*Phuket mar. biol. Cent. Res. Bull.***77:** 9–24 (2020)

NEW RECORD OF PEANUT WORM *Sipunculus nudus* FROM THAILAND

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ABSTRACT: Modtanoy Beach (Trang, Thailand) is a commercial source of peanut worms, mainly collected for fishing bait, but species identifications have never been reported. Thus, peanut worm specimens from Modtanoy Beach were sampled and identified. They were all identified as *Sipunculus nudus* Linnaeus, 1776, based on morphology according to dichotomous keys of the Sipuncula. The specimens were highly similar in character to those described in the published records of *S. nudus*. However, morphological differences were found between the *S. nudus* from Thailand in this study and those reported from 11 other localities around the world. Comparative sequence analyses of 16S rRNA and cytochrome c oxidase subunit 1 (COI) gene fragments between our specimens from Thailand and those in GenBank revealed that our samples matched available sequences from *S. nudus*, while phylogenetic analyses, based upon maximum likelihood and Bayesian inference, using the concatenated 16S and COI gene fragment sequences, revealed that these Thai specimens fell within *S. nudus* but were separate from other geographic regions, including the Chinese and Vietnamese clades, supporting the morphological differences, yet limited by the absence of sequences for related species in the same genus, such as *S. robustus*, *S. thailandicus* and *S. gulfus*. Within the Thai samples collected, three and two haplotypes were observed from 11 and 12 individuals for 16S and COI gene fragments, respectively. Haplotype diversities for 16S rRNA and COI genes were 0.345 and 0.167, respectively. These results indicate a new record of *S. nudus* in Thailand.

Keywords: peanut worm, new record, *Sipunculus nudus*, Thailand