

# ***Neyraiella distinctus* n. sp. (Oxyurida, Blattophilidae) Parasite of Nymphs of *Grylodes laplatae* Sauss (Orthoptera, Gryllidae) in Argentina**

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*Neyraiella distinctus* n. sp. was found parasitizing nymphs of the cricket *Grylodes laplatae* Sauss in City Bell, Argentina. This species was characterized by having the excretory pore in the posterior end of the basal bulb, vulva protruding with one lip well developed in the 1/3 end of the body, anus of the female with wings, male with a single spicule without any sculpture, gubernaculum and bursa are absent, six pairs of genital papillae arranged in two preanal pairs, one adanal pair and three postanal pairs, and the tail appendage in both sexes was short and conic.

Key words: *Neyraiella distinctus* n. sp. - Oxyurida - parasite - cricket - taxonomy - Argentina

Sanchez (1947) described in Spain a parasite of *Gryllotalpa europaeus* L. (Orthoptera: Gryllotalpidae), and placed it within the oxyurids. He created the genus *Neyraiella* and the new Family Neyraiellidae, with the type species *Neyraiella neyrae*.

Skrjabin et al. (1951, 1954), Theodorides (1953), Basir (1956), Rao (1958), Kloss (1959), and Leibersperger (1960) accomplished a taxonomic revision of the oxyurids. These authors think that Serrano Sanchez (1947) makes a mistake when describing the males of *N. neyrae* with two spicules instead of one, and therefore considering *N. neyrae* as a synonym of *Gryllophila skrjabini* (Sergiev) Basir, 1956 and placing this species within the family Thelastomatidae.

Poinar (1975), modified the treatise on invertebrates of Skrjabin et al. (1966), and gave a new key for the Order Oxyurida. He separated the superfamilies Thelastomatoidea and Rhigonematoidae by the presence in the female of eight and four cephalic papillae, respectively. The males in the Thelastomatidae family present only one spicule, while in the Rhigonematidae they present either one or two rudimentary spicules. Based on these features, he established *Neyraiella* as a valid genus, placing it within the superfamily Rhigonematoidea, family Blattophilidae.

In this paper we report another new species of the genus *Neyraiella*, *N. distinctus* sp. n. parasite of *Grylodes laplatae* Sauss (Orthoptera: Gryllidae) found in City Bell, Argentina.

## **MATERIALS AND METHODS**

Nymphs of *G. laplatae* collected manually were kept in plastic containers. In the laboratory the techniques of Poinar (1975) were followed, consisting on cooling the nymphs to 5°C approximately 3 min, and then dissecting

them under electronic microscope in Petri dishes with distilled water. Nematodes (males and females) were extracted from the intestine stomodeus and were killed in distilled water in a double boiler during 2 min. Later they were kept 48 h in a solution of 50% TAF and 50% distilled water, and then fixed in pure TAF. Measurements and drawings were made with a Zeiss microscope with camera lucida. Measurements given in the description belong to the male holotype and female allotype, the range of measurements of the paratypes are given between parentheses.

## **RESULTS**

Order Oxyurida  
Superfamily Rhigonematoidea  
Family Blattophilidae  
Genus *Neyraiella*  
*Neyraiella distinctus* sp. n.  
(Fig. 1 A-F)

*Description:* small and white nematodes. Annulated cuticle. Mouth surrounded by four cephalic papillae. Bucal cavity with small denticles (Fig. 1C). Small and pyriform amphids. Esophagus long with indistinct pseudobulb (Fig. 1D,E). Basal bulbs with valves. Excretory pore opening behind the basal bulb. Vulva protruding with vulval lips developed and placed in the posterior third of the body (Fig. 1A). Vagina cylindrical and long directed to the posterior end. Female prodelphic. Uterus with strangulations forming true capsules, each one containing a single egg. Female anus with wings. Eggs oval, with smooth shell, without byssum and individual (Fig. 1A). Male with a simple spicule not sculptured, without gubernaculum or bursa (Fig. 1F). Genital pore opens in a protuberance. Six pairs of genital papillae as follows: two preanal pairs, one pair adanal and three pairs postanal, the last of which is placed at the base of the tail appendage (Fig. 1B). Tail in both sexes short and conic.

Male (n = 15) - Total body length: 2.050 µm (1.980-2.120), cephalic diameter at level of papillae: 18.8 µm (16.45-21.15); maximum body diameter: 108.1 µm (91.65-124.55); distance from anterior end to base of basal bulb: 245 µm (220-270); spicules length: 36.42 µm (35.25-37.60); tail length: 17.62 µm (14.10-21.15).

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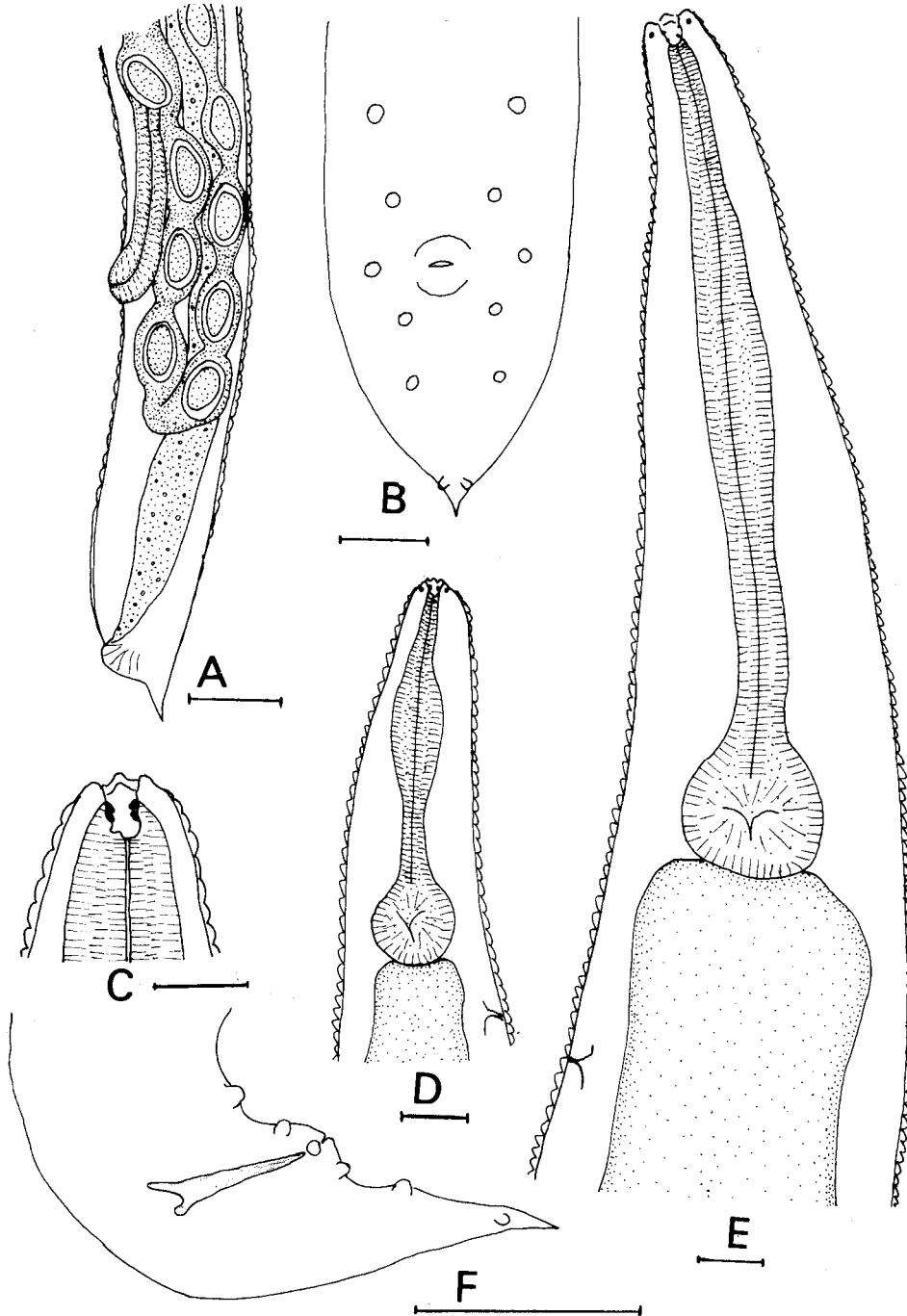
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Female (n = 20) - Total body length: 4.420  $\mu\text{m}$  (4.280-4.560); cephalic diameter at level of papillae: 24.67  $\mu\text{m}$  (23.5-25.85); body diameter at level of vulva: 272.5  $\mu\text{m}$  (265-280); maximum body diameter: 440  $\mu\text{m}$  (400-480); distance from anterior end to base of basal bulb: 515  $\mu\text{m}$  (460-570); distance from vagina to anus: 675  $\mu\text{m}$  (610-740); V: 82.69% (82.67-82.71); tail length: 29.37  $\mu\text{m}$  (25.85-32.9); length and width of eggs: 85.77  $\mu\text{m}$  (70.50-101.05) x 32.9  $\mu\text{m}$  (30.55-35.25).  
*Type locality*: City Bell, La Plata, Buenos Aires Province, Argentina.

*Type Host*: nymphs of *Gryllodes laplatae* Sauss (Orthoptera: Gryllidae).  
*Type material*: deposited in the Helminthological collection, Museo de La Plata, La Plata, Argentina, no. 4848.

**DISCUSSION**

We agree with Poinar (1975) considering valid the genus *Neyraiella*. *N. distinctus* sp. n. shares with the single species of the genus hitherto described, *N. neyrae* Sanchez, 1947, the following characters: transverse cu-



*Neyraiella distinctus* n. sp. A: posterior end of the female, vagina, eggs and anus; B: posterior end of the male, ventral view; C: anterior end of the female; D: stoma of the female; E: anterior end of the male; F: posterior end of the male, lateral view. Bars = 50  $\mu\text{m}$

ticle striae, mouth surrounded by four papillae, amphids small and pyriform, uterine rami with stranglings forming capsules for each egg, eggs with smooth shell, in the male, protruding genital cone, and the presence in both sexes of a short and conic tail.

*N. neyrae* differs from our new species in the following characters: bucal cavity with two ribs forming a fork, and ending each one in a denticle, the excretory pore opens much behind the base of the esophagus, the vulva is not protruding, the vagina is short, the eggs are large (150 µm x 70 µm), the spicule is longer (63 µm) and it lacks the adanal pair of papillae.

Because of the mentioned characters we regard *N. distinctus* sp. n. as a new species.

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