

Short communication

New Record of a Naidid Oligochaete Species, *Ripistes parasita* (Annelida: Clitellata: Naididae) from Korea

Jongwoo Jung*

Department of Science Education, Ewha Womans University, Seoul 120-750, Korea

ABSTRACT

An aquatic oligochaete species, *Ripistes parasita* (Schmidt, 1847) collected from Ganghwado Island in Korea, is described and illustrated. Specimens inhabiting on aquatic vegetation at the edge of the streams were collected with a plankton hand net. Morphological features of present specimens such as the number of long hair chaetae per bundle and their length in VI-VIII, and shape and size of ventral chaetae are concordant with those of previous reports on this species. The genus *Ripistes* contains one species, *R. parasita* which is distributed over, Europe, North America and eastern part of Asia including China and Japan. This is the first record of *R. parasita* in Korea.

Keywords: *Ripistes parasita*, Naididae, Oligochaeta, Clitellata, Korea

INTRODUCTION

Aquatic Oligochaeta is an important member of the freshwater environment because of its contribution to substance recycling as well as its huge abundance and diversity (Martin et al., 2008). Therefore, the taxonomic study of this group is essential for ecological research about freshwater ecosystems. Faunistic studies of aquatic oligochaetes, however, are still in the early stages. Yoon et al. (2000) first reported seven species collected from Woopo Wetland. Recently, Jung (2011) added one naidid species, *Nais variabilis* to Korean fauna.

The genus *Ripistes* contains one species, *Ripistes parasita* which is distributed over Europe, North America and eastern part of Asia including China and Japan. In present study, *R. parasita* is newly added to the Korean fauna of aquatic oligochaetes with diagnosis and illustrations.

Specimens inhabiting on aquatic vegetation at the edge of the streams were collected with a plankton hand net (mesh size, 100 μm). Then, they were fixed with 5% formalin solution. At the laboratory, samples were sorted out under the stereomicroscope and moved into 70% ethanol solution. Specimens were mounted on slide glasses in lactic acid, and

observed in detail under the Optiphot-2 light microscope (Nikon, Tokyo, Japan). Specimens were deposited at the Department of Science Education in Ewha Womans University. Taxonomy of families and subfamilies follows the classification system of Erséus and Gustavsson (2002), and Erséus et al. (2008).

SYSTEMATIC ACCOUNTS

Order Haplotaxida

Family Naididae Ehrenberg, 1828

¹*Genus *Ripistes* Dujardin, 1842

²**Ripistes parasita* (Schmidt, 1847)

Stylaria parasita Schmidt, 1847: 320.

Nais parasita: Grube, 1851: 104.

Pterostylarides parasita: Czerniavsky, 1880: 310.

Ripiestes parasitica: Beddard, 1895: 293.

Ripistes parasita: Michaelsen, 1900: 31.

Pterostylarides macrochaeta Bourne, 1891: 349, Pl. 26, fig. 1.

Korean name: ¹*긴털물지렁이속 (신칭), ²*긴털물지렁이 (신칭)

© This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

pISSN 2234-6953 eISSN 2234-8190

*To whom correspondence should be addressed

Tel: 82-2-3277-2616, Fax: 82-2-6937-0733

E-mail: jongwoo@ewha.ac.kr

Copyright © The Korean Society of Systematic Zoology

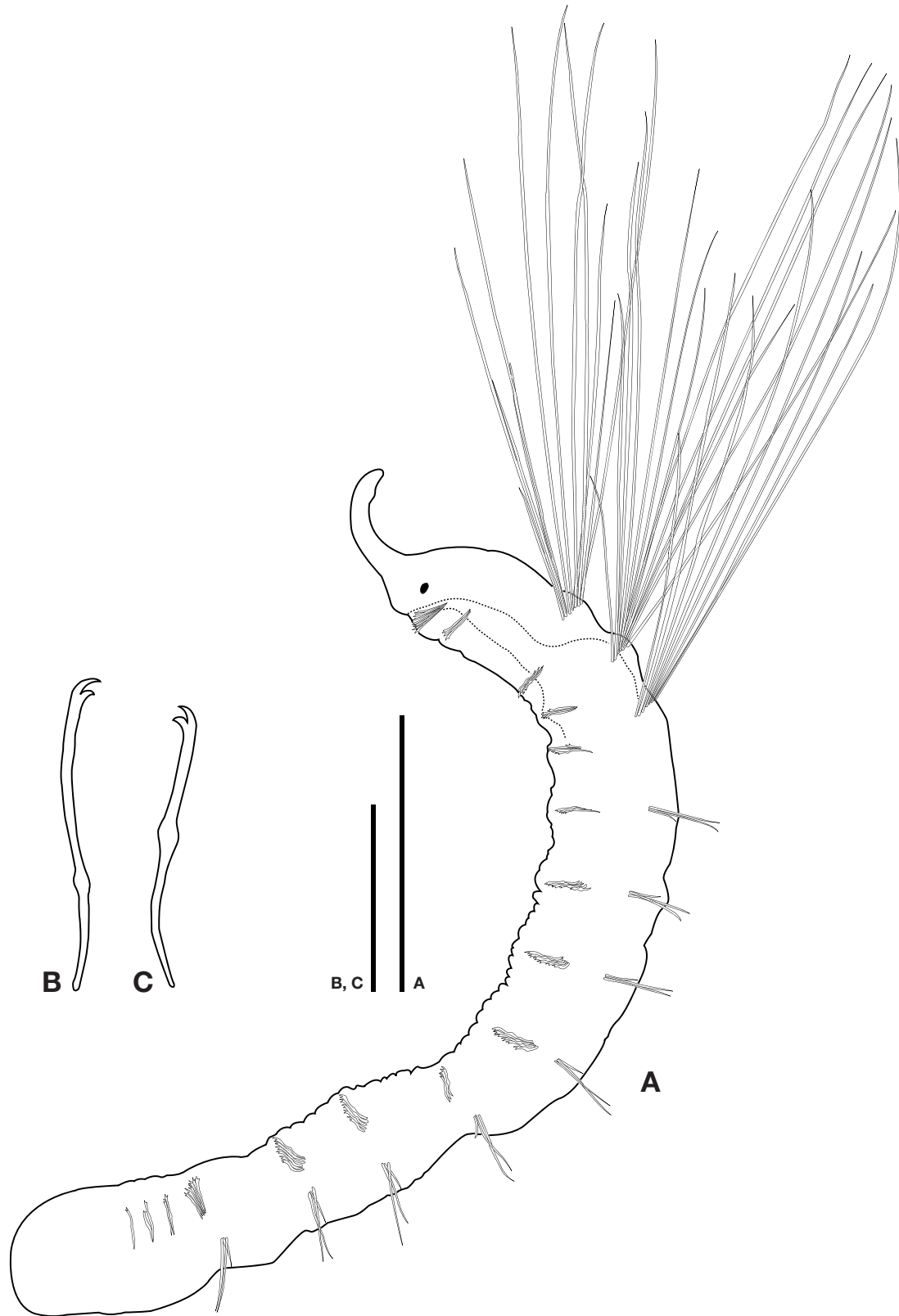


Fig. 1. *Ripistes parasita* (Schmidt, 1847). A, Lateral habitus (length 3.8 mm); B, Ventral seta in II (length 84 μ m); C, ventral seat of posterior segment (length 76 μ m). Scale bars: A=0.5 mm, B, C=0.05 mm.

Material examined. 27 individuals, Korea: Incheon, Ganghwa-gun, Gilsang-myeon, Jangheung-ri, 37° 37'10"N, 126° 30'29"E, 25 Sep 2011, Jung J.

Diagnosis. Length 2.53 mm, width 0.23 mm, number of segments 19. Eyes present. Prostomium with a proboscis (length 0.22 mm). Dorsal chaetal bundles beginning in VI with long hair and simple pointed needle (Fig. 1A). VI-VIII with setal bundle with 12-16 long hairs (length 0.26-1.18 mm). Posterior segments after VIII with 2 hair setae and a simple pointed needle chaeta. Ventral chaetae bifurcated crotchet, absent in IV and V (Fig. 1A); 3-5 chaetae per bundle in II-VIII; 1-6 ventral chaetae per bundle in posterior segments. Ventral chaetae of II-III with proximal nodulus and longer upper tooth (Fig. 1B). Ventral chaetae of remaining segments with distal nodulus, upper and lower teeth almost same in length (Fig. 1C). Ventral chaetae of posterior segments with a proximal bent between nodulus and proximal end. Stomachal dilatation sudden in VII (Fig. 1A).

Measurement. Body (length 1.76-4.73 mm; width 0.16-0.27 mm). Proboscis (length 0.16-0.24 mm). Number of segments (19-53). Long hair chaetae in VI-VIII (0.26-1.18 mm). Hair chaete in segments after VIII (0.1-0.14 mm).

Distribution. Europe, Lake Baikal, North America, China, Japan, and Korea.

Remarks. In the East Asia region, this species was first reported from Manchuria (now in China) by Yamaguchi (1940). Next, the species was found in several regions of China (Chen, 1959; Liang, 1962, 1964; Wang and Cui, 2007). Ohtaka (1985) reported its presence in Japan. Morphological features, which were important for identification of this species, such as the number of long hair chaetae per bundle and their length in VI-VIII, and shape and size of ventral chaetae, are identical with those of present specimens.

ACKNOWLEDGMENTS

This work was supported by a grant from Ewha Womans University.

REFERENCES

Beddard FE, 1895. A monograph of the order of Oligochaeta. Clarendon Press, Oxford, pp. 1-769.
 Bourne AG, 1891. Notes on the naidiform Oligochaeta. Quarterly Journal of Microscopical Science (N.S.), 32:335-356.
 Chen Y, 1959. Icones faunarum sinicarum pars Annelida (app.

Myriapoda). Scientific Publisher, Beijing, pp. 1-6.
 Czerniavsky V, 1880. Materialia ad zoographiam Ponticam comparatum III. Vermes. Bulletin of the Imperial Society of Naturalists of Moscow, 55:213-363.
 Erséus C, Gustavsson L, 2002. A proposal to regard the former family Naididae as a subfamily within Tubificidae (Annelida, Clitellata). Hydrobiologia, 485:253-256.
 Erséus C, Wetzel MJ, Gustavsson L, 2008. ICZN rules: a farewell to Tubificidae (Annelida, Clitellata). Zootaxa, 1744:66-68.
 Grube AE, 1851. Die Familien der Anneliden: mit Angabe ihrer Gattungen und Arten. Nicolaischen Buchhandlung, Berlin, pp. 1-164.
 Jung J, 2011. Naidid oligochaetes (Annelida: Clitellata) from the Seokhyeoncheon and Changreungcheon Streams with new record of *Nais variabilis*. Korean Journal of Limnology, 44:407-410.
 Liang Y, 1962. On some naids and tubificids from North-Eastern China. Acta Hydrobiologica Sinica, 2:14-26 (in Chinese).
 Liang Y, 1964. Studies on the aquatic Oligochaeta of China. II. On some species of Naididae from Sinkiang with description of a new species *Allodero prosetosa*. Acta Zoologica Sinica, 16:643-652 (in Chinese).
 Martin P, Martinez-Ansemil E, Pinder A, Timm T, Wetzel MJ, 2008. Global biodiversity of oligochaetous clitellates ("Oligochaeta"; Clitellata) in freshwater. Hydrobiologia, 595:117-127.
 Michaelsen W, 1900. Oligochaeta. Das Tierreich, 10. Lieferung. Friedlander, Berlin, pp. 1-575.
 Ohtaka A, 1985. Taxonomical studies of the Japanese Naididae (Annelida, Oligochaeta) 1. Four unrecorded species in small genera. Journal of the Faculty of Science, Hokkaido University, Series VI, Zoology, 24:113-121.
 Schmidt O, 1847. Drei neue Naiden. Froriep's Notizen der Heilkunde, Weimar. (3), 3:320.
 Wang HZ, Cui YD, 2007. On the studies of Microdrile Oligochaeta and Aeolosomatidae (Annelida) in China: brief history and species checklist. Acta Hydrobiologica Sinica, 31: 87-98.
 Yamaguchi H, 1940. Oligochaeta of Manchoukuo. In: Report of the limnobiological survey of Kwantung and Manchoukuo (Ed., Kawamura T), Kwantung Government, Sinkyo, pp. 382-394 (in Japanese).
 Yoon SM, Kong HB, Kim W, 2000. Freshwater oligochaetes (Oligochaeta, Tubificida, Naididae) from several swamps in Kyungsangnam-do, Korea. Korean Journal of Systematic Zoology, 16:239-255.

Received February 23, 2012
 Revised March 23, 2012
 Accepted March 27, 2012