

ON SOME NEMATODES FROM THE UNNAMED COLLECTION  
OF THE ZOOLOGICAL SURVEY OF INDIA, ALONGWITH  
THE DESCRIPTION OF A NEW SPECIES

By

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(With 1 Text-figure)

INTRODUCTION

In the course of routine examination of vertebrates for parasitic infection by helminths, the author had been able to obtain abundant material of these worms. The present paper deals with part of the nematode component accumulated during the course of these investigations and also incorporates some material collected by other Departmental parties. It includes 30 species contained in 23 genera belonging to 18 families. Ten among these are fairly well known and the remaining 20 include one new species and several others showing interesting variations or forming new host or locality records.

The paper also discusses the systematic positions of the genus *Quasithelazia* Maplestone, 1932, and the two species *Enterobius pitheci* Cameron, 1929, and *E. zakiri* Siddiqi and Mirza, 1954.

All measurements are in millimeters.

Order ENOPLIDA

Superfamily TRICHUROIDEA

Family TRICHURIDAE Railliet, 1915

Genus *Trichuris* Roederer, 1761

*Trichuris globulosa* (v. Linstow, 1901) Ransom, 1911

*Material* : One ♀ ; Z. S. I. Reg. No. WN 326/1 ; host—domestic goat ; location—intestine ; locality—Poona ; 15. xii. 1971 ; coll. *T. D. Soota*.

*Remarks* : Widely distributed in India.

*Trichuris ovis* (Abildgaard, 1795) Smith, 1908

*Material* : 7 ♀ ♀ ; Z. S. I. Reg. No. WN 327/1 ; host—domestic goat ; location—intestine ; localities—Jabalpur and Poona ; 29. xi. 1971 & 15. xii. 1971. coll. *T. D. Soota*.

*Remarks* : Widely distributed in India.

## Order STRONGYLIDA

## Superfamily ANCYLOSTOMATOIDEA

## Family ANCYLOSTOMATIDAE Nicoll, 1927

Genus **Bunostomum** Railliet, 1902**Bunostomum trigonocephalum** (Rud., 1808) Railliet, 1902

*Material* : One ♀ ; Z. S. I. Reg. No. WN 328/1 ; host—domestic goat ; location—intestine ; locality—Shillong ; 3. ii. 1974 ; coll. *T. D. Soota*.

*Remarks* : It is recorded for the first time from Shillong (Meghalaya).

## Superfamily STRONGYLOIDEA

## Family STRONGYLIDAE Baird, 1853

## Subfamily OESOPHAGOSTOMINAE Railliet, 1915

Genus **Oesophagostomum** Molin, 1861**Oesophagostomum asperum** Railliet and Henry, 1913

*Material* : One ♂ ; Z. S. I. Reg. No. WN 329/1 ; host—spotted deer (*Axis axis*) ; location—intestine ; locality—Wrightmyo (South Andaman) ; 30. vii. 1972 ; coll. *A. K. Mandal*.

*Remarks* : Maplestone (1931) described *Oesophagostomum indicum* from the spotted deer from Calcutta, which was considered conspecific with *O. asperum* by Sarwar (1957), a view with which the present author agrees. The species has been described from several parts of the world from domestic goat and sheep, and spotted deer. However, it forms first locality record from the Andamans.

**Oesophagostomum blanchardi** Railliet and Henry, 1912

*Material* : One ♀ ; Z.S.I. Reg. No. WN 330/1 ; host—Bonnet Macaque (*Macaca radiata*) ; location—intestine ; locality—Madras ; 16. viii. 1972 ; coll. *T. D. Soota*.

*Remarks* : The species was originally reported from Orangutan (*Pongo pygmaeus*) from Borneo. In India, it was hitherto known only from the Hoolock gibbon (*Hylobates hoolock*) from Zoological Gardens, Calcutta, until recently when Soota and Dey Sarkar (in press) reported it from the Rhesus Macaque, *Macaca mulata* from Darjiling district. Now it is recorded from another macaque, *M. radiata* and from a new locality.

**Oesophagostomum columbianum** (Curtice, 1890) Stossich, 1899

*Material* : One ♂ ; Z. S. I. Reg. No. WN 331/1 ; host—domestic goat ; location—intestine ; locality—Shillong ; 3. ii. 1974 ; coll. *T. D. Soota*.

*Remarks* : It is recorded for the first time from Shillong (Meghalaya).

**Oesophagostomum tridentatum** Maplestone, 1932

*Material* : One ♂ & 3 ♀ ♀ ; Z. S. I. Reg. No. WN 332/1 ; host—Rhesus monkey (*Macaca mulata*) ; location—intestine ; locality—Charilam, Tripura ; 16. xi. 1969 ; coll. *V. C. Agrawal*.

*Remarks* : The species was originally reported from Dusky Leaf monkey (*Presbytis obscurus*) from Zoological Gardens, Calcutta, and subsequently from Proboscis monkey (*Nasalis larvatus*) from Borneo. It is now recorded for the first time from a new host and from a new locality.

## Superfamily TRICHOSTRONGYLOIDEA

## Family TRICHOSTRONGYLIDAE Leiper, 1912

## Subfamily HAEMONCHINAE Skrjabin and Schulz, 1952

Genus **Haemonchus** Cobb, 1898**Haemonchus contortus** (Rud., 1803) Cobb, 1898

*Material* : 2 ♂ ♂ and 2 ♀ ♀ ; Z. S. I. Reg. No. WN 333/1 ; host—domestic goat ; location—intestine ; locality—Marakaram (Tamil Nadu) ; coll. *T. D. Soota* ; date of collection—19. viii. 1972.

*Remarks* : The species has a world-wide occurrence but has been reported only from mammals excepting two records by Sahay (1966) and Sood (1969) of probably accidental occurrences in fish (*Wallago attu*) from Bihar and Uttar Pradesh respectively.

## Order OXYURIDA

## Superfamily OXYUROIDEA

## Family OXYURIDAE Cobbold, 1864

Genus **Enterobius** Leach, 1853**Enterobius bipapillatus** (Gedoelst, 1916) Baylis, 1923

*Material* : 10 ♀ ♀ ; Z. S. I. Reg. No. WN 334/1 ; host—Rhesus Macaque (*Macaca mulata*) ; location—intestine ; locality—Rajasthan ; collector & date of collection—?, 40 ♀ ♀ ; Z. S. I. Reg. No. WN 335/1 ; host—Capped Langur (*Presbytis pileatus*) ; location—intestine ; locality—Garam Pani, Khasi & Jaintia Hills (Meghalaya) ; collector &

date of collection—*Assam Survey*, 1956-57 (with German Expedition), India.

*Female* : Body 6.4-6.6 long ; 0.33-0.38 wide ; cephalic cuticular inflation 0.13-0.16 long ; oesophagus 0.72-0.77 long ; oesophageal bulb 0.16 long ; tail 1.1-1.3 long ; vulva 1.9-2.0 from anterior end ; eggs 0.044-0.055  $\times$  0.022-0.033.

*Remarks* : The present specimens comprising only females collected from Rhesus Macaque, *Macaca mulata* from Rajasthan, and from Capped Langur, *Presbytis pileatus* from Khasi & Jaintia Hills, Meghalaya, are referred to *Enterobius bipapillatus* (Gedoelst, 1916) Baylis, 1923.

Gedoelst (1916) described the species *Oxyuris bipapillata* from an African monkey from the then Belgian Congo, which species was later transferred under the genus *Enterobius* as *E. bipapillatus* by Baylis (1923) who also referred to it some other specimens from an Indian langur, *Presbytis entellus* from a zoo in Gizeh, Egypt. Cameron (1929) also reported the species from *Cercopithecus sabaesus* from the then West Africa and while describing a new species, *E. pitheci* from female specimens only from a Leaf Monkey from Assam but obviously wrongly named by him as *Pithecus aegula* [= *Presbytis aegula*] for this species is strictly confined to East Indies, opined that there was every possibility of these being more or less identical with Baylis' specimens. Siddiqi and Mirza (1954) described another species, *E. zakiri* from the langur, *Presbytis entellus schistaceus*, from Garhwal and compared it with *E. vermicularis* only and distinguished their new species from it mainly by the shape and size of the spicule and of the eggs. But it agrees with *E. bipapillatus* in the enumerated differentiating characters excepting the size of spicules which is apparently a misprint as there is a marked discrepancy between the measurement of the text and that of the figure. Hence, it is proposed that both the species, viz. *E. pitheci* and *E. zakiri* may be considered as synonyms of *E. bipapillatus*. A comparative chart of the above species is given below.

	<i>E. vermicularis</i>	<i>E. bipapillatus</i>	<i>E. pitheci</i>	<i>E. zakiri</i>	<i>Present specimens</i>
Body length	♂ 2.0-5.0 ♀ 2.5-13.0	2.15-2.50 4.1-7.3	— 7.3	2.52 6.25	— 6.4-6.6
Body width	♂ 0.1-0.2 ♀ 0.3-0.6	0.21-0.245 0.48-0.64	— 0.5	.15 .4	— 0.33-0.38
Spicule length	0.07-0.13	60 $\mu$ -80 $\mu$	—	.35	—
Caudal papillae	5 pairs	4-5 pairs	—	4 pairs	—
Vulva	at junction of anterior and middle third	at anterior third	at junction of anterior and second third	1.55 from anterior end	1.9-2.0 from anterior end
Eggs	0.05-0.06 $\times$ 0.025-0.032	64 $\mu$ -68 $\mu$ $\times$ 32 $\mu$	50 $\mu$ $\times$ 25 $\mu$	.05 $\times$ 0.23	0.044-0.055 $\times$ 0.022-0.033

Genus **Syphacia** Seurat, 1916**Syphacia muris** (Yamaguti, 1935) Yamaguti, 1941

*Material* : One ♀ ; Z. S. I. Reg. No. WN 336/1 ; host—*Rattus* sp. ; location—intestine ; locality—Calcutta ; 29. xi. 1962 ; coll. *R. P. Mukherjee and B. N. Das*.

*Female* : Body 2.75 long ; 0.22 wide ; oesophagus including bulb 0.33 long ; oesophageal bulb 0.088 long ; nerve ring 0.11 from anterior end ; tail 0.5 long ; vulva very conspicuous and 0.6 from anterior end ; eggs 0.077-0.088 × 0.033.

*Remarks* : Baylis (1936) examined some female specimens from *Rattus rattus* from Lyallpur (Pakistan) as well as from *Mus musculus* from Sri Lanka (then Ceylon), but he was somewhat doubtful about their correct indentity and so, though he hinted at their being distinct from each other on the basis of egg size which was bigger in those from Sri Lanka, he treated both the lots as different species of *Syphacia*.

Maplestone and Bhaduri (1942) finding that some of their female specimens from rats in Calcutta tallied with those of Baylis' (1936) from Lyallpur and thus deserved to be treated as a new species, designated them as *Syphacia baylisi*. But, probably it being based on female specimens only, the species was excluded by Tiner (1948) and Khera (1956) in their respective keys for all the known species under the genus. Bernard (1965) redescribed this species from *Rattus r. alexandrinus* from Tunis. Quentin (1971), however, treated it as conspecific with *S. muris* (Yamaguti, 1935) Yamaguti, 1941, and the present specimen is referred to this species.

## Family HETEROXYNEMATIDAE (Skrjabin &amp; Shikhobalova, 1948)

## Subfamily LABIOSTOMATINAE Akhtar, 1956

Genus **Dermatoxys** Schneider, 1866**Dermatoxys ruficaudata** Mirza, 1936

*Material* : 6 ♂♂ and 30 ♀♀ ; Z. S. I. Reg. No. WN 337/1 ; host—Indian hare (*Lepus ruficaudatus*) ; location—intestine ; locality—Nishan-garh, Bahraich dist., Uttar Pradesh ; collector & date of collection *U. P. Survey with German Expedtn.*, 1956.

*Male* : 3 comb-like structures with 12-25 ridges present ; spicules not discernible.

*Remarks* : Of the three species known from India, viz. *D. ruficaudata* Mirza, 1936, *D. skrjabini* Katiyar and Pande, 1965, and *D. lanceolata*

Johnson, 1968, the present specimens agree in most details with the first one excepting in the number of comb ridges which in *ruficaudata* are less.

Regarding the taxonomic status of the other two species, a study of the figures and description shows them to be very closely related excepting the shape of spicules which according to Katiyar and Pande (1965) is inverted Y-shaped in their species. But unless the actual specimens concerned are examined it is extremely difficult to fix their definite systematic position.

### Order ASCARIDIDA

#### Superfamily HETERAKOIDEA

#### Family HETERAKIDAE Railliet and Henry, 1912

#### Subfamily HETETERAKINAE Inglis, 1967

#### Genus *Meteterakis* Karve, 1930

#### *Meteterakis govindi* Karve, 1930

*Material* : 3 ♂♂ & 20 ♀♀ ; Z. S. I. Reg. No. WN 338/1 ; host—toad (*Bufo* sp.) ; location—intestine ; locality—Madras ; coll. *T. D. Soota* ; date of collection—8. viii. 1972.

*Remarks* : Widely distributed in India.

#### Subfamily HETERAKINAE Railliet and Henry, 1912

#### Genus *Heterakis* Dujardin, 1845

#### *Heterakis spumosa* Schneider, 1866

*Material* : 2 ♂♂ & 2 ♀♀ ; Z. S. I. Reg. No. WN 339/1 ; host—Bandicoot (*Bandicota indica*) ; location—intestine ; locality—Poona ; 16. xii. 1971 ; coll. *T. D. Soota*.

*Remarks* : The species has world-wide occurrence and has been reported from rats and bandicoots only excepting a stray record by Gupta (1960) from a cat which had probably just ingested a rodent infected by the parasite.

#### Subfamily SPINICAUDINAE Travassos, 1920

#### Genus *Strongyluris* Mueller, 1894

#### *Strongyluris calotis* Baylis and Daubney, 1923

*Material* : One ♂ ; Z. S. I. Reg. No. WN 340/1 ; host—garden lizard (*Calotes* sp.) ; location—intestine ; locality—Calcutta ; collector & date of collection—?.

*Remarks* : Of the four species so far described under the genus *Strongyluris* from India, only one *S. chamaeleonsis* Baylis and Daubney, 1922, is known from both chamaeleon and *Calotes*, the remaining three being reported from *Calotes* only. Of the latter three, *S. karawirensis* Karve, 1938, has been considered synonymous with *S. calotis* Baylis and Daubney, 1923, by Soota and Chaturvedi (1971). Regarding the third, *S. bengalensis* Chakravarty, 1936, Majumdar (1961) in his brief redescription of the species, wherein he observed some additional characters urged the re-examination of Chakravarty's material to discover some more features. Accordingly the present author is convinced that unless a re-examination of Chakravarty's original material is undertaken, it is not possible to fix the definite status of his species.

Family ASCARIDIIDAE Travassos, 1919

Genus *Ascaridia* Dujardin, 1845

*Ascaridia columbae* (Gmelin, 1790) Travassos, 1913

*Material* : One ♀ ; Z. S. I. Reg. No. WN 341/1 ; host—Green pigeon (*Treron phoeniceptera*) ; location—intestine ; locality—Lametaghat, Jabalpur (Madhya Pradesh) : 23. xi. 1971 ; coll. *T. D. Soota*.

*Remarks* : The species is recorded for the first time from Jabalpur.

*Ascaridia galli* (Schrank, 1788) Freeborn, 1923

*Material* : One ♂ ; Z. S. I. Reg. No. WN 342/1 ; host—domestic fowl ; location—intestine ; locality—Pondicherry ; 18. viii. 1972 ; coll. *T. D. Soota*. Several ♂♂ & ♀♀ ; Z. S. I. Reg. No. WN 343/1 ; locality—Shillong (Meghalaya) ; 4. ii. 1974 ; host, location and collector—same as above.

*Remarks* : Widely distributed in India.

Superfamily SUBULUROIDEA

Family SUBULURIDAE (Travassos, 1914) Yorke and Maplestone, 1926

Subfamily SUBULURINAE Travassos, 1914

Genus *Subulura* Molin, 1860

*Subulura andersoni* (Cobbold, 1876) Railliet and Henry, 1914

*Material* : 4 ♂♂ & 8 ♀♀ ; Z. S. I. ; Reg. No. WN 344/1 ; host—squirrel (*Funambulus pennanti*) ; location—intestine ; locality—Madras ; 14. viii. 1972 ; coll. *T. D. Soota*.

*Remarks* : Cobbold (1876) described *Ascaris andersoni* from *Sciurus* sp. from North-eastern India. Railliet and Henry (1914) renamed it as *Subulura andersoni*. Thwaite (1927) recorded it from squirrel from Kanthalai. Patwardhan (1935) described a new genus and species *Latibuccana funambulensis* from squirrel (*Funambulus pennanti*) from Nagpur, but Baylis (1936) treated it as a synonym of *S. andersoni*. Mirza (1939) described another species *Subulura hindi* from squirrel (*Sciurus palmarum*) from Aligarh. This species, however, was treated as synonym of *S. andersoni* by Maplestone and Bhaduri (1942) when they described some specimens from *Mus decumanus* [= *Rattus norvegicus norvegicus*] from Calcutta and they pointed out variable nature of the differentiating characters. Inglis (1958) considered it as species *incerte sedis* pending study of its head characters. Yamaguti (1961) also while listing the species took note of the above synonymy. Skrjabin *et al.* (1964) treated it as a valid species. The present author, however, while also inclined to accept the synonymy is nevertheless of view that a final verdict can be given only after examination of a series of specimens of both the species.

***Subulura galloperdicis* Baylis and Daubney, 1922**

*Material* : One ♂ & one ♀ ; Z. S. I. Reg. No. WN/345/1 ; host—Night jar (*Caprimulgus* sp.) ; location—intestine ; locality—Jabalpur ; 16. xi. 1971 ; coll. *T. D. Soota* ; 2 ♂ ♂ & 4 ♀ ♀ ; Z. S. I. Reg. No. WN 346/1 ; host—Gray partridge (*Francolinus pandicerianus*) ; location—intestine ; locality—Phagaloa, Sikar dist., Rajasthan 12. xi. 1960 ; coll. *J. S. Bhatti*.

*Remarks* : In India, the species has hitherto been reported from Red-spur fowl (*Galloperdix spadicea*) from Zoological Gardens, Calcutta, and Gray Partridge (*Francolinus pondicerianus*) from Ajmer, Rajasthan. Its occurrence in Night Jar (*Caprimulgus* sp.) from Jabalpur forms the first host and locality records.

Superfamily SEURATOIDEA

Family QUIMPERIIDAE (Gendre, 1928) Baylis, 1930

Subfamily QUIMPERIINAE Gendre, 1928

Genus ***Gendria*** Baylis, 1930

***Gendria reanarum*** Karve, 1944

*Material* : 4 ♂ ♂ & one ♀ ; Z. S. I. Reg. No. WN 347/1 ; host—frog (*Rana* sp.) ; location—intestine ; locality—Marakaram (Tamil Nadu) ; 18. vii. 1972 ; coll. *T. D. Soota*.

*Remarks* : The genus and the species are recorded for the first time from Tamil Nadu.



## Superfamily ASCARIDOIDEA

## Family ASCARIDIDAE Baird, 1853

## Subfamily TOXOCARINAE (Hartwich 1954, fam.) Osche, 1958

Genus **Porrocaecum** Railliet and Henry, 1912**Porrocaecum anquisticolle** (Molin, 1860) Baylis and Daubney, 1922

*Material* : One ♀ ; Z. S. I. Reg. No. WN 348/1 ; host—Serpent eagle (*Spiloris* sp.) ; location—intestine ; locality—Chiriatapu (South Andaman) ; 15. vii. 1972 : coll. A. K. Mandal.

*Remarks* : The species has already been dealt with in detail by Baylis (1936), Yamaguti (1935, 1941), Morgan and Schiller (1950), Soota (1954), and Soota and Chaturvedi (1971). However, it is recorded for the first time from South Andaman.

## Family AMISAKIDAE (Railliet and Henry, 1912, subfam.)

## Skrjabin &amp; Karokhin, 1945

## Subfamily ANISAKINAE Railliet &amp; Henry, 1912

Tribe **Contraecina** Mozgovoï & Shakhmatova 1971Genus **Contraecum** Railliet and Henry, 1912**Contraecum haliaeti** Baylis and Daubney, 1923

*Material* : 2 ♂♂ ; Z. S. I. Reg. No. WN 349/1 ; host—Brahminy kite (*Haliastur indus*) ; location—intestine ; locality—Madukhari, near Rampakam, off Pondicherry ; 3. i. 1957 ; coll. ?.

*Remarks* : The species is recorded for the first time from Pondicherry.

## Subfamily RAPHIDASCARIDINAE Hartwich, 1954

Tribe **Lappetasca ridinea** (Rasheed, 1965, subfam.) Hartwich, 1974Genus **Lappetascaris** Rasheed, 1965**Lappetascaris lutjani** Rasheed, 1965

*Material* : Several ♂♂ & ♀♀ ; Z. S. I. Reg. No. WN 350/1 ; host—*Ilisha feligera* , location—intestine ; locality—Calcutta ; 21. ii. 1977 ; coll. T. D. Soota.

*Male* : Caudal papillae 19 pairs, 16 preanal and 3 postanal discernible.

*Remarks* : From India, the species was first reported by De *et al.* (1978) from Sagar Island, W. B., and subsequently by Soota and Dey Sarkar (in press) from Karaikal, Tamil Nadu.

## Order SPIRURIDA

## Suborder (1) CAMALLANINA

## Superfamily CAMALLANOIDEA

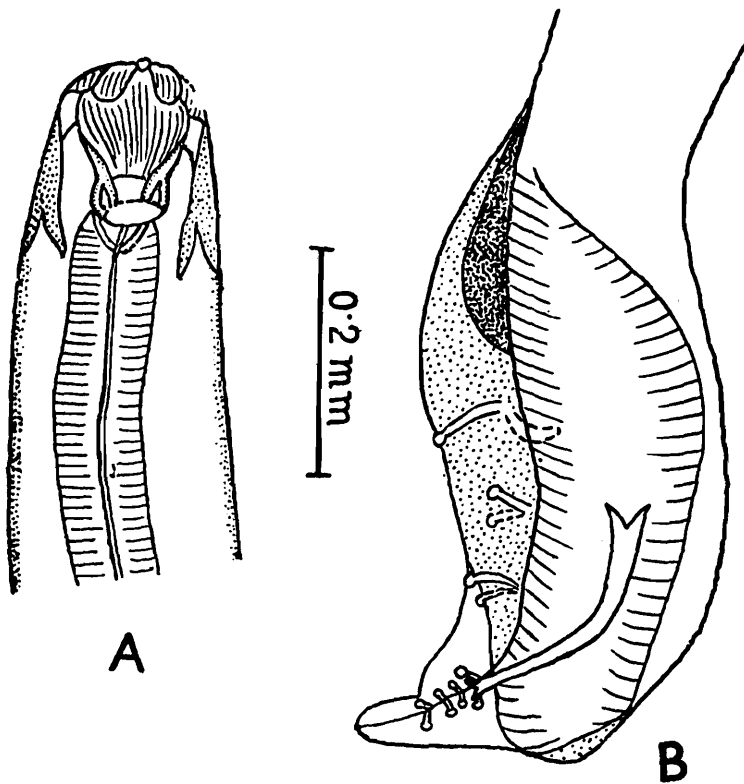
## Family CAMALLANIDAE Railliet and Henry, 1915

Genus *Camallanus* Railliet and Henry, 1915*Camallanus goensis* n. sp.

(Text-fig. 1)

*Material* : Holotype ♂ ; Z. S. I. Reg. No. WN 351/1 ; host—a Mackerel ; location—intestine ; locality—Panaji, Goa ; 4. xi. 1970 ; coll. T. D. Soota.

*Male* : Body 20.2 long, 0.3 wide ; buccal valves 0.14 × 0.11 and with 32-35 ridges ; basal ring along with valves appearing censer-like ; tridents 0.13 long and with all the three prongs developed equally ; oesophagus



Text-fig. 1.—(A & B) *Camallanus goensis* n. sp., A—Anterior end, B—Posterior end.

divided into two parts, anterior 1.1 and posterior 1.4 long ; nerve ring 0.22 from anterior end ; tail 0.11 long ; spicule single, well-chitinised, laterally clearly with bifid tip, and 0.27 long ; caudal alae 0.46 long ; caudal papillae obscured due to thick musculature, only 7 pedunculate pairs discernible, 3 preanal, one adanal, and 3 postanal.

*Remarks* : This species agrees with *Camallanus surmai* Rasheed, 1970, in almost every respect excepting in the number of caudal papillae for

they are obscured in the case of both the species. It is very possible that when their exact number is made available, both will become conspecific. Therefore, the present author with the greatest hesitation treats his single specimen as a new species.

Suborder (2) SPIRURINA

Superfamily GNATHOSTOMATOIDEA

Family GNATHOSTOMATIDAE Railliet, 1895

Subfamily GNATHOSTOMATINAE (Railliet, 1895, fam.) Baylis & Lane, 1920

Genus *Tanqua* Blanchard, 1904

*Tanqua anomala* (Linstow, 1904) Baylis, 1916

*Material* : 2 ♂♂ & 4 ♀♀ ; Z. S. I. Reg. No. WN 352/1 ; host—The Checkered Keelback (*Xenochrophis piscator*) ; location—issued from the mouth when the snake was struck with a stick ; locality—Saugar Island West Bengal ; 10. vii. 1972 ; coll. *T. P. Bhattacharya*.

*Remarks* : The species is recorded for the first time from Saugar Island.

Superfamily PHYSALOPTEROIDEA

Family PHYSALOPTERIDAE (Railliet, 1893, subfamily)

Leiper, 1908

Subfamily PHYSALOPTERINAE Railliet, 1893

Genus *Abbreviata* Travassos, 1920

*Abbreviata achari* (Mirza, 1935) Morgan, 1946

*Material* : 2 ♂♂ & 2 ♀♀ ; Z. S. I. Reg. No. WN 353/1 ; host—Black-winged Kite (*Elanus caeruleus*) ; location—intestine ; locality—Madras ; 8. viii. 1972 ; coll. *T. D. Soota*.

*Remarks* : Mirza (1935) described *Physaloptera achari* from garden lizard (*Calotes versicolor*) from Hyderabad, but due to insufficient description it was not possible for Baylis (1939) to treat it as separate from *paradoxa*. Morgan (1946), Chabaud (1956), and Soota and Chaturvedi (1969), however, readily accepted its validity, the last three authors holding that large caudal alae, small eggs, and cuticular ornamentation confined to periphery of cloaca were sufficiently characteristic and the present author agrees with these later authors. The present record is the first locality record of the species from Madras and a first host record if its reported occurrence in a Black-winged Kite (*Elanus caeruleus*) is not accidental.

*Abbreviata mirzai* Soota and Chaturvedi, 1969

*Materials* : 4 ♂♂ & 6 ♀♀ ; Z. S. I. Reg. No. WN 354/1 host—Garden lizard (*Calotes versicolor*) ; location—intestine ; locality—Mahabalipuram,

Tamil Nadu ; coll. *T. D. Soota* ; date of collection—7. viii. 1972. 3 ♂♂ & 14 ♀♀ ; Z. S. I ; Reg. No. 355/1 ; host and location—same as above ; locality—Konarak (Orissa) ; coll. *M. Hafeezullah* ; date of collection—9. vi. 1972.

*Remarks* : The specimens were first reported by Mirza (1934) from two different hosts, viz. a squirrel (*Funambulus palmarum*) and lizard (*Varanus indicus*) but he failed to rank them as new species allotting them only an intermediate position between *Physaloptera paradoxa* and *P. varani*. But Soota and Chaturvedi (1969) on examining identical specimens from a squirrel (*Funambulus palmarum*) found it necessary to treat them as belonging to a new species naming it as *A. mirzai*. The present specimens agree in most of the details with this species. However, it forms new host and locality records.

### Genus *Physaloptera* Rudolphi, 1819

#### *Physaloptera alata* Rudolphi, 1819

*Material* : 3 ♂♂ & 2 ♀♀ ; Z. S. I. Reg. No. WN 356/1 ; host—hawk (*Accipiter* sp.) ; location—intestine ; locality—Mahabalipuram, Tamil Nadu ; 10. vii. 1972 ; coll. *T. D. Soota*.

*Remarks* : The species has been recorded from several birds of prey and is of wide occurrence all over the world.

### Superfamily ACUARIOIDEA

#### Family ACUARIIDAE (Railliet, Henry & Sisoff, 1912, subfam.)

Chabaud 1975

#### Subfamily SCHISTOROPHINAE Travassos, 1918

#### Genus *Schistorophus* Railliet, 1916

#### *Schistorophus tenuis* (Maplestone, 1932) Singh, 1949

*Material* : One ♂ ; Z. S. I. Reg. No. WN 357/1 ; other particulars not available.

*Male* : Body 5.9 long, 0.088 wide ; vestibule long and thick walled, 0.13 long ; oesophagus divided into two parts ; tail strongly curved ventrally ; spicules unequal and dissimilar, smaller 0.11, longer 0.6 long ; papillae, sessile, 11 pairs preanal, 5 pairs postanal.

*Remarks* : Maplestone (1932) mainly on the basis of the presence of a swollen, lobulate, glandular structure in between the vestibule and oesophagus in a single male specimen from a white-breasted kingfisher (*Halcyon smyrnensis*) from the Zoological Gardens, Calcutta, established

the genus *Quasithelazia* with *Q. tenuis* as its type species. This was accepted by Baylis (1939). Singh (1949), however, in spite of examining a series of specimens from the same host from Hyderabad and failing to locate this structure opined that Malpestone (*op. cit.*) has possibly confused it with the nerve ring occurring about the same site. For this reason as well as due to other similarities of body characters between Maplestone's specimens and his, he treated the genus as a synonym of *Schistorophus* and referred the species as *S. tenuis* (Maplestone, 1932). This was accepted by Chabaud and Petter (1959), and taken cognisance of by Yamaguti (1961) in his work by a footnote reference. Inglis (1965) also supported the above view and appreciated Singh's remarks to the effect that the nerve ring has been confusedly viewed as a lobulate glandular structure which has been postulated by Maplestone (*op. cit.*) as an important diagnostic character. The present author also failing to locate alleged Key structure, agrees with the above majority view and relegates his specimen to *Schistorophus tenuis*.

Superfamily DIPLOTRIAENOIDEA

Family DIPLOTRIAENIDAE (Skrjabin, 1916, subfam.) Anderson, 1958

Subfamily DICHEILONEMATINAE Wehr, 1935

Genus *Hamatospiculum* Skrjabin, 1916

***Hamatospiculum nepalensis*** Soota and Chaturvedi, 1971

*Material* : One ♂ & 2 ♀ ♀ ; Z. S. I. Reg. No. WN 358/1 ; host—racket-tail drongo (*Dicrurus* sp.) ; location—neck muscles ; locality—Routland Island (Andamans) ; 19. vii. 1972 ; coll. *A. K. Mandal*.

*Remarks* : Soota and Chaturvedi (1971) described the species from drongo (*Dicrurus hottentatus*) from Hitaura. (Nepal). The present specimens agree with it in all the major characters except in certain body measurements. The genus and the species, however, form new locality records from Andamans.

Superfamily FILARIOIDEA

Family ONCHOCERCIDAE (Leiper, 1911)

Subfamily SETARIINAE Yorke and Maplestone, 1926

Genus *Setaria* Viborg, 1795

***Setaria digitata*** (Linstow, 1906)

*Material* : Two ♀ ♀ ; Z. S. I. Reg. No. WN 359/1 ; host—domestic buffalo (*Bubalus bubalus*) ; location—Peritoneal cavity ; locality—Calcutta ; 19. iii. 1973 ; coll. *M. Hafeezullah*.

*Remarks* : Widely distributed in India.

## SUMMARY

The paper deals with a lot of nematodes collected mainly by the author from several vertebrates during his routine investigations. It includes 30 species belonging to 23 genera of 18 families, of which one species is new to science. Several interesting variations and new host or locality records have been given for most of the species which have been adequately dealt with at the appropriate place in the text. The genus *Quasithelazia* Maplestone, 1932, has been considered congeneric with *Schistorophus* Railliet, 1916, and the two species *Enterobius pitheci* Cameron, 1929, and *E. zakiri* Siddiqi and Mirza, 1954, both conspecific with *E. bipapillatus* (Gedoelst, 1916) Baylis, 1923.

## ACKNOWLEDGEMENT

The author is thankful to Dr. T. N. Ananthakrishnan, Director, Zoological Survey of India, Calcutta, for his kind encouragement in the completion of this paper.

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