ON THE SPECIES OF *APORCEELAIMELLUS* HEYNS, 1965 FROM WEST BENGAL
(APORCEELAIMIDAE : NEMATODA)

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ABSTRACT

A new species of the genus *Aporcelaimellus* Heyns, 1965, *A. tropicus*, is described from Burdwan district, West Bengal (India) and the male of *Aporcelaimellus chauhani* Baqri & Khera, 1975 is reported for the first time.

INTRODUCTION

The species of the genus *Aporcelaimellus* Heyns, 1965 are widely distributed in West Bengal. During the present course of investigations, the following species have been recorded: *Aporcelaimellus adoxus* Tjepkema et al., 1975; *A. chauhani* Baqri & Khera, 1975; *A. coomansi* Baqri & Khera, 1975 and *A. heynsi* Baqri & Jairajpuri, 1968. Three populations collected from soil around roots of paddy at Burdwan district in West Bengal represent a new species of *Aporcelaimellus* which is described hereunder as *A. tropicus*. Besides, the male of *A. chauhani* is also reported for the first time.

MATERIAL

The type specimens have been registered and deposited with the National Zoological Collection, Zoological Survey of India, Calcutta. *A. tropicus*: Holotype female along-with 3 paratype females and 2 paratype males on slide No. WN-385. Specimens of Kantapur and Maghlampur populations on slide No. WN-386 and WN-387 respectively.

*Aporcelaimellus tropicus* n. sp.

(Fig. 1, A—H)

**Measurements:**

**Saldah Population (Type)**

Holotype female; $L=1.51 \text{ mm}$; $a=46$; $b=4.1$; $c=76$; $V=57$

Paratype females (3); $L=1.55-1.76 \text{ mm}$; $a=43-50$; $b=4.1-4.9$; $c=74-82$; $V=55-57$

Paratype males (2); $L=1.60-1.63 \text{ mm}$; $a=47-49$; $b=4.8$; $c=64-71$; $T=54-56$

**Kantapur population**

Females (3) $L=1.44-1.66 \text{ mm}$; $a=39-45$; $b=3.8$; $c=63-73$; $V=56-62$

Males (5); $L=1.67-1.80$; $a=44.0-53.6$; $b=4.7$; $c=64-77$; $T=51-59$

**Maghlampur populations**

Females (2); $L=1.68-1.70 \text{ mm}$; $a=48-50$; $b=4.5$; $c=67-78$; $V=56-57$

Males (2); $L=1.61-1.64$; $a=49-51$; $b=4.2-4.6$; $c=60-75$; $T=54$. 
Description:

Female: Body ventrally curved in the posterior half of its length, tapering gradually to 1/5th to 1/4th of the body-width near middle. Lateral body pores irregularly arranged along both sides of lateral chords, 32-38 in number of which 6 to 8 in oesophageal region, 20 to 24

anterior to slender part of oesophagus. Cuticle distinctly striated transversely; its thickness 2-5 μm (thickest on tail). Lateral chords 1/5th to 1/4th of the body-width near middle. Lateral body pores irregularly arranged along
in the intestine region, 4 to 5 in prerectum and rectum and 2 in caudal region.

Lip region off-set, wider than adjoining body, its width about 1/3rd of body-width at base of oesophagus. Amphid 6-8 μm wide, stirrupshaped and apparently divided by a thin partition wall; apertures occupying 60-70% of the corresponding body-width. Sensillar pouches 21-23 μm from amphidial aperture.

Odontostyle 12-14 μm or 1.0-1.4 lip-region-width long; apertures 7-8 μm or 58-62% of odontostyle length. Guiding ring 6-7 μm or 0.5-0.6 lip region-width from anterior end. Odontophore 20-22 μm or 1.4-1.8 times the odontostyle length. Nerve ring 106-118 μm or 30-34% of neck region from anterior extremity. Basal expanded part of oesophagus 46-54% of the total oesophageal length. Locations of oesophageal gland nuclei and their orifices as follows:

- DO–53.8-57.3
- DN–59.3-62.4
- DO–DN–5.1–5.6

Cardia tongue-shaped enveloped by intestinal tissue. Oesophago-intestinal disc absent. Prerectum 83-113 μm or 4-5 times the anal body-width, in one paratype female 171 μm or 7 times the anal body-width. Rectum 25-33 μm long or 1.0-1.3 times the anal body-width.

Vulva a transverse slit. Vagina 17-23 μm, about half of the corresponding body-width; surrounded by sphincter muscles; moderately scleritized at vulva-vagina junction. Female reproductive system amphidelphic, typical. Uterus and oviduct separated by sphincter muscles. Uteri filled with sperms.

Tail bluntly conoid, 22-24 μm or 0.8-1.0 anal body-width long, with two caudal pores on each side.

Male: Similar to female in general shape and morphology. Male genital system typical, dorylaimid. Spicules 42-47 μm or 1.6-2.0 anal body-width long when measured along the median line. Lateral guiding pieces well developed, 9-12 μm long. In addition to adanal pair, 3-5 regularly spaced ventro-median supplements. Copulatory muscles 19-23 and reaching up to the last supplement. Prerectum 98-167 μm or 4.8 to 5.2 anal body-widths long. Tail similar to female in shape, 22-27 μm or about one anal body-width long.

Type locality and habitat: From soil around roots of paddy, Oryza sativa L., at Saldah, Block Memari, District Burdwan, West Bengal, collected by Dr. Q. H. Baqri & party during December, 1977.

Kantapur and Maghlampur populations were collected from soil around roots of paddy at Kantapur and Maghlampur respectively, Block Memari, District Burdwan, West Bengal.

Differential diagnosis: Aporcelaimellus tropicus n. sp. comes close to A. heynsi Baqri & Jairajpuri 1968 and A. paraconicaudatus (Meyl, 1956) Heyns, 1965. From the former it differs in having longer body (L=0.98-1.22 mm in A. heynsi), larger odontophore (Odontophore 17-19 μm in A. heynsi), differently shaped amphids and vagina, no oesophago-intestinal disc, shorter and bluntly conoid tail (tail 29-41 μm long and conoid in A. heynsi). From A. paraconicaudatus the present new species differs in shorter odontostyle (odontostyle 16 μm in A. paraconicaudatus), longer and differently shaped tail (c=25, and conoid tail in A. paraconicaudatus); shorter spicules and 3 to 5 ventromedian supplements in males (spicules more than 50 μm and 14 to 16 ventromedian supplements in A. paraconicaudatus).
Aporcelaimellus chauhani Baqri & Khera, 1975
(Fig. 2. A, B)

**Measurement**:  
Females (3) ; $L=1.51-1.90 \text{ mm} ; a=26-34 ; b=3.9 \text{ }^{8-11} 8-12 ; c=8.9-11 8-12$.  
Male: (1) ; $L=1.89 \text{ mm} ; a=34 ; b=4.01 ; c=38, T=57$.

Baqri and Khera (1975) described *A. chauhani* on the basis of females. The present population which included a single male resembles in every respect with the type specimens of *A. chauhani* except in having longer body. ($L=0.96-1.42 \text{ mm}$).

**Male**: Similar to female in general shape and morphology except the male genital system. Spicules $55 \text{ } \mu\text{m}$ or near about 1.6 anal body-width long when measured along the curved median line. Lateral guiding pieces $14 \text{ } \mu\text{m}$ long, In addition to an adanal pair, seven regularly well-spaced ventromedian supplements present. Copulatory muscles 24, reaching up to the last supplement. Prepectum $179 \text{ } \mu\text{m}$ or about 5 anal body-widths long.

Tail dorsally convex-conoid with subacute terminus, $56 \text{ } \mu\text{m}$ or 1.6 anal body-widths long.

**Habitat and locality**: From soil around roots of Ladies finger, *Hibiscus esculentus* L. at Beledanga, District Hooghly, collected by A. Jana in March, 1977.

Aporcelaimellus adoxus Tjepkema, Ferris, and Ferris, 1971

Two females from soil around roots of unidentified grass at Memari, District Burdwan.

Aporcelaimellus heynsi Baqri & Jairajpuri, 1968

**Autpara population**: Five females from soil around roots of paddy, *Oryza sativa* L., at Autpara, Block Jamalpur District Burdwan.

**Masaqam population**: Thirteen females from soil around roots of paddy, *Oryza sativa* L., at Masagram, Block Jamalpur, District Burdwan.
Aporcelaimellus coomansi Baqri & Khera, 1975

Four females from soil around roots of banana, *Musa* sp., at Reang, District Darjeeling.

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References

