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ON SOME NEMATODES FROM INVERTEBRATES IN  
NORTHERN INDIA. PART I

by

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SUMMARY

In this part of the paper the authors have dealt with nine species of nematodes belonging to nine genera under the family Thelastomatidae Travassos, 1929 and super family Oxyuroidea Railliet, 1916, from various arthropods (insects and millipedes) in North India.

Of these, two are new to Science and for one of them a new genus has been erected.

In respect of already known forms intra-specific variations noticed are given. For five species both new host and locality and for two only new locality records are given.

DESCRIPTION

|             |                                 |
|-------------|---------------------------------|
| Superfamily | Oxyuroidea Railliet, 1916       |
| Family      | Thelastomatidae Travassos, 1929 |
| Genus       | <i>Welchiella</i> n.g.          |

*Welchiella poinari* n.g.n.sp.

(Figs. 1-3)

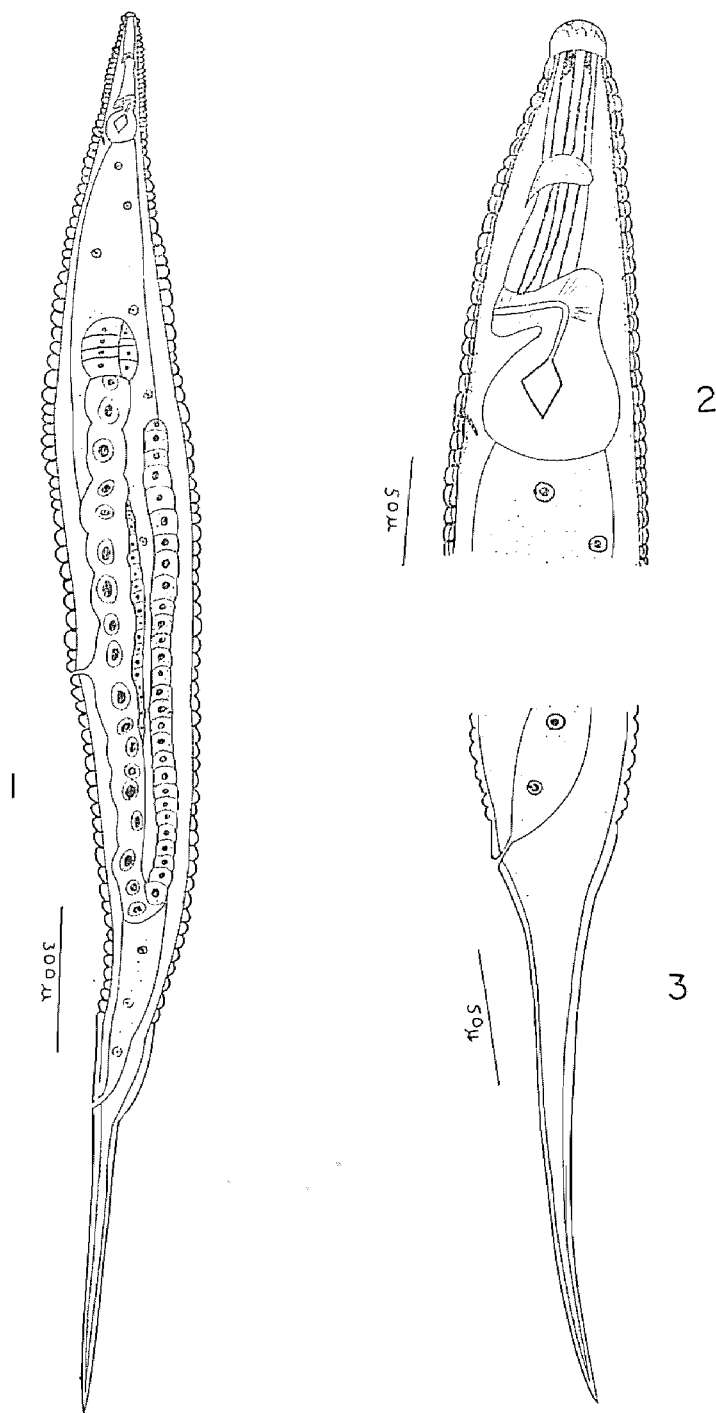
Female (n = 3): L = 2.3-2.9 mm; a = 13.1-13.5; b = 7.3-10.0; c = 3.1-3.9; V = 52.5-57.5.

Female; Body long, cylindrical, tapering at both ends; cuticle annulated; sub-cuticle present; cephalic end covered over by a flap, the latter being provided with four lip like

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Figs. 1-3.—*Welchiella poinari* n.g.n.sp. 1, entire female; 2, its anterior region; 3, its posterior region

structures anteriorly; mouth terminal; vestibule with highly chitinized walls; oesophagus long, consists of a corpus highly curved in the posterior region to form a pseudobulb type of mass over the oesophageal bulb, muscular in nature; a less distinct isthmus and a posterior valvular bulb; nerve ring in the middle of corpus at distance of 128 - 182  $\mu$  from anterior end; excretory pore posterior to base of oesophagus at a distance of 270-300  $\mu$  from the anterior end; vulva at about the middle of body; ovaries two; eggs oval, 64-80  $\mu$  long, 45-48  $\mu$  broad, laid singly, each egg provided with a thick and smooth shell.

Male : Not found  
Host : *Periplaneta americana* Linn.  
Location : Intestine  
Locality : Chandigarh (U.T.), India

Discussion: The present genus has been placed in the family Thelastomatidae Travassos, 1929 in view of its having the characters viz., mouth of female surrounded by eight sub-median labiopapillae; oesophagus consisting of an anterior corpus; a more or less distinct isthmus and a posterior valvular bulb; female with two ovaries.

The family Thelastomatidae so far comprises 26 genera viz., *Hammerschmidtella* Chitwood, 1932; *Aorurus* Leidy, 1849; *Blattophila* Cobb, 1920; *Leidynema* Leidy, 1849; *Leidynemella* Basir, 1956; *Artigas* Christie, 1934; *Johnstonia* Basir, 1948; *Galebia* Chitwood, 1932; *Blattellicola* Basir, 1940; *Blatticola* Schwenk, 1926; *Pseudonymous* Diesing, 1857; *Binema* Travassos, 1925; *Hystriognathus* Leidy, 1861; *Lepidonema* Cobb, 1898; *Suijunema* Chitwood, 1932; *Cameronia* Basir, 1948; *Euryconema* Chitwood, 1932; *Schwenkiella* Basir, 1948; *Thelastoma* Leidy, 1849; *Severanoia* Schwenk, 1926; *Gryllophila* Basir, 1956; *Cephalobellus* Cobb, 1920; *Linstowiella* Basir, 1956; *Protrelloides* Chitwood, 1932; *Protrelleta* Chitwood, 1932 and *Protrellus* Cobb, 1920.

The new genus differs from all the above genera in having a corpus which is highly curved in the posterior region to form a pseudobulb type of mass over the oesophageal bulb. The latter is joined to the oesophageal bulb by means of a less distinct isthmus. The new genus resembles the genera *Euryconema* and

*Schwenkiella* in having a filiform female tail, eggs not organically fused in pairs and an excretory pore posterior to the base of the oesophagus but it differs from them on account of the highly complex structure of the oesophagus, and the shorter female tail.

In view of the above differences the present genus has been found to be new to science and named after H.E. Welch, a famous nematologist from Canada and the specific name given after Poinar, G.O. JR. a famous worker of the same field from California, U.S.A.

Differential Diagnosis: Mouth terminal, concealed in a cuticular flap; leading into a stoma with highly chitinized walls; corpus highly curved in the posterior region to form a pseudobulb type of mass over the oesophageal bulb; eggs laid singly, each egg with thick and smooth shell.

Specific diagnosis: 2.3-2.5 mm long; mouth opening concealed in a cuticular flap; stoma with highly chitinized walls; corpus curved in the posterior region; oesophageal bulb valvular; nerve ring in the middle of the corpus at about 100  $\mu$  from the anterior end; excretory pore at a distance of 260  $\mu$  from the anterior end, posterior to the base of the oesophagus; vulva at 50% of body length; ovaries two; eggs large, laid singly, each egg with a thick and smooth shell.

Genus *Welchiella* n.g. \*

Diagnosis: Thelastomatidae. Mouth of females provided with eight labiopapillae; terminal, concealed in a cuticular flap; oesophagus consisting of a corpus, highly curved in the posterior region to form a pseudobulb type of a mass over the oesophageal bulb; an indistinct isthmus and a posterior valvular bulb; intestine dilated anteriorly to form a slight cardia; vulva at 50% of the body length; ovaries two; eggs oval laid singly, each egg provided with a thick and smooth shell.

Genus *Pseudonymous* Diesing, 1857

*Pseudonymous reuhmi* n. sp.

(Figs. 4-8)

Females (n = 6): L = 3.3-3.5 mm; a = 13.9-19.5; b = 6.7-7.4; c = 8.9-14.5; V = 3.2-4.5.

Female: Body long, cylindrical, tapers at either end; neck bears a series of annules, more than sixty in number, which cover the entire oesophageal length, first annule is rather bigger in size than those behind it; body cuticle faintly annulated throughout the entire length excepting the tail region; oesophagus 480-500  $\mu$  long consists of an anterior club-shaped corpus, a short but distinct isthmus and a posterior valvular bulb; intestine dilated anteriorly to form a cardia; nerve ring in the posterior region of the corpus; tail conical; ovaries two; eggs oval, 75-85  $\mu$  long and 42-45  $\mu$  broad, covered by two spirally coiled filaments.

|          |   |                                 |
|----------|---|---------------------------------|
| Male     | : | Not found                       |
| Host     | : | <i>Hydrophilus</i> sp. (beetle) |
| Location | : | Intestine                       |
| Locality | : | Chandigarh (U.T.), India.       |

Discussion: The present form has been assigned to the genus *Pseudonymous* Diesing, 1857 in view of its having the characters viz., mouth surrounded by eight labiopapillae; oesophagus consisting of an anterior club-shaped corpus, an isthmus and a posterior valvular bulb; excretory pore anterior to the base of oesophagus.

This genus comprises five species namely *P. spirotheca* (V. Gyory, 1856) Diesing, 1857; *P. islamabadi* (Basir, 1941) Basir, 1956; *P. hydrophili* (Galeb, 1878) Stiles and Hassall, 1905; *P. hydroi* (Galeb, 1878) Stiles and Hassall, 1905 and *P. multiannulata* Fotedar, 1964.

The present form differs from all the above forms in the number of the neck annules. In *P. hydroi* the neck annules are absent. In the presence of neck annules the new form stands close to the remaining species. But differs also from them since

\* (Discussion regarding its proposal as a new genus is given vide infra)

in *P. hydrophili* there are two neck annules, the first one is bigger than the second; in *P. spirotheca* (tail filiform, body behind neck smooth) ten annules; in *P. islamabadi* nine neck annules and in *P. multiannulata* thirty (female tail filiform, body behind neck smooth).

Differential Diagnosis: Neck annules sixty, the remaining part of the body also finely striated.

Genus *Artigas* Christie, 1934

*Artigas hoehnei* (Artigas, 1926) Christie, 1934

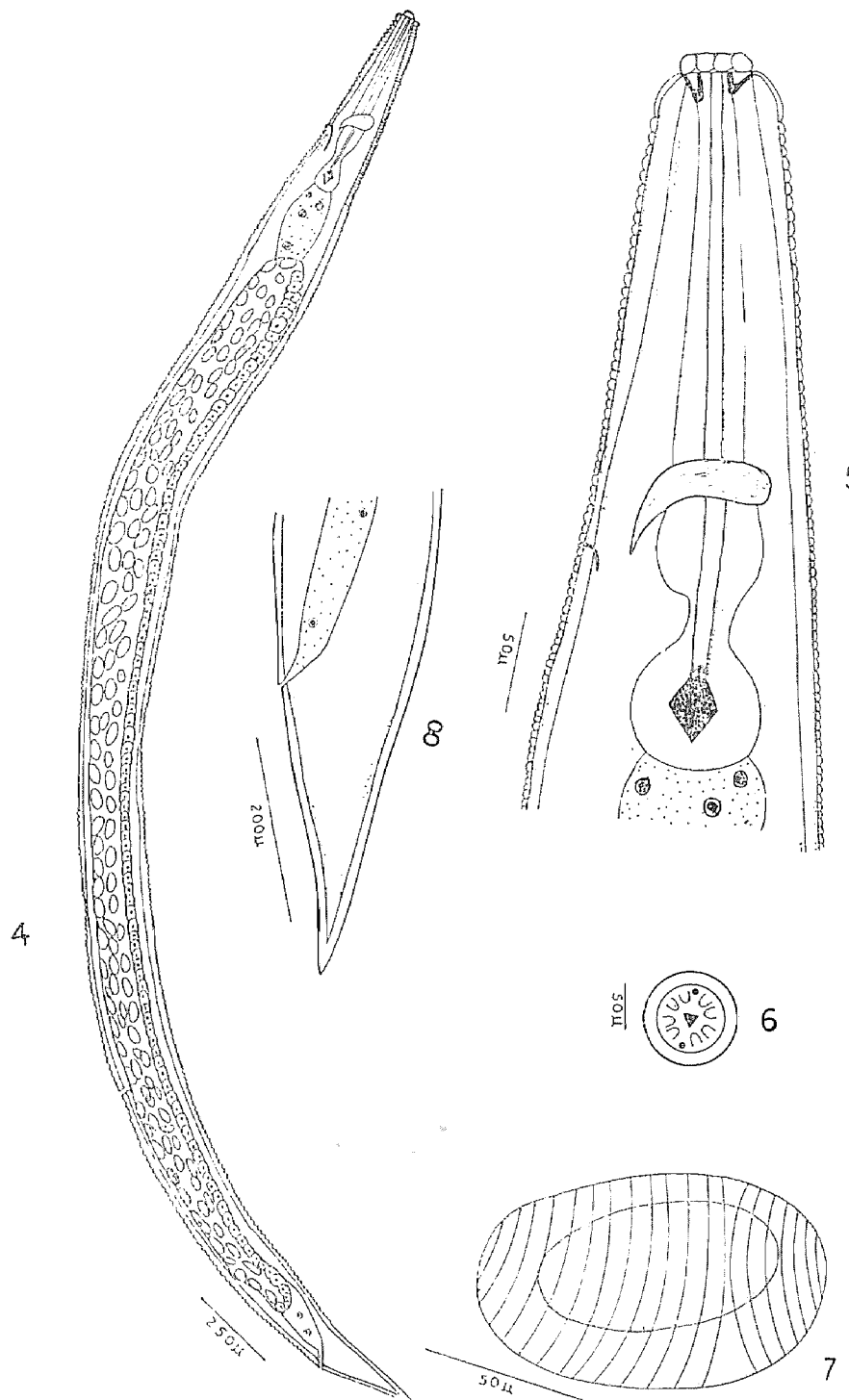
(Figs. 9-11)

Female (n = 10); L = 410-425  $\mu$ ; a = 14.5-14.7; b = 3.1-3.5; c = 9.1-10.0; V = 70-71.1.

Female: Body cylindrical; cuticle of anterior part of body provided with very small spines which disappear anterior to oesophageal bulb; head provided with a cephalic dilation; buccal cavity long; oesophagus consists of a lightly claviform corpus, an isthmus and a posterior bulb; nerve ring situated in the middle of corpus; anus very near to the posterior end of body; tail filiform; ovary single; eggs elongated elliptical.

Male : Not found  
Host : *Onthophagus catta* (beetle)  
Location : Body cavity  
Locality : Chandigarh (U.T.), India.

Remarks : Authors' observations on *Artigas hoehnei* (Artigas, 1926) Christie, 1934 stand close to those of its original description. Minute variations noticed are listed in Table I. A new host a new locality, Chandigarh have been recorded for this worm.



Figs. 4-8.—*Pseudonamous reuhmi* n.sp. 4, entire female; 5, its anterior region; 6, en face view; 7, egg; 8, posterior region of female

Table I

*Artigasia hoehnei* (Artigas, 1926) Christie, 1934

| S.No. |           | According to<br>Christie, 1934 | Authors,<br>observations             |
|-------|-----------|--------------------------------|--------------------------------------|
|       | Female:   |                                |                                      |
| 1.    | c - value | 5.1                            | 9.1-9.3                              |
| 2.    | V - value | 45.1                           | 70-71.1                              |
| 3.    | Host      | Passalid<br>beetle             | <i>Onthophagus catta</i><br>(beetle) |
| 4.    | Locality  | Sao Paulo,<br>(Brazil)         | Chandigarh (U.T.),<br>India          |

Genus *Cephalobellus* Cobb, 1920

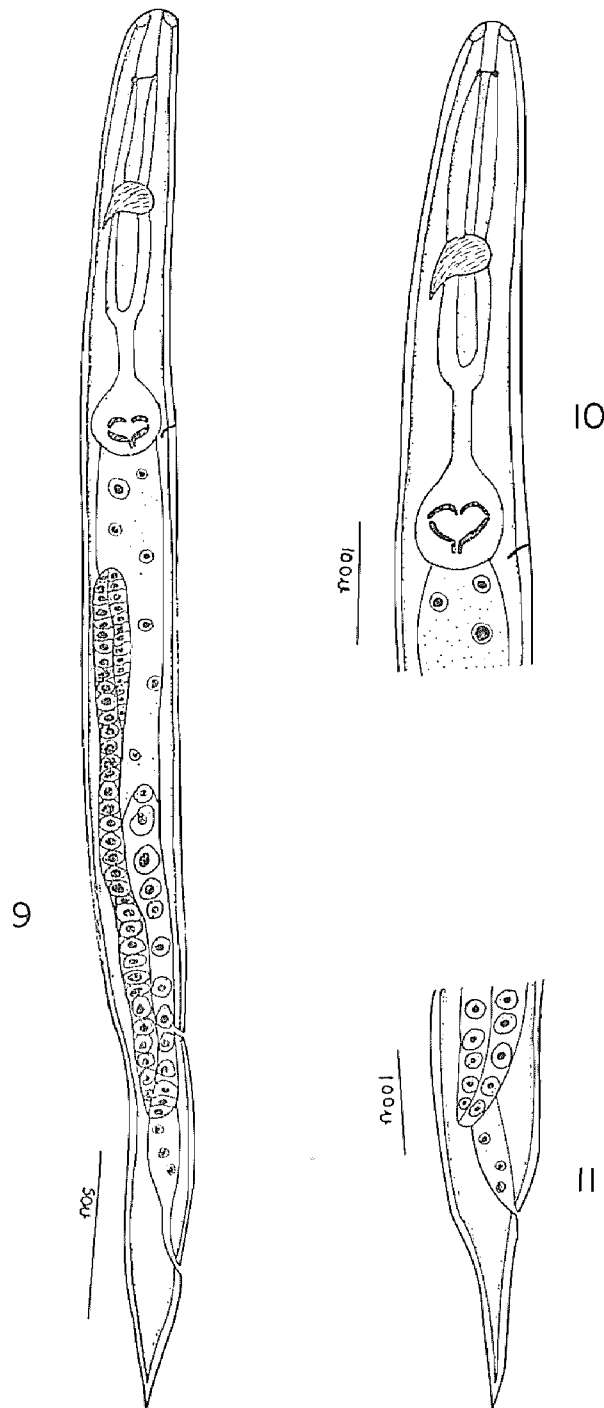
*Cephalobellus papilliger* Cobb, 1920

Syn. *Scarabonema cylindricum* Christie, 1931

(Fig. 12-14)

Females (n = 3): L = 2.4-3.1 mm; a = 12.5-15.0; b = 5.7-6.9; c = 4.4-4.8; V = 51.4-56.4.

Female: Body nearly cylindrical tapering at both the ends; cuticle coarsely striated; head truncate; mouth opening sub-triangular; buccal cavity cylindrical; oesophagus consisting of an anterior corpus with generally increases in diameter posteriorly, abruptly reducing before joining isthmus; and a posterior valvular bulb; intestine dilated anteriorly to form a distinct cardia varying in different individuals; excretory system H-shaped, excretory pore about 500  $\mu$  from anterior end, excretory ducts conspicuous in the region of the excretory pore; nerve ring at a three fourth of the length of the corpus, from anterior end; vulva near middle of body, not salient; vagina directed anteriorly; uterii divergent and ovaries two; eggs numerous ellipsoidal 65-75  $\mu$  long by 50-65  $\mu$  wide, deposited before segmentation.



Figs. 9-11.—*Artigasia hoehnei* (Artigas, 1926) Christie, 1934. 9, entire female; 10, anterior region; 11, posterior region

Male : Not found  
 Host : *Periplaneta americana* Linn.  
 Location : Intestine  
 Locality : Chandigarh (U.T.), India  
 Remarks : A new host and a new locality have been reported for *Cephalobellus papilliger* Cobb, 1920. Variations observed from its original description are given in Table II.

Table II

*Cephalobellus papilliger* Cobb, 1920

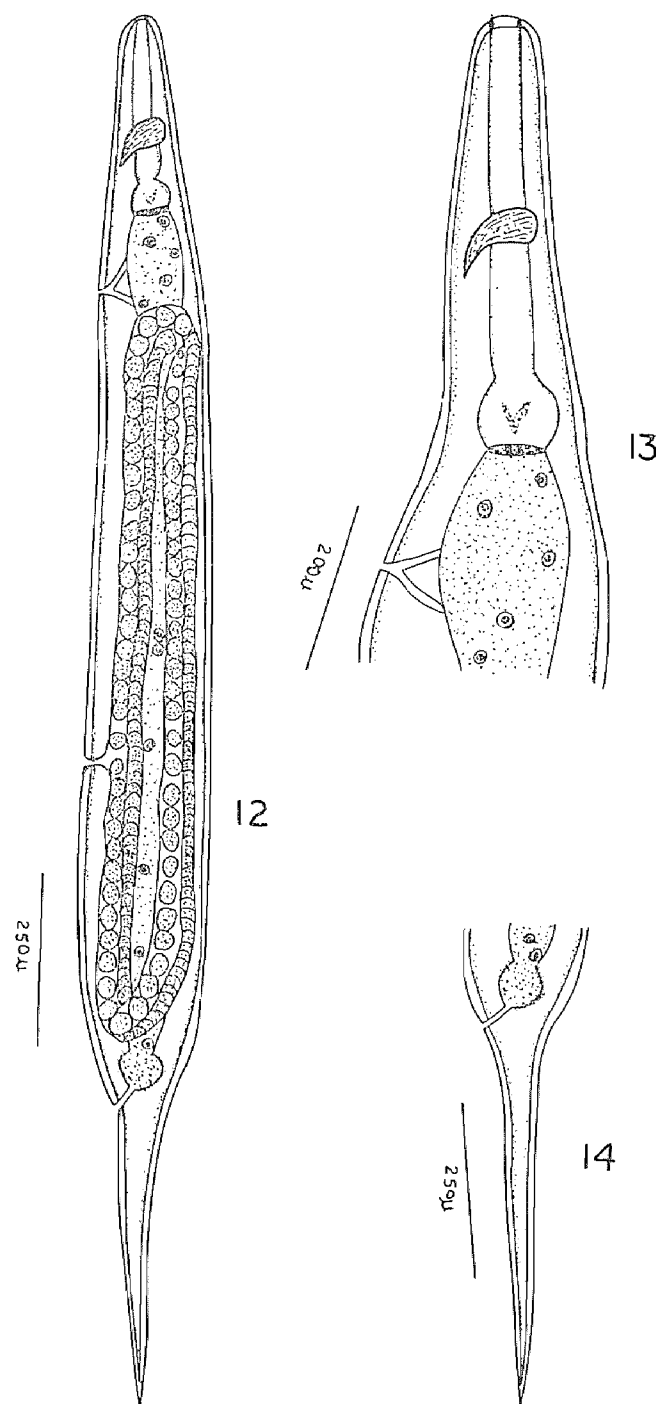
| S.No. |           | According to<br>Cobb, 1920   | Authors,<br>observations               |
|-------|-----------|------------------------------|----------------------------------------|
|       | Female:   |                              |                                        |
| 1.    | C - value | 10                           | 4.4-4.8                                |
| 2.    | L         | 3.5 mm                       | 2.4-3.1 mm                             |
| 3.    | Host      | Scarabaeid<br>larva          | <i>Periplaneta<br/>americana</i> Linn. |
| 4.    | Locality  | Woods Hole<br>(Mass, U.S.A.) | Chandigarh (U.T.)<br>India             |

Genus *Hammerschmidtella* (Hammerschmidt, 1838) Chitwood, 1932

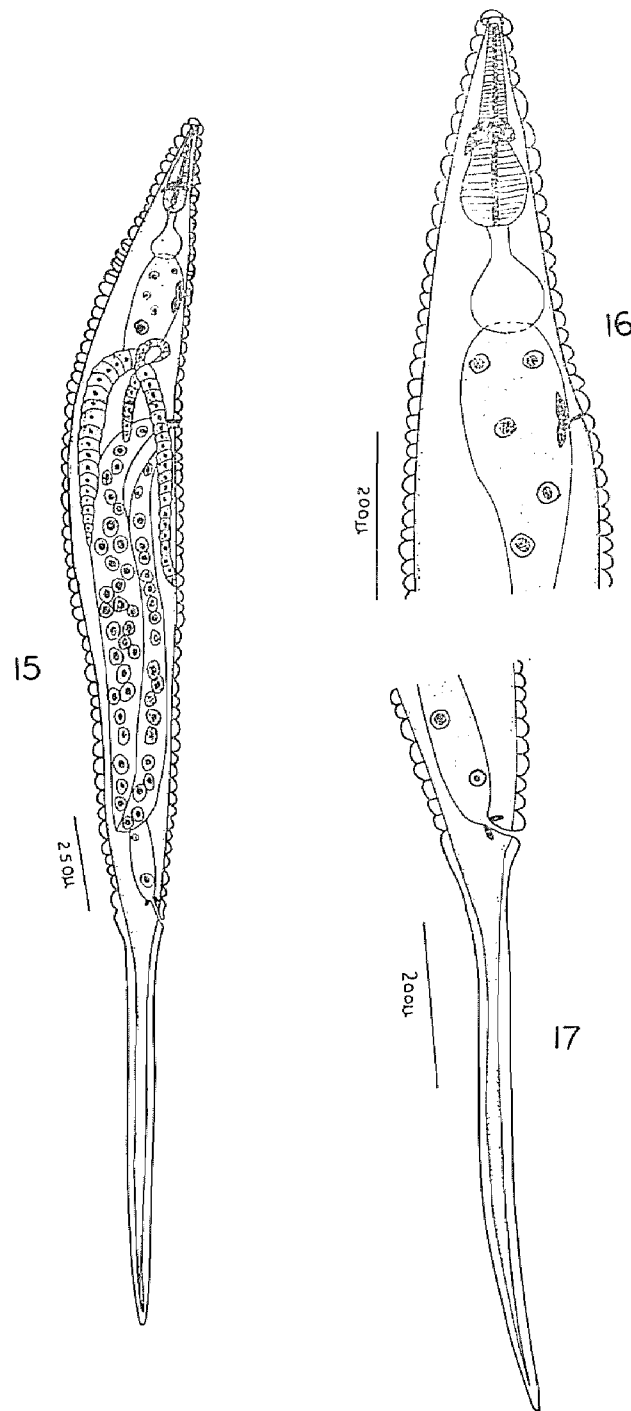
*Hammerschmidtella diesingi* (Hammerschmidt, 1838) Chitwood, 1932

Syn. *Oxyuris diesingi* Hammerschmidt, 1838;  
*Oxyuris blattae orientalis* Hammerschmidt, 1847;  
*Streptostomum gracile* Leidy, 1850;  
*Anguillula macrura* Diesing, 1851;  
*Aorurus diesingi* (Hammerschmidt, 1838) Travassos, 1929;  
*Aorurus (Streptostoma) diesingi* (Hammerschmidt, 1838) Walton, 1927;  
*Aorurus (Streptostoma) blattae-orientalis* (Hammerschmidt, 1847) Walton, 1927

(Figs. 15-17)



Figs. 12-14.—*Cephalobellus papilliger* Cobb, 1920. 12, entire female. 13, anterior region; 14, posterior region



Figs. 15-17.—*Hammerschmidtella diesingi* (Hammerschmidt, 1838)  
Chitwood, 1932. 15, entire female; 16, anterior region;  
17, posterior region

Female ( $n = 10$ ):  $L = 2.7-3.1$  mm;  $a = 13.7-14.1$ ;  $b = 8.0-9.2$ ;  $c = 3.0-4.1$ ;  $V = 20.7-21.2$ .

Female: Body long, cylindrical, abruptly tapering at both the ends; cuticle annulated; oesophagus consisting of a corpus, which consists of an anterior cylindrical part and a posterior somewhat ovoid pseudobulb; an isthmus distinctly set off; and a pyriform bulb; nerve ring situated anterior to the pseudobulb  $110-125 \mu$  from the anterior end of body; excretory pore posterior to the base of oesophagus  $400-450 \mu$  from the anterior end of body; intestine enlarged anteriorly to form a cardia; anus  $900-950 \mu$  from the posterior end of body; tail filiform highly variable in length; vulva  $570-585 \mu$  from anterior end of body; vagina long, directed obliquely posteriorly, opening into a common sac-like uterus which extends posteriorly; ovaries two, both anterior, lying coiled in the region of the vagina; both extend posteriorly to about two thirds of the body where they communicate with the oviducts which run anteriorly about half way to the vulva where they are reflected and run backwards until they join the uterus at its posterior extremity; eggs  $65-75 \mu$  long by  $40-45 \mu$  wide.

Host : *Periplaneta americana* Linn.

Location : Intestine

Locality : Chandigarh (U.T.), India

Remarks : The authors' observations on *Hammerschmidtella diesingi* (Hammerschmidt, 1838) Chitwood, 1932 stand close to those of its original description. A new locality has been recorded for the parasite. Minute variations observed have been enlisted vide Table III.

TABLE III  
*Hammerschmidtella diesingi* (Hammerschmidt, 1938)  
Chitwood, 1932

| S.No. |              | According to<br>Chitwood, 1932 | Authors,<br>observations |
|-------|--------------|--------------------------------|--------------------------|
|       | Female:      |                                |                          |
| 1.    | a - value    | 13.3-16.4                      | 13.7-14.1                |
| 2.    | V - value    | 22-26                          | 20.7-21.2                |
| 3.    | Eggs: length | $76-80 \mu$                    | $65-75 \mu$              |
|       | width        | $30-32 \mu$                    | $40-45 \mu$              |

Genus *Hystriognathus* Leidy, 1850

*Hystriognathus rigidus* Leidy, 1850

Syn. *Anguillula (Hystriognathus) rigidus*  
Leidy, 1850) Diesing, 1861

(Figs. 18-22)

Larval female (n = 10): L = 480-510  $\mu$ ; a = 12.5-13.1;  
b = 4.3-4.7; c = 5.7-6.0.

Larval female: Body curved in the middle; tapering at both the ends; body cuticle coarsely striated; provided with 16 rows of backwardly directed longitudinal spines in the cervical region; oesophagus consists of an anterior corpus, which is rather long; an indistinct isthmus and a posterior valvular bulb; intestine dilated anteriorly to form a slight cardia; nerve ring in the middle of the corpus; excretory pore posterior to the base of oesophagus; intestine leads posteriorly to the anus, body at once tapers behind the anal opening. Adult female and male: Not found.

Host: *Melolonthus melolonthus* (beetle)

Location : Body cavity

Locality : Dehradun (U.P.), India

Remarks : Authors' observations on *Hystriognathus rigidus* Leidy, 1850 stand close to those of its original description. A new host and a new locality have been recorded for the worm.

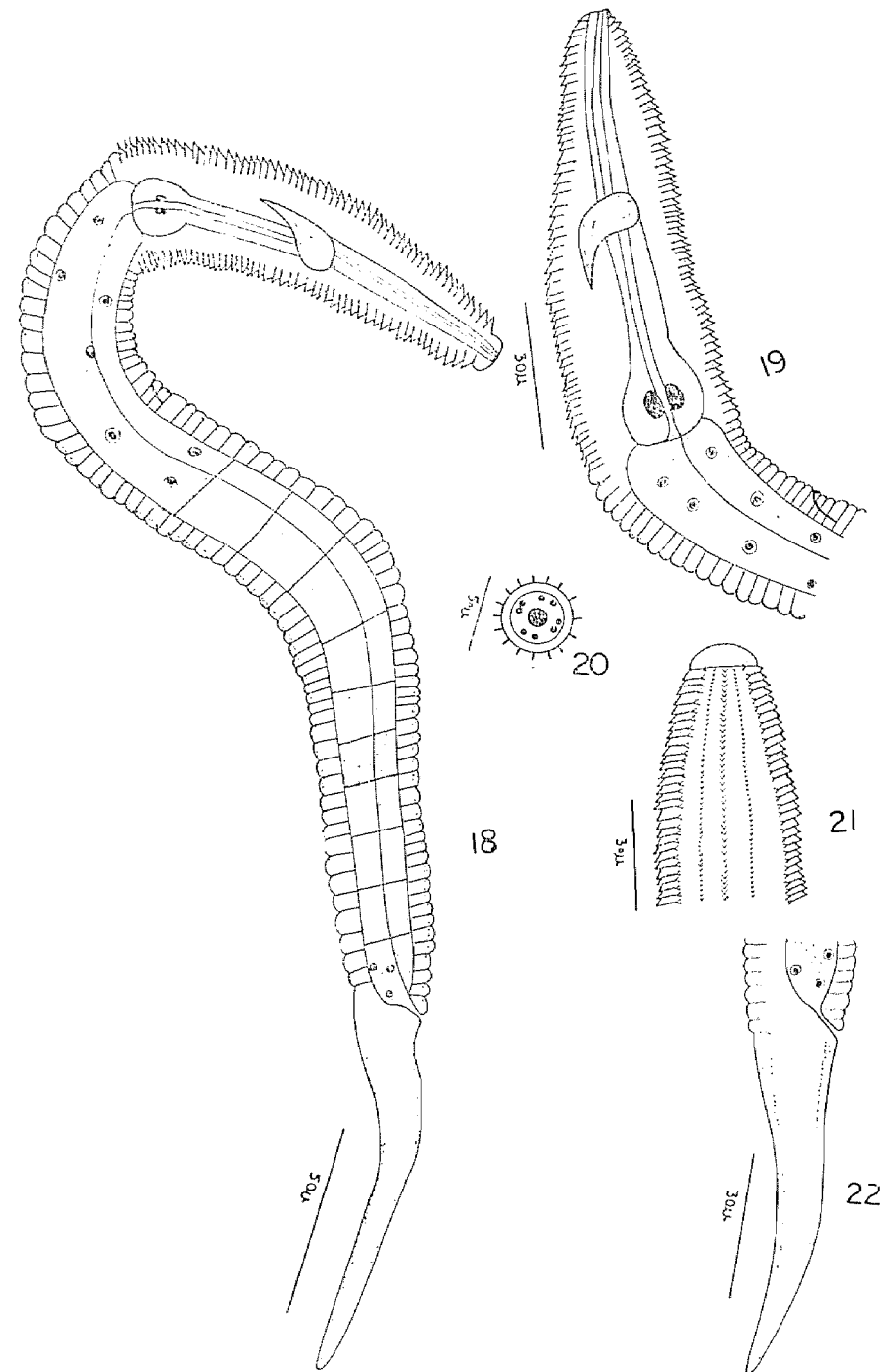
Genus *Johnstonia* Basir, 1956

*Johnstonia alatum* (Johnston, 1914) Basir, 1956

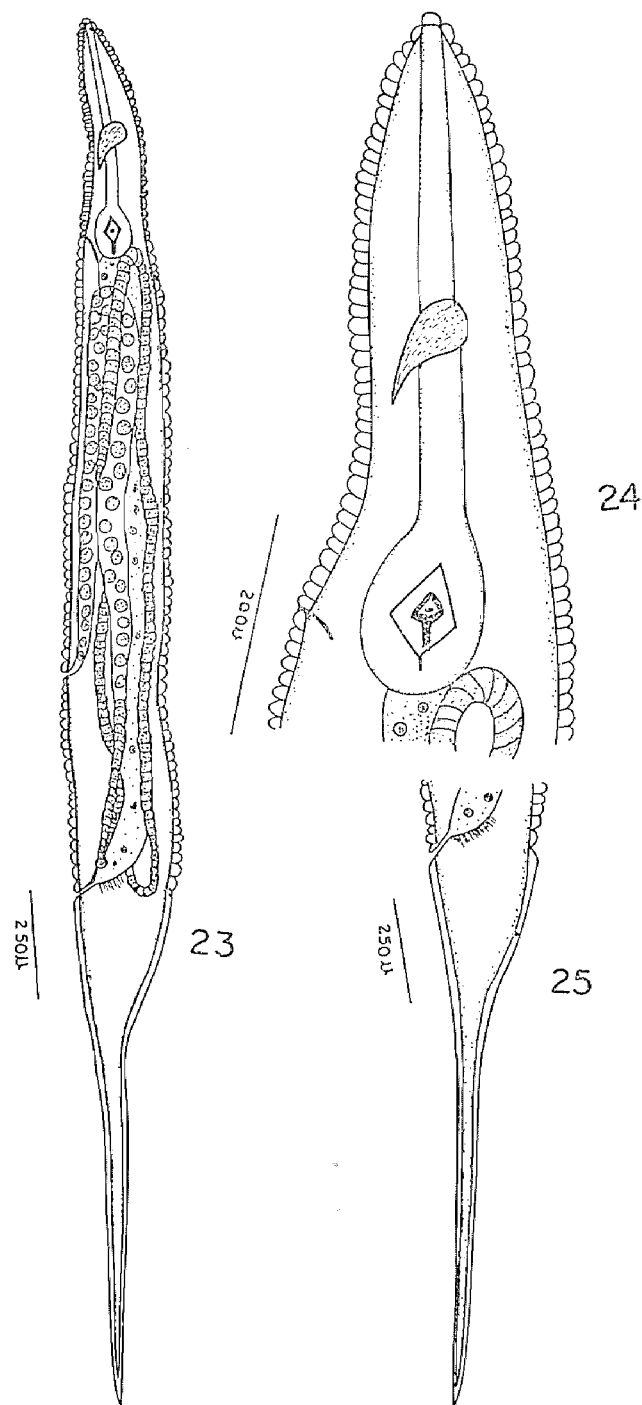
Syn. *Thelastomum alatum* Johnston, 1914;  
*Aorurus (Thelastoma) alatus* (Johnston,  
1914) Walton, 1927

(Figs. 23-25)

Female (n = 3): L = 3.3-4.4 mm! a = 13.2-14.0; b = 6.7-8.8; c = 2.3-3.2; V = 40.4-48.6.



Figs. 18-22.—*Hystriognathus rigidus* Leidy, 1850. 18, entire larval female; 19, anterior region; 20, en face view; 21, anterior region (larval female) showing rows of spines; 22, posterior region



Figs. 23-25.—*Johnstonia alatum* (Johnston, 1914) Basir, 1956.  
23, entire female; 24, anterior region; 25, posterior region

Female: Body cylindrical narrowing anteriorly in front of the base of oesophagus and posteriorly behind the anal region; cuticle annulated almost along the entire length of the body except for the tail region; oesophagus simple, cylindrical corpus, an indistinct isthmus and a posterior valvular bulb; intestine dilated anteriorly to form a distinct cardia; nerva ring almost at the middle of the corpus; excretory pore in the region of the oesophageal bulb but anterior to the base of the oesophagus; vulva in the middle of the body, salient, situated on a relatively larger backwardly projecting prominence, ovary single, arising in the posterior region of body; reproductive organs forming four loops; eggs 50-85  $\mu$  long by 58-65  $\mu$  broad.

Male : Not found  
Host : *Julus* sp. (millipede)  
Location : Intestine  
Locality : Dehradun (U.P.), India

Remarks : A new host and a new locality have been reported for the worm. Also, a few minor variations in the size of body and its various organs have been noted. The same are given here in a tabulated form vide Table IV.

Table IV

| <i>Johnstonia alatum</i> (Johnston, 1914) Basir, 1956 |           |                                   |                            |
|-------------------------------------------------------|-----------|-----------------------------------|----------------------------|
| S.No.                                                 |           | According to<br>Basir, 1956       | Authors,<br>observations   |
|                                                       | Females:  |                                   |                            |
| 1.                                                    | b - value | 5.8                               | 6.7-8.8                    |
| 2.                                                    | Host      | Larva of a<br>cetoniid<br>beetle  | <i>Julus</i> sp.           |
| 3.                                                    | Locality  | North<br>Queensland,<br>Australia | Dehradun (U.P.),<br>India. |

Genus *Protrellus* Cobb, 1920

*Protrellus australasiae* (Pressoa & Correa, 1926) Chitwood, 1929  
(Figs. 26-29)

Female (n = 2): L = 2.3-2.4 mm; a = 23.0-23.1; b = 13.4-15.5; c = 20.2-25.5; V = 3.2-4.5.

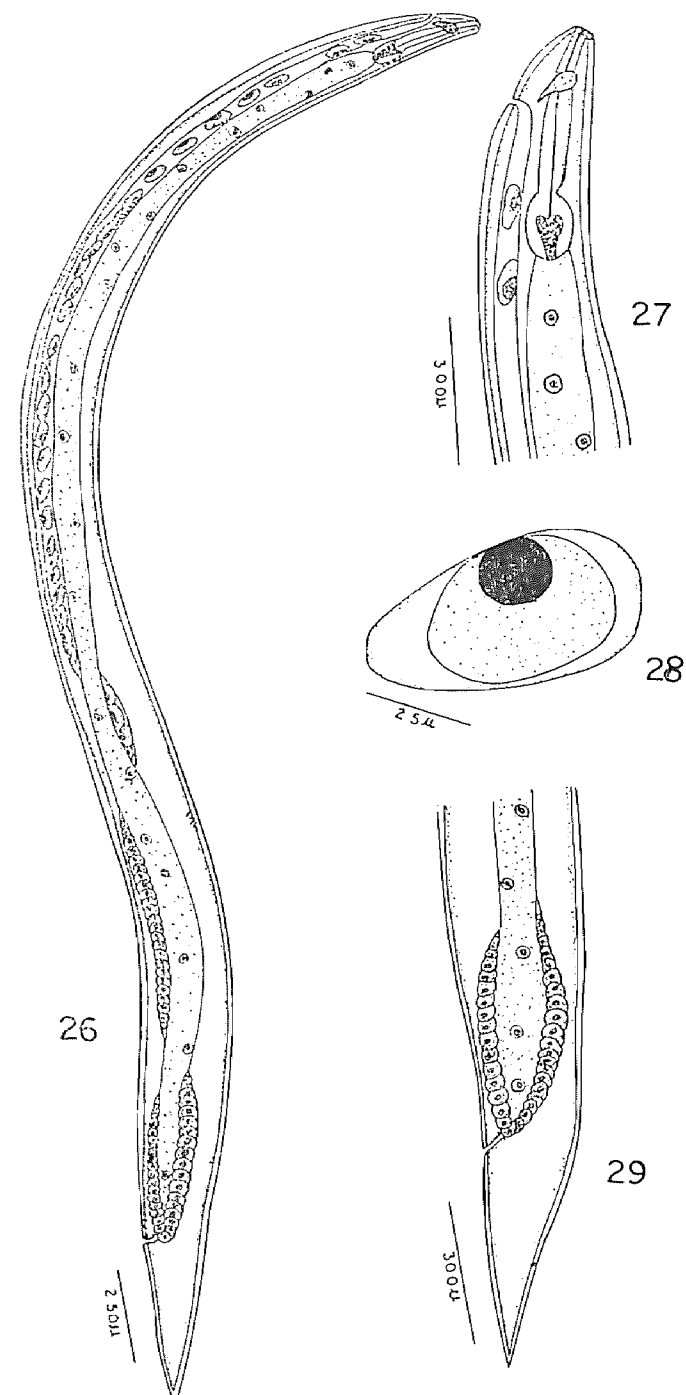
Female: Body assumes a 'C' - shaped appearance on killing, tapers at either end; cuticle smooth; oesophagus with oesophageal bulb (typical of the genus) provided with a valve; intestine dilated anteriorly to form a slight cardia; anus barely visible; ovary single, reflexed, directed posteriorly and over-lapping the intestine at times; vulva anterior to the oesophageal bulb almost in the middle of the corpus; eggs oval in shape 80-85  $\mu$  in length and 32-48  $\mu$  in diameter, provided with a cuticular cress on the lateral side which is brightly coloured, previtelline fluid yellow in colour.

Male : Unknown  
Host : *Blatta orientalis* Linn.  
Location : Intestine  
Locality : Dehradun (U.P.), India  
Remarks : The authors' observations on *P. australasiae*

Chitwood, 1929 tally with those of its original description except for slight variations in measurements which are given in Table V. A new host and a new locality are being reported here for the worm.

Table V  
*Protrellus australasiae* Chitwood, 1929

| S.No. |           | According to<br>Chitwood, 1929     | Authors,<br>observations       |
|-------|-----------|------------------------------------|--------------------------------|
|       | Female:   |                                    |                                |
| 1.    | L         | 2.7-2.75                           | 2.3-2.4                        |
| 2.    | a - value | 12.2-12.5                          | 23.0-23.1                      |
| 3.    | b - value | 6.7-6.9                            | 13.4-15.5                      |
| 4.    | V - value | 7.4-8.1                            | 3.2-4.5                        |
| 5.    | Eggs L    | 75-78 $\mu$                        | 80-85 $\mu$                    |
|       | B         | 45-47 $\mu$                        | 32-48 $\mu$                    |
| 6.    | Host      | <i>Periplaneta americana</i> Linn. | <i>Blatta orientalis</i> Linn. |
| 7.    | Locality  | Africa                             | Dehradun (U.P.), India         |



Figs. 26-29.—*Protrellus australasiae* (Pressoa and Correa, 1926) Chitwood, 1929. 26, entire female; 27, anterior region; 28, egg; 29, posterior region

Genus *Thelastoma* Leidy, 1849

*Thelastoma riveroi* Chitwood, 1932

(Figs. 30-35)

Female (n = 3): L = 2.4-2.9 mm; a = 14.0-15.4; b = 5.7-6.0; c = 4.8-5.4; V = 53.5-56.8.

Male (n = 1): L = 868  $\mu$ ; a = 10.2; b = 4.3; c = 5.7; T = 150  $\mu$ ; spicule = 30  $\mu$ .

Female: Body cylindrical, tapering at both the ends; cuticle annulated almost along the entire length except for the tail region; buccal cavity simple; oesophagus simple, cylindrical, consisting of an anterior corpus, an indistinct isthmus and a posterior valvular bulb; nerve ring near the middle of the corpus; excretory pore in the region of the middle of the oesophageal bulb; intestine dilated anteriorly to form a cardia; anus 500-700  $\mu$  from the posterior end of body; tail filiform; vulva in the middle of the body; ovaries two amphidelphic; eggs sub-spherical or oval, 65-75  $\mu$  long by 50-55  $\mu$  wide; egg shell bearing a thickened groove.

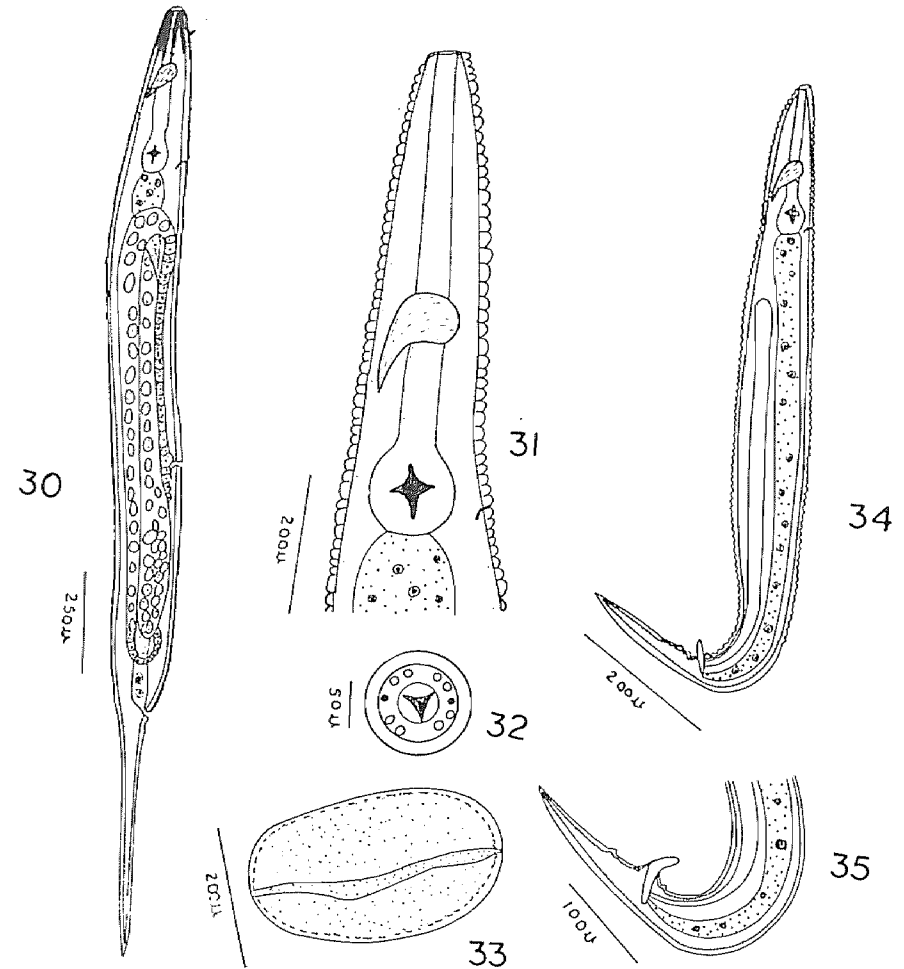
Male: Body cylindrical, curved near the posterior end; cuticle with faint annulations almost throughout the entire length except for the tail region; oesophagus simple, consisting of an anterior corpus and a posterior valvular bulb, isthmus not distinct; tail filiform, bearing a pair of sub-ventral papillae at the base of the truncated portion of the body, and a pair of sub-ventral papillae posterior to the anus; spicule single, 30  $\mu$  long.

Host : *Periplaneta americana* Linn.

Location : Intestine

Locality : Chandigarh (U.T.), India

Remarks : Authors' observations on *Thelastoma riveroi* Chitwood, 1932 are in accord with those of its original description. A new locality has been reported for the worm. Variations noted are given in Table VI.



Figs. 30-35.—*Thelastoma riveroi* Chitwood, 1932. 30, entire female; 31, anterior region; 32, en face view; 33, egg; 34, entire male; 35, posterior region of male

Table VI

*Thelastoma riveroi* Chitwood, 1932

| S.No. |           | According to<br>Chitwood, 1932 | Authors,<br>observations |
|-------|-----------|--------------------------------|--------------------------|
|       | Female:   |                                |                          |
| 1.    | b - value | 4.8                            | 5.7-6.0                  |
| 2.    | c - value | 3.5                            | 4.8-5.4                  |
| 3.    | V - value | 48.7                           | 53.5-56.8                |
|       | Male:     |                                |                          |
| 4.    | a - value | 12.1                           | 10.2                     |
| 5.    | c - value | 7.1                            | 5.7                      |
| 6.    | T         | 119 $\mu$                      | 150 $\mu$                |
| 7.    | Spicule   | 38 $\mu$                       | 30 $\mu$                 |

## EXPLANATION OF ABBREVIATION USED

n = number of specimens.

a = body length/ greatest body width.

b = body length/ distance from anterior end to junction of oesophagus and intestine.

c = body length/ tail length (anus or cloaca to tail terminus).

V = distance of vulva from anterior end  $\times$  100/ body length.

Small prefix and suffix were used to indicate the proportions of body length from the vulva occupied by anterior and posterior gonads respectively, also expressed as percentages.

T = distance from cloaca to anterior most part of testis  $\times$  100/ body length.

## RESUMEN

El trabajo versa sobre nueve especies de nematodos, pertenecientes a nueve géneros de la familia Thelastomatidae Travassos, 1929 y superfamilia Oxyuroidea Railliet, 1916, procedentes de varios artrópodos (insectos y milípedos) del Norte de la India. Dos son nuevas para la Ciencia y para uno de ellos se erige un nuevo género. Con respecto a las especies ya conocidas se exponen las variaciones intraespecíficas. Para cinco especies se dan nuevo hospedador y localidad y para dos sólo nueva localidad.

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