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## THE GENUS *OGMA* SOUTHERN, 1914 (NEMATODA: CRICONEMATIDAE) IN THE IBERIAN PENINSULA

by

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**Summary** The genus *Ogma* is cited from the Iberian Peninsula, for the first time. Measurements and illustrations of *O. rhombosquamatum* are given and *O. zernovi* is redescribed and illustrated. A previous reference to *O. rhombosoquamatum* from Spain is considered to be

**Resúmen.** El género *Ogma* Southern, 1914 (Nematoda: Criconematidae) en la Península Ibérica. Se cita el género *Ogma* por primera vez en la Península Ibérica, encontrando *O. rhombosquamatum* y *O. zernovi*, cuyas poblaciones se describen e ilustran. La referencia anterior de *O. rhombosquamatum* se considera errónea.

The genus *Ogma* was reinstated by Andrassy (1979) for those species of *Criconema* s.l. in which females and juveniles have submedian lobes and longitudinal non-alternating across of cuticular projection, which are neither palmate nor split in the apex. One species of this genus was reported for Spain by Palomo (1975), in the published summary of his doctoral thesis, as *Criconema (Variasquamata) rhombosquamatum*, which was considered as *Variasquamata rhombosquamata* (Mehta et Raski, 1971) Khan et al., 1976, in the Atlas of Plant Parasitic Nematodes of Spain (Bello, 1979) and in the Catalogue of Superfamily Criconematoides in Spain (Bello and Lara, 1986) although Bello (1979) and Bello et al. (1986) considered Palomo (1975)'s reference to be doubtful.

Interest in *O. rhombosquamatum* was stimulated by recent reference to its geographical distribution in Italy, South-Africa and Spain, and by our finding of individuals of the genus on the Mountain of Monserrat (Barcelona) and in the Aragonese Pyrenees (Huesca). We do not accept the classification of the genus *Ogma* into sub-genera as proposed by Siddiqi (1986) and we believe that the generic composition and the classification proposed by Raski and Luc (1987) must be revised from a phylogenetic and evolutionary point of view.

### Materials and methods

Material corresponding to the first reference of *Criconema (Variasquamata) rhombosquamatum* by Palomo

(1975) was located in samples from Calvitero, Sierra de Béjar (Salamanca), from the rhizosphere of *Pinus pinaster* Aiton in brown soil, over granite, obtained in December 1971 and July 1972.

In winter, 7 females were found in the A horizon and 1 female in the B horizon and in summer 4 females in the A horizon and 1 female in the B horizon. In winter and summer samples, 18 and 12 individuals, respectively, of *Criconema annulifer* (de Man, 1921) Micoletzky, 1925 were found in the A horizon only.

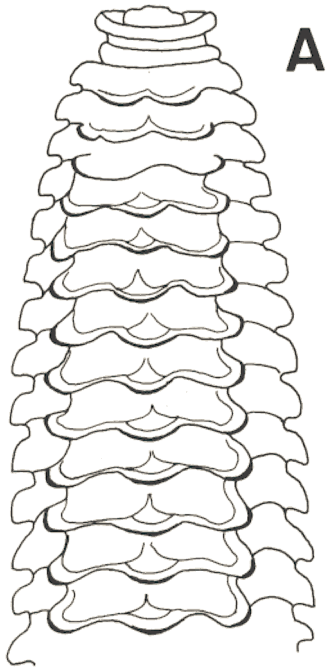
We could not locate the preparations corresponding to the summer samples containing 4 females from the A horizon and 1 female from the B horizon in Dr. Palomo's collection.

Two samples collected by us in July 1986 on the Mountain of Monserrat (Barcelona) and a further sample collected in May 1986 from the Pineta Valley, Aragonese Pyrenees, have also been studied.

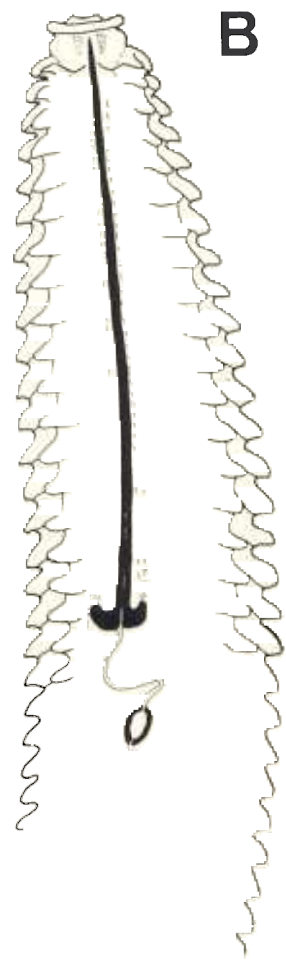
The extraction of the nematodes was done by centrifugation followed by fixing and mounting in glycerin (De Grisse, 1969).

### Results and discussion

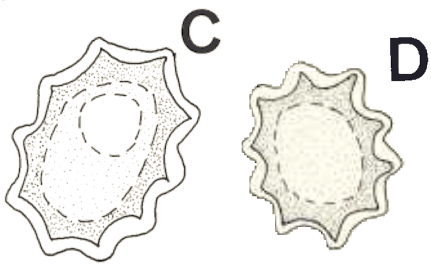
In the Dr. Palomo's collection, preparation labelled as *O. rhombosquamatum* contained 25 individuals of "ring" nematodes but, none corresponded to *O. rhombosquamatum* and thus we consider his identification to be wrong. In the sample from the Mountain of Monserrat, six females



**A**

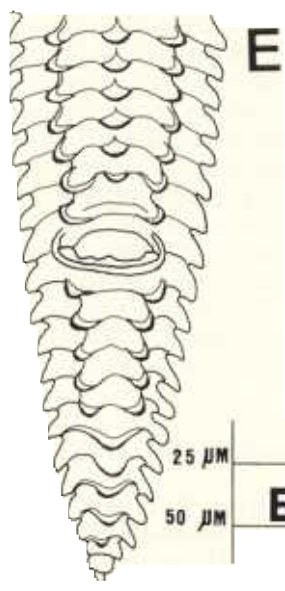


**B**



**C**

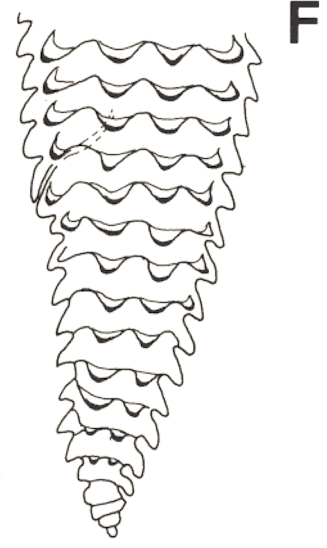
**D**



**E**

**A**

**BCDEF**



**F**

of *O. rhombosquamatum* were found and in that from Pineta Valley (Huesca) eleven females of *O. zernovi* were found. These are described here.

### OGMA RHOMBOSQUAMATUM

(Mehta et Raski, 1971) Andrásy, 1979 (Fig. 1)

**Measurements:** 6 ♀ ♀; L = 0.41 (0.35-0.45) mm; a = 8.7 (8.5- 10.5); b = 2.6 (2.4-3.1); c = 14.9; V = 87 (85-95); Stylet = 101 (96- 107) µm; R = 82 (75-85); Rst = 19 (18-20); Roes = 28 (26-30); Rex = 27 (25-30); Rv = 14 (13-15); Ran = 10; Rvan = 5; VL/VB = 1.6 (1.5-1.7); VL/St = 0.6 (0.57-67); St%L = 24 (22-28); St%Oes = 67 (60-79); CP%St = 87 (84-88).

These values are identical to the range of variability given in the bibliography (Mehta and Raski, 1971; Vovlas and Inserra, 1981; Van den Berg, 1980, 1983) and correspond to two populations found in Monserrat Mountain samples from the rhizosphere of *Quercus ilex* subsp. *ilex* L. and *Smilax aspera* L.

*Ogma rhombosquamatum* has been found in association with *Pinus* sp. and *Smilax* sp. in Tirrenia, Italy (Mehta and Raski, 1971) and in Sicily with *Olea europaea* L. (Vovlas and Inserra, 1981). It is also reported from South-Africa (Van den Berg, 1980 and 1983).

### OGMA ZERNOVI Kirjanova, 1948 (Fig. 2)

*Ogma zernovi* has been reported previously only from Yalta (USSR) by Kirjanova (1948). The following is a description of the population found by us in the rhizosphere of *Betula pendula* Auct. in the Pineta Valley (Huesca).

**Measurements:** 11 ♀ ♀; L = 0.48 (0.39-57) mm; a = 11 (9.5- 14.2); b = 3.7 (3-4.7); c = 14 (13-16); V = 88 (85-91); Stylet = 88.9 (82-93) µm; R = 65 (62-69); Rst = 12 (11-14); Roes = 17 (16-19); Rex = 20; Rv = 10 (9-11); Ran = 5-7; Rvan = 2-4; VL/VB = 1.5 (1.1- 1.6); VL/St = 0.60 (0.53-0.70); St%L = 19 (18-22); CP%St = 83 (81-84).

(after Kirjanova, 1948)

L = 0.39 mm; a = 9.8; b = 3.4; c = 11.9; V = 85; Stylet = 23% (92 µm); Rv = 10; Ran = 7.

Cobb's Formula:  $\frac{?}{14} \frac{103}{42} \frac{112}{45} \frac{333}{40} \frac{362}{32} 393 \mu\text{m}$ .

(after S. Ivanova, 1976)

L = 0.39 mm; a = 9.8; b = 3.4; c = 11.9; V = 85;

Stylet = 92 µm; R = 66; Rst = 19 (15 by her figure); RV = 10; Ran = 7.

### Description

Body ventrally curved, becoming «J» shaped when relaxed by heat. Anterior region attenuated with truncated ending, tail region conoid. Labial region with two equal width annuli, rounded and smooth. Labial disc raised above the first annulus, submedian lobes also present. Annuli in anterior most region with almost round margins then retrorse, more strongly towards the end of body.

Annulus-margins with projections arranged in 10 dispersed longitudinal rows. These cuticular projections are deformations of annuli in the anterior most region; they are more obvious in the middle, and become elongated towards the end of body, extending to 3.5 µm long in the postvulva region. Stylet straight and thin, knobs anchor-shaped. Excretory pore near the terminal bulb. Female reproductive branch well developed, outstretched spermatheca filled with sperm, empty in some specimens. Vulva closed with slightly overhanging anterior lip, not projecting out the body contour. Vulva lips clearly differentiated from the rest of the annuli due to the absence of projections in that region (Fig. 2E). Tail conoid, the last three annuli without projections, and the terminal annulus is narrow, simple and lobelike, and in some specimens curved dorsally.

Our specimens closely resemble those described by Kirjanova (1948) due to the disposition of the little obvious projections in the anterior region, which are longer and more conspicuous on the middle and postmedian part of the body. The tail-end has two or three annuli without cuticular projections as illustrated by Kirjanova (1948). The vulva position, number of annuli and length of stylet are identical to the values given by Kirjanova. With regard to the body length only two specimens are close to the values of the original description, the rest have larger values. The labial region has two annuli as in the original description, but Kirjanova's figure (Fig. 2 C) does not accord with our description of the labial region (Fig. 2; A, B).

The variation given for the length of the specimens and the differences observed in the labial region are not sufficient to consider this a new species.

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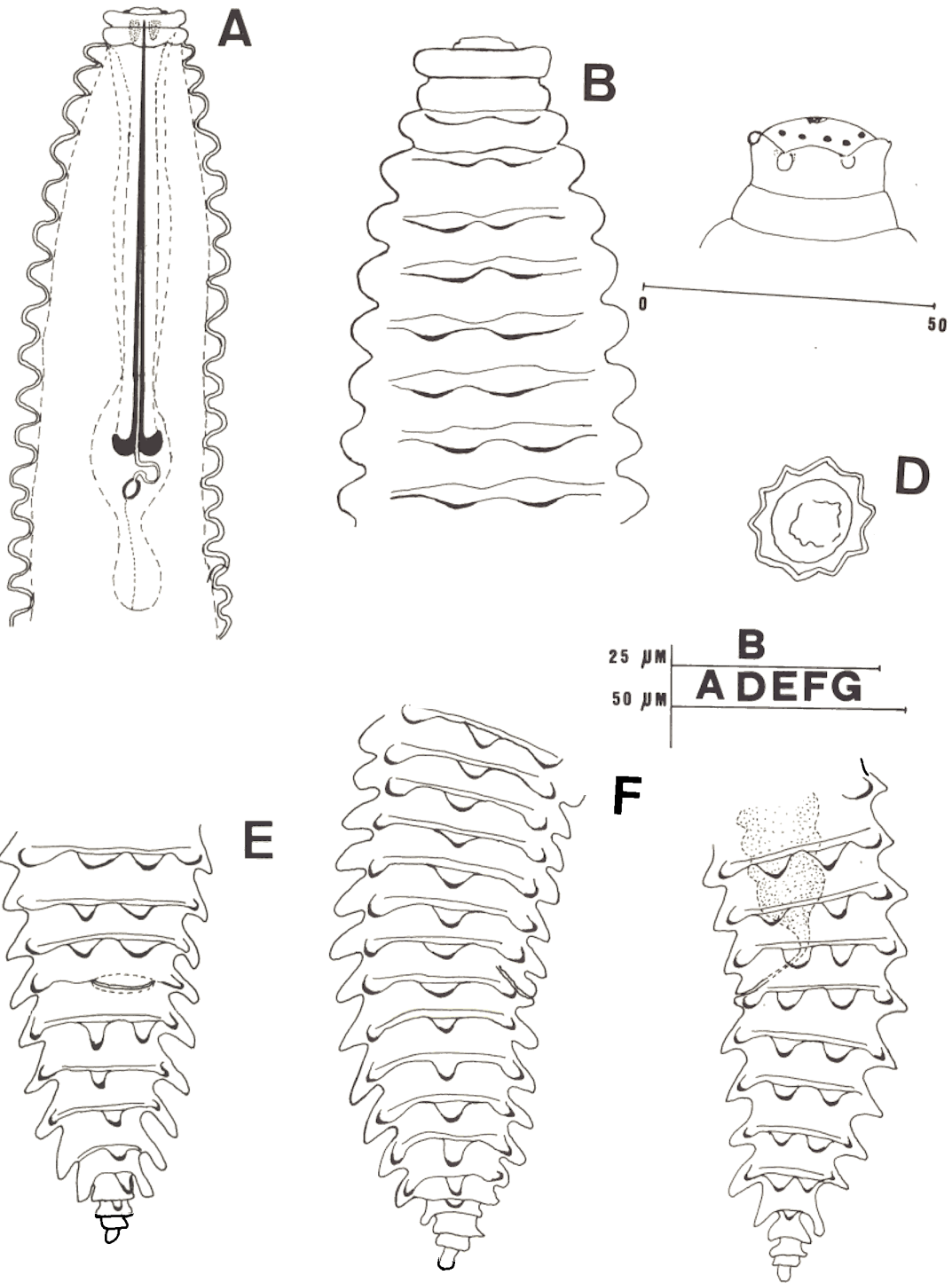


Fig. 2 - *Oigma zernovi*: A and B, anterior regions; C, labial region (after Kirjanova, 1948); D, transverse section; E, F and G, posterior regions.

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