

***Raillietina (Paroniella) nedumangadensis* sp. n. from Pigeon,
*Columba livia domestica***

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While making a survey of helminth parasites of pigeon, *Columba livia domestica* collected from Nedumangad, a place near Trivandrum, India, we obtained a large number of cestodes belonging to the genus *Raillietina*. Of the 18 birds examined 17 showed heavy infection with this worm. To determine the species, worms were fixed in Carnoy's fluid and appropriate stained preparations were made for detailed study. Measurements are expressed in millimeters.

Description

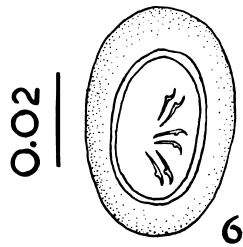
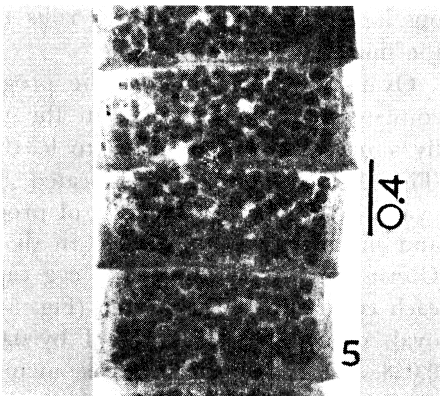
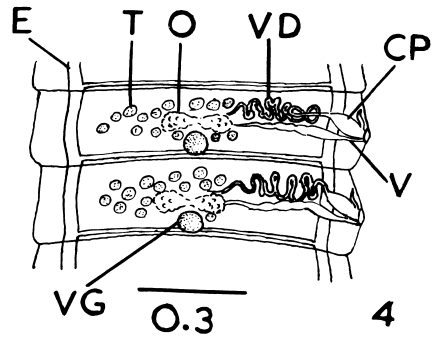
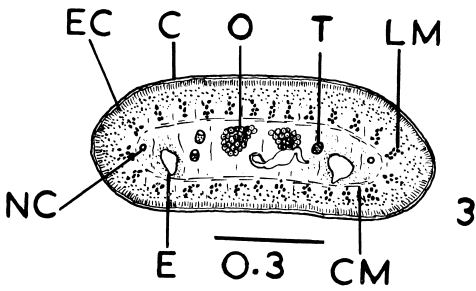
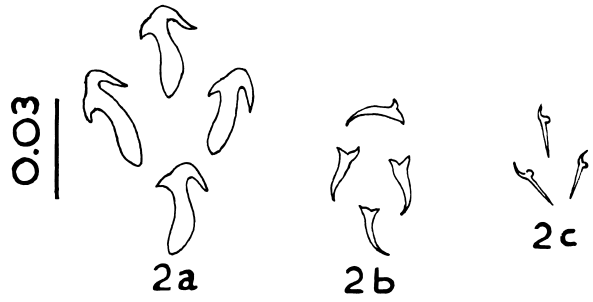
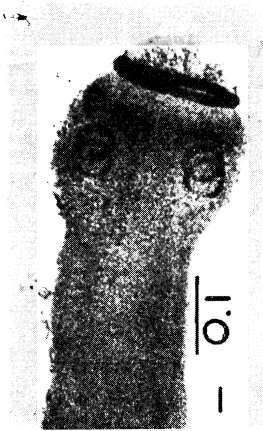
Length of worms 80 to 165, maximum width 2, in regions of relatively young gravid proglottides. Scolex 0.1 to 0.185 wide (Fig. 1). Neck 0.04 to 0.13 wide and 3 to 4 long. Rostellum measures 0.08 to 0.16 in diameter and armed with 200 to 260 hooklets of typical Davaineid shape (Fig. 2a). Rostellar hooks 0.013 to 0.023 long and arranged in two rows. Suckers small, 0.033 to 0.068 in diameter, armed with 3 to 7 rows of hooks. Acetabular hooks measure 0.008 to 0.013 in length (Fig. 2b) and mostly concentrated on the two lateral sides. Proglottides numerous and all except most gravid ones broader than long. Young proglottides about 5 to 8 times wider than

long, while the senile ones slightly longer than wide. Longitudinal musculature well developed and arranged in definite bundles of varying sizes and shapes, the smaller bundles being peripheral and the larger ones arranged toward inner medullary region in an orderly manner (Fig. 3). Transverse and circular muscle layers less developed. Genital pores unilateral, guarded by a relatively thick annular musculature and situated in the middle of the proglottid margin.

Testes 11 to 17 in number and each measures 0.025 to 0.048; arranged in 2 unequal groups—3 to 5 in the poral side and 8 to 12 in aporal side (Fig. 4). Cirrus sac with a thick muscular wall and measures 0.067 to 0.135 long and 0.023 to 0.045 wide. Cirrus unarmed. Vas deferens with numerous large and small coils and runs toward the middle of the proglottid.

Ovary in the middle of the proglottid, consists of 2 lobes jointed in the middle by a narrow isthmus, 0.245 to 0.310 wide (Fig. 4). Vitelline gland located behind ovary, near the posterior end of proglottid and measures 0.064 to 0.134 in diameter. Uterus breaks up into many egg capsules, each containing a single egg (Fig. 5). Egg oval, measures 0.055 to 0.071 by 0.026 to 0.048 and enveloped by three membranes (Fig. 6). Onchospheres slightly oval, 0.030 to 0.043 by 0.019 to 0.031. Embryonic hooks

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measure 0.012 to 0.016 in length (Fig. 2c).

Discussion

The present species comes under the genus *Raillietina* as revealed by the unilateral position of the genital pores. The presence of a single egg per egg pouch indicates that the specimens belong to the subgenus *Paroniella*. To the author's knowledge 48 species of cestodes have been reported from various hosts (Sawada, 1959; 1964; Yamaguti, 1959; Kugi and Sawada, 1972) under the subgenus *Raillietina* (*Paroniella*). Of these none has been recorded from pigeon.

The species described here most closely resembles *R. (P.) kashiwarensis* Sawada, 1953, *R. (P.) magninumida* Jones, 1930 and *R. (P.) tenuiformis* Sawada, 1964. However, it is distinguished from *R. (P.) kashiwarensis* in the following characters: (1) smaller width of scolex; (2) smaller suckers; (3) position of genital pores in the middle of proglottid margin; (4) lesser number and smaller size of testes; (5) greater length of embryonic hooks. It is distinct from *R. (P.) magninumida* in having longer rostellar and acetabular hooks, greater number of rostellar hooks and smaller cirrus sac. The present species differs markedly from *R.*

(*P.*) *tenuiformis* in the longer neck, lesser number of rostellar hooks and greater diameter of eggs and onchospheres. The authors regard it, therefore, as a new species and propose the name *Raillietina (Paroniella) nedumangadensis*.

Host: *Columba livia domestica*

Habitat: Small intestine.

Locality and Date: Nedumangad, Trivandrum, Kerala, India. November, 15th, 1979.

Type Depository: Research Laboratory, Zoology Department, Mar Ivanios College, Trivandrum, India.

References

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Fig. 1-6 *Raillietina (Paroniella) nedumangadensis*.

Fig. 1 Scolex

Fig. 2 a Rostellar hooks

2 b Acetabular hooks

3 c Embryonic hooks

Fig. 3 Mature proglottid: transverse section

Fig. 4 Outline tracing of mature proglottides

Fig. 5 Gravid proglottides

Fig. 6 Egg

c.: Cuticle (Tegument), C.M.: Circular muscle, C.P.: Cirrus pouch, E.: Excretory canal, E.C.: Ectodermal cells, L.M.: Longitudinal muscle, N.C.: Nerve cord, O.: Ovary, T.: Testis, V.: Vagina, V.D.: Vas deferens, V.G.: Vitelline gland.

インド産家鳩 *Columba livia domestica* に寄生していた
Raillietina (Paroniella) nedumangadensis n. sp.

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1975年11月15日、インドの Trivandrum の近くの Nedumangad で採集された18羽の家鳩を剖検したところ、17羽に多数の条虫が寄生していた。染色標本を形態学的に調べた結果、*Raillietina (Paroniella)* 亜属の一新種であることが判明した。*Raillietina (Paroniella)* 亜属の条虫は現在48種が記載されているが、家鳩からは未記載である。これらの条虫種の中で本種は *R. (P.) kashiwarensis* Sawada, 1953, *R. (P.) magninumida* Jones, 1930 および *R. (P.) tenui-*

formis Sawada, 1964 の3種に類似しているが、頭節の横径、生殖孔の位置、精巢の数および大きさ、胚鉤の長さなどから *R. (P.) kashiwarensis* と異なり、吸盤鉤の長さ、額嘴鉤の長さ、陰茎囊の大きさなどから *R. (P.) magninumida* と異なり、さらに頸部の長さ、額嘴鉤の数、虫卵および六鉤幼虫の直径などから *R. (P.) tenuiformis* と異なる。よって本種を新種として *Raillietina (Paroniella) nedumangadensis* と命名した。