Summary
The dorylaims constitute one of the most diverse group among soil inhabiting nematodes. They are found world over, in all types of habitat and usually dominate both in numbers and species over all other soil inhabiting nematodes. During the course of present work on dorylaim nematodes, the emphasis from very beginning has been to study rain forest fauna. In this endeavor, soil samples were collected from India as well as procured from other parts of the world. Major part of the thesis is based on rain forest nematode fauna of the nature reserves in Costa Rica, which is considered as one of the hot spots of biodiversity in the world. These samples were collected by Dr. Wasim Ahmad (my Ph.D supervisor) and Dr. Alejandro Esquivel of the Institut Nacional de Biodiversidad, Costa Rica. These samples yielded some very interesting dorylaim nematode species. Few soil samples were also collected by WA from China during summers of 1999, and also yielded interesting forms. Dr. Dieter Sturhan of the Institut fur Nematology, Munster, Germany very kindly provided few mounted specimens from Nicaragua. In addition, surveys were conducted in Indian states of Assam, Andhra Pradesh, Uttranchal and Jammu & Kashmir for isolation of dorylaim nematodes.
In all 40 species belonging to the order Dorylaimida have been identified and described. These are grouped under two suborders, four superfamilies, nine families, twenty seven known and a new genus, twenty five new and fifteen known species. Diagnosis of the suborders, superfamilies, families and genera have been provided. Identification keys to the families and subfamilies have also been added. A list species under each genus is also provided.

*The suborders:*

Dorylaimina

Nygolaimina

*The superfamilies:*

1) Dorylaimoidea

2) Belondiroidea

3) Tylencholaimoidea

4) Nygolaimoidea

*The families:*

1) Dorylaimidae

2) Aporcelaimidae

3) Qudsianematidae

4) Nordiidae
5) Belondiridae
6) Tylencholaimidae
7) Aulolaimoididae
8) Mydonomidae
9) Nygolaimellidae

**Known Genera:**

1) Mesodorylaimus
2) *Prodorylaimus*
3) *Laimydorus*
4) *Calcaridorylaimus*
5) *Thornenema*
6) *Sicaguttur*
7) *Coomansinema*
8) *Makatinus*
9) *Takamangai*
10) *Epidorylaimus*
11) *Baqriella*
12) *Talanema*
13) *Chrysonema*
14) *Discolaimium*
15) Mylodiscus
16) Mitoaxonchium
17) Enchodelus
18) Echinodorus
19) Actinolaimoides
20) Oriverutus
21) Belondira
22) Amphibelondira
23) Discomyctus
24) Adenolaimus
25) Chitwoodius
26) Calolaimus
27) Nygolaimium

New Genus:

Ecanema

Known species:

1) Mesodorylaimus guarani
2) Sicaguttur hooperi
3) Baqriella pentecostes
4) Talanema mauritiense
5) *Discolaimium clavatum*

6) *Mylodiscus nanus*

7) *Mitoaxonchium basalticum*

8) *Belondira apitica*

9) *Belondira cylindrica*

10) *Enchodelus microdorus*

11) *Enchodelus nepalensis*

12) *Ecnchodelus satendri*

13) *Discomyctus stenodorus*

14) *Discomyctus longicaudatus*

15) *Nygolaimium menzeli*

**New species:**

1) *Mesodorylaimus cameroonensis*

2) *Prodorylaimus paraobesus*

3) *Laimydorus esquiveli*

4) *Laimydorus tropicus*

5) *Calcaridorylaimus andrassyi*

6) *Thornenema spicatum*

7) *Coomansinema brevicauda*

8) *Takamangai indicum*
9) *Epidorylaimus asymmetricus*

10) *Epidorylaimus parvus*

11) *Talanema nicaraguensis*

12) *Chrysonema loofi*

13) *Enchodelus lushani*

14) *Enchodelus liangi*

15) *Echinodorus saccatus*

16) *Actinolaimoides shamimi*

17) *Oriverutus sturhani*

18) *Oriverutus tropicus*

19) *Ecanema ecae*

20) *Belondira tropica*

21) *Amphibelondira bongersi*

22) *Adenolaimus arenali*

23) *Chitwoodius inbioi*

24) *Calolaimus indicus*

Male reported for the first time:

*Discomyctus longicaudatus*