

39. *Halichoanolaimus filicauda* n. sp.

(Table 6, Figure 39)

♂	1.3	5.4	10.0	31*	39**	47†	89.0	8100
	1.2	2.3	2.6	2.6	2.6	1.7	1.7	

$$\alpha=38; \beta=10; \gamma=9.$$

* Anterior end of anterior testis.

** Between them.

† Posterior end of posterior testis.

♀	1.6	5.3	12.0	33.5	37.0	45.5	58.0	61.5	88.5	3100
	1.5	2.6	3.0	4.0	4.0	4.0	4.0	4.0	1.6	

$$\alpha=25; \beta=8; \gamma=7.$$

Dimensions ♀	Cephalic bristles	1st chamber of oral cavity	2nd chamber of oral cavity	Excretory pore	Nerve ring	End of esophagus
Length	—	24	46	143	155	380
Width	43	54	60	—	76	89
♂						
Length	—	22	45	143	167	308
Width	38	46	51	—	70	81

The **body** is very stout, widening greatly in female at midbody, tapering to the anus more than twofold, to the end of the esophagus by $1/4$, and hence to the anterior end twofold. The **cuticle** has an overall thickness of about $3\frac{1}{2}\mu$; it has two layers, the outer accounting for $1/4$ of the thickness. Punctations arranged in transverse rows lie externally in the middle, giving the impression of a major annulation (see Figure 39a). The rows are $2\frac{1}{2}\mu$ apart. On the inner surface weakly developed true annules are observed with intervals of 2μ between them. All the bristles on the body are short and converted into papillae.

The **head** is sharply truncated, so that anteriorly it has a fairly wide flat surface. Anteriorly, the entrance to the oral aperture is closed by six strongly developed **lips**, each consisting of thin chitinized plates (a—Figure 39c) that are split in the middle, leaving a space for plasmatic material (b—Figure 39c). A small labial papilla is set in the middle of this area (p. lab.—Figure 39c). The nerves of this papilla are contained in a chitinized tube which bends downwards and runs through the cephalic capsule (n. p. lab.—Figure 39c). Ten very short cephalic bristles are disposed normally (s. ceph.—Figures 39a, c). The lateral organ lies directly at the level of the boundary between the two chambers of the oral cavity, i.e., shifted more anteriorly than in the preceding species. It is large, spiral, with $3\frac{1}{2}$ turns, of equal size in male and female ($14-15\mu$), or $1/4$ of the head width (see Figures 39a, b). On the right of Figure 39b it is clearly seen that its internal turns are the smallest, while the external ones are deeper. Its outline has the form of an unbroken line.

The **cephalic capsule** is a chitinized ring that encircles the anterior part of the oral capsule. Laterally, it appears narrow, as it is widest in the plane perpendicular to the longitudinal axis of the body (c. ceph.—Figures 39b, c). Its structure is distinct only when viewed from the front (Figure 39c). From here it is seen that it bears 16 processes directed laterally: three pairs of processes are set on the lateral surface, two processes are located medially and two pairs of short processes are submedian. Internally, six of the processes stiffen the angles between the lips (c—Figure 39e). Strong musculature is attached to them posteriorly. This serves to move the lips and the anterior part of the oral cavity.

The **oral cavity** is also a very complex structure. It consists of two chambers (Figures 39a, b). In the anterior chamber each of the three walls bears four longitudinal supporting columns which are seen slightly obliquely in profile on Figure 39a (a), in section on Figure 39d (a), and from above on Figure 39b (a). Anteriorly, these columnar bulges diverge and additional narrow bulges arise between the central ones (b—Figure 39b). The posterior chamber is separated from this anterior part by a constriction. On each of the three surfaces of the posterior part there is a ridge consisting of 11 denticles (c—Figure 39b). Five denticles are arranged symmetrically (b—Figure 39d) on each side of the asymmetrical central denticle (c—Figure 39d), which is more pointed and stands rather more anteriorly than the others. The posterior chamber is widest posteriorly and wider than in the other species (Figure 39b). Its walls are enclosed by muscles and stiffened by special chitinized plates, which are a direct continuation of the walls of the anterior chamber of the oral capsule (d—Figure 39b). The walls have the general form of a half oval with the truncated end turned outwards. Their lateral parts and one chord in the middle are chitinized. The bottom of the chamber is also stiffened by special chitinized plates (c—Figure 39b). Its overall length is 45μ , of which the anterior chamber takes up 25μ . The width of the anterior chamber is 25μ , of the posterior about 33μ .

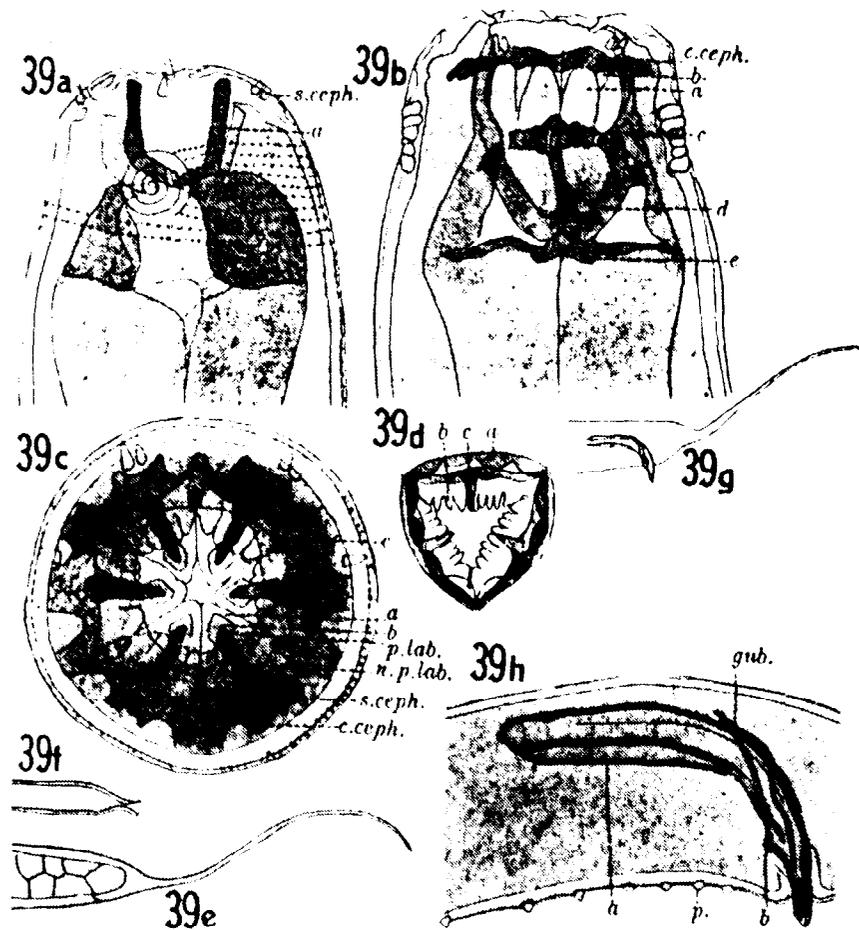
There are no **eyes**. The **esophagus** is cylindrical, very muscular, occupying anteriorly half the body width, while posteriorly it expands to three-quarters of it. Opposite the posterior part of the oral cavity it expands slightly. The small **cervical gland** is located quite far behind the end of the esophagus; the excretory pore is exactly at the level of the nerve ring. The **intestine** consists of very large cells in 3—4 rows (Figure 39e). The hindgut is very short.

The **ovaries** are short and reflexed. The uterus is wide, with an unbroken lumen and thick walls. The eggs lie in it freely, as in *Cyatholaimus*; they have a thick shell, and are round or slightly elongate, 85μ (or correspondingly narrower and longer). The vagina has thick walls and traverses $\frac{1}{3}$ of the body width internally.

In the male the **testes** are paired, with large cells. The posterior recurves posteriorly. The ejaculatory duct is quite long. The spicules (Figure 39h) are 95μ long, and greatly curved. A specialized plate (a—Figure 39h) projects internally at the basal end; chitinized strips are observed on the surface of the terminal portion, while on the under surface there are mounds (b—Figure 39h). The gubernaculum is not well developed (54μ); it is adjacent to the terminal parts of the spicules dorsally and laterally (gub.—Figure 39h). Anterior to the anus in the midline there are 6—9 papillae (pap.—Figure 39h). Strictly these are very short bristles with their base inserted into the cuticle. There are also two or three pairs of papillae in the middle of the tail.

The anterior $\frac{1}{6}$ of the tail tapers sharply conically, while the posterior $\frac{5}{6}$ are filiform (Figure 39e). A fairly long terminal tube lies at the end (Figure 39f). The proportions are: length of tail in male and female 6.0; conical part 1.0; filiform part 4.5—5.0; width at end $\frac{1}{9}$; spicules 1.7; gubernaculum 0.9; distance from anus to anterior papilla in male 2.7.

Very many specimens were encountered in *Zostera* from the Chernaya River 5, 7.12.



39. *Halichoanolaïmus filicauda* n. sp.

- Figure 39a. Head of female, lateral; obj. $\frac{1}{16}$, oc. 1; s.ceph. — cephalic bristles; a — ridge of anterior part of oral cavity.
- Figure 39b. Same, dorsal; obj. $\frac{1}{16}$, oc. 1; c.ceph. — cephalic capsule; a — ridges of anterior part of buccal cavity; b — supplementary ridges; c — comb; d — plates demarcating side of posterior part of buccal cavity; e — plate at bottom of buccal cavity.
- Figure 39c. Same, anterior; obj. $\frac{1}{16}$, oc. 1; a — lamellar part of lip; b — its plasmatic base; c — processes of cephalic capsule, strengthening lips; p. lab. — labial papillae; n. p. lab. — nerve of labial papillae; s.ceph. — cephalic bristles; c.ceph. — cephalic capsule.
- Figure 39d. Optical section of anterior part of buccal capsule and its comb; obj. $\frac{1}{16}$, oc. 1; a — ridge of anterior part of buccal cavity; b — lateral denticles of comb; c — median denticle of comb.
- Figure 39e. Tail of female; obj. e, oc. 5.
- Figure 39f. End of tail of female; obj. $\frac{1}{16}$, oc. 1.
- Figure 39g. Tail of male; obj. 3, oc. 5.
- Figure 39h. Spicular apparatus; obj. $\frac{1}{16}$, oc. 0; gub. — gubernaculum; pap. — supplementary papillae; a — internal velum of spicule; b — tubercle at end of spicule.