Biological Research Institute, 48 Republicii Str., 3400 Cluj - Napoca, Romania[1]
Instituut voor Dierkunde, Ledeganckstraat 35, 9000 Gent, Belgium[2]

ROTYLENCHUS JAGATPURENSIS SULTAN, 1985, A PARTICULAR FINDING FROM ROMANIA (NEMATODA: TYLENCHIDA)

by
M. CIOBANU[1], E. GERAERT[2] and I. POPOVICI[1]

Summary. Specimens of *Rotylenchus jagatpurensis* were collected from a salted area named Băile Turda situated near Cluj town in Transylvania province (Romania). The species, firstly described from India by Sultan (1985), is characterized by a high lip region, basal lip annule finely striated. SEM revealed the presence of irregular longitudinal lines on head. The basal head annule is thicker than the foregoing ones. The males are found and described for the first time.

This paper is a part of an extensive research programme aimed at investigating the nematode fauna of some insular areas situated in Transylvania, in relationship to the local ecological conditions.

Materials and methods

In 1996 the first author collected soil samples from a salted area near the locality of Turda (in the Cluj County). Geraert and Barooti's (1996) key was used for identification. Glycerin-infiltrated specimens were studied by light microscopy; for a better characterization and description some of them were submitted to critical point drying and sputter-coated for observation with a JEOL-SM 840 scanning electron microscope (SEM).

Results

ROTYLENCHUS JAGATPURENSIS Sultan, 1985

(Figs. 1-3)

Measurements

Females (n=5): L=810 µm (720-900); a=27.5 (23.3-30.8); b=6.9 (6.3-7.5); b'=8.7 (7.7-9.7); c=49.4 (44-56); c'=1.0 (0.9-1.2); stylet=26.5 µm (24-29); O=19.1 (16.6-20.4); V=59 (58-61); G1=25.3 (18.5-30.5); G2=24 (21.5-29); excretory pore at 101.5 µm (96.5-105.5); tail=16.5 µm (14.5-20); tail annules=13 (10-15); phasmids at 3 to 5 annules anterior to anus.

Males (n=5): L=725 µm (665-770); a=28.9 (26.4-32.1); b=6.1 (5.75-6.4); b'=7.5 (7.2-7.9); stylet=25 µm (23-26); O=19.5 (18.5-21); spicules=27.5 µm (26.5-28); gubernaculum=9

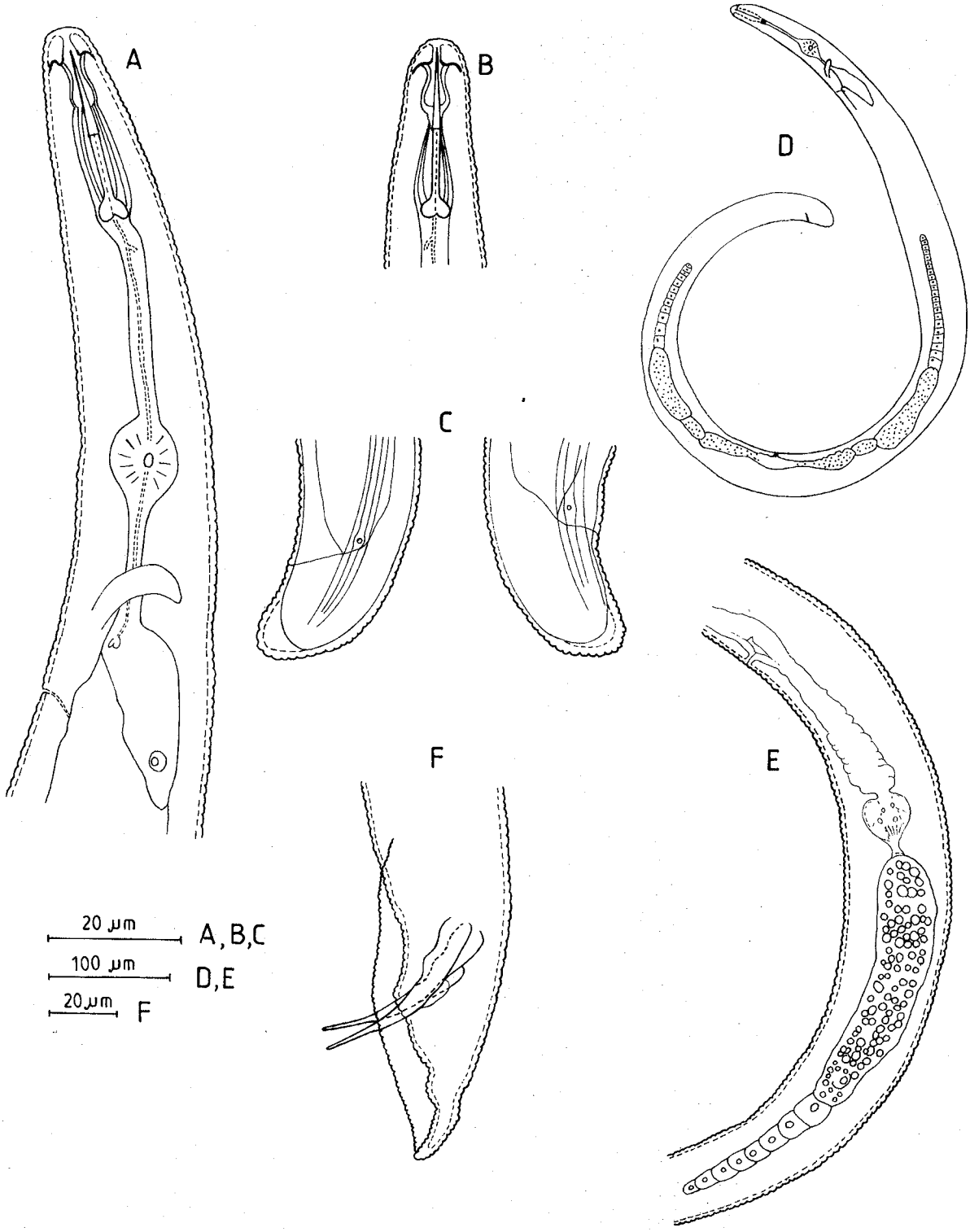

Fig. 1 - *Rotylenchus jagatpurensis*: A-E-females; A, anterior end; B, head; C, tails; D, general view; E, reproductive system; F, male cloacal region.

µm (8.5-9); excretory pore at 94.5 µm (88-99.5); tail=24.5 µm (24.5-25).

Description

Females: medium sized nematodes with body spirally coiled after fixation (Fig. 1 D). Head region continuous, 8-11 µm wide and 5-6 µm in height, with 3-4 annules, the basal one finely striated. The specimens studied with SEM show in *en face* view an undivided oral plate (Fig. 2 A, B). Amphidial aperture about 1 µm wide. From the amphidial opening an exudation is sometimes extruded (Fig. 2 A, E). The first annule is divided into six sectors with a symmetrical arrangement around the oral plate. The basal annule is about twice as thick as the foregoing ones. Irregular longitudinal lines are present on the head (Fig. 2 D, E). Stylet robust with well developed basal knobs (Fig. 1 A, B). Dorsal oesophageal gland opening situated at less than one third of stylet length from its base. Oesophagus 112-123 µm long with median bulb, ovoid in shape, placed at 50-58% of oesophageal length. Oesophago-intestinal junction at the beginning of basal oesophageal gland lobe. Excretory pore close to the oesophago-intestinal junction. Nerve ring encircling the isthmus in the middle (Fig. 1 A). Intestine not overlapping the rectum (Fig. 1 C).

Reproductive system didelphic, amphidelphic, with genital branches almost of the same length. Spermatheca slightly offset. Ovary with a single row of oocytes (Fig. 1 E). Vulva about 8 µm wide with thickened lips and conspicuous epiptygmata (Fig. 3 B). Annules arcuate anterior and posterior to vulval opening. Tail short, terminus conoid, annulated, without ventral projections (Fig. 1 C). The ventral part of tail almost straight, the dorsal part curved. In anal region arcuate annules. Lateral field with four incisures till anal level then with only three (Fig. 3 C, D).

Males: with the same spiral body shape but a little smaller than females. Stylet and oesophagus fully developed. Spicules protruding from cloaca (Fig. 1 F).

Habitat: Solonetz soil covered by herb layer consisting of *Festuca pseudovina* Hack. and *Artemisia maritima* L. from Băile Turda, Transylvania province, Romania.

Discussion

R. jagatpurensis was first described by Sultan (1985) from soil around the roots of maize in Jagatpur (India). It is known only from the type locality. It has been diagnosed (Sultan, 1985, Castillo *et al.*, 1994) by: lip region continuous, truncate, 3-4 annules, basal annule striated. Tail conoid, 13-18 annules, tip annulated, with or without ventral projection. Phasmid 2-5 annules posterior to anal level. The typical measurements are L=0.62-0.84 mm; c=21-42; c'=1.2-1.6; V=53-71; stylet 24-28 µm; O=22-24. V values show a large variation, unusual for the genus. No male described.

The Romanian population differs by the position of the phasmids (3-5 annules anterior to anal level), shorter tail (c=44-56; c'=0.9-1.2) and presence of males.

Similar species are (1) *R. karooensis* Van den Berg, 1986 (head rounded, slightly offset; short oesophageal overlap; male with reduced oesophageal lobe); (2) *R. pumilus* (Perry, 1959) Sher, 1961 (tail usually shorter with eight annules; oesophageal lobe with five nuclei); (3) *R. caudaphasmidius* Sher, 1965 (five head annules, basal annule not striated).

As we consider the differences in oesophageal or head structure to be more important than a slight difference in tail length, we identify the Romanian population as *R. jagatpurensis*. By doing this we restrict the V-values to the value observed in the holotype (64) and the variation found by us (58-61).

Since *R. jagatpurensis* was found both in saline and non-saline soil, it seems that it has a wide tolerance to salt (euryhaline species).

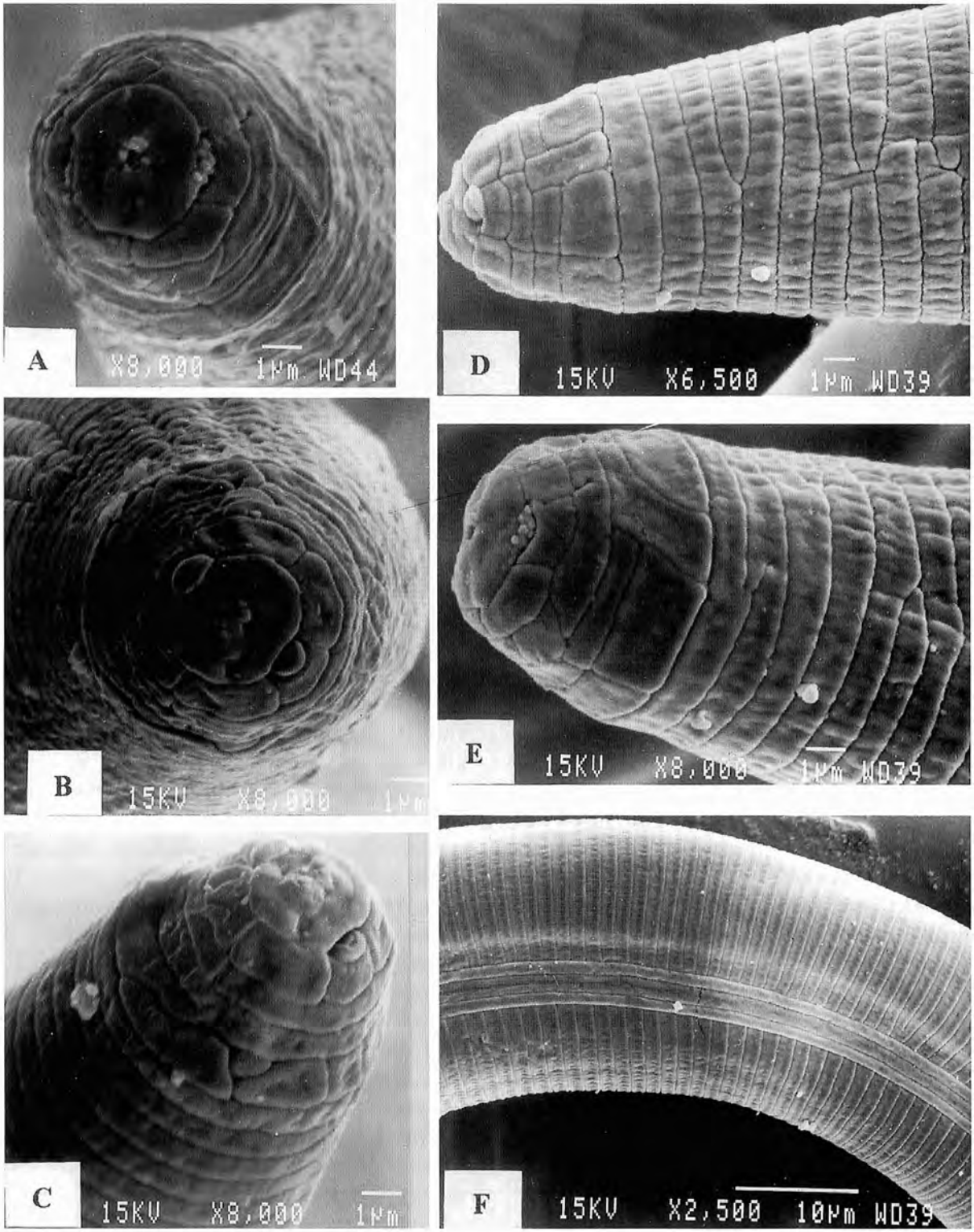

Fig. 2 - SEM micrographs of *R. jagatpurensis* females; A, B, *en face* view of head region; C-E, lateral view of head region; F, lateral field.

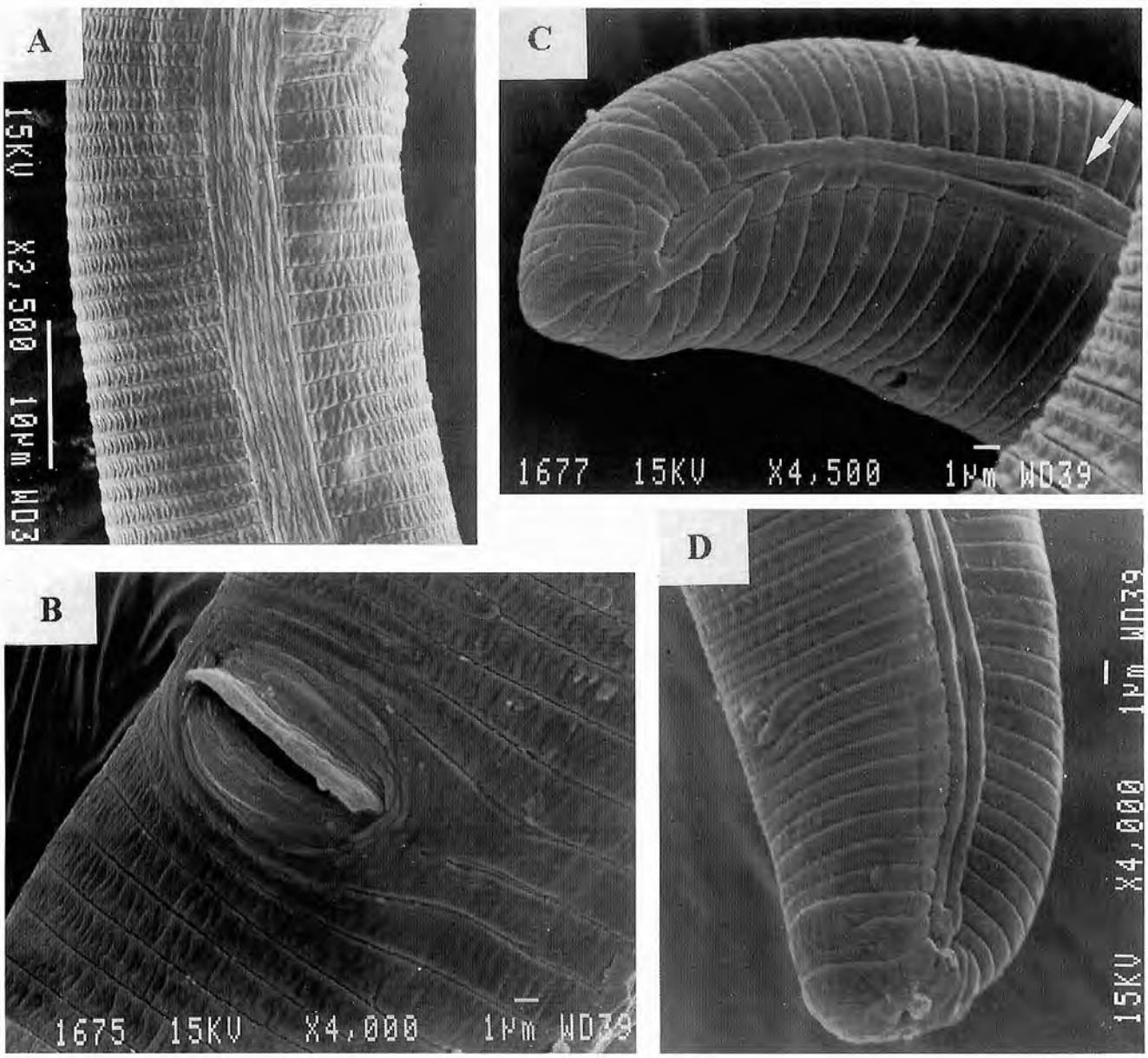

Fig. 3 - SEM micrographs of *R. jagatpurensis* females: A, lateral field; B, vulva; C, D, tails (the arrow shows the phasmid).

This is the first record of *R. jagatpurensis* since its description.

Rita Vandriessche is thanked for taking SEM photos. The paper is a part of the MSc thesis carried out by the first author during the academic year 1996-1997 of the Postgraduate International Nematology Course in Gent, Belgium. The Ministry of Flemish Community (Belgium) is gratefully acknowledged for financial support permitting the first author to participate in the International Nematology Course.

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Accepted for publication on 5 October 1998.