

**Brief Communication**  
**Studies on Heligmonellid Nematodes from the**  
**Japanese Microtidae**

**II. First record of *Morganiella cricetuli* Yin & Zhang, 1981**  
**from *Eothenomys smithi*, Japan**

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A heligmonellid nematode, *Morganiella cricetuli* Yin & Zhang,<sup>9)</sup> was obtained from the small intestine of a vole, *Eothenomys smithi* (Thomas), collected in Mt. Tsurugi-san, Tokushima Prefecture, southern Japan in April, 1986.

Description. Male (One specimen): Body length 2.29 mm, width 82  $\mu\text{m}$ . Cephalic vesicle length 46  $\mu\text{m}$ , width 23  $\mu\text{m}$ . Cervical papillae present (Fig. 1). Nerve ring at 150  $\mu\text{m}$  and excretory pore at 120  $\mu\text{m}$  from head end, respectively. Esophagus length 290  $\mu\text{m}$ . Cuticle provided with continuous and longitudinal ridges of synlophe (Fig. 1); number of ridges at mid-body 6 in dorsal side and 12 in ventral side (Fig. 4); gradient in size of ridges at anterior portion of intestine from right to left in dorsal side and from left to right in ventral side (Fig. 3); all ridges at mid-body same in size and gradient of ridges lacking (Fig. 4); axis of orientation of ridges inclined ca. 40° on sagittal axis (Figs. 3 and 4). Spicules equal, 120  $\mu\text{m}$  in length, having a membraneous structure in each distal end (Fig. 2). Gubernaculum length 33  $\mu\text{m}$ , width 29  $\mu\text{m}$ . Prebursal papillae present. Caudal bursa slightly asymmetrical (Figs. 2 and 5); area of lateral lobe 16.89  $\mu\text{m}^2$  in right side and 11.85  $\mu\text{m}^2$  in left side, ratio of left bursal lobe area to right bursal lobe area 1:1.4 by the method of Asakawa<sup>2)</sup>. Postero-ventral rays slightly longer than antero-ventral; three lateral rays almost same in length; externo-dorsal and dorsal rays having a thick common stem, distance between bifurcating point of dorsal ray and branching point of externo-dorsal ray 23.64  $\mu\text{m}$  in right side and 25.27  $\mu\text{m}$  in left side by the method of Asakawa<sup>1)</sup>. Genital cone small in size and lacking special structure. Female: Unknown. The specimen is deposited in the Department of Veterinary Parasitology, Rakuno Gakuen University, Hokkaido, Japan.

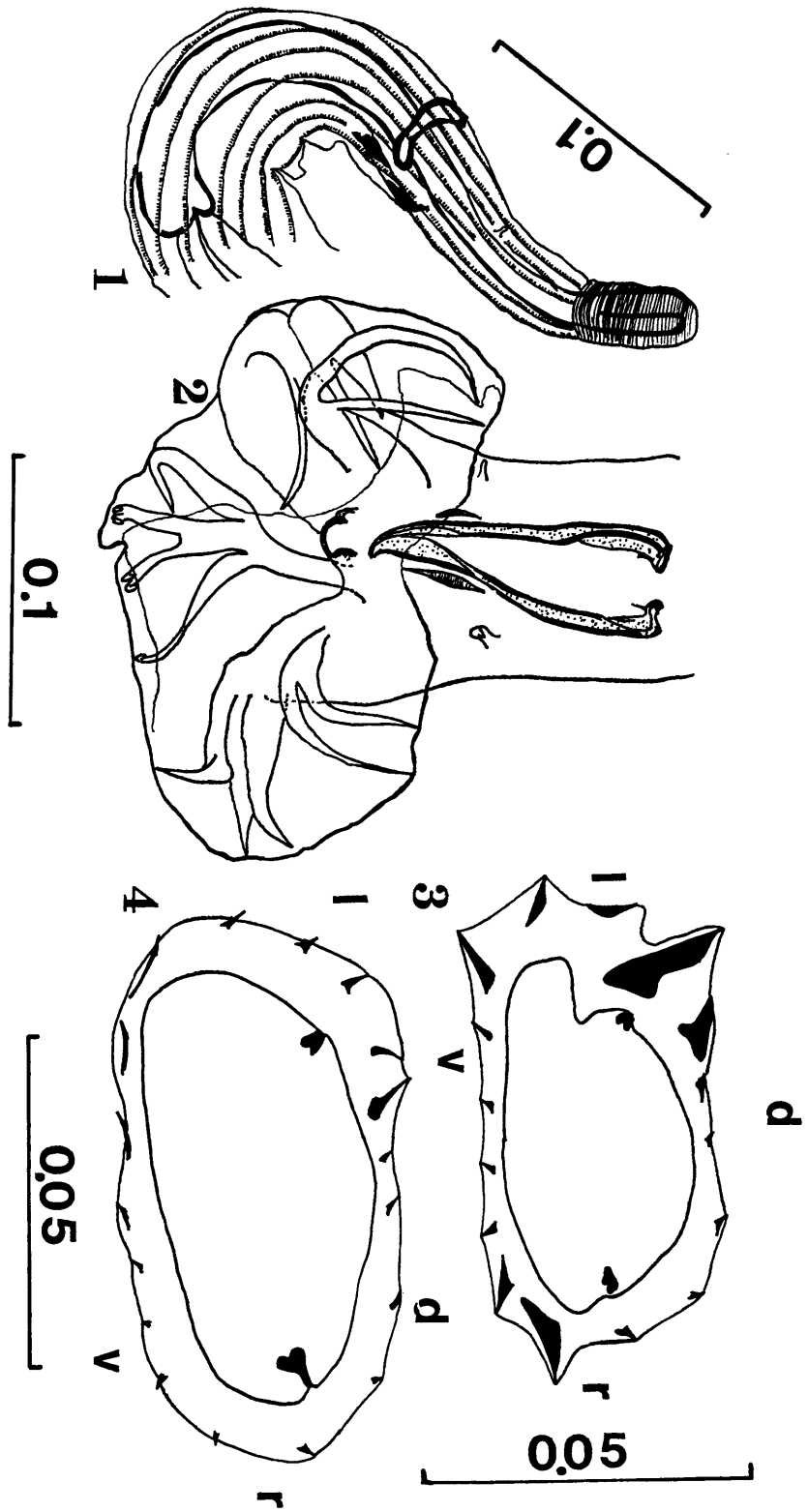
Discussion. Among the taxa belonging to the family Heligmonellidae Durette-Desset & Chabaud<sup>6)</sup>, the present specimen is close to *Morganiella cricetuli* Yin & Zhang<sup>9)</sup> and the genus *Lagostrongylus* Fukumoto *et al.*<sup>7)</sup> by the general aspect of the caudal bursa, especially the dorsal ray, and to the genus *Heligmonella* Mönning<sup>8)</sup>

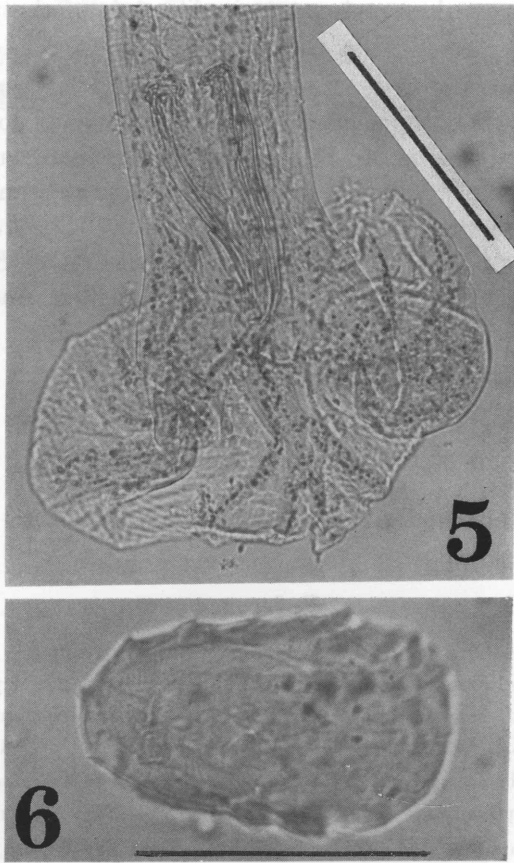
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Figures 5 & 6. *Morganiella cricetuli* from *Eothenomys smithi*.

Fig. 5. Spicules and caudal bursa, dorsal view (scale indicating 0.1 mm).

Fig. 6. Cross-section at mid-body (scale indicating 50  $\mu$ m).

(cf. Durette-Desset)<sup>8)</sup> by the pattern of the synlophe.

Yin and Zhang<sup>9)</sup> reported *M. cricetuli* from striped hamster, *Cricetulus barabensis*, collected in Beijing, China. Probably, both the Yin and Zhang's species<sup>9)</sup> and the present specimen are the same species because of the morphology of the caudal bursa and spicule, and of the measurements. Up till the present, however, a taxonomic status of "*M. cricetuli*" is indeterminable because the genus *Morganiella* is synonymous of the genus *Tricholinstowia*<sup>5)</sup> and the original description of "*M. cricetuli*" lacks the morphology of synlophe.

In the case of all species of the genera *Heligmonella* and *Lagostrongylus*, the numbers of cuticular ridges are smaller (8~13). Furthermore, in *Lagostrongylus*, the spicules are longer and simple compared with those of the present specimen.

Figures 1-4. *Morganiella cricetuli* from *Eothenomys smithi* (scale in mm).

Fig. 1. Anterior extremity, right-lateral view.

Fig. 2. Spicules and caudal bursa, ventral view.

Fig. 3. Ridges of synlophe at anterior portion of intestine.

Fig. 4. Ridges of synlophe at mid-body.

Therefore, in this paper, the precise generic diagnosis of the present specimen can not be given.

Up till the present, the first author has obtained a large number of specimens, *Yatinema japonicum* (Heligmonellidae), from ca. 100 voles collected at many sites of Japan. *Y. japonicum* seems to be the most predominant and specific species to the *Eothenomys* in Japan<sup>3,4)</sup>. In the present case, a large number of *Y. japonicum* are also obtained from the same host materials with *M. cricetuli*. Hence, in the present taxon, it may not be host specific but accidental to *E. smithi* in Shikoku. A final taxonomic diagnosis should be given after further studies.

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**Key words:** *Morganiella cricetuli*, *Eothenomys smithi*, Japan

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### 要 旨

徳島県剣山産スミスネズミ *Eothenomys smithi* 1例の小腸から、日本初報告のヘリグモネラ

科線虫 *Morganiella cricetuli* Yin & Zhang, 1981 を得た。

しかし、本種の分類学的所属が属レベルにおいて不明であること、および今回のスミスネズミにおける寄生は、偶発的である可能性の高いことが指摘された。