Island. One of the new earthworm species reported here belongs to the provisional *urceolata* species-group, which has spermathecal pore(s) in segmental furrow 5/6. The other two are in the provisional *Pheretima sangirensis*-group which has spermathecal pore(s) in segmental furrow 7/8. Mt. Makiling (sometimes Mt. Maquiling) is a dormant volcano with considerable geothermal activity in the neighboring area, and is situated about 65 km southeast of Manila in Laguna Province on the edge of the University of the Philippines Los Baños campus. It is a popular hiking destination and has many associated legends and folkloric stories. The mountain has three peaks, the highest and most accessible being Peak 2.

Holotypes are deposited in the National Museum of the Philippines Annelid collection (NMA) in Manila. All new taxa are to be cited as Hong & James 2008. As has been the tradition in earthworm taxonomy, segment numbers start with the peristomium as the first, though it is technically not a segment. Intersegmental furrow and internal septa are numbered with Arabic numerals, while segment counts are given in Roman numerals, again according to the traditions of earthworm taxonomy. In preparing the descriptions we used a

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