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PRESENCE OF *STEINERNEMA SCAPTERISCI* NGUYEN *ET* SMART PARASITIZING THE MOLE CRICKET *SCAPTERISCUS BORELLII* IN ARGENTINA

by
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Summary. *Steinernema scapterisci* Nguyen *et* Smart, 1990 is recorded for the first time in Argentina. This entomopathogenic nematode was found parasitizing the mole cricket *Scapteriscus borellii* Giglio-Tos at the locality of Colon (Province of Buenos Aires), Argentina.

In November 1990, while conducting a survey on entomophilic nematodes at Colon (Buenos Aires) Argentina, a field was encountered containing a number of dying mole crickets (*Scapteriscus borellii* Giglio-Tos) which were subsequently discovered to have been attacked by a steinernematid nematode.

Materials and methods

The infected insects (65 adults) were transported on moistened filter paper in petri dishes (5 cm diameter x 1.5 cm height). In the laboratory they were placed in White traps (White, 1927) in order to recover the nematodes from their hosts. The nematodes were isolated from the hemocoel of the mole crickets. Forty-six percent of natural infection was recorded.

Infective juveniles were obtained when they emerged from the host cadavers in 10-15 days. First and second generation adults were obtained by dissecting the mole crickets 2-5 and 5-9 days respectively, after the insects died.

Taxonomic investigations revealed that the nematodes were *Steinernema scapterisci*, described by Nguyen and Smart (1990).

Populations of this nematode were increased in laboratory by reinfesting mole crickets and mainly by culturing the nematodes in vitro on dog food/agar medium according to Hara *et al.* (1981).

Description (Fig. 1)

Adult forms: Cuticle smooth, head rounded, continuous with body. Six lips, each one bearing a papilla, four

cephalic papillae. Amphids not observed. Stoma shallow. Cheilorhabdions prominent and heavily thickened. Pro-rhabdions also distinct. Pharynx with a cylindrical procorpus; metacorpus slightly swollen without valve; isthmus distinct; basal bulb with small valve. Nerve ring surrounding the isthmus. Excretory pore located at level of metacorpus.

Females didelphic, amphidelphic. Ovaries reflexed. Vulva a transverse slit, with a double-flapped epiptygma. Vagina sclerotized. Tail conoid with a mucron generally present.

Males monorchic. Testicle reflexed anteriorly. Spicules paired, curved and with two internal ribs. Gubernaculum boat-shaped, ventrally curved, posterior end bifurcate. Ten pairs and one single genital papillae arranged as follows: five pairs of subventral preanal papillae; a single one preanal between pairs 4 and 5. Pairs 6 and 7 subventral and postanal; pairs 8 and 9 caudal subventral; and pair 10 caudal subdorsal. Tail conoid with a mucron.

Measurements

Measurements of first and second generation males and females, and third larval stage are given in μm , except otherwise specified (Table I).

Source of studied material: Argentina: Buenos Aires, Colon. Collected by S. P. Stock.

Fixed specimens are deposited in the Helminthological Collection at CEPAVE (Center of Parasites and Vector's Studies, La Plata, Argentina).

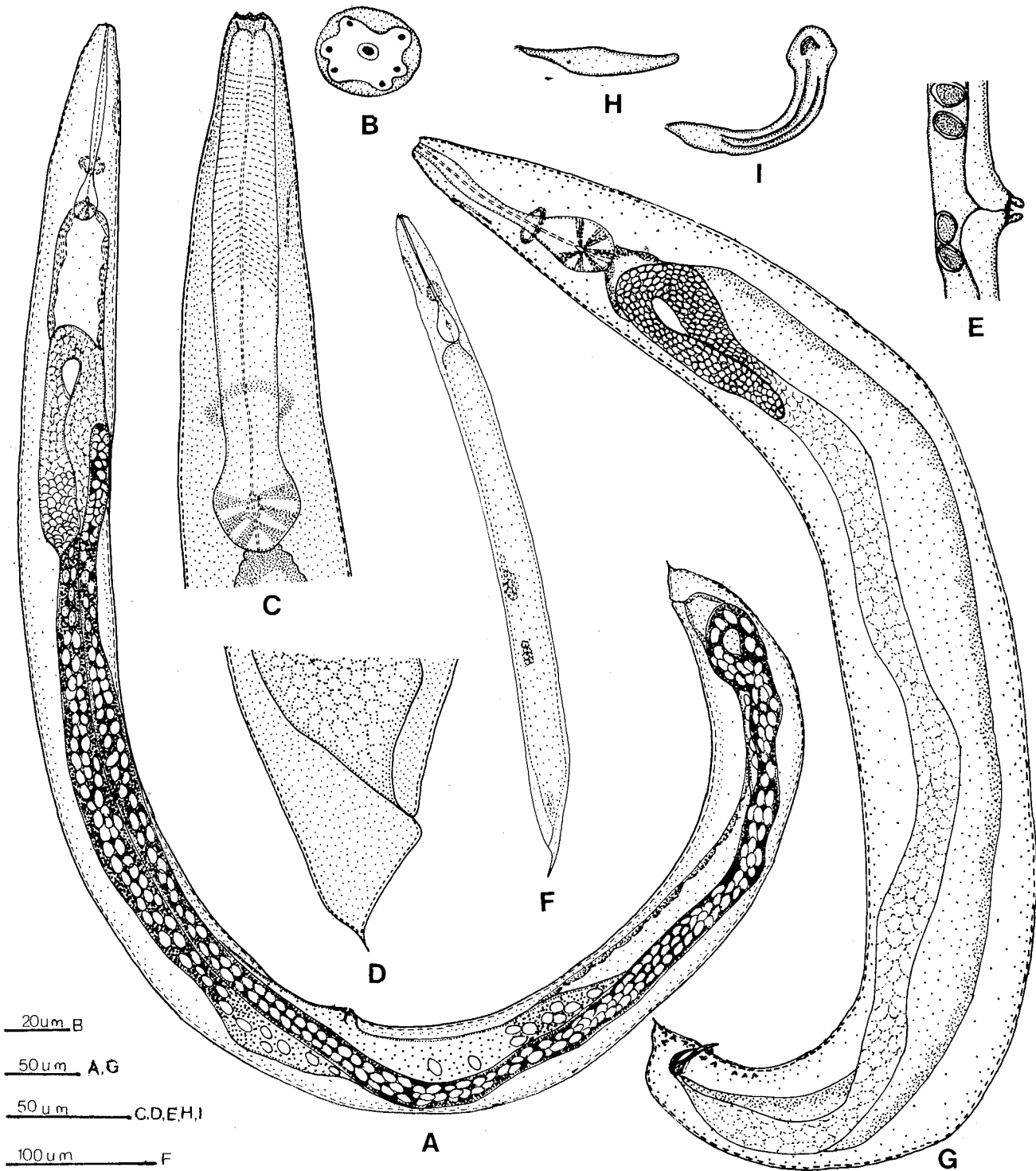


Fig. 1 - *Steinernema scapterisci*: A, adult first generation female, in toto; B, face view of first generation female; C, anterior region of first generation female; D, tail of first generation female; E, vulvar region; F, third larval stage; G, adult first generation male, in toto; H, gubernaculum; I, spicula.

TABLE I - *Biometrics of an Argentinian population of Steinernema scapterisci.*

Character	Males (n=25)				Females (n=25)				Thrid Stage Juveniles (n=25)	
	First Generation		Second Generation		First Generation		Second Generation		Mean (SD)	Range
	Mean (SD)	Range	Mean (SD)	Range	Mean (SD)	Range	Mean (SD)	Range		
Total Length	1,500(250)	1,000-1,900	1,000(80)	989-1,300	3,890(450)	3,020-3,972	2,015(224)	1,786-2,347	530(29)	500-570
Greatest width	130(42)	90-200	65(9)	57-76	164(12)	153-192	112(16)	86-135	20(3)	15-25
Stoma length	4(0.3)	4-5	3.8(1)	3.5-5.5	6.8(1.0)	5.0-8.5	6.0(1.5)	5-8		
Stoma width	5.7(1)	4.5-7	5.0(1.2)	4.5-6.5	8.5(3)	7-12	7.5(0.8)	7-10		
AE-PE a	65(11)	60-89	63(8.0)	54-78	78(5)	75-90	70(7)	63-84	36(4)	34-42
AE-NR b	128(10)	120-140	110(10)	96-129	153(11)	144-176	146(11)	139-168	89(1.1)	80-97
AE-P c	175(12)	150-198	152(12.5)	135-185	215(14)	198-240	210(12)	196-230	120(4)	24-42
AE-EP:AE-P									0.4(0.03)	0.30-0.46
AE-P:Tail length									0.7(0.05)	0.63-0.75
Testis reflexion	356(39)	298-395	189(18)	166-215						
Anal body width	29(4)	26-39	27(4)	20-35	52(3)	40-62	41(5)	39-51		
Tail length	23(5)	19-27	23(3)	19-26	42(5)	30-47	47(3)	39-58	49(4)	47-54
Spicule length	80(5)	72-89	77(4)	74-83						
Gubernaculum	59(4)	57-70	50(4)	45-59						
Mucron length	3.8(0.5)	2.8-4.5	3.0(0.6)	2.8-3.7						
Vulva %					53(2)	49-54	55(2)	53-57		

a: Distance from anterior end to excretory pore; b: Distance from anterior end to nerve ring; c: Distance from anterior end to end of pharynx.

Remarks

The present study reveals that this steinernematid nematode belongs to the already described species *Steinernema scapterisci* not only for the morphological and morphometrical characters but also for its host specificity.

The Argentinian population of *Steinernema scapterisci* can be distinguished from the Uruguayan strain by the smaller size of the adults and infective stages.

Literature cited

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