CUCULLANIDAE Cobbold, 1864
Cucullaninae Yorke et Maplestone, 1926
Pseudocucullanus Kalyankar, 1971
Pseudocucullanus punctatus n.sp.

One male and three female worms were collected once from the freshwater fish, Barbus punctatus at Nanded. Out of the nine fishes examined, one was found infested with these worms. The characters exhibited by these forms are: a terminal slit-like mouth, muscular oesophagus dilated anteriorly, absence of intestinal diverticulum, presence of a preanal sucker in the male and vulva being post-equatorial in female. It is, therefore, considered as a form of the family Cucullanidae. The genera included under the sub-family Cucullaninae are Cucullanus Mueller, 1777; Neocucullanus Travassos et al., 1928; Indocucullanus Ali, 1957 and Paracucullanella Agarwal, 1965. Kalyankar (1971) reported a cucullanid which does not fit into any of the above genera and therefore, in order to assign the position of the worm he erected a new genus Pseudocucullanus. These genera are thus, categorized into two groups on the basis of
Pseudocucullanus punctatum n.sp.

Figs. 1. Female : Anterior end, lateral view.

2. Female : Vulva, lateral view.

3. Female : Tail end, lateral view.

4. Male : Posterior end, lateral view.

Scale : 0.2 mm applies to fig. 1
0.3 mm applies to figs. 2, 3 & 4.
characters of head, which may be bent dorsally or may be with a straight anterior extremity. Neocucullanus, Paracucullanus and Pseudocucullanus are included in the latter category. The characters of the present form are similar to those of the genus Pseudocucullanus. A comparison of the type species with the present form shows that the two differ in body measurements, number and arrangement of caudal papillae, in size of the spicules and position of vulva. The worker, therefore, feels to describe it as new to science.

The worms are small, slender and cylindrical. The posterior end becomes narrow and ends into a conical point in both sexes. The body is covered with thin and transparent cuticle. The mouth is terminal, surrounded by two valves with a small pseudo-buccal capsule, made of two lips. Each lip bears three papillae. The inner margin of the lip consists of small, numerous conical dents. The head diameter is 0.113 mm in the male and 0.108 - 0.152 mm in the female. The nerve ring encircles the oesophagus at 0.304 mm in the male and 0.365 - 0.396 mm in the female from the head end. The excretory pore is present at 0.455 mm in the male and 0.589 - 0.669 mm in the female from the head end. The oesophagus is muscular and measures 0.759 mm in length in the male and 0.836 - 0.924 mm in the female.
Male:

It is 6.6 mm long with a maximum width of 0.264 mm. The caudal alae are not well defined. The spicules are rod shaped with conical tip and are subequal. They are 0.430 mm and 0.456 mm in length. A very distinct pseudosucker is present at 0.690 mm from tail end. There are five pairs of caudal papillae, of which, two are procloacal, one is adcloacal and remaining two are postcloacal. The gubernaculum is poorly developed. The posterior extremity is very much tapering, terminating into a sharp point.

Female:

The body length ranges between 7.766 - 8.074 mm. It has a maximum body width of 0.352 - 0.374 mm. The vulva is located at a distance of 2.728 - 3.234 mm from posterior end. The vulva opening is provided with two prominent lips with muscular sphincter. In all the three females examined, the uterus was found without eggs. The tail is sharply pointed, measuring 0.120 - 0.181 mm in length.

Discussion:

Kalyankar (1971) erected the genus Pseudocavallanus and described *P. tachymuri* as its type species from a
marine fish *Tachysurus maculatus*. The description of *Pseudocucullanus* sp. Deshmukh and Shendge, 1973 is based on a single female. It is, therefore, not taken for comparison. The form under reference differs from the type species mainly in the following characters:

1) In type species in both the sexes the body length is nearly double the body length of the present form. (Type species $\delta$ 14.31 mm and $\varphi$ 12.12 - 17.26 mm; present worm $\delta$ 6.600 and $\varphi$ 7.760 - 8.074 mm in length).

2) The spicules in *P. tachysuri* are 0.590 mm and 0.610 mm long and in the present form the two measure 0.430 mm and 0.436 mm.

3) The male of *P. tachysuri* has twelve pairs of caudal papillae, arranged in three groups; precloacals four, adcloacals two and postcloacals six. The present specimen has only five pairs of papillae as against twelve pairs in *P. tachysuri* and these are two precloacals, one adcloacals and two postcloacals.

4) The vulva is located at 5.13 - 5.37 mm from the tail end in the female of type species, whereas, it is at 2.728 - 3.234 mm from tail end in the female of the present worm.
Hence, it is regarded as a new species and named as *Pseudocacullanus punctatum* n.sp.

Host : *Barbus punctatus*

Habitat : Intestine

Locality : Nanded, Maharashtra, India.
Investigation of nematode parasites of marine fishes was undertaken at west coast of India. During this course twelve specimens of the fish, *Ixygon walsi* were examined. A good number of nematodes were recovered from the spiral valve of these fishes. The presence of head bulb with cephalic spines in the present material relates it to the genus *Echinocephalus* Molin, 1858. Further studies of the material revealed dissimilarity with the known species particularly in body length, number of rows of spines, length of spicules, presence and size of gubernaculum, number and arrangement of caudal papillae. This is, therefore, described as a new form of the genus.

The body is stout, very much elongated and attenuated posteriorly. It is covered with a thick cuticle with transverse striations. These are very much prominent in the posterior region. The anterior
Echinoccephalus waluvi n.sp.

Plate I

Figs. 1. Female : Anterior end, lateral view.
2. Egg.
3. Female : Tail end, lateral view.
4. Male : Posterior end, ventral view.
5. Male : Anterior end, dorsal view.
6. End-on view.

Scale : 0.2 mm applies to figs. 1 & 6
0.05 mm applies to fig. 2
1.0 mm applies to fig. 3
0.3 mm applies to figs. 4 & 5

Plate II

Postcloacal cuticular plate with bosses.
end is modified into a head bulb, which measures 0.436 - 0.612 mm in width in the male and 0.465 - 0.545 mm in the female. The head bulb consists of two pseudolabia, each with three lobes. Each lobe bears two tooth-like cuticularized structures. The pseudolabia possess two pairs of papillae and a pair of amphids. The head bulb comprises of four bulbomets and is armed with 25 - 27 rows of uncinate spines in both the sexes. The spines increase in size in the anterior-posterior direction. The length of spines ranges between 0.005 - 0.010 mm and 0.003 - 0.010 mm in the male and female respectively. The width at the base of the spine is 0.002 mm in both the sexes. The distance between the two rows of spines increases in anterior-posterior direction. The nerve ring is situated at a distance of 0.415 - 0.553 mm and 0.434 - 0.562 mm from the anterior end in the male and the female respectively. The excretory pore could only be observed in female at 0.625 - 0.865 mm from the head end. The cervical sacs are extending from the anterior end up to a distance of 1.818 - 2.090 mm in the male and 2.244 - 2.581 mm in the female. The oesophagus is muscular throughout and measures 2.970 - 4.378 mm and 3.806 - 4.994 mm in the length in male and female respectively.
Male:

The body length ranges between 15.862 - 38.490 mm. The maximum body width is 0.545 - 0.843 mm. The long, slender spicules are similar but slightly unequal, and are marked with fine transverse striations. They are 1.069 - 1.760 and 1.091 - 1.760 mm in length. The gubernaculum is wing-shaped and is 0.051 - 0.061 mm in length. There are ten pairs of pedunculated button shaped caudal papillae. Of these, three are precloacals, two are adcloacals and five are postcloacals. The first pair of precloacals is situated distinctly apart from cloaca. The phasmids are located at the level of last pair of post cloacal papillae. The caudal alae are 0.734 - 1.276 mm long and 0.347 - 0.434 mm wide. The anterior surface of the caudal alae has numerous cuticular bosses. In some specimens a cuticular plate is present. The posterior end tapers gradually and finally terminates into a blunt point. The cloaca is located at 0.509 - 1.309 mm from the tail end.

Female:

It has a body length of 20.636 - 32.528 mm with a maximum width of 0.660 - 0.924 mm. The vulva is located at a little anterior to the anus at 1.454 - 2.222 mm from the tail end. The caudal end is conical ending into a
blunt point, measuring 1.078 - 1.342 mm in length. The eggs are oval and unembryonated and measure 0.036 - 0.045 mm in length and 0.026 - 0.320 mm in width.

**Discussion:**

The following species are described under the genus *Echinocephalus* Molin, 1858.

1) *E. uncinatus* Molin, 1858;
2) *E. multidensatus* Baylis et Lane, 1920;
3) *E. southwelli* Baylis et Lane, 1920;
4) *E. pseuduncinatus* Millemann, 1951;
5) *E. dixi* Troney, 1969;
6) *E. mobilae* Kalyanker, 1971;
7) *E. muraenassocia* Bilques et al., 1971;
8) *E. crassostreae* Cheng, 1975;
9) *E. sinensia* Ko, 1975;

The diagnostic characters of the various species of *Echinocephalus* are given in the table.

Ko (1975) while describing his species, has suggested an amendment to the generic characters as follows.
GENERIC DIAGNOSIS:

Stout worms; head bulb armed with transverse rows of uncinate spines and containing four ballonets; cuticular collar behind head bulb absent; body unarmed; broad trilobed pseudodilabia with paired tooth-like cuticularized structures; two pairs of single cephalic papillae; deroids posterior to nerve ring; four long cervical sacs; oesophagus not clearly divided into muscular and glandular regions; phasmids prominent. Male: caudal alae narrow; cuticular bosses may be present ventrally; spicules simple, almost equal; gubernaculum present or absent. Female: uterus prodelphic, didelphic; vulva at short distance anterior to anus; oviparous, with oval unembryonated eggs; egg shell thin. Parasites in spiral valve of elasmobranchs.

The present worm could not be compared with A. muraenaeoecia as the literature of the latter could not be procured.

Cheng (1975) has described A. crassostreai on the basis of the second and third larval stages encountered from the Japanese Oyster Crassostrea gigas. Though, the species is based on larval structures, he has also given a justification for the new species. According to him,
Scanning electron microscopy has contributed to the elucidation of the morphological characters of *E. crassostreai* which helped him to distinguish his species from those already described. *E. crassostreai* differs remarkably from the known species of the genus in having the lips without teeth, and in having eight circular rows of hooks.

In the same year simultaneously, Ko has described *E. sinensis* from eagle ray, *Aetobatus flagellum*. It appears from their papers that the oysters infected with the larval stages were furnished to them by Miss Patsy Wong and Dr. Brian Mortan of Hong Kong University, for further analysis. Though the material provided to them was from the same ecological conditions Cheng yet upholds his species even though the adult form of *E. crassostreai* is wanting. In view of this, the author retains the same in this genus.

*E. olivaceanthus* is inadequately described and moreover the species is based on a single female specimen. It is, therefore, not compared with the present form.

As per the generic amendment suggested by Ko, the species of *Echinocophalus* can tentatively be placed into two groups on the basis of the presence or absence of
gubernaculum. The forms with gubernaculum are *A. diazi* and *A. sinensis* which are thus compared with the present specimen.

The present form comes closest to *A. diazi* in the absence of prooesophageal serrations, in having almost same number of rows of cephalic spines and in presence of gubernaculum. It can however be differentiated from *A. diazi* by the shape and size of gubernaculum, length of spicules, number and distribution of caudal papillae, absence of double caudal alae and position of vulva as indicated in table.

The worm under discussion has the resemblance with *A. sinensis* in the similar number of rows of cephalic spines, number of tooth-like cuticular structures on lips and the presence of wing-like gubernaculum. The present worm, however, differs with the latter in the absence of prooesophageal serrations, position of vulva, small size of gubernaculum, number and distribution of caudal papillae.

This specimen, therefore, constitutes a new species and is regarded as

Host : *Irvinga walga*
Habitat : Spiral valve
Locality : Verswal, Gujrat, India.
Physalopteridae Leiper, 1905

Physalopterinae Stossich, 1898

Physaloptera Rudolphi, 1819

Physaloptera aurangabadensis n.sp.

A survey of nematode parasites of mammals was carried out in Nanded and Aurangabad districts of Maharashtra. During this course of faunistic investigation, nematodes were found inhabiting the stomach of bats, Taphozous kachensis. A number of these specimens were available for the study.

The caudal alae in the male are supported by four pairs of pedunculated papillae and thus the worm belongs to the genus Physaloptera Rudolphi, 1819. Further studies differentiated this form from those, of the known species by size of spicules, number and arrangement of caudal papillae, position of vulva and other morphometric characters. It is, therefore, considered as new to science.

These are medium sized stout worms and having a thick cuticle which is finely striated transversely. The cuticle reflects over the head end to form a cephalic collar. The cephalic extremity consists of a
Physoleptera sursangabadensis n.sp.

Figs. 1. Female : Anterior end,
               Dorsal view.

2. Female : Vulva, lateral view.

3. Female : Tail end, lateral view.

4. Male : Posterior end,
         ventral view.

5. Male : Spicules & cloaca region,
         ventral view.

6. Male : Anterior end,
         lateral view.

Scale : 0.2 mm applies to figs. 1 & 6.
        1.0 mm applies to figs. 2 & 3.
        2.0 mm applies to fig. 4.
        0.1 mm applies to fig. 5.
mouth opening surrounded by two large, fleshy, simple lateral lips. Each lip bears a terminal external and tri-partite inner tooth, a lateral amphid and a pair of subdorsal and subventral papillae. The head diameter measures 0.109 – 0.210 mm in male and 0.167 – 0.240 mm in female. The nerve ring surrounds the oesophagus at a distance of 0.151 – 0.313 mm in the male and 0.126 – 0.349 mm in the female from anterior end. The excretory pore is situated at 0.210 – 0.538 mm and 0.260 – 0.589 mm in the male and female respectively from the head end. The oesophagus is divided into an anterior, shorter muscular part and a longer, posterior glandular part. The anterior muscular oesophagus measures 0.151 – 0.371 mm in the male and 0.176 – 0.450 mm in the female. The posterior glandular oesophagus varies from 0.815 – 2.610 mm and 1.050 – 3.642 mm in length in the male and female respectively.

**Male**

The body length ranges between 9.00 – 14.50 mm and the maximum body width varies from 0.476 – 0.762 mm. The caudal alae are well developed, surrounding the posterior extremity and meeting in front of cloaca on ventral surface. They are 1.127 – 1.926 mm in length and 0.638 – 1.166 mm in width. The alae are supported
by two pairs of precloacal and two pairs of postcloacal pedunculated papillae. One median unpaired papilla is present in front of the cloaca. In addition to these, there are five pairs of sessile papillae. Out of these one pair is precloacal; one pair is adcloacal and the remaining are postcloacal situated quite posterior to the cloaca. The two spicules are unequal. The right spicule is small, broad at base but narrow at the tip and measures 0.051 - 0.080 mm in length. The left spicule is comparatively longer and slender becoming narrow at the tip. It is 0.089 - 0.167 mm in length.

Female:

Females vary in length from 10.42 - 20.24 mm and have a maximum thickness of 0.252 - 0.880 mm. The vulva opens in the post-oesophageal region at 4.141 - 8.382 mm from the anterior end. The muscular vagina runs posteriorly. The two uteri are opisthodelphic arise close together from the base of the egg chamber. The eggs are oval in shape and are 0.039 - 0.043 mm long and 0.019 - 0.026 mm wide. The bluntly rounded tail measures 0.168 - 0.429 mm in length.

Discussion:

The members of the genus Physaloptera Rudolphi, 1819 encompass a wide range of hosts. The representatives
of this genus have been reported from reptiles, birds, mammals and rarely from amphibians as well.

Chitwood and Wehr (1935) have critically reviewed the species of the genus and divided the genus into four subgenera on the basis of the uterine branches present in the female. The uterine branches may be two, three, four or many. The members of the subgenus *Physaloptera* have two uteri. Accordingly the material collected by the author falls into this category.

Further, Chabeaud (1956) has stated that the physalopterid species can be determined on the basis of geographical distribution and he also emphasizes that the species of this genus are specific in their hosts. Considering this view the species of *Physaloptera* reported from bats are:

1) *P. ratusse* Rudolphi, 1819;
2) *P. brevivaginata* Seurat, 1917;
3) *P. bedfordi* Ortlepp, 1932;
4) *P. mvtie* Babos, 1954;

The essential morphometric characters of the species reported from bats, along with the present form are given in the table.
Morphometric measurements of *Physoleptera* sp.

All measurements are in mm.

<table>
<thead>
<tr>
<th></th>
<th><em>P. retusa</em></th>
<th><em>P. avotia</em></th>
<th><em>P. temminki</em></th>
<th><em>P. aurangabadensis</em> n.sp.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body length</td>
<td>20.00</td>
<td>3.6 - 5.00</td>
<td>13.5 - 13.6</td>
<td>8.996 - 14.498</td>
</tr>
<tr>
<td>Right Spicules</td>
<td>0.455</td>
<td></td>
<td>0.088 - 0.110</td>
<td>0.051 - 0.080</td>
</tr>
<tr>
<td>Left Spicules</td>
<td>0.475</td>
<td></td>
<td>0.15 - 0.16</td>
<td>0.089 - 0.167</td>
</tr>
<tr>
<td>Caudal papillae</td>
<td>10 (2+1)</td>
<td>12 (2+3)</td>
<td>13 (2+3)</td>
<td>9</td>
</tr>
<tr>
<td>Pre.</td>
<td>3</td>
<td>5</td>
<td>5 (2+3)</td>
<td>3 (2+1)</td>
</tr>
<tr>
<td>Ad.</td>
<td>-</td>
<td>2</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Post.</td>
<td>7 (2+5)</td>
<td>5 (2+3)</td>
<td>8 (2+6)</td>
<td>5 (2+3)</td>
</tr>
<tr>
<td>Caudal alae Len.</td>
<td>2.3</td>
<td></td>
<td>1.32 - 1.54</td>
<td>1.27 - 1.826</td>
</tr>
<tr>
<td>Width</td>
<td>1.1</td>
<td></td>
<td>0.94 - 0.99</td>
<td>0.638 - 1.166</td>
</tr>
</tbody>
</table>

**Female**

|                |             |             |               |                           |
| Body length    | 20.00 - 45.00 | 5.6 - 8.5  | 21.3 - 22.00  | 10.424 - 20.240          |
| Vulva from ant. end. | 114 to 214 | 0.45 - 0.50% | Not discernible | 4.141 - 8.382 |
| Tail           | -           | 0.19 - 0.20 | 0.53 - 0.55   | 0.168 - 0.428            |
| Egg            | 0.043       | 0.075       | 0.022 - 0.044 | 0.039 - 0.043            |
| Local            | USA         | Hungary     | India        | India                     |

© Pedunculated papillae, * Sessile papillae, & From Post. end., & One median unpaired papilla.
P. bedfordi is inadequately described, hence not considered here.

The description of P. brevivaginata is based on a single female and the author, therefore, considers it as a species inquirenda.

P. myotis differs from the present specimen in body measurements, in number of caudal papillae and in position of vulva and in size of the egg. The body measurements in the former are: male 3.6 - 5.00 mm; female 5.6 - 8.5 mm; whereas the same in the latter are 8.99 - 14.49 mm and 10.42 - 20.24 mm. The total number of caudal papillae in the two is also variable. There are twelve pairs of caudal papillae in P. myotis as against nine pairs in the present form besides a single median unpaired precloacal papilla. The position of the vulva in the two also shows remarkable variation. In P. myotis, the vulva is present at 0.45 - 0.50 mm from the posterior end and in the worm under discussion, the vulva is situated at 4.141 - 8.382 mm from the anterior end. The egg varies in its size in the two. The egg of P. myotis is 0.075 mm in length and 0.045 mm in width, whereas it measures 0.039 - 0.043 mm in length and 0.019 - 0.026 mm in width, in the present form.
The present specimen shows striking differences from *P. rotula*, in body measurements, in total number and position of caudal papillae and in size of the spicules, as indicated in the table.

The present worm comes closest to *P. temmincki* as far as the body range is concerned, but differs from it in size of the spicules, number and arrangement of caudal papillae and in size of the egg. The most remarkable difference noticed in the two is the number and distribution of sessile caudal papillae. There are five pairs of sessile papillae in the former, whereas, there are nine pairs of sessile papillae, in the latter. The egg dimensions in the present worm are 0.039 – 0.043 mm x 0.019 – 0.026 mm, whereas, the same are 0.022 – 0.044 mm x 0.022 – 0.044 mm in *P. temmincki*. Though both these worms are reported from India, they have been recorded from two different hosts.

Thus, on the basis of the above discussion the present worm be regarded as new and is named as

**Physoaloptera aurangabadensis** n.sp.

<table>
<thead>
<tr>
<th>Host</th>
<th><em>Taphozous kacchensis</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat</td>
<td>Stomach</td>
</tr>
<tr>
<td>Locality</td>
<td>Ellora, Aurangabad, Maharashtra, India.</td>
</tr>
</tbody>
</table>
A field trip was undertaken to Veraval (Somnath) during the year 1978. During this period, a number of fishes belonging to different genera were examined. A list of fishes dissected along with the nematode parasites recovered from them is appended. During this course six male and nine female worms were recovered from the spiral valve of *Nebrius concolor*. On the basis of the presence of cephalic cuticular collar, the buccal capsule and the post-equatorial position of the vulva, the present specimen belongs to the genus *Pseudeoprolentus* Khera, 1953. A close examination of the worm revealed that it differs strikingly in major morphological characters from the known species of this genus. It, therefore, deserves the status of a new species.

The worms are slender and large sized. The cuticle is thick and finely striated transversely. The anterior extremity is covered by a cephalic cuticular collar. The mouth is surrounded by two lateral lips,
**Pseudoprolentus somnathi** n.sp.

Figs. 1. Female : Anterior end, lateral view.
2. Female : Anterior end, dorsal view.
3. Female : Vulva, lateral view.
4. Egg.
5. Female : Posterior end, lateral view.
6. Male : Right spicule
7. Male : Posterior end, ventral view.

Scale : 1.3 mm applies to figs. 1, 2, 5 & 7
1.0 mm applies to fig. 3
0.05 mm applies to fig. 4
0.1 mm applies to fig. 6.
each bearing a single tooth, two submedian papillae and a lateral amphid. The head diameter ranges from 0.214 - 0.269 mm in the male and 0.213 - 0.378 mm in the female. The mouth leads into a small vestibule devoid of transverse striations on its wall. The vestibule measures 0.058 - 0.073 mm and 0.065 - 0.080 mm in the two sexes. The oesophagus is long and is differentiated into an anterior short muscular portion which measures 0.528 - 0.726 mm and 0.538 - 0.748 mm in length in male and female respectively. The posterior long, glandular portion in the corresponding sexes is 2.574 - 3.014 mm and 2.879 - 3.572 mm in length. The nerve ring is present at a distance of 0.352 - 0.429 mm in the male and 0.327 - 0.458 mm in the female from the head end.

**Male:**

The male worms measure 21.69 - 27.82 mm in length and 0.594 - 0.704 mm in maximum body diameter. The caudal alae are well developed and surround the tip of the tail. They are 0.698 - 1.417 mm in length and 0.327 - 0.749 mm in width. The quadrangular cuticular elevations are present in the precaecal region. There are twelve pairs of caudal papillae: four pairs are precaecal, one pair is adcloecal and seven pairs are
postcloacal. Precloacal and adcloacal pairs are pedunculated. The first three pairs of postcloacal papillae are pedunculated and are situated near the cloaca, whereas the remaining four pairs of postcloacal papillae are sessile and are located at the tip of the tail. The spicules are unequal in size and dissimilar in shape. The right spicule is short, alate, broad at base and round at the tip. The base of the spicule is covered with fine granulations and the inner ridge has saw-like serrations. The rounded tip bears a small barb on its inner margin. The right spicule measures 0.164 - 0.262 mm in length. The left spicule is very much long, slender, striated and ends into a sharp needle-like tip. It measures 0.372 - 2.646 mm in length. The tail is rounded and coiled ventrally. The cloaca is located at 0.596 - 0.911 mm from the posterior end.

Female:

The body varies from 24.89 - 31.93 mm in length and measures 0.89 - 1.10 mm in maximum width. The vulva is post-equatorial and is situated at 10.324 - 14.256 mm from the posterior extremity. The short muscular vagina has an ovjector and runs posteriorly. The uterine branches are opposed. The eggs are oval, thick-shelled
and embryonated. They are 0.031 - 0.039 mm long and 0.022 - 0.031 mm wide. The tail is bluntly rounded and is 0.415 - 0.479 mm in length.

Discussion:

Khara (1953) established the genus Pseudoproleptus with P. vestibulus as its type species. Johnson and Khara (1966) have synonymized the genus Notopteroides Chakravarty et Majumdar, 1962 with Pseudoproleptus due to the presence of a helmet-like cephalic collar and a vestibulus and transferred the species described under Notopteroides to Pseudoproleptus.

Thus, the genus Pseudoproleptus is represented by the following species.

1. P. vestibulus Khara, 1953;
2. P. notopterus (Chakravarty et Majumdar, 1962) Johnson et Khara, 1966;
3. P. alatus (Majumdar, 1965) Johnson et Khara, 1966;
4. P. atendri Sahay, 1966;

The morphometric measurements of above species of Pseudoproleptus and also of the present form are given in the table. The literature of P. alatus could not be procured.
The worm under discussion considerably differs from the known species of the genus in its larger body size, number and arrangement of caudal papillae, size and shape of spicules, position of vulva and the smaller size of egg. Moreover this worm is collected from a marine fish. Body size of the present form is the maximum as compared to the size of the known species. The form under discussion has twelve pairs of caudal papillae as against nine to ten pairs in the reported species. As far as the size of the egg is concerned, it is observed that the egg of the present specimen is smaller than the egg of the known species.

The above discussion thus, justifies the erection of a new species for the present form. The name *Pseudocoralliptus somnathi* n.sp. is proposed to it, the name referring to the place of collection:

<table>
<thead>
<tr>
<th>Host</th>
<th>Nebrius concolor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat</td>
<td>Spiral valve</td>
</tr>
<tr>
<td>Locality</td>
<td>Veraval (Sorti Somnath)</td>
</tr>
<tr>
<td></td>
<td>Gujarat, India.</td>
</tr>
</tbody>
</table>
RHABDOCHONIDAE Skrjabin, 1946
Rhabdochoninae Travassos, Artigas et Pereira, 1928
Rhabdochaona Railliet, 1916
Rhabdochaona labeonia Kalyankar, 1972

During an investigation of the parasites of fishes *Labeo rohita* from Godawari River, Nanded, a known form of the genus *Rhabdochaona* Railliet, 1916 was recovered from the intestine. One male and two female forms recovered from above fishes revealed the characters resembling *R. labeonia* Kalyankar, 1972 except certain important morphological characters which necessitated their redescription.

These are medium sized, filiform, slender bodied worms attenuated at both extremities, yellowish white in colour. The body is covered with thin cuticle having fine transverse striations, more prominent in female specimens. The mouth is terminal and is enclosed by two lips. Each lip bears a pair of labial papillae.
Rhabdochona lebonia Kalyankar, 1972

Figs. 1. Female : Anterior end,
lateral view.

2. Female : Tail end,
lateral view.

3. Female : Vulva, lateral view.

4. Egg.

5. Male : Posterior end,
lateral view.

Scale : 0.05 mm applies to Figs. 1 & 4
0.2 mm applies to Figs. 2 & 5
0.3 mm applies to Fig. 3.
All measurements are in mm.

**Male:**

Body length 8.80; body width 0.145; head diameter 0.021; vestibule 0.134; oesophagus elongated divisible into anterior muscular 0.244; posterior glandular 2.946; excretory pore 0.198 and nerve ring 0.214 from anterior end; fifteen pairs of pedunculated caudal papillae, nine pairs of precloacals and six pairs postcloacals; spicules unequal and dissimilar, right spicule small, shoe-shaped 0.130; left spicule large, tubular, bifid at tip, 0.575; tail 0.368.

**Female:**

Body length 9.79 - 21.912; body diameter 0.145 - 0.283; head diameter 0.022 - 0.034; vestibule 0.113 - 0.146; anterior muscular oesophagus 0.292 - 0.413; posterior glandular oesophagus 2.291 - 4.290; excretory pore 0.215 - 0.227 and nerve ring 0.158 - 0.215 from anterior end; vulva post-equatorial, 4.532 - 9.247 from caudal end; uteri amphidelphic; eggs oval, thick shelled, non-filamentous, 0.021 - 0.023 long and 0.012 - 0.018 wide.
Remarks:

The present form shows certain morphological variations from R. labeonia Kalyankar, 1972 especially in body length, position of vulva, egg dimensions in the female and length of spicules, number and arrangement of caudal papillae in the male.

Host : Labao rohita
Habitat : Intestine
Locality : Nanded, Maharashtra, India.
HAPLOMATIDAE Sudarikov et Ryzhikov, 1952

Pinguus Hsu, 1932

Pinguus pingue n.sp.

A good number of freshwater fishes were surveyed at Nanded for the nematode fauna. On two occasions, worms were found infesting the intestine of the fish, Mycterus angulatus. Six fishes were dissected, out of which two harboured these parasites. The examination of these forms reveals that they are the members of the genus Pinguus Hsu, 1932. Further investigation indicates that the present form shows striking differences from the known species. Hence, it is described as a new species.

These small sized worms are whitish in colour. The body tapers at both extremities but more so posteriorly. The posterior end of the male is bent ventrally. The mouth is triradiate without any lips. It is surrounded by four simple papillae and two amphids. The head diameter varies from 0.043 - 0.057 mm in the male and 0.052 - 0.064 mm in the female. The nerve ring is surrounding the oesophagus at a distance of 0.280 - 0.320 mm in the male and 0.268 - 0.327 mm in the female.
Pinguia pinguis n.sp.

Plate I

Figs. 1. Female : Anterior end, lateral view.
2. Female : Vulva, lateral view.
3. Egg.
4. Female : Tail end, lateral view.

Scale : 0.3 mm applies to fig. 1
0.2 mm applies to figs. 2 & 4
0.05 mm applies to fig. 3.
Pinquea pinquea n.sp.

Plate II

Figs. 5. Male : Posterior end, ventral view.
6. Male : Posterior end, lateral view.
7. End-on view.

Scale : 0.2 mm applies to figs. 5 & 6
0.05 mm applies to fig. 7.
from the anterior end. A pair of cervical papillae is situated at 0.528 - 0.578 mm and 0.560 - 0.626 mm from the head end, in the male and female respectively. The oesophagus is tubular in shape and has bulb-like appearance. It is differentiated into an anterior muscular and a posterior glandular portion. The muscular oesophagus varies in length from 0.147 - 0.210 mm in the male and 0.162 - 0.267 mm in the female. The posterior region of the same ranges between 0.588 - 0.590 mm and 0.467 - 0.597 mm in length in the male and the female respectively. The lateral flanges extend from 1.018 - 2.036 mm in the male and 1.033 - 2.254 mm in the female.

**Male**

The body is 6.51 - 6.69 mm long with minimum body width of 0.176 - 0.181 mm and the maximum body width at lateral flanges is 0.210 - 0.283 mm. The spicules are small, equal and similar, broad proximally and taper distally. They are 0.051 - 0.065 mm in length. The gubernaculum is small and measures 0.013 - 0.016 mm in length. A muscular precloacal sucker is present at a distance of 0.258 - 0.340 mm from the cloaca. The caudal alae are well developed and measure 0.577 - 0.713 mm in length. There are ten pairs of caudal papillae and
all are pedunculated. Of these, four pairs of papillae are precloacal of which the first pair is anterior to the sucker. Out of the remaining six pairs two are adcloacals and the rest are postcloacals. The posterior end narrows gradually behind the last pair of postcloacals and tapers into a finger shaped conical end. The tail is 0.172 - 0.194 mm long.

**Female:**

The body measures 6.97 - 8.18 mm in length. The minimum body width is 0.181 - 0.198 mm. At the level of lateral flanges it is 0.291 - 0.320 mm in body diameter. The vulva is post-equatorial, located at 2.326 - 2.726 mm from caudal end.

The vagina is broad and highly muscular. The ovaries are amphidelphic and the limb of the posterior ovary extends almost upto the tail region. The tail is short, slender and terminates into a sharp point. The eggs are oblong, with a thick shell. They are 0.044 - 0.055 mm long and 0.031 - 0.041 mm wide.

**Discussion:**

Hsu (1932) erected the genus Pinus for the worm which he described as *P. sinensis* parasitizing
Ophioccephalus argus from China. Pavlovskaya (1962) reported the same species from 'Snake head mullet' from Amur River Basin in USSR. Later Khan and Yaseen (1969) reported P. acr from Mystus acr.

A table of the important characters of the present worm and those of the known species is given.

The present form shows morphological characters notably different from those of P. sinensis and P. acr; especially in body dimensions, size of the spicules, number and disposition of caudal papillae, vulva position and the egg size.

Thus, the differentiation of the present worm deserves the status of a new species and is named as Pinguic nigra. n.sp.

This genus is being reported for the first time from India.

Host : Mystus seenchale
Habitat : Intestine
Locality : Nanded, Maharashtra, India.
Morphometric measurements of *Pinguia* sp.

*(All measurements are in mm.)*

<table>
<thead>
<tr>
<th></th>
<th><em>P. sinensis</em></th>
<th><em>P. aori</em></th>
<th><em>P. pinguia</em> n.sp.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body length</td>
<td>4.00-4.60</td>
<td>7.02-7.03</td>
<td>6.51-6.69</td>
</tr>
<tr>
<td>Mus. Oeso.</td>
<td>0.168-0.170</td>
<td>0.33</td>
<td>0.147-0.210</td>
</tr>
<tr>
<td>Glan. Oeso.</td>
<td>0.275-0.360</td>
<td>0.48-0.49</td>
<td>0.588-0.590</td>
</tr>
<tr>
<td>Spicules</td>
<td>0.050-0.054</td>
<td>@</td>
<td>0.051-0.065</td>
</tr>
<tr>
<td>Gubernaculum</td>
<td>@</td>
<td>@</td>
<td>0.013-0.016</td>
</tr>
<tr>
<td>Caudal papillae</td>
<td>11</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Pre.</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Ad.</td>
<td>2</td>
<td>@</td>
<td>2</td>
</tr>
<tr>
<td>Pos.</td>
<td>5</td>
<td>@</td>
<td>4</td>
</tr>
<tr>
<td>Tail</td>
<td>0.122-0.140</td>
<td>0.23</td>
<td>0.173-0.194</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body length</td>
<td>4.14-5.10</td>
<td>7.10-7.20</td>
<td>6.97-8.18</td>
</tr>
<tr>
<td>Mus. Oeso.</td>
<td>0.165-0.206</td>
<td>0.33-0.36</td>
<td>0.162-0.267</td>
</tr>
<tr>
<td>Glan. Oeso.</td>
<td>0.290-0.380</td>
<td>0.56-0.60</td>
<td>0.467-0.587</td>
</tr>
<tr>
<td>Vulva from post. end.</td>
<td>1.38-2.00</td>
<td>@</td>
<td>2.326-2.726</td>
</tr>
<tr>
<td>Tail</td>
<td>0.190-0.260</td>
<td>@</td>
<td>0.145-0.253</td>
</tr>
<tr>
<td>Egg</td>
<td>0.053-0.080</td>
<td>@</td>
<td>0.044-0.055</td>
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<tr>
<td></td>
<td>0.030-0.035</td>
<td></td>
<td>0.031-0.041</td>
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@ Measurements not given.
SUMMARY

An extensive survey of nematode parasites of different vertebrates i.e. fishes, amphibians, reptiles and mammals, was carried out. A new genus is erected and eleven new species are described to accommodate these worms besides the redescription of six unknown species.

Five new species, one each of the genera Gendria, Pseudocucullanus, Echinoccephalus, Pseudoprolegutus and Pingu are described from piscine hosts. At the same time, re descriptions of Lappetascaris lutiana Rasheed, 1965 and Rhabdochona labegnias Kalyankar, 1972 are given.

Two worms of the genera Oswalducruzia and Cosmocercus are reported from amphibian hosts. A new species Oswalducruzia thapani is erected on the basis of reproductive pattern and Cosmocercus ornata (Dujardin, 1845) Reilliet et Henry, 1916 is redescribed.

A new lung worm of the genus Entomelas is reported as a new form from Calotes versicolor whereas the redescription of another worm, Strongylura radagvi Chabaud et Brygoo, 1960 recovered from Chamaeleon zevalnieus is given.
One new genus, four new and two known species are reported from mammalian hosts. From bats, three new species, one each of genera *Skrjabinoscapillaria*, *Sinostrongylus* and *Physoaloptera* are described. A new genus *Neonassalurus* is erected to accommodate an oxyurid collected from rabbit. *Trichostrongylus solubriiformis* (Giles, 1892) Ransom, 1911 and *Toxascaris leonina* Von Dinstow, 1902 recovered from hare and tiger respectively are redescribed.