

**NEMATODES OF VEGETABLES AND PULSES FROM PATNA DISTRICT,
BIHAR— II**

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INTRODUCTION

In an earlier communication (1984) the present authors recorded eighteen species of phytoparasitic nematodes from Patna district, Bihar. The present paper is the second in series and deals with eight species belonging to seven genera of six families. Almost all the species are being recorded for the first time from Bihar and many hosts are also new.

SYSTEMATIC ACCOUNT

Family TYLENCHIDAE Filipjev, 1934.

1. *Tylenchus ? butteus* Throne & Malek, 1968.

Females (4) : L =) Male 0.377 - 0.432 mm, a = 26-36, b = 5.4, - 6.1, c = 4.4-5.2, c' = 10.5-13.0, V= 60-65, stylet=9-13 μ m. Males (2) : L=0.33-0.34mm, a=37.0-42.5, b=5.0-5.1, c=3.7-3.9, c'=13-14, stylet=9-10 μ m, spicula=11.7 μ m, gubernaculum=3.9-5.2 μ m.

Host : Chilli, Castor.

Locality : Dargahitola, Metra.

Remarks : The specimens fit well in the description of the species by Andrassy (1979), the only difference being unhooked tail tip. However, we prefer to put these in this species provisionally than erect a new species.

The species is being recorded from Bihar for the first time. The hosts reported here are also new.

Family NACOBIDAE (Chitwood & chitwood, 1950)

2. *Rotylenchulus reniformis* Linford & Oliveira, 1940

Females 5 (immature) : L = 0.370 - 0.396 mm, a=24-26, b=2.3-3.1, c=14-22, c'=2.0-2.5, V=72-78, stylet =15-16 μ m. Males (2) : L=0.253-0.510mm, a=20-34, b=2.7-3.7, c=11-21, c'=2.1-2.6, stylet=13-15 μ m, gubernaculum = 7-8 μ m.

Host : Tomato, eggplant, smoothgourd, banana, pigeonpea and castor.

Locality : Baikatpur, Chhattarpur, Dargahitola, Inglis, Nirpur and Nukunpura.

Remarks: The specimens fit well in the description of the species by Swarup et al.(1967) & Dasgupta et al.(1968).

Family PARATYLENCHIDAE (Thorne, 1949) Raski, 1962

3. *Paratylenchus nainianus* Edward & Misra, 1963.

Female (1) : L=0.296 mm, a=15, b=3.9, c=22.8, c'=2, V=86, stylet=26 μ m.

Host : Eggplant.

Locality : Umerabad.

Remarks: The specimen fits well in the description of the species by Raski (1975). The present specimen shows conoid tail with acute terminus as in some of the specimens of Raski.

This is the first record of the species from Bihar and host is also new.

Family NOTHOTYLENCHIDAE (Thorne, 1941)

4. *Nothotylenchus bhatnagari* Tikyani & Khera, 1969

Females (5) : L=0.065-0.767 mm, a=28-38, b=5.7-6.8, c=10.9-16.6, c'=3.7-7.0, V=79-86, stylet= 9.0-11.7 μ m.

Males (2) : L=0.390-0.594 mm, a=30-35, b=4.6-5.5, c=9.3-10.1, c'=4.4-5.6, stylet=7.8-9.1 μ m, spicula=13-19 μ m, gubernaculum=6.5-7.8 μ m.

Host : Eggplant, bean, onion, 'sonf', pea, castor.

Locality : Dargahitla, Bidhipur, Hathidah, Nirpur, Pandarak, Chhattarpur, and Nukunpura.

Remarks: The specimens fit well in the original description of the species. They show longer ranges of deManian indices. They differ only in having longer postuterine sac (smaller than one vulval body diameter in original description). However, this one difference is considered here only as intraspecific variation among widely separated populations.

Bihar constitutes a new locality record and hosts mentioned above are also new.

Family APHELENCHIDAE (Fuchs, 1937) Steiner, 1949

5. *Aphelencus avenae* Bastian, 1865.

Females (8) : L=0.546-0.786mm, a= 20-36, b = 7.3-10.0, b' = 4.0 - 5.4, c = 17 - 40, c'

= 1.1 - 3.1, V = 72 - 80, Stylet = 14.3 - 19.5 μ m.

Males (4) : L = 0.468—0.600mm, a=20-38, b=6.4-7.6, b' = 3.6-4.2, c=21.0-28.5, c' = 1-2, stylet=15.6-21.0 μ m, spicula=19.5-23.4 μ m, gubernaculum = 7.8-10.4 μ m.

Host : Tomato, lemon, okra, turmeric, lobia, eggplant, smoothgourd, banana, 'sonf', bean, coriander, chilli, pea, pigeonpea, gram, and 'masur'

Locality : Maner, Neora, Silhauri, Paligunj, Lai, Inglis, Kanpa, Dilawarpur, Patot, Jaynagar, Bedhari-Inglis, Chattarpur, Haridasbigha, Athmalgola, Bakhtiyarpur, Nukun-pura, Amta, Adimpur, Metra, Bidhipur, Nirpur, and Dargahitola.

Remarks : The males are stated to be rare in the species by Goodey & Hooper (1965) and Das (1960). Khera (1970) recorded 1 : 4 as male-female ratio. In the present case it was found to be 1 : 9.

The specimens showed some variations in the ranges of deManian indices. This is the first record of the species from Bihar. Smoothgourd, turmeric, 'sonf', are new hosts for the species. From locality record it appears having wide distribution in Bihar.

Family APHELENCHOIDIDAE (Skarbilovich, 1947)

6. *Aphelenchoides parietinus* (Bastian, 1865) Steiner, 1932

Females (2) : L = 0.338 - 0.541 mm, a = 22 - 32, b = 6.5 - 9.6, b' = 3.2 - 4.2, c = 14 - 15, c' 3.5 - 3.6, V = ²²⁻⁵² 69-77, Stylet = 13 μ m.

Host : Eggplant, pigeonpea.

Locality : Hathidah, Patot.

Remarks : The species is being recorded for the first time from Bihar and pigeonpea seems to be new host.

7. *Aphelenchoides saprophilus* Franklin, 1957

Male (1) : L = 0.390mm, a = 25, b = 7.3, b' = 3.2, c = 13.5, c' = 3.5, Stylet = 13 μ m, basal width = 6.5 μ m. Specula-dorsal prong = 15.6 μ m, ventral prong = 7.8 μ m, basal width = 6.5 μ m.

Host : Castor.

Locality : Dargahitola.

Remarks : The specimen tallies with the original description of the species except the

protuberance on the dorsal prong of the spicule. The body dimensions are more close to the specimens from Orissa recorded by Khera & Chaturvedi (1975).

This is the first record of the species from Bihar and host is also new.

8. *Seinura hechlerae* Chaturvedi *et al*, 1979

Male (1) : L = 0.498 mm, a = 33, b = 8.3, b' = 3.1, c = 7.04, c' = 7.6, V = 62.6, Stylet = 13 μ m.

Females (12) : L = 0.338 - 0.351 mm, a = 21 - 26, b = 6.8 - 7.3, b' = 3.4 - 4.4, c = 7.7 - 8.1, c' = 5.3 - 5.8, V = ?, Stylet = 13 - 14 μ m.

Host : Chilli, Castor.

Locality : Kasimpur, Dargahitola.

Remarks : The specimens fit well in the original description of the species. However, they show some variations in body size, values of 'a' & 'c' in deManian formula. Chaturvedi *et al.* (1979), described the species from jute fields of West Bengal therefore the present record from Bihar as well as hosts are new.

SUMMARY

Eight species of tylenchid nematodes, *Tylenchus ?butteus*, *Rotylenchulus reniformis*, *Paratylenchus nainianus*, *Ditylenchus bhatnagari*, *Aphelenchus avenae*, *Aphelenchoides parietinus*, *A. saprophilus* and *Seinura hechlerae* are reported to be associated with vegetables and pulses in Patna district, Bihar.

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