

# ***Cephalobellus lobulata* n. sp. (Oxyurida:Thelastomatidae) a Parasite of *Neocurtilla claraziana* Saussure (Orthoptera: Gryllotalpidae) from Argentina**

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*Cephalobellus lobulata* n. sp. (Oxyurida: Thelastomatidae) a parasite of the mole cricket *Neocurtilla claraziana* Saussure (Orthoptera: Gryllotalpidae) found in Argentina is described and illustrated. It is characterized by a short buccal cavity armed with three teeth, a striated cuticle with the first annule wide with four lobes and the second annule divided in twelve lobes. The male have three pairs of preanal papillae and two pairs of postanal papillae.

Key words: *Cephalobellus lobulata* n. sp. - Thelastomatidae - Gryllotalpidae - parasite - cricket - taxonomy - Argentina

The genus *Cephalobellus* was proposed by Cobb (1920) who described a nematode from a beetle larva under the name of *C. papilliger*. He described only the male without any diagram of the nematode. Christie (1933) described the genus *Scarabanema* as a synonym of *Cephalobellus* (both males were identical), putting *S. cylindricum* as a synonym of *C. papilliger*. Basir (1956) recognized six species from Europe, USA, North India and Brazil. Dale (1964) described another species, *C. costelytrae*, from New Zealand. The genus *Cephalobellus* contains six species: *C. papilliger* from USA parasited scarabaeid larvae, *C. leukarti* Christie, 1933 from Germany in scarabaeid larvae, *C. brevicaudatum* Christie, 1933 from USA in scarabaeid larvae, Blattidae and tipulids, *C. magalhães* (Schwenk, 1926) from Brazil in Blattidae, and *C. galliardi* (Dollfus, 1952) from France in scarabaeid larvae. In this paper we report another species, *C. lobulata* n. sp. parasitizing nymphs of mole cricket found in Argentina.

## **MATERIALS AND METHODS**

Third and fourth stages nymphs of *Neocurtilla claraziana* S. found in Gorina, Buenos Aires Province, Argentina, were collected by hand and then put in individuals vials. In the laboratory, we used the Poinar (1975)'s techniques: first of all we put the insects to sleep at 8°C for 10 min, and then we

dissected them in Petri dishes with distilled water under microscope stereoscope. We found the nematodes (males and females) in the stomodeo intestinal of the insects and then they were killed in distilled water at 60°C during 2 min. Posteriorly they were put in a solution of distilled water + TAF (1:1) during 48 h, finally we finished the fixed in pure TAF.

Living and fixed specimens were employed for drawings and measurements using a camera lucida microscope, and a micrometer in a Zeiss compound microscope. Measurements were for the holotype male and allotype female; for paratypes the range is in parenthesis.

## **RESULTS**

### *Cephalobellus lobulata* n. sp. (Figure)

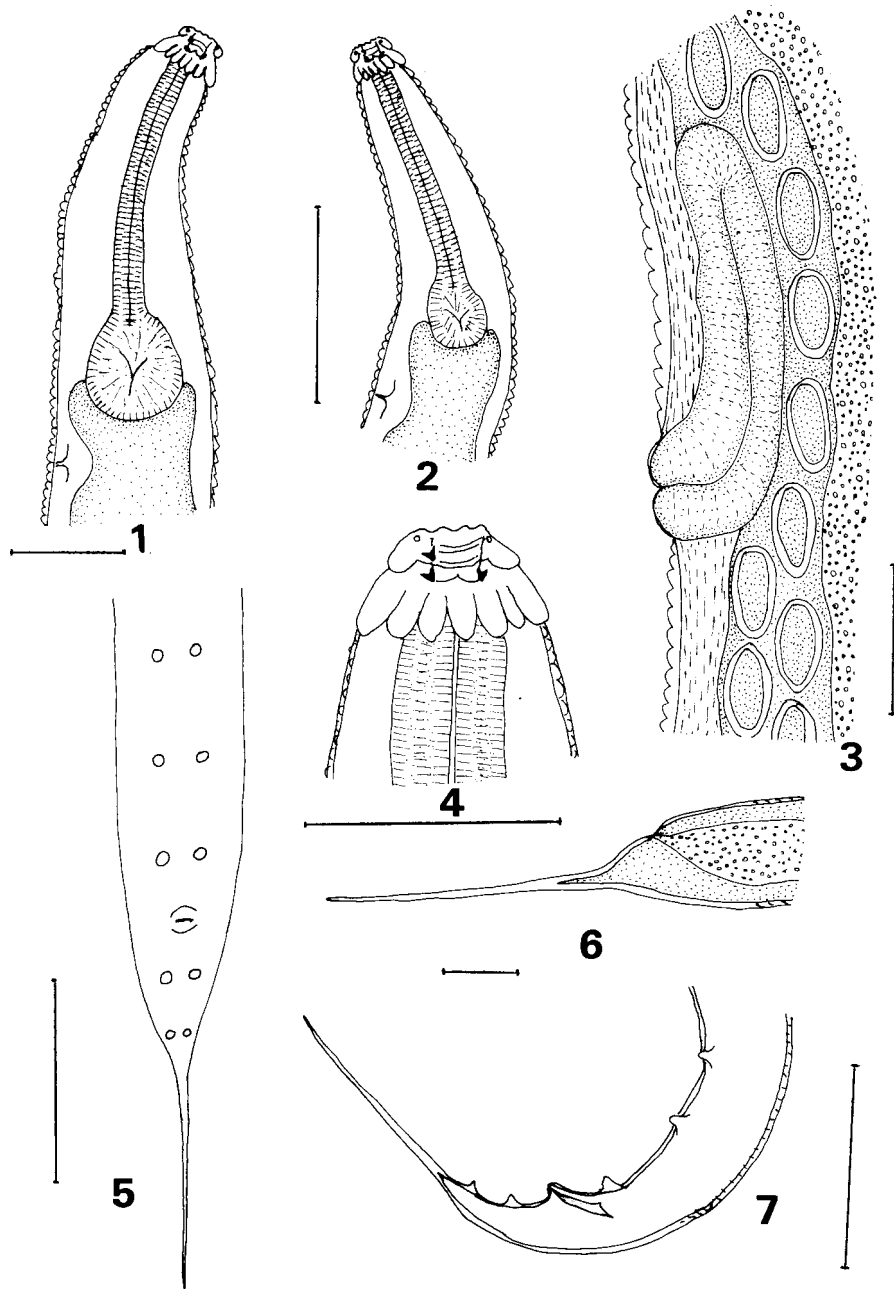
Description: small nematodes. Body cylindrical. Cuticle conspicuously striated throughout the whole length of the body except the tail. First annule wide with four lobes and the second one divided in twelve lobes. Mouth opening subtriangular, surrounded by eight labiopapillae. Amphids pore-shaped. Buccal cavity short and armed with three teeth. Oesophagus consisting of an anterior cylindrical corpus, an isthmus and a posterior valvular bulb. Excretory pore about one oesophagus width posterior to base of oesophagus. Intestine dilated anteriorly. Vulva protruding and situated in the last posterior third of the body. Ovaries two. Vagina cylindrical and long. Eggs ellipsoidal with smooth shell. Male with a single spicule, without gubernaculum. Anal region protruding. Three pairs of preanal papillae and two pairs of postanal papillae. Tail in both sexes were long, filiform and pointed.

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*Cephalobellus lobulata* n. sp. - 1: anterior end of female; 2: anterior end of male; 3: vagina and eggs; 4: stoma of female; 5: posterior end of male, ventral view; 6: posterior end of female; 7: posterior end of male, lateral view. Bars = 50  $\mu$ m.

TABLE  
Differences between the closed species

	<i>Cephalobellus lobulata</i>	<i>C. papilliger</i>	<i>C. costelytrae</i>
Buccal cavity	Short and armed with three teeth	Three pointing triangular cuticular plates	One dorsal and two subventral weak tringular teeth
Preanal papillae	Three pairs	One pair	One pair
Postanal papillae	Two pairs	One pair	Two pairs

Male (n = 17): body length: 907.1  $\mu\text{m}$  (850-1,105); cephalic diameter: 9.4  $\mu\text{m}$  (8.6-10.4); oesophagus length: 89.3  $\mu\text{m}$  (75.6-95); distance from anterior end to excretory pore: 103.4  $\mu\text{m}$  (95-120.5); greatest width: 44.7  $\mu\text{m}$  (42-47); spicule length: 18.8  $\mu\text{m}$  (17-19.2); tail length: 61.1  $\mu\text{m}$  (59.7-62.5).

Female (n = 22): body length: 1,610  $\mu\text{m}$  (1,420-1,800); cephalic diameter: 21.2  $\mu\text{m}$  (18.8-23.5); oesophagus length: 289.1  $\mu\text{m}$  (275-297.8); distance from anterior end to excretory pore: 322  $\mu\text{m}$  (305.4-332); greatest width: 98.7  $\mu\text{m}$  (92-102); diameter of body at level of vulva: 101.05  $\mu\text{m}$  (99-105.5); V: 78.3% (75.4-80.5); vagina length: 124.6  $\mu\text{m}$  (116-132); tail length: 199.8  $\mu\text{m}$  (196.4-205); length and width of eggs: 25  $\mu\text{m}$  (24.2-25.5) x 11.8  $\mu\text{m}$  (11.5-12).

Type host: nymphs of *Neocurtilla claraziana* Saussure, 1874 (Orthoptera: Gryllotalpidae).

Type locality: Gorina, Buenos Aires Province, Argentina.

Type material: deposited in the Helminthological collection at Cepave, series numbered TC126-TC1128.

#### REMARKS

*C. lobulata* n. sp. closely resembles *C. papilliger* Cobb, 1920, and *C. costelytrae* Dale, 1964 (Table), in the vagina shaped, tail long and filiform in both sexes and the general form of the spicule.

*C. papilliger* is separated from our new species by having the buccal cavity provided with three inward and forward pointing triangular cu-

ticular plates and the male has one pair of preanal papillae in front of anus, one on each side of the anus, one median postanal double papilla slightly posterior to the anus and a pair of postanal papillae behind the anus.

*C. costelytrae* differs from *C. lobulata* n. sp. in having the buccal cavity with one dorsal and two subventral weak triangular teeth at base and the male has a pair of prominent preanal papillae, a pair of adanal papillae, ventro-laterally placed, a double ventral papilla immediately posterior to the anus, and a pair of caudal papillae about one-third of the length of the tail posterior to the anus.

*C. lobulata* n. sp. can be distinguished mainly by having the buccal cavity short and armed with three teeth, cuticle striated with the first annule wide with four lobes and the second annule divided in twelve lobes and the male has three pairs of preanal papillae and two pairs of postanal papillae.

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