

## TERRESTRIAL NEMATODES FROM RAJASTHAN, INDIA : III. DISCOLAIMINAE (NEMATODA : QUDSIANEMATIDAE)

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**ABSTRACT** – Species diversity of plant and soil nematodes of Rajasthan state, India has been studied. In the present paper, 24 species of sub-family Discolaiminae (Family Qudsianematidae) are being recorded during study. Eight species of the nematode are being recorded first time from India and 3 species first record from state : *Discolaimus* : 4 New record from India *Discolaimus acuticapitatus* Furstenberg & Heyns, 1966; *D. affinis* Loof, 1964; *D. agricolus* Sauer and Annells, 1985, 1964, *D. pizai* Monteiro, 1970; *Discolaimium* : 3 new record from India *Discolaimium australe* (Yeast, 1967) Andrassy 1990, *D. maracaiensis* (Lordello, 1965) Monteiro, 1970, *D. sublatum* Heyns, 1963 and one new record from State *D. latum* Thorne, 1939; *Discolaimoides* : 1 new record from India *Discolaimoides florealis* Vinciguerra & Orselli, 1998 and one new record from State *Discolaimoides teres* Khan & Laha, 1982; *Latocephalus* : 2 new record from state *Latocephalus gracilis* Patil & Khan, 1982, *L. monohystera* (Siddiqi, 1965) Patil & Khan, 1982.

**Key words** : Rajasthan, India, Forest, Nematode, Discolaiminae, *Discolaimus*, *Discolaimium*, *Discolaimoides*, *Latocephalus*.

### INTRODUCTION

Information on plant and soil nematodes from Forest areas of Rajasthan almost negligible. An attempt has been made to identify the nematodes associated with forest trees. The present paper reports the study conducted on free living nematodes of the subfamily Discolaiminae from the soil sample collected around the roots of forest trees by the author during 2005 to 2007 of Rajasthan. Twenty four species belonging to 4 genera of subfamily Discolaiminae (Family Qudsianematidae) have been recorded. Out of these, 8 species have been recorded for the first time from India and 3 new records from Rajasthan. The dimension, description and photograph of identified 24 species of nematode are provided below.

### MATERIAL AND METHODS

The nematodes were fixed in hot 4% formalin and mounted in anhydrous glycerin. All the specimens have been registered and deposited with the National Zoological Collection, DRC, ZSI, Jodhpur.

### SYSTEMATIC LIST

Order Dorylaimida Pearse, 1942

Family Qudsianematidae Jairajpuri, 1965

Subfamily Discolaiminae Siddiqi, 1969

#### Genus *Discolaimus* Cobb, 1913

1. *Discolaimus acuticapitatus* Furstenberg & Heyns, 1966

2. *D. affinis* Loof, 1964

3. *D. agricolus* Sauer and Annells, 1985

4. *D. major* Thorne, 1939

5. *D. paramajor* Coomans, 1966

6. *D. pizai* Monteiro, 1970

7. *D. similis* Thorne 1939

8. *D. tenax* Siddiqi, 1964

9. *D. texanus* Cobb, 1913

#### Genus *Discolaimium* Thorne, 1939

10. *Discolaimium australe* (Yeates, 1967) Andrassy, 1990

11. *D. dubium* Das, Khan and Loof, 1969

12. *D. latum* Thorne, 1939

13. *D. maracaiensis* (Lordello, 1965) Monteiro, 1970

14. *D. simplex* Siddiqi, 1965

15. *D. sublatum* Heyns, 1963

16. *D. upam* Baqri & Jairajpuri, 1968

#### Genus *Discolaimoides* Heyns, 1963

17. *Discolaimoides bulbiferus* (Cobb, 1906) Heyns, 1963

18. *D. florealis* Vinciguerra & Orselli, 1998

19. *D. saptilabium* Khan and Laha, 1982

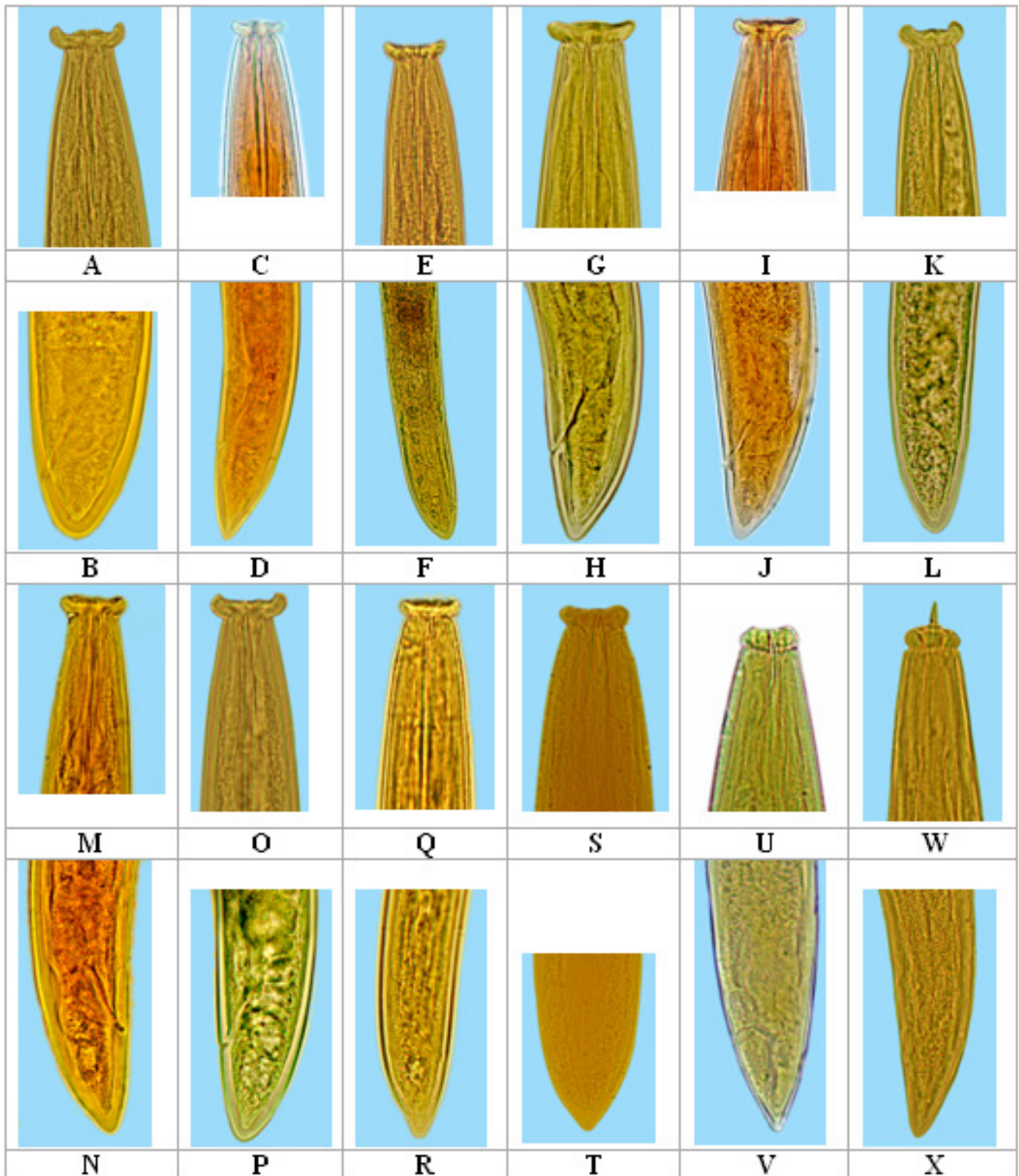
20. *D. symmetricus* Das, Khan & loof, 1969

21. *D. teres* Khan and Laha, 1982

**Genus *Latocephalus* Patil & Khan, 1982**22. *Latocephalus gracilis* Patil and Khan, 198223. *L. monohystera* (Siddiqi, 1965) Patil & Khan, 198224. *L. smithi* (Heyns, 1963) Patil & Khan, 1982**1. *Discolaimus acuticapitatus* Furstenberg & Heyns, 1966****(Fig 1; A-B)****Measurements****Female (1) :** L= 1.7mm ; a=36; b=3.8; c=77; c'=0.8; V= 53**Description :****Female :** Body slightly curved ventrally upon fixation. Lips region typical, rounded. Odontostyle 17  $\mu$ m long; its aperture 70% of odontostyle length. Odontophore 32  $\mu$ m long. The enlarged basal expanded part of the oesophagus surrounded by two conspicuous sheath. The expanded part of the oesophagus occupies 66% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 22  $\mu$ m long, convex conoid, bluntly rounded.**Male :** Not found.**Habitat and Locality :** Collected from soil around the roots of *Acacia* sp. at Chiriawas , district Banswara, Rajasthan.**Elsewhere :** South Africa.**Remarks :** This species is being reported first time from India.**2. *Discolaimus affinis* Loof, 1964****(Fig 1; C-D )****Measurements****Females (2) :** L= 1.1 -1.2 mm; a= 32-35; b= 3.6-3.8; c=52-53; c'=1; V= 49-50**Description :****Females :** Body slightly curved ventrally upon fixation. Odontostyle 15  $\mu$ m long; its aperture more than 1/2 of the odontostyle length. Odontophore 26-27  $\mu$ m long. The expanded part of oesophagus occupy 52-56% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 21-23  $\mu$ m long or one anal body width long, convex conoid, with broadly rounded tip.**Male :** Not found.**Habitat and Locality :** Collected soil around the roots Teak at Upper Gaon, district Dungarpur,

Rajasthan.

**Elsewhere :** Venezuela**Remarks :** This species is being reported first time from India.**3. *Discolaimus argicolus* Sauer and Annels, 1985**  
**(Fig 1; E-F)****Measurements****Female (1) :** L= 1.8 mm; a=35; b=3.9; c=82; c'=0.7; V= 48**Description :****Female :** Body slightly curved ventrally upon fixation. Lips rounded. Odontostyle 22  $\mu$ m long; its aperture 1/2 of the odontostyle length. Odontophore 45  $\mu$ m long. The expanded part of oesophagus occupy 56% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 22  $\mu$ m long, blunt with broadly rounded tip.**Male :** Not found.**Habitat and Locality :** Collected soil around the roots of *Holoptelia integrifolia* at Neem ka Thana, district Bundi, Rajasthan.**Elsewhere :** Australia**Remarks :** This species is being reported first time from India.**4. *Discolaimus major* Thorne, 1939 syn. *Discolaimus arenicolus* Yeates, 1967****(Fig 1; G-H)****Measurements****Female (3) :** L= 2.3-2.6 mm; a=37-43; b=4.8-5.2; c=62-68; c'= 1.0-1.1; V= 47-49**Description :****Females :** Body slightly curved ventrally upon fixation. Lip region expanded Odontostyle 21-22  $\mu$ m long; its aperture about 57% of odontostyle length. Odontophore 43-44  $\mu$ m long. The expanded part of the oesophagus occupy 57% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 37-39  $\mu$ m long, dorsally convex-conoid, with rounded tip.**Male :** Not found.**Habitat and Locality :** Collected from soil around the roots of *Terminalia arjuna* at district Lasara, district Banswara, Rajasthan.**Elsewhere :** Soviet Union, Zaire, Brazil.



**Fig. 1 :** A-B *Discolaimus acuticapitatus* A. Head, B. Female Tail; C-D *Discolaimus affinis*; C. Head, D. Female Tail; E-F *Discolaimus argicolus*; E. Head, F. Female Tail; G-H; *Discolaimus major* G. Head, H Female Tail ; I-J *Discolaimus paramajor* I. Head, J. Female Tail ; K-L *Discolaimus pizai* K. Head, L. Female Tail; M-N *Discolaimus similis* M. Head, N. Female Tail ; O-P *Discolaimus texanus*; O. Head, P. Female Tail ; Q-R *Discolaimus tenax* Q. Head, R. Female Tail ; S-T *Discolaimum australe* S. Head, T. Female Tail; U-V *Discolaimium dubium* U. Head, V Female Tail ; W-X *Discolaimum latum* W. Head, X. Female Tail.

5. *Discolaimus paramajor* Coomans, 1966

(Fig 1; I-J)

**Measurements**

**Female** (1) : L= 1.5 mm; a=31; b=3.7; c=59; c'=0.9; V= 46

**Description :**

**Female :** Body slightly curved ventrally upon fixation. Lip region expanded Odontostyle 23  $\mu$ m long; its aperture 60% of odontostyle length. Odontophore 25  $\mu$ m long. The expanded part of the oesophagus occupy 57% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 25 $\mu$ m long, dorsally convex-conoid, with rounded tip.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around the roots of Teak at Abhyapura, district Bundi, Rajasthan.

**Elsewhere :** Soviet Union, Zaire, Brazil.

6. *Discolaimus pizai* Monteiro, 1970

(Fig 1; K-L )

**Measurements**

**Female** (1) : L= 1.1 mm; a=34; b=3.6; c=48; c'=1.1; V= 50

**Description :**

**Female :** Body slightly curved ventrally upon fixation. Lip region expanded. Odontostyle 16  $\mu$ m long; its aperture 44% of odontostyle length. Odontophore 26  $\mu$ m long. The expanded part of the oesophagus occupy 57% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 24  $\mu$ m long, dorsally convex-conoid, with rounded tip.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around the roots of *Tecomella indica* at Rajwara, district Baran, Rajasthan.

**Elsewhere :** Soviet Union, Zaire, Brazil.

**Remarks :** This species is being reported first time from India.

7. *Discolaimus similis* Thorne, 1939

(Fig 1; M-N)

**Measurements**

**Females** (3): L= 1.9-2.0 mm; a=35-37; b=4.1-4.7; c=53-58; c'=1.2-1.3; V= 50-53

**Description :**

**Females :** Body slightly curved ventrally upon fixation. Lip region expanded Odontostyle 19-20  $\mu$ m long; its aperture 50-52% of odontostyle length. Odontophore 33-35  $\mu$ m long. The expanded part of the oesophagus occupy 57% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 33-36  $\mu$ m long, dorsally convex-conoid, with rounded tip.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around the roots of *Eucalyptus* sp. at Rainbasera, district Jhalawara, Rajasthan.

8. *Discolaimus texanus* Cobb, 1913

**Syn. *Discolaimus (Discolaimus) texanus* (Cobb, 1913) Micoletzey, 1922**

***Discolaimus monohystera* Thorne , 1939**

***Discolaimus brevis* Siddiqi, 1964**

(Fig. 1; O-P)

**Measurements :**

**Females** (6) : L= 1.3-1.5mm ; a=24-41; b=3.7-4.0; c=50-57; c'=0.9-1.2 ; V= 42-45

**Description :**

**Females :** Body ventrally arcuate upon fixation. Lip region set off by slight constriction. Odontostyle 15-17  $\mu$ m long; its aperture 43-56% of odontostyle length. Odontophore 27-30 $\mu$ m long. The expanded part of oesophagus occupies 54-58% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 24-28  $\mu$ m long, convex conoid, rounded.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around root of forest trees at Mega Dam, district Bhilwara, Rajasthan.

9. *Discolaimus tenax* Siddiqi, 1964

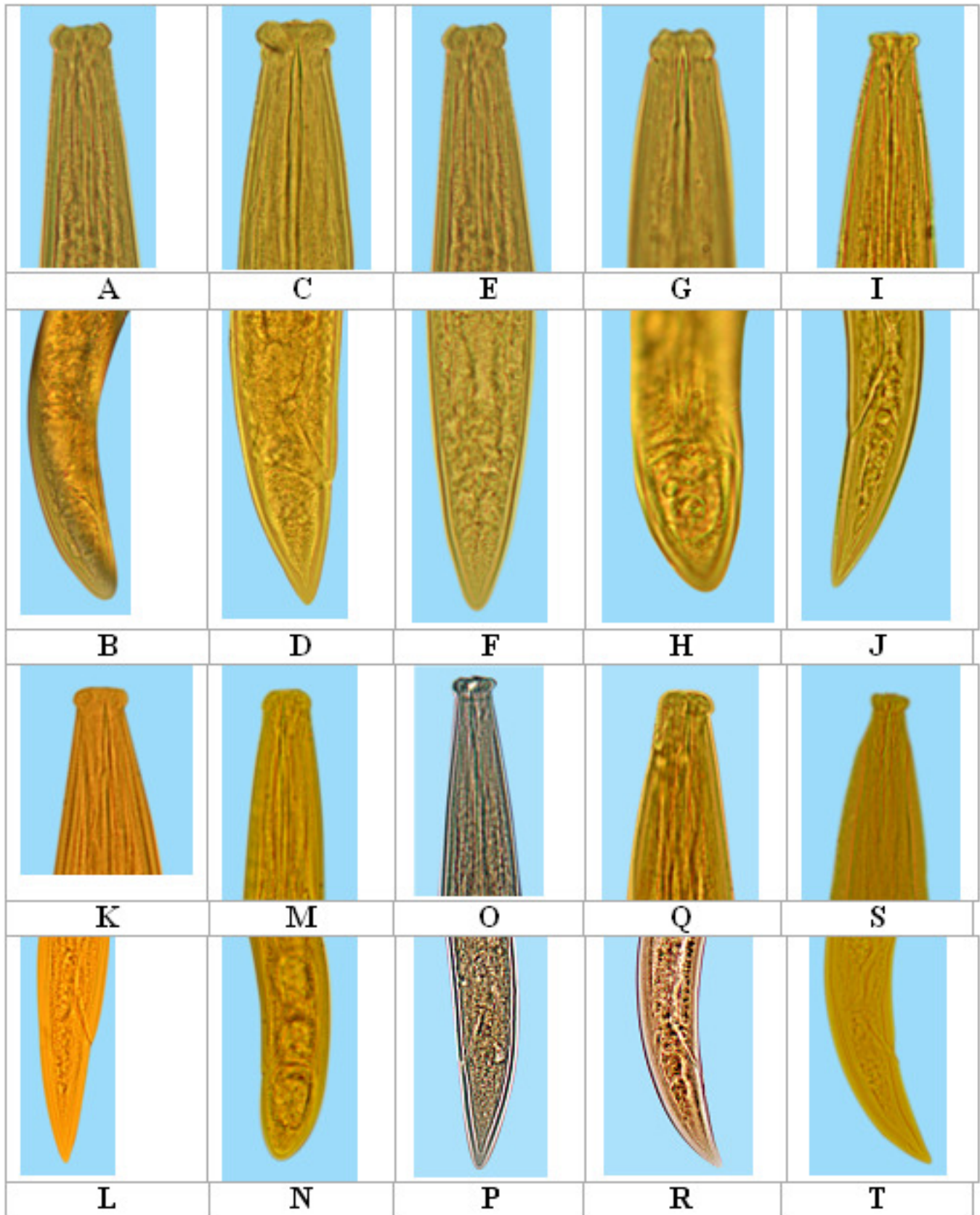
(Fig. 1; Q-R)

**Measurements :**

**Females** (3) : L= 1.0-1.2mm ; a=33-38; b=3.9-4.2; c=47-52; c'=1.1-1.2 ; V= 49-53.

**Description :45 57**

**Females :** Body ventrally arcuate upon fixation. Lip region set off by slight constriction. Odontostyle 14-15 $\mu$ m long; its aperture 47-55% of odontostyle length. Odontophore 23-24 $\mu$ m long. The expanded part of oesophagus occupies 54-58% of total oesophageal



**Fig. 1 :** A-B *Discolaimum maracaiensis*; A. Head, B. Female Tail; C-D *Discolaimum simplex*; C. Head, D. Female Tail; E-F *Discolaimum sublatum*; E. Head, F. Female Tail; G-H. *Discolaimum upum* G. Head, H Female Tail ; I-J *Discolaimoides florealis* I. Head, J. Female Tail; K-L *Discolaimoides septilabium* K. Head, L. Female Tail; M-N *Discolaimoides teres* M. Head, N. Female Tail ; O-P *Latocephalus monohystera* O. Head, P. Female Tail ; Q-R *Latocephalus smithi* Q. Head, R. Female Tail ; S-T *Latocephalus gracilis* S. Head, T. Female Tail.

length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 21-23  $\mu\text{m}$  long, convex conoid, rounded.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around root of forest trees at Bhilwara, Chitaurgarh, Baran, Rajasthan.

#### 10. *Discolaimum australe* (Yeast, 1961)

**Andrassy, 1990**

**Syn. *Pungentus maracaiensis* Lordello, 1965**

**(Fig. 1; S-T)**

##### **Measurements**

**Female (1) :** L=1.4 mm , a=30 , b=3.0 , c=38 , c'=1.0, V= 52

##### **Description :**

**Female :** Body slightly curved ventrally upon fixation Odontostyle 20  $\mu\text{m}$  long; its aperture 59% of odontostyle length. Odontophore 33  $\mu\text{m}$  long. The expanded part of the oesophagus occupy 67% of total esophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 33  $\mu\text{m}$  long, conoid with rounded tip.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around the roots of Neem at Naia gaon, district Baran, Rajasthan.

**Elsewhere :** Brazil.

**Remarks :** This is new record from India.

#### 11. *Discolaimium dubium* Das, Khan & Loof, 1969

**Syn. *Neodiscolaimium dubium* (Das, Khan & Loof, 1969) Path and Khan, 1982**

**(Fig. 1; U-V)**

**Female (1) :** L= 0.78mm , a=29 , b=3.9 , c=26 , c'=1.8, V= 46

##### **Description :**

**Female :** Body slightly curved ventrally upon fixation Odontostyle 12 $\mu\text{m}$  long; its aperture 42% of odontostyle length. Odontophore 18  $\mu\text{m}$  long. The expanded part of the oesophagus occupy 48% of total esophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 30  $\mu\text{m}$  long , conoid with rounded tip.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around

the roots of Neem at Naia gaon, district Baran, Rajasthan.

**Elsewhere :** Brazil.

**Remarks :** This is new record from India.

#### 12. *Discolaimum latum* Thorne, 1939

**(Fig. 1; W-X)**

**Female (1) :** L= 0.88mm , a=26 , b=4.1 , c=55 , c'=1.2, V= 55

##### **Description :**

**Female:** Body slightly curved ventrally upon fixation. Lip region wider than body set off Odontostyle 6 $\mu\text{m}$  long. Odontophore 13  $\mu\text{m}$  long. The expanded part of the oesophagus occupies about half of total esophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 16 $\mu\text{m}$  long, bluntly rounded.

**Male:** Not found.

**Habitat and Locality :** Collected from soil around the roots of Neem at Rajwara , district Baran, Rajasthan.

**Elsewhere:** United State.

**Remarks :** This is new record from India.

#### 13. *Discolaimium maracaiensis* (Lordello, 1965) Monteiro, 1970

**Syn. *Pungentus maracaiensis* Lordello, 1965**

**(Fig 2 ;A-B)**

##### **Measurements**

**Female (1) :** L= 0.75mm , a=28 , b=4.1 , c=37 , c'=1.3, V= 50

##### **Description :**

**Female :** Body slightly curved ventrally upon fixation Odontostyle 11 $\mu\text{m}$  long; its aperture 64% of odontostyle length. Odontophore 16  $\mu\text{m}$  long. The expanded part of the oesophagus occupy 48% of total esophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 20  $\mu\text{m}$  long , cylindroids with rounded tip.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around the roots of Neem at Dug, district Jhalawar, Rajasthan.

**Elsewhere :** Brazil.

**Remarks :** This is new record from India.

#### 14. *Discolaimum simplex* Siddiqi, 1965

**Syn. *Pungentus maracaiensis* Lordello, 1965**

(Fig 2 ;C-D)

**Measurements:**

**Female (1):** L= 1.3 mm , a=28 , b=3-3 , c=30 , c'=1.4 , V= 50

**Description :**

**Female :** Body slightly curved ventrally upon fixation. Odontostyle 20µm long; its aperture 64% of odontostyle length. Odontophore 37 µm long. The expanded part of the oesophagus occupy 48% of total esophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 36 µm long, cylindroids with rounded tip.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around the roots of Neem at Naia gaon, district Baran, Rajasthan.

**Elsewhere:** Brazil.

**15. *Discolaimum sublatum* Heyns, 1963**

(Fig 2; E-F )

**Measurements**

**Females (2) :** L= 0.90-0.91mm , a=29-30 , b=3.8-3.9 , c=41-43 , c'=1.2-1.4 , V= 48-50

**Description :**

**Females :** Body slightly curved ventrally upon fixation. Odontostyle 11µm long; its aperture 45-54% of odontostyle length. Odontophore 16-18 µm long. The expanded part of the oesophagus occupy 45-46% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 21-22 µm long, convex conoid with rounded tip.

**Male :** Not found.

**Habitat and Locality :** Collected soil around the roots *Dalbergia sissoo*, at Thikaria, district Chittaurgarh, Rajasthan.

**Elsewhere :** South Africa

**Remarks :** This species is being recorded first time from India.

**16. *Discolaimum upam* Baqri & Jairajpuri, 1968**

(Fig. 2-G-H )

**Measurements**

**Females (2) :** L= 0.76-0.91 mm , a=35-38 , b=3.7-4.1 , c=40-41 , c'=1.1-1.4 , V= 45-48

**Description :**

**Females :** Body slightly curved ventrally upon fixation. Odontostyle 11-12µm long; its aperture less

than 1/2 of odontostyle length. Odontophore 16-18 µm long. The expanded part of the oesophagus occupy 42-45% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 19-22µm long, rounded.

**Male :** Not found.

**Habitat and Locality :** Collected soil around the roots *Dalbergia sissoo*, at Asela, district Dungarpur, Rajasthan.

**Elsewhere :** Uttar Pradesh, Rajasthan

**17. *Discolaimoides bulbiferous* (Cobb, 1906)**

**Heyns, 1963**

**Measurements:**

**Females (4):** L= 1.5-1.7mm ; a=48-52; b=3.8-4.5; c= 35-33; c'= 2.1-2.4 ; V= 44-51

**Description :**

**Female :** Body slightly curved ventrally upon fixation. Lips region expanded, offset by constriction. Odontostyle 14-15 µm long; its aperture about 50% of odontostyle length. Odontophore 22-23 µm long. The expanded part of the oesophagus occupies 54-56% of total oesophageal length. Female reproductive system amphidelphic. Tail 42-45 µm long, conoid with rounded terminus.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around the roots of *Pongamia* sp. at Chauthpura, district Chittaurgarh, Rajasthan.

**Elsewhere :** Maharastra, Gujarat, West Bengal.

**Remarks :** This is new host record.

**18. *Discolaimoides florealis* Vinciguerra and Orselli, 1998.**

(Fig. 2; I-J)

**Measurements**

**Female (1) :** L= 1.8mm ; a=80; b=5.5; c=45; c'=2.6; V= 56

**Description :**

**Female :** Body very slender, curved ventrally upon fixation. Lips region typical, rounded. Lips region expended with petaloid lips. Odontostyle 11 µm long; its aperture 36% of odontostyle length. Odontophore 28µm long. The expanded part of the oesophagus occupies 55% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Prerectum 3 anal body width long. Tail 41 µm long, convex conoid, finely rounded terminus.

**Male :** Not found.

**Habitat and Locality :** Collected soil around the roots of *Terminalia arjuna* at Mega dam, district Bhilwara, Rajasthan.

**Elsewhere :** Italy

**Remarks :** The measurements of present specimens are fit well with the specimen described by Vinciguerra and Orselli (1998) except shorter body length. This species is being recorded first time from India.

#### 19. *Discolaimoides saptilabium* Khan & Laha, 1982

**Syn. *Discolaimium symmetricanum* (Das, Khan & Loof, 1969) Mehdi Ali, Suryawanshi and Prabha, 1973**

(Fig 2; K-L)

**Females (2) :** L= 1.5-1.6 mm, a=52-59, b=4.7- 4.8, c=40-46, c'=1.6-1.8, V= 46-49

**Description :**

**Females :** Body subcylindroid, tapering on both exterimities upon fixation Lip region offset by expansion.

Odontostyle 14-15µm long; its aperture occupying half of odontostyle length. Odontophore 20-21 µm long. The expanded part of the oesophagus occupy 48-51% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail symmetrical conoid, 31-32 µm long.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around the roots of *Ecalyptus sp.* at Thakaria, district Chittaurgarh, Rajasthan.

**Elsewhere :** Rajasthan, Maharastara.

#### 20. *Discolaimoides symmetricus* Das, Khan & Loof, 1969 Syn. *Discolaimium symmetricanum* (Das, Khan & Loof, 1969) Mehdi Ali, Suryawanshi and Prabha, 1973

**Measurements**

**Females (5) :** L= 1.5-1.6 mm, a=52-59, b=4.7- 4.8, c=48-50, c'=1.6-1.8, V= 46-49

**Description :**

**Females :** Body subcylindroid, tapering on both exterimities upon fixation Lip region offset by expansion. Odontostyle 14-15µm long; its aperture occupying half of odontostyle length. Odontophore 20-21 µm long. The expanded part of the oesophagus occupy 48-51% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail symmetrical conoid, 31-32 µm long.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around the roots of *Holoptelia sp.*, *Techomella* and *Eucalyptus*, at all the localities of districts Banswara, Dungarpur and Jhalawar, Rajasthan.

**Elsewhere :** Widely distributed species.

#### 21. *Discolaimoides teres* Khan & Laha, 1982

(Fig 2; M-N )

**Measurements**

**Female (1) :** L= 1.0 mm ; a=40; b=4.0; c=45 ; c'=1.4; V= 46

**Description :**

**Female :** Body very slender, curved ventrally upon fixation. Lips region typical, rounded. Lips region expended with petaloid lips. Odontostyle 11µm long; its aperture of odontostyle length. Odontophore 19 µm long. The expanded part of the oesophagus occupies 36% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 22µm long, convex conoid, finely rounded terminus.

**Male :** Not found.

**Habitat and Locality :** Collected soil around the roots of *Pongamia sp.* at Bajava, district Banswara, Rajasthan.

**Remarks :** This is new host record.

**Elsewhere :** Italy

#### 22. *Latocephalus gracilis* Patil & Khan, 1982

(Fig 2; S-T )

**Measurements :**

**Female (1) :** L= 1.4mm ; a=71; b=5.1; c=40; c'=2.1; V= 40

**Description :**

**Female :** Body slightly arcuate upon fixation. Lip region setoff by slight constriction. Odontostyle 8 µm long; its aperture 44% of odontostyle length. Odontophore 13µm long or 1.6times of odontostyle length. The expanded part of oesophagus occupies 47% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 35µm long, convex conoid, rounded tip.

**Habitat and Locality :** Collected from soil around the roots Shisham at district Banswara, Rajasthan.

**Male :** Not found.

**Remarks :** The species is recorded first time from

Rajasthan.

**23. *Latocephalus monohystera* (Siddiqi, 1965)**

**Patil & Khan, 1982**

(Fig. 2; O-P)

**Measurements :**

**Female** (1) : L= 1.4mm ; a=71; b=5.1; c=44; c'=2.1; V= 39

**Description :**

**Female :** Body slightly arcuate upon fixation. Lip region setoff by slight constriction. Odontostyle 9 µm long; its aperture 44% of odontostyle length. Odontophore 13µm long or 1.4times of odontostyle length. The expanded part of oesophagus occupies 47% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 32µm long, convex conoid, rounded tip.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around the roots Shisam at Kopra, district Banswara, Rajasthan.

**Elsewhere :** South and North Dakota, USA and Northern Great Plains.

**Remarks :** This species is recorded first time from Rajasthan.

**24. *Latocephalus smithi* ( Heyns, 1963) Patil & Khan, 1982 1963. *Discolaimoides smithi* . Heyns. *Proc. Helminth. Soc. Wash.* **30** : 1-6. 1963. *Discolaimium smithi*. (Heyns, 1963) Timm et Bhuvan, 1963. *Tashkent.* **1**-227. 1982. *Latocephalus monohystera*. Patil & Khan. *Indian J. Nematol.* **12** : 38-46.**

(Fig. 2; Q-R )

**Measurements :**

**Female** (1) : L= 1.1mm ; a=467; b=4.0; c=32; c'=2.1; V= 43

**Description :**

**Female :** Body slightly arcuate upon fixation. Lip region setoff by constriction. Odontostyle 10 µm long; its aperture 50% of odontostyle length. Odontophore 16µm long. The expanded part of oesophagus occupies 52% of total oesophageal length. Vulva a transverse slit. Female reproductive system amphidelphic. Tail 36µm long, convex conoid, rounded tip.

**Male :** Not found.

**Habitat and Locality :** Collected from soil around the roots Shisham at Bajava, Banswara, Rajasthan.

**Remarks :** The species is recorded first time from Rajasthan.

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