

Criconemoides ornativulvatus sp. n. from Martinique (Nemata : Criconematinae)

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Summary – *Criconemoides ornativulvatus* sp. n. is described and figured from Martinique. Females are characterized by the presence of three lip annuli, enlarged submedian pseudolips which give rise to indistinctive submedian lobes, a low labial area and a non-raised labial disc resulting in a head form appearing rounded, 82 to 90 retrorse body annuli with smooth to irregular margins, a sharply pointed tail with last three to four annuli drawn out, an open vulva with prominent projections of various forms on anterior lip, a slightly sigmoid vagina and a 71 to 88 μm long stylet.

Résumé – *Criconemoides ornativulvatus* sp. n., provenant de la Martinique (Nemata : Criconematinae) – *Criconemoides ornativulvatus* sp. n., nouvelle espèce de nématode provenant de la Martinique, est décrit et illustré. Les femelles sont caractérisées par la présence de trois anneaux labiaux; de pseudo-lèvres submédianes élargies ayant l'apparence de lobes submédians indistincts; d'une région labiale basse et d'un disque labial non surélevé, donnant à l'ensemble l'apparence d'une tête arrondie; de 82 à 90 anneaux rétrorses à bord postérieur irrégulier; d'une partie post-vulvaire effilée dont les 3 ou 4 derniers anneaux sont étirés; d'un orifice vulvaire comportant de très nettes projections de forme variable sur la lèvre antérieure; d'un vagin de forme légèrement sigmoïde et d'un stylet long de 71 à 88 μm .

Key-words : *Criconemoides*, Martinique, Nematodes, taxonomy.

During a survey of cultivated flowers in Martinique specimens of an unknown species of *Criconemoides* were found from the rhizosphere of *Anthurium ferrierense*, *Musa* sp. and *Heliconia* sp. cv. Tropic. They are here-in described and figured as a new species.

Extraction and handling procedures were similar to those given by Van den Berg and Cadet (1991).

Criconemoides ornativulvatus sp. n.

(Figs 1, 2)

MEASUREMENTS

Females (paratypes; pop. *Anthurium*; n = 11) : L = 401 \pm 20.3 (385 – 447) μm ; a = 7 \pm 0.5 (6 – 8); b = 3 \pm 0.1 (3 – 4); c = 16 \pm 2.7 (12 – 22); o = 6 \pm 1.1 (5 – 8); V = 89 \pm 1.2 (87 – 92); OV1 = 44 \pm 8.3 (33 – 58); stylet = 83 \pm 3.6 (77 – 88) μm ; R = 87 – 92; RSt = 19 – 23; ROes = 27 – 31; Rex = 25 – 28; RV = 9 – 11; RVan = 2-3; Ran = 6 – 8; VL/VB = 1 \pm 0.2 (1 – 2); St%L = 21 \pm 1.3 (19 – 23).

Females (pop. *Musa* sp.; n = 12) : L = 451 μm \pm 35.5 (393 – 516); a = 8 \pm 0.4 (8 – 9); b = 4 \pm 0.2 (3 – 4); c = 16 \pm 2.5 (12 – 20); o = 8 \pm 1.5 (6 – 10); V = 89 \pm 0.8 (88 – 90); OV1 = 49 \pm 5.5 (42 – 61); stylet = 80 \pm 3 (74 – 84) μm ; R = 81 – 88; RSt = 18 – 19; ROes = 24 – 29; Rex = 25 – 28; Rhem = 24 – 26 (n = 3); RV = 10 – 12;

RVan = 1 – 3; Ran = 7 – 10; VL/VB = 1.4 \pm 0.1 (1.3 – 1.6); St%L = 18 \pm 1.4 (16 – 21).

Females (pop. *Heliconia*; n = 4) : L = 433 \pm 45.8 (381 – 489) μm ; a = 8 \pm 0.7 (8 – 9); b = 3 \pm 0.2 (3 – 4); c = 16 \pm 1.3 (15 – 18); V = 89 \pm 0.6 (89 – 90); stylet = 79 \pm 5.7 (71 – 84) μm ; R = 83 – 85; RSt = 19 – 22; ROes = 27 – 29; Rex = 26 – 28; Rhem = 25; RV = 10 – 11; RVan = 2; Ran = 7 – 8; VL/VB = 1.4 \pm 0.05 (1.3 – 1.4); St%L = 18 \pm 1 (17 – 20).

Holotype (female, pop. *Anthurium* sp.) : L = 429 μm ; a = 7; b = 4; c = 17; o = 6; V = 89; OV1 = 51; stylet = 81 μm ; R = 87; RSt = 20; ROes = 28; Rex = 27; RV = 11; RVan = 3; Ran = 7; VL/VB = 1; St%L = 19.

DESCRIPTION

Females : Body curved slightly ventrad. Lip region with three annuli, diameters 12 \pm 1.2 (10 – 15) μm , 16 \pm 1.2 (14 – 18) μm and 19 \pm 1.1 (17 – 21) μm respectively; first lip annulus closely adressed to second annulus, projecting outward or slightly backward, second and third annuli retrorse, margins of all three smooth. Labial area as well as labial disc not markedly raised above first lip annulus giving the head a rounded appearance when viewed laterally; submedian pseudolips enlarged to form four indistinctive submedian lobes

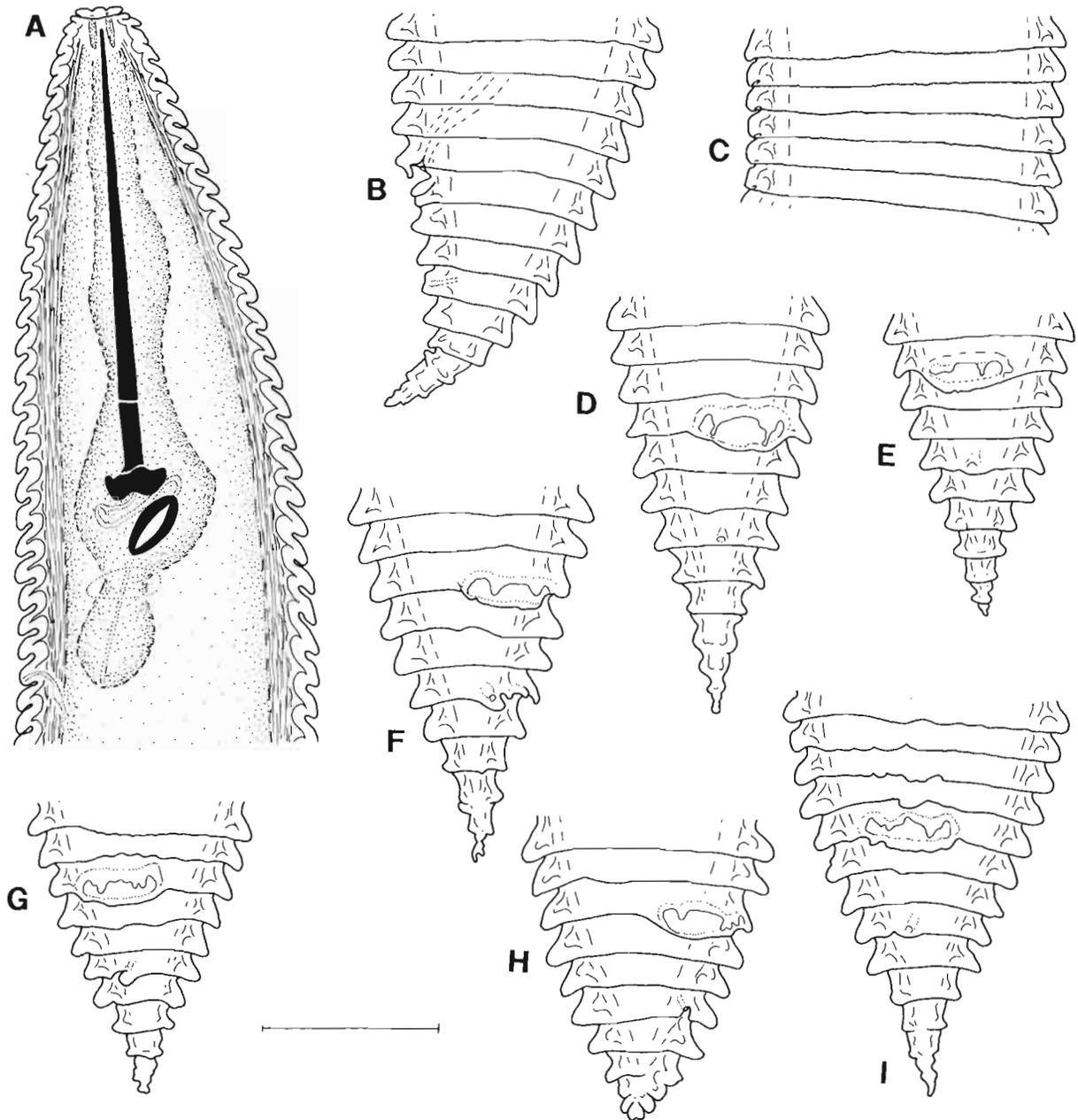


Fig. 1. *Criconemoides ornativulvatus* sp. n. Female. A : Holotype, oesophageal region; B : Holotype, posterior region; C : Holotype, midbody annuli; D - I : Tail and vulval lip variations in other specimens. (Bar = 30 μm .)

which are connected dorsally and ventrally but slightly or hardly laterally. First body annulus diameter 22 ± 1.5 (20 - 24) μm . All body annuli well retrorse with smooth to slightly irregular margins; in a few specimens the irregularity becomes more prominent posteriorly and also ventrally; one and two anastomoses seen in two specimens; in a few specimens the lateral field is demarcated by slight indentations in the margin of some annu-

li. Stylet well developed with cupped basal knobs, the latter 10 ± 0.6 (9 - 11) μm wide and 4 ± 0.4 (3 - 5) μm high. Metenchium 64 ± 3.3 (57 - 71) μm long and telenchium 17 ± 0.8 (14 - 18) μm long. Opening of dorsal oesophageal gland 6 ± 1.2 (4 - 8) μm from base of stylet knobs. Oesophagus 92 ± 5.5 (85 - 105) μm from anterior end of body to centre of valve of median bulb and 31 ± 5.1 (23 - 42) μm from this point to base of oesopha-

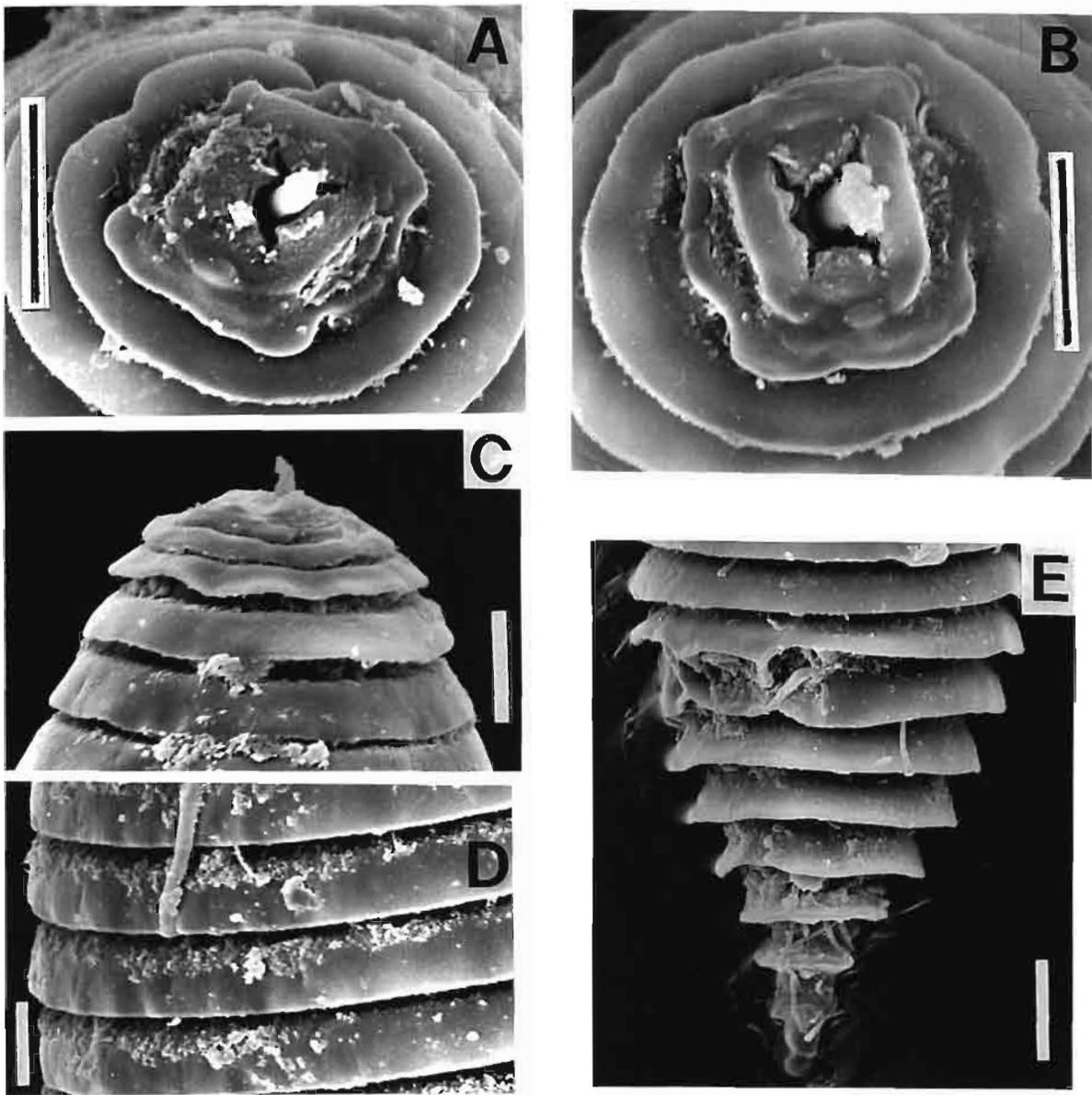


Fig. 2. *Criconemoides ornativulvatus* sp. n. Female. A, B: *En face* views of lip region; C: Lip region, lateral view; D: Annuli at midbody; E: Posterior region. (Bar = 5 μm in A,B,C,D; 10 μm in E.)

gus. Hemizonid seen in a few specimens, one annulus long and situated directly anterior to excretory pore. Excretory pore situated from opposite posterior part of basal oesophageal lobe to slightly posterior to base of oesophagus, 120 ± 10.4 (105 – 145) μm from anterior end of body. Width at midbody 55 ± 5.5 (43 – 63) μm and at excretory pore 52 ± 4.2 (46 – 60) μm . Annuli 5 ± 0.7 (4 – 6) μm wide at midbody. Spermatheca mostly large, round, filled with roundish sperm, two to four annuli long and situated seven to eleven annuli anterior to vulva. Vulva open, vagina slightly sigmoid. Anterior

vulva lip with two projections, varying considerably in form. Tail sharply pointed with last three to four annuli drawn out; last annulus displaying various forms; tail length 27 ± 4.3 (17 – 39) μm ; in one female the last few annuli were not drawn out resulting in a shorter tail.

Males and juveniles: Not found.

TYPE SPECIMENS

Holotype female (slide 27373) and ten *paratype* females (slides 27373 to 27375), sixteen other females (27395 to 27398) deposited in the National Collection

of Nematodes, Biosystematics Division, Plant Protection Research Institute, Pretoria, South Africa. Seventeen *paratype* and other females deposited in the collection of the Museum National d'Histoire Naturelle, Paris, France.

TYPE LOCALITY

Specimens (No. 6171) collected by P. Quénéhervé on 15 April, 1992 from the rhizosphere of *Anthurium ferrierense* in a flower bed near the village of St Joseph, Martinique (14° 40' 25" N, 61° 02' 30" W), altitude 200 m.

OTHER LOCALITIES

Several specimens (No. 7014) collected by P. Quénéhervé on 3 Sept., 1992 from the rhizosphere of a *Musa* sp. near the remaining rainforest of Montravail in the south of Martinique (14° 30' 25" N, 60° 56' 00" W), altitude 315 m.

A few specimens (No. 7434) collected by P. Quénéhervé on 22 Oct., 1992 from the rhizosphere of *Heliconia* sp. cv. Tropic in a flower bed near the village of St Joseph, Martinique (14° 40' 50" N, 61° 02' 25" W), altitude 200 m.

DIAGNOSIS AND RELATIONSHIPS

Criconemoides ornativulvatus sp. n. females are characterized by the presence of three lip annuli, enlarged submedian pseudolips which give rise to indistinctive submedian lobes which are connected dorsally and ventrally but hardly or slightly ventrally, a low labial area and a non-raised labial disc resulting in a head form appearing rounded, 82 to 90 retrorse body annuli with smooth to irregular margins, a sharply pointed tail with last three to four annuli drawn out, an open vulva with prominent projection of various forms on anterior lip, a slightly sigmoid vagina and a 71 to 88 µm long stylet.

With the above-mentioned characters this new species is separated from all other species in the genus, notably in the number of unornamented body annuli, stylet length, open vulva, sigmoid vagina and variable projections on anterior vulva lip.

REMARK

Loof and De Grisse (1967), while re-establishing the genus *Criconemoides* Taylor, 1936 and Loof and De Grisse (1989), while studying the vulvae and *en face* views of the lip regions with the SEM, stated that the vulva is a simple closed slit. In this respect the present specimens does not fit the diagnosis of *Criconemoides*,

but rather that of *Mesocriconema* Andrassy, 1965 (*apud* Loof & De Grisse, 1989) which these authors described as having the vulva lips wide apart and the anterior lip often ornamented. The present specimens, however, do not fit the diagnosis of the genus *Mesocriconema* either in not having four separate submedian lobes as outgrowths of the submedian pseudolips but rather enlargements of the pseudolips themselves (see Fig. 1 A-D, in Loof & De Grisse, 1989). Great variation exists within *Mesocriconema* with regard to such characters as stylet length, number of body annuli, cuticular ornamentation, tail form etc., and although the few species of *Criconemoides* are more homologous with regard to vulva, number of body annuli, stylet length etc., there are also differences viz. smooth and crenate annuli margins, pointed to hemispherical tail tips etc. This strengthens Luc and Raski's (1981) opinion that differences do exist within these genera and they incorporated all these variations in the genus *Criconemella* De Grisse & Loof, 1965 of which *Mesocriconema* and *Criconemoides* were made synonyms.

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