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Studies on *Haliplectus* Cobb, 1913. New and known species from the Seychelles (Nematoda : Haliplectidae)

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Summary – *Haliplectus bidenticulatus* n. sp., and *H. seychellensis* n. sp. are described from islands in the Seychelles group. *H. bickneri* Chitwood, 1956 and two unidentified juveniles are also recorded. *H. bidenticulatus* n. sp. is characterized by a relatively long body, very long midventral ridge in the male (about 70 % of body length), two denticles at the base of the stoma and smooth valve plates. *H. seychellensis* n. sp. can be identified by a very short midventral ridge in the male (about 20 % of body length), a pair of prominent midventral papillae just posterior of the cloaca or anus, and smooth valve plates.

Résumé – ***Étude du genre* Haliplectus *Cobb, 1913. Espèces nouvelles et déjà connues provenant des Seychelles (Nematoda : Haliplectidae)*** – *Haliplectus bidenticulatus* n. sp. et *H. seychellensis* n. sp. sont décrits, provenant des îles Seychelles. *H. bickneri* Chitwood, 1956 et deux juvéniles non identifiés ont été également trouvés. *H. bidenticulatus* n. sp. est caractérisé par un corps relativement long, une crête ventrale très longue chez le mâle (environ 70 % de la longueur du corps), deux denticules à la base du stoma et des plaques-valves lisses. *H. seychellensis* n. sp. peut-être identifié par une crête ventrale très courte, chez le mâle (environ 20 % de la longueur du corps), une paire de papilles ventrales très en relief et situées très peu en arrière du cloaque ou de l'anus et des plaques-valves lisses.

Key-words : Nemata, Haliplectidae, *Haliplectus,* Seychelles.

This is a further report on a collection of nematodes made by the first author on islands in the western Indian Ocean during December 1990, and deals with three *Haliplectus* species from the Seychelles. At the same time it forms part of a series of papers by the present authors on the genus *Haliplectus*.

Specimens were killed and fixed in hot (70 °C) FAA, processed into anhydrous glycerine by Thorne's slow method and mounted on permanent slides. Slide numbers refer to the nematode collection of the Department of Zoology, Rand Afrikaans University. Light microscope (LM) photographs were taken with a MC 63 photomicrographic camera and differential interference contrast. All measurements were made along the median line. The length of the oesophagus was taken from the anterior end of the body to the base of the basal bulb. The position of the amphid aperture was measured from the anterior end to the anterior rim of the aperture. For SEM, specimens were processed by the method described by Swart and Heyns (1991).

For detailed description of the sampling sites see Heyns and Furstenberg (In press).

Haliplectus bidenticulatus n. sp.

(Figs 1-4)

MEASUREMENTS

Holotype (male) : L = 1.46 mm; a = 25; b = 11.0; c = 26.5; c′ = 1.38; tail length = 55 µm.

Males (paratypes; n = 4) : L = 1.4 (1.2-1.5) ± 0.1 mm; a = 26.2 (24-30) ± 2.4; b = 10.6 (9.9-12) ± 1.0; c = 25.4 (23.7-27.8) ± 1.7; c′ = 1.5 (1.3-1.7) ± 0.14; tail length = 54 (43-60) ± 6.5 µm.

Females (paratypes; n = 5) : L = 1.24 (1.1-1.4) ± 0.1 mm; a = 23.1 (22-24) ± 0.8; b = 9.5 (9-10.1) ± 0.5; c = 24.9 (20.5-26.9) ± 2.8; c′ = 1.5 (1.4-1.7) ± 0.1; V = 50.5 (46.9-56.3) ± 3.7; tail length = 50.2 (41-57) ± 6.1 µm.

Juveniles : see Table 1.

DESCRIPTION

Male : Body of heat-relaxed specimens curved ventrad, curvature more pronounced in tail region. Body

Table 1. Morphometrical data of the juveniles of *Haliplectus bidenticulatus* n. sp.

Specimens	J (a)	J (b)	J (c)	J (d)	J (e)	J (f)	J (g)
L (mm)	1.1	0.9	0.9	1.1	1.0	1.0	1.0
a	18.7	19.9	16.5	21.9	23.5	18.5	21.2
b	8.6	8.4	8	8.5	8.8	8.9	7.1
c	26.2	18	23.5	21.9	23.8	22.0	22.5
c′	1.5	1.7	1.3	1.5	1.4	1.5	1.4
Tail length (µm)	40	51.5	38	49	40	47	44
Oesophagus length (µm)	122	110	112	126	109	117	140
Stoma length (µm)	65	54	57	70	55	56	60

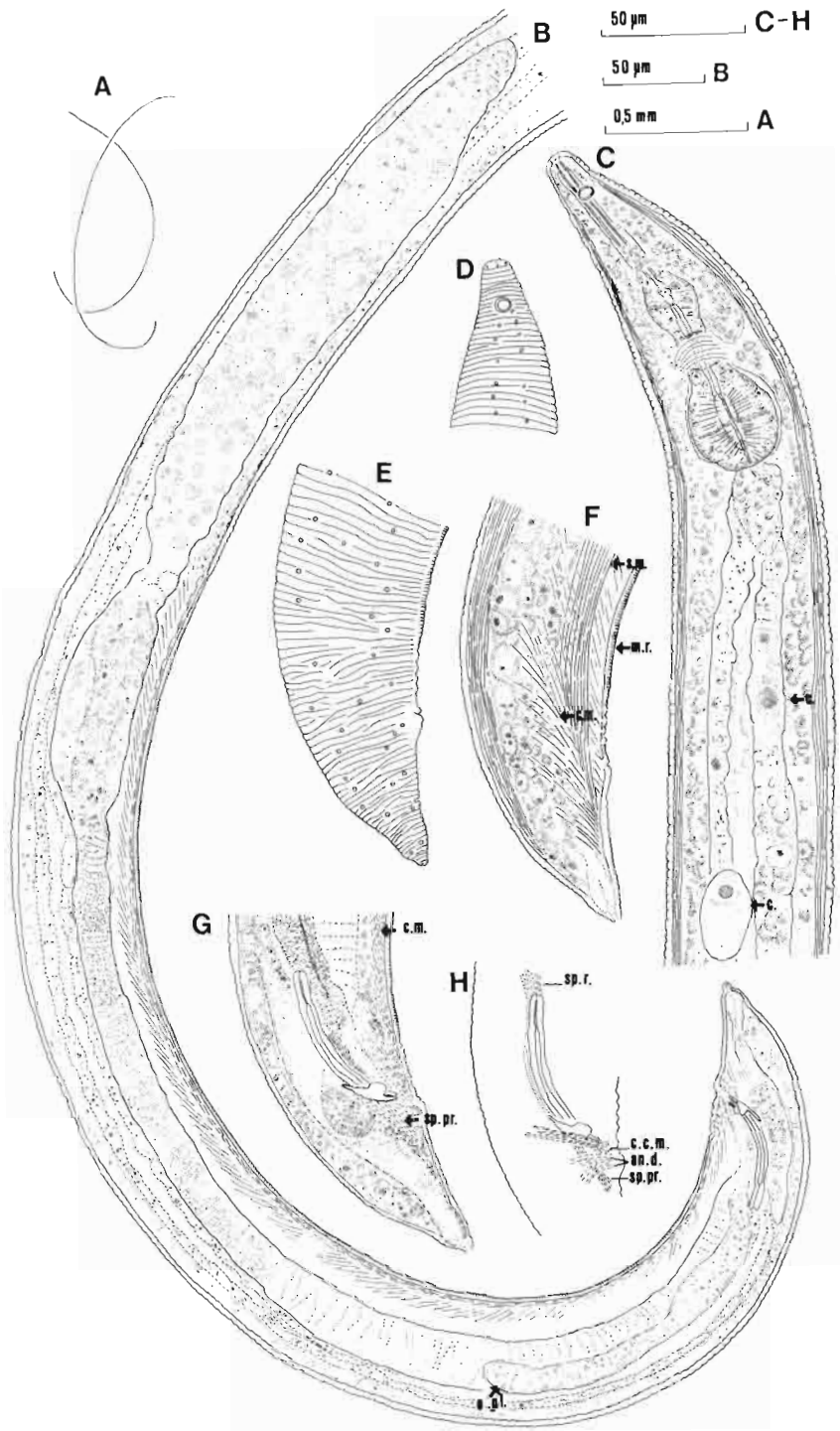

Fig. 1. *Haliplectus bidenticulatus* n. sp. A : Relaxed body posture of male; B : Reproductive system of holotype male; C : Anterior body region of holotype male; D : External morphology of male head region; E-G : Tail morphology as seen on three different levels in holotype male; E : External surface; F : Underneath cuticle; G : Internal at level of spicules; H : Spicular apparatus and muscles of this region. (an.d. = anal dilator; c.c.m. = caudal copulatory muscle; c.m. = copulatory muscles; sp.pr. = spicular protractor; sp.r. = spicular retractor; s.m.; somatic muscles of body wall; m.r. = midventral ridge; e.gl. = ejacularoty glands; c = coelomocytes).

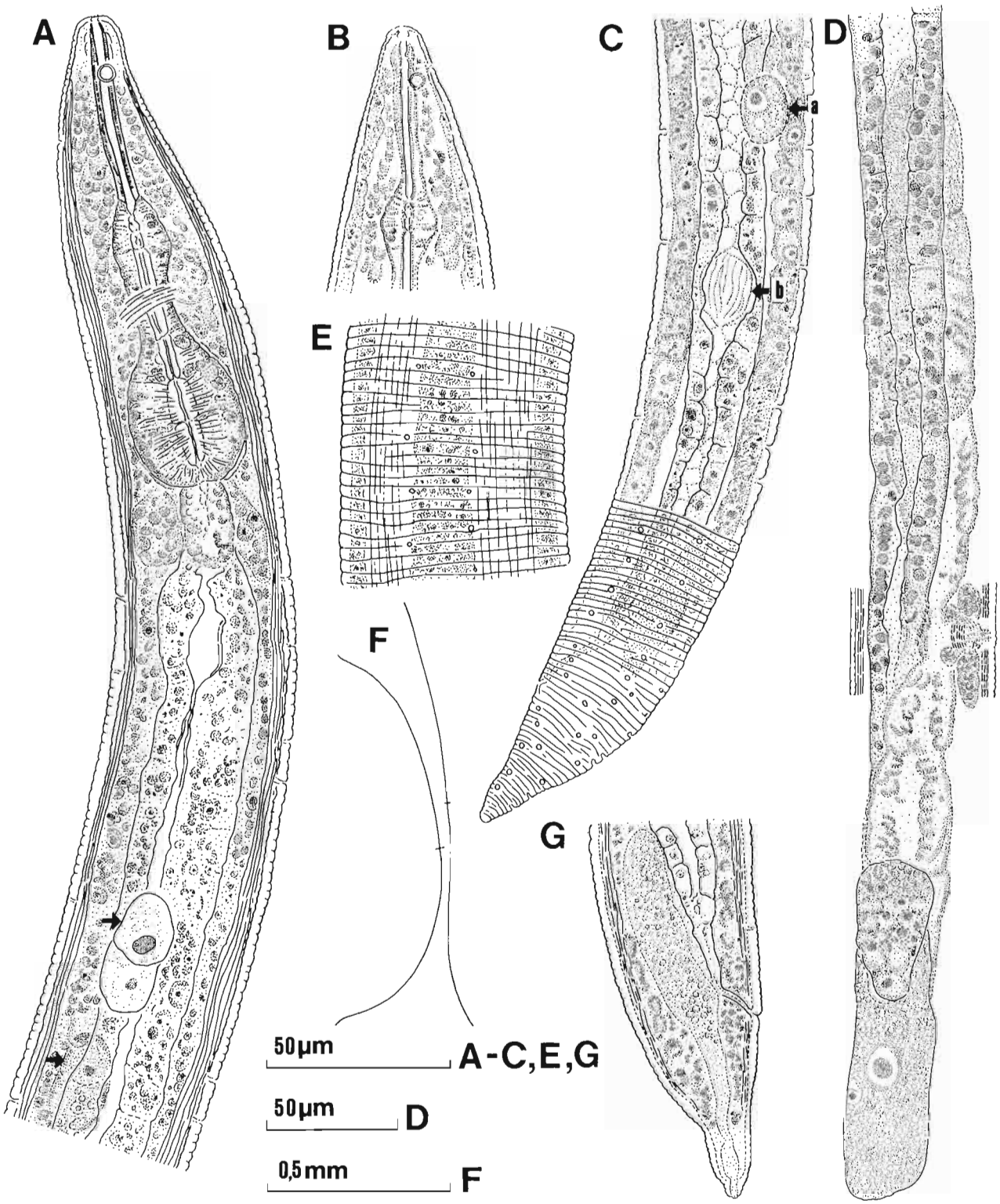

Fig. 2. *Haliplectus bidenticulatus* n. sp. A : Anterior body region of female showing four coelomocytes (arrows); B : Head region of juvenile; C : Posterior body region of female (Tail slightly twisted). Arrow a indicates a coelomocyte. Arrow b indicates a peculiar striated structure embedded in the intestinal wall; D : Female reproductive system; E : Midbody region showing cuticle, lateral chord and somatic musculature; F : Relaxed body posture of female; G : Tail region of female.

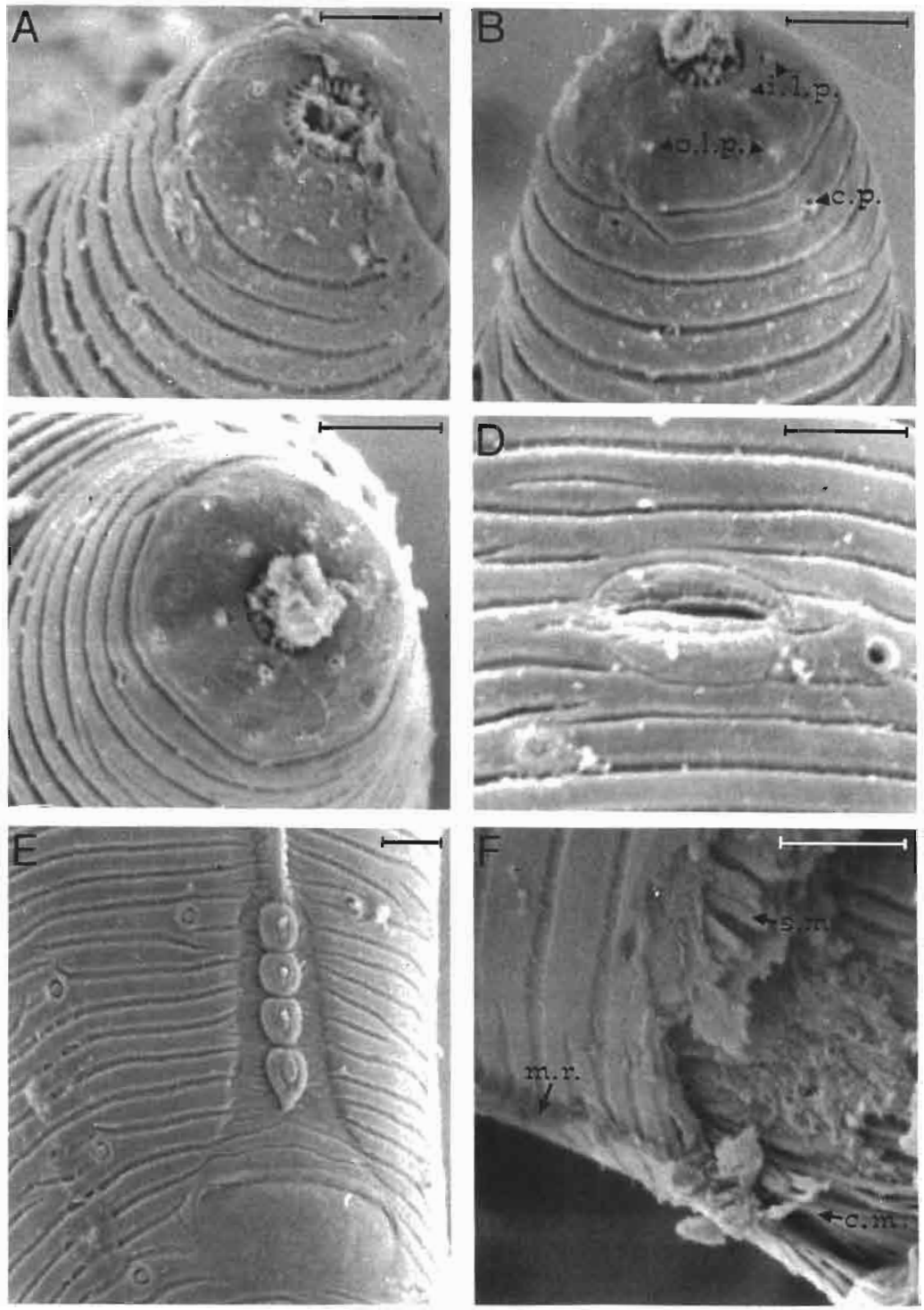

Fig. 3. *Haliplectus bidenticulatus* n. sp. A : *En-face* view of male head; B : Ventral view of female head; C : *En-face* view of female head; D : Vulval opening; E : Cloacal opening, four contiguous supplements and beginning of midventral ridge in male; F : Oblique section of male body at about 40 % of body length. (c.p. = cephalic papillae; i.l.p. = inner labial papillae; o.l.p. = outer labial papillae; c.m. = copulatory muscles; s.m. = somatic muscles; m.r. = midventral ridge. *Bar equals 5 μm).*

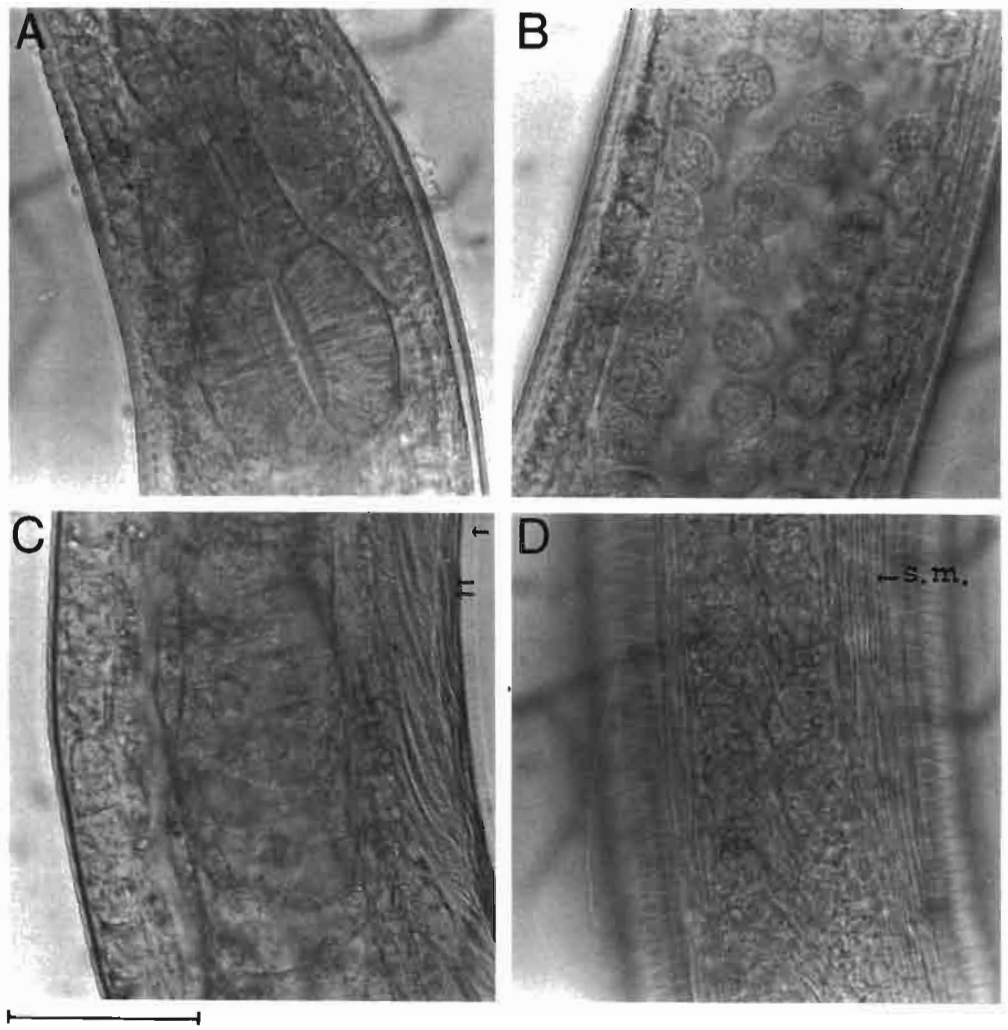

Fig. 4 A-D. *Haliplectus bidenticulatus* n. sp. A : Median bulb, isthmus and basal bulb of male; B : Sperm cells in anterior testis; C : Posterior body region of male. Single arrow indicates midventral ridge and double arrow indicates muscle band immediately below midventral ridge; D : Midbody of male showing lateral chord and somatic musculature (s.m.). *(Bar equals 25 μm.)*

attenuated at both ends, with body width at level of basal bulb about 4.5 times head width. Cuticle strongly annulated, annuli 1-2 μm wide in tail region, 2.5-3.5 μm at midbody and 1.5-2.0 μm in anterior region. Thickness of cuticle : 1.5-2.5 μm in tail region, 1.5-2.5 μm at midbody and 1-2 μm in neck region. Lips amalgamated, head 12-14 μm wide. Mouth opening surrounded by about 24 fringe-like projections. Sense organs arranged in circlets of six inner labial papillae and six outer labial setae (both circlets situated on lip region), four cephalic papillae on first annule posterior of lip region and two amphids situated 13-16 μm from anterior end. Amphid apertures 4-6 μm wide. Stoma a sclerotized tube, 51-57 μm long with well-defined cheilorhabdions. Base of stoma equipped with two small denticles. Basal bulb very muscular, oval-shaped, 28-33 μm wide and apparently enclosed by a loose, sac-like structure. One " break " evident within basal bulb. Valvular apparatus elongated, 22-24 μm long, smooth. Oesophagus 126-137 μm long, its lumen thick-walled. Cardia clearly visible, elongated, multi-cellular, sometimes as long as basal bulb. Nerve ring 78-84 μm from anterior, situated at middle of isthmus. Lateral chord 15-22 μm wide, demarcated by two rows of clearly defined sublateral pores. Rows of subventral and subdorsal pores observed on each side of body. Two to four coelomocytes with yellowish nuclei observed in anterior part of body. Somatic muscles exceptionally well-developed. Male reproductive system diorchic, anterior testis well-developed and outstretched, posterior testis outstretched but

short (about one half of length of anterior testis) and not as well developed as anterior testis. Both testes join each other in a seminal vesicle (Fig. 1 B) which then joins the *vas deferens*. The proximal part of the *vas deferens* is characteristically filled with small granules, while the distal part appears empty. About four well-developed ejaculatory glands were observed laterally, on both sides of the *vas deferens*. Two curved spicules, 49-59 µm long, slightly cephalated, obscured by gland-like cells and muscles. Gubernaculum well-developed, sclerotized, 16-21 µm long, without apophyses. Well-defined muscles associated with spicular apparatus : spicule protractors, spicule retractors and caudal copulatory muscles. Supplements four, contiguous, situated in a bell-shaped depression. Midventral ridge, starting from anteriormost supplement, stretches over about 70 % of total body length. Muscle band immediately below ridge well-defined. Caudal pores numerous, seven pairs situated subdorsally and seven pairs subventrally. Wall of cloaca seems to be either thickened or cuticularized 32-34 µm long. Caudal glands well-developed, spinneret well-defined. Tails of both male and female elongate-conoid, tapering in posterior one-third with a dorsal depression at about 20 % from tail tip.

Female : As for males with the following differences : Heat-relaxed body posture almost straight to slightly ventrally curved. Stoma 53-56 µm long, strongly sclerotized with fine transverse striations observed in some females. Four coelomocytes with yellowish nuclei observed in anterior region and two to four posteriorly. Oesophagus 121-138 µm long. Peculiar striated structures embedded in wall of intestine. Caudal pores numerous, five pairs subdorsally, five pairs subventrally and two pairs mediolaterally. Wall of rectum either thickened or cuticularized, 30-33 µm long. Female reproductive system didelphic, amphidelphic, anterior branch situated on left hand side of intestine, posterior branch on the right. Both branches of reproductive system of equal length, reflexed. Vulva a small, transverse slit, surrounded by thickened cuticle. Vagina weakly muscular, surrounded by gland-like cells.

Juveniles : As for adults but body is shorter. Peculiar striated structures observed in intestinal wall (as observed in females). Relaxed body posture varies from almost straight to ventrally curved. No well-defined genital primordia observed and juvenile stages could therefore not be determined.

TYPE LOCALITY AND HABITAT

Beach sand under Takamaka trees at Anse Boudin, Curieuse, Seychelles (Sampling site 13 in Heyns & Furstenberg, in press). Collected 19th December 1990 by J. Heyns.

TYPE SPECIMENS

Holotype, five paratypes (two females and three males) and six juvenile specimens on slides RAU 7068, 6060, 6059, 7068, 6059, 7073, 7072 and 6061 are deposited in the nematode collection of the Zoology Department of the Rand Afrikaans University. Three paratypes (two females and one male) and one juvenile are deposited at the Instituut voor Dierkunde, Rijksuniversiteit Gent, Ghent, Belgium.

DIAGNOSIS AND RELATIONSHIPS

Haliplectus bidenticulatus n. sp. is characterized by a relatively long body, strongly sclerotized stomatal wall, two denticles in the stoma and smooth valve plates in the basal bulb. The rectal wall is thickened and the somatic muscles are exceptionally well-defined. The male has four contiguous supplements and a well-developed midventral ridge stretching over almost 70 % of the body length.

Haliplectus bidenticulatus n. sp. is near *H. wheeleri* Coles, 1965, but differs from this species mainly in the following : The vulva is situated in a more posterior position in *H. bidenticulatus* n. sp. (V = 46.9-56.3 % against V = 41.7-47.7 %) and the tails of both males and females are longer in *H. bidenticulatus* n. sp. than in *H. wheeleri* (tail length males : 43-60 µm against 40-45 µm and tail length females : 41-57 µm against 33-40 µm). The spicules of *H. bidenticulatus* n. sp. are larger than those of *H. wheeleri* (49-59 µm against 30-31 µm) and the gubernaculum is longer (16-21 µm against 11-12 µm). *H. bidenticulatus* n. sp. also resembles *H. brevispiculatus* Andrássy, 1973 especially in body length, but differs from that species in the number of supplements (four in the new species and three in *H. brevispiculatus*) and the numerous caudal papillae in the male (fourteen pairs in *H. bidenticulatus* n. sp. *vs* three large ventral papillae at tail tip of *H. brevispiculatus*). *H. bidenticulatus* n. sp. also resembles the specimens of *H. bickneri* described by Andrássy (1973). It differs however, from this species mainly in the tail length (41-60 µm against 40-47 µm), the spicule length (49-59 µm against 40-42 µm) and the stoma length (51-57 µm against 35-38 µm).

Haliplectus seychellensis n. sp.

(Fig. 5 A-H)

MEASUREMENTS

See Table 2.

DESCRIPTION (type population from Mahé, Seychelles)

Male : Body of heat-relaxed specimens curved ventrad in posterior region. Body attenuated at both ends with body width at level of basal bulb about 4.5 times head width. Cuticle annulated with annule width in neck region 2 µm; at midbody 2.3 µm and on tail 2 µm. Thickness of cuticle : 1.5-2 µm in neck region; 2 µm at midbody and 2-3 µm on tail. Lips amalgamated, head width 9-10 µm. Mouth opening fringed, surrounded by two whorls of six inner and six outer labial papillae. Four

Table 2. Morphometrical data of different populations of *Haliplectus seychellensis* n. sp.

Population	Mahé				Farquhar		Praslin
	Holotype	Paratype	Paratypes	Juvenile			
n	1 ♂	1 ♂	2 ♀	1 J3	2 ♀	1 Juvenile (J1?)	1 Juvenile
L	0.73	0.58	0.61; 0.62	0.59	0.63; 0.60	0.46	0.53
a	16.6	16.1	16.9; 14.1	15.2	16.9; 15.4	14	15.1
b	7.5	6.6	6.4; 6.9	7	6.4; 6.5	5.8	6.2
c	17.1	17.1	17.2; 15.5	15.5	16.4; 15	14	11.8
c'	1.4	1.5	1.7; 1.7	1.6	1.6; 1.7	1.7	1.9
Tail length (µm)	42	34	35.5; 40	38	38; 39	33	34
Oesophagus length (µm)	97	88	95; 90	84	95; 91	79	84
V (%)			56.1; 56.0		52.8; 52.6		

cephalic papillae situated on first annule posterior to lip region. Amphid aperture 4-4.5 µm wide, situated 12-14 µm from anterior end. Stoma a sclerotized tube, 40-45 µm long, with one small denticle at its base. Basal bulb muscular, spherical, 19-21 µm wide. Valvular apparatus elongated, 11-13 µm long with smooth plates. Oesophagus 88-97 µm long with thick-walled lumen. Cardia well-defined, about 14 µm long. Nerve ring well-defined, situated around anterior half of isthmus. Lateral chord 14-20 µm wide, demarcated by two rows of sublateral pores. In addition to the sublateral rows, two well-defined rows of subventral and subdorsal pores were observed on each side of body. Four coelomocytes with yellowish nuclei observed ventrally, two on each side of the intestine, situated at about 25 % of total body length (Fig. 5 A). Four to six coelomocytes observed posteriorly at about 65 % of total body length, situated dorsolaterally of the intestine (Fig. 5 D). Male reproductive system typical for *Haliplectus*. Supplements four, contiguous. Two curved spicules, 41-43 µm long, slightly cephalated. Gubernaculum well-developed, 12 µm long, without apophyses. Midventral ridge well-defined but short, about 140 µm long, stretching from anteriormost supplement for about 20 % of total body length. Caudal pores numerous, five pairs situated subventrally and six pairs subdorsally. Two well-defined, protruberant papillae situated close to each other at about 10 µm posterior of cloacal opening. Tails of both males and females elongate-conoid, very slightly ventrally curved. Cloaca 30-35 µm long. Spinneret well-developed but caudal glands obscure. Numerous small cells observed within tail.

Female : Description as for male with the following differences : Heat-relaxed body curved ventrad. Amphid apertures situated at about 11 µm from anterior end. Two to four coelomocytes observed anteriorly and ten to fourteen posteriorly, in the same positions as in males. Female reproductive system didelphic, amphidelphic, branches of equal length. Anterior branch of reproductive system situated on left hand side of intestine, posterior branch on the right. Vulva a small, transverse slit. Vagina weakly muscular, surrounded by a few gland-like cells. Rectum about 14 µm long. Caudal pores numerous, three pairs situated subventrally and four pairs subdorsally. One pair of midventral, protruberant papillae (not so well developed as those of the male) observed at about 10 µm posterior of anus.

Juvenile : Similar to adult except for the following : Four coelomocytes observed anteriorly and ten posteriorly. One pair of well-defined, protruberant papillae observed midventrally at about 8 µm from anus (smaller than those of males). Genital primordium elongated and differentiated into two branches.

TYPE LOCALITY AND HABITAT

In beach sand under coconut trees, about 30 m from high-water mark at Police Bay on Mahé, Seychelles. Collected on the 16th December 1990 by J. Heyns (Sampling site 6 in Heyns & Furstenberg, In press).

TYPE SPECIMENS

Holotype male on slide RAU 6076. Paratype male on slide RAU 6075. Paratype females on slides RAU 6074 and RAU 6076. Juvenile specimen on slide 6074. Holotype and paratypes are deposited in the nematode collection of the Zoology Department, Rand Afrikaans University.

DIAGNOSIS AND RELATIONSHIPS

Haliplectus seychellensis n. sp. is characterized by a small body and a slightly ventrally curved, elongate-conoid tail; one pair of well-defined, protruberant papillae situated midventrally at about 10 µm posterior of anal or cloacal opening; one small denticle in base of stoma; valve plates in basal bulb smooth; and male with four contiguous supplements and a short midventral ridge, stretching over about 20 % of total body length.

As regards body length and smooth valve plates, *H. seychellensis* n. sp. is comparable with *H. dorsalis* Chit-

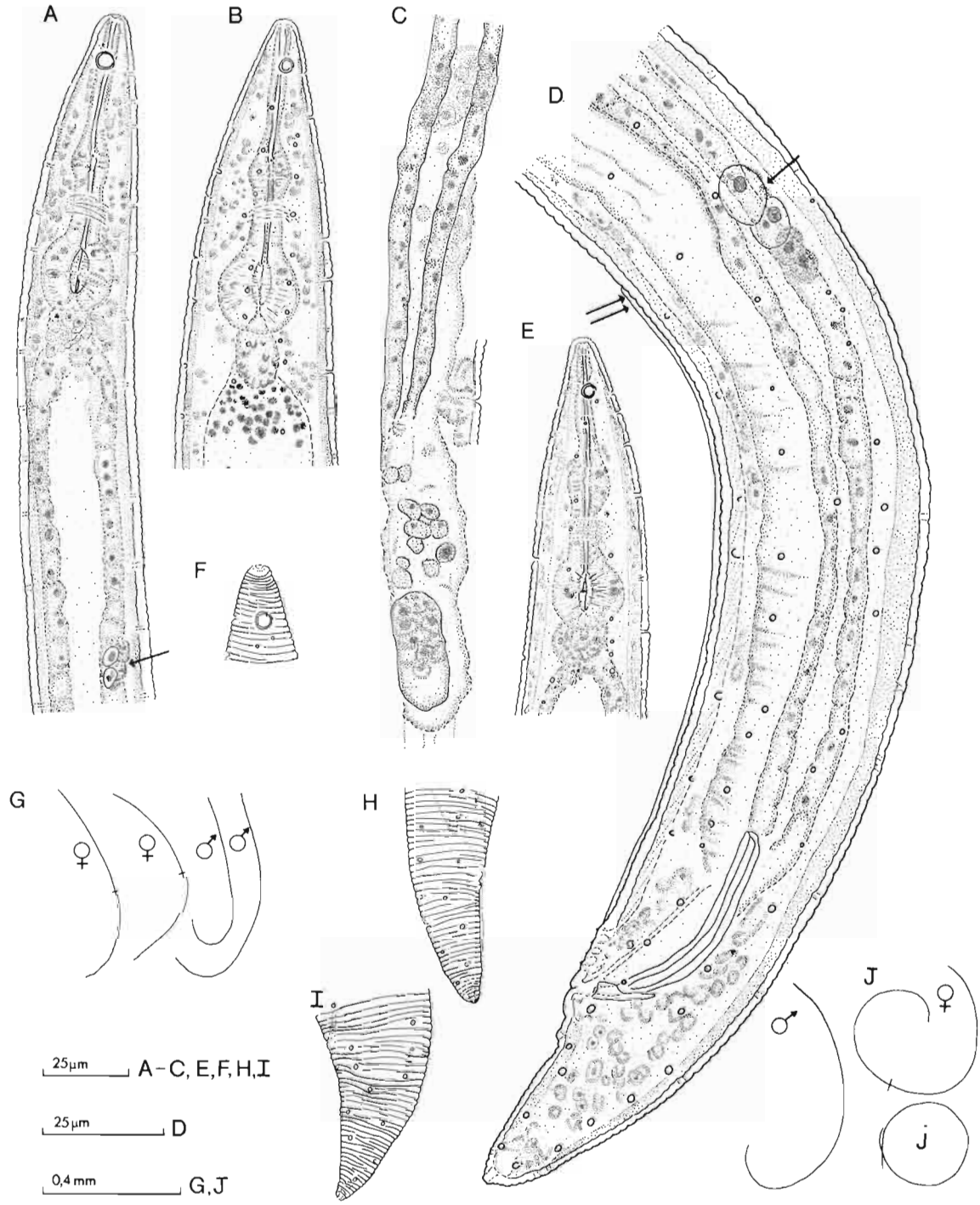

Fig. 5. *Haliplectus seychellensis* n. sp. (Mahé-population). A : Anterior body region of male, showing position of coelomocytes (arrow); B : Anterior body region of female. Details of intestine obscure; C : Reproductive system of female; D : Posterior region of holotype male, showing position of coelomocytes (single arrow) and extent of midventral ridge (double arrow); E : Anterior body region of juvenile; F : External morphology of female head; G : Heat-relaxed body postures of males and females; H : External morphology of female tail. – *Haliplectus bickneri* Chitwood, 1956 (Praslin-population); I : External morphology of female tail; J : Heat-relaxed body postures of male, female and J4.

wood, 1956 and *H. bickneri* Chitwood, 1956. From *H. dorsalis* it differs in the following : Lower a-value (a = 14.1-16.9 *vs* 23-30); position of vulva (V = 56.0-56.1 % *vs* 44-46 %) and arrangement of male supplements (contiguous *vs* 3 + 1 – configuration). *H. seychellensis* n. sp. can be separated from *H. bickneri* by the following : Lower a-value (a = 14.1-16.9 *vs* 17-27), lower b-value (b = 6.4-7.5 *vs* 7.5-9.5) and smaller gubernaculum (12 µm *vs* 16-21 µm). *H. seychellensis* n. sp. furthermore differs from both species in the presence of a pair of prominent midventral papillae on the tail. *H. brevispiculatus* Andrássy, 1973 and *H. caudopapillatus* Gerlach, 1967 both have midventral papillae but they differ from those of *H. seychellensis* n. sp. in position : Just posterior of the cloaca or anus in *H. seychellensis* n. sp. *vs* on tail tip in *H. brevispiculatus* and *H. caudopapillatus*. *H. seychellensis* n. sp. is smaller than either of these species (L = 0.58-0.73 mm *vs* L = 1.05-1.08 mm and L = 1.41-1.50 mm respectively).

OTHER POPULATIONS

Population from Farquhar

Found in sand under shrubs, above highwater mark on Farquhar, Seychelles. Collected on 21st December 1990 by J. Heyns (Sampling site 15 in Heyns & Furstenberg, In press).

Two females on slides RAU 7105 and RAU 7106, respectively. One juvenile on RAU 7106.

The population from Farquhar (measurements : see Table 2) is very similar to that of Mahé except for the position of the vulva (V = 52.6 % and 52.8 % *vs* V = 56 % and 56.1 %). Number of coelomocytes : Four to five anteriorly; six to eight posteriorly. The morphology of the juvenile is almost the same as that of the adults but differs in the following : The amphid aperture appears crescent-shaped and not circular as in adults. Two cells were observed within the genital primordium. No coelomocytes could be discerned in the anterior region, but about four posteriorly.

Population from Praslin

Found in sand among the roots of Takamaka trees near highwater mark on Praslin. Collected on the 18th December 1990 by J. Heyns (Sampling site 11 in Heyns & Furstenberg, in press).

Specimen on slide RAU 7122.

The stage of the juvenile of the population from Praslin (measurements : see Table 2) is uncertain. No genital primordium could be discerned. It resembles the adults of *Haliplectus seychellensis* n. sp. Four coelomocytes were observed in the anterior, and five to six in the posterior position.

***Haliplectus bickneri* Chitwood, 1956**
(Fig. 51 & J)

H. bickneri was first described from Florida, USA, from soil around the roots of a *Schinus* sp. (Chitwood, 1956). After that it has been found on the Addu-Atol (Malediven) (Gerlach, 1963), the Red Sea (Gerlach, 1967), Cuba (Andrássy, 1973) and South Africa (Swart, Heyns & Coomans, in press).

Two small populations have been found, in Mahé and Praslin islands.

MEASUREMENTS

See Table 3.

DESCRIPTION

The present population from Mahé (1 male) closely resembles the type specimens. However, the two females from Praslin are on average longer than the type specimens and are nearer to those from Cuba (L = 1.1-1.2 mm *vs* 0.85-0.93 mm). The heat-relaxed body posture is also much more curved ventrad than those from

Table 3. Morphometrical data of different populations of *Haliplectus bickneri* Chitwood, 1956 and *Haliplectus* sp.

Population	*Haliplectus bickneri*			*Haliplectus* sp.
	Mahé	Praslin	Farquhar	Curieuse
n	1 ♂	2 ♀	1 Juvenile (J3/J4)	1 Juvenile (J4)	2 Juveniles
L	1.1	1.1; 1.2	0.86	0.8	0.5; 0.37
a	25.6	22.7; 24.5	24	19	21.4; 16.2
b	8.9	9.3; 9.8	8.5	8.1	6.3; 5.6
c	22.9	23.2; 22.5	17.5	19	12.1; 9.1
c'	1.5	1.7; 1.6	1.8	1.6	2.6; 2.9
Tail length (µm)	48	48; 51	49	42	41.5; 41
Oesophagus length (µm)	124	118; 122	101	99	75; 66
V (%)		51; 50.9		53	
Spiculum length (µm)	36				
Gubernaculum length (µm)	12				

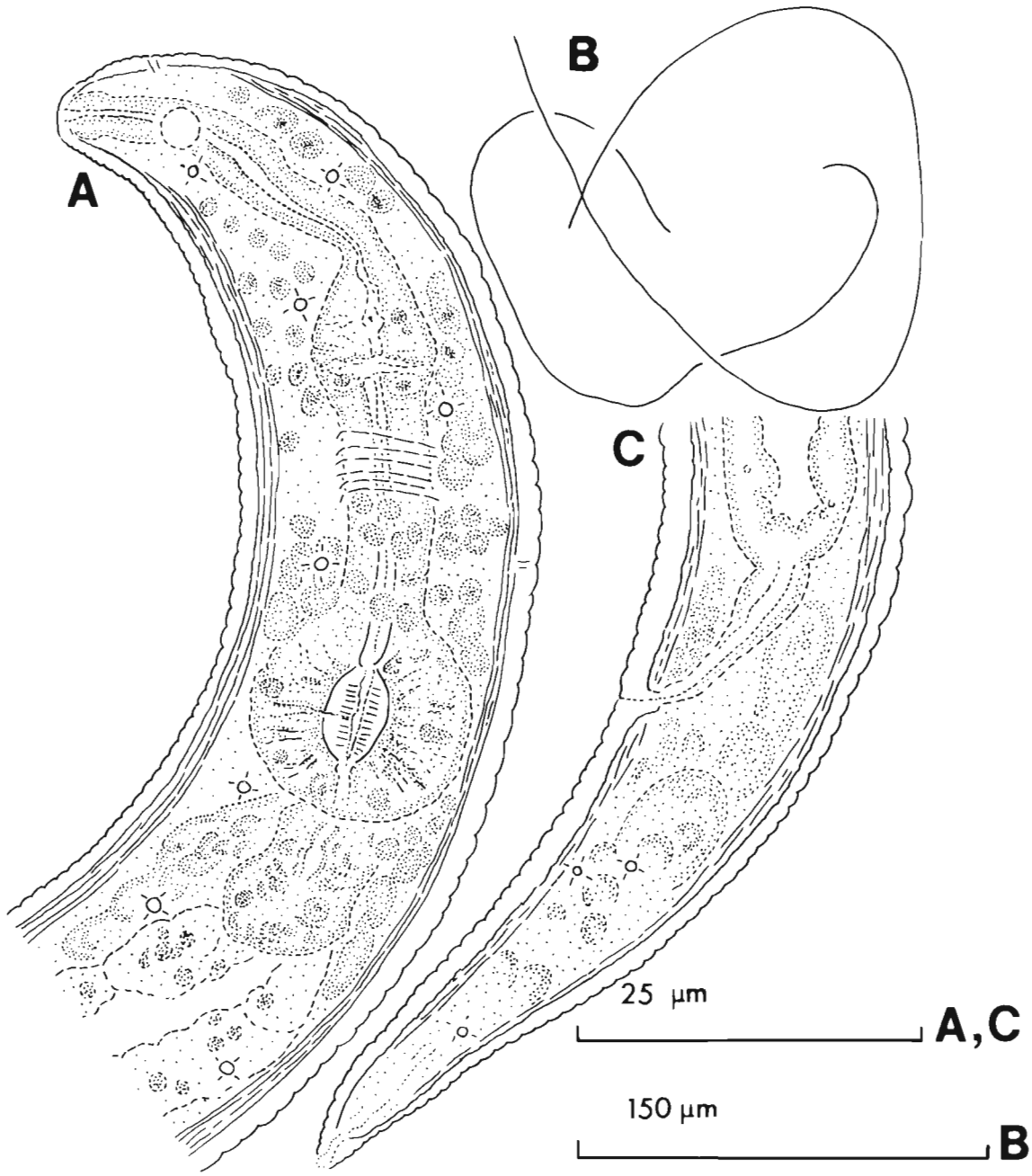

Fig. 6. *Haliplectus* sp. A : Anterior body region of juvenile; B : Relaxed body posture of juvenile; C : Tail region of juvenile.

South Africa. The body posture of the type specimen is, unfortunately not known. No coelomocytes were observed within the bodies of the adults but are present in the posterior region of the juveniles.

SPECIMENS

One male on slide RAU 6075; two females on slide RAU 7121; J4 on slide RAU 7106 and J2/3 on slide RAU 7121.

Haliplectus sp.
(Fig. 6 A-C)

Two very small juveniles of a *Haliplectus* sp. were found in the same soil sample as *H. bidenticulatus* n. sp. on the island Curieuse, Seychelles. They resemble *H. leptocephalus* Vinciguerra & Zullini, 1980 but as no adults were found to confirm the identification, these specimens are regarded as unidentified and only a short description of their general morphology will be given. No genital primordia could be discerned and juvenile stages are not known.

MEASUREMENTS

See Table 3.

DESCRIPTION

Body posture of heat-relaxed specimens irregularly curled ventrad. Body short, attenuated at both ends. Lip region 4.5-5 µm wide. Amphid aperture circular, 3-4 µm × 4 µm, about 10 µm from anterior end. Stoma narrow, 34-35 µm long. One denticle observed in base of stoma. Isthmus long in comparison with median and basal bulbs. Nerve ring situated around isthmus, just posterior of median bulb, about 51 µm from anterior end. Basal bulb rounded (14-15 µm × 15-18 µm), muscular, valve plates clearly striated. Cardia well-developed, about 10 µm long. Body distinctly annulated, annules 1-2 µm wide. Body pores well-defined, arranged in two subventral, two subdorsal and two sublateral rows. Lateral chord 10-12.5 µm wide. Caudal pores arranged in one pair subventrally, one pair subdorsally and one pair in a mid-lateral position.

SPECIMENS

Two juveniles on slide RAU 7070.

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References

ANDRÁSSY, I. (1973). Nematoden aus Strand- und Hohlenbiotopen von Kuba. *Acta zool. Acad. hung.*, 19 : 233-270.

CHITWOOD, B. G. (1956). A revision of the genus *Haliplectus* Cobb, 1913. *Proc. helminth. Soc. Wash.*, 23 : 78-88.

GERLACH, S. A. (1963). Die Gattung *Haliplectus* (Chromadorida, Leptolaimidae), zugleich ein Beitrag zur Morphologie und Phylogenie der Nematoden. *Zool. Anz.*, 171, Heft 1/4 : 96-113.

GERLACH, S. A. (1967). Freilebende Meeres-Nematoden von den Sarso-Inseln (Rotes Meer) 3. Beitrag der Arbeitsgruppe Litoralforschung. *"Meteor" Forsch Ergebn* D, 2 : 19-43.

HEYNS, J. & FURSTENBERG, J. P. (In press). New and known species of *Axonchium* Cobb, 1920 from islands in the western Indian Ocean (Nematoda : Belondiroidea). *Nematologica.*

SWART, A. & HEYNS, J. (1991). *Lenonchium fimbricaudatum* n. sp. from South Africa, with a key to the species of *Lenonchium* (Nematoda : Nordiidae). *Revue Nématol.*, 14 : 413-418.

SWART, A., HEYNS, J. & COOMANS, A. (1992). Studies on *Haliplectus* Cobb, 1913. Introduction and redescription of *H. bickneri* Chitwood, 1956 (Nematoda : Haliplectidae). *Fund. appl. Nematol.*, 16 : 129-135.