Algoanema aestuariense n.gen. n.sp. from Swartkops estuary, Port Elizabeth (Nematoda: Chromadoridae)

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Algoanema aestuariense n.gen., n.sp. is described from the Swartkops estuary near Port Elizabeth. The new genus is distinguished by a duplex basal pharyngeal bulb, a dorsal tooth in the stoma, absence of lateral differentiation in the cuticular ornamentation and absence of precloacal supplements in the male. It is compared with *Ptycholaimellus* Cobb, 1920 and *Spilophorella* Filipjev, 1917, from both of which it differs in the absence of lateral differentiation. *A. aestuariense* is the type and only species.

Algoanema aestuariense n.gen., n.sp. word uit die Swartkops strandmeer naby Port Elizabeth beskryf. Die nuwe genus word gekenmerk deur 'n dubbele basale faringeale bulbus, 'n dorsale tand in die stoma, die afwesigheid van laterale differensiasie in die kutikulêre ornamentasie, en die afwesigheid van prekloakale bykomstige strukture by die mannetjie. Die nuwe genus word vergelyk met *Ptycholaimellus* Cobb, 1920 en *Spilophorella* Filipjev, 1917. Dit verskil van beide hierdie genera in die afwesigheid van laterale differensiasie. *A. aestuariense* is die tipe en enigste spesie.

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The Swartkops estuary, which lies to the north of the city of Port Elizabeth in Algoa Bay, is about 12 km in length and is characterized by sandy beaches on the south bank near its mouth. It is in this sandy area where the present specimens were collected with the aid of a copper corer, 30 cm in length and 3,6 cm in diameter. Water temperature and salinity at the time of sampling were 15°C and 35‰ respectively. Total count for all nematode specimens in the sample was 122 per 200 ml. Extraction was done by decantation, specimens were fixed in hot 6% neutral formalin, and mounted in glycerine after dehydration. Drawings and measurements were made with the aid of a drawing tube. Measurements of curved structures were done with a curvimeter along the median line.

Algoanema new genus

Chromadoridae. Stoma with large dorsal tooth. Pharynx with duplex basal bulb, divided into two distinct sections by transverse interruption of the musculature. Excretory pore near anterior end, leading to large ventral gland cell (renette cell) opposite anterior end of intestine. Cuticular ornamentation without lateral differentiation. Female didelphic. Male monorchic with testis outstretched. Without precloacal supplements.

Differential diagnosis

The new genus corresponds with *Ptycholaimellus* Cobb, 1920 and *Spilophorella* Filipjev, 1917 in the structure of the stoma with a large dorsal tooth, the duplex nature of the basal pharyngeal bulb and the absence of precloacal supplements. It differs from both these genera in the absence of lateral differentiation in the cuticular ornamentation, and from *Spilophorella* also in the absence of an elongated tail terminus.

Type species

Algoanema aestuariense n.sp.

Algoanema aestuariense n.gen., n.sp. (Figure 1A – M)

Measurements

Holotype female. L = 819 µm; a = 24,5; b = 6,1; c = 10,1; V = 48,9; G1 = 12,1; G2 = 10,1; body width = 33 µm; anal body width = 22 µm; length of pharynx = 134 µm; length of tail = 81 µm; length of cephalic setae = 10,0 µm.

Paratype females. (*n* = 6); L = 791 (713 – 906) µm; a = 24,1 (21,9 – 26,3); b = 6,2 (5,9 – 6,5); c = 10,2 (9,5 – 11,5); V = 49,0 (48,1 – 50,2); G1 = 12,8 (8,3 – 15,0); G2 = 9,6 (7,0 – 12,1); body width = 32,9 (31 – 35) µm; anal body width = 21,4 (18 – 24) µm; length of pharynx = 128 (120 – 140) µm; length of tail = 78 (73 – 83) µm; length of cephalic setae = 12,1 (10 – 13,5) µm.

Paratype males. (*n* = 3): 806 (708 – 908) µm; a = 25,7 (24,6 – 26,9); b = 6,4 (6,0 – 6,8); c = 10,3 (10,1 – 10,7); body width = 31,3 (29 – 34) µm; anal body width = 23,7 (20,5 – 26) µm; length of pharynx = 127 (118 – 145) µm; length of tail = 78 (69 – 70) µm; length of cephalic setae = 12,7 (11 – 14) µm.

Lip region 13 – 14 µm wide, with the normal complement of labial papillae, and 4 long cephalic setae, slightly longer in the male than in the female. Somatic setae arranged in 8 rows, as follows: 2 rows subdorsal and subventral, the setae 5 – 6,5 µm long and situated at irregular distances varying from 50 – 90 µm apart; 2 more or less staggered sublateral rows, the setae about 3 – 3,5 µm long (owing to foreshortening they cannot be measured accurately, and the actual length may be somewhat more), also at irregular distances varying from about 20 – 40 µm apart. These setae are much closer together on the tail, and tend to be slightly longer in the male than in the female. At about 17 – 18 µm from the anterior end there occur two subdorsal and subventral pairs of 2 setae each, close together, also slightly longer in the male than in the female. At about 46 – 50 µm from the anterior end two setae occur close together in a perfectly lateral position. Near the tail tip the female has a pair of subdorsal setae of 3 – 5 µm in length (in some specimens there appear to be 3 or even 4 setae). The male has a similar pair of setae, 6 – 7,5 µm in length, plus one or two shorter, slightly more anteriorly situated setae, 3 – 3,5 µm in length. Apart from the above-

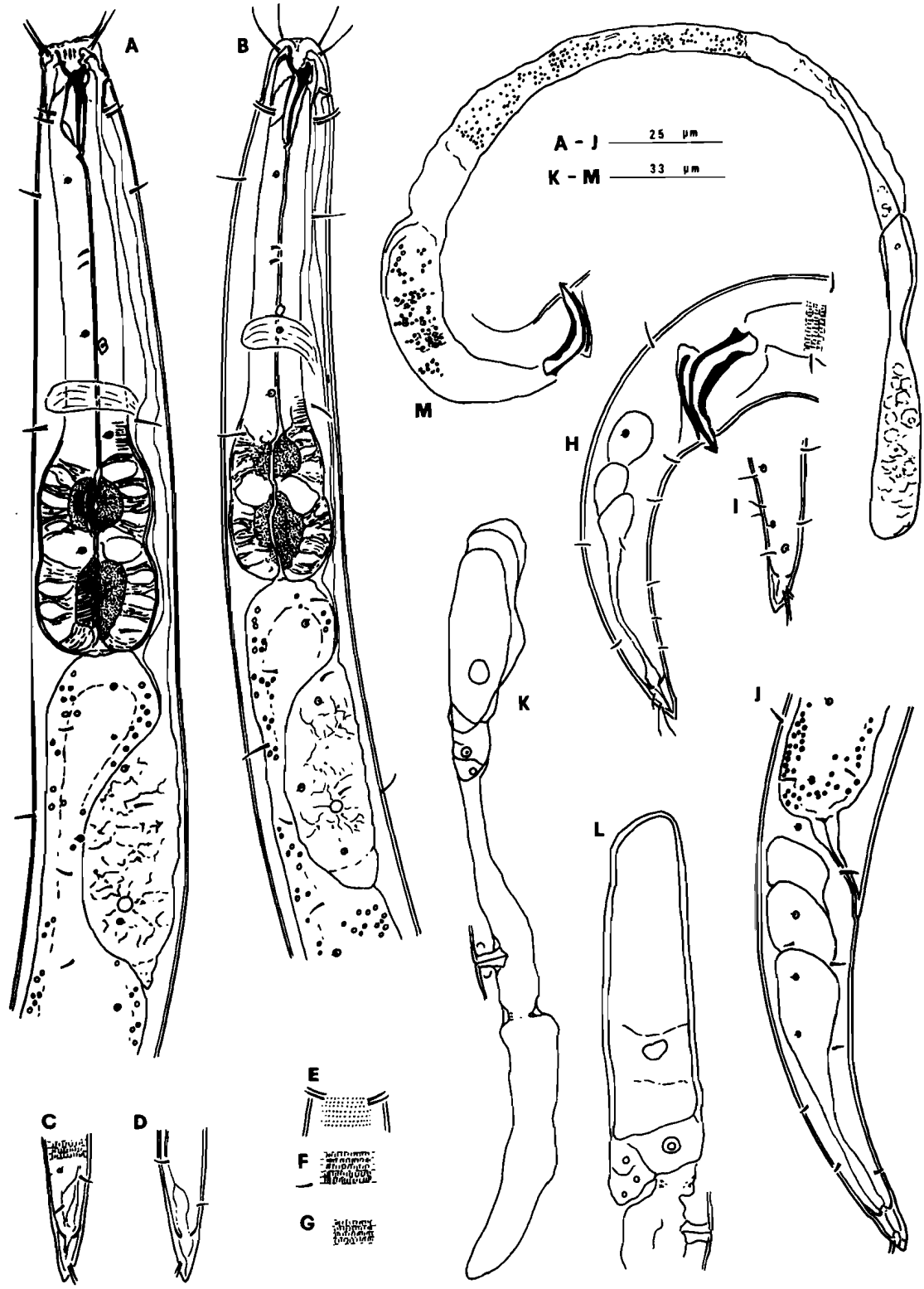

Figure 1 *Algoanema aestuariense* n.gen. n.sp. A. Anterior part of holotype female. B. Anterior part of male. C & D. Tail terminus of female. E, F & G. Cuticular ornamentation just behind lip region, at midbody and on tail, respectively. H. Male tail. I. Tail terminus of male. J. Female tail. K. Reproductive system of paratype female. L. Anterior branch of reproductive system of another paratype female. M. Male reproductive system.

mentioned somatic setae there also occur two rows of setaceous lateral pores or papillae, the anterior-most one being about 30 µm from the front end, the pores about 15 – 35 µm apart, but closer together towards the tail where they converge into a single row.

Cuticle with transverse rows of fine linear markings, homogeneous over the entire body except towards anterior end where they appear roundish, dot-like rather than linear; without any lateral differentiation anywhere on the body. Amphid aperture mostly not visible, but seen in a few specimens as a short transverse slit near the base of the cephalic setae. Stoma 25 – 26 µm long, and bearing a strong dorsal tooth. Stoma surrounded by pharyngeal tissue. Pharynx with strongly muscular, violin-shaped duplex basal bulb, the latter 37 – 47 µm long and 23 – 27 µm wide, the anterior and posterior cuticularized sections separated by a distinct transverse break in the musculature. No pharyngo-intestinal valve could be seen.

Excretory pore indistinct, about 9,5 – 12 µm from anterior end, leading to a large ampulla. The latter usually has a much narrower section, about 15 – 25 µm from its anterior end. Renette cell a conspicuous feature, 45 – 66 µm in length and 16 – 24 µm in width, the nucleus situated about two-thirds the distance from its anterior end. Posteriorly the renette cell leads to what appears like a small triangular compartmentalized attachment.

Nerve ring mostly not very distinct, situated about 65 – 80 µm from the anterior end. What seems to be a hemizonid could be seen ventrally, just posterior to the nerve ring in a few specimens. Intestinal wall with numerous refractive granules. Rectum about 20 – 25 µm long, sigmoid in shape.

Tail elongate-conoid, ventrally arcuate. Three large caudal glands, arranged in tandem, leading to a spinneret of which the terminal duct is indistinct, and which may perhaps open among the subterminal subdorsal setae.

Vulva apparently a small circular opening, leading to a short, weakly muscularized vagina of only 9 – 10 µm long. Anterior sexual branch longer than posterior, with short, reflexed ovary. Posterior ovary indistinct and perhaps non-functional. There is some uncertainty as to whether the posterior ovary is reflexed or not.

Male with a single, outstretched testis, about 60 µm long. Spicules strong, ventrally arcuate, measuring 30 – 33,5 µm along the curved median line. Gubernaculum 18,5 – 19,5 µm long. Without precloacal copulatory papillae (supplements).

Diagnosis

Algoanema capense n.sp. relates most closely to species of the genus *Ptycholaimellus* Cobb, 1920 and more specifically the species *P. ponticus* (Filipjev, 1922) and *P. slacksmithi* (Inglis, 1969). However, it differs from these and all other *Ptycholaimellus* species in the absence of lateral differentiation in the cuticle. It also resembles species of the genus *Spilophorella* Filipjev, 1917 in the presence of a duplex basal bulb and absence of precloacal supplements, but differs in the absence of lateral differentiation and in the more blunt tail.

Type locality and habitat

At midwater in the sandy bottom, on the south bank near the mouth of the Swartkops estuary, Port Elizabeth, 33°57'S/25°37'E, collected 8 May 1979 by J.P. Furstenberg.

Type slides

Holotype female on slide 1B/15. Six paratype females and 3 paratype males on slides 1B/9; 1B/16; 1A/2 and 1A/6 in the collection of the Department of Zoology, University of Port Elizabeth.

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