

**SUBFAMILY DISCOLAIMINAE SIDDIQI, 1969**

**DIAGNOSIS:** Cuticle finely striated; lateral chords provided with glandular bodies. Lip region discoid; lips separate, rarely with inner scyphiform sclerotized lining bearing rudimentary ridges. Odontostyle long and narrow, may be thick-walled, sometimes slightly non-axial. Guiding ring single. Odontophore rod-like. Anterior slender part of pharynx without visible musculature; basal expanded portion very muscular, marked off from anterior slender part by sudden expansion, rarely enveloped in thin, non-spiraled sheath. Female reproductive system mono-opisthodalphic or amphidelphic. Males with large dorylaimoid spicules, lateral guiding pieces and series of spaced ventromedian supplements. Tail conoid, hemispheroid to long filiform; similar in sexes.

**Type genus:** *Discolaimus* Cobb, 1913

**Other genera:** *Discolaimium* Thorne, 1939

*Mylodiscus* Thorne, 1939

*Discolaimoides* Heyns, 1963

*Latocephalus* Patil & Khan, 1982

*Filidiscolaimus* Siddiqi, 1995

## KEY TO GENERA OF DISCOLAIMINAE

1. Tail short conoid to hemispheroid .....2  
    Tail long filiform ..... *Filidiscolaimus*
2. Lip region provided with cuticularized, shallow, bowl-like plates  
    ..... *Mylodiscus*  
    Lip region not provided with cuticularized plates .....3
3. Lip region discoid ..... *Discolaimus*  
    Lip region not discoid ..... 4
4. Lip region offset by an expansion ..... *Discolaimoides*  
    Lip region offset by constriction ..... 5
5. Female reproductive system amphidelphic ... .. *Discolaimium*  
    Female reproductive system mono-opisthodelphic... ..  
    ..... *Latocephalus*

## GENUS *DISCOLAIMUS* COBB, 1913

Cobb (1913) proposed the genus *Discolaimus* with *D. texanus* as its type. Micoletzky (1922) considered *Discolaimus* as a sub-genus under *Dorylaimus* Dujardin, 1845. Later, Thorne (1939) gave a detailed account of *Discolaimus* and added some species under it. Thorne & Swanger (1936), Tulaganov (1949), Merzheuskaya (1951), Lordello (1955), Heyns (1963), Siddiqi (1964), Monteiro (1970), Khan & Laha (1983), Sauer & Annells (1985) etc. added more species to the genus, although some of these species have now been shifted to *Labronema* Thorne, 1939 and *Discolaimoides* Heyns, 1963. Andr assy (1990) considered the genus *Discolaimus*, *Discolaimim*, *Discolaimoid*, *Latocephalus*, *Mylodiscus* and *Mylodiscoides* under Discolaiminae and synonymized the genera *Crassolabium* yeates, 1967; *Durinema* Jairajpuri, 1968 and *Neodiscolaimium* Patil & Khan, 1982 with *Discolaimium*. Jairajpuri & Ahmad (1992) accepted only five genera under Discolaiminae and the genus *Mylodiscoides* was placed under the superfamily Actinolaimoidea.

**DIAGNOSIS:** Body usually 1-3 mm long. Cuticle finely striated; lateral chords with well-developed glandular bodies. Lip region discoid, lips widely expanded. Odontostyle long, narrow but thick-walled; aperture about one third length. Guiding ring single. Odontophore rod-like. Basal expanded portion of pharynx marked off from anterior slender parts by abrupt expansion. Cardia disc-like, followed by bluntly conoid part. Female reproductive system monopisthodelphic or amphidelphic. Males with large dorylaimoid spicules,

lateral guiding pieces and series of spaced ventromedian supplements.

Tail bluntly rounded or conoid, with obtuse tip; similar in sexes.

**Type species:** *Discolaimus texanus* Cobb, 1913.

**Other species:** *D. acuticapitus* Furstenberg & Heyns, 1966

*D. affinis* Loof, 1964

*D. agricolus* Sauer & Annells, 1985

*D. albarossicus* Merzheevskaya, 1951

*D. andrassyi* El-Naga, 1989

*D. auritus* Lordello, 1955

*D. bicorticus* Furstenberg & Hengs, 1966

*D. discocephalus* Tulaganov, 1949

*D. elegans* Sauer & Annells, 1985

*D. gossypiorum* Karimova, 1957

*D. intermedius* Heyns & Lagerway, 1965

*D. krugeri* Furstenberg & Heyns, 1966

*D. laki* Khan & Laha, 1982

*D. levinae* Furstenberg & Henys, 1966

*D. major* Thorne, 1939

*D. monoplanus* Heyns, 1963

*D. paramajor* Commans, 1966

*D. parplexans* Siddiqi, 1964

*D. pizai* Monteiro, 1970

*D. rotundicaudatus* Khan & Laha, 1982

*D. silvicolus* Sauer & Annells, 1985

*D. similis* Thorne, 1939

*D. tenax* Siddiqi, 1964

*D. zicsii* Andrásy, 1968

### ***Discolaimus major* Thorne, 1939**

#### **MEASUREMENTS:**

**Female (n = 6) :** L = 1.82-2.01 (1.91) mm; a = 28-30 (29); b = 3.6-3.1 (3.8); c = 69.8-77.1 (72.9); c' = 0.6-0.8 (0.7); V = 49-54 (52); G1 = 8-12 (10); G2 = 8-13 (11); odontostyle = 31-32 (31)  $\mu\text{m}$ ; odontophore = 42-44 (43)  $\mu\text{m}$ ; neck length = 481-493 (497)  $\mu\text{m}$ ; prerectum = 34- 35 (34)  $\mu\text{m}$ ; rectum = 27-30 (29)  $\mu\text{m}$ ; tail 25-28 (27)  $\mu\text{m}$ ; ABD = 32- 37 (35)  $\mu\text{m}$ .

**Male:** Not found :

**HABITAT AND LOCALITY:** Soil around roots of forest tree (unidentified) from Periyar forest, Thikkadi, Kerala state.

**REMARKS:** *D. major* Thorne, 1939 is a cosmopolitan species recorded from all the continents. Siddiqi (1964) recorded a single specimen of this species from India. The present specimens conform well with the Siddiqi's specimen of *D. major*.

### ***Discolaimus silvivolus* Sauer & Annells, 1985**

#### **MEASUREMENTS:**

**Females (n = 3) :** L = 1.79-1.90 (1.84) mm; a = 32-33 (32); b = 4.2-5.4 (4.8); c = 53-62 (58); c' = 1.1; V = 49-51 (50); G1 = 6-7 (6); G2 = 6-8 (7); odontostyle = 23-24 (23)  $\mu\text{m}$ ; odontophore = 39-40 (39)  $\mu\text{m}$ ;

neck length = 393-433 (413)  $\mu\text{m}$ ; prerectum = 24-26 (25)  $\mu\text{m}$ ; rectum = 21-27 (24)  $\mu\text{m}$ ; tail = 31-35 (33)  $\mu\text{m}$ ; ABD = 28-31 (30)  $\mu\text{m}$ .

**Male:** Not found.

**HABITAT AND LOCALITY :** Soil around roots of sorghum (*sorghum vulgar*) from Sheriseelum, Darnala district, Andhra Pradesh India. Collected on August 20, 1997.

**REMARKS:** Sauer & Annells (1985) described this species from Australia. This is the first report of the species from India and ever first report from outside Australia. The present specimens have slightly robust body, less V value and longer odontostyle (L = 37-42: V = 51-53 and odontostyle 20-22  $\mu\text{m}$  in type specimens).

### ***Discolaimus tenax* Siddiqi, 1964**

(Fig. 32)

**MEASUREMENTS:**

**Kerala population:**

**Females (n = 8):** L = 0.99-1.12 (1.05) mm; a = 30-40 (36); b = 3.6-4.0 (3.8); c = 43.0-52.7 (47.8); c' = 1.2-1.5 (1.3); V = 44-53 (49); G1 = 7-8 (7); G2 = 7-9 (8); odontostyle = 14-15 (14)  $\mu\text{m}$ ; odontophore = 15-17 (16)  $\mu\text{m}$ ; neck length = 244-304 (274)  $\mu\text{m}$ ; prerectum = 15-19 (17)

$\mu\text{m}$ ; rectum = 15-19 (16)  $\mu\text{m}$ ; tail = 20-26 (23)  $\mu\text{m}$ ; ABD = 16-19 (18)  $\mu\text{m}$ .

**Karnatka population :**

**Females (n = 9):** L = 1.07-1.26 (1.16) mm; a = 32-37 (35); b = 3.7-4.4 (4.0); c = 43.3-53.6 (48.4); c' = 1.1-1.4 (1.2); V = 40-52 (46); G1 = 6-8 (7); G2 = 6-8 (7); odontostyle = 13-15 (14)  $\mu\text{m}$ ; odontophore = 19 - 21 (20)  $\mu\text{m}$ ; neck length 276-289 (283)  $\mu\text{m}$ ; prerectum = 16-22 (19)  $\mu\text{m}$ ; rectum = 15-21 (18)  $\mu\text{m}$ ; tail = 23-26 (25)  $\mu\text{m}$ ; ABD = 18-22 (20)  $\mu\text{m}$ .

**DESCRIPTIONS:**

**Female :** Body ventrally curved upon fixation. Cuticle and sub-cuticle marked with transverse striae; each striae 0.5  $\mu\text{m}$  apart. Lateral hypodermal chords two-seventh of body width at mid-body with glandular bodies throughout its length. Lateral, dorsal and ventral body pores indistinct.

Lip region discoid, offset, 15-19  $\mu\text{m}$  wide. Anterior surface of the expanded saucer shaped lip region wide, with six wedge shaped sectors; each sector with 4-5 distinct, transverse striae. Under surface of the disc with six primary and twelve secondary lobes. Anterior sensilla arranged as 6+4+6. Oral aperture circular. Amphids stirrup-shaped, with slit-like apertures. Odontostyle 0.8-0.9 lip width long, its aperture about one third its length. Guiding ring single, delicate 6-7  $\mu\text{m}$  or 0.3-0.4 lip width from anterior end. Odontophore simple, rod-like, 1.1-1.4 times the odontostyle length. Nerve ring at 86-114  $\mu\text{m}$  from

anterior end of body. Expanded portion of pharynx occupying about 53-54% of total neck length. Cardia conoid, 9-14  $\mu\text{m}$  or about one-half or one-third of the corresponding body width long. Cardiac disc present. Reproductive System amphidelphic. Vulva a transverse slit about 8  $\mu\text{m}$  wide. Vagina 11-15  $\mu\text{m}$  or about half of the corresponding body width deep. Prerectum and rectum each about one anal body width long. Tail short, conoid longer than anal body diameter, tapering to a relatively rounded tip.

**Male:** Not found.

#### **HABITAT AND LOCALITIES:**

1. Soil around roots of teak (*Tectona grandis*) from Periyar forest, Thekkadi district, Kerala, India. Collected on April 20, 1995.
2. Soil around roots of arecanut (*Areca catechu*) from Kudupu, Manglore district, Karnatka, India. Collected on January 6, 1997.

**REMARKS:** Siddiqi (1964) described this species from Aligarh, India. The present specimens agrees fairly well with those described by Siddiqi. The SEM shows similar patterns on the lip and labial papillae as shown by Sauer & Annells (1985) for *D. major* Throne, 1939 and *D. silvivolus* Sauer & Annells, 1985.