



Taxonomic status and ecology of Oriental *Pheretima darnleiensis* (Fletcher, 1886) and other earthworms (Oligochaeta : Megascolecidae) from Mt Kinabalu, Borneo

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Abstract

The synonymy of *Perichaeta darnleiensis* Fletcher, 1886, first described from Australian Darnley Island in the Torres Straits, was confused since Beddard (1900) and Michaelsen (1900) wrongly applied the names *Perichaeta cingulata* Schmarada, 1861 (= *Megascolex cingulatus*) and *Megascolex indicus* Horst, 1883 [= *Amyntas corticis* (Kinberg, 1828)], respectively. Taxonomic revision of this species now merges several parthenogenetic morphs, including *Pheretima decipiens* Beddard, 1912 **syn. nov.** from Luzon, Philippines. Final resolution depends on location of missing types or, alternatively, on neotypification, nevertheless new material from Mt. Kinabalu, north Sabah (Borneo) allows augmentation of the description of *Pheretima darnleiensis* from that given by Sims & Easton (1972) who, for its lobate/serrate intestinal caeca, remarked that these “cannot be regarded as taxonomic characters as they are more fully formed in the larger specimens”. Body size range is now 45–700 mm, although this suggests either high plasticity or too wide synonymy. Its distribution in the tropical Indo-Australasian Archipelago and islands of Malaysia, Indonesia and Fiji is attributed to human-mediated introductions in recent and pre-historic times that mask its true provenance; reports from Hawaii, Sri Lanka, South Africa and South America are disputed. Sympatric *Amyntas omeimontis kinabalu* Sims & Easton, 1972 was elevated to species level by Blakemore (2005). Descriptions of *Pheretima* (*Parapheretima*) *saba* Sims & Easton, 1972 and *Polypheretima everetti* (Beddard & Fedarb, 1895: 69) – somewhat similar to *Polypheretima kinabaluensis* (Beddard & Fedarb, 1895: 71) – are augmented and specimens are figured on newly collected material. A new Mt Kinabalu earthworm, *Metaphire paka* Blakemore **sp. nov.** is proposed that compares with *Metaphire cai* (Michaelsen, 1916) from Java [originally “*Pheretima inflata* (Horst) var. *cai*”], bringing the total known earthworms from Mt Kinabalu to six species. Ecological associations are briefly discussed.

Key words: Pheretimoids, earthworm eco-taxonomy, biodiversity, montane

Introduction

The total of pheretimoid earthworms (i.e., *Pheretima* auct.) is currently estimated at 920 valid (sub-)species from about 1,400 nominal taxa (Blakemore, 2004, 2005, 2006a). From Michaelsen’s (1900) listing of 167 species, many previously in the genera *Megascolex* and/or *Perichaeta*, the systematics of *Pheretima* became increasingly unwieldy and chaotic until the long overdue review by Sims & Easton (1972) of all 746 nominal taxa known to them, later updated by Easton (1979) who added 25 new and 16 species omitted from Sims &