

### VIII. SYNONCHUS, new genus.

The worms constituting this genus are also related to *Oncholaimus*. They have a pharynx armed with teeth of which the dorsal is prominent and the submedian rudimentary. The pharynx is so small that the teeth occupy most of the available space when the mouth is closed. The œsophagus contains the three glandular structures first seen by Marion in the œsophagus of *Enoplus*, and afterwards fully described and elucidated by de Man in *Oncholaimus*. In *Synonchus* the dorsal gland has the peculiarity of emptying into the lumen of the œsophagus at some distance from the mouth, a fact which adds weight to the opinion that these organs are salivary glands. The only other function that has occurred to me as possibly assignable to these organs is that of secreting a venomous fluid. The sexual organs, so far as known, are symmetrical in both sexes. The males possess a ventral accessory organ in front of the anus. I failed to find in the only female examined the tubular organs discovered by de Man in the females of *Oncholaimus*.

I. S. FASCICULATUS, n.sp.  $\frac{2 \cdot 5 \cdot 7 \cdot 19 \cdot 60^{23} \cdot 97}{\cdot 6 \cdot 1 \cdot 2 \cdot 1 \cdot 3 \cdot 1 \cdot 4 \cdot 9}$  8·8mm. is the formula for the only female seen—probably a smallish one. The subcuticula is very finely transversely striated. Short hairs occur on all parts of the body, but near the head they are particularly abundant and are arranged in a fasciculate manner. The conoid neck terminates anteriorly in a truncate head, surrounded opposite the base of the narrow pharynx by the usual row of ten cephalic setæ, —one on each lateral line and two on each submedian line, all of about equal length, namely, one-third as long as the head is wide. The three lips are rather indistinct, but plainly they close together over the pharynx, which presents a single sharp dorsal tooth half-way up and two rudimentary teeth at the base. The dorsal salivary gland empties into the lumen of the œsophagus at one-fourth the distance from the mouth to the nerve-ring. The œsophagus is at first one-half as wide as the neck and gradually enlarges until finally it becomes two-thirds as wide as the neck. The cardiac collum is distinct. The thick-walled intestine is

one-half as wide as the body, and is composed of small cells of such a size that it takes about sixteen to build the circumference. I could discover no ventral gland. The lateral fields are one-third as wide as the body. The tail is conical in the anterior third, and continues thence, cylindrical—and one-third as wide as at the anus,—to the swollen terminus. The three elongated caudal glands are confined to the tail. The vulva is large and somewhat prominent. The eggs are thin-shelled and more than twice as long as the body is wide, and only one-fifth as wide as long. The ovaries extend three-fourths the way back to the vulva, and contain about a dozen developing ova.

$\frac{.2 \ 5 \cdot \ 16 \cdot \ -M-^{17} \ 97 \cdot 3}{.4 \ .8 \ 1 \cdot \ 1 \cdot \ .8} \ 11 \cdot 13 \cdot \text{mm.}$  The tail of the male resembles that of the female in form, but the caudal glands, instead of being confined to the tail, extend forward beyond the

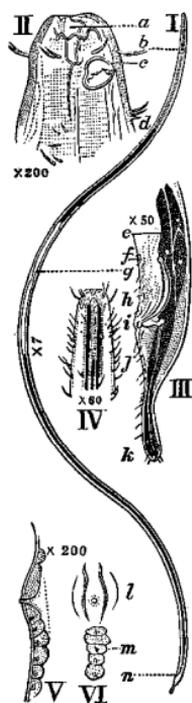


FIG. 10.—*Synonchus fasciculatus*.

I, male worm. II, head, and III, tail of the same worm more highly magnified. IV, head of a young worm, ventral view, to show the three glands (drawn black) inside the oesophagus, one of which empties into the oesophagus tube far behind the other two. V and VI, lateral and ventral views respectively of the male accessory organ.

- a, pharynx.
- b, nerve-ring.
- c, lateral organ.
- d, beginning of the intestine.
- e, caudal glands.
- f, accessory organ.
- g, junction of the two testicles.
- h, subventral hairs or papillæ.
- i, anus.
- j, hairs.
- k, terminus.
- l, ventral organ.
- m, cells of same.
- n, anus.

anus a distance equal to the length of the tail; like those of the female they are much elongated. There is an accessory sexual organ placed ventrally and opposite the proximal ends of the spicula. The latter are equal, linear, slightly and uniformly arcuate, and are slightly expanded at the proximal end; they are half as long as the tail and slide in accessory pieces nearly half as long as they themselves are. The accessory pieces are supported

by a process which extends from the anus half-way across the body. Two irregular rows of submedian hairs become prominent opposite the spicula and on the tail; there are

fifteen or twenty such hairs in each row, of which the larger and the larger number occur in front of the anus. The testicles are short, and occur in the second fourth of the body.

*Hab.*—Marine sand, Bay of Naples, 1888.

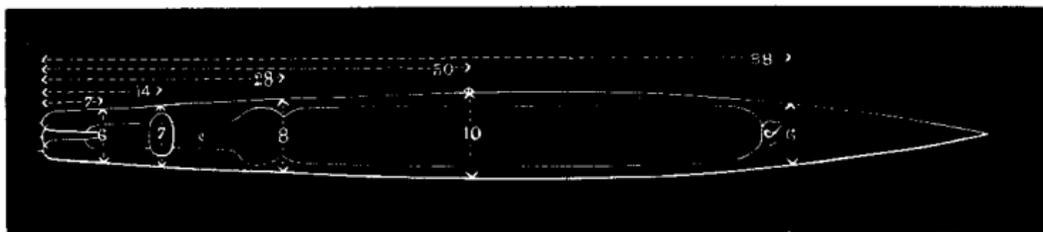


FIG. 1.—Diagram in explanation of the descriptive formula used for Nematode worms ; 6, 7, 8, 10, 6 are the transverse measurements, while 7, 14, 28, 50, 88 are the corresponding longitudinal measurements. The formula in this case is:—

$$\frac{7 \cdot 14 \cdot 28 \cdot 50 \cdot 88}{6 \cdot 7 \cdot 8 \cdot 10 \cdot 6}$$

The unit of measurement is the hundredth part of the length of the worm, whatever that may be. The measurements become, therefore, percentages of the length.

The measurements are taken with the animal viewed in profile ; the first is taken at the base of the pharynx, the second at the nerve-ring, the third at the cardiac constriction, the fourth at the vulva in females and at the middle (M) in males, the fifth at the anus.