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A SCANNING ELECTRON MICROSCOPE STUDY OF JUVENILES OF *ACROMOLDAVICUS* NESTEROV (NEMATODA: CEPHALOBIDAE) FROM GREECE

by
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Summary. SEM studies of juveniles of *Acromoldavicus* sp. from the island of Samos, Greece, provided new information on anterior organisation and external characters in general. They have three, thin, triangular-rounded labial probolae; six leaf-like cephalic probolae with acute extensions along the primary cephalic axils; a single acute, triangular guarding piece in ventral primary cephalic axil. The specimens differ from *A. skrjabini* (Nesterov *et* Lisetzkaja, 1965) Nesterov, 1970 mainly in the absence of pointed, conoid thorns surrounding the stomatal aperture and in the number and length of guarding pieces in the cephalic axils.

Juveniles of the genus *Acromoldavicus* Nesterov, 1970 were found in a grass-covered soil near the shoreline at Kokari on the island of Samos, Greece. They were studied by scanning electron microscopy (SEM) to obtain a better knowledge of the anterior organisation and the external features in general.

For light microscopy (LM) the nematodes were killed by heat, fixed in cold TAF, processed to glycerine by a slow method (Hooper, 1970) and mounted on slides as described in Boström and Gydemo (1983). For SEM specimens were processed as described in Boström (1985). All nematodes used for SEM were measured, whilst in TAF, prior to processing.

ACROMOLDAVICUS sp. (Fig. 1)

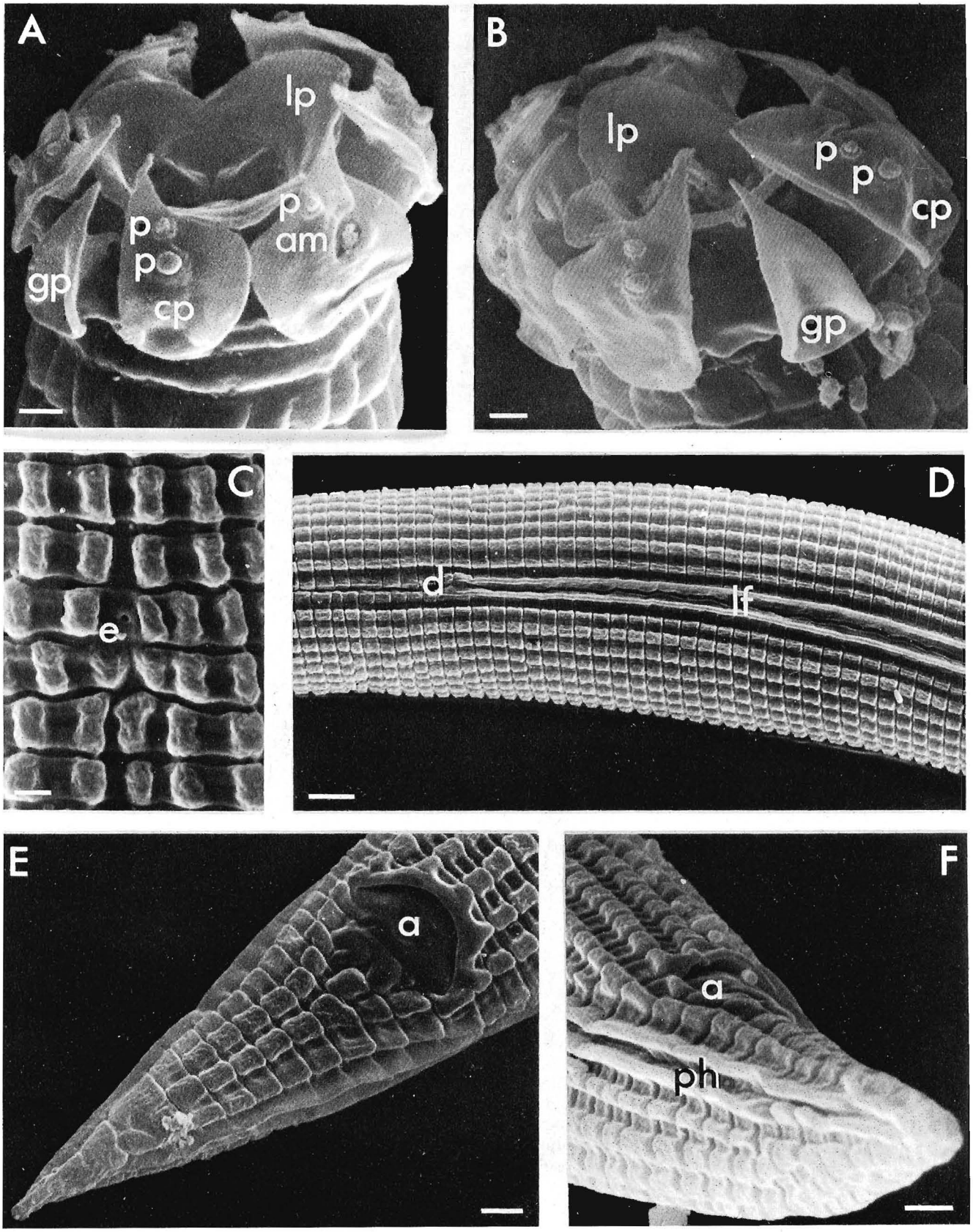
Measurements: 14 juveniles; L = 253-454 µm; a = 14-18; b = 3.0-4.7; c = 12-17; c' = 1.7-2.3.

Description

Body ventrally arcuate, almost C-shaped, when relaxed by heat; body width 17-27 µm at midbody. Cuticle coarsely annulated, annules 1.5-2 µm wide; longitudinally striated, about 28-30 striae, giving the cuticle a tiled appearance (Fig. 1D). Lateral field, marked by three incisures, begins at level of isthmus (Fig. 1D) and continues almost to tail terminus (Fig. 1F). Deirids at level of pharyngeal bulb (Fig. 1D). Lip region offset. Three thin labial probolae, triangular-rounded, bending outwards, connected at bases (Fig. 1A-B). Six leaf-like cephalic probolae, projecting anterior to the labials, with pointed extensions along the primary cephalic axils (Fig. 1A-B). Each subdorsal and subventral cephalic probola bears one anterior and one posterior papilla, each lateral cephalic probola bears one anterior papilla and one amphid (Fig. 1A-B). In ventral cephalic axil a well developed acute triangular guarding piece; in subdorsal cephalic axils, the guarding piece seems coalesced with the lateral cephalic probola (Fig. 1A-B). The ventral guarding piece does not extend beyond the pointed extensions of the cephalic probolae. Stoma, without sclerotised parts, a narrow tube continuous with the pharyngeal lumen. Pharynx cephaloboid, 78-100 µm long; phryngeal collar reaching to stomatal aperture; metacorpus somewhat fusiform; isthmus not demarcated; bulb ovoid with valves; cardia enveloped by intestinal cells. Nerve ring surrounding isthmus; hemizonid just posterior to excretory pore; excretory pore et level of isthmus-bulb junction (Fig. 1C). Anus a transverse slit with posterior lip protruding (Fig. 1E). Tail, 24-30 µm long, conoid with pointed terminus (Fig. 1E-F); phasmids at about 30-40% of tail length (Fig. 1F).

Discussion

As no adults have been found, the exact identity of the specimens is somewhat uncertain. However, in the structure of the stoma, the general organisation of labial and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cephalic probolae and the cuticle, they resemble *Acromoldavicus skrjabini* (Nesterov *et* Lisetzkaja, 1965) Nesterov, 1970. Whether the specimens described here are representatives of this species or are a new undescribed species remains, as indicated above, impossible to decide.

The main differences between *A. skrjabini* and the specimens described here are: 1) the length and organisation of the guarding pieces (in *A. skrjabini* each primary cephalic axil has one pointed guarding piece extending anterior to the cephalic probolae) and 2) the three pointed, conoid thorns surrounding the stomatal opening, in the same position but inwards to the labial probolae, present in *A. skrjabini* (Nesterov, 1970; Fig. 1a-b). The organisation of the guarding pieces may be a matter of maturity. It is also possible that the tripartite division of the stoma, as seen in Fig. 1, has been misinterpreted in the LM as being thorn-like extensions. It has not been possible to obtain material of *A. skrjabini* for scrutiny.

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Fig. 1 *(Front page)* - SEM-micrographs of juveniles of *Acromoldavicus* sp.: A, Sublateral view of head; B, Subventral view of head; C, Excretory pore; D, Anterior part of lateral field; E, Ventral view of tail; F, Lateral view of tail. Abbreviations: a = anus; am = amphid; cp = cephalic probola; d = deirid; e = excretory pore; gp = guarding piece; lf = lateral field; lp = labial probola; p = papilla; ph = phasmid. Scale bars: on A-C = 1 µm; on D = 4 µm; on E-F = 2 µm.