

Comisión de Investigaciones Científicas de la Provincia de Buenos Aires, CEPAVE, 1900 La Plata, Argentina

ISOMERMIS SIERRENSIS SP. N. (NEMATODA: MERMITHIDAE) A PARASITE OF *SIMULIUM WOLFFHUEGELI* ROUBAUD (DIPTERA: SIMULIIDAE) IN ARGENTINA

by
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Summary. *Isomermis sierrensis* sp. n. (Nematoda: Mermithidae) a parasite of larvae of the blackfly *Simulium wolffhuegeli* Roubaud (Diptera: Simuliidae) in Argentina, is described. Diagnostic characters of this species are a mouth slightly displaced to ventral side; six cephalic papillae; eight hypodermal chords; amphids small and oval; vagina slightly S-shaped; two short spicules, sickle-shaped and without any sculpture; three rows of genital papillae, the middle row with 4 pre-anal and 7 post-anal papillae, the lateral rows each with papillae; post-parasitic juveniles with long, thin and pointed tail appendage.

Two species of the genus *Isomermis* Coman, 1953 (Nematoda: Mermithidae) occur in Argentina: *I. balcarcensis* Camino, 1987 is a parasite of *Simulium bonaerense* Coscarón and Wygodzinsky (Diptera: Simuliidae) and *I. ventania* Camino, 1987 is found parasiting larvae of *Cricotopus* sp. (Diptera: Chironomidae).

A further species *I. sierrensis* sp. n. parasitizing *Simulium wolffhuegeli* Roubaud (Diptera: Simuliidae) in the Córdoba Province is described here.

Material and methods

Simulium wolffhuegeli larvae were collected from the San Antonio River, in Carlos Paz Village. They were maintained in a bucket with dechlorinated tap water and an air pump, at 10 °C, until the nematodes emerged. The post-parasitic juveniles were placed in Petri dishes containing water with a layer of sand at the bottom at 10 °C±2. Adults and post-parasitic juvenile nematodes were observed alive, then killed by immersion for 3 seconds in distilled water at 60 °C, fixed in TAF and processed to glycerol by Seinhorst's method for taxonomic studies (Curran and Hominick, 1980). Histological sections to determine the longitudinal chord arrangement were made by fixing the nematodes in Bouin's fluid, passing them through an alcohol series to paraplast, sectioning at 10 µm and staining with the hematoxilin-eosin technique. An apical view of the head was prepared in glycerine jelly. Drawings and measurements were made from live and fixed specimens with a camera lucida and a micrometer on a Zeiss light microscope.

ISOMERMIS SIERRENSIS sp. n.

(Fig. 1)

Description

Medium size nematodes. Colour of trophosome white in live and fixed specimens. Cuticle relatively thick without visible criss-cross fibres. Six cephalic papillae. Amphids small and oval. Eight hypodermal chords: the lateral chords with two row of cells, the dorsal, ventral, subventral and subdorsal chords with only one row. Mouth slightly displaced to ventral side. Vagina slightly S-shaped, first and third bends short, not exceeding end of second bend, second bend longer and oblique. Two short spicules, sickle-shaped, parallel and without sculpturing. Genital papillae arranged in three rows: the middle row with 4 pre-anal and 7 post-anal papillae, the lateral rows each with 6 papillae. Post-parasitic juveniles with long, thin and pointed tail appendage.

Measurements

Holotype male: body length: 7 mm; width of head at level of cephalic papillae: 49.7 µm; width of body at level of nerve ring: 73 µm; greatest width of body: 100 µm; width of body at level of anus: 91 µm; distance from head to nerve ring: 255 µm; distance from manus to tail: 162 µm; length of spicules: 90 µm; width of spicules in the middle: 7 µm.

Allotype female: body length: 11 mm; width of head at level of cephalic papillae: 70 µm; width of body at level of

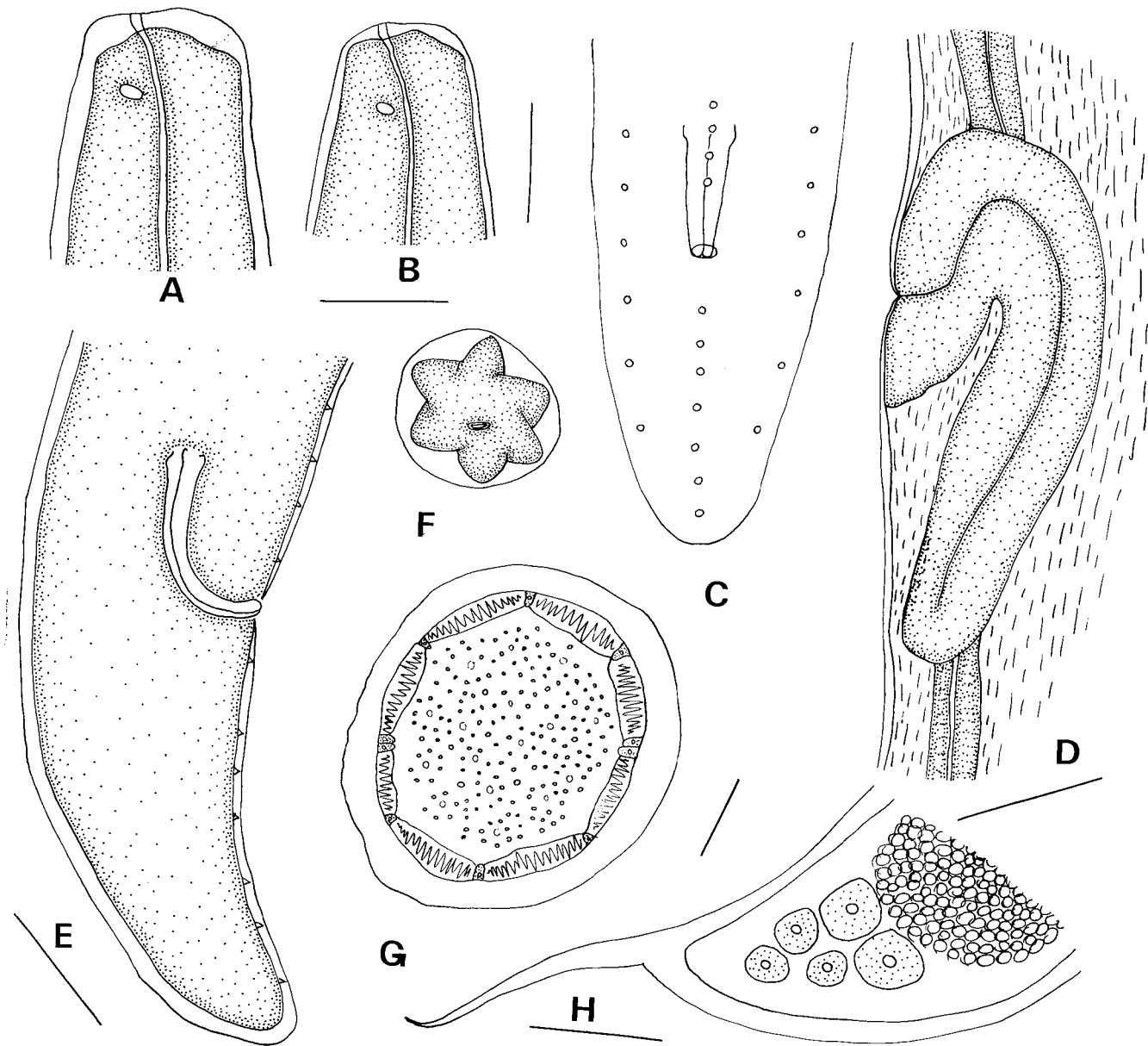


Fig. 1 - *Isomermis sierrensis* sp. n. A, head of female in ventral view; B, head of male in ventral view; C, ventral view of male tail; D, vagina; E, lateral view of male tail; F, en face view of female head; G, cross section at midbody; H, lateral view of post-parasitic juvenile tail. (Bars = 50 μ m).

nerve ring: 136 μ m; greatest width of body: 193 μ m; width of body at level of posterior end of trophosome: 160 μ m; width of body at level of vulva: 211 μ m; distance from head to nerve ring: 320 μ m; length of vagina: 211 μ m; width of vagina: 63 μ m; V: 51%.

Paratype males: (n = 15): body length: 7 mm (5-8); width of head at level of cephalic papillae: 49 μ m (44.6-54); width of body at level of nerve ring: 75 μ m (61-80); greatest width of body: 99 μ m (82-106); width of body at level of anus: 87 μ m (73-94); distance from head to nerve

ring: 255 μm (235-287); distance from anus to tail: 151 μm (106-181); length of spicules: 91 μm (82-94); width of spicules in the middle: 7 μm (7-8); length and width of amphids: 14 μm x 9 μm .

Paratype females: (n = 12): body length: 11 mm (10-12); width of head at level of cephalic papillae: 73 μm (63-75); width of body at level of nerve ring: 136 μm (129-143); greatest width of body: 193 μm (186-221); width of body at level of posterior end of trophosome: 156 μm (134-169); width of body at level of vulva: 211 μm (193-226); distance from head to nerve ring: 318 μm (305-329); length of vagina: 211 μm (179-226); width of vagina: 63 μm (59-70); V: 51% (50-52); length and width of amphids: 19 μm x 12 μm .

Post-parasitic juvenile: n = 10; dimensions as in adults. Tail appendage long and thin, mean length 85 μm (79-132).

Type host: larvae of *Simulium wolffhuegeli* Roubaud (Diptera: Simuliidae). Ident. Dr. Coscarón, Museo La Plata.

Type locality: San Antonio River, Carlos Paz Village, Córdoba Province, Argentina.

Type material: collected by Dra. Camino in 1991. Types deposited in the CEPAVE, División Entomonemátodos, Argentina. Series numbered: 1992 M078-M114.

Diagnosis and relationships

Isomermis sierrensis sp. n. is characterized by the shape of the spicules and the medial row of the genital

papillae arranged in 4 pre-anal and 7 post-anal pattern. The new species is close to five species of *Isomermis* Co-man, 1953.

It differs from *I. balcarcensis* Camino, 1987 in the length of vagina (211 μm v. 100 μm), the shorter spicules (91 μm v. 120-128 μm) and the number of pre-anal (4 v. 10) and post-anal (7 v. 9) papillae; from *I. benevolus* Poinar and Takaoka, 1979, in the shorter spicules (91 μm v. 132-184 μm) and the number of pre-anal (4 v. 10) and post-anal (7 v. 9) papillae; from *I. lairdi* Mondet, Poinar et Bernadou, 1977, in the shorter spicules (91 μm v. 230 μm) and shorter vagina (211 μm v. 243 μm); from *I. rossica* Rubzov, 1963 in the shorter spicules (91 μm v. 160-260 μm) and the number of pre-anal (4 v. 30) and post-anal (7 v. 10) papillae; and from *I. wisconsinensis* Welch, 1962, in the shorter spicules (91 μm v. 140-180 μm), shorter vagina (211 μm v. 240-280 μm) and the number of pre-anal (4 v. 10) and post-anal (7 v. 9) papillae.

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