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Citation	Japanese Journal of Veterinary Research, 28(1-2), 7-11
Issue Date	1980-05-31
DOI	10.14943/jjvr.28.1-2.7
Doc URL	http://hdl.handle.net/2115/2181
Type	bulletin (article)
File Information	KJ00003407904.pdf



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STUDIES ON THE PARASITE FAUNA OF THAILAND II
THREE NEMATODE SPECIES OF THE GENUS
ORIENTOSTRONGYLUS DURETTE-
DESSET, 1970*

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(Received for publication, September 25, 1979)

Three nematode species of the genus *Orientostrongylus* are described: *O. siamensis* n. sp. from *Rattus surifer*, *O. ratti* n. sp. from *R. rattus* and *R. norvegicus*, and *O. tenorai* DURETTE-DESSET, 1970, from *Bandicota indica* and *B. savilei*. *O. siamensis* is differentiable from other *Orientostrongylus* species by the presence of the gubernaculum. In *O. ratti*, the number of synlophes is 19 in both sexes.

No reports of nematodes of the genus *Orientostrongylus* have been published in Thailand, since few studies of the small nematodes of murid mammals have been carried out in this country. In this paper the authors describe three species collected in Thailand.

All of the specimens examined have been deposited in the collection of the Department of Parasitology, Faculty of Veterinary Medicine, Hokkaido University.

1 *Orientostrongylus siamensis* n. sp.

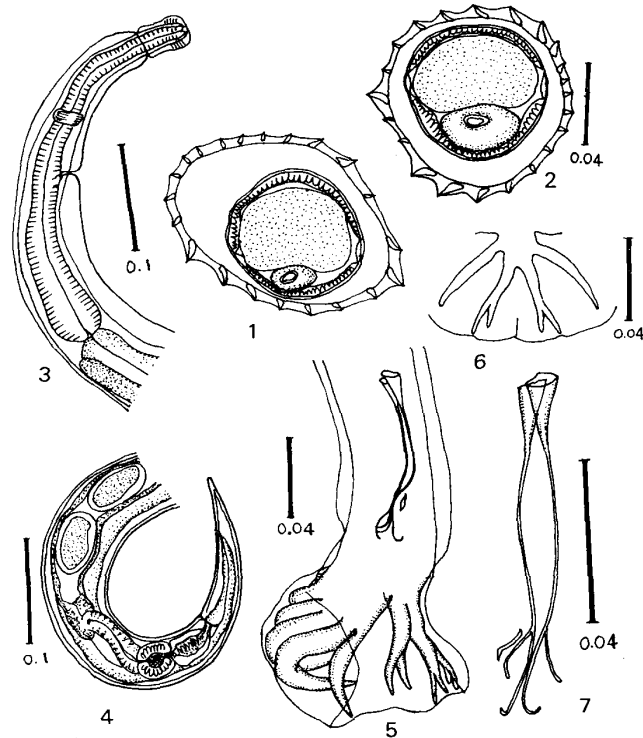
Host: Yellow rajah rat, *Rattus surifer* (MILLER)

Habitat: Small intestine

Locality: Nakorn Nayok, Thailand

Description: Male: Synlophes 21 in number. Body length 2.24-2.72 mm, width 0.080-0.084 mm. Cephalic vesicle 0.048-0.052 mm by 0.028-0.030 mm. Nerve ring and excretory pore 0.140-0.144 mm and 0.178-0.204 mm, respectively, from anterior end. Esophagus 0.318-0.326 mm in length. Bursa well developed. Lateral and ventral rays rather long, externodorsal rays arise from trunk of dorsal ray near the base. Spicules weakly chitinized, 0.072-0.080 mm in length, filiform, except for short, conical proximal part, distal end bifurcated. Small gubernaculum present. Female: Synlophes 22 in number. Body length 2.84-3.82 mm, width 0.088-0.100 mm. Cephalic vesicle 0.048-0.052 mm by 0.030-0.032 mm. Nerve ring and excretory pore 0.140-0.148 mm and 0.204-0.220 mm, respectively, from anterior end. Esophagus 0.370-0.410 mm in length.

* This study was supported by Overseas Scientific Research Grant No. 304105 (1978), Ministry of Education, Japan.

FIGURE 1 *Orientostrongylus siamensis* n. sp.

1 Transverse section of male 2 Transverse section of female
 3 Anterior end of female 4 Posterior end of female
 5 Posterior end of male 6 Dorsal and externo-dorsal rays
 7 Spicules and gubernaculum

Vulva and anus 0.148–0.168 mm and 0.052–0.062 mm, respectively, from posterior end. Vagina, vestibule and sphincter 0.020–0.024 mm, 0.040–0.042 mm and 0.028–0.036 mm in length, respectively. Eggs 0.064–0.070 mm by 0.028–0.036 mm.

Discussion: This species is easily differentiable from other species of the genus *Orientostrongylus* in the presence of the gubernaculum. The proximal end of the spicule is conical or cup-shaped, its length is less than one fifth of the total spicule length.

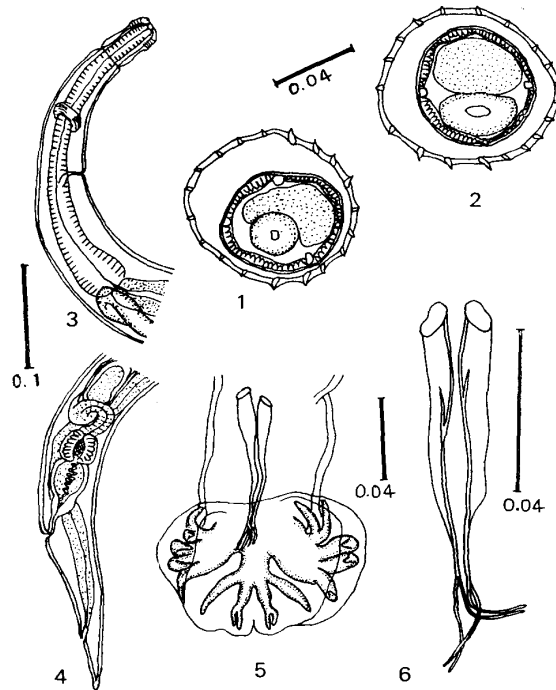
2 *Orientostrongylus ratti* n. sp.

Host: Roof rat, *Rattus rattus* (LINNAEUS), and brown rat, *Rattus norvegicus* (BERKENHOUT)

Habitat: Small intestine

Locality: Bangkok, Kanchanaburi, Nakorn Nayok and Mae Hong Son, Thailand

Description: Male: Synlophes 19 in number. Body length 1.44–2.56 mm, width 0.068–0.080 mm. Cephalic vesicle 0.040–0.048 mm by 0.028–0.032 mm. Nerve ring and excretory pore 0.128–0.156 mm and 0.144–0.200 mm, respectively, from anterior end.

FIGURE 2 *Orientostrongylus ratti* n. sp.

1 Transverse section of male 2 Transverse section of female
 3 Anterior end of female 4 Posterior end of female
 5 Posterior end of male 6 Spicules

Esophagus 0.280–0.370 mm in length. Bursa small, slightly asymmetric, lateral and ventral rays arise from common trunk. Dorsal ray well developed, externodorsal rays arise from trunk of dorsal ray at about one third the proximal. Spicules weakly chitinized, 0.080–0.108 mm in length, proximal half columnar, distal half filiform, distal end bifurcated. Gubernaculum absent. Female: Synlophes 19 in number. Body length 2.48–3.24 mm, width 0.064–0.084 mm. Cephalic vesicle 0.042–0.048 mm by 0.028–0.032 mm. Nerve ring and excretory pore 0.108–0.152 mm and 0.140–0.208 mm, respectively, from anterior end. Esophagus 0.292–0.386 mm in length. Vulva and anus 0.120–0.144 mm and 0.044–0.060 mm, respectively, from posterior end. Length of vagina, vestibule, sphincter and trompe 0.024–0.048 mm, 0.048–0.072 mm, 0.028–0.040 mm and 0.060–0.072 mm, respectively. Eggs 0.056–0.068 mm by 0.026–0.036 mm.

Discussion: This species is differentiable from other species by the number of synlophes.

3 *Orientostrongylus tenorai* DURETTE-DESSET, 1970

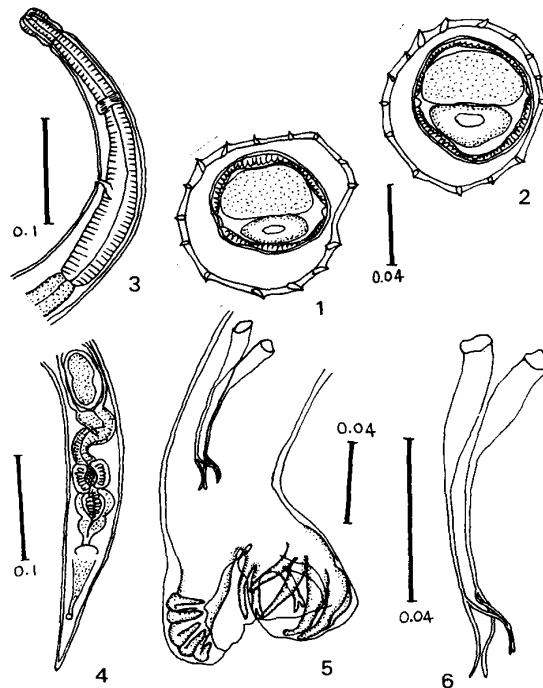
Host: Great bandicoot, *Bandicota indica* (BECHSTEIN), and lesser bandicoot, *B. savilei* THOMAS

Habitat: Small intestine

Locality: Nakorn Nayok, Thailand

Description: Male: Synlophes 15 in number. Body length 1.40-1.80 mm, width 0.060-0.080 mm. Cephalic vesicle 0.038-0.046 mm by 0.024-0.028 mm. Nerve ring, excretory pore and deirids 0.120-0.124 mm, 0.164-0.190 mm and 0.164-0.192 mm, respectively, from anterior end. Esophagus 0.292-0.332 mm in length. Bursa small, slightly asymmetric, ventral and lateral rays arise from common trunk, externodorsal rays arise from trunk of dorsal ray near at base. Spicules weakly chitinized, 0.068-0.088 mm in length, proximal one third columnar, distal two thirds filiform and distal end bifurcated. Gubernaculum absent. Female: Number of synlophes 15 in 4 specimens, but 17 in one specimen. Body length 2.24-2.88 mm, width 0.072-0.082 mm. Cephalic vesicle 0.040-0.044 mm by 0.025-0.028 mm. Nerve ring, excretory pore and deirids 0.116-0.132 mm, 0.184-0.188 mm and 0.188-0.192 mm, respectively, from anterior end. Esophagus 0.284-0.334 mm in length. Vulva and anus 0.096-0.132 mm and 0.046-0.060 mm, respectively, from posterior end. Length of vagina, vestibule, sphincter and trompe 0.016-0.036 mm, 0.040-0.056 mm, 0.024-0.034 mm and 0.048-0.076 mm, respectively. Eggs 0.064-0.072 mm by 0.032-0.040 mm.

FIGURE 3 *Orientostrongylus tenorai* DURETTE-DESSET, 1970



1 Transverse section of male 2 Transverse section of female
3 Anterior end of female 4 Posterior end of female
5 Posterior end of male 6 Spicules

Discussion: This species can be identified as *O. tenorai* described by DURETTE-DESSET (1970) from *Mus musculus* in Afghanistan and *Bandicota bengalensis* in India, although there are some differences in the length of spicules, the size of eggs, the number of synlophes in female, etc.

ACKNOWLEDGEMENT

The authors wish to express their thanks to Prof. Chamlong HARINASUTA, dean of the Faculty of Tropical Medicine, Mahidol University, for his support. The materials were made available by Prof. Hisashi ABE, Department of Applied Zoology, Faculty of Agriculture, Hokkaido University; by Dr. Haruo KAMIYA, Department of Parasitology, Faculty of Veterinary Medicine, Hokkaido University; and by Dr. Manoon BHAIBULAYA and Mr. Somchai IMALARP, Department of Helminthology, Faculty of Tropical Medicine, Mahidol University.

REFERENCES

- 1) DURETTE-DESSET, M.-C. (1970): Caractères primitifs de certains Nématodes Héligmosomes parasites de Muridés et de Cricétidés orientaux Définition d'*Orientostrongylus* n. gen. *Ann. Parasitol. Hum. Comp.*, **45**, 829-837
- 2) DURETTE-DESSET, M.-C. & LIAT, L. B. (1974): Description de deux nouvelles espèces du genre *Orientostrongylus* DURETTE-DESSET, 1971 (Nématode, Héligmosome) chez un Tupaïné et un Petauristiné de Malaisie *Ibid.*, **49**, 669-675
- 3) SINGH, K. S. (1962): Parasitological survey of Kumaun region Part XI Four nematodes from the rat, *Rattus norvegicus* *Indian J. Helminthol.*, **14**, 98-111
- 4) TADA, Y. (1975): *Orientostrongylus exoensis* n. sp. (Nematoda: Heligmosomidae) from the brown rat, *Rattus norvegicus* BERKENHOUT *Jpn. J. Vet. Res.*, **23**, 41-44