

PHANODERMA (PHANODERMA) STEINERI n.sp.

(Fig. 19, a-c.)

Station : 39 (off Enderby Land).

Male (6x) : L = 8.1-11.5 mm. ;  $\alpha$  = 32-41 ;  $\beta$  = 4.5-4.8 ;  $\gamma$  = 60-76.

Female (4x) : L = 9.8-12.5 mm. ;  $\alpha$  = 32-41 ;  $\beta$  = 4.1-5.2 ;  $\gamma$  = 52-78 ; V = 65-66%.

Juv. (1x) : L = 4.1 mm. ;  $\alpha$  = 31.5 ;  $\beta$  = 4.0 ;  $\gamma$  = 34.

Stations : 105, 107 (off MacRobertson Land).

Male (1x) : L = 7.4 mm. ;  $\alpha$  = 30.8 ;  $\beta$  = 4.2 ;  $\gamma$  = 56.9.

Female (1x) : L = 6.4 mm. ;  $\alpha$  = 42.6 ;  $\beta$  = 3.3 ;  $\gamma$  = 45.7 ; V = 65.6%.

Juv. (1x) : L = 5.4 mm. ;  $\alpha$  = 25.7 ;  $\beta$  = 3.3 ;  $\gamma$  = 38.

The species resembles *P. conicaudatum* (Steiner 1916), so far described only from females, in the shape of the tail, disposition of the caudal glands, and position of the eyes. The position of the excretory pore in *P. conicaudatum* is described as just behind the eyes by Steiner but as just in front by Filipjev (1927, 129). Our specimens are very much larger worms, with a smaller  $\alpha$  index.

In view of the impossibility of comparing the males, and of the very wide difference in distribution, the Antarctic specimens are placed in a new species. The specimens present fall into two size groups, as shown above, coming from two different localities. The appearance and proportions of these worms are very similar, and it is not considered desirable to propose different species or subspecies for them. Wieser (1953, 52) in describing specimens of *P. macrophallum*, states that he found five females agreeing in morphological features, but one was twice the size of the others.

The species comprises large worms, tapering in the oesophageal region and posteriorly from just in front of the anus. The cuticle is apparently unstriated, and bears short scattered setae. The helmet is of medium length, rather less than the width of the head at its base. The setae spring from near the base of the helmet, and are a third of the cephalic diameter. The circular amphidial pocket is quite distinct, measuring about a third of the head diameter at that level ; the opening of the amphid is a small inconspicuous slit. Eyes are present, 65-90 $\mu$  from the anterior end. The excretory cell lies at the level of the base of the oesophagus, its duct opening shortly behind the level of the ocelli, 97-123 $\mu$  behind the anterior end. The nerve ring surrounds the oesophagus at the end of the first quarter of its length.

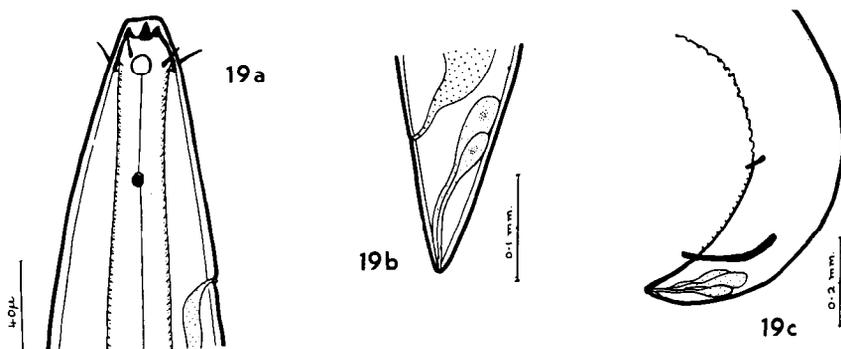
The tail in both sexes is conical, 1-1.3 times the anal diameter in the female, 1.2-1.3 times in the male. In the specimens from Station 39, the caudal glands are clearly in the tail region, lying at and just behind the level of the anus. In the specimens from stations 105 and 107, the glands could not be seen, though they may be present but obscured, but neither could they be seen in a preanal position.

The eggs are about 0.15 mm. by 0.35 mm.

The spicules are 0.19-0.2 mm. long, 1.3-1.5 times the tail length. They are not toothed or barbed at the tips. A tubular preanal organ, usually 48-54 $\mu$  long, but in two cases (both Station 39) as long as 58 $\mu$  and 60 $\mu$ , lies in front of the anus at a distance equal to 1.4-1.8 times the tail length. Between the preanal organ and the anus are two subventral rows of short strong setae, numbering 10-11 in each row ; in front of the preanal organ is a long row of setigerous papillae, varying in number up to 25 pairs.

STATION 39 : 66° 10' S., 49° 41' E., T M L : 300 m.

Big haul characterized by silicious sponges with glass rope spicules. *Synapta*-like Holothurian common ; many Polyzoa of different species.



19. *Phanoderma steineri* : (a) anterior end ; (b) tail of female ; (c) tail of male.