

***Theristus pratti* n. sp., a Marine Nematode from Kenya**

D. G. MURPHY and A. G. CANARIS\*

A here-to-fore undescribed species of marine nematode was recovered in relatively high abundance from a small collection of nematodes taken from a sandy shore in Mombasa, Kenya. *Theristus pratti* n. sp. is a member of a small, closely related, cosmopolitan group of marine and brackish-water nematodes (see: Remarks) which can be readily distinguished from the remainder of the genus through the structure of the spicular apparatus. Proper separation of this new species from closely related, previously described species would not have been possible had we not had access to the specimens from which two of the earlier descriptions were made. The successful pursuit of the systematics of such nematode groups will depend upon more thorough descriptions than those that are generally to be found in the existing literature of free-living marine nematodes: proper establishment of type-material, on permanent mounts, is essential.

The species is named in honor of Professor Dr. Ivan Pratt of Oregon State University, Corvallis.

## DESCRIPTION OF MALE (figures 1 and 3 A-F, I&amp;J).

L = 2.23 mm., a = 38.4, b = 6.1, c = 8.0 (holotype); L = 2.00 mm, a = 38.1, b = 6.0, c = 8.6; L = 1.92, a = 37.4, b = 5.8, c = 8.0.

In general appearance both sexes conform closely (figures I & 2B). There is no evidence of the sexual dimorphism that is occasionally manifested within the genus (in particular as a difference in the number of cephalic setae).

The cuticle bears fine striations: the annules in the mid-body region averaging 2.25 microns in width. There appears to be a consistency in the absolute number of striations to be found on the body. We attempted to count the striations lying between the head (counting from the anteriormost striation) and the anterior rim of the amphid, the diameter of the amphid measured in striations (this count including the striation on either end of the amphid to which the amphid is tangent or almost tangent), and the number of striations on the tail counted in optical section from the ventral side from the first striation posterior to the anus to the last striation anterior to the spinneret. The striations in the head region were too faint to permit an accurate count. Those encompassing the amphid consistently numbered nine. An exact count of striations on the tail was very difficult to achieve; however, for purposes of magnitude the count ranges between 135 and 140 striations. The annules are very slightly, but none-the-less distinctly, directional in the cervical and tail regions, i.e. in the cervical region the anterior portion of each annule is slightly raised in relation to the posterior portion and each annule appears to be slanted forward (optical section).

There are six, stout labial papillae of about 4 microns in length; fourteen cephalic setae in one circle, the long and the short being about 20 microns and 12 microns long respectively. Somatic setae are present in six rows corresponding in position to the cephalic setae, plus four rows which lie sublaterally: a total of ten rows. The setae in the sublateral rows are often paired and occasionally paired in the subventral and subdorsal rows. Details of genital and caudal setae are given in figures 1 and 3J.

\*Respectively: guest researcher at the Zoologisches Staatsinstitut, Hamburg; and Egerton College, Njoro, Kenya on AID contract from West Virginia University. This investigation was supported in part by a Public Health Service fellowship GPD-18,939 from the Nat'l Institute of General Medical Sciences.

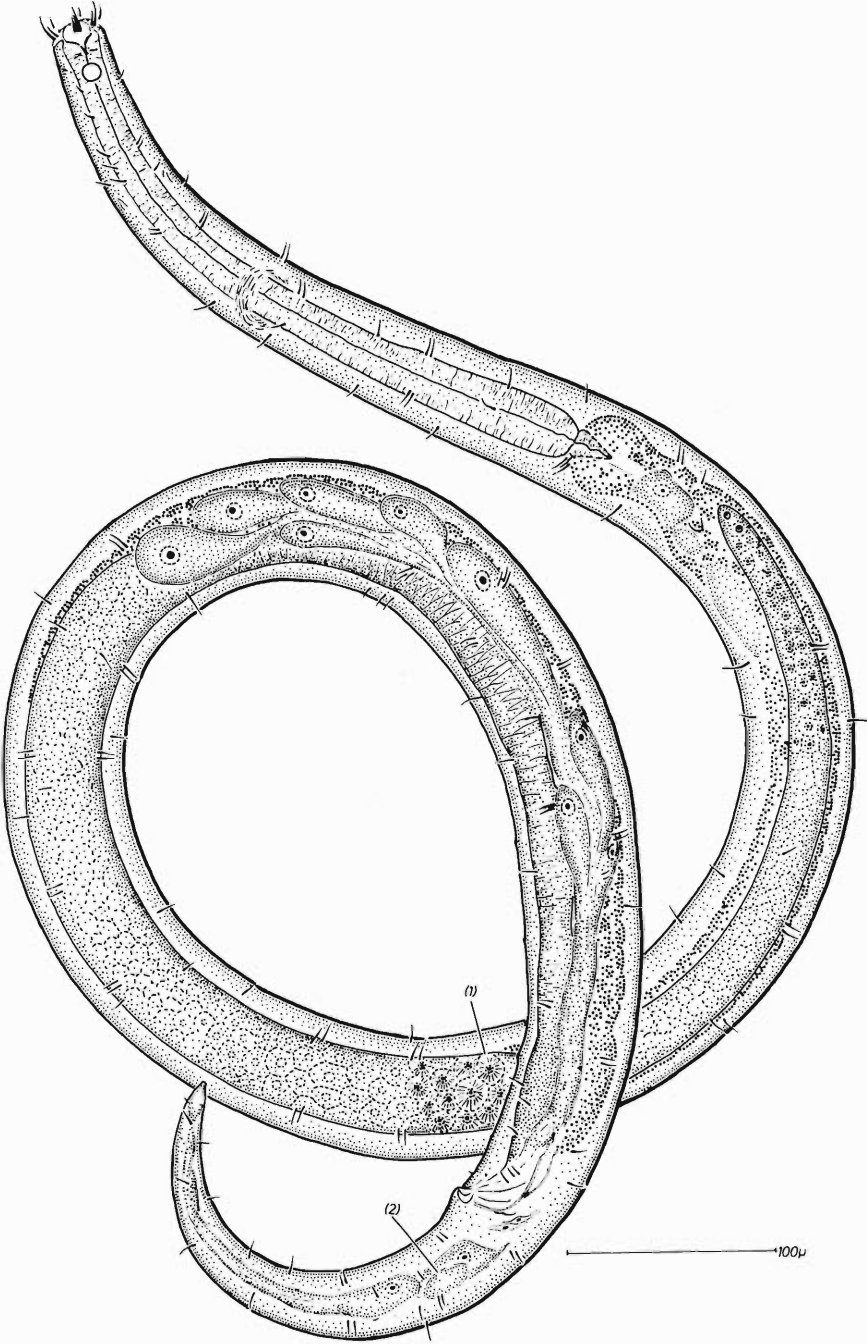


Fig. 1. *T. pratti*, holotype: male, (numerals referred to in text).

Six lips are present, corresponding in position to the labial papillae. They are very thin and transparent. Each lip is strengthened by three ridges or folds of cuticle, accounting for the four striations attributed to each lip in species of this genus when viewed laterally.

The amphid is circular, 10 microns in diameter (29% of the corresponding head diameter) and located (from anterior rim of amphid) about 32 microns posteriad.

The esophagus is cylindrical, slightly broader in the stomal region, and broadening gradually posteriorly. The basal 27% of the esophagus is often recognizable as a distinct region having a greater diameter and a slight difference in appearance in musculature. The body diameter at the base of the esophagus is 48 microns.

The excretory pore appears to lie at a level just forward of the amphid; however, it is weakly sclerotized and could have been confused with numerous hypodermal gland openings.

Several glands occupying ventral and subventral positions are found external to the anterior end of the intestine. The complex would presumably contain both the excretory and esophageal glands.

The testes are paired, outstretched. One stage of cell development in the testis is remarkable because of numerous "lines" radiating outward from the nucleus of the germinal cells, [figure 1 (1)]. The spicules are complex (figure 3F), bear a "double" lateral projection which distally becomes the dorsal portion of the spicule. What is proximally the dorsal portion of the spicule is united distally with the ventral portion. A gubernaculum is present: paired (or forked; a projection over either spicule). There is a pair of prominent lateral pieces usually considered as part of the gubernaculum, but considered by the authors as sclerotized copulatory gland openings, (a manuscript on the comparative morphology of these structures is in preparation by the senior author). A series of about eight glands (Figs. 1 & 3 D-E) extends relatively far anteriorly, and exit in the cloacal region. These may be the same glands referred to in some instances as ejaculatory glands, but it is our opinion that they exit via the lateral pieces and not into the cloaca or vas deferens. Similar glands are not to be found in females. And glands were not observed in the cloacal region of the male, but could have been obscured by spicular musculature, etc., whereas these glands are readily observed in the female.

At least five, perhaps six, preanal, tuboid supplements are present. In some cases these are as obvious as those found in the genus *Paracanthochus*. Such supplements appear to be commonly present in the genus, although usually very weakly sclerotized and thus seen only with careful study. As a rule they have been over-looked in most descriptions.

The tail is cylindro-conical, 5.4 anal diameters long. There appear to be only two fully developed caudal glands present. Cells have been observed which could be interpreted as a reduced or vestigial third caudal gland [figure 1 (2) & 2A (1)].

#### DESCRIPTION OF FEMALE (figures 2A-B).

L = 2.18 mm., a = 33.8, b = 6.4, c = 8.7, V = 65.6%, Ov = 45% (allotype); L = 2.14 mm., a = 30.9, b = 5.8, c = 9.0, V = 66.0%, Ov = 49%; L = 1.90 mm., a = 31.3, b = 6.2, c = 8.3, V = 66.0%, Ov = 46%.

For general morphology the reader is referred to the description of the male. Measurements for the allotype are as follows: amphid 10 microns in

diameter (interrupting a total of nine striations), located about 30 microns posteriad. Corresponding head diameter at the level of the amphid is 30 microns. Body diameter at: base of esophagus = 48 microns, vulva = 56 microns, and anus = 39 microns.

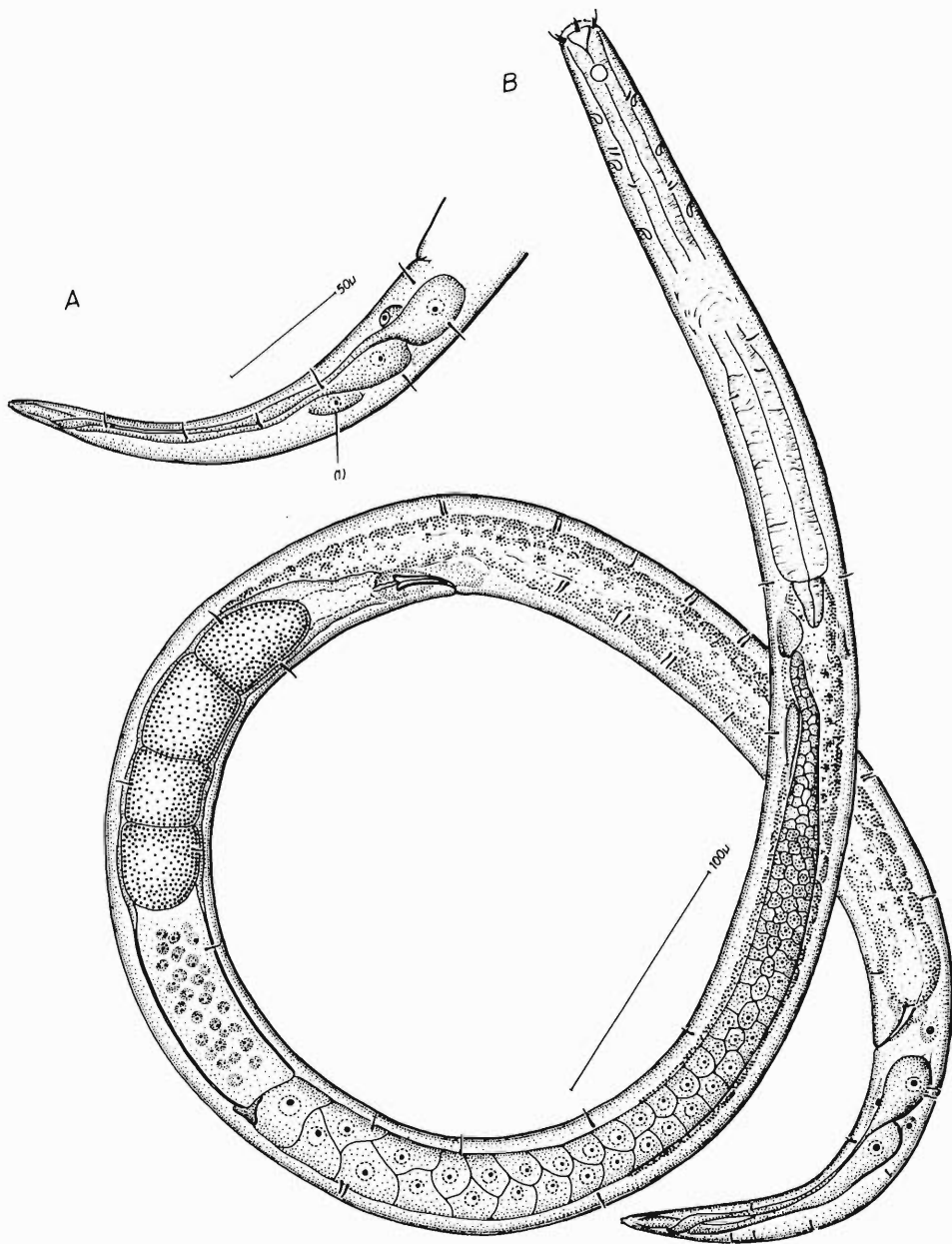


Fig. 2. *T. pratti*. A, female tail. B, allotype: female.

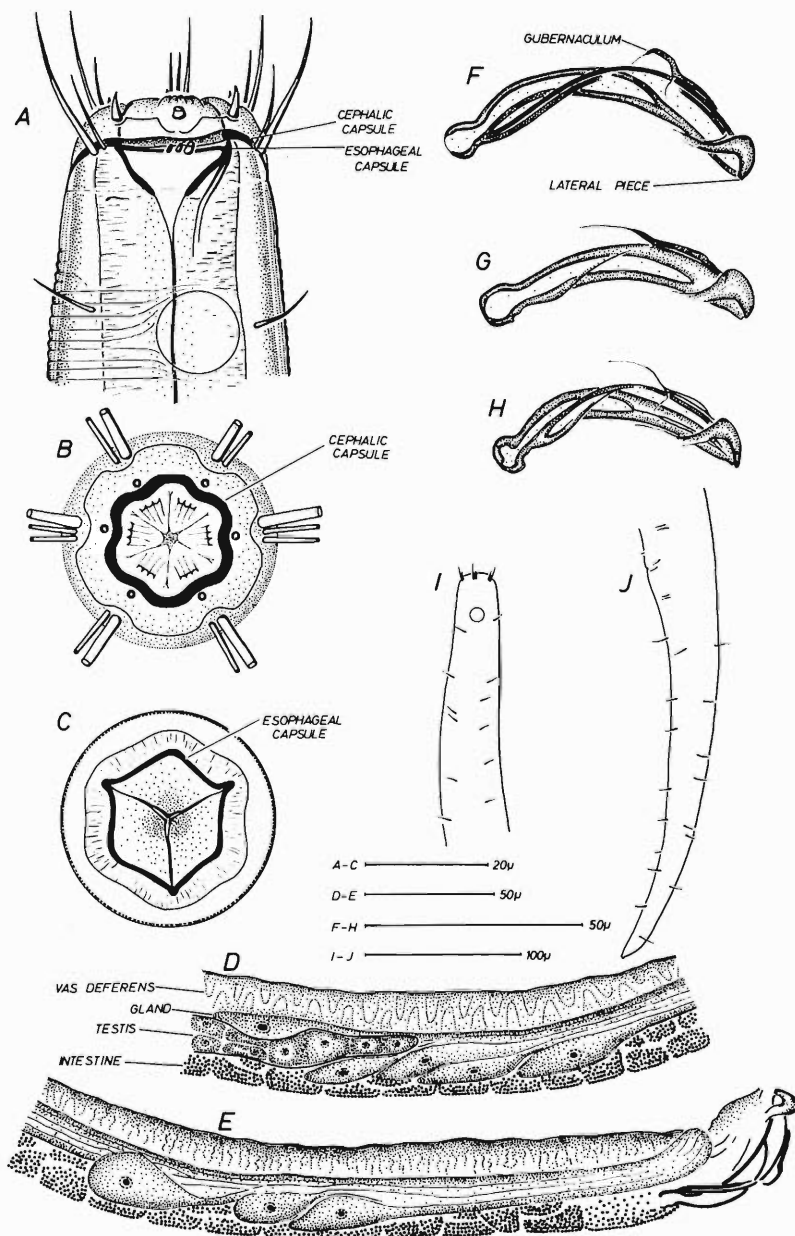


Fig. 3. A-F, I&J = *T. pratti*. A, lateral view of head; male. B, face view of male. C, optical section of head immediately below level of cephalic setae; male. D & E, continuous illustration of region of copulatory glands of male. F, spicular apparatus. G, *T. metaflevoensis*, spicular apparatus. H, *T. macroflevoensis*, spicular apparatus. I & J, respectively anterior and caudal regions showing setae arrangement of a paratype.

Setae length and arrangement as well as shape, number, and arrangement of ventral, esophageal and caudal glands approximate the description given of the male.

One outstretched ovary is present. The spermatheca is usually large and distinct. The number of eggs to be found in the uterus varies according to the development of the individual. The vagina is heavily sclerotized.

The tail is cylindro-conical, 5.6 anal diameters long.

#### REMARKS

HOLOTYPE, allotype, and paratypes are being maintained temporarily by the authors in collection DM-120. Institutional deposition will be published at a later date. The material was collected on 4 December 1963 by A. G. Canaris.

TYPE-LOCALITY: inter-tidal shore of the North Channel, 200 yards northeast of Fort Jesus, Mombasa, Kenya. The collection site is exposed at low-tide, but kept moist by fresh-water seepage.

RELATED SPECIES: *T. pratti* is most closely related to *T. macroflevensis* Gerlach, 1954, and *T. metaflevensis* Gerlach, 1955. Through the kindness of Prof. Dr. Gerlach, the type-material of both species was made available for comparative studies. The specimens are not particularly well preserved, and thus lack some desirable definition of detail, e.g. of glandular structure. The three species can be separated with relative ease on the basis of the structure of the male genital apparatus (Fig. 3F-H). One should note the shape of the lateral-pieces and gubernaculum, in particular in the case of the latter of *T. pratti*, the sharply bent proximal end. The strong, double lateral projection of the spicules of this species is also distinctive. *T. pratti* is further distinguished from the aforementioned species by the genital apparatus being larger, and by stouter (broader) cephalic setae, in particular the six long setae. Of these three species, *T. macroflevensis* is unique in that the vulva is more posteriorly located, about 75%.

*T. flevensis* Stekhoven, 1935 and *T. ambronensis* Schulz, 1936 also belong to this group of nematodes. Although they are not so closely related to *T. pratti* as the two previously mentioned species, they, too, can be distinguished at least from *T. pratti*, by the structure of the male genitalia: in particular that they both possess much weaker developed spicules than the African species. The latter is, as well, a larger nematode than the species of Stekhoven and Schulz. *T. bipunctatus* (G. Schneider, 1906) Filipjev, 1930, probably also related to these forms, if not identical to one of them, is inadequately described and is considered by the authors as a dubious species.

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