

RP 581

## *Rotylenchus microstriatus* n.sp. (Hoplolaimidae: Nematoda) from Bolivia

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### Summary

*Rotylenchus microstriatus* n.sp. is described from *Musa* sp. and *Citrus reticulata* in Bolivia. It has males and is characterized by a continuous and finely striated lip region of 9 to 11 annules.

### Introduction

During a brief survey of the diseases of cultivated plants in the tropical and sub-tropical areas of Bolivia, soil and root samples were collected for identifying the nematodes present. *Rotylenchus microstriatus* n.sp. was found in samples of *Musa* sp. and *Citrus reticulata* from Chipiriri Experimental Station in the Chapare area, a humid tropical region to the north-east of Cochabamba.

### Materials and methods

The nematodes were killed by gentle heat, then fixed in TAF (Courtney, Polley & Miller, 1955). They were stained in lactophenol cottonblue then processed to glycerin by Baker's (1953) method.

### Measurements

*Rotylenchus microstriatus* n.sp. (Fig. 1, A-H)

*Holotype female*: L = 0.95 mm, a = 35; b = 6.9; b' = 5.7; c = 95; c' = 0.55; V = <sup>18</sup>54<sup>19</sup>; stylet = 32  $\mu$ m.

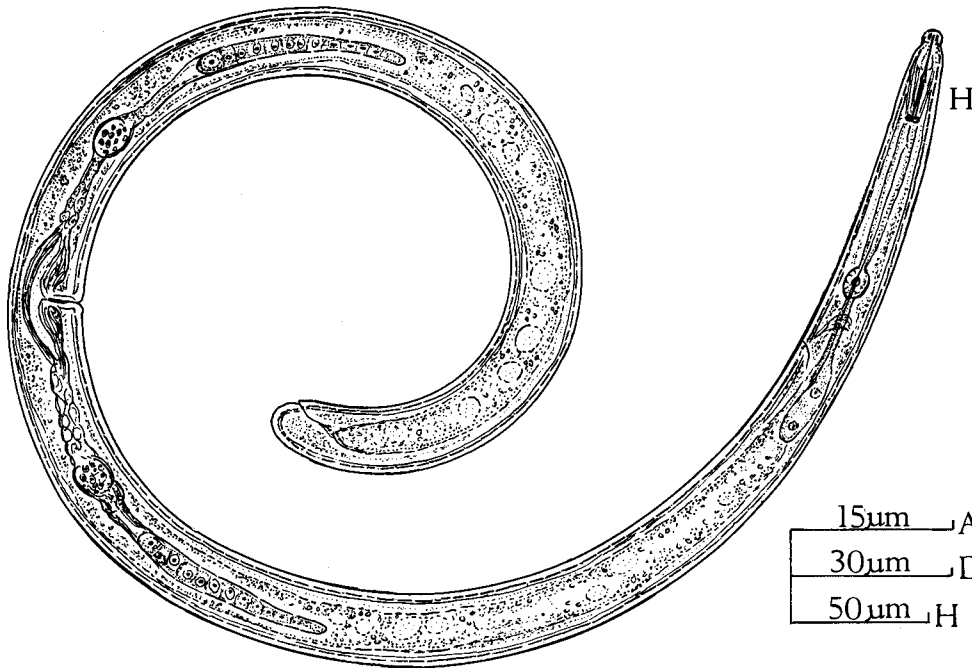
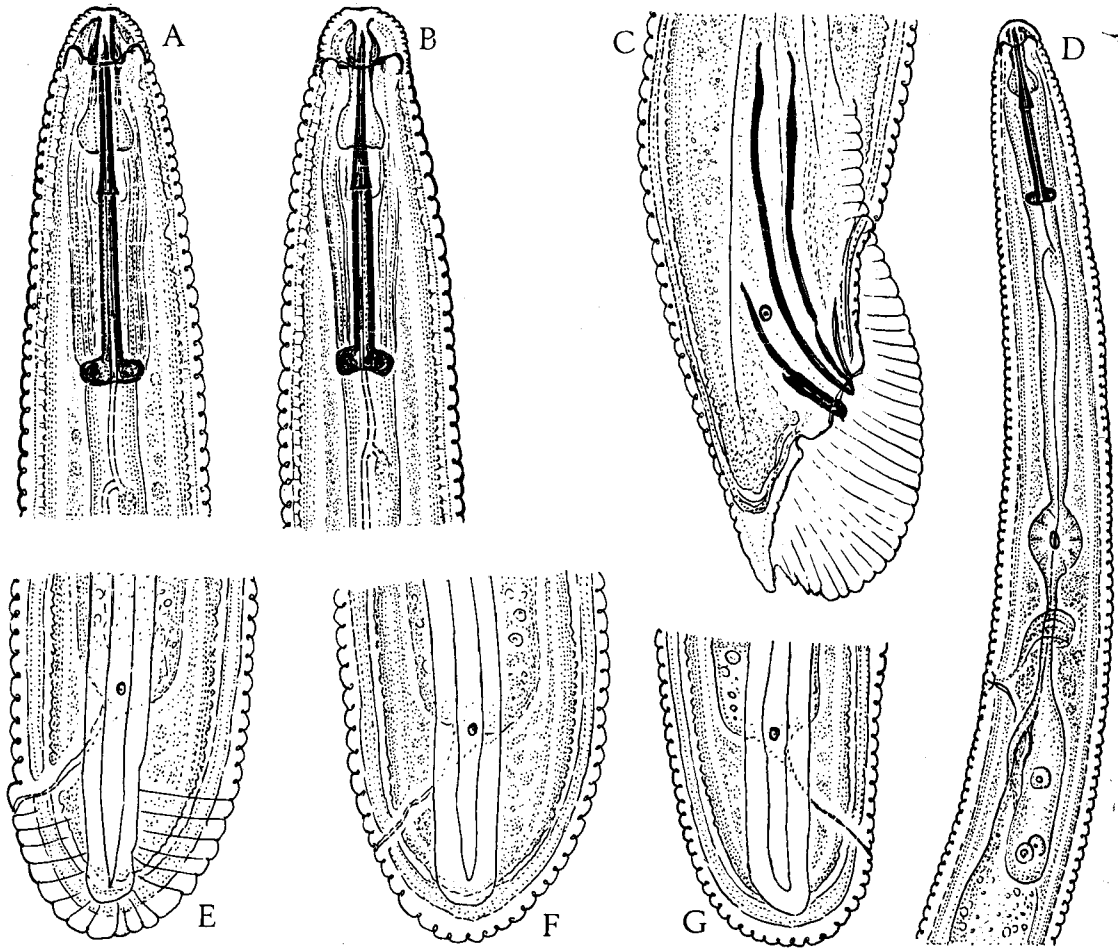
*Paratype females* (7): L = 0.95 mm (0.83-1.03); a

= 34 (32-36); b = 7.3 (6.0-7.7); b' = 6.1 (5.6-6.6); c = 85 (57-103); c' = 0.58 (0.55-0.63); V = 55 (52-58); stylet = 31  $\mu$ m (29-33).

*Paratype males* (5): L = 0.95 mm (0.83-1.03); a = 38 (37-39); b = 6.9 (6.4-7.1); b' = 5.8 (5.4-6.2); c = 56 (52-58); c' = 1.2 (1.1-1.3); T = 43 (38-48); stylet = 31  $\mu$ m (30-32); spicules = 32.5  $\mu$ m (31-34); gubernaculum = 15.5  $\mu$ m (13-17).

### Description

*Female*: Body curved into a spiral at death, with cuticular annules about 2  $\mu$ m wide at mid-body. Lateral field a plain band with four lines, three tenths to one quarter body-width, not areolated behind mid-body. Lip region conoid-rounded, continuous with body contour, with 8 to 10 extremely fine but distinct transverse striae (hence the species name), labial framework strongly sclerotized. Stylet robust, 29-33  $\mu$ m long, conus 14-15  $\mu$ m (47-51% of spear length), basal knobs rounded to anteriorly flattened or, rarely, concave, 5-6.2  $\mu$ m across. Orifice of dorsal oesophageal gland 8-9.5  $\mu$ m from spear base (0 = 24-28). Median oesophageal bulb oval, occupying about seven annules. Oesophageal



15µm — A-C, E-G  
30µm — D  
50µm — H

glands mostly on dorsal side of intestine reaching  $58 \mu\text{m}$  (44–66) from centre of oesophageal bulb. Excretory pore  $128 \mu\text{m}$  (125–130) from anterior end, in front of or just behind hemizonid, one to two annules wide. Vulva with double, non-projecting epiptygma which is usually indistinct. Spermatheca with sperm in fertilized females. Ovaries paired, opposite, outstretched, with a single row of oocytes. Intestine with a single fasciculus. Rectum not overlapped by intestine. Tail hemispherical with 8 (6 to 11) annules. Phasmids 7 (5 to 8) annules anterior to level of anus.

**Male:** Body C-shaped. Lip region hemispherical, slightly more expanded than adjacent body with 8 to 10 fine striae. Stylet about four times lip region width; conus 45–49% of total stylet length; knobs  $5.0\text{--}5.5 \mu\text{m}$  across. Oesophagus similar to that of female, centre of median bulb  $100 \mu\text{m}$  (95–105) from anterior end. Spicules nearly cylindrical at anterior end, slightly arcuate, flanged. Gubernaculum with distal one third cylindroid bearing titillae at tips, protrusible. Bursa enveloping tail, margins crenate. Phasmids just pre-anal.

**Type host and locality:** *Musa* sp. (Bluggoe banana) at Todos Santos, 28 km from Chapare on Chapare Road, Chapare, Bolivia. Also collected around roots of *Citrus reticulata* at Chipiriri Experimental Station, Chapare.

**Type specimens:** Holotype female and six female and six male paratypes at Commonwealth Institute of Parasitology, St. Albans, England; two female, one male paratypes each at Rothamsted Experimental Station, Harpenden, England and USDA

Nematology Collection, Beltsville, Maryland, USA; one female, two male paratypes at Indian Agricultural Research Institute, New Delhi, India. **Diagnosis:** *Rotylenchus microstriatus* n.sp. differs from other species of the genus in having a continuous and finely striated lip region with 9 to 11 annules. It comes close to *R. capensis* van den Berg & Heyns, 1974 and *R. catharinae* van den Berg & Heyns, 1974 but differs from the former in the structure and shape of the head as well as in having the conus 47–51% of stylet length (39–45% in *R. capensis*) and more anterior phasmids one to three annules in front of the anus in female and in the anterior one third of the tail in the male in *R. capensis*, and from the latter in having a continuous lip region, a higher 'o' value, more anterior phasmids and shorter spicules (female  $0 = 12.2$ ; phasmids one to four annules anterior to anus and spicules  $37.1 \mu\text{m}$  long in *R. catharinae*).

## References

- Baker, A.D. (1953) Rapid method for mounting nematodes in glycerine. *Canadian Entomologist*, **85**, 77–78.
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- van den Berg, E. & Heyns, J. (1974) South African Hoplolaiminae 3. The genus *Rotylenchus* Filipjev, 1936. *Phytophylactica*, **6**, 165–184.

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Fig. 1. *Rotylenchus microstriatus* n.sp. A. Head end, holotype female, B. Head end, male. C. Tail end, male. D. Oesophageal region, holotype female. E & G. Tail ends, female. F. Holotype female tail. H. Holotype female.