

# A NEW SPECIES OF ROUND WORM OF THE GENUS TRICHOSTRONGYLUS FROM THE RABBIT

By H. W. GRAYBILL

*Of the Rockefeller Institute for Medical Research*

In making autopsies on two wild rabbits of Princeton, N. J., an apparently undescribed species of *Trichostrongylus* was found in the large intestine of one. In addition to this nematode, it will be of interest to note that both rabbits were infested with *Obeliscus cuniculi*, a new genus of nematode which the writer described from the domestic rabbit<sup>1</sup> and with *Trichostrongylus calcaratus* Ransom, 1911. The latter species has also been collected here from one of our domestic rabbits kept for experimental purposes.

So far as the writer has been able to determine, three species of *Trichostrongylus* have been described from rabbits: *T. retortaeformis* (Zeder, 1800) Loos, 1905; *T. pigmentatus* (von Linstow, 1904) Hall, 1916; and *T. calcaratus* Ransom, 1911.

## TRICHOSTRONGYLUS AFFINIS, new species

*Male*.—The maximum width of the body occurs at the base of the bursa. From there it tapers uniformly to the anterior end. Length 5–7.5 mm., maximum width 123 $\mu$ , width of head 12 $\mu$ . The anterior end is rounded. The esophagus is broadest near the posterior end and tapers gradually anteriorly. Its length is 562–787 $\mu$ , maximum width 27 $\mu$ , and the nerve ring 127 $\mu$  from the anterior end.

The lateral lobes of the bursa are rolled inward in preserved specimens, making it very difficult to observe the shape and arrangement of the rays. A dorsal lobe has not been observed. The ventro-ventral and externo-dorsal rays at their distal ends curve ventrally and dorsally, respectively (fig. 1). The other rays lie close together. The externo-lateral ray is very broad, the latero-ventral ray is not so broad, and the postero- and medio-lateral rays are relatively narrow. The dorsal ray divides distally into two short branches. The spicules and gubernaculum are brown in color. The spicules are about equal, short, stout, curved ventrally, and at the proximal

<sup>1</sup> Parasitology, vol. 15, No. 3, p. 340, 1923.

end are provided with a thin, rounded, projecting appendage, concave on its anterior face (fig. 2). They taper somewhat, and at the distal end are provided with two rather blunt, recurved hooks on the ventral side. In the left spicule one hook is larger and forms the end of the spicule and the other is located just a very little anterior and to one side. The right spicule is likewise terminated by a hook, which is the smaller, and the other is located considerably further forward. Length of spicules 131–156 $\mu$ , maximum width 29 $\mu$ . The gubernaculum (figs. 1 and 2) is roughly boat-shaped when seen from the dorsal aspect, but from the side it consists of a roughly triangular body with a narrow, curved, slightly tapering process extending anteriorly from the antero-dorsal angle; length 74–86 $\mu$ , width 21–33 $\mu$ .

*Female*.—The maximum width is in the posterior region of the body. Anteriorly the body tapers gradually to a thin filament, posteriorly to a fine point (fig. 3). Anterior end rounded. Length 8.7–9.25 mm., maximum width 106–177 $\mu$ , width of head 16 $\mu$ . Anus 141–164 $\mu$  from posterior end, vulva 1.6–1.7 mm. from posterior end. Oesophagus same shape as in male. Length 816–955 $\mu$ , maximum width 37 $\mu$ , nerve ring 131 $\mu$  from anterior end.

The vulva is a crescentic slit lying apparently in a lateral (left) instead of a ventral position with the long axis directed longitudinally. Well-developed ovijectors are present (fig. 4).

Ova present in the ovijectors were studied. They are ellipsoidal, surrounded by a very thin shell, and are in process of segmenting, the cell mass filling the entire space within the egg. Size 57–66 $\mu$  long by 33–40 $\mu$  broad.

The type specimen has been deposited in the Helminthological Collections of the U. S. National Museum, where it is registered as No. 7804. Paratypes are also included and are entered as 7805.

This species resembles somewhat *T. retortaeformis*, but differs in the size and shape of the spicules and gubernaculum, size of the eggs, and various other characters.

#### EXPLANATION OF PLATE.

*Trichostrongylus affinis*, new species

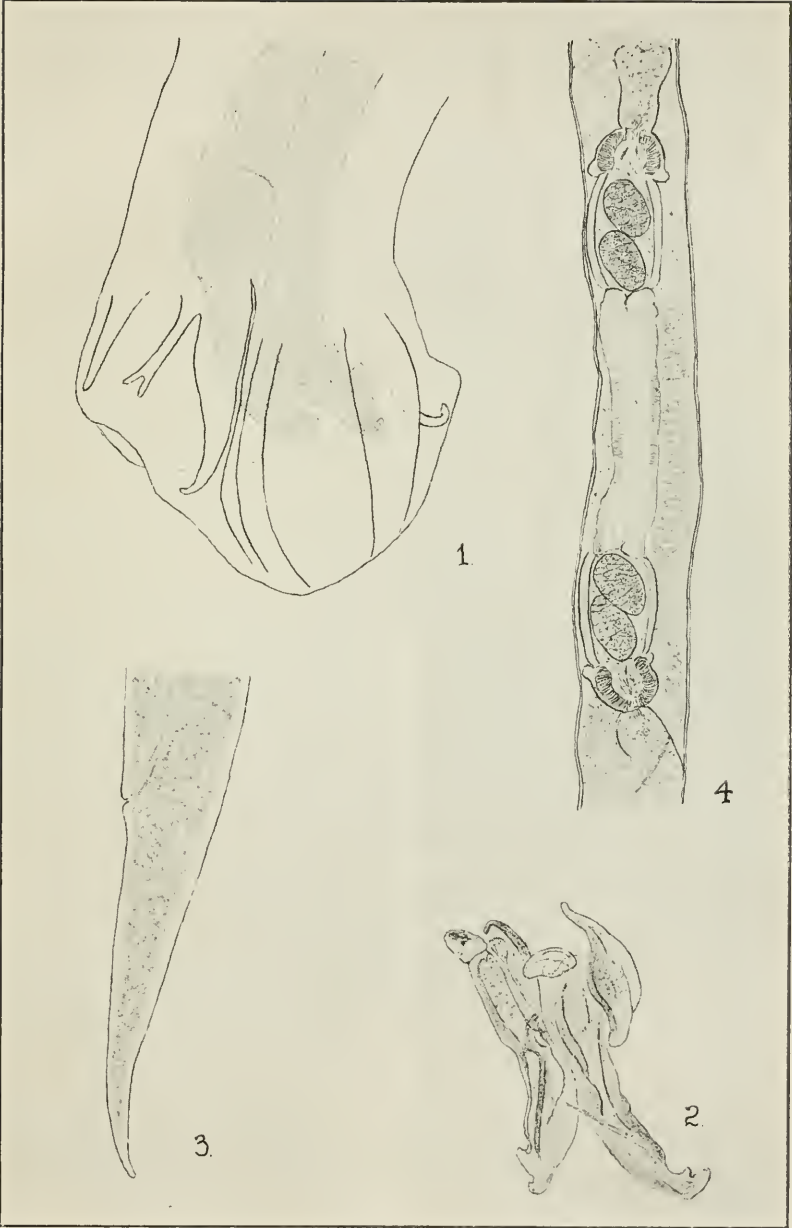
All drawings made with a camera lucida.

FIG. 1. Dorso-lateral view of bursa showing dorsal ray, left externo-dorsal ray, and all six rays in right lobe of bursa. Spicules and gubernaculum shaded  $\times 345$ .

2. Spicules and gubernaculum  $\times 345$ .

3. Posterior end of female  $\times 395$ .

4. Ovijectors of female, vulva not shown,  $\times 170$ .



TRICHOSTRONGYLUS AFFINIS, NEW SPECIES

FOR EXPLANATION OF PLATE SEE PAGE 2