First descriptions of the male of two species of *Teratocephalus* de Man, 1876 (Nematoda : Teratocephalidae)

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**SUMMARY**

The male of *Teratocephalus costatus* Andrassy, 1958 and *T. dadayi* Andrassy, 1968 are described and illustrated for the first time. The male of *T. costatus* is characterized by having a paired spicules 15 µm long and three pairs of genital papillae: one preanal (eleven annules anterior to base of anal prominence), one adanal, and one postanal (fourteen annules posterior to anal prominence) being the smallest. Gonad 175 µm long, \( c' = 7 \). Tail tip bifurcated. The male of *T. dadayi* has paired spicules 15-18 µm long; three pairs of genital papillae: one preanal (ten-twelve annules anterior to base of anal prominence) one adanal and one postanal (fifteen annules posterior to anal prominence). Gonad 200-300 µm long. \( c' = 8-9 \). Distal portion of tail constricted, non annulated; tail tip bifurcated. Measurements and illustrations of the females of these species are also given.

**RÉSUMÉ**

Première description des mâles de deux espèces de *Teratocephalus* de Man, 1876 (Nematoda : Teratocephalidae)


In 1982 a survey was conducted to determine the nematode fauna in soil from forest stands of *Quercus pubescens* and *Q. robur* in the Navarra region of northern Spain*. Among the free-living nematodes present were three species of *Teratocephalus* : *T. terrestris* (Bütschli, 1873) de Man, 1876; *T. dadayi* Andrassy, 1968; *T. costatus* Andrassy, 1958. Males of the latter two species were found for the first time, and are herein described and illustrated.

The samplings were performed once in each season in each site. The weight of each sample was 20 g of each horizon after homogenization of a larger sample. Specimens were extracted by means of Baermann's method, fixed in 4% formalin, and mounted in lactophenol.

Photographs were taken in a bright field light microscope equipped with an interference contrast system.

**Teratocephalus costatus** Andrassy, 1958
(Figs 1, 2)

**MEASUREMENTS**

*Male* \((n = 1)\) : \( L = 413 \mu m; a = 37.5; b = 3.8; c = 5.3; c' = 7 \).

*Female* \((n = 24)\) : \( L = 430-447 \mu m; a = 23.5-26.0; b = 3.8-4.1; c = 4.6-5.0; V = 52-54 \).

**DESCRIPTION**

*Male* : Body ventrally arcuate when heat relaxed. Cuticle thick, coarsely annulated, with eight longitudinal ridges extending throughout most of body length.
Fig. 1. *Teratocephalus costatus*. A: Female head and oesophagus; B: Female gonad; C: Longitudinal ridges of the cuticle; D: Female tail; E: Male spicule and tail; F: Spicule; G: Male gonad.
Males of two species of Teratocephalus

Annules 1.4 μm, anteriad behind stoma 1.3 μm and posteriad in mid-tail region 1 μm; some annules anastomosing, particularly in neck region and posterior to anus; margins angular; first two annules small and compressed at base of head, next four to six annules recurved anteriorly. Lateral field protuberant, extending from just anterior or level with nerve ring to 4 annules posterior or level of anus, marked by two crenate incisures. Head width 6 μm, cephalic plicae 3.5 μm long, contour arcuate. Lips six, each with a perioral papilla. Stoma 5.0 μm long, metarhabdions elongated, oesophageal collar tapered, enclosing telostome. Oesophagus cylindroid, 104 μm long, constricted at level of, and immediately below nerve ring. Basal bulb ovate, 12 μm long, 9 μm wide, bulb flaps large, smooth. Nerve ring at 64% of oesophagus length, 65 μm from head end. Cardia small. Gonad monorchic, telogonic, 175 μm long with very short anterior-ventral reflex which is 0.5 times the corresponding body diameter; spermatocytes in single row. Paired spicule strongly ventrally arcuate, 15 μm long, proximal end cephalated, distal end enlarged. Gubernaculum absent. Genital papillae in three pairs; one pair preanal, located eleven annules anterior to base of anal prominence, one adanal and one postanal located 14 annules posterior to anal prominence, the latter being the smallest. Cloacal lips protuberant, with a ventral fold of cuticle; anal body width 11 μm. Tail conoid, attenuated, 78 μm long; tail tip bifurcated.

Female: Monodelphic, prodelphic, ovary reflexed and short, postuterine sac short, 8 μm long. Vagina walls thick, length about 1/5 of corresponding body width. Tail 90-98 μm long, ABW 8 μm, tail 12-13 ABW. Similar to male in other morphological features.

REMARKS

The observed females found have shorter body (430-447 vs 452-547 μm), and ratios (except for a), are outside the ranges given by Anderson (1969) for a Canadian population (b = 3.8-4.1 vs 3.4-3.7; c = 4.6-5.0 vs 5.5-6.8; V = 52-54 vs 55-60).

The males of T. rugosus Maslen, 1979 differ from those de T. costatus by the more anterior position of the preanal subventral genital papillae (13-17 annules from the base of the anal prominence vs 11 in T. costatus) and longer spicules (17-23.5 vs 15 μm).
Fig. 3. *Teratocephalus dadayi*. A: Female tail; B: Female head; C: Female gonad; D: Male longitudinal ridges of the cuticle; E: Spicule and genital papillae; F: Spicule. G: Male tail; H: Male gonad.
Fig. 4. *Teratocephalus dadayi*. A : Spicule; B : Male tail end; C : Genital papillae; D : Male longitudinal ridges of the cuticle; E : Male gonad.
HABITAT AND LOCALITY

Collected in litter from a forest stand of Quercus pubescens and Q. robur in Beunza, Navarra region in May, August and November 1982 from Q. coccifera in Unzué, Navarra region, Spain.

VOUCHER SPECIMENS

Slide no CA0088/21 deposited in Museum of Zoology, Navarra University, Pamplona 31080, Navarra, Spain.

Teratocephalus dadayi Andrassy, 1968
(Figs 3, 4)

MEASUREMENTS

Male (n = 2): L = 510-528 μm; a = 35.2-42.5; b = 3.9; c = 5.3-5.6; c' = 8-9.

Female (n = 3): L = 545-565 μm; a = 35.0-37.6; b = 4.1-4.3; c = 5.2-5.5; V = 54-56.

DESCRIPTION

Male: Body ventrally arcuate, cuticle coarsely annulated; with twelve longitudinal ridges near mid-body. Annules 1.8-2.0 μm wide, posterior in mid-tail region 1 μm; some annules anastomosing anterior and posterior to anus; margins angular (more angular than in T. costatus). Lateral field protuberant, extending from anterior or level of nerve ring to 8-9 annules posterior or level of anus, marked by two crenate incisures. Excretory duct not discernible; excretory pore at level of nerve ring. Head width 7-8 μm about equal to neck width at base of stoma. Cephalic plicae 3.5-4.0 μm long, contours straight. Six lips, each bearing a perioral papilla. Stoma 7 μm long, metarhabdions elongate, 2 μm long. Oesophagus cylindroid, 130-135 μm long. Nerve ring at 60-63 % of oesophagus length, 80-85 μm from head end. Basal bulb 13 μm long, 9 μm wide; bulb flaps large, smooth. Cardia small. Gonad monorchic, telogenic, 200-300 μm long; testis with very short reflex about as long as the corresponding body diameter. Single row of long spermatocytes in anterior 1/4 of gonad. Spicules paired, ventrally arcuate, separate, 15-18 μm long. Gubernaculum absent. Three pairs of genital papillae: one preanal (10-12 annules anterior to base of anal prominence) one adanal and one postanal (15 annules posterior to anal prominence). Tail ventrally arcuate, conoid, elongated, 90-100 μm long; anal body-diameter 11 μm; distal portion of tail constricted, non annulated, tail tip bifurcated. Anus slightly protuberant and provided with a ventral cuticular fold.

Female: Monodelphic, prodelphic, ovary reflexed, longer in non-gravid female. Postuterine sac 7-8 μm long. Similar to male in other morphological features.

REMARKS

The observed females found have longer body (545-565 vs 338-443 μm), oesophagus (130-135 vs 99-120 μm) and tail (90-100 vs 56-73 μm) than those females described by Anderson (1969) in a Canadian population.

The males of T. rugosus Maslen, 1979 differ from those of T. dadayi by the generally more anterior position of the preanal subventral genital papillae (13-17 annules for the base of the cloacal prominence vs 10-12 in T. dadayi) and longer spicules (17-23.5 vs 15-18 μm). Males of T. dadayi are longer than those of T. costatus (510-528 vs 413 μm), have longer oesophagus (104 vs 130-135 μm), tail (90-100 vs 78 μm), and gonad (200-230 vs 175 μm).

HABITAT AND LOCALITY

The specimens were collected in litter from an oak forest (Quercus robur and Q. pubescens) from Beunza, Navarra, Spain in August of 1982.

VOUCHER SPECIMENS

Slides no CA 0216/16 & 17 deposited in Museum of Zoology, Navarra University, 31080 Pamplona, Navarra, Spain.

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REFERENCE


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