STEINERNEMA RITTERI*) N. SP. (NEMATODA: STEINERNEMATIDAE) WITH A KEY TO THE SPECIES OF THE GENUS

BY

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Life stages of a new species of Steinernematidae from Córdoba province, Argentina, are described and illustrated. Steinernema ritteri n. sp. is characterized by the presence of a conspicuous double vulval epitygma in the females. This feature separates it from all the other species of the genus, except from S. bibionis Bovien, 1937 and S. scapterisci Nguyen & Smart, 1990. It differs from S. bibionis by the greater dimensions of the infective larva and from S. scapterisci by having different measurements in all the stages under consideration. A taxonomic key is given for all ten valid species based on the infective larvae.

Keywords: morphology, taxonomy, description, insect parasites, biological control.

The genus Steinernema Travassos, 1927 has a wide distribution in Holarctic and Australasian regions, where several species and geographical strains have been recovered (Poinar, 1979, 1986). In the Neotropical region species of this genus have so far been found only in Argentina (Ahmad, 1974; Doucet, 1982, 1986a).

Some species of this genus are considered suitable as biological control agents of pest insects of agriculture (Poinar, 1979): a research project has been developed to study these nematodes in Argentina.

The present work describes a new Steinernema species, found during a survey for entomogenous nematodes in Córdoba, Argentina.

MATERIALS AND METHODS

Nematodes were isolated from soil samples from Rio Cuarto, Córdoba, Argentina, as described by Doucet (1986b). They were propagated in greater wax moth (Galleria mellonella L.) larvae on damp filter paper in petri dishes at 25°C (St anuszek, 1974; Poinar, 1975). The infective stage penetrated and

*) This species is named in honour of Dr. Maurice Ritter, former Director of the Station de Recherches de Nématologie et de Génétique Moléculaire des Invertébrés, Antibes, France, for his substantial contributions to the development of Nematology.
killed the host within 48 hours after inoculation and fed on and developed in the decomposing body contents.

Males and females were obtained by dissecting infected insects in Ringer solution 4 or 5 days after infection for the first generation and 6 or 7 days for the second. The infective stage was collected as it emerged from the insect cadavers.

Specimens were fixed in warm 7% formaldehyde solution, slowly dehydrated, and mounted in anhydrous glycerin.

**DESCRIPTION**

*Steinernema ritteri* n. sp.

(Figs 1 & 2)

Female, first generation (*n* = 23): Length 8.6 ± 1.4 (5.2-11.5) mm; width 252.2 ± 23.3 (210-300) μm; length of stoma 9.5 ± 1.67 (7-13) μm; width of stoma 9 ± 1.52 (6-12) μm; distance from anterior end, to base of oesophagus 196 ± 26.1 (130-232) μm, to excretory pore 74.5 ± 27.13 (40-135) μm, to nerve ring 141.4 ± 20.4 (108-187) μm; V = 51 ± 3.2 (44-56); length of tail 27.6 ± 5.8 (19-36) μm; width at anus 66 ± 13.4 (45-95) μm.

Female, second generation (*n* = 31): Length 1.14 ± 0.18 (0.92-1.48) mm; width 87.5 ± 15.8 (65-118) μm; length of stoma 2.5 ± 0.48 (2-3.5) μm; width of stoma 4 ± 0.7 (3-5) μm; distance from anterior end, to base of oesophagus 116 ± 3.8 (102-122) μm, to excretory pore 53.5 ± 5.4 (36-62) μm, to nerve ring 92 ± 5.8 (71-99) μm; V = 55.5 ± 1.5 (54-60); length of tail 44 ± 5.02 (38-58) μm; width at anus 33 ± 3.7 (27-44) μm.

Male, first generation (*n* = 30): Length 1.48 ± 0.18 (1.2-1.9) mm; width 130 ± 15.8 (110-176) μm; length of stoma 2.9 ± 1.2 (1.5-5) μm; width of stoma 4.4 ± 0.58 (3.5-5) μm; distance from anterior end, to base of oesophagus 137 ± 9.2 (121-155) μm, to excretory pore 65.5 ± 6.9 (53-78) μm; to nerve ring 105 ± 8.4 (92.5-124) μm; length of tail 26.5 ± 3.6 (21-32) μm; width at anus 44 ± 3.7 (37-52) μm; length of spicules 69 ± 4.8 (58-75) μm; width of spicules 12 ± 1.18 (10-15) μm; length of gubernaculum 43.5 ± 4.4 (33-50) μm.

Male, second generation (*n* = 26): Length 0.66 ± 0.04 (0.6-0.7) mm; width 50.5 ± 4.08 (43-60) μm; length of stoma 3.3 ± 0.6 (2-5) μm; width of stoma 3.5 ± 0.6 (2-5) μm; distance from anterior end, to base of oesophagus 100 ± 4.3 (90-106) μm, to excretory pore 55.3 ± 3.5 (49-63) μm, to nerve ring 78 ± 3.8 (70-90) μm; length of tail 20 ± 2.3 (15-25) μm; width at anus 34 ± 3.5 (28-40) μm; length of spicules 47 ± 2.9 (41-53) μm; width of spicules 8 ± 1.76 (6-10) μm; length of gubernaculum 25 ± 3.7 (20-32) μm.

L3 infective (*n* = 20): Length 0.51 ± 0.03 (0.47-0.59) mm; width 21.5 ± 1.3 (19-24) μm; distance from anterior end, to base of oesophagus 91.5 ± 3.1 (85-95) μm, to excretory pore 43 ± 1.8 (40-46) μm, to nerve ring 73 ± 3.9 (68-85) μm.