ABNORMALITIES IN THE REPRODUCTIVE ORGANS OF A  
PREDACEOUS NEMATODE, *PRIONCHULUS MUSCORUM*

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## Abstract

Two bivulvar females of the predaceous nematode, *Prionchulus muscorum*, are described and illustrated. Only two specimens exhibiting bivulvarity were found among the several thousand Mononchidae examined.

## Introduction

Reports on nematodes exhibiting bivulvarity are fragmentary. Cassidy (5) described and illustrated a female of *Prionchulus muscorum* (Dujardin, 1845) Chitwood and Chitwood, 1937 which had three reflexed ovaries, one leading to an anterior vulva ( $V = 55\%$ ) and the remaining two leading to a posterior vulva ( $V = 66\%$ ). Instances of bivulvarity in other species of nematodes were reported by Bütschli (3) for a marine nematode, *Linhomoeus mirabilis* Bütschli, 1874, in which the two vulvae were closely situated to each other, by Paramonov (6) for the freshwater species *Tobrilus gracilis* (Bastian, 1865) Andrassy, 1959. Andrassy (2) described and illustrated a *Tobrilus* species which had two vulvae but with reproductive organs normal for this genus. Cassidy (4) briefly reported on a *Dorylaimus* sp. from Menado, Celebes, which had a body length of 1.05 mm with two vulvae about 0.062 mm apart. This female had two reflexed ovaries, one leading to an anterior vulva and the other to the posterior vulva. Altherr (1) observed two vulvae in a predaceous mononchid, *Granonchulus schulzi* (Meyl, 1955) Andrassy, 1958. However, the reproductive organ was indistinct.

I have examined several thousand specimens of Mononchidae and among these have found only two specimens exhibiting bivulvarity.

The present paper deals with the descriptions of the abnormalities in these specimens of *Prionchulus muscorum*.

## Abnormal Female Specimens

(Figs. 1-4)

*P. muscorum* from Canada

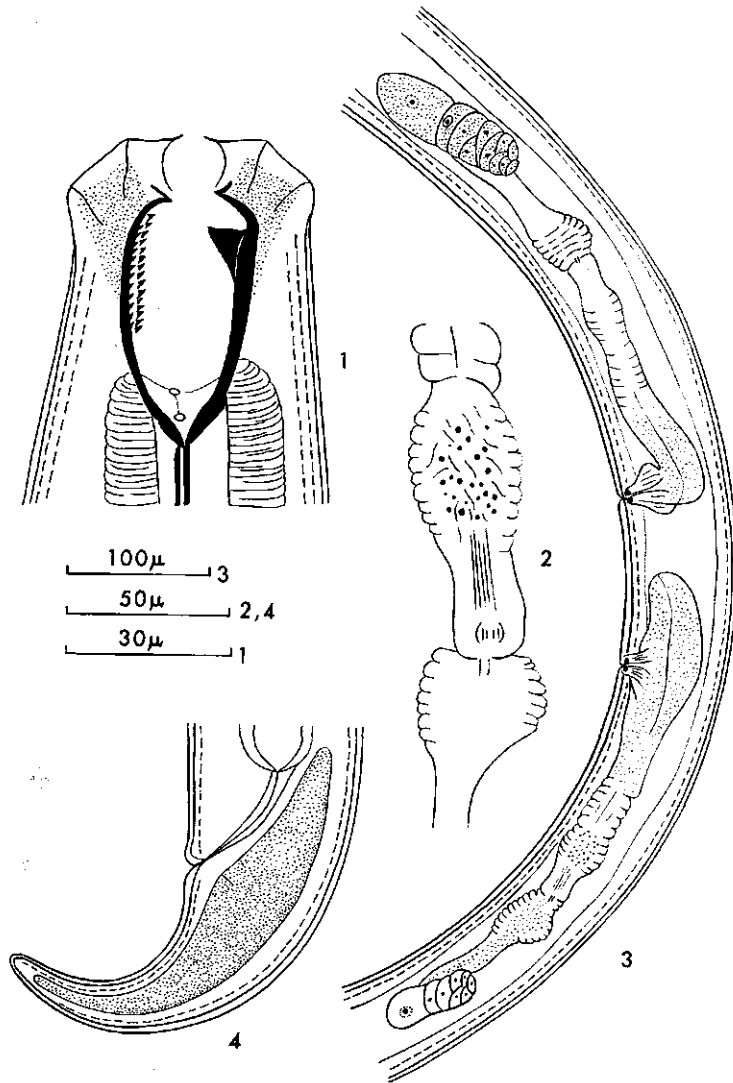
$L = 2.6$  mm;  $a = 33.3$ ;  $b = 4.4$ ;  $c = 28.9$ ;  $V^1 = 67\%$ ;  $V^2 = 73\%$ ; buccal cavity =  $43 \times 24$  microns.

*P. muscorum* from Poland

$L = 1.8$  mm;  $a = 22.0$ ;  $b = 4.2$ ;  $c = 13.5$ ;  $V^1 = 62\%$ ;  $V^2 = 67\%$ ; buccal cavity =  $40 \times 28$  microns.

The Canadian specimen was screened from soil from around a birch tree near Ottawa, Ontario. The reflexed ovaries were independent of each other, one leading to the anterior vulva and the other to the posterior vulva. Sperm was observed in the spermatheca of the posterior ovary.

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FIGS. 1-4. ♀ *Prionchulus muscorum*. 1. Female head. 2. Spermatheca. 3. Reproductive organs. 4. Female tail.

The two reproductive organs in the Polish specimen also appeared disconnected.

In the Canadian and Polish specimens duplication occurred only of the vulva, while the reproductive organ developed normally. This suggests an early separation of its anlage. The bivulvar specimen examined by Cassidy (5) had three ovaries. She suggested that duplication of the whole anterior branch of the female apparatus resulted from the separation of its anlage at an

early stage of its development, but still at a time when the anlage for the normal female reproductive system would have already divided into its anterior and posterior branch.

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