

# Identification of Cephaloboidea (Nematoda)

Manual prepared by

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EUMAINE, Gent / Nematology, UC Riverside

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## Foreword

This manual is intended to assist students of “European Master of Science in Nematology” (EUMAINE) and every other enthusiastic nematologist in the identification of one of the most intriguing and challenging group of terrestrial nematodes – Cephalobs and their allies. It is composed of three parts: short introduction to morphology of cephaloboidea (**pages 2-6**), dichotomous key to genera (**pages 7-9**) and standardized descriptions of all 37 valid genera of Cephaloboidea (**pages 10-81**). It is assumed that students already have good knowledge of nematode morphology before they start to identify cephalobs. The introduction into morphology here should be considered as just a reminder, focused strictly on the morphological peculiarities of Cephaloboidea and relevant specialized terminology. The dichotomous key should be used with care as no key can be perfect to begin with, and in the case of cephalobs it is very difficult for one to work at all. We recommend that every identified specimen should be compared with the descriptions in the third part of the manual and relevant publications. Each description of a genus is standardized and fully compatible with every other in this manual. It includes the line drawing of one representative species (in many cases the type species of the genus), most distinct diagnostic characters are highlighted and some relevant publications are listed such as the most recent revisions of the genus, keys to species, references, etc.

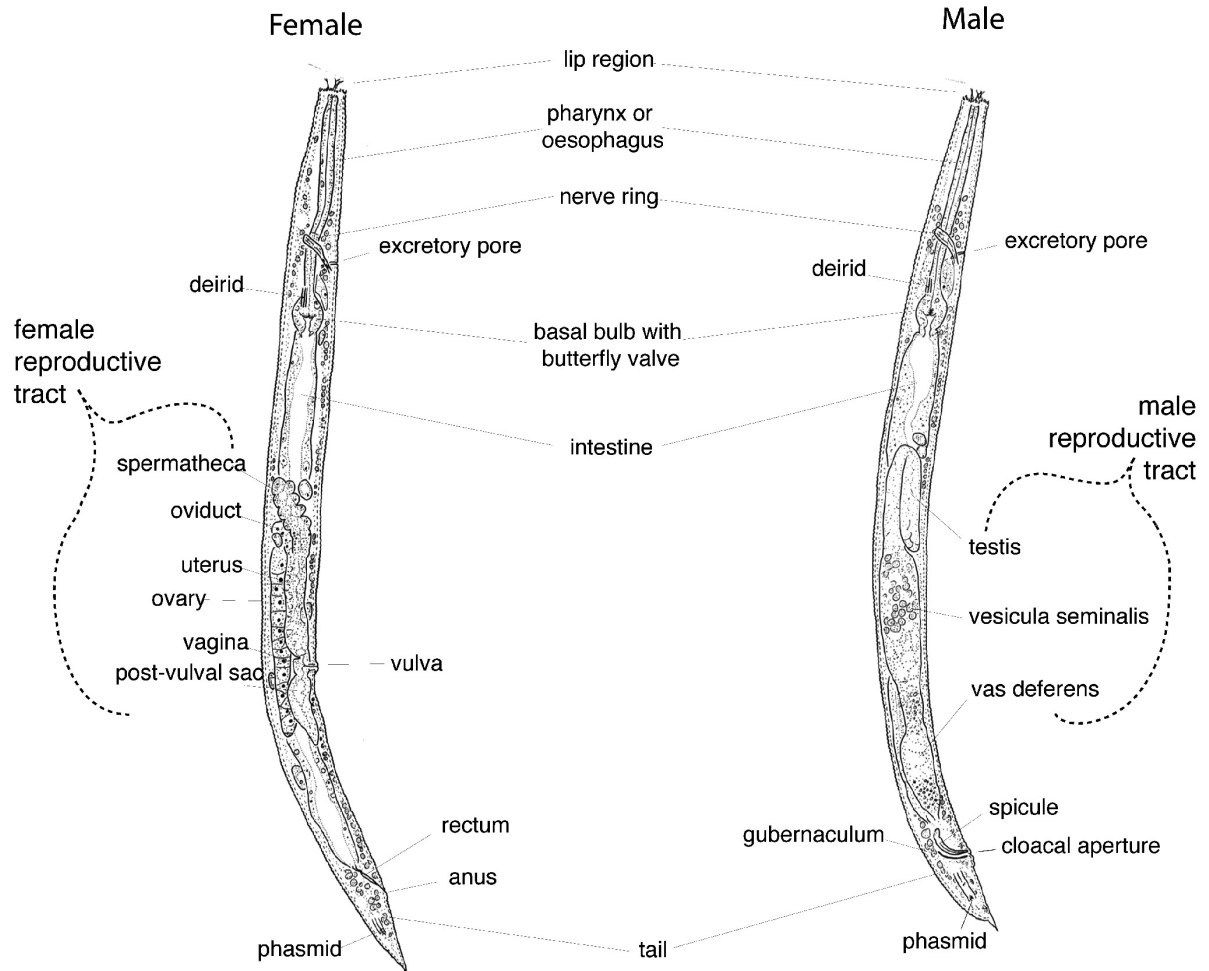
## Warnings

- 1) The scope of this manual covers the superfamily Cephaloboidea. However, we do not distinguish here between the families Cephalobidae, Alirhabditidae, Bicirronematidae, Elaphonematidae and Ostellidae, since the most recent molecular phylogenies contradict this classification and we are unable to propose a better alternative yet.
- 2) Genera in the manual are not listed alphabetically, but are grouped by our subjective interpretation of overall similarity, which may or may not reflect phylogenetic affinities. However, we hope it will be useful when identifying and comparing to have the most similar “cousins” on nearby pages.
- 3) In case You find a cephalob that does not fit any of the genera descriptions in this manual, please contact us ([holovachov@gmail.com](mailto:holovachov@gmail.com)) for consultation. You may indeed **find a new genus** which is great, or the fixation and preparation of the specimen might have altered morphology to a state that it is no longer recognizable.
- 4) Labial characters **cannot** be interpreted reliably without (at the very least) interference contrast optics and (preferably) electron microscopy. Keep this in mind when observing your own specimens and when interpreting older published descriptions. Juvenile stages can differ significantly from adult morphology, especially in labial structures, and juveniles are not considered in this manual because they are hardly ever described in the literature.
- 5) If You find any errors or misprints in this manual (there are sure to be some) – please let us know at [holovachov@gmail.com](mailto:holovachov@gmail.com) as we are working to improve it.

## Acknowledgements

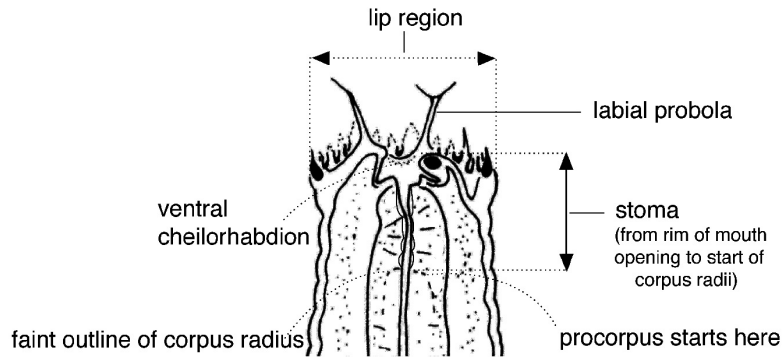
This manual was prepared as a part of the award of an Erasmus Mundus Scholarship to Oleksandr Holovachov for research and teaching within the scope of “Erasmus Mundus Masters Course EUMAINE – European Master of Science in Nematology”. In large part this manual was generated from research conducted in the framework of the current US National Science Foundation grant DEB 0731516 “Training the Next Generation of Nematode Taxonomists: Applying the Tools of Modern Monography Across Free-living and Parasitic Tylenchina” awarded to CoPI Paul De Ley.

## General terminology for the main parts and organs

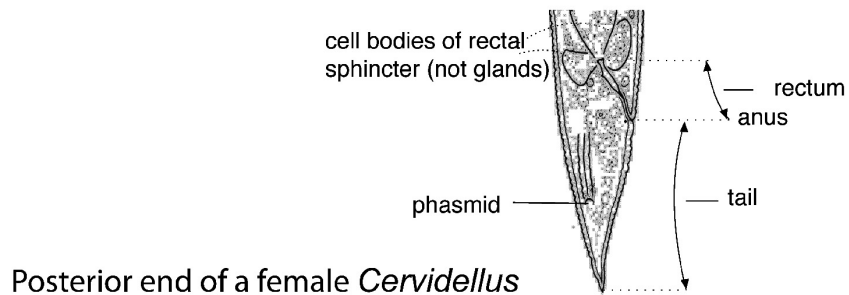
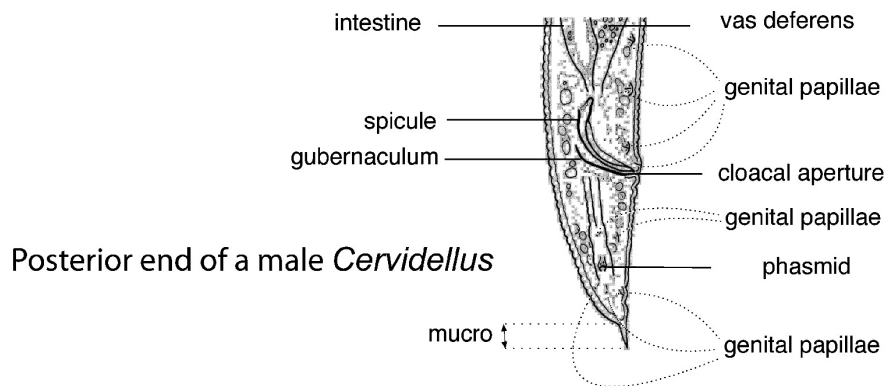


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## General terminology for anterior and posterior end

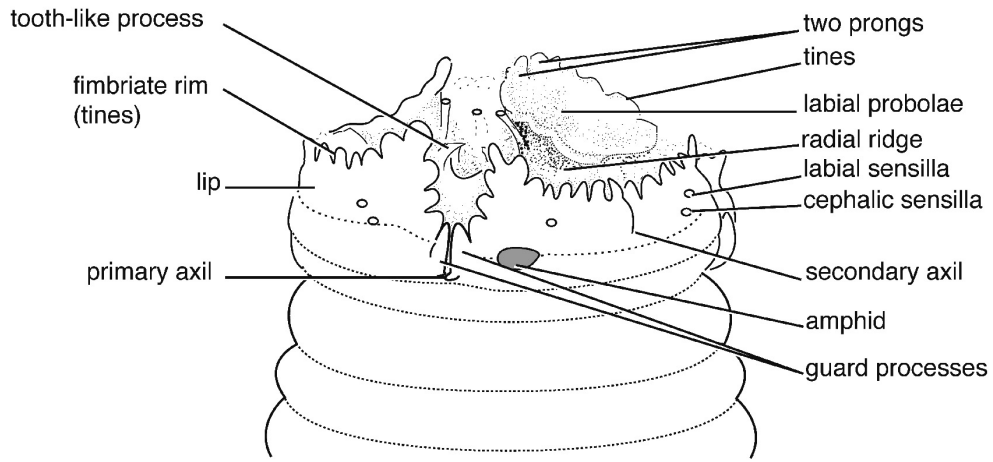


## Anterior end of *Cervidellus*

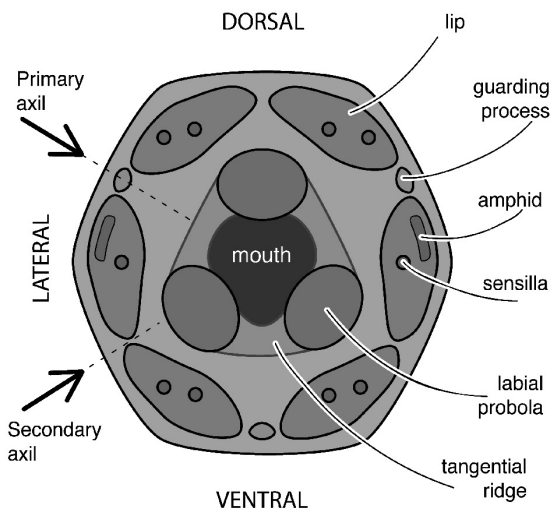


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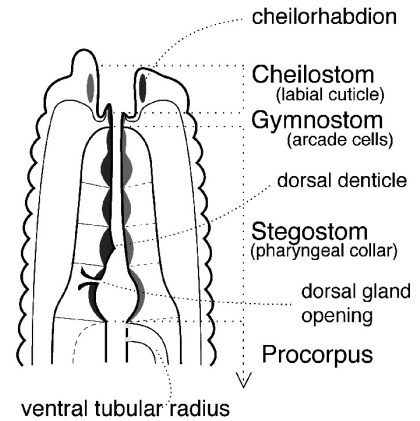
## General terminology for lip region and digestive system



*Nothacrobeles trinigliarus*



Terminology of anterior structures in Cephalobidae

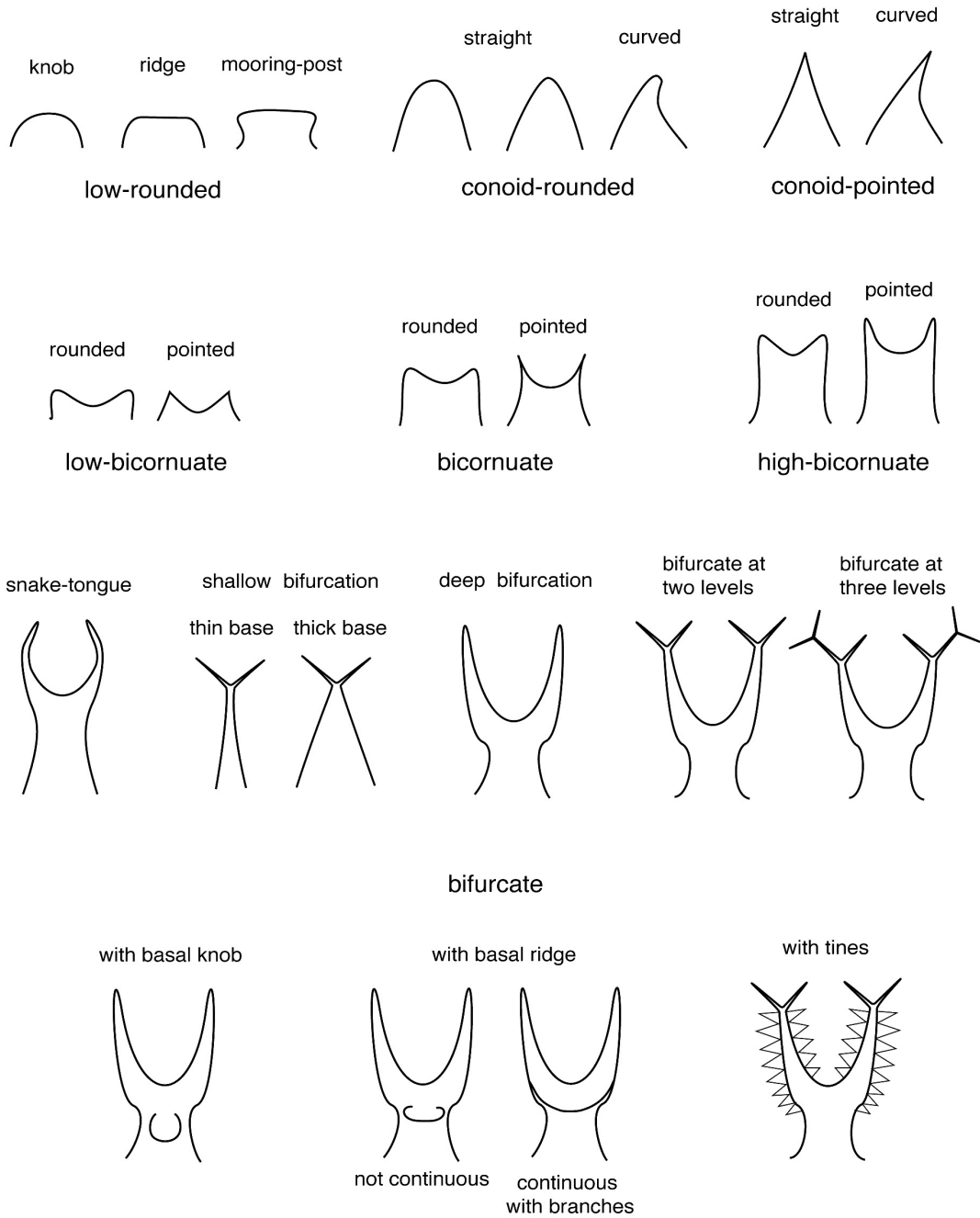


Stoma terminology

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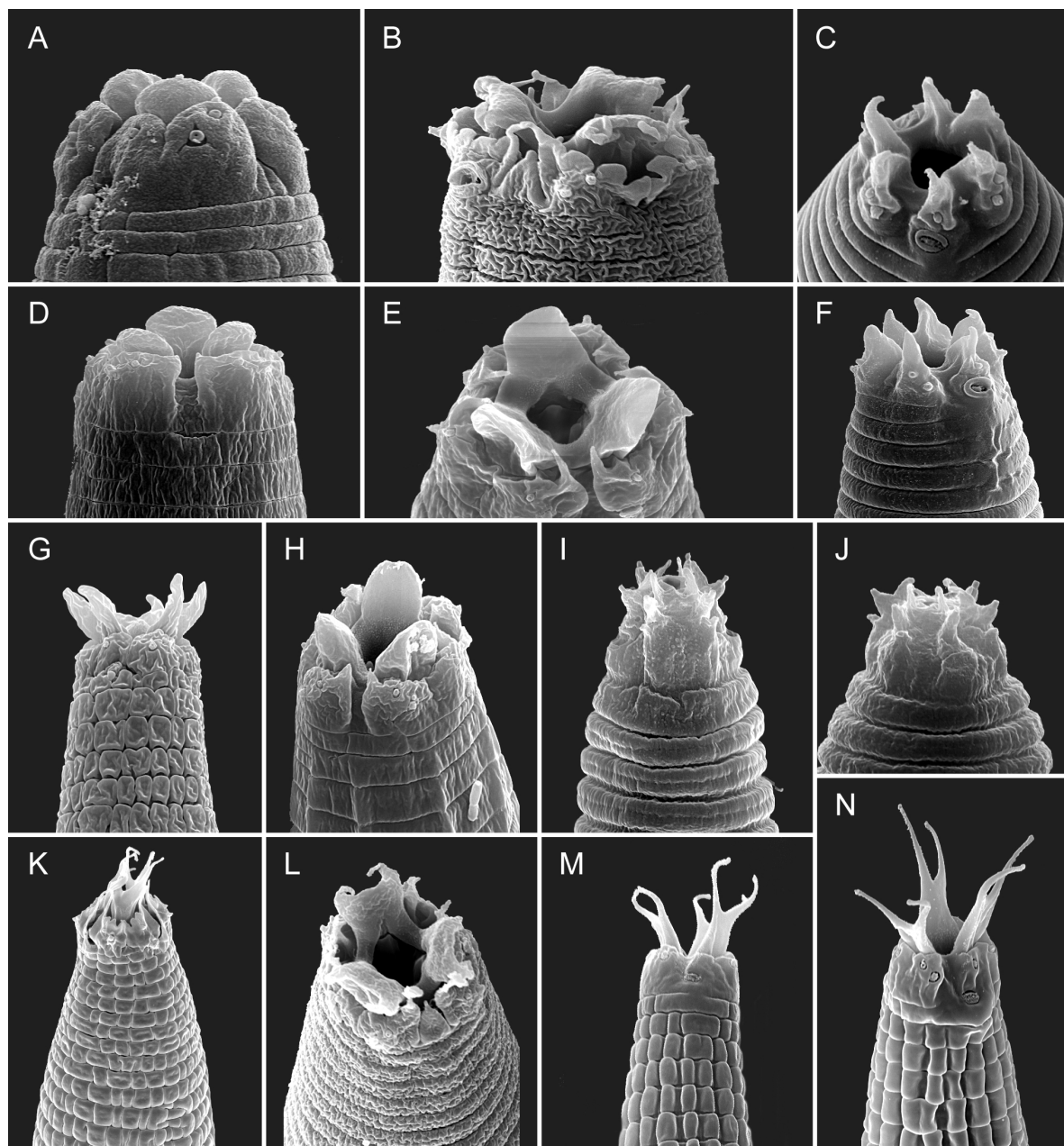


## Various shapes of labial probolae



Original figure by I.T. De Ley and P. De Ley

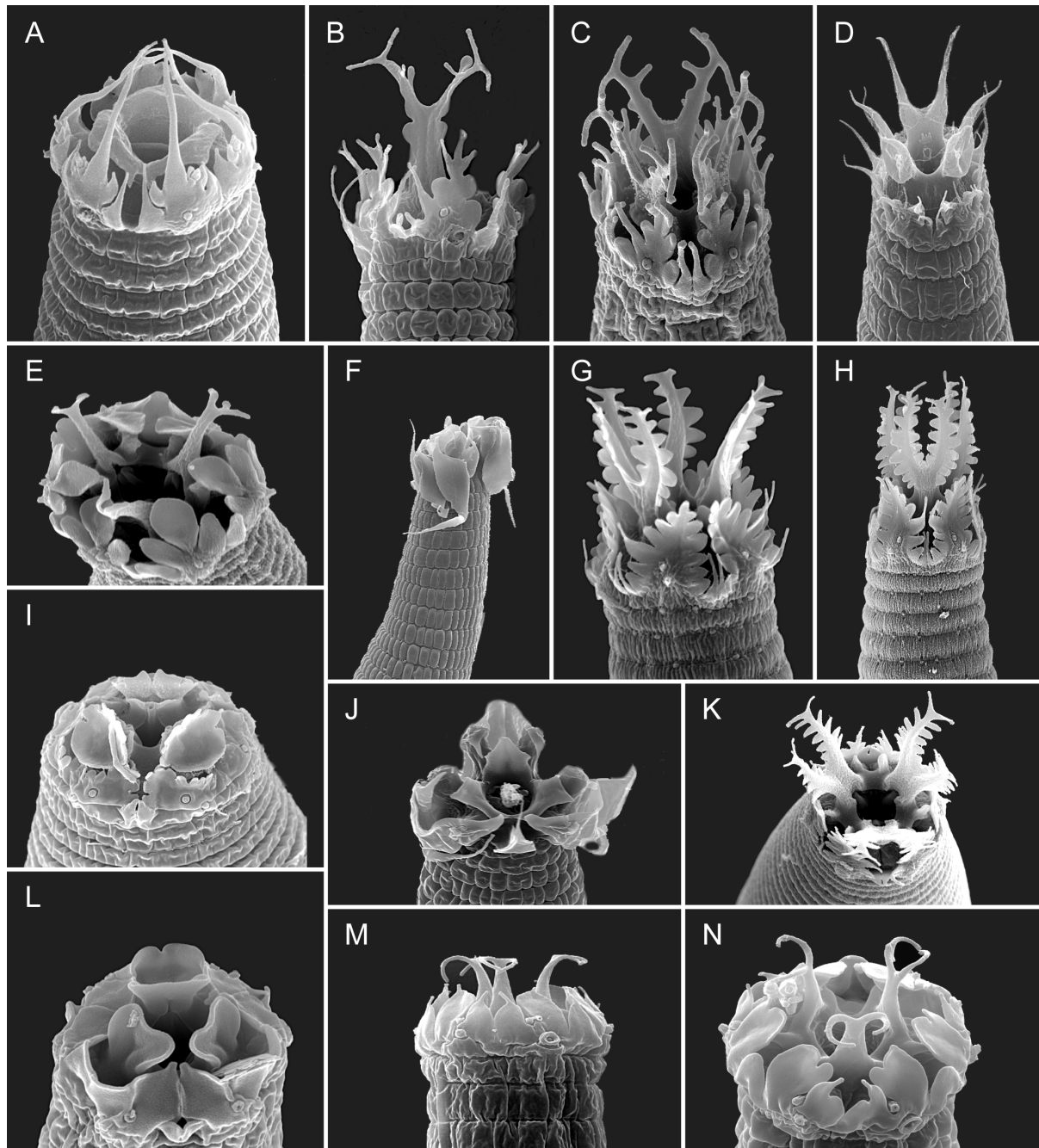
### Morphology of lip region (part 1)



Genera: *Cephalobus* (A, D); *Chiloplacus* (G); *Eucephalobus* (C, F); *Macrolaimellus* (I, J);  
*Metacrobeles* (E, H); *Stegelleta* (M, N); *Zeldia* (B, K, L).

Original photographs by M. Mundo-Ocampo

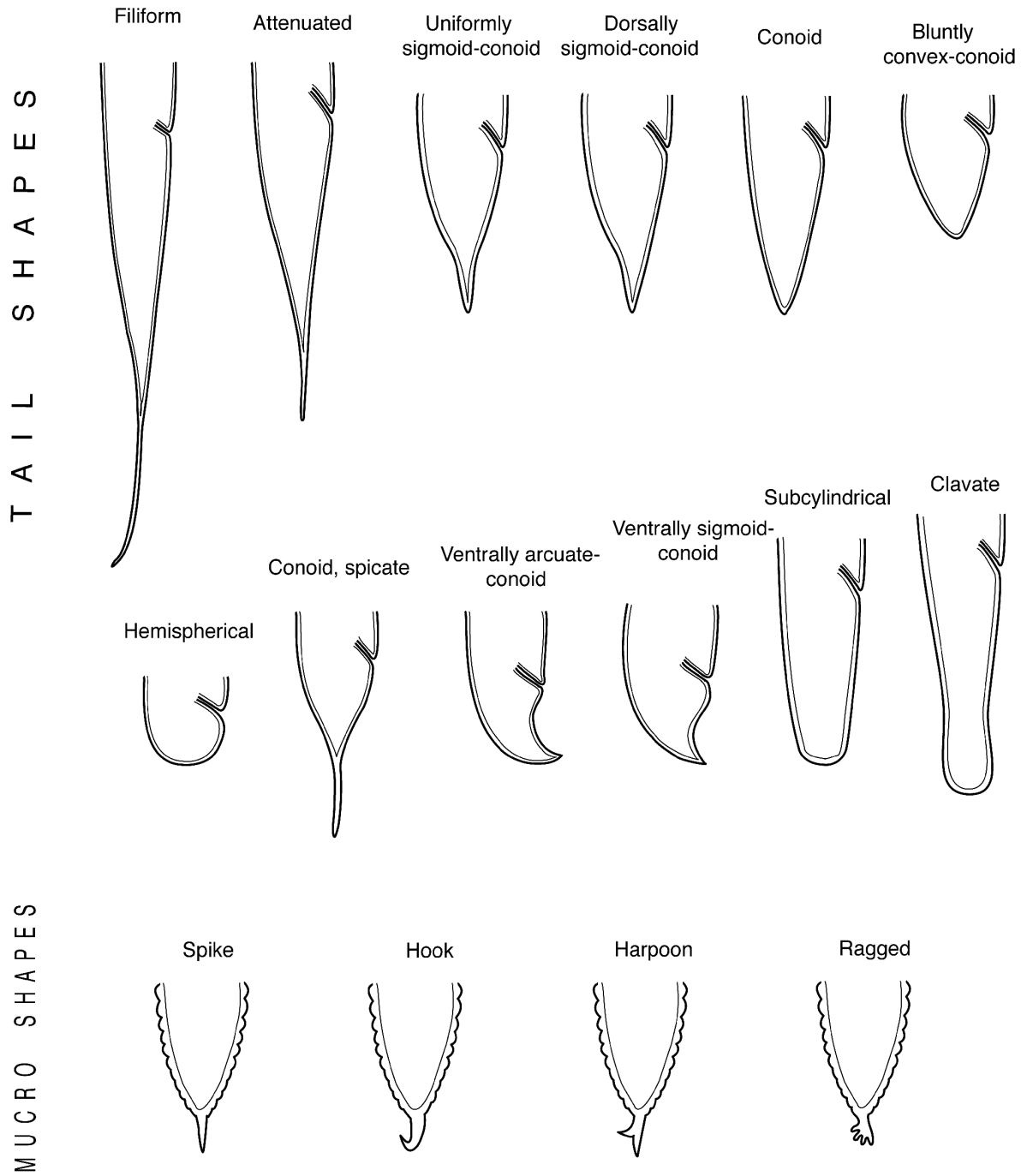
## Morphology of lip region (part 2)



Genera: *Acrobeles* (J, H, K); *Acromoldavicus* (F, J); *Cervidellus* (B, C, E); *Nothacrobeles* (I, L); *Paracrobeles* (D); *Scottnema* (A); *Stegelletina* (M, N).

Original photographs by M. Mundo-Ocampo

**Descriptive terms for female tail structure**



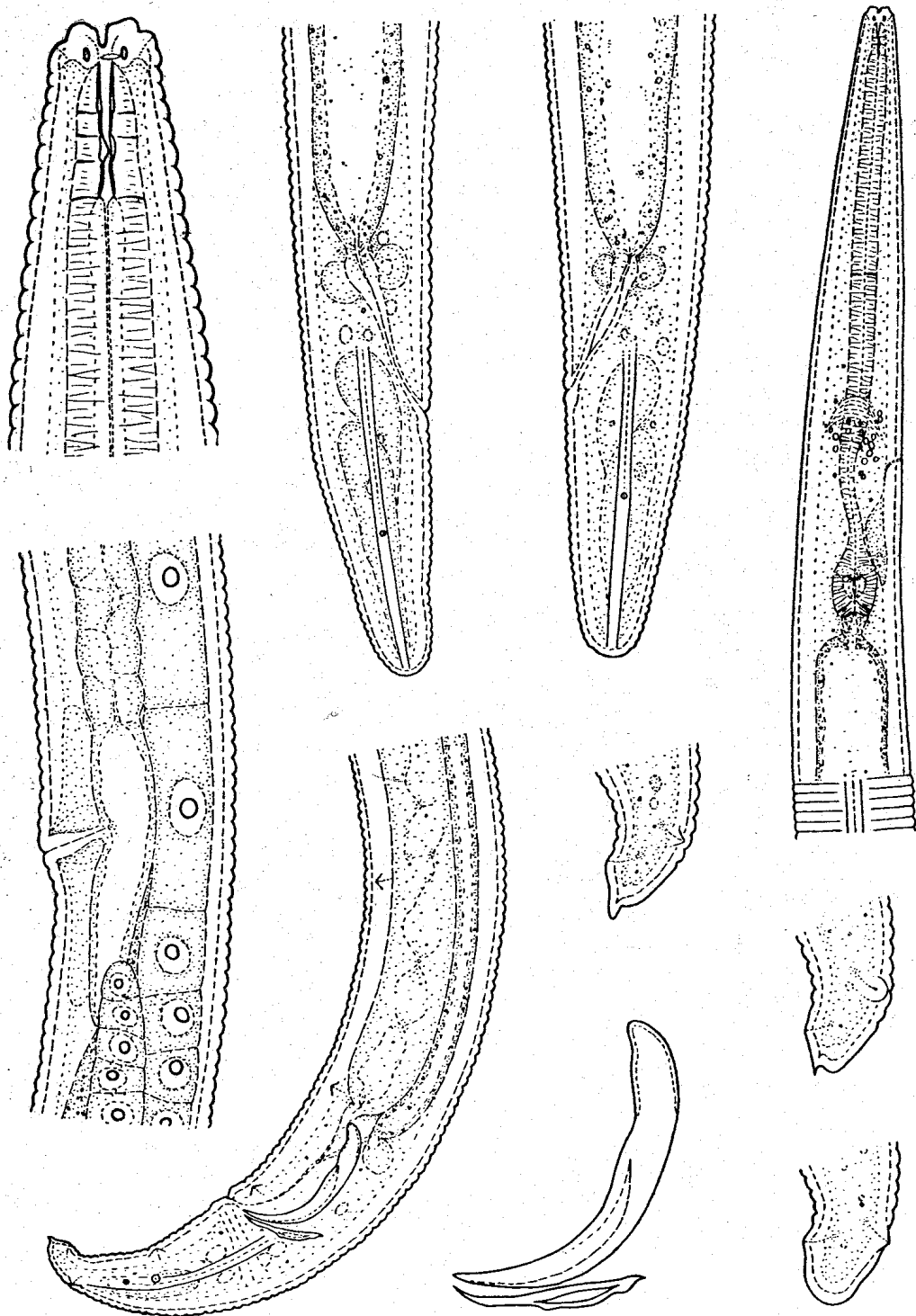
Original figure by I.T. De Ley and P. De Ley

## Key to genera

1. Pharynx distinctly subdivided into corpus, isthmus and basal bulb;  
basal bulb of the pharynx strongly developed with well developed butterfly valve ..... 5
- Pharynx is not or only weakly subdivided into corpus, isthmus and basal bulb;  
basal bulb weakly developed or absent, butterfly valve rudimentary or absent ..... 2
2. Labial region strongly offset, with four lobes supported by a  
sclerotized subcuticular framework ..... *Osstella* (p. 83)
- Labial region hemispherical with completely fused lips; cephalic framework absent ..... 3
3. Median bulb present, with sclerotized lining; ..... *Medibulla* (p. 85)
- Median bulb absent ..... 4
4. Stoma and butterfly valve rudimentary but present; amphid small ..... *Deficephalobus* (p. 79)
- Stoma and butterfly valve absent; amphid as wide as labial region ..... *Drilocephalobus* (p. 81)
5. Cheilostom wide and long, barrel-shaped, as long as the remaining part of stoma;  
cheilorhabdia platelike, strongly sclerotized ..... 6
- Cheilostom narrow and small, much shorter than remaining part of stoma;  
cheilorhabdia rod-like or bacilliform ..... 7
6. Lip region with two large subventral flaps (trua) ..... *Trualaimus* (p. 45)
- Lip region with one ventral and one dorsal cirrus (feather-like projection) .. *Bicirronema* (p. 41)
- Lip region with one ventral cirrus and two dorsosublateral cirri ..... *Tricirronema* (p. 42)
7. Lip region ventrally inclined, bilaterally symmetrical; cephalic probolae petal-like;  
stoma with reduced number of rhabdia ..... 8
- Lip region terminal, radially symmetrical; probolae absent or not petal-like;  
stoma usually with complete set of rhabdia ..... 10
8. Lip region with dorsal digitate projection and two lateral petal-like flaps .... *Elaphonema* (p. 61)
- Lip region with six petal-like probolae with triangular tip and pedunculate basis ..... 9
9. Guarding processes present, ventral guarding process prominent ..... *Acromoldavicus* (p. 57)
- Guarding processes absent ..... *Kirjanovia* (p. 59)
10. Lip region small, hemispherical or truncate, with partly or completely fused lips;  
labial and cephalic probolae absent ..... 11
- Lip region wide, lips not completely fused; labial and/or cephalic probolae usually present ... 14
11. Stoma uniformly tubular, lip region truncate without visible sensilla ..... *Alirhabditis* (p. 39)
- Stoma “cephaloboid” ..... 12
12. Lip region radially symmetrical, with six lips;  
cephalic sensilla setiform ..... *Macrolaimellus* (p. 37)
- Lip region bilaterally symmetrical, lateral lips reduced;  
cephalic sensilla papilliform and usually indistinct ..... *Pseudacrobeles (Bunobus)* (p. 23)

13. Lips completely fused in three lobes ..... *Heterocephalobellus* (p. 35)  
 – Lips fused into three semicircular flaps with crenate margins ..... *Metacrolobus* (p. 55)  
 – Lips separate, not fused in three lobes or flaps ..... 14
14. Labial region crown-shaped; lips or cephalic probolae overhang mouth opening;  
 labial probolae absent; lip margins may be sclerotized ..... 15  
 – Lips rounded or acute, not overhanging mouth opening; labial probolae usually present ..... 17
15. Lips divided into three tines each; lip margins sclerotized ..... *Cribronema* (p. 53)  
 – Lips not divided, leaf-like; lip margins sclerotized or not ..... 16
16. Lateral lips smaller than dorsal and ventral lips; lip margins not sclerotized;  
 cephalic probolae absent; tail acute ..... *Acrolobus* (p. 47)  
 – Lateral lips larger than dorsal and ventral lips; lip margins sclerotized;  
 cephalic probolae absent; tail with hook-shaped mucro ..... *Panagrolobus* (p. 51)  
 – All lips similar in size; lip margins sclerotized or not; cephalic probolae present;  
 tail terminus with mucro of variable shape ..... *Teratolobus* (p. 49)
17. Vulva extremely posterior ( $V > 90\%$ ), PUS absent ..... *Metacrobeles* (p. 27)  
 – Vulva median to moderately posterior ( $V < 85\%$ , usually 50-70%), PUS present ..... 18
18. Corpus usually appears to have thickened lining;  
 labial probolae deeply bifurcated without tines ..... *Paracrobeles* (p. 67)  
 – Corpus without thickened lining;  
 labial probolae with tines or bifurcation shallow or absent ..... 19
19. Primary axils with one or more guarding pieces and/or tines ..... 20  
 – Primary axils absent or without guarding pieces or tines ..... 27
20. Primary axil with a single guarding process ..... 21  
 – Primary axils with two guarding processes ..... 22
21. Labial probolae low-rounded, apically indented or bicornuate;  
 cuticle often punctuated ..... *Zeldia* (p. 29)  
 – Labial probolae with single bifurcation; clefts between primary axils and  
 guarding processes and also secondary axils are internally sclerotized ..... *Stegelletina* (p. 77)
22. Lip margin with six long filiform processes ..... 23  
 Lip margins without long filiform processes ..... 24
23. Filiform processes are tines of cephalic probolae;  
 labial probolae low rounded ..... *Scottnema* (p. 75)  
 – Filiform processes are guarding pieces;  
 cephalic probolae absent; labial probolae long membranous ..... *Chiloplacoides* (p. 63)
24. Labial probolae bifurcate, its branches continuous with a prominent basal ridge;  
 cuticle often punctuated ..... *Nothacrobeles* (p. 65)  
 – Labial probolae with smooth base, with a basal knob or with a discontinuous basal ridge ..... 25

25. Labial probolae deeply bifurcate with at least ten tines each; lips separate, elongate triangular with numerous tines each; primary and secondary axils with two guarding processes each ..... *Acrobeles* (p. 69)  
 – Labial probolae conoid or bifurcate with at most eight tines each ..... 26
26. Tail tip bluntly rounded; lip margins never sclerotized ..... *Chiloplacus* partim (p. 19)  
 – Tail tip acute conoid; lip margins may be sclerotized ..... *Cervidellus* (p. 71)
27. Intestine anteriorly with dorsal pouch that overlaps the basal bulb ..... *Placodira* (p. 25)  
 – Intestine anteriorly without a dorsal pouch ..... 28
28. Cuticle with deep longitudinal incisures; labial probolae deeply bifurcate, in some species with secondary bifurcation ..... *Stegelleta* (p. 33)  
 – Cuticle smooth or with shallow longitudinal incisures ..... 29
29. Cephalic probolae with three tines; labial probolae arrowhead-like, conoid with two lateral tines ..... *Acroukrainicus* (p. 31)  
 – Cephalic probolae absent or acute, if they have tines then labial probolae are biacuate or bifurcate ..... 30
30. Labial probolae biacuate, basally fused with lips; lips rounded, cephalic probolae absent ..... *Eucephalobus* (p. 21)  
 – Labial probolae rounded knobs or ridges; lips rounded or pointed ..... 31
31. Lateral fields terminating at phasmid; tail usually conoid ..... 32  
 – Lateral fields terminate at or near tail tip; tail conoid or rounded ..... 33
32. Labial and cephalic probolae entirely absent; lip region bilaterally symmetrical with rounded dorsal and ventral lips; lateral lips reduced ..... *Pseudacrobeles (Bunobus)* (p. 23)  
 – Labial probolae present, though sometimes small; cephalic probolae present or absent; lip region with triradial symmetry, with three lobes or with six distinct lips ..... *Pseudacrobeles (Pseudacrobeles)* (p. 23)
33. At least the dorsal labial probola is biacuate or bifurcate ..... *Chiloplacus* (p. 19)  
 – All labial probolae rounded or conoid ..... 35
35. Corpus spindle-shaped; tail conoid, subcylindrical or bluntly rounded ..... *Acrobelloides* (p. 17)  
 – Corpus cylindrical; tail subcylindrical or bluntly rounded ..... *Cephalobus* (p. 15)



*Cephalobus persegnis* Bastian, 1865

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## Genus *Cephalobus* Bastian, 1865

1865 *Cephalobus* – Bastian, Transactions of the Linnean Society of London 25: 73-184.

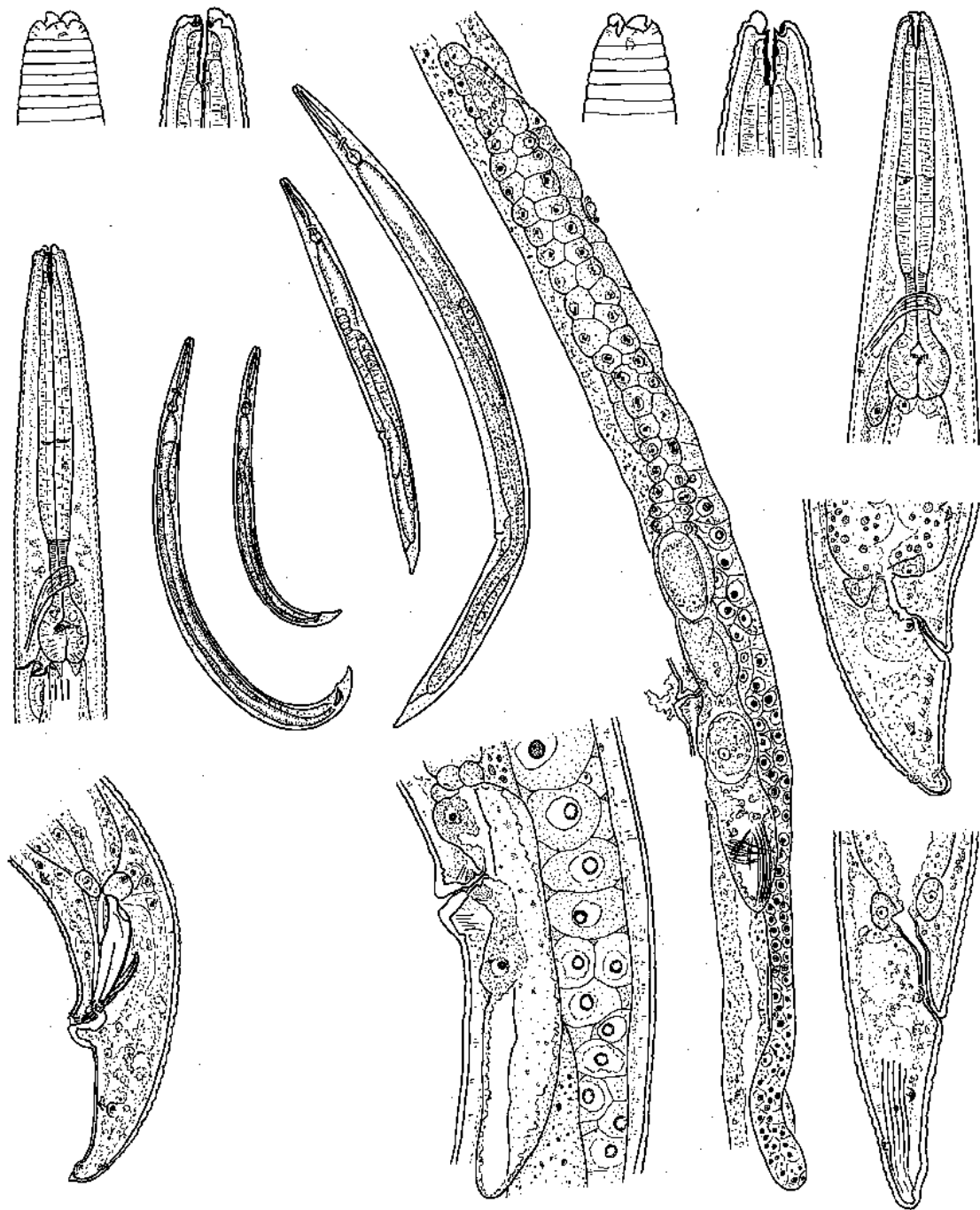
1962 *Paracephalobus* – Akhtar, Proceedings of the Helminthological Society of Washington 29: 207-210.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two-four wings (three-five incisures); ending at tail terminus in females and in males. Lip region weakly offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by primary axils; **guarding processes absent**; secondary axils undeveloped. **Cephalic probolae absent. Labial probolae low rounded.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom weakly developed, as wide as stegostom, with weak gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle present or absent. Pharynx cephaloboid: **pharyngeal procorpus and metacarpus cylindrical**, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling metacarpus or isthmus. Excretory pore opens at level of nerve ring, at around the level of metacarpus or isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary with double flexure; spermatheca present; postvulval uterine sac present; vulva flat or protruding; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1-1.5 times longer than anal body diameter). Phasmids located near mid-tail in both sexes. **Female tail conoid rounded**, straight, tail terminus bluntly rounded or mucronate; male tail conoid, arcuate ventrad, tail terminus with short spike-like mucro.

**Biology:** Amphimictic, hermaphroditic or parthenogenetic. Distributed worldwide except Antarctica.

**Taxonomy:** Type species *Cephalobus persegnis* Bastian, 1865. Nineteen species to date, taxonomic status of some of which is questionable.

1. Andrásy, I. (1967). Die Unterfamilie Cephalobinae (Nematoda: Cephalobidae) und ihre arten. *Acta Zoologica Scientiarum Hungaricae* 13: 1-37.
2. Andrásy, I. (2005). Free-living Nematodes of Hungary (Nematoda errantia), I. Budapest: 518 p.



*Acroboloides bodenheimeri* (Steiner, 1936) Thorne, 1937

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## Genus *Acrobelloides* (Cobb, 1924) Thorne, 1937

1924 *Acrobelloides* – Cobb, Journal of Parasitology 11: 116-117.

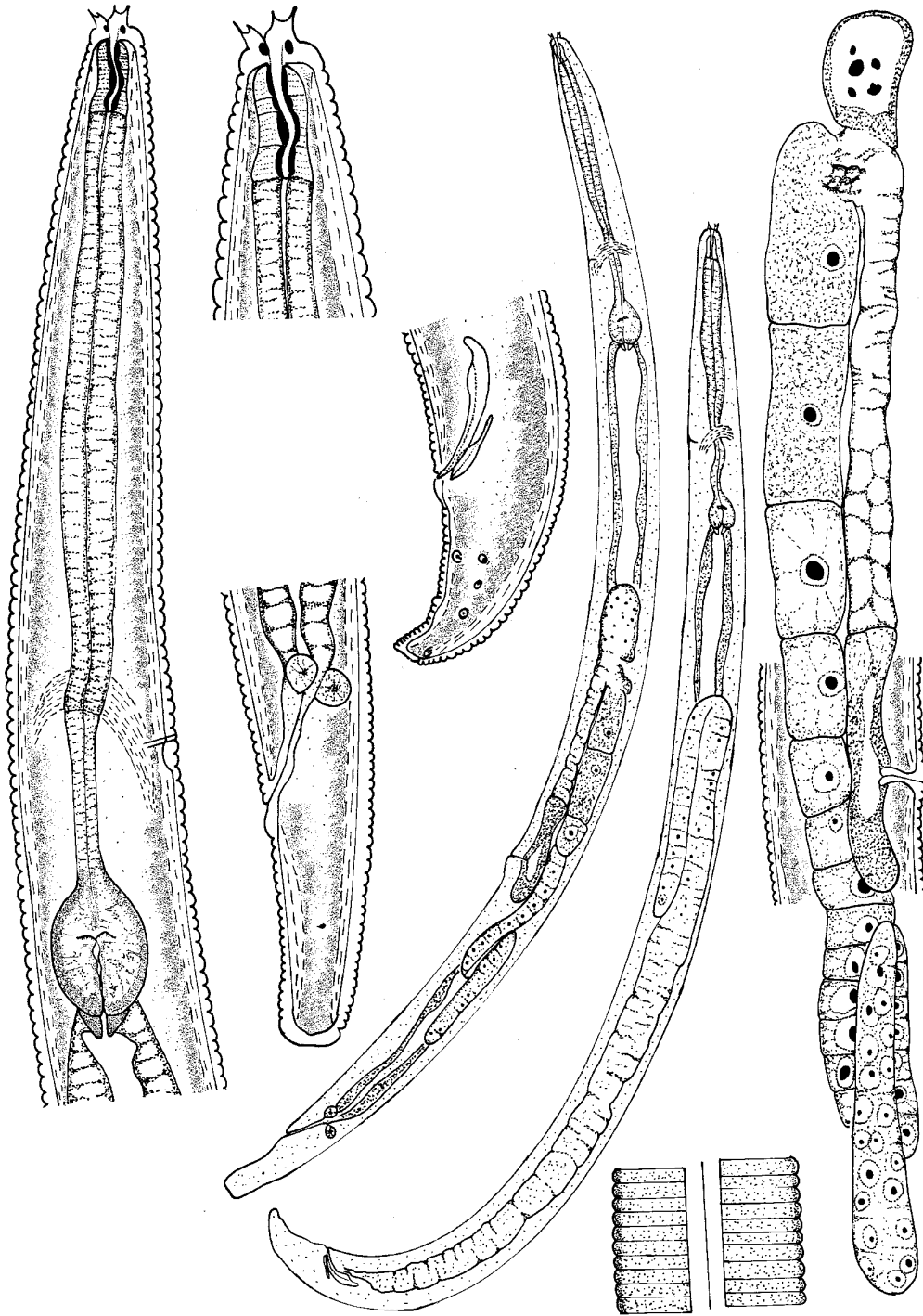
1997 *Rafiqius* – Khan & Husain, Pakistan Journal of Zoology 29: 139-143.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two-four wings (three-five incisures); ending at tail terminus in females and in males. Lip region weakly offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by weak nor well-developed primary axils; **guarding processes absent**; secondary axils weak or undeveloped. **Cephalic probolae absent or short setiform. Labial probolae low rounded, conoid or elongate conoid.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture slit-shaped to rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom weakly developed, as wide as stegostom, with weak gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle present or absent. Pharynx cephaloboid: **pharyngeal procorpus cylindrical, metacarpus weakly or strongly fusiform**, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling metacarpus or isthmus. Excretory pore opens at level of nerve ring, at around the level of metacarpus or isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary with double flexure; spermatheca present; postvulval uterine sac present; vulva flat, in depression or protruding; vagina straight or sigmoid. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width **or** with corpus distinctly wider than manubrium; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1-1.5 times longer than anal body diameter). Phasmids located at around mid-tail in both sexes. **Female tail hemispherical, subcylindrical or conoid**, straight, tail terminus bluntly or finely rounded; male tail conoid, arcuate ventrad, tail terminus bluntly rounded.

**Biology:** Amphimictic or parthenogenetic. Distributed worldwide including Antarctica.

**Taxonomy:** Type species *Acrobelloides buetschlii* (de Man, 1884) Steiner & Buhner, 1933. Twenty six valid species and five species of uncertain taxonomic status. Based on sequence analysis the valid species appear to represent at least two phylogenetically separate groups that intermingle with (among others) species of *Cephalobus* and *Chiloplacus* (Smythe & Nadler 2006; Nadler *et al.* 2006; our unpublished data). Morphological distinction of *Acrobelloides* from the latter two genera is often difficult and sometimes arbitrary due to highly confounding patterns of inter- and intraspecific variability.

1. Abolafia, J. & Peña-Santiago, R. (2003). Nematodes of the order Rhabditida from Andalucía Oriental, Spain. The genus *Acrobelloides* (Cobb, 1924) Thorne, 1937 with description of *A. arenicola* sp. n. and a key to its species. *Journal of Nematode Morphology and Systematics* 5: 107-130.
2. De Ley, P., Félix, M.-A., Frisse, L.M., Nadler, S.A., Sternberg, P.W. & Thomas, W.K. (1999). Molecular and morphological characterisation of two reproductively isolated species with mirror-image anatomy. *Nematology* 1: 591-612.



*Chiloplacus symmetricus* (Thorne, 1925) Thorne, 1937

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## Genus *Chiloplacus* Thorne, 1937

1937 *Chiloplacus* – Thorne, Proceedings of the Helminthological Society of Washington 4: 1-16.

1938 *Gaddinia* – Penso, Arch. Ital. Soc. Med. Colon. 19: 706-722.

1967 *Acrobelinema* – Khera, Indian Journal of Helminthology 19: 159-163.

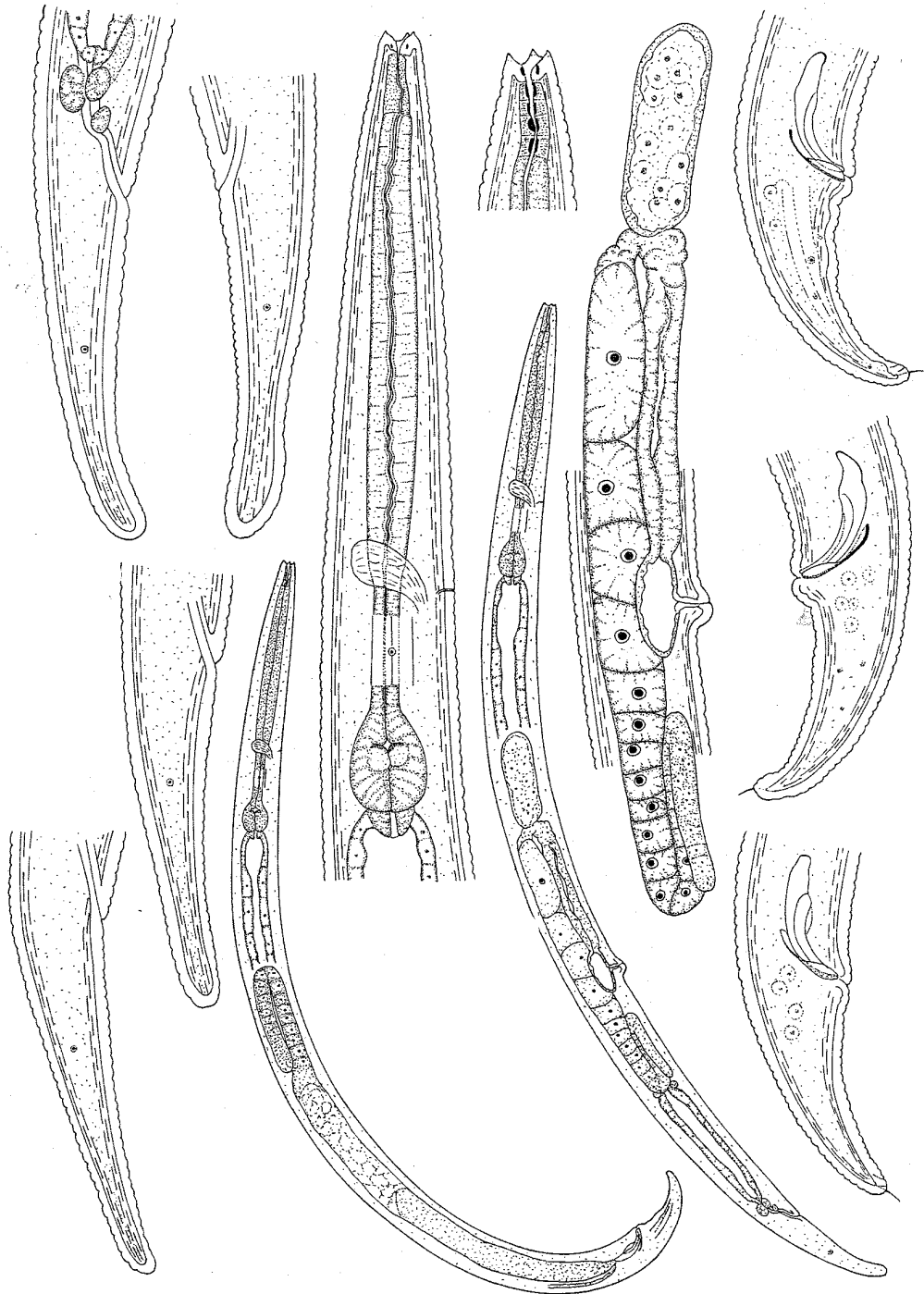
1984 *Acrobelophis* – Andrásy, Klasse Nematoda: 192.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth or with longitudinal incisures (tessellated). Lateral field with two-four wings (three-five incisures); ending at tail terminus in females and in males. Lip region weakly offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by weak or well-developed primary axils; **guarding processes absent, one or two**; secondary axils weak or undeveloped. **Cephalic probolae absent, small setose, rectangular or conical**, in *C. trifurcatus* and *C. demani* cephalic probolae are serrated. **Labial probolae blunt or elongate-conoid with broad basis, bicornuate or biacuate to a certain degree**; some species have only dorsal probola bicornuate or biacuate and subventral just conoid; *C. trifurcatus* and *C. demani* have secondary bifurcations and lateral tines on the probolae. Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture slit-shaped or rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom weakly developed, as wide as stegostom, with weak gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle present or absent. Pharynx cephaloboid: **pharyngeal procorpus and metacarpus cylindrical**, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling metacarpus or isthmus. Excretory pore opens at level of nerve ring, at around the level of metacarpus or isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary with double flexure; spermatheca present; postvulval uterine sac present; vulva flat, in depression or protruding; vagina straight or sigmoid. Cuticular flap may be present on the left side from vulva. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width **or** with corpus distinctly wider than manubrium; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1-1.5 times longer than anal body diameter). Phasmids located at around mid-tail in both sexes. **Female tail rounded**, straight, tail terminus bluntly rounded; male tail conoid, arcuate ventrad, tail terminus bluntly rounded.

**Biology:** Amphimictic or parthenogenetic. Distributed worldwide except Antarctica.

**Taxonomy:** Type species *Chiloplacus symmetricus* (Thorne, 1925) Thorne, 1937. Thirty three valid species and eleven species of uncertain taxonomic status.

1. Abolafia, J. & Peña-Santiago, R. (2003). Nematodes of the order Rhabditida from Andalucía Oriental, Spain. The genus *Chiloplacus* Thorne, 1937 with description of *C. maginensis* sp. n. and a key to species. *Nematology* 5: 243-274.
2. Holovachov O., Boström S., Mundo-Ocampo M. & Villenave C. (2008). Description of two new species of the genus *Chiloplacus* Thorne, 1937 (Rhabditida: Cephalobidae) from Israel and Senegal. *Journal of Nematode Morphology and Systematics* 11: 147-157.
3. Shokoohi, E., Abolafia, J., Kheiri, A. & Zad, J. 2007. Nematodes of the order Rhabditida from Tehran province, Iran. The genus *Chiloplacus* Thorne, 1937. *Russian Journal of Nematology* 15: 129-151.



*Eucephalobus striatus* (Bastian, 1865) Thorne, 1937

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## Genus *Eucephalobus* Steiner, 1936

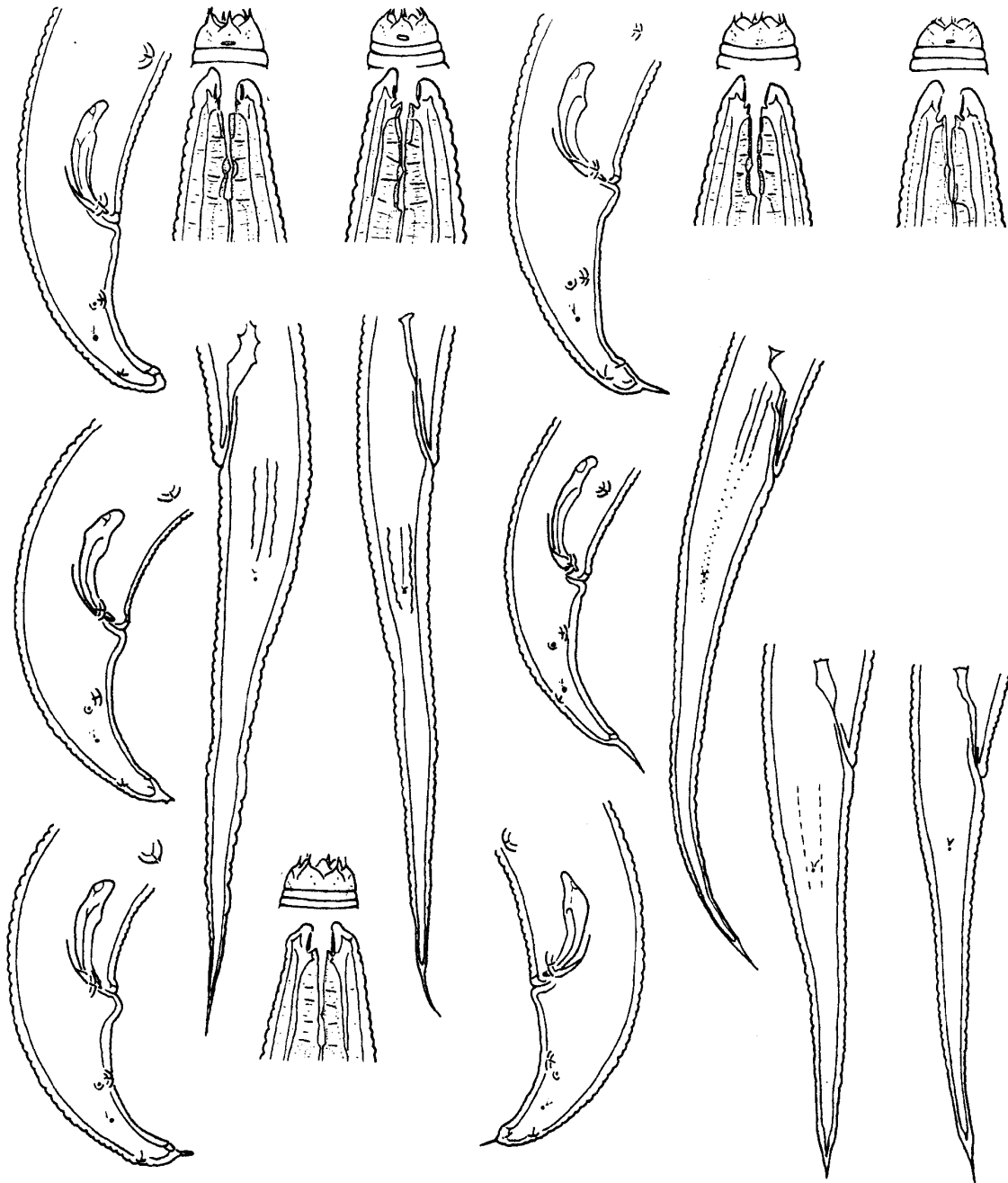
1936 *Eucephalobus* – Steiner, Proceedings of the Helminthological Society of Washington 3: 16-22.

*Morphology*: Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two wings (three incisures); ending at level of phasmids or at tail terminus in females and at base of terminal tail mucro in males. Lip region weakly offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by weak primary axils; **guarding processes absent**; secondary axils undeveloped. **Cephalic probolae absent. Labial probolae bicornnate, their bases are fused with lip pairs.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom weakly developed, as wide as stegostom, with weak gymnorrhobia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle present or absent. Pharynx cephaloboid: **pharyngeal procorpus and metacarpus cylindrical**, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling metacarpus or isthmus. Excretory pore opens at level of nerve ring, at around the level of metacarpus or isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary with double flexure; spermatheca present; postvulval uterine sac present; vulva flat or protruding; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1-1.5 times longer than anal body diameter). Phasmids located at around mid-tail in both sexes. **Female tail clavate, subcylindrical or conoid**, straight, tail terminus bluntly rounded or mucronate; male tail conoid, arcuate ventrad, tail terminus with short spike-like mucro.

*Biology*: Amphimictic or parthenogenetic. Distributed worldwide except Antarctica.

*Taxonomy*: Type species *Eucephalobus striatus* (Bastian, 1865) Thorne, 1937. Six valid species and six species of uncertain taxonomic status.

1. Abolafia, J & Peña Santiago, R. (2002) Nematodos del orden Rhabditia de Andalucía Oriental. El género *Eucephalobus* Steiner, 1936. *Graellsia* 58: 59-78.
2. Andrásy, I. (2005). Free-living Nematodes of Hungary (Nematoda errantia), I. Budapest: 518 p.



*Pseudacrobeles (Pseudacrobeles) variabilis* (Steiner, 1936) Steiner, 1938

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## Genus *Pseudacrobeles* Steiner, 1938

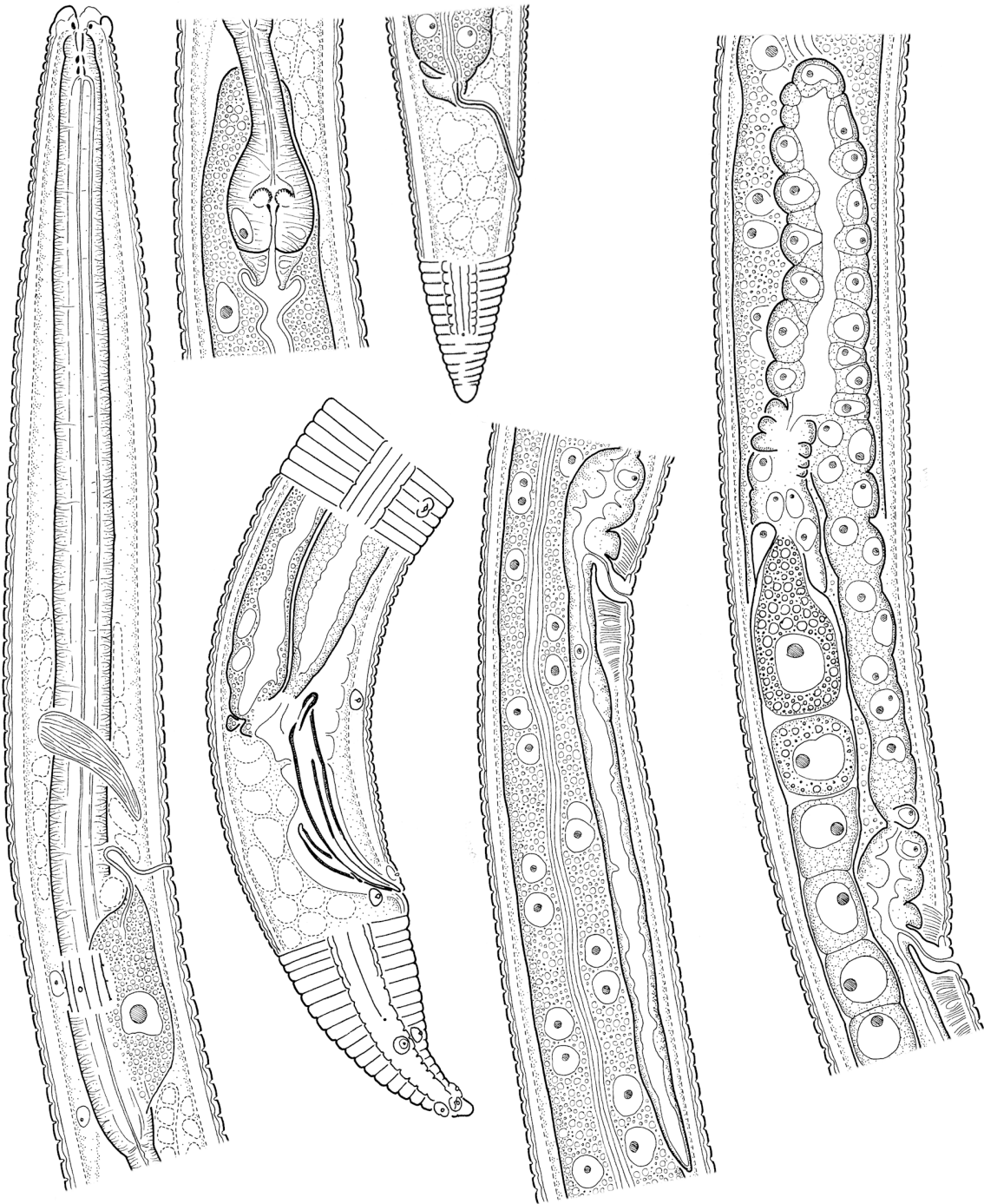
- 1938 *Pseudacrobeles* – Steiner, Proceedings of the Helminthological Society of Washington 3: 16-22.  
1960 *Heterocephalobus* – Brzeski, Bulletin de l'Académie Polonaise des Sciences 9: 97-100.  
1967 *Panagrocephalus* – Andrásy, Opuscula Zoologica Budapestinensis 7: 3-34.  
1993 *P. (Pseudacrobeles)* – De Ley, Siddiqi & Boström, Fundamental and applied Nematology 16: 221-223.  
1993 *P. (Bunobus)* – De Ley, Siddiqi & Boström, Fundamental and applied Nematology 16: 289-308.  
2002 *Pseudacrobeles* – Abolafia, Liébanas & Peña-Santiago, Journal of Nematode Morphology and Systematics 4: 150-152.  
2005 *Bunobus* – Andrásy, Free-living nematodes of Hungary, I: 248.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two wings (three incisures); ending at level of phasmids or just posterior to it in females and at base of terminal tail mucro in males. Lip region not offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral in *Pseudacrobeles* or only four distinct globular lips with lateral ones strongly reduced in *Bunobus*. Primary and secondary axils undeveloped, **guarding processes absent. Cephalic probolae setose in *Pseudacrobeles*, absent in *Bunobus*. Labial probolae present, small and rounded, sometimes fused with lip pairs.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom barrel-shaped, as wide as cheilostom or as narrow as stegostom, with weak gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle moderately to weakly developed. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus cylindrical or slightly fusiform, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling posterior part of metacarpus or anterior part of isthmus. Excretory pore opens at level of nerve ring, at the level of posterior part of metacarpus or anterior part of isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva flat; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width or corpus wider than manubrium; gubernaculum plate-like; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short to long (~1-2 times longer than anal body diameter). Phasmids located in anterior part of tail in females, at around mid-tail in males. **Female tail conoid or elongate-conoid to filiform**, straight or curved ventrad, tail terminus acute, finely rounded or with bifurcated or ragged mucro; male tail conoid, arcuate ventrad, tail terminus with spike-like or ragged mucro

**Biology:** Amphimictic or parthenogenetic. Distributed worldwide except Antarctica.

**Taxonomy:** Type species *Pseudacrobeles (Pseudacrobeles) variabilis* (Steiner, 1936) Steiner, 1938. Seventeen valid species grouped into two subgenera, *Pseudacrobeles* and *Bunobus*. Species diagnosis within the genus is confounded by extensive variability.

1. Abolafia, J., Liébanas, G. & Peña-Santiago, R. (2003). Nematodes of the order Rhabditida from Andalucía Oriental, Spain. The subgenus *Pseudacrobeles* Steiner, 1938 with description of a new species. *Journal of Nematode Morphology and Systematics* 4: 137-154.
2. De Ley, P., Siddiqi, M.R. & Boström, S. (1993). A revision of the genus *Pseudacrobeles* Steiner, 1938 (Nematoda: Cephalobidae). Part 1. Subgenus *Pseudacrobeles* grad. n. *Fundamental and applied Nematology* 16: 219-238.
3. Holovachov O. & Boström S. (2006). Description of *Pseudacrobeles (Bunobus) arboricola* sp. n. (Rhabditida: Cephalobidae) from rotting wood in Roztochya, Ukraine. *Journal of Nematode Morphology and Systematics* 9: 49-54.



*Placodira lobata* Thorne, 1937

Original figure by O. Holovachov

## Genus *Placodira* Thorne, 1937

1937 *Placodira* – Thorne, Proceedings of the Helminthological Society of Washington 4: 1-16.

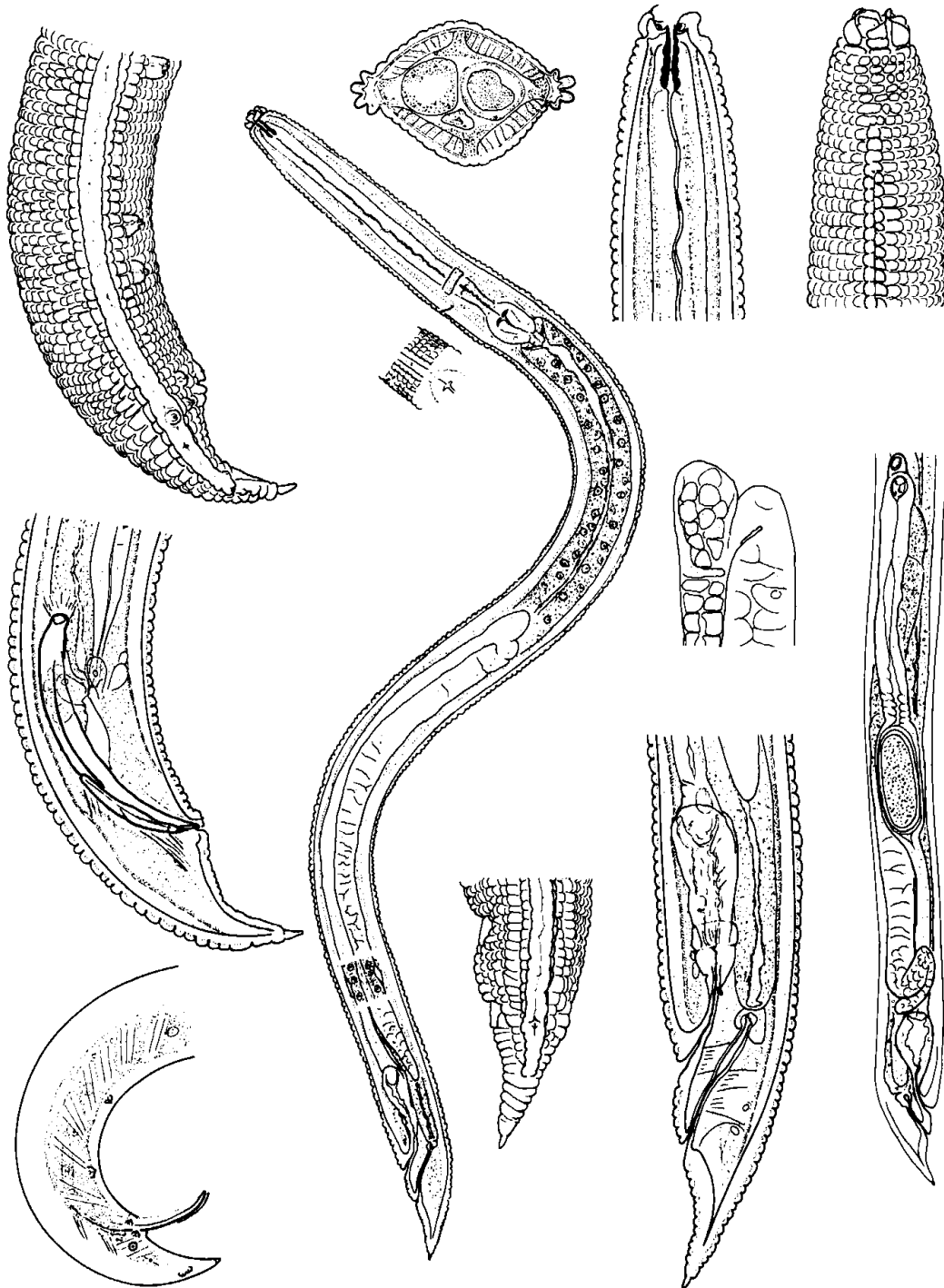
1992 *Placodira* – Siddiqi, De Ley & Khan, Afro-Asian Journal of Nematology 2: 14.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; **anterior annuli with longitudinal incisures** (tessellated). Lateral field with four wings (five incisures); ending at level of phasmids in females and at tail terminus in males. Lip region strongly offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by equally developed primary and secondary axils; **guarding processes absent. Cephalic probolae absent. Labial probolae low rounded.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom weakly developed, as wide as stegostom, with weak gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle undescribed. Pharynx cephaloboid: **pharyngeal procorpus cylindrical; metacarpus fusiform**, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. **Anterior end of intestine with a blind dorsal pouch** directed anteriorly and reaching the level of isthmus or folded posteriorly. Nerve ring encircling metacarpus. Excretory pore opens at level of nerve ring, at around the level of metacarpus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary with double flexure; spermatheca present; postvulval uterine sac present; vulva more or less level with body outline; vagina directed anteriorly. Male reproductive system cephaloboid; spicules cephaloboid with corpus distinctly wider than manubrium; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1-1.5 times longer than anal body diameter). Phasmids located at around mid-tail in both sexes. **Female tail conoid**, straight, tail terminus finely rounded; male tail conoid, arcuate ventrad, tail terminus finely rounded.

**Biology:** Amphimictic. Known so far from the type population from Arizona and undescribed population from the California, SW USA.

**Taxonomy:** Type species *Placodira lobata* Thorne, 1937. Single valid species and one species of uncertain taxonomic status.

1. Siddiqi, M.R., De Ley, P. & Khan, H.A. (1992). *Acrobeloides saeedi* sp.n. from Pakistan and redescription of *A. bodenheimeri* (Steiner) and *Placodira lobata* Thorne (Nematoda: Cephalobidae). Afro-Asian Journal of Nematology 2: 5-16.



*Metacrobeles tessellatus* De Ley, Coomans & Geraert, 1989

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## Genus *Metacrobeles* Loof, 1962

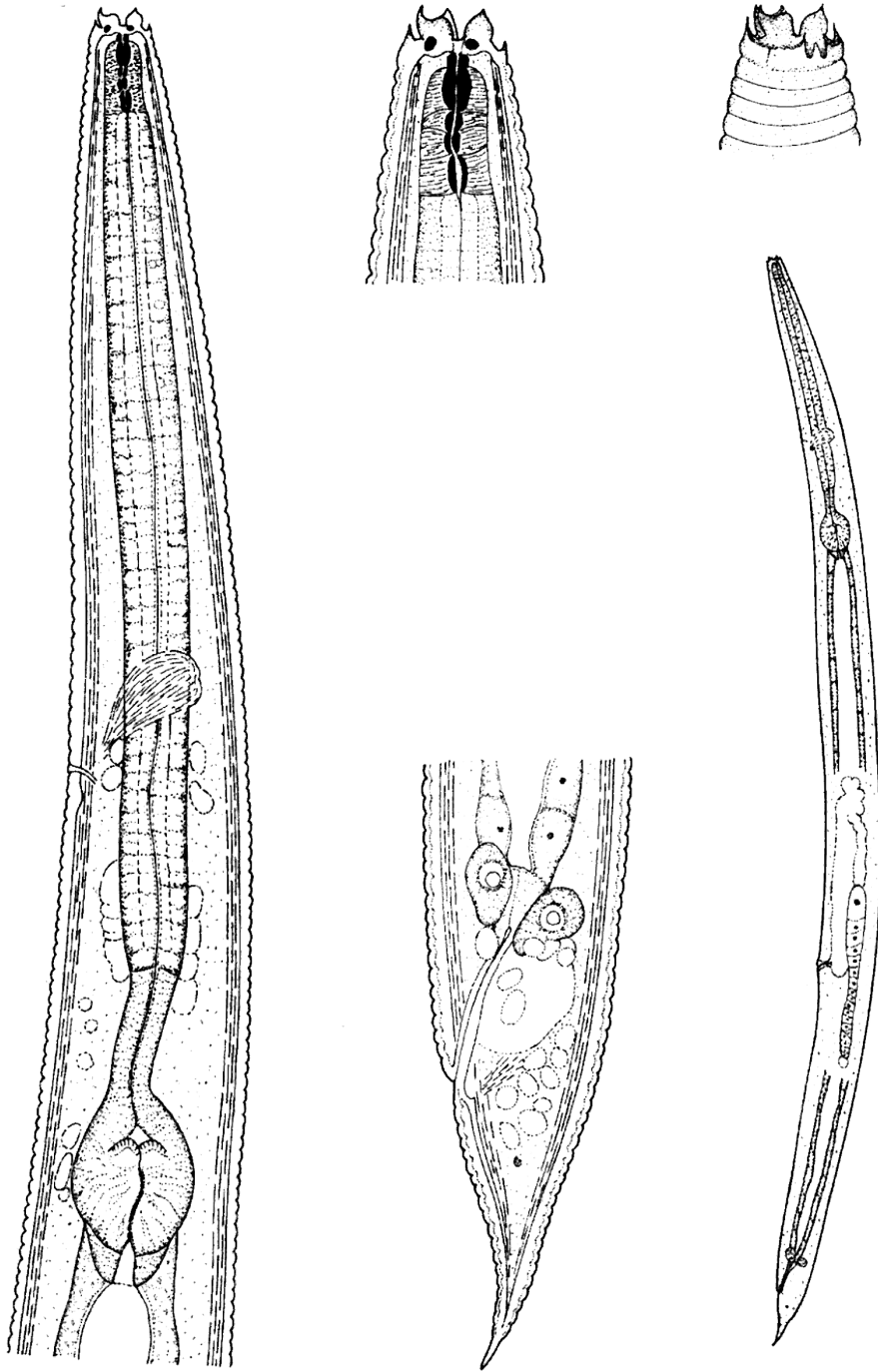
1962 *Metacrobeles* – Loof, *Nematologica* 7: 114-118.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer annuli smooth or with deep longitudinal incisures (tessellated). Lateral field with three or four wings (four-five incisures); ending at level of phasmids or just posterior to it in females and at base of terminal tail mucro in males. Lip region strongly offset, consisting of six globular to drop-shaped lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by **primary axils with single setiform guarding process**; secondary axils narrow. **Each lip with or without single setiform cephalic probola. Labial probolae conoid-rounded or shaped like mooring-posts, not biacute or bifurcate.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture slit-shaped, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom narrow tubular, as wide as stegostom, with strongly sclerotized plate-like gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle present. Pharynx cephaloboid: pharyngeal procorpus and metacarpus elongate cylindrical; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling posterior part of metacarpus or at isthmus. Excretory pore opens at level of nerve ring or just posterior to it, at around the level of isthmus. Deirids present. Female reproductive system cephaloboid; **vulva located very close to the anus, at 92-97% of body length**; posterior part of ovary straight; spermatheca present; postvulval uterine sac absent; vulva level with body outline or recessed; vagina almost as long as corresponding body width, directed anteriorly. Male reproductive system cephaloboid; spicules cephaloboid, **very long** with corpus slightly or distinctly wider than manubrium; gubernaculum canoe-shaped; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short or long (~1-2 times longer than anal body diameter). Phasmids located at level of anus in *M. tessellatus* or at around the posterior third of tail in *M. amblyurus* in females, at around the mid-tail in males. **Female tail ventrally arcuate conoid** (*M. togoensis*, *M. tessellatus*) **or subcylindrical** (*M. amblyurus*), tail terminus finely or bluntly rounded; male tail conoid, arcuate ventrad, tail terminus with or without mucro.

**Biology:** Amphimictic. Two species found in Western Africa (Togo, Senegal) and one in SW USA (California). Observations on live *M. amblyurus* females suggest they are incapable of laying eggs and instead always undergo *endotokia matricida*.

**Taxonomy:** Type species *Metacrobeles togoensis* Loof, 1962. Three valid species.

1. Chiu, C.T., Baldwin, J.G. & Mundo-Ocampo, M. (2002). *Metacrobeles amblyurus* n. sp. (Nematoda: Cephaloidea) from Death Valley, California. *Nematology* 4: 645-652.
2. De Ley, P., Coomas, A. & Geraert, E. (1989). *Metacrobeles tessellatus* sp. n., second species of a rare genus (Nematoda: Rhabditida). *Nematologica* 35: 25-36.



*Zeldia punctata* (Thorne, 1925) Thorne, 1937

Reproduced with modifications from Abolafia & Peña-Santiago (2003)  
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## Genus *Zeldia* Thorne, 1937

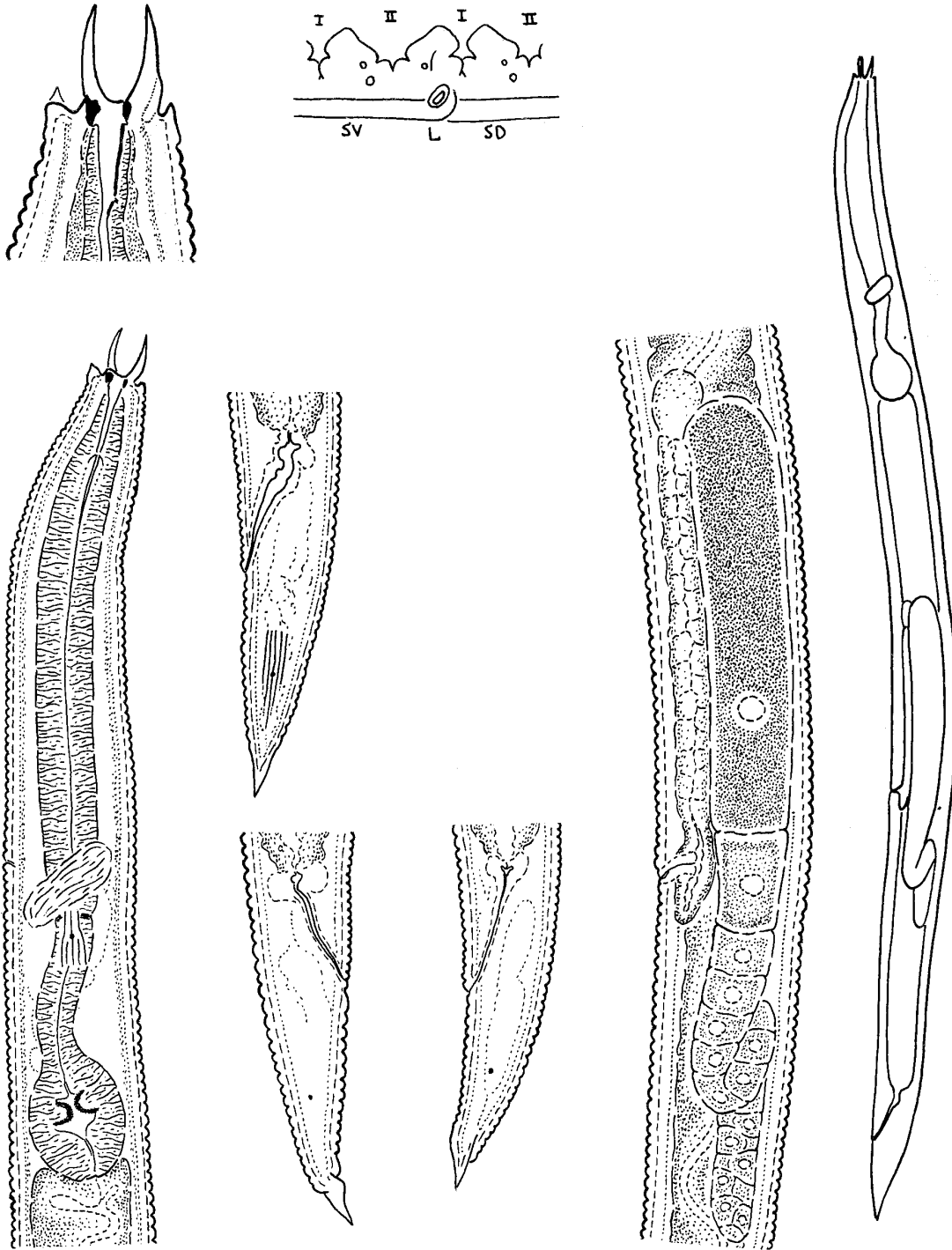
1937 *Zeldia* – Thorne, Proceedings of the Helminthological Society of Washington 4: 1-16.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth, **usually with rows of dot-like ornamentations**, in one species with longitudinal incisures (tessellated). Lateral field with two-four wings (three-five incisures); ending at level of phasmids or just posterior to it in females and at tail terminus males. Lip region weakly offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by **primary axils each with single guarding process**; secondary axils undeveloped. **Cephalic probolae either absent or single small setose or two rectangular? or conical and serrated. Labial probolae blunt or elongate-conoid with broad basis, biacute or bifurcated to a certain degree.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture slit-shaped or rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom weakly developed, as wide as stegostom, with weak gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle present or absent. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus slightly fusiform or cylindrical, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling metacarpus. Excretory pore opens at level of nerve ring, at around the level of metacarpus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary with double flexure; spermatheca present; postvulval uterine sac present; vulva flat or protruding; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1-1.5 times longer than anal body diameter). Phasmids located at around mid-tail in both sexes. **Female tail conoid**, straight or more often ventrally sigmoid and curved, tail terminus acute or finely rounded; male tail conoid, arcuate ventrad, tail terminus finely rounded.

**Biology:** Amphimictic or parthenogenetic. Distributed worldwide except Antarctica.

**Taxonomy:** Type species *Zeldia punctata* (Thorne, 1925) Thorne, 1937. Fifteen species altogether, taxonomic status of some of which is questionable.

1. Abolafia, J. & Peña-Santiago, R. (2003). Nematodes of the Order Rhabditida from Andalucía Oriental, Spain. The Genera *Nothacrobeles* Allen & Noffsinger, 1971 and *Zeldia* Thorne, 1937. *Journal of Nematology* 35: 233–243.
2. Andrásy, I. (2005). Free-living Nematodes of Hungary (Nematoda errantia), I. Budapest: 518 p.



*Acroukrainicus sagittiferus* Holovachov, Boström & Susulovsky, 2001

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## Genus *Acroukrainicus* Holovachov, Boström & Susulovsky, 2001

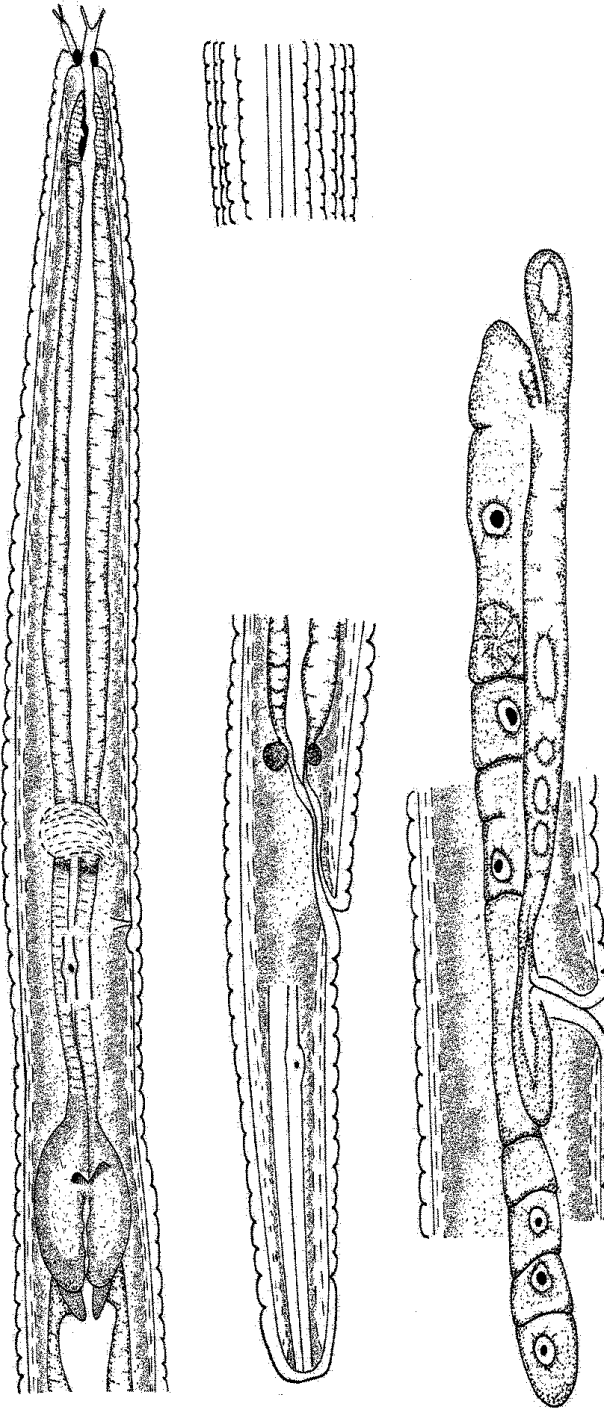
2001 *Acroukrainicus* – Holovachov, Boström & Susulovsky, Russian Journal of Nematology 9: 51-56.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with four wings (five incisures); ending at tail tip (as single incisure) in females. Lip region weakly offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by narrow primary and secondary axils; **guarding processes absent. Cephalic probolae with three wide lobes. Labial probolae elongate-conoid, shaped as an arrow-head with rounded lateral tines and a concave abaxial prominence.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom narrow tubular, as wide as stegostom, with weakly sclerotized gymnorrhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle not observed. Pharynx cephaloboid: pharyngeal procorpus and metacarpus cylindrical; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling posterior part of metacarpus. Excretory pore opens at level of nerve ring, at around the level of metacarpus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight or with double flexure; spermatheca present, small and empty; postvulval uterine sac present; vulva protruding; vagina straight. Male unknown. Rectum short (~1.5 times longer than anal body diameter). Phasmids located at around the mid-tail in females. **Female tail conoid**, straight, tail terminus acute or finely rounded.

**Biology:** Parthenogenetic. Type species found in Ukraine, another undescribed species found in Costa Rica.

**Taxonomy:** Type species *Acroukrainicus sagittiferus* Holovachov, Boström & Susulovsky, 2001. One valid species only.

1. Holovachov O., Boström S. & Susulovsky A. (2001). Description of *Acroukrainicus sagittiferus* gen. et sp. n. (Nematoda: Cephalobidae) from the area of an old sulfur industry in Ukraine. *Russian Journal of Nematology* 9: 51-56.



*Stegelleta ophioglossa* Andrassy, 1967

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## Genus *Stegelleta* Thorne, 1938

1937 *Stegella* – Thorne, Proceedings of the Helminthological Society of Washington 4: 14.

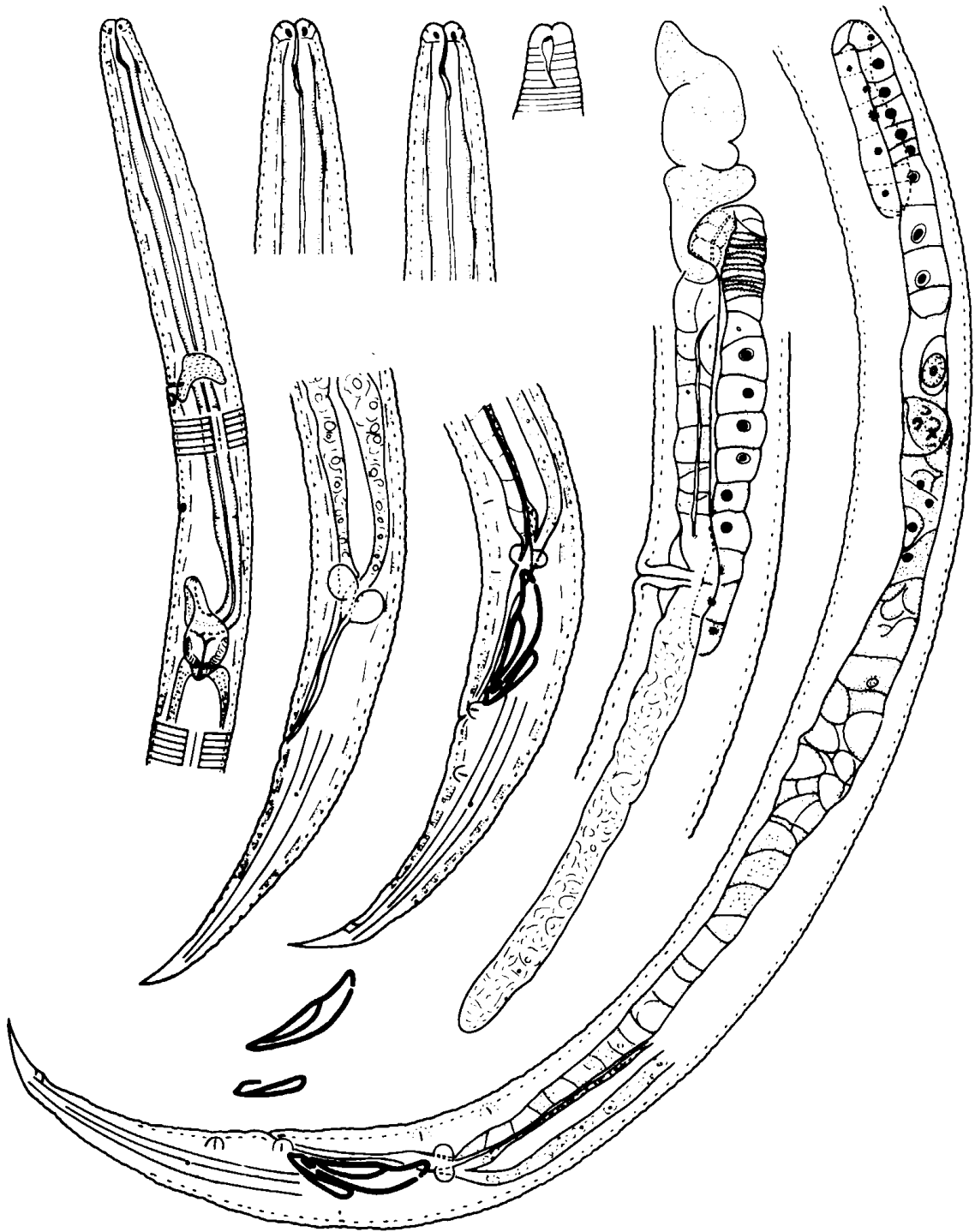
1938 *Stegelleta* – Thorne Proceedings of the Helminthological Society of Washington 5: 64-65.

*Morphology*: Cuticle annulated, without distinctly annulated internal layer; **annuli with longitudinal incisures** (tessellated). Lateral field with two or four wings (three or five incisures); ending at tail terminus in females and in males. Lip region weakly offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by primary axils; **guarding processes absent**; secondary axils undeveloped. **Cephalic probolae absent. Labial probolae elongate-conoid with broad basis, bifurcated at about middle of their length forming two slender prongs**, in some species further bifurcated apically and thus each probola ends in four slender appendages. Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture slit-shaped, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom weakly developed, as wide as stegostom, with weak gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle present. Pharynx cephaloboid: pharyngeal procorpus and metacarpus cylindrical, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling posterior part of metacarpus or anterior part of isthmus. Excretory pore opens at level of nerve ring, at posterior part of metacarpus or anterior part of isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva flat; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: at least one ventrosublateral pair located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (1-1.5 times longer than anal body diameter). Phasmids located at around the mid-tail in both sexes. **Female tail conoid or subcylindrical**, straight, tail terminus bluntly or truncately rounded; male tail conoid, arcuate ventrad, tail terminus bluntly rounded.

*Biology*: Amphimictic or parthenogenetic. Distributed worldwide except Antarctica.

*Taxonomy*: Type species *Stegelleta incisa* (Thorne, 1937) Thorne, 1938. Five valid species.

1. Andrásy, I. (2005). Free-living Nematodes of Hungary (Nematoda errantia), I. Budapest: 518 p.
2. Shokoohi, E., Abolafia Cobaleda, J., Kheiri, A., Zad, J. (2008). Nematodes of the order Rhabditida from Tehran province (Iran): some known species of the family Cephalobidae. *Journal of Nematode Morphology and Systematics* 11: 67-86.



*Heterocephalobellus brasiliensis* Rashid, Geraert & Sharma, 1984

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## Genus *Heterocephalobellus* Rashid, Geraert & Sharma, 1985

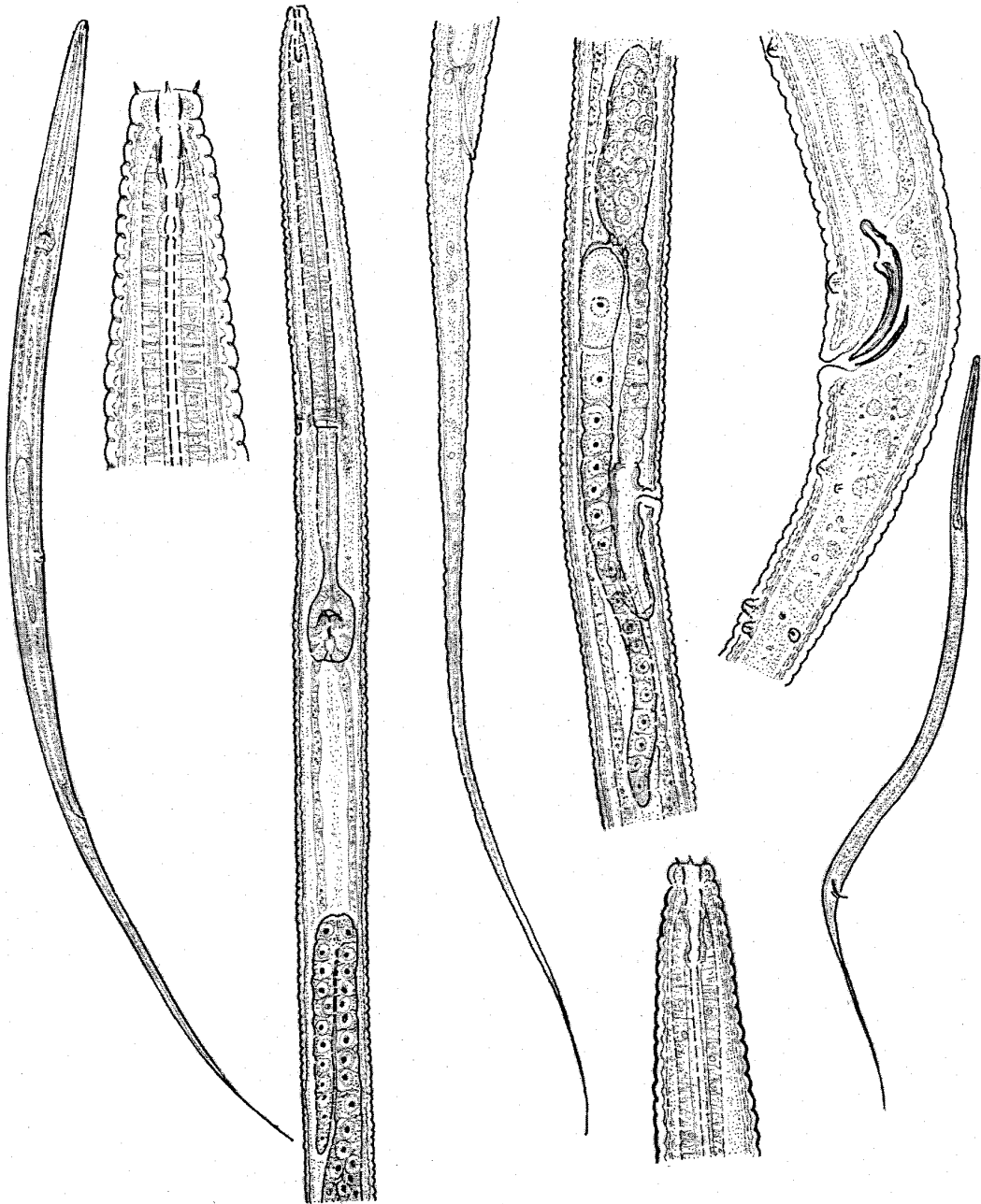
1984 *Heterocephalobellus* – Rashid, Geraert & Sharma, *Nematologica* 30: 270-273.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two wings (three incisures); ending at the tail terminus in females and in males. Lip region weakly offset, consisting of six globular **lips that are fused in three globular lobes**: one dorsal and two subventral. Fused pairs of lips separated by narrow but well-defined primary axils; **guarding processes absent**; secondary axils absent. **Cephalic probolae absent. Labial probolae absent.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom barrel-shaped, as wide as stegostom, with weakly sclerotized plate-like gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle undescribed. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus slightly fusiform, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling metacarpus. Excretory pore opens at level of nerve ring, at around the level of metacarpus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight and relatively short; spermatheca present; **postvulval uterine sac extremely long, usually extending past ovary tip**; vulva protruding or flat; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width or corpus slightly wider than manubrium; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum long (~2 times longer than anal body diameter). Phasmids located at level of anterior part of tail in females, at around the mid-tail in males. **Female tail conoid or elongate-conoid**, straight or arcuate ventrad, tail terminus finely rounded; male tail conoid, arcuate ventrad, tail terminus finely rounded.

**Biology:** Amphimictic. Species described from Brasil and Europe (Hungary and Greece). Undescribed populations were found in the Netherlands, Nigeria, Benin and SW USA.

**Taxonomy:** Type species *Heterocephalobellus brasiliensis* Rashid, Geraert & Sharma, 1984. Two valid species.

1. Andrassy, I. (2005). Free-living Nematodes of Hungary (Nematoda errantia), I. Budapest: 518 p.
2. Rashid, F., Geraert, E. & Sharma, R.D. (1984). Morphology, taxonomy and morphometry of some Cephalobidae (Nematoda: Rhabditida) from Brazil, with descriptions of two new genera and four new species. *Nematologica* 30: 251-299.



*Macrolaimellus filumicus* Siddiqi, 2002

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## Genus *Macrolaimellus* Andr ssy, 1966

1966 *Macrolaimellus* – Andr ssy, Annales Universitatis Budapestinensis 8: 15.

1985 *Cephalonema* – Rashid, Geraert & Sharma, Nematologica 30: 255 (nec *Cephalonema* Stimpson, 1882).

1987 *Macrolaimellus* – Rashid & Geraert, Nematologica 32: 238-239.

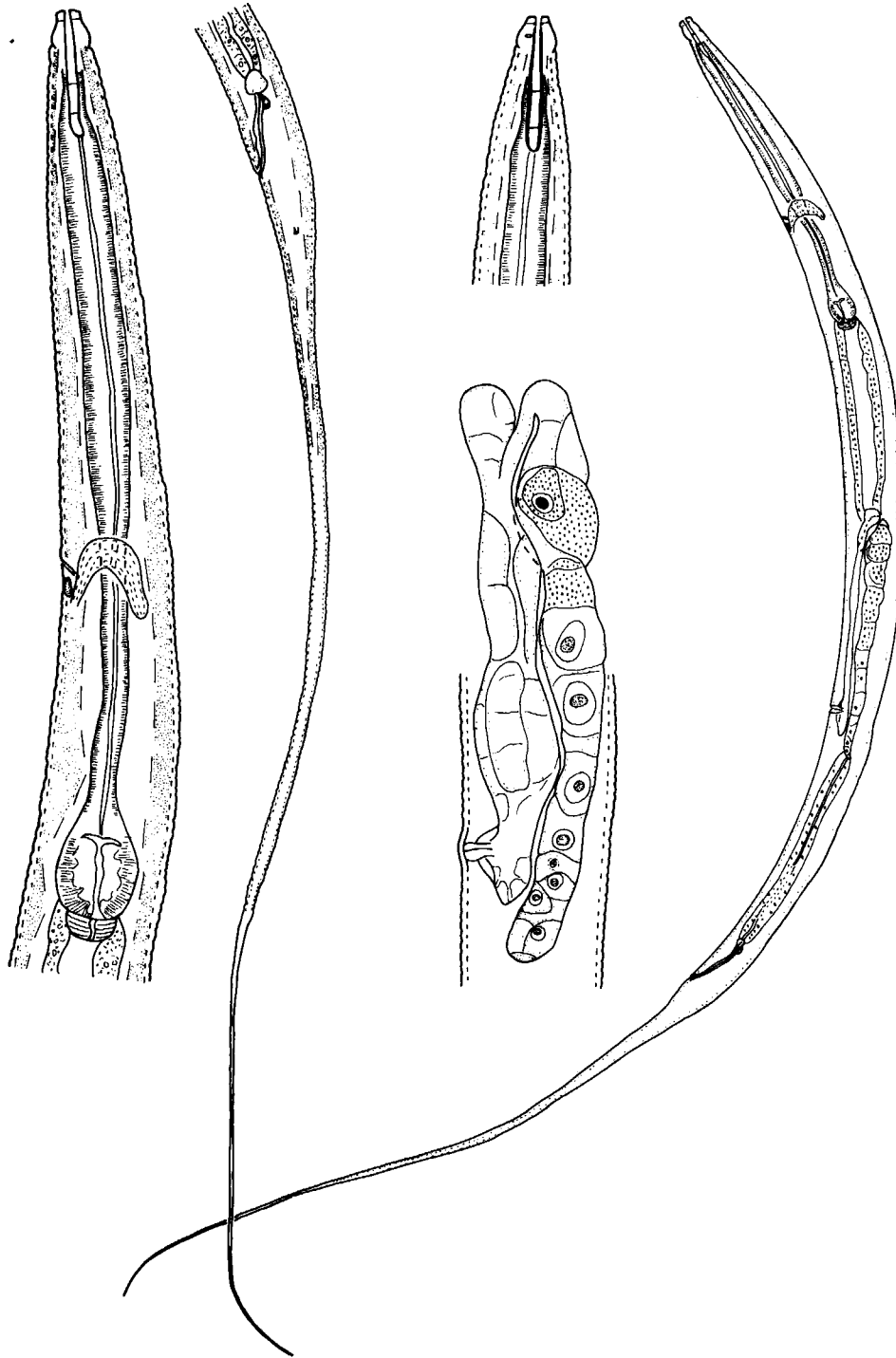
2002 *Catoralaimellus* – Siddiqi, International Journal of Nematology 12: 90.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with single wing (two incisures); ending at level of phasmids in females and in males. **Lip region weakly offset, crown-shaped** consisting of six leaf-like lips that are partly fused basally; all lips are similar in shape and size. Pairs of lips separated by primary and secondary axils without guarding processes. Cephalic probolae absent. Labial probolae absent. **Six outer labial setiform** and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture slit-shaped, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized platelike cheilorhabdia; gymnostom barrel-shaped, as wide as cheilostom, with strongly sclerotized plate-like gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle undescribed. Pharynx cephaloboid: pharyngeal procorpus and metacarpus cylindrical; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling posterior part of metacarpus. Excretory pore opens at level of nerve ring, at around the level of metacarpus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva protruding; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with corpus wider than manubrium; gubernaculum wedge-shaped; *cornua crurum* present. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (>1-2 times longer than anal body diameter). Phasmids located at level of anterior part of the tail in females, at around the mid-tail in males. **Female tail elongate-conoid to subcylindrical**, straight or arcuate ventrad, tail terminus finely rounded; male tail conoid, arcuate ventrad, tail terminus with long spike-like mucro.

**Biology:** Amphimictic and parthenogenetic species. Found in tropical regions only.

**Taxonomy:** Type species *Macrolaimellus iucundus* Andr ssy, 1966. Four valid species.

1. Siddiqi, M.R. (2002). *Catoralaimellus cornutus* gen. n., sp. n., and two new species of *Macrolaimellus* (Nematoda: Cephalobidae). *International Journal of Nematology* 12: 89-97.



*Alirhabditis indica* Suryawanshi, 1971

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**Genus *Alirhabditis* Suryawanshi, 1971**

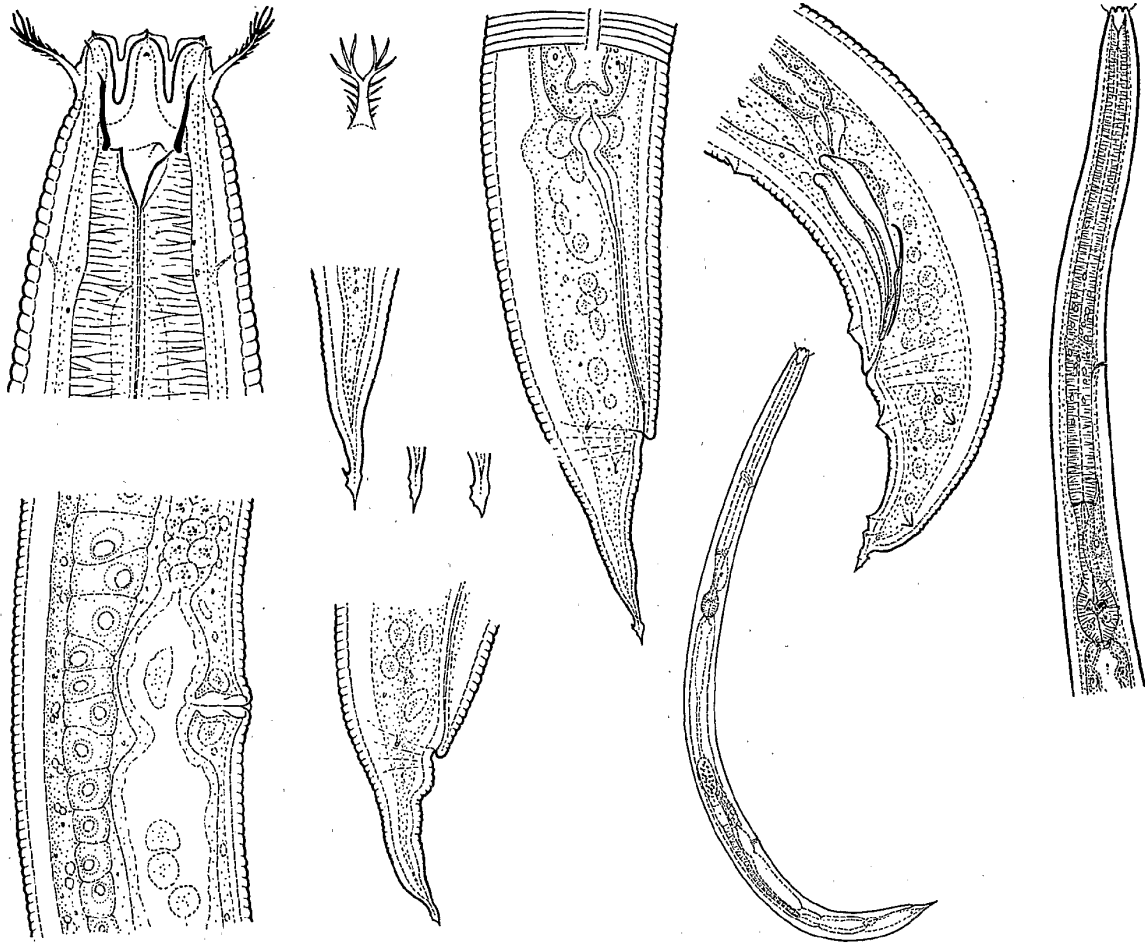
1971 *Alirhabditis* – Suryawanshi, *Nematologica* 17: 542-546.

*Morphology*: Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two wings (three incisures). **Lip region weakly offset, lips fused into a small, truncate or disk-like plate**; all lips are similar in shape and size. Labial and cephalic sensilla not described. Amphidial aperture rounded, located on lateral lips. **Stoma uniformly tubular**, stoma divisions undescribed. Pharynx cephaloboid: pharyngeal procorpus and metacarpus cylindrical; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling isthmus. Excretory pore opens at level of nerve ring, at level of isthmus. Deirid not described. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva protruding; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: one ventrosublateral pair located just posterior to cloacal opening; two pairs located at middle of tail length (this data is apparently incomplete). Rectum medium-length to long (~1.5-2 times longer than anal body diameter). Phasmids undescribed. **Female tail filliform or clavate**, straight, tail terminus acute or bluntly rounded; male tail elongate-conoid, straight, tail terminus finely rounded.

*Biology*: Amphimictic or parthenogenetic.

*Taxonomy*: Type species *Alirhabditis indica* Suryawanshi, 1971. One valid species and one species of uncertain taxonomic status.

1. Rashid, F., Geraert, E. & Sharma, R.D. (1984). Morphology, taxonomy and morphometry of some Cephalobidae (Nematoda: Rhabditida) from Brazil, with description of two new genera and four new species. *Nematologica* 30: 251-299.



*Bcirronema caledoniense* Andrassy, 1978

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## Genus *Bicirronema* Andrásy, 1978

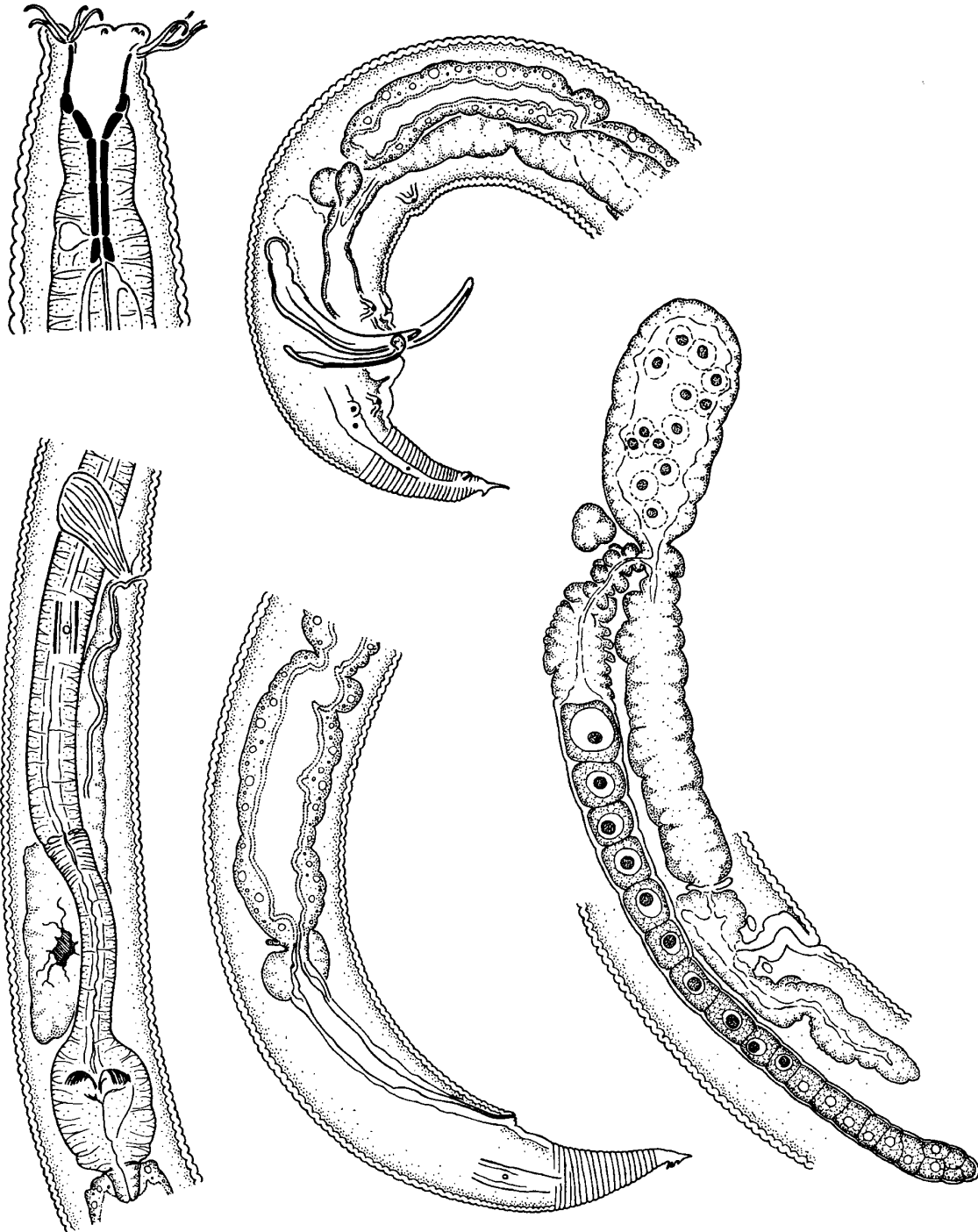
1978 *Bicirronema*– Andrásy, Revue de Nématologie 1: 257-263.

**Morphology:** Cuticle strongly annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with one wing (two incisures); ending just posterior to phasmids in females and at base of terminal tail mucro in males. Lip region weakly offset, consisting of six globular lips arranged separately: one dorsal and two subventral. Lips separated by primary and secondary axils, **dorsal and ventral axils with single, long bifurcated and branching cirrus in each axil. Cephalic and labial probolae absent.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: **cheilostom wide barrel-shaped with strongly sclerotized platelike cheilorhabdia;** gymnostom short, as wide as cheilostom, with strongly sclerotized bacilliform gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle absent. Pharynx cephaloboid: pharyngeal procorpus and metacarpus cylindrical; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling anterior part of metacarpus. Excretory pore opens at level of nerve ring, at around the level of metacarpus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva protruding; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with corpus slightly wider than manubrium; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: one ventrosublateral pair located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla anterior to the cloacal opening. Rectum long (>2-3 times longer than anal body diameter). Phasmids located at level of or anterior to anal opening in females, at around mid-tail in males. **Female tail conoid**, arcuate ventrad, **tail terminus with harpoon-shaped mucro;** male tail conoid, arcuate ventrad, tail terminus with harpoon shaped mucro.

**Biology:** Amphimictic. Found in New Caledonia and Peru so far.

**Taxonomy:** Type species *Bicirronema caledoniense* Andrásy, 1978. Two valid species.

1. Andrásy, I. (1978). *Bicirronema caledoniense* n. gen., h. sp., and *Amphidirhabditis longipapillata* h. gen., n. sp. (Secernentia: Rhabditida), two remarkable soil nematodes from New Caledonia. *Revue de Nématologie* 1: 257-263.
2. Andrásy, I. (1986). Fifteen nematode species from the southern hemisphere. *Acta Zoologica Hungarica* 32: 1-33.



*Tricirronema tamdaoense* Holovachov & Bostrom, 2005

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## Genus *Tricirronema* Siddiqi, 1993

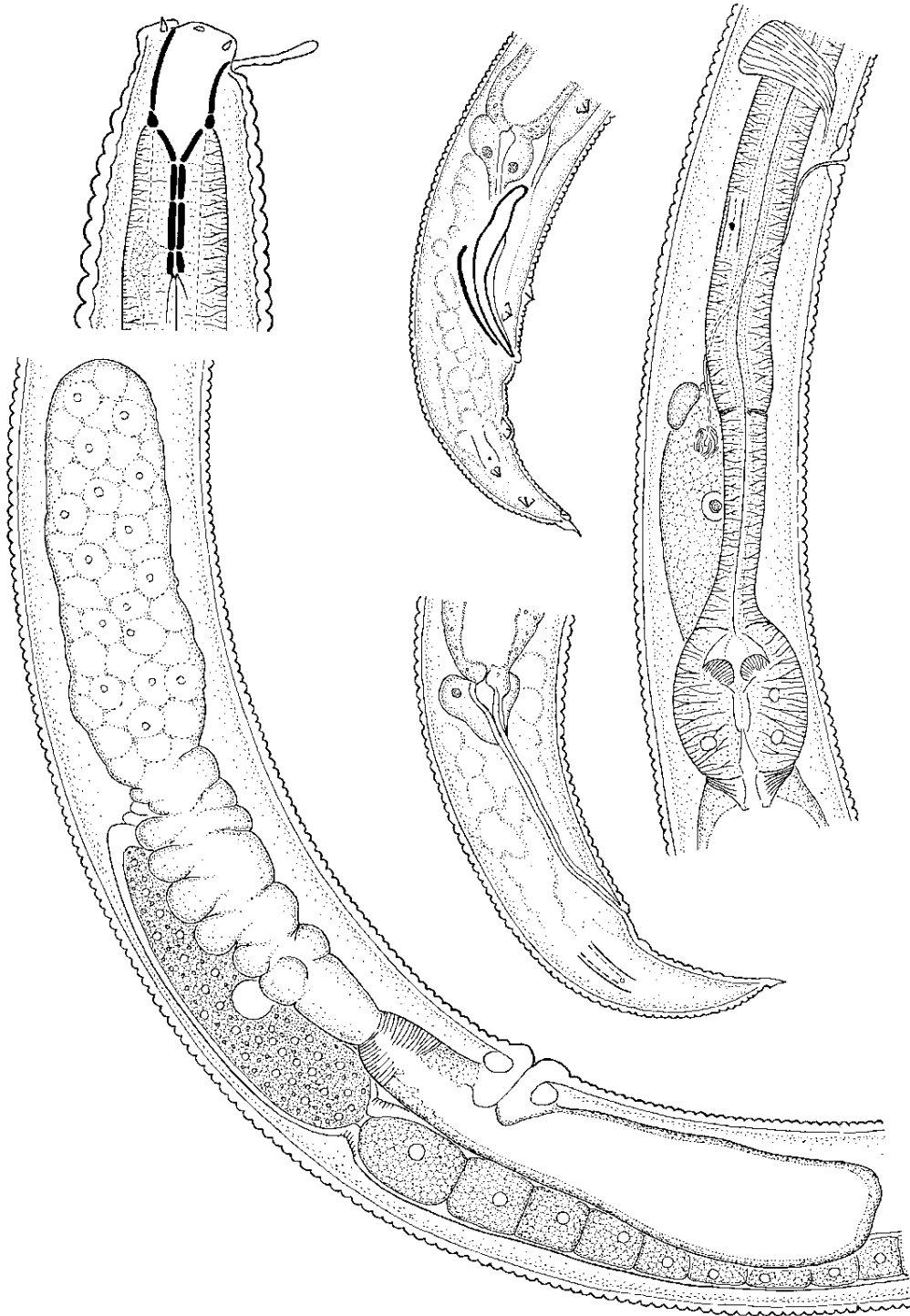
1993 *Tricirronema* – Siddiqi, Afro-Asian Journal of Nematology 3: 214.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two wings (three incisures); ending just posterior to phasmids in females and at base of terminal tail mucro in males. Lip region weakly offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by **primary axils with two long irregularly branching cirri in each axil. Cephalic and labial probolae absent.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: **cheilostom wide barrel-shaped with strongly sclerotized platelike cheilorhabdia;** gymnostom short, as wide as cheilostom, with strongly sclerotized bacilliform gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle absent. Pharynx cephaloboid: pharyngeal procorpus and metacarpus cylindrical; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling anterior part of metacarpus. Excretory pore opens at level of nerve ring, at around the level of metacarpus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva protruding; vagina straight or sigmoid (in *T. tamdaoense*). Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width or corpus slightly wider; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: one ventrosublateral pair located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla anterior to the cloacal opening. Rectum long (>2-3 times longer than anal body diameter). Phasmids located at level of or anterior to anal opening in females, at around the mid-tail in males. **Female tail conoid,** arcuate ventrad, **tail terminus with harpoon-shaped mucro;** male tail conoid, arcuate ventrad, tail terminus with harpoon shaped mucro.

**Biology:** Amphimictic. Species mostly found in tropical and subtropical areas: Cameroon, Tanzania, Costa Rica, Vietnam. Unpublished population was found in New Zealand.

**Taxonomy:** Type species *Tricirronema tentaculatum* Siddiqi, 1993. Three valid species.

1. Holovachov O. & Boström S. (2005). Description of *Tricirronema tamdaoensis* sp. n. (Rhabditida: Bicirronematidae) from Vietnam. *Journal of Nematode Morphology and Systematics* 8: 51-56.



*Trualaimus culeatus* Andr assy, 2001

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## Genus *Trualaimus* Siddiqi, 1993

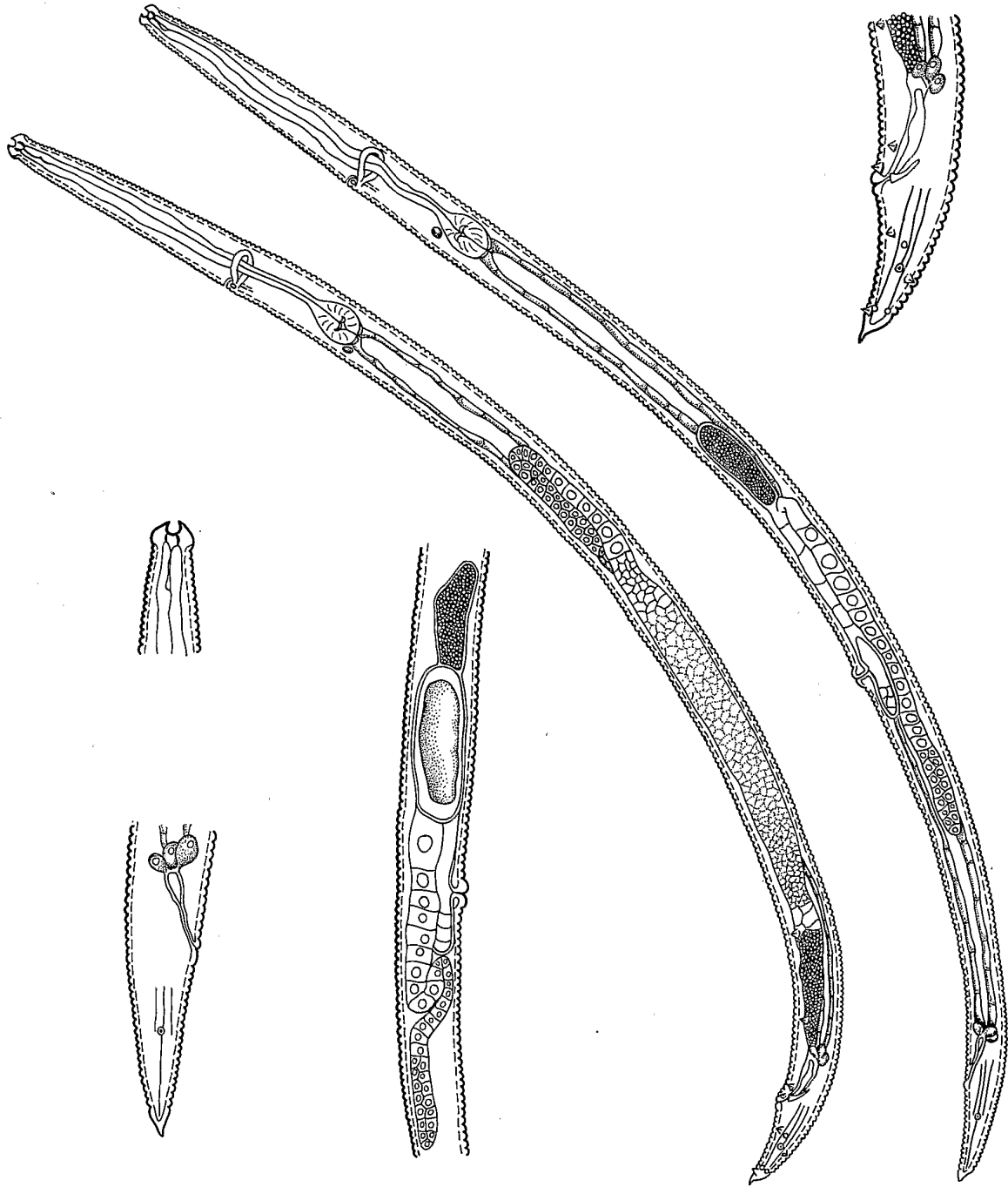
1993 *Trualaimus* – Siddiqi, Afro-Asian Journal of Nematology 3: 220.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with one wing (two incisures); ending just posterior to phasmids in females and at base of terminal tail mucro in males. Lip region weakly offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by primary axils; **midventral axil with two large membranous subventral flaps. Cephalic and labial probolae absent.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: **cheilostom wide barrel-shaped with strongly sclerotized platelike cheilorhabdia;** gymnostom as wide as cheilostom, with strongly sclerotized bacilliform gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle absent. Pharynx cephaloboid: pharyngeal procorpus and metacarpus cylindrical; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling anterior part of metacarpus. Excretory pore opens at level of nerve ring, at around the level of metacarpus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva protruding; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: one ventrosublateral pair located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla anterior to the cloacal opening. Rectum long (>2-3 times longer than anal body diameter). Phasmids located at level of or anterior to anal opening in females, at around mid-tail in males. **Female tail conoid, arcuate ventrad, tail terminus with harpoon-shaped mucro;** male tail conoid, arcuate ventrad, tail terminus with harpoon shaped mucro.

**Biology:** Amphimictic. Found in tropical areas of the world, Cameroon, Costa Rica, other tropical countries.

**Taxonomy:** Type species *Trualaimus ligulatus* Siddiqi, 1993. Four valid species.

1. Holovachov O., Esquivel A. & Bongers T. (2003). Freelifving nematodes from the nature reserves in Costa Rica. 4. Cephalobina. *Nematology* 5: 1-16.



*Acrolobus emarginatus* (de Man, 1880) Boström, 1986

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## Genus *Acrolobus* Boström, 1986

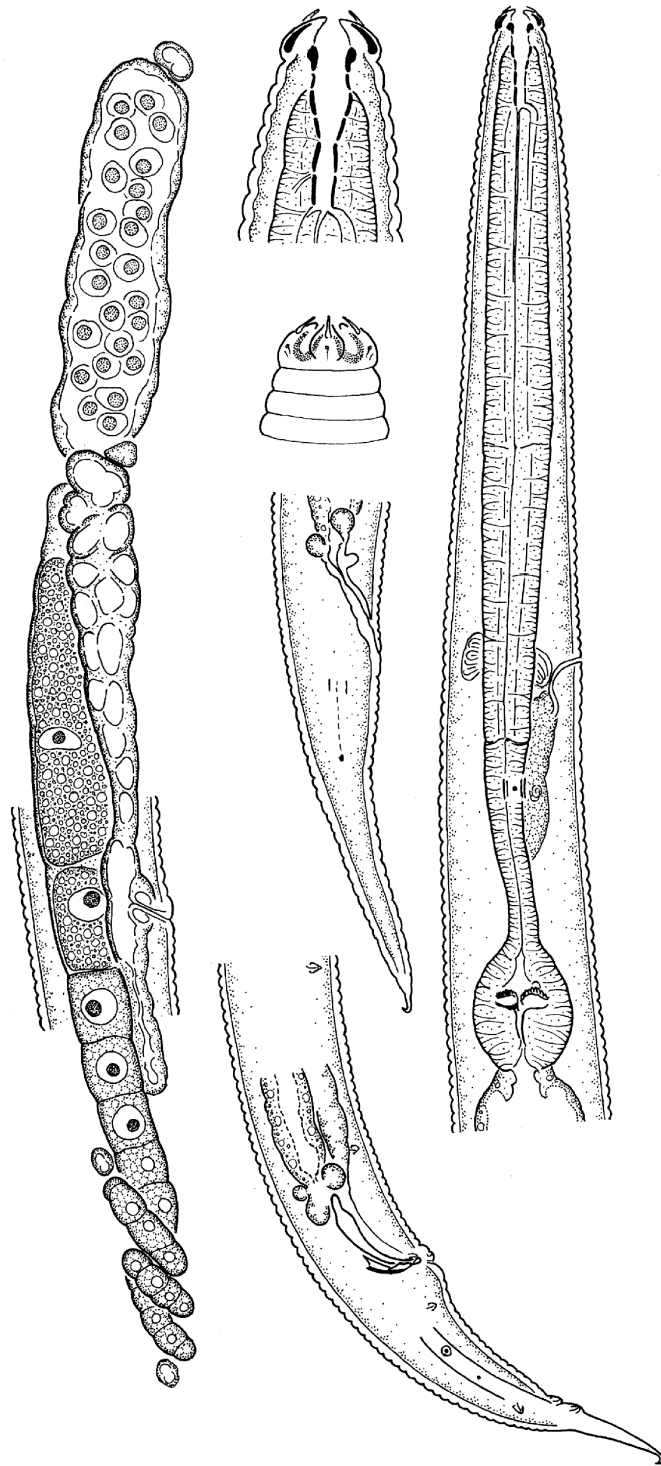
1986 *Acrolobus* – Boström, Revue de Nématologie 8: 336.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two wings (three incisures); ending at tail tip (as a single incisure) in females and at base of terminal tail mucro in males. **Lip region strongly offset, crown-shaped, consisting of six leaf-like lips; lateral lips broader and shorter than the subdorsal and subventral ones;** each lip is supported by a strong radial ridge. Pairs of lips separated by primary and secondary axils without guarding processes; **U-shaped clefts of axils not sclerotized. Cephalic probolae absent. Labial probolae absent.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom barrel-shaped, as wide as stegostom, with small gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle absent. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus slightly fusiform; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling metacarpus-isthmus junction. Excretory pore opens at level of nerve ring, at metacarpus-isthmus junction. Deirids present. Female reproductive system cephaloboid; posterior part of ovary usually straight; spermatheca present; postvulval uterine sac present; vulva protruding; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum wedge-shaped; *cornua crurum* present. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (as long as anal body diameter). Phasmids located at around mid-tail in both sexes. **Female tail conoid, straight, tail terminus acute or finely rounded;** male tail conoid, straight, tail terminus with short spike-like mucro.

**Biology:** Amphimictic. Distributed worldwide except Antarctica.

**Taxonomy:** Type species: *Acrolobus emarginatus* (de Man, 1880) Boström, 1986. Single valid species.

1. Boström, S. (1985). Description of *Acrobeloides emarginatus* (de Man, 1880) Thorne, 1937 and proposal of *Acrolobus* n. gen. (Nematoda: Cephalobidae). *Revue de Nématologie* 8: 335-340.



*Teratolobus regulus* Andrassy, 1968

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## Genus *Teratolobus* Andr ssy, 1968

1968 *Teratolobus* – Andr ssy, Opuscula Zoologica Budapestinensis 8, 167-315.

1972 *Pseudocephalobus* – Joshi, Marathwada University Journal of Science, Section B (Biol. Sciences) 11: 155-158.

1986 *Panagroteratus* – Andr ssy, Acta Zoologica Hungarica 32, 1-33 (syn. by Holovachov & Bostr m, 2006)

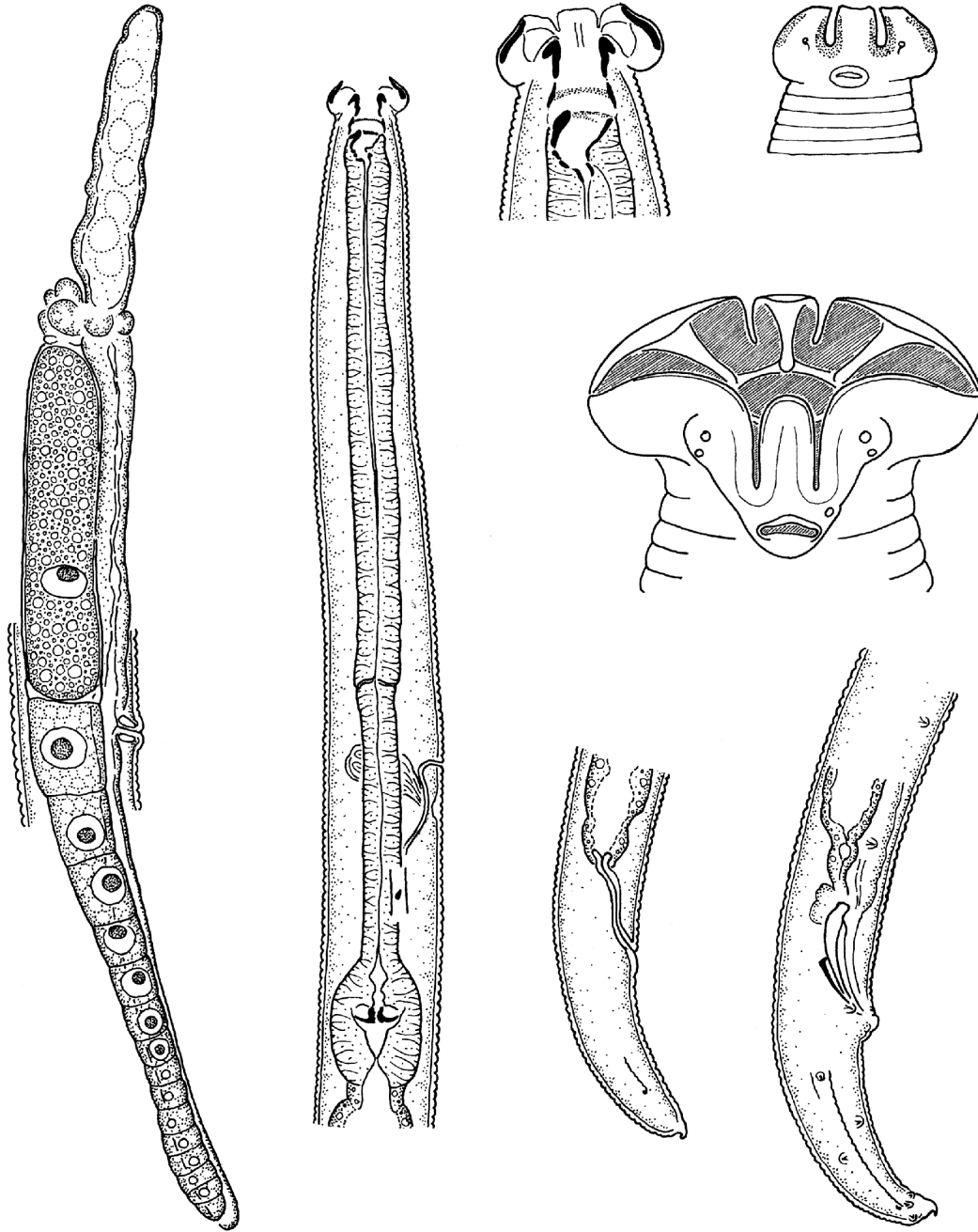
2006 *Teratolobus* – Holovachov & Bostr m, Nematology 8: 383.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two wings (three incisures); ending at level of phasmids in females and at base of terminal tail mucro in males. **Lip region strongly offset, crown-shaped, consisting of six leaf-like lips; all lips similar in shape and size;** each lip is supported by a strong radial ridge. Pairs of lips separated by primary and secondary axils without guarding processes; **U-shaped clefts of axils internally sclerotized in some species** (*T. regulus*, *T. obscurus*). **Cephalic probolae present as one single small setiform projection per lip. Labial probolae absent.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom barrel-shaped, as wide as cheilostom, with strongly sclerotized plate-like gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle absent. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus slightly fusiform, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling posterior part of metacarpus. Excretory pore opens at level of nerve ring, at around the level of metacarpus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight or with double flexure; spermatheca present in amphimictic species, reduced in parthenogenetic species; postvulval uterine sac present; vulva usually protruding; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum wedge-shaped; *cornua crurum* present. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (around 1-1.5 times longer than anal body diameter). Phasmids located anterior 1/3 of the tail length in females, at around mid-tail in males. **Female tail conoid or elongate-conoid, straight, tail terminus bearing a terminal mucro of different shape** (simple conical, harpoon-like, arrowhead-like, forked) that can be sclerotized or not; male tail conoid, arcuate ventrad, tail terminus bearing a terminal mucro similar to female.

**Biology:** Amphimictic (*T. regulus*, *T. hamatus*, *T. occultus*, *T. indicus*) and parthenogenetic. Found mostly in tropical areas.

**Taxonomy:** Type species: *Teratolobus regulus* Andr ssy, 1968. Seven valid species.

1. Holovachov O. & Bostr m S. (2006). *Panagrolobus vanmegena*, a new genus and species from the Netherlands and Ukraine, with taxonomic revision and two new species of the genus *Teratolobus* Andr ssy, 1968 (Nematoda: Cephalobidae). *Nematology* 8: 377-395.



*Panagrolobus vanmegena* Holovachov & Boström, 2006

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## Genus *Panagrolobus* Holovachov & Boström, 2006

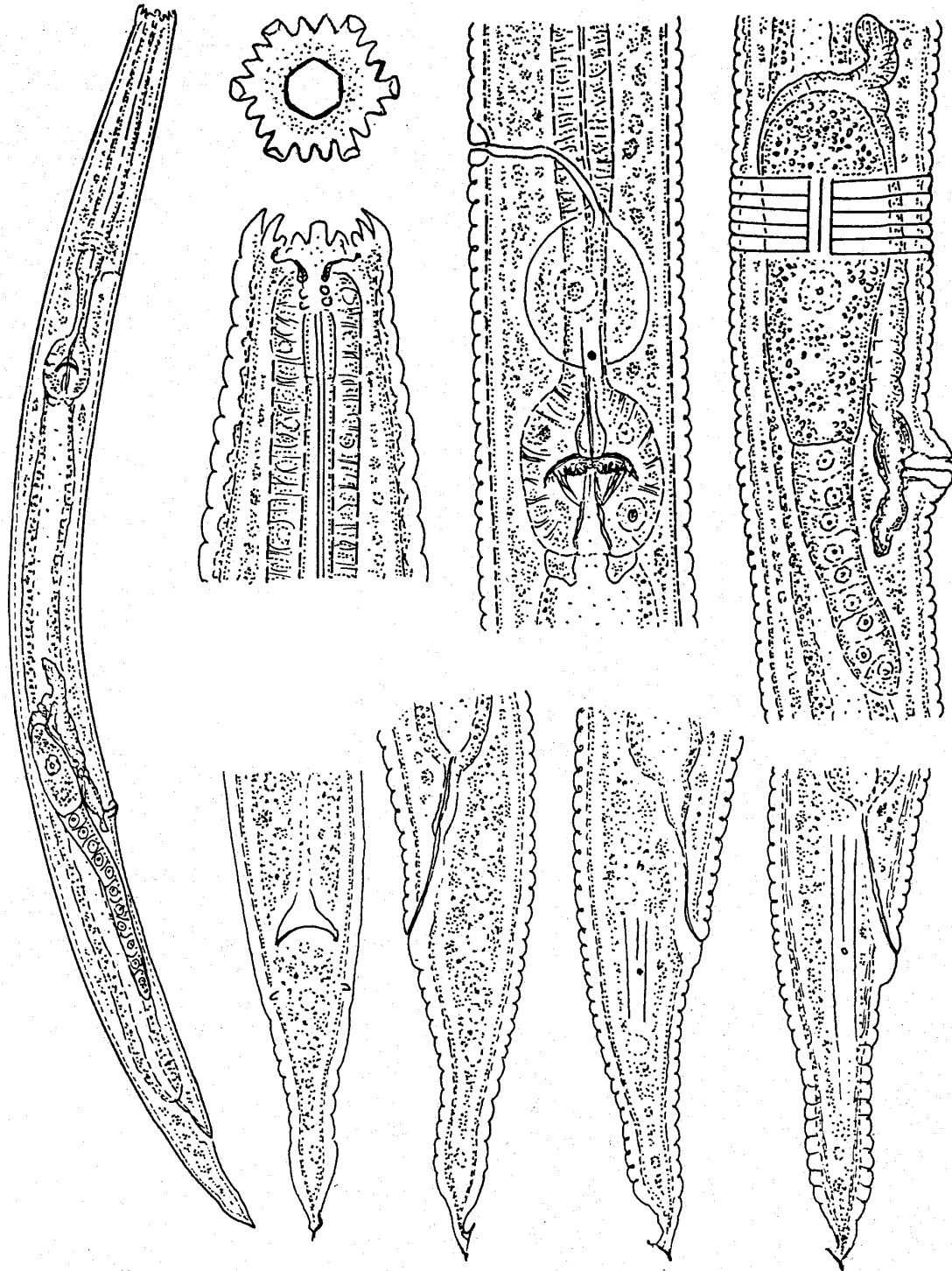
2006 *Panagrolobus* – Holovachov & Boström, *Nematology* 8: 378.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with one wing (two incisures). **Lip region strongly offset, crown-shaped, consisting of six leaf-like lips; lateral lips half as wide as the subdorsal and subventral ones;** each lip is supported by a strong radial ridge. Pairs of lips separated by primary and secondary axils without guarding processes; **U-shaped clefts of axils internally sclerotized. Cephalic probolae absent. Labial probolae absent.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom broadly barrel-shaped with strongly developed rhabdia; gymnostom conoid, as wide as cheilostom, with strongly sclerotized platelike gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts; dorsal prostegorhabdion strongly developed, extending as a ridge inside the stegostom cavity, its optical section tooth-shaped in appearance. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus cylindrical; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling isthmus. Excretory pore opens at level of nerve ring, at the level of isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; **postvulval uterine sac very long** (2-5 times longer than body diameter), reaching tip of ovary; vulva protruding; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with corpus wider than manubrium; gubernaculum plate-like; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at level of cloacal opening; three pairs located at middle of tail length; and three pairs (two subventral and one subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (1-2 times longer than anal body diameter). Phasmids located at 70-90% of tail length in both sexes. **Female tail conoid**, arcuate ventrad, **tail terminus with hook-like mucro**; male tail conoid, arcuate ventrad, tail terminus with hook-like mucro.

**Biology:** Amphimictic. So far found in rotting wood in Ukraine, the Netherlands and USA.

**Taxonomy:** Type species: *Panagrolobus vanmegena* Holovachov & Boström, 2006. Single valid species.

1. Holovachov O. & Boström S. (2006). *Panagrolobus vanmegena*, a new genus and species from the Netherlands and Ukraine, with taxonomic revision and two new species of the genus *Teratolobus* Andrassy, 1968 (Nematoda: Cephalobidae). *Nematology* 8: 377-395.



*Cribronema cribrum* Siddiqi, 1993

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## Genus *Cribronema* Siddiqi, 1993

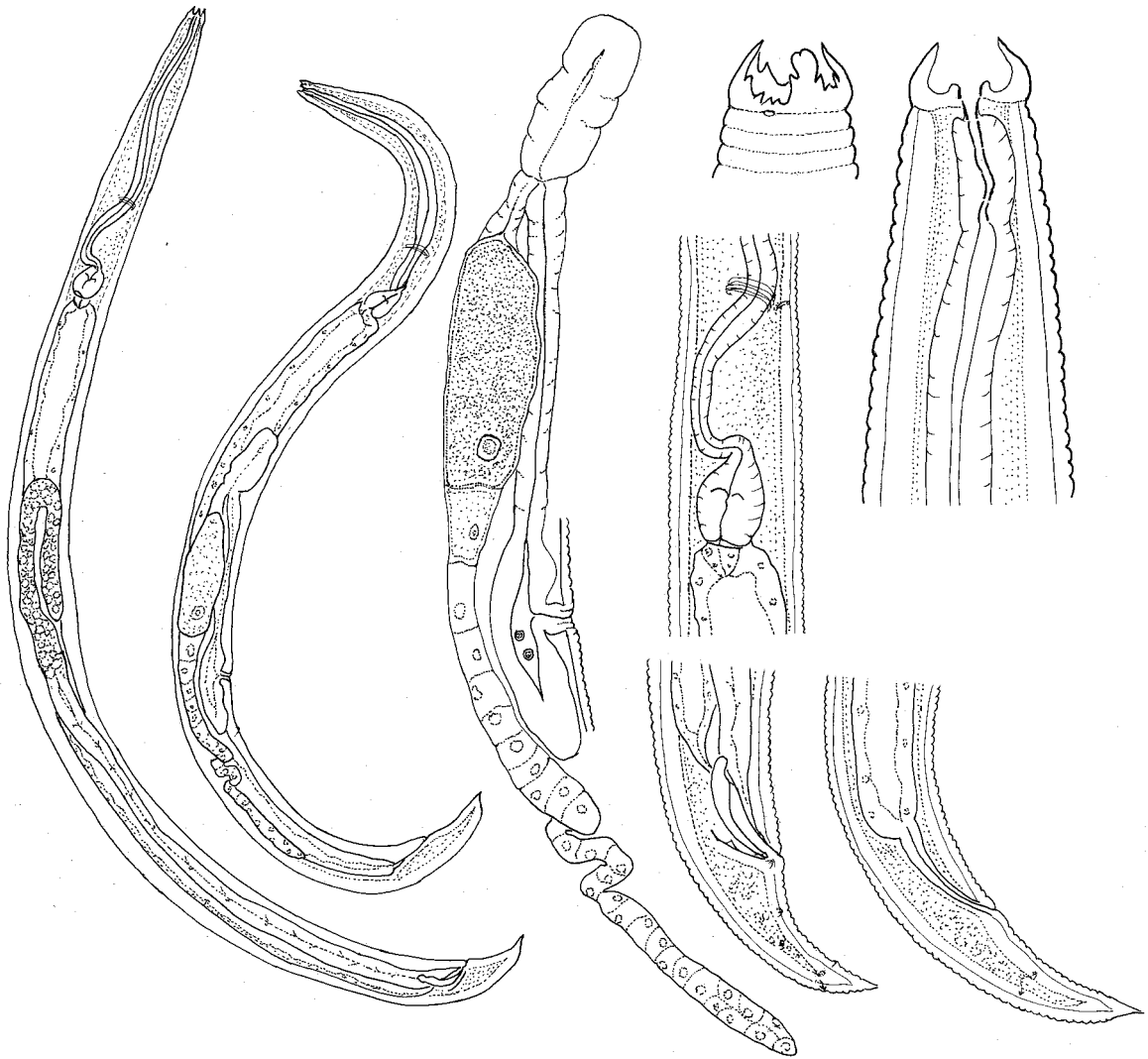
1993 *Cribronema* – Siddiqi, *Afro-Asian Journal of Nematology* 3: 212.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two wings (three incisures); ending at level of phasmids or just posterior to it in females and at base of terminal tail mucro in males. **Lip region weakly offset, crown-shaped, consisting of six leaf-like lips equal in size.** Pairs of lips separated by primary and secondary axils without guarding processes; **U-shaped clefts of axils internally sclerotized. Cephalic probolae trilobed,** with median rectangular lobe and lateral triangular lobes. Labial probolae absent. Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom barrel-shaped, as wide as stegostom, with strongly sclerotized plate-like gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle absent. Pharynx cephaloboid: pharyngeal procorpus and metacarpus; slightly fusiform, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling posterior part of metacarpus. Excretory pore opens at level of nerve ring, at around the level of metacarpus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present but reduced; postvulval uterine sac present; vulva protruding; vagina straight. Male (undescribed) reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum platelike-shaped; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1.5 times longer than anal body diameter). Phasmids located at level of anterior part of tail in females, at around the mid-tail in males. **Female tail conoid, straight, tail terminus with harpoon-shaped mucro;** male tail conoid, arcuate ventrad, tail terminus with harpoon-shaped mucro.

**Biology:** Amphimictic. Known from Cameroon only.

**Taxonomy:** Type species: *Cribronema cribrum* Siddiqi, 1993. Single valid species. Male description is based on unpublished data.

1. Siddiqi, M.R. (1993). Nematodes of tropical rainforests: 2. Five new genera and eight new species of cephalobids. *Afro-Asian Journal of Nematology* 3: 212-225.



*Metacrolobus festonatus* Vinciguerra, 1994

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## Genus *Metacrolobus* Vinciguerra, 1994

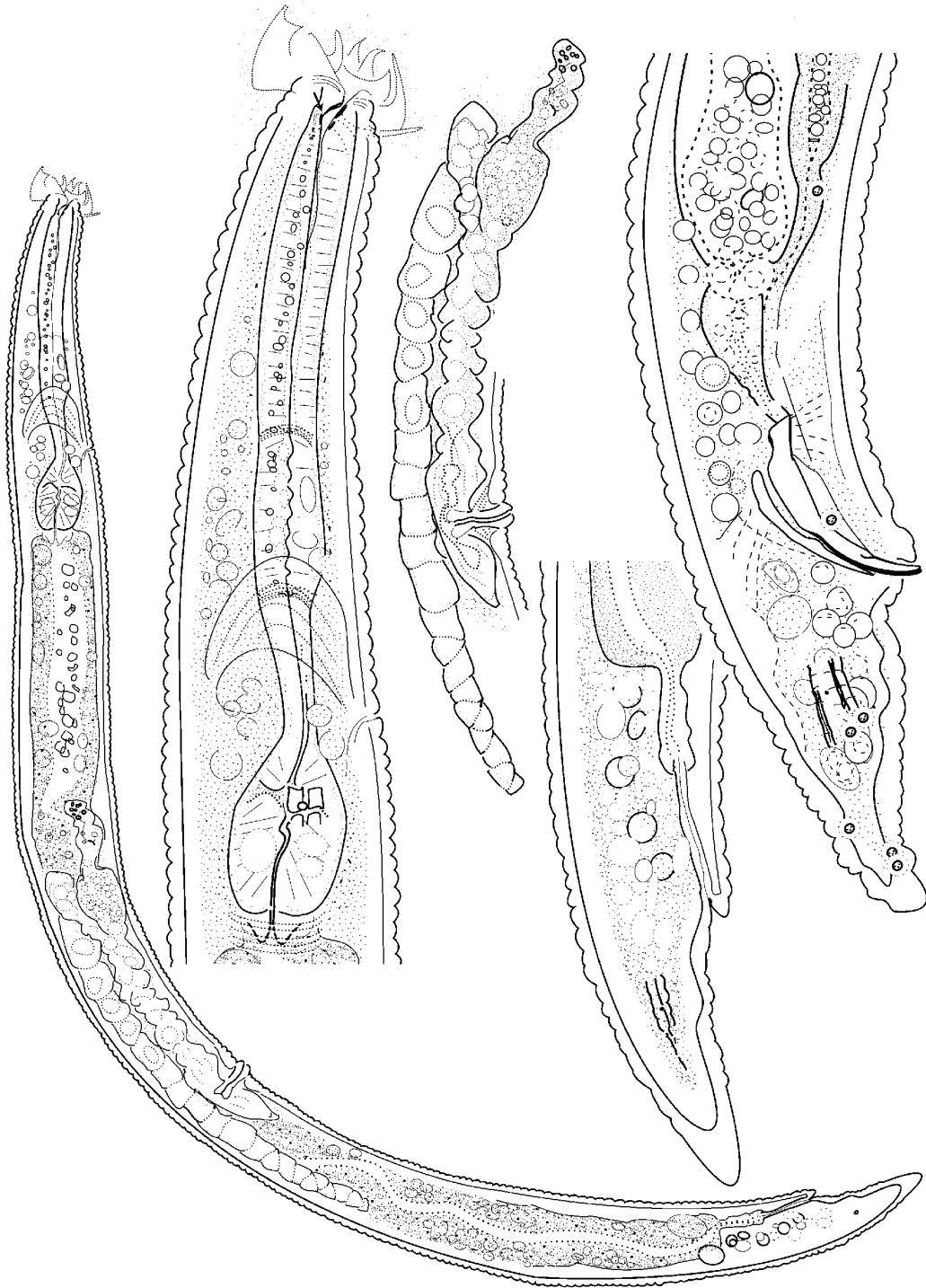
1994 *Metacrolobus* – Vinciguerra, *Fundamental and applied Nematology* 17: 176.

**Morphology:** Cuticle annulated, without distinctly annulated internal layerannuli smooth. Lateral field with two wings (three incisures); ending at posterior third of tail in females and at base of tail terminus in males. **Lip region strongly offset, crown-shaped, consisting of tree leaf-like cephalic probolae which correspond to completely fused lip pairs:** one dorsal and two subventral. Pairs of lips separated by wide primary axils without separate guarding processes; secondary axils absent. **Cephalic probolae with ten (dorsal) and six (subventral) wide conoid or oval tines.** Labial probolae absent. Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom barrel-shaped, as wide as stegostom, with strongly sclerotized plate-like gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle absent. Pharynx cephaloboid: pharyngeal procorpus and metacarpus cylindrical; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling posterior part of metacarpus. Excretory pore opens at level of nerve ring, at around the level of metacarpus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary with double flexure; spermatheca present; postvulval uterine sac present; vulva flat; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum wedge-shaped; *cornua crurum* present. Male genital papillae: three ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1.5 times longer than anal body diameter). Phasmids located at around mid-tail in both sexes. **Female tail conoid**, arcuate ventrad, tail terminus finely rounded; male tail conoid, arcuate ventrad, tail terminus finely rounded.

**Biology:** Amphimictic. Single known population was described from Tierra del Fuego, Chile.

**Taxonomy:** Type species: *Metacrolobus festonatus* Vinciguerra, 1994. Single valid species.

1. Vinciguerra, M.T. (1994) *Metacrolobus festonatus* gen. n. sp. n. and *Scottinema lindsayae* Timm, 1971 (Nemata: Cephalobidae) from Subantarctic and Antarctic regions with proposal of the new subfamily Metacrolobinae. *Fundamental and applied Nematology* 17: 175-180.



*Acromoldavicus mojavicus* Baldwin *et al.*, 2001

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## Genus *Acromoldavicus* Nesterov, 1970

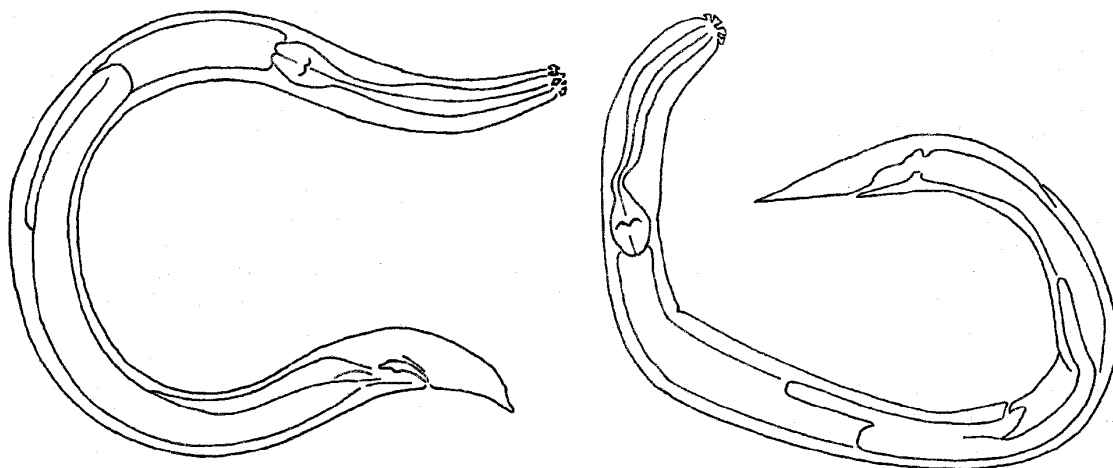
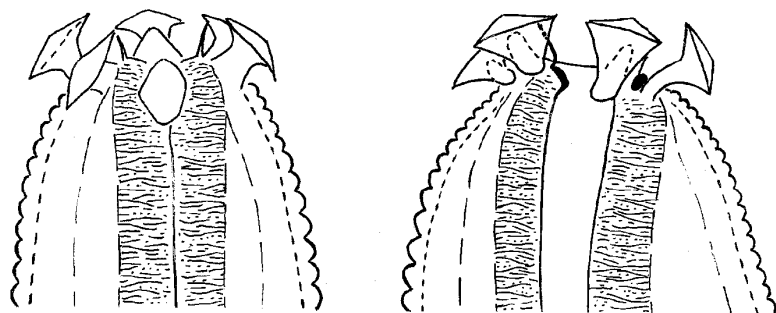
1970 *Acromoldavicus* – Nesterov, RIO Akademii Nauk Moldavskoj SSR5: 134-138.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; **annuli with longitudinal incisures** (tessellated). Lateral field with two wings (three incisures); ending at tail terminus in females and in males. Lip region strongly offset, **bilaterally symmetrical and ventrally inclined**, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by primary axils with single arcuate triangular guarding processes; secondary axils undeveloped. **Midventral guarding process symmetrical, almost as large and clearly separated from the subventral lips, dorsosublateral guarding processes asymmetrical and arising from the middle part of each lateral lip. Each lip consists of a short column-like base and a triangular top extending into one or two pointed cephalic probolae. Labial probolae petal-shaped, triangular.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma: **cheilostom and gymnostom undeveloped**; stegostom tubular with only two sets of rhabdia clearly developed. Metastomatal denticle absent. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus slightly fusiform; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling isthmus. Excretory pore opens at level of nerve ring, at level of isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva flat; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum boat-shaped; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1.5-2 times longer than anal body diameter). Phasmids located at around mid-tail in both sexes. **Female tail conoid**, straight, tail terminus finely rounded; male tail conoid, arcuate ventrad, tail terminus finely rounded.

**Biology:** Amphimictic. One species found in Mediterranean and Ponto-Caspian regions, another species found in SW USA. Single specimen was found in samples from Australia (unpublished).

**Taxonomy:** Type species: *Acromoldavicus skrjabini* (Nesterov & Lisetskaya, 1965) Nesterov, 1970. Two valid species.

1. Baldwin, J.G., De Ley, I.T., Mundo-Ocampo, M., De Ley, P., Nadler, S. & Gebre, M. (2001) *Acromoldavicus mojavicus* n. sp. (Nematoda: Cephaloboidea) from the Mojave Desert, California. *Nematology* 3: 343-353.



*Kirjanovia discoidea* Ivanova, 1969

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## Genus *Kirjanovia* Ivanova, 1969

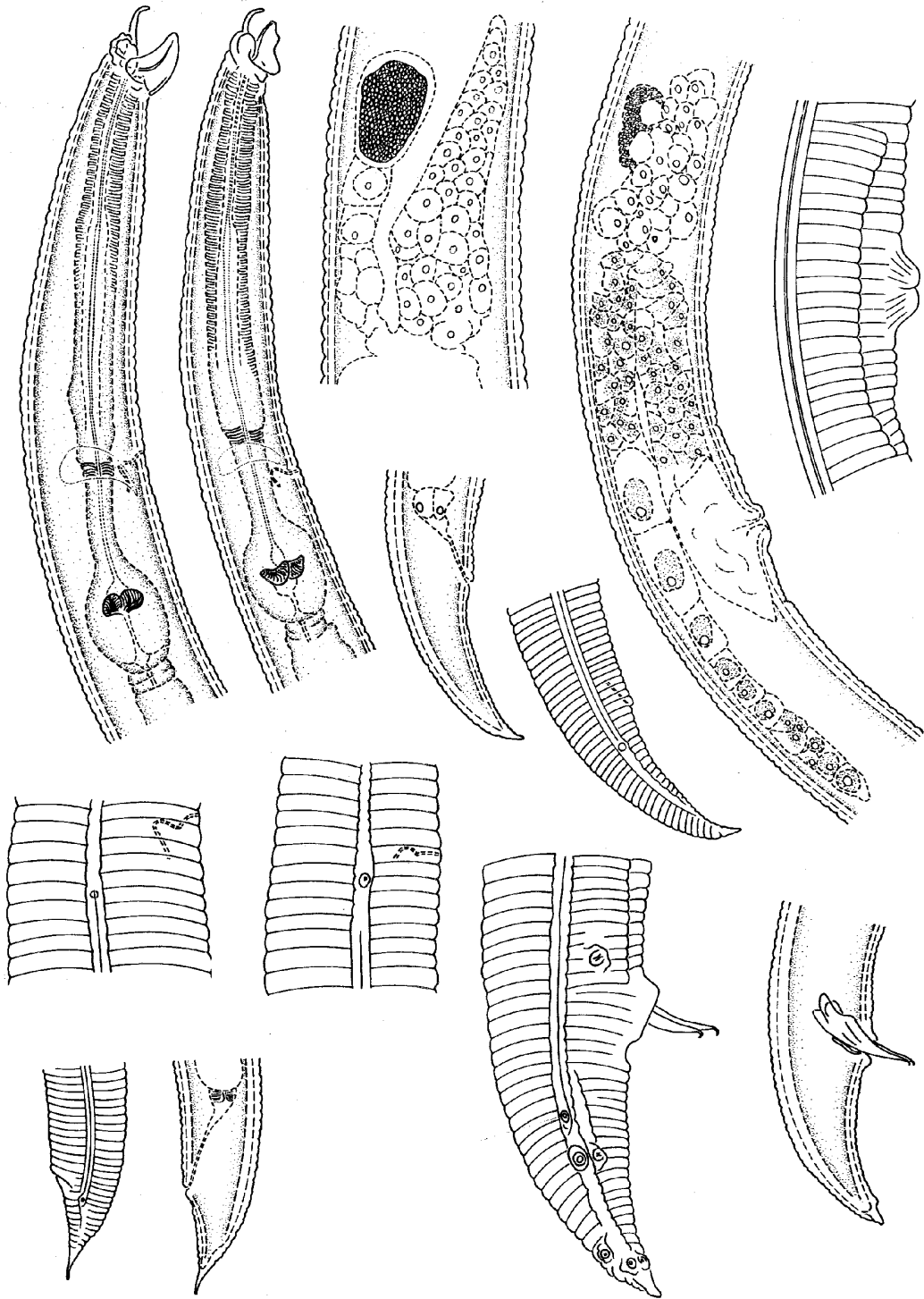
1969 *Kirjanovia*– Ivanova, Doklady Akademii Nauk Tadzhikskoi SSR 12: 64-66.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; **annuli with longitudinal incisures** (tessellated). Lateral field with two wings (three incisures); ending at tail terminus in females and in males. Lip region strongly offset, **bilaterally symmetrical and ventrally inclined**, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Guarding processes obscure. **Each lip consists of a short column-like base and a triangular top. Labial probolae petal-shaped, triangular.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma: **cheilostom and gymnostom undeveloped; stegostom tubular.** Metastomatal denticle absent. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus slightly fusiform, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling isthmus. Excretory pore opens at level of nerve ring, at level of isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva flat; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum boat-shaped; cornua crurum absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1.5-2 times longer than anal body diameter). Phasmids located at around mid-tail in both sexes. **Female tail conoid**, straight, tail terminus finely rounded; male tail conoid, arcuate ventrad, tail terminus finely rounded.

**Biology:** Amphimictic. Known from the type population only.

**Taxonomy:** Type species: *Kirjanovia discoidea* Ivanova, 1969. Single valid species.

1. Susulovsky A., Boström S. & Holovachov O. (2001). Description of *Acromoldavicus skrjabini* (Nesterov & Lisetskaya, 1965) Nesterov, 1970 from Israel and the Ukraine, and redescription of *Kirjanovia discoidea* Ivanova, 1969 (Cephalobina, Elaphonematidae). *Journal of Nematode Morphology and Systematics* 3 (2000): 151-163.



*Elaphonema karoense* Van den Berg, Meyer & Heyns, 1986

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## Genus *Elaphonema* Heyns, 1962

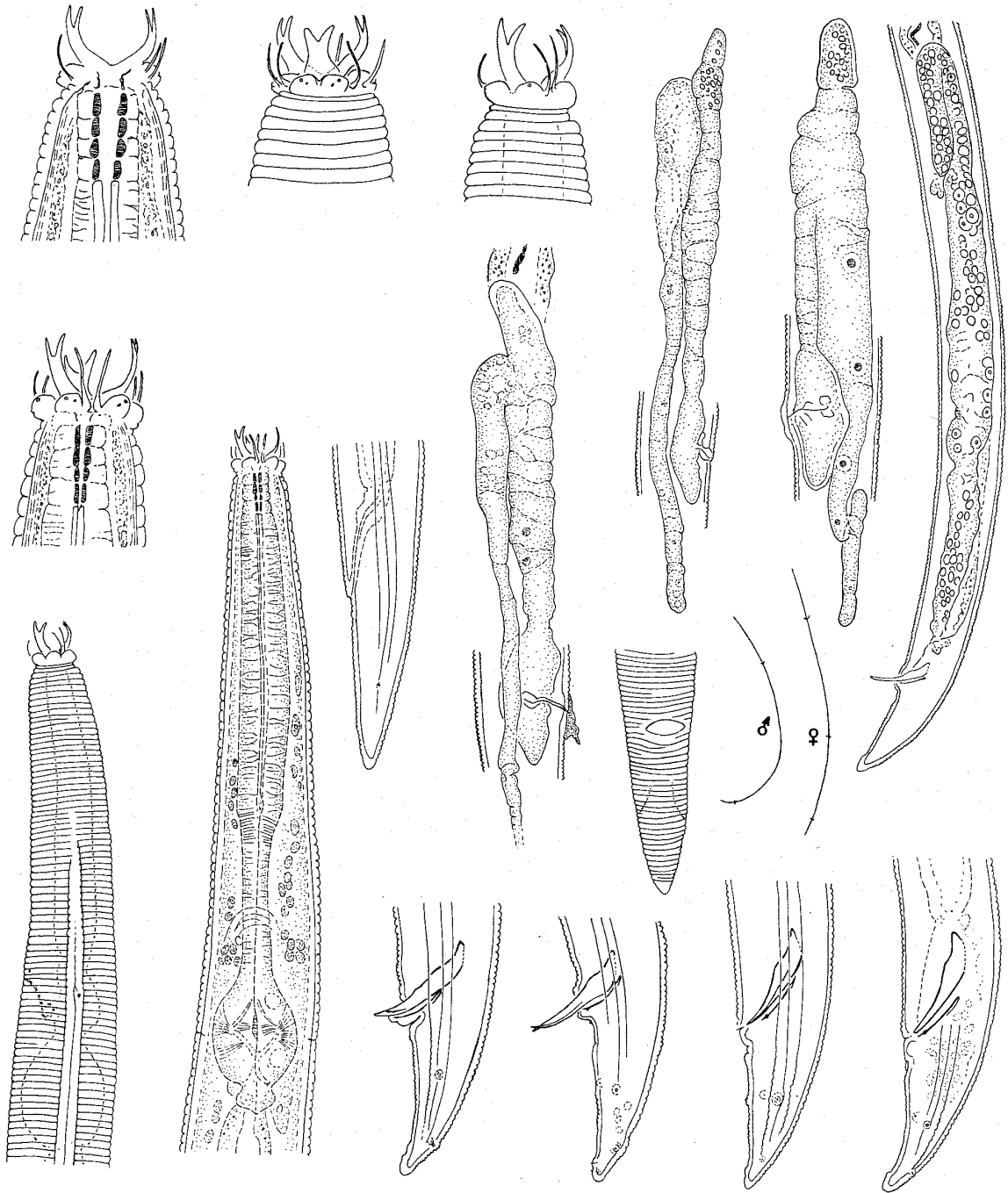
1962 *Elaphonema* – Heyns, Proceedings of the Helminthological Society of Washington 29: 128-130.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; **annuli with longitudinal incisures** (tessellated). Lateral field with two wings (three incisures); ending at tail terminus in females and in males. Lip region strongly offset, **bilaterally symmetrical: dorsal digitate or spatula-like projection is located between two subdorsal lobes** (? subdorsal lips), **two lateral petal-like flaps each located in the lateral body sector between respective subdorsal and subventral lobes** (? subventral and subdorsal lips) on each body side. Each of four lobes is further “armed” with long setiform “probolae” directed inward towards the oral opening. Only four cephalic papilliform sensilla seen, arranged on two subdorsal and two subventral lobes. Amphid never described. Stoma divided into cheilo-, gymno- and stegostom: cheilostom wide and bilaterally symmetrical with the dorsal projection being part of it; gymnostom short, as wide as stegostom, gymnorhabdia undeveloped; stegostom very long, consists of a tubular pro-, meso-, meta- and telostomatal parts. Metastomatal denticle absent. Pharynx cephaloboid: pharyngeal procorpus cylindrical; **metacarpus bulb-like**; lumen with more distinct cuticular lining than the procorpus; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling the anterior part of isthmus. Excretory pore opens at around the level of nerve ring, at the level of posterior part of procorpus or at metacarpus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva protruding or located in a depression surrounded by cuticular fold; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with corpus clearly wider than manubrium and hook-like tips; gubernaculum platelike; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1.5 times longer than anal body diameter). Phasmids located at level or somewhat posterior to anal opening in females, at around the mid-tail in males. **Female tail conoid**, arcuate ventrad, tail terminus finely or bluntly rounded; male tail conoid, arcuate ventrad, tail terminus finely or bluntly rounded.

**Biology:** Amphimictic. So far species described only from South Africa. Two undescribed populations are known from Angola and Kenya.

**Taxonomy:** Type species: *Elaphonema mirabile* Heyns, 1962. Six valid species.

1. Van den Berg, E. (1988). Further studies of the genus *Elaphonema* in South Africa with descriptions of two new species (Nematoda: Rhabditida). *Phytophylactica* 20: 1-10.
2. Van den Berg, E., Meyer, A.J. & Heyns, J. (1986). Two new *Elaphonema* species from the Cape province (Nematoda: Rhabditida). *Phytophylactica* 18: 81-89.



*Chiloplacoides antarcticus* Heyns, 1994

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## Genus *Chiloplacoides* Heyns, 1994

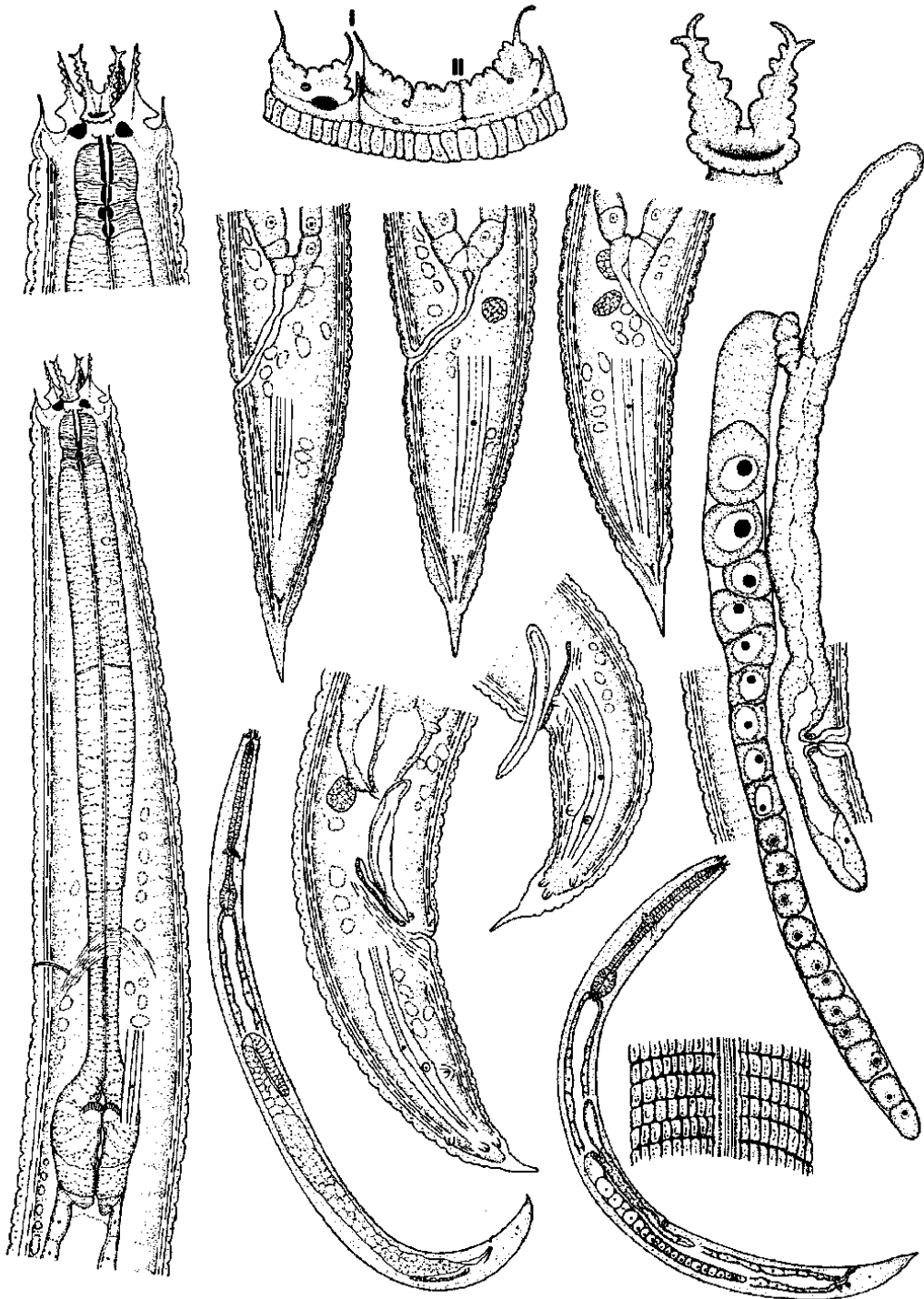
1994 *Chiloplacoides* – Heyns, *Fundamental and applied Nematology* 17: 333.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two wings (three incisures); ending at level of phasmids in females with middle incisure extending to tail tip and near tail terminus in males. Lip region strongly offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by **primary axils with two long setiform guarding processes**; secondary axils undeveloped. **Cephalic probolae absent. Labial probolae elongate-conoid with broad basis, bifurcated at about one-third of their length forming two slender prongs.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with weak cheilorhabdia; gymnostom cylindrical, as wide as stegostom, with weakly sclerotized plate-like gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle absent. Pharynx cephaloboid: pharyngeal procorpus and metacarpus cylindrical, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling middle part of isthmus. Excretory pore opens at level of nerve ring, at the level of isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight or with double flexure; spermatheca present; postvulval uterine sac present; vulva flat; vagina straight. Copulatory plug often present. Male reproductive system cephaloboid; spicules cephaloboid with corpus clearly wider than manubrium; gubernaculum plate-like; *cornua crurum* absent. Male genital papillae: no ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum medium-length (~1.5 times longer than anal body diameter). Phasmids located at around mid-tail in both sexes. **Female tail conoid**, straight, tail terminus bluntly rounded; male tail conoid, arcuate ventrad, tail terminus bluntly rounded.

**Biology:** Amphimictic. Known from two findings in continental Antarctica.

**Taxonomy:** Type species: *Chiloplacoides antarcticus* Heyns, 1994. Single valid species.

1. Heyns, J. (1994). *Chiloplacoides antarcticus* n. gen., n. sp. from western Dronning Maud Land, Antarctica (Nematoda: Cephalobidae). *Fundamental and applied Nematology* 17: 333-338.



*Nothacrobeles lanceolatus* Abolafia & Peña-Santiago, 2003

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## Genus *Nothacrobeles* Allen et Noffsinger, 1971

1971 *Nothacrobeles* – Allen & Noffsinger, *Journal of Nematology* 3: 145-153.

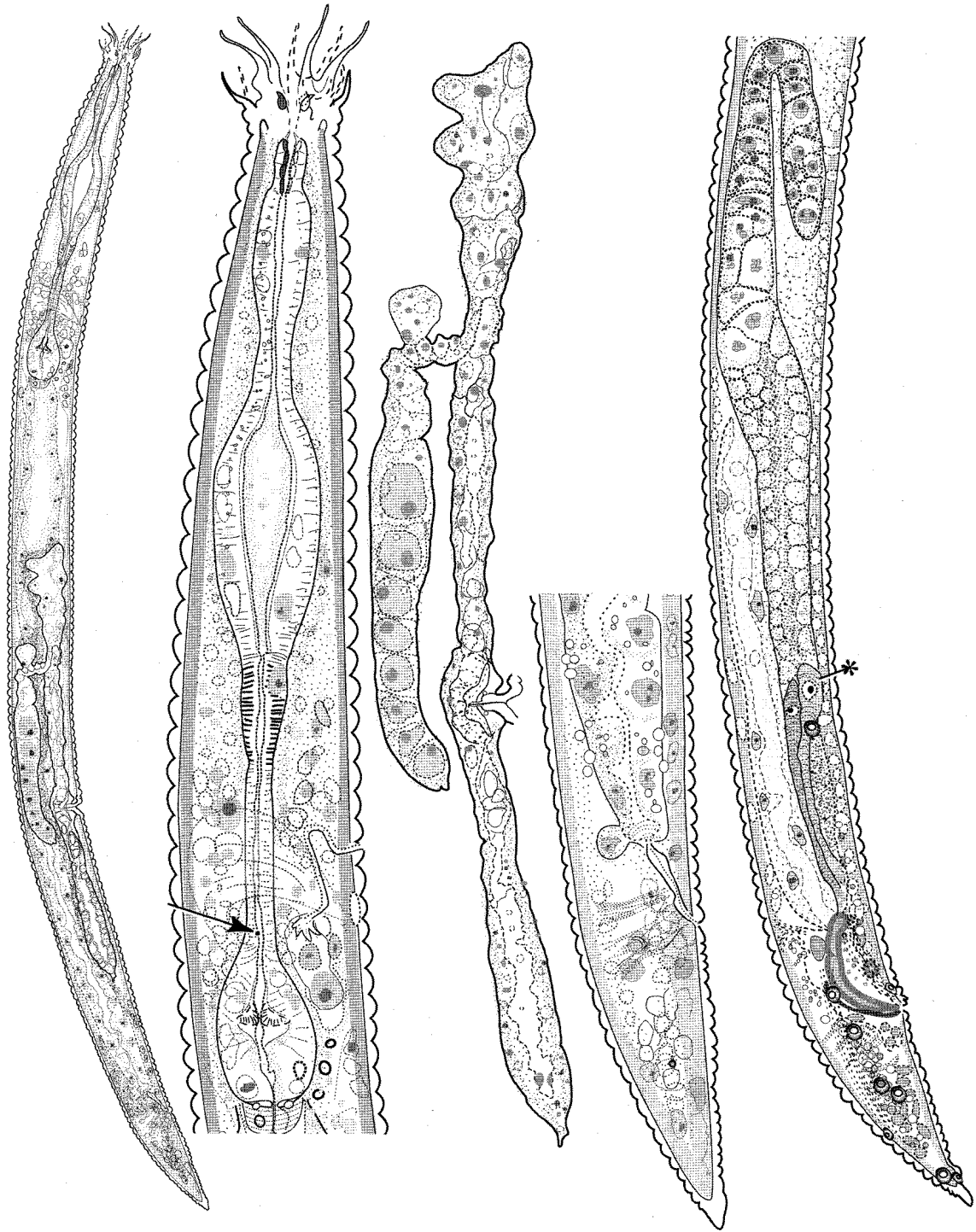
1990 *Namibinema* – Rashid & Heyns, *Phytophylactica* 22: 397 (op Shahina & De Ley, 1997)

**Morphology:** Cuticle annulated, with or without distinctly annulated internal layer; annuli smooth or with longitudinal striations (tessellated), with rows of dots in some species. Lateral field with two-four wings (three-five incisures); ending at level of phasmids or just posterior to it in females and at base of terminal tail mucro in males. Lip region strongly offset, consisting of six globular or triangular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by **primary axils with two arcuate triangular guarding processes**; secondary axils narrow. **Cephalic probolae with two or more tines of different shape. Labial probolae disk-shaped to elongate-conoid with basal ridge or swelling, usually bifurcated and often with numerous tines along the edge.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom barrel-shaped, as wide as stegostom, with weakly or strongly sclerotized plate-like gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle present or absent. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus slightly fusiform; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling isthmus. Excretory pore opens at level of nerve ring, at the level of isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight or with double flexure; spermatheca present; postvulval uterine sac present; vulva flat or in a depression; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum plate-like; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1-1.5 times longer than anal body diameter). Phasmids located at level of anterior part of the tail in females, at around mid-tail in males. **Female tail conoid**, straight, tail terminus finely rounded; male tail conoid, arcuate ventrad, tail terminus finely rounded.

**Biology:** Amphimictic. Distributed worldwide except for Antarctica.

**Taxonomy:** Type species: *Nothacrobeles sheri* Allen & Noffsinger, 1971. Fifteen valid species and one species of uncertain taxonomic status.

1. Abolafia, J. & Peña-Santiago, R. (2003). Nematodes of the Order Rhabditida from Andalucía Oriental, Spain. The Genera *Nothacrobeles* Allen & Noffsinger, 1971 and *Zeldia* Thorne, 1937. *Journal of Nematology* 35: 233–243.



*Paracrobeles mojavicus* Taylor, Baldwin & Mundo-Ocampo, 2004

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## Genus *Paracrobeles* Heyns, 1968

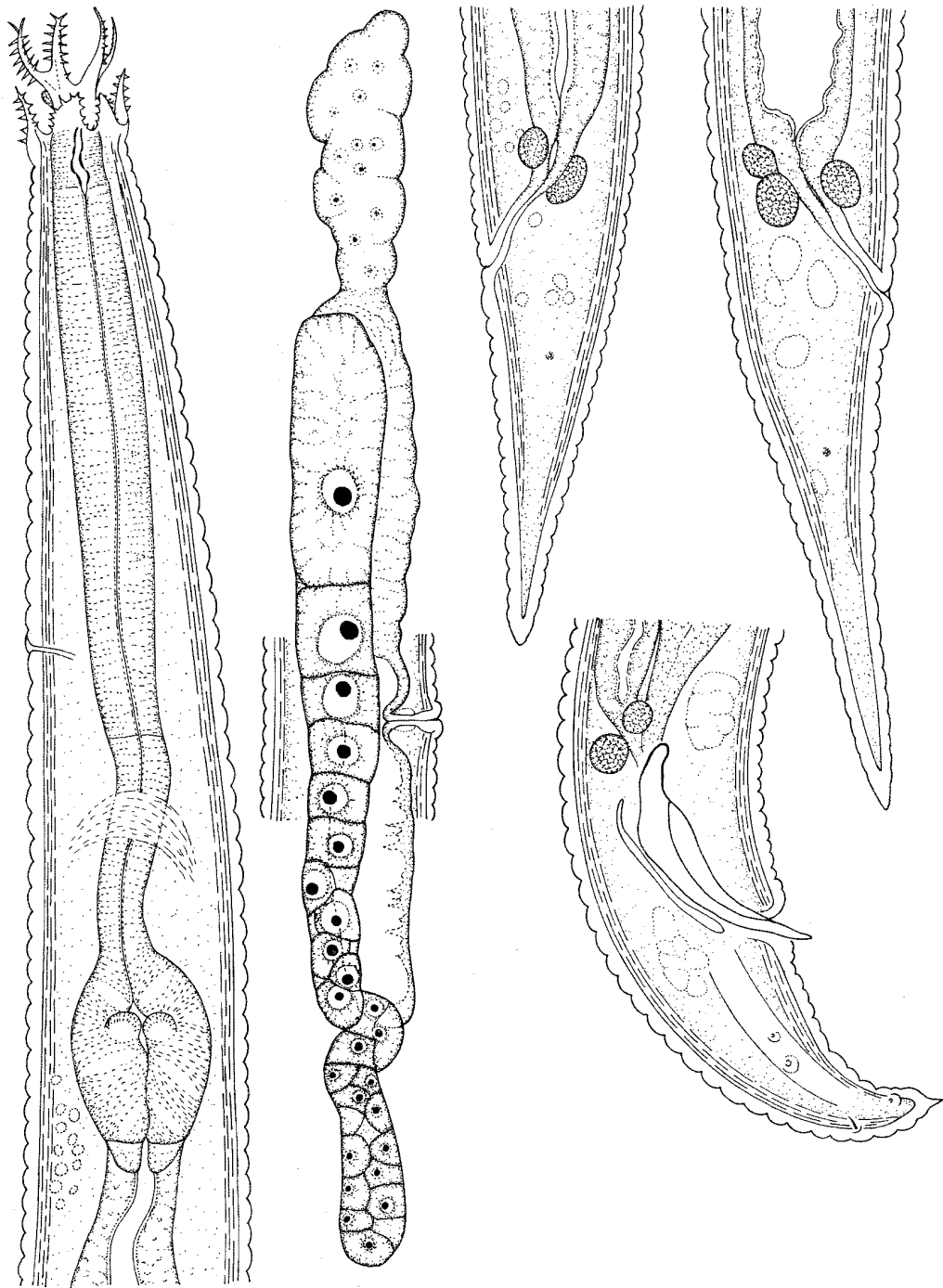
1968 *Paracrobeles* – Heyns, *Nematologica* 14: 511.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli with longitudinal striation (tessellated). Lateral field with two wings (three incisures); ending at near tail terminus in females and in males. Lip region weakly offset, consisting of six lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by **primary axils with two acute triangular guarding processes**; secondary axils shallow. **Cephalic probolae with four long and slender tines. Labial probolae deeply bifurcate without tines along the slender prongs.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom narrow tubular, as wide as stegostom, with weakly sclerotized plate-like gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle absent. Pharynx cephaloboid: pharyngeal procorpus cylindrical; **metacarpus expanded and fusiform; lumen of metacarpus often expanded to a large triradiate chamber with seemingly sclerotized lining**; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling anterior part of isthmus. Excretory pore opens at level of nerve ring, at level of isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight and relatively short; spermatheca present; postvulval uterine sac present; vulva flat or in a depression; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid, with corpus and manubrium of approximately equal width; gubernaculum platelike; cornua crurum absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located just posterior to cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (as long as anal body diameter). Phasmids located at level around the mid-tail in females, at around the mid-tail in males. **Female tail conoid**, straight, tail terminus finely rounded; male tail conoid, arcuate ventrad, tail terminus finely rounded.

**Biology:** Amphimictic. Distributed in South Africa, Mediterranean (Spain, Italy) and in SW USA (California).

**Taxonomy:** Type species: *Paracrobeles laterellus* Heyns, 1968. Three valid species.

1. Taylor, T.M., Baldwin, J.G. & Mundo-Ocampo, M. (2004). *Paracrobeles mojaviensis* sp. n. (Nematoda: Cephalobidae) from the Mojave Desert, California. *Journal of Nematode Morphology and Systematics* 6 (2003): 151-160.



*Acrobeles ciliatus* von Linstow, 1877

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## Genus *Acrobeles* von Linstow, 1877

1877 *Acrobeles* – von Linstow, Archiv für Naturgeschichte 43, 1-18.

1985 *Seleborca* – Andrásy, Opuscula Zoologica Budapestinensis 19-20, 3-39.

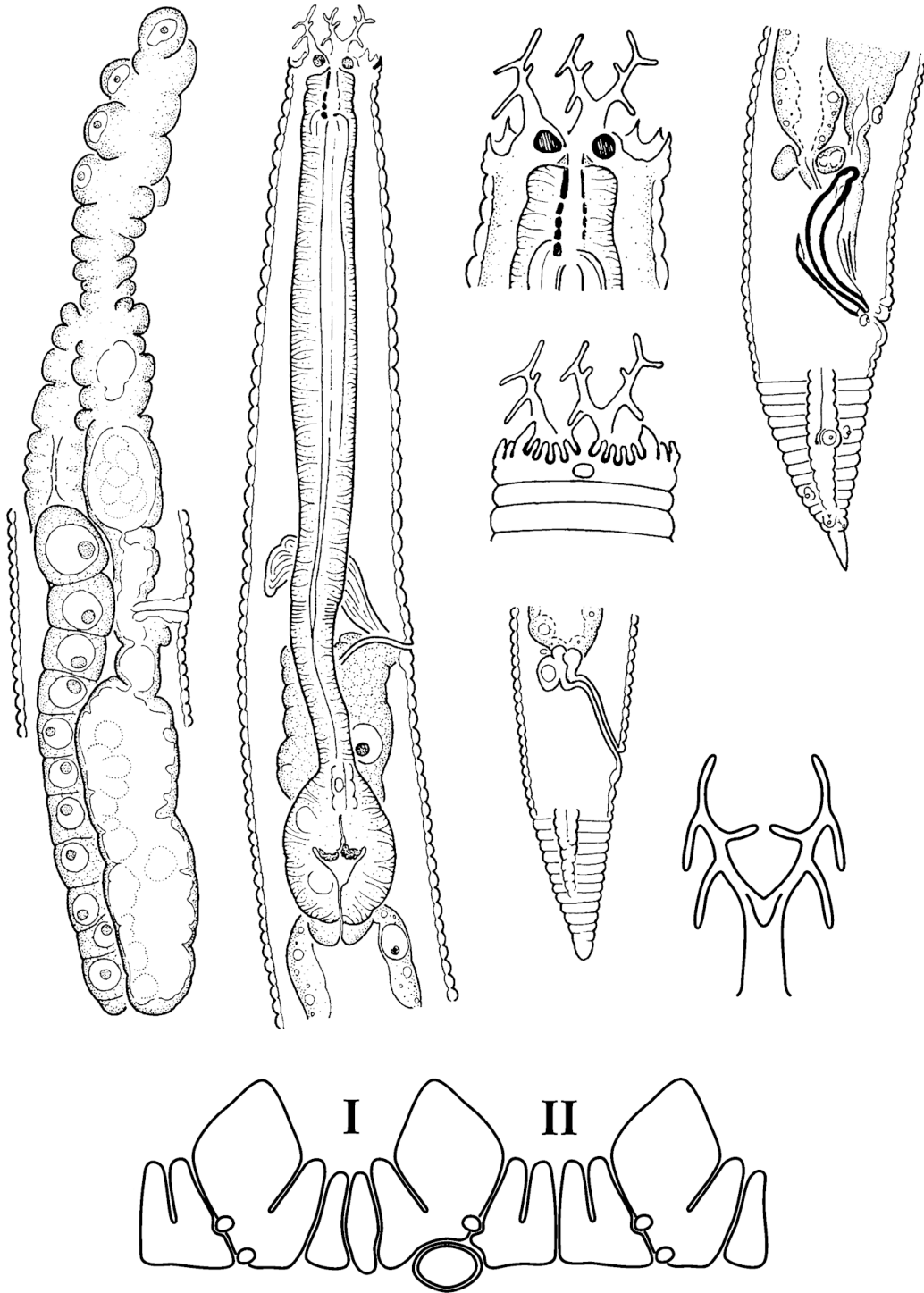
2004 *Acrobeles* – Abolafia & Peña-Santiago, Journal of Nematode Morphology and Systematics 6: 103-128.

**Morphology:** Cuticle annulated, with or without distinctly annulated internal layer; annuli smooth or with longitudinal striations (tessellated), with rows of dots in some species. Lateral field with one-three wings (two-four incisures); ending at level of phasmids or just posterior to it in females and at base of terminal tail mucro in males. Lip region strongly offset, consisting of six triangular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by **primary axils with two arcuate triangular guarding processes** and **secondary axils also with two arcuate triangular guarding processes**. **Cephalic probolae with numerous triangular tines of different length. Labial probolae elongate, deeply bifurcated and with at least seven pairs of tines along the edge of the prongs.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture circular, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom tubular, as wide as stegostom, with strongly sclerotized plate-like gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle present or absent. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus slightly fusiform, lining of procorpus and metacarpus are of same thickness, corpus lumen often preserved in expanded state; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling isthmus. Excretory pore opens at level of procorpus, metacarpus or isthmus depending on the species. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight or with double flexure; spermatheca present; postvulval uterine sac present; vulva flat or in a depression; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width, or corpus wider than manubrium; gubernaculum plate-like; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1-1.5 times longer than anal body diameter). Phasmids located at level of anterior part of the tail in females, in some species just posterior to anal opening, at around mid-tail in males. **Female tail conoid or elongate-conoid**, straight, tail terminus bluntly or finely rounded; male tail conoid, arcuate ventrad, tail terminus finely rounded.

**Biology:** Amphimictic or parthenogenetic. Distributed worldwide except for Antarctica.

**Taxonomy:** Type species: *Acrobeles ciliatus* von Linstow, 1877. Thirty two valid species and five species of uncertain taxonomic status.

1. Abolafia, J. & Peña-Santiago, R. (2004). Nematodes of the order Rhabditida from Andalucía Oriental, Spain. The genus *Acrobeles* von Linstow, 1877 with description of *A. andalusicus* sp. n. and a key to species. *Journal of Nematode Morphology and Systematics* 6 (2003): 103-128.
2. Ebrahim Shokoohi, E., Abolafia, J. & Zad, J. (2007). Nematodes of the order Rhabditida from Tehran province, Iran. The genus *Acrobeles* von Linstow, 1877 with description of *A. iranicus* sp. n. *Nematology* 9: 459-481.



*Cervidellus cervus* (Thorne, 1935) Thorne, 1937

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## Genus *Cervidellus* Thorne, 1937

1937 *Cervidellus* – Proceedings of the Helminthological Society of Washington 4: 1-16.

1984 *Ypsylonellus* – Andrásy, Klasse Nematoda: 194 (op. Boström & De Ley, 1996).

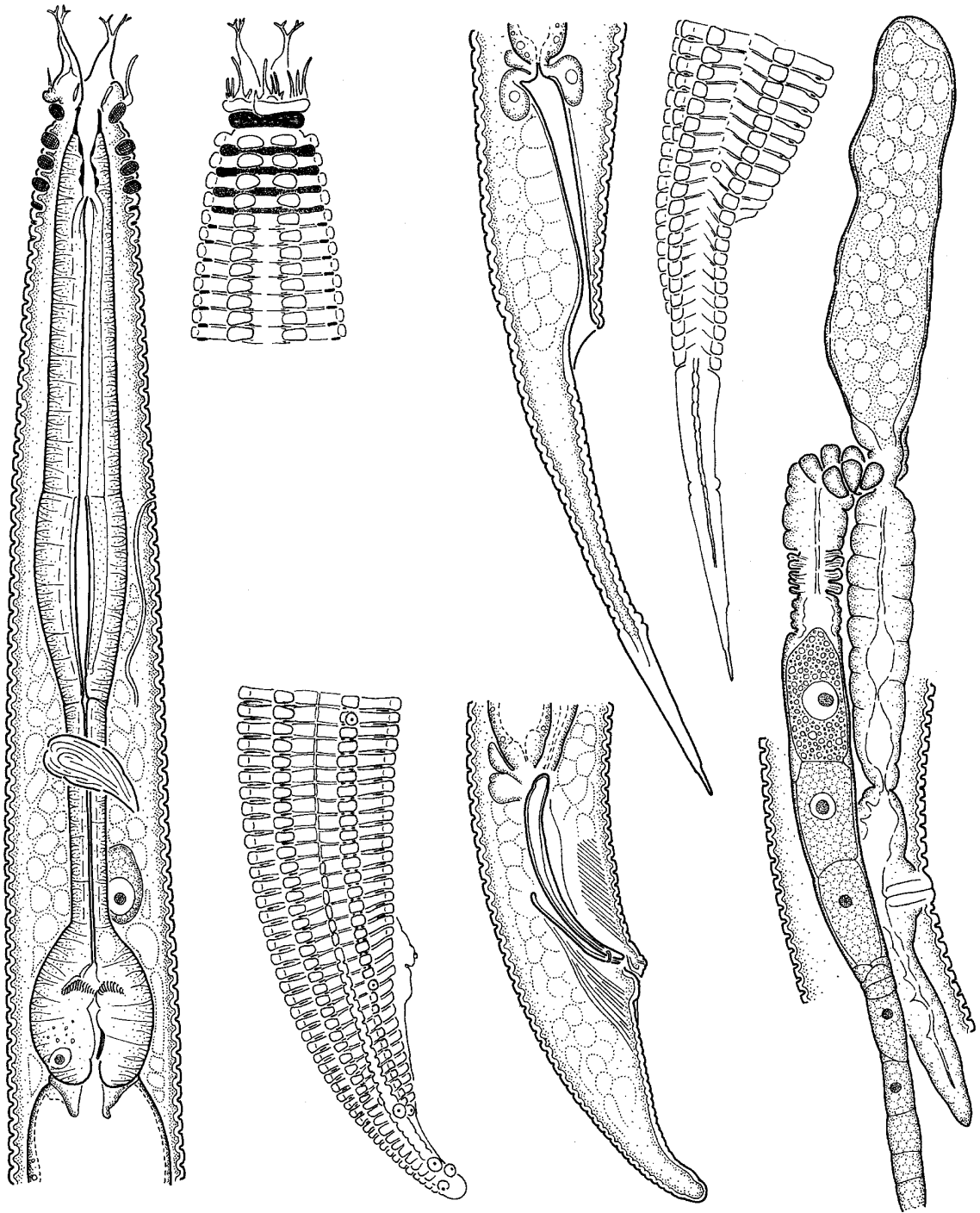
1993 *Triligulla* – Siddiqi, Afro-Asian Journal of Nematology 3: 213 (op. Shahina & De Ley, 1997).

**Morphology:** Cuticle annulated, with or without distinctly annulated internal layer; annuli smooth or with longitudinal striations (tessellated). Lateral field with two-three wings (three-four incisures); ending at level of phasmids or just posterior to it in females and at base of terminal tail mucro in males. Lip region strongly offset, consisting of six triangular lips that are completely separate or arranged in mirror-image pairs. Lips separated by **primary axils with two arcuate triangular guarding processes; secondary axils with or without guarding processes. Cephalic probolae with three-nine tines of different shape**, symmetrical (three or four tines) or asymmetrical. **Labial probolae elongate-conoid without basal ridge, not furcated, or bifurcated and often with secondary furcation**, with lateral tines in one species. Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture slit-shaped, rounded or circular, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom barrel-shaped, as wide as stegostom, with strongly sclerotized plate-like gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle present or absent. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus slightly fusiform; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling posterior part of metacarpus of isthmus. Excretory pore opens at level of nerve ring, at the level of posterior part of metacarpus or isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight or with double flexure; spermatheca present; postvulval uterine sac present; vulva flat or protruding; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum plate-like; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1-1.5 times longer than anal body diameter). Phasmids located at level of anterior part of the tail in females, at around mid-tail in males. **Female tail conoid**, straight, tail terminus finely rounded; male tail conoid, arcuate ventrad, tail terminus finely rounded.

**Biology:** Amphimictic or parthenogenetic. Several probable sibling species pairs exist of which one species is amphimictic and the other parthenogenetic (e.g. *C. vexilliger* vs. *C. neftasiensis*). Distributed worldwide including Antarctica.

**Taxonomy:** Type species: *Cervidellus cervus* (Thorne, 1925) Thorne, 1937. Thirteen valid species and four species of uncertain taxonomic status.

1. Abolafia, J., Holovachov, O., Boström, S. & Peña-Santiago, R. (2004). Nematodes of the order Rhabditida from Andalucía Oriental, Spain. The genus *Cervidellus* Thorne, 1937 with additional data on *C. hamatus* Thorne, 1937. *Nematology* 5 (2003): 753-776.
2. Holovachov, O., Mundo-Ocampo, M., Boström, S. & Bumbarger, D. 2007. Three known species of the genus *Cervidellus* Thorne, 1937 (Rhabditida: Cephalobidae) from the south-western part of North America. *Journal of Nematode Morphology and Systematics* 10: 49-61.



*Penjatinema novaeseelandiae* Holovachov *et al.*, 2009

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## Genus *Penjatinema* Heyns & Swart, 1998

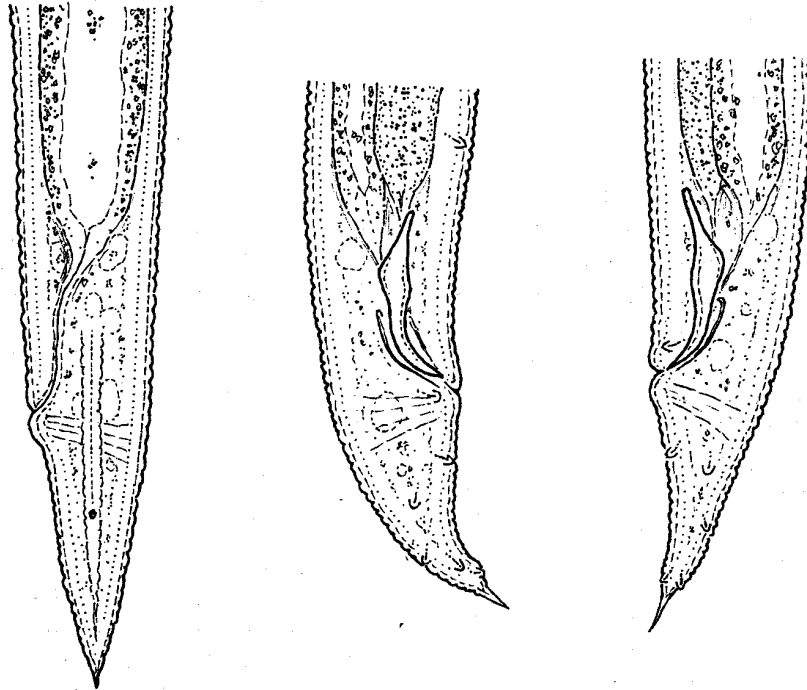
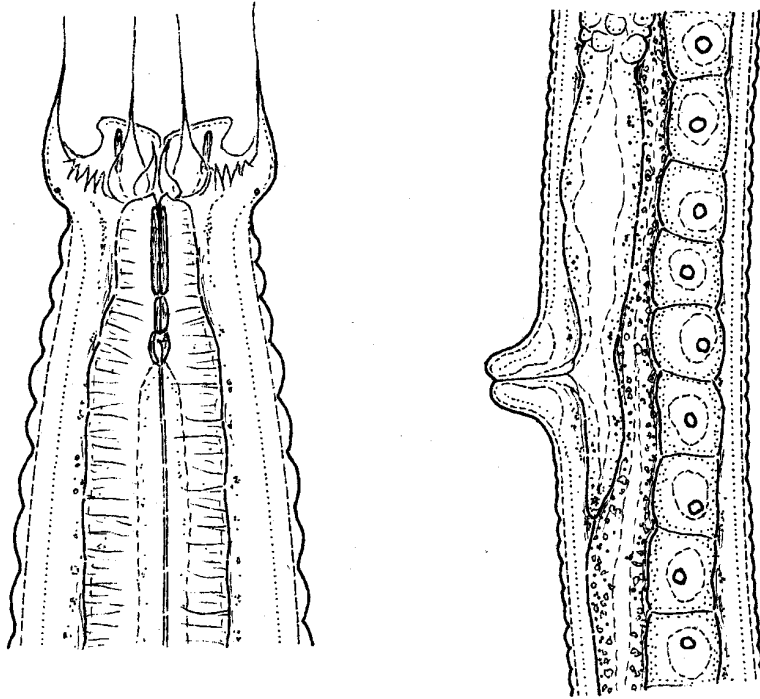
1998 *Penjatinema* – Heyns & Swart, *Nematologica* 44: 381-390.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Cuticle strongly sclerotized between annuli over most of the body, except the posterior part of tail. A refractive ring with a distinct granulated texture on the surface demarcates the base of the labial region. **Cuticle bearing eight conspicuous, protruding, longitudinal ridges** starting on the first annulus and extending posteriorly to midtail in females and almost to tail tip in males; are arranged as follows: two subdorsal, two subventral, and two sublateral on each lateral body side, additional ridges in dorso- or ventrosublateral body sectors may be present in *P. novaeseelandiae*. Lateral field (as characteristic for Cephalobidae) is absent over most of the body: in *P. natalense* it is strongly developed in both females and males, but morphologically similar to the longitudinal ridges; in *P. novaeseelandiae* it is restricted to the posterior part of the tail in females and to the cloacal and caudal region in males. Lip region strongly offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by **primary axils with two triangular guarding processes**; secondary axils undeveloped. **Cephalic probolae with four long and slender tines with the longest one flanking the primary axil. Labial probolae elongate-conoid with broad basis, bifurcated at about two-thirds of their length forming two slender prongs, each further bifurcated apically.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom broadly funnel-shaped with weakly developed rhabdia; gymnostom barrel-shaped, with strongly sclerotized gymnorrhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle not observed. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus fusiform, with more distinct cuticular lining than the procorpus and somewhat expanded lumen in some specimens; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling isthmus. Excretory pore opens anterior to nerve ring, at around the level of procorpus-metacarpus junction. Deirids present in *P. natalense*, absent in *P. novaeseelandiae*. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva in a depression; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum wedge-shaped; cornua crurum absent. Male genital papillae: two ventrosublateral pairs located on the respective ventrosublateral ridges anterior to cloaca; one ventrosublateral pair located on the ventrosublateral ridge just posterior to cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum long (>2-3 times longer than anal body diameter). Phasmids located at level or anterior to anal opening in females, at around the mid-tail in males. **Female tail conoid**, straight, tail terminus finely rounded; male tail conoid, arcuate ventrad, tail terminus rounded.

**Biology:** Amphimictic. Inhabit coastal sand dunes, found in South Africa and in New Zealand.

**Taxonomy:** Type species: *Penjatinema natalense* Heyns & Swart, 1998. Two valid species.

1. Holovachov, O., Boström, S., Tandingan De Ley, I., Nadler S.A. & De Ley, P. (2009). Description of *Penjatinema novaeseelandiae* sp. n. (Rhabditida: Cephalobidae) from New Zealand – a second species of a rare genus. *Journal of Nematode Morphology and Systematics*: 12: 7-18.



*Scottnema lindsayae* Tim, 1971

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## Genus *Scottnema* Timm, 1971

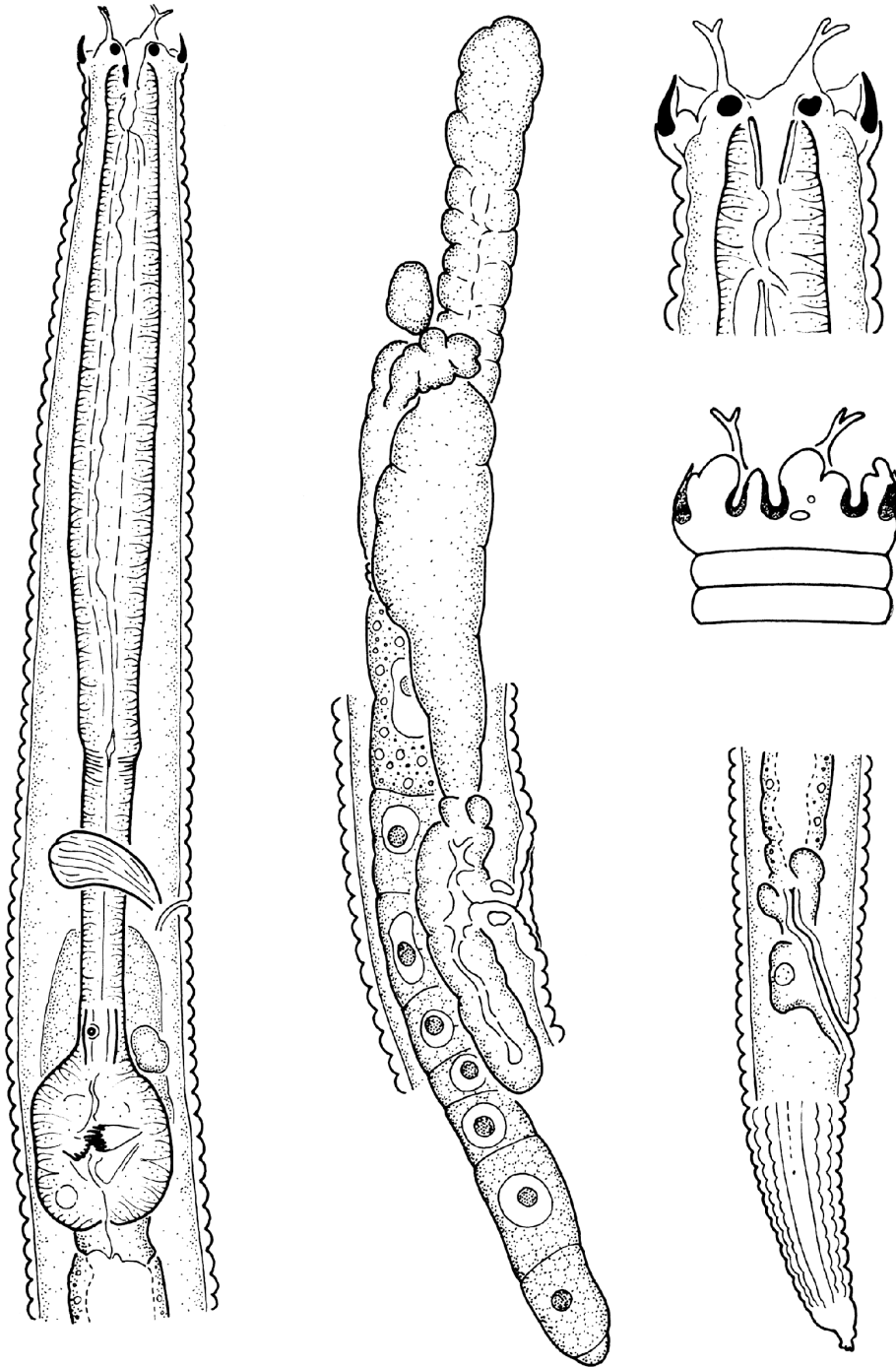
1971 *Scottnema* – Timm, Proceedings of the Helminthological Society of Washington 28: 42-52.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli longitudinally striated. Lateral field with two wings (three incisures); ending at posterior third of tail in females and at base of terminal tail mucro in males. Lip region strongly offset, consisting of six globular lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by **primary axils with two acute triangular guarding processes**; secondary axils narrow. **Cephalic probolae with five conoid tines with the longest one in the second position from the primary axil. Labial probolae short, blunt conoid.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized platelike cheilorhabdia; gymnostom narrow, as wide as stegostom, with weakly sclerotized gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle present. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus slightly fusiform; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling isthmus. Excretory pore opens at level of nerve ring, at around the level of isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary with double flexure; spermatheca present; postvulval uterine sac present; vulva protruding; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: two-three ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum long (~2 times longer than anal body diameter). Phasmids located at around mid-tail in both sexes. **Female tail conoid**, straight, tail terminus finely rounded; male tail conoid, arcuate ventrad, tail terminus with short spike-like mucro.

**Biology:** Amphimictic. Distributed in Antarctica only.

**Taxonomy:** Type species: *Scottnema lindsayae* Tim, 1971. Single valid species.

1. Andr ssy, I. Nematodes in the Sixth Continent. *Journal of Nematode Morphology and Systematics* 1: 107-186.



*Stegelletina leopolitensis* Holovachov & Boström, 2007

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## Genus *Stegelletina* Andrásy, 1984

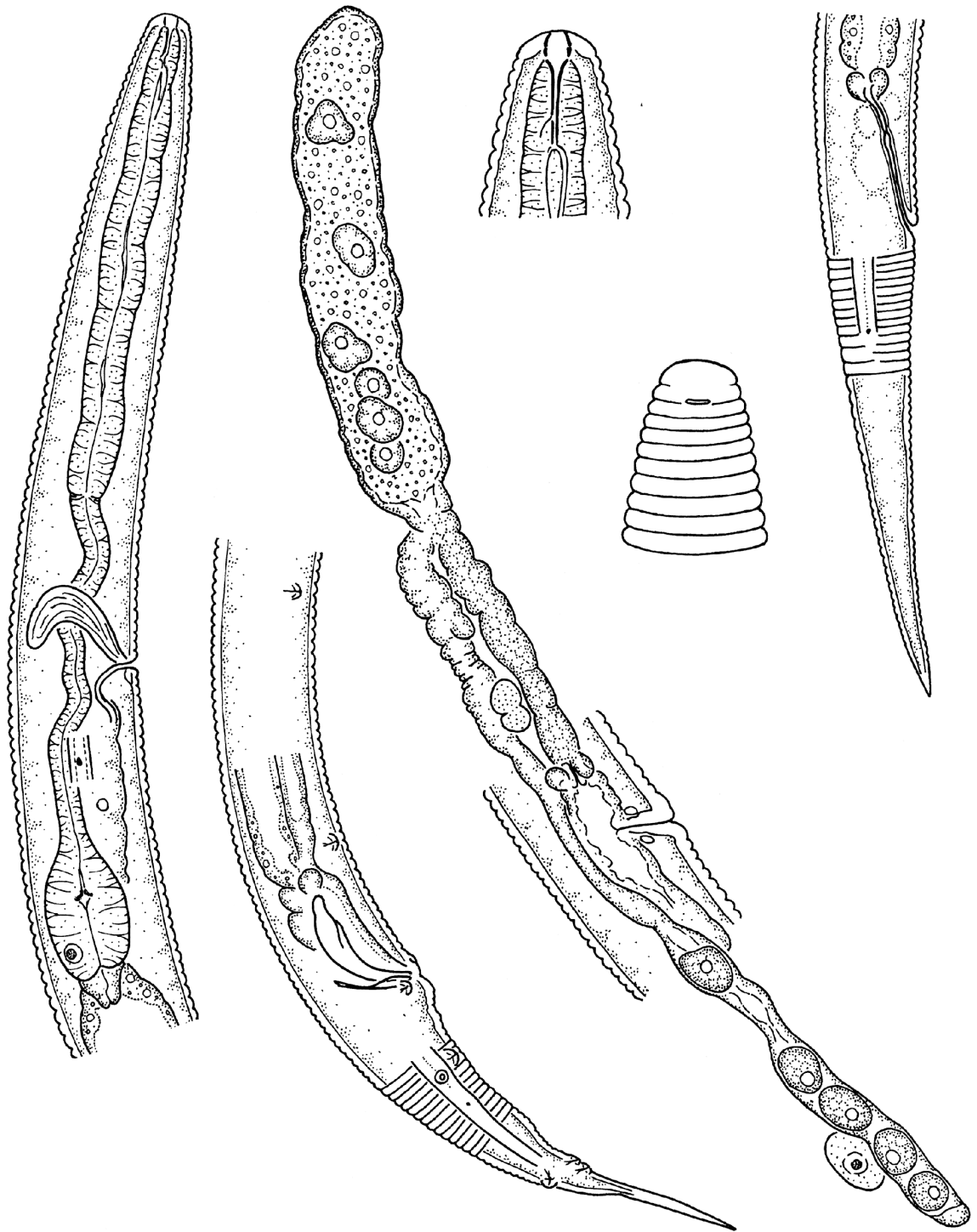
1984 *Stegelletina* – Andrásy, Klasse Nematoda: 197.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli with faint or distinct longitudinal incisures (tessellated) that may or may not be seen under the light microscope. Lateral field with two or three wings (three or four incisures); ending at tail terminus in females and in males. Lip region weakly offset, consisting of six thin lips arranged in three pairs: one dorsal and two subventral. Pairs of lips separated by **primary axils with single triangular guarding process**; secondary axils narrow; **primary and secondary axils sclerotized**. **Cephalic probolae with two-four wide and broadly rounded tines, often with one or two additional digitate projections on the tines**. **Labial probolae elongate-conoid with broad basis, bifurcated at middle of their length forming two slender prongs; tines and abaxial swellings absent**. Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture rounded, located on lateral lips. Stoma divided into cheilo-, gymno- and stegostom: cheilostom barrel-shaped with strongly sclerotized bacilliform cheilorhabdia; gymnostom cylindrical, as wide as stegostom, with weakly sclerotized plate-like gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts. Metastomatal denticle undescribed. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus slightly fusiform; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling isthmus. Excretory pore opens at level of nerve ring, at the level of isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight or with double flexures; spermatheca present; postvulval uterine sac present; vulva protruding, flat or in a depression; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with corpus wider than manubrium; gubernaculum platelike; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum short (~1-1.5 times longer than anal body diameter). Phasmids located at around mid-tail in both sexes. **Female tail conoid**, straight, tail terminus bluntly or finely **rounded or with ragged mucro**; male tail conoid, arcuate ventrad, tail terminus bluntly rounded or with ragged mucro, as in female.

**Biology:** Amphimictic or parthenogenetic. Distributed worldwide except Antarctica.

**Taxonomy:** Type species: *Stegelletina similis* (Thorne, 1925) Boström & De Ley, 1996. Eight valid species and two species of uncertain taxonomic status.

1. Holovachov O. & Boström S. (2007). Description of *Stegelletina leopolitensis* sp. n. (Rhabditida: Cephalobidae) from Ukraine. *Journal of Nematode Morphology and Systematics* 10: 31-37.



*Deficephalobus desenderi* De Ley & Coomans, 1990

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## Genus *Deficephalobus* De Ley & Coomans, 1990

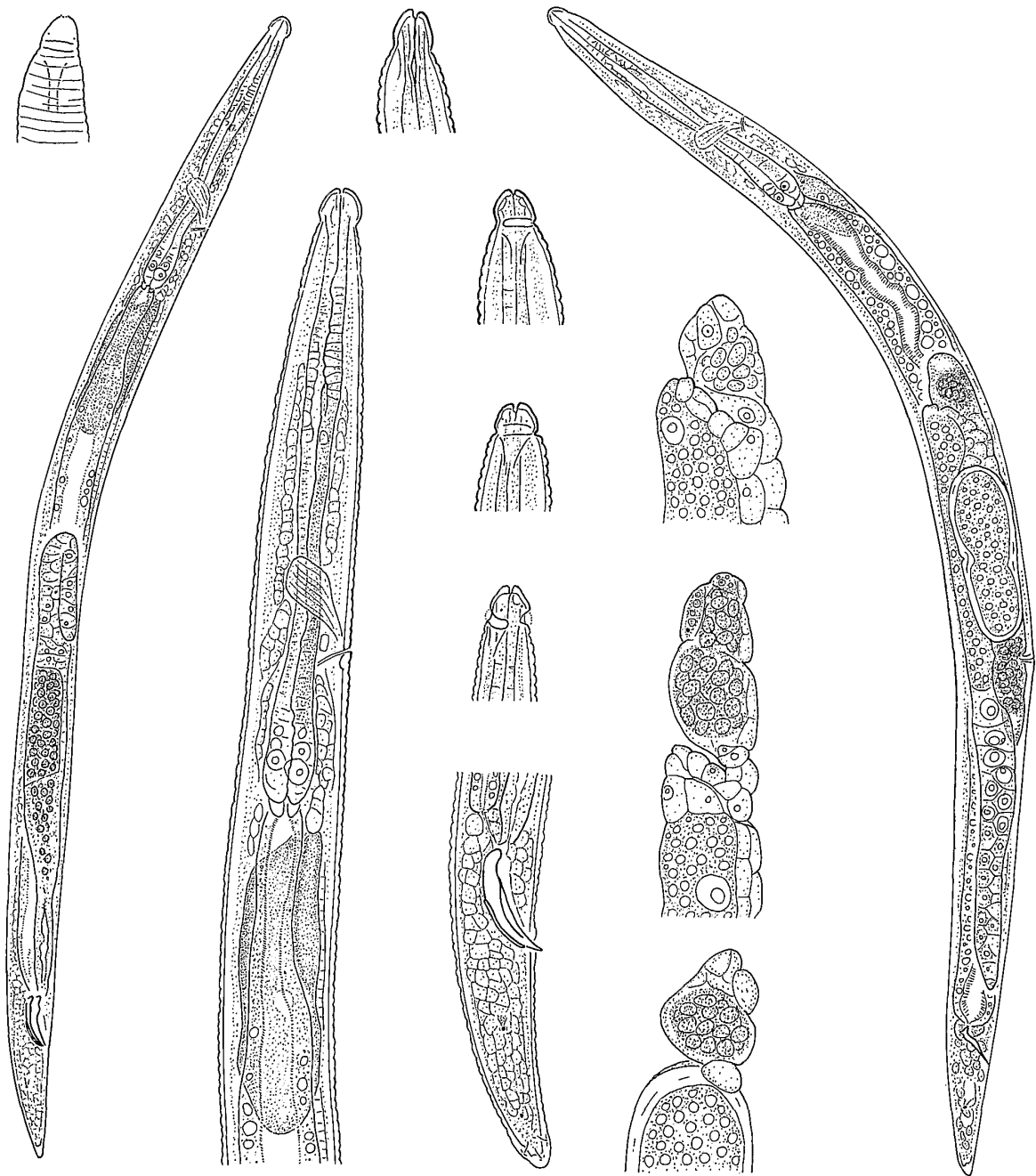
1990 *Deficephalobus* – De Ley & Coomans, Bulletin de l'Institut Royal des Sciences Naturelles de Belgique, Biologie 60: 9-11.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two wings (three incisures); ending at level of phasmids in females and at base of terminal tail mucro in males. Lip region not offset, rounded, **lips fused. Cephalic and labial probolae absent.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. Amphidial aperture slit-like, located on lateral sides of the head. **Stoma divided into cheilo-, gymno- and stegostom:** cheilostom barrel-shaped with weakly sclerotized platelike cheilorhabdia; gymnostom barrel-shaped, as wide as cheilostom, with weakly sclerotized bacilliform-like gymnorhabdia; stegostom consists of a funnel-shaped prostegostom and variably shaped meso-, meta- and telostomatal parts, which are developed stonger or weaker in different species. Metastomatal denticle absent. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacorpus slightly fusiform; lining of procorpus and metacorpus are of same thickness; isthmus narrower than metacorpus; **basal pharyngeal bulb elongate-ovoid, weakly developed, with reduced valves.** Nerve ring encircling posterior part of isthmus. Excretory pore opens at level of nerve ring, at the level of isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva flat; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with corpus slightly wider than manubrium; gubernaculum wedge-shaped; *cornua crurum* absent. Male genital papillae: two ventrosublateral pairs located anterior to cloaca; one ventrosublateral pair located at the level of cloacal opening; two pairs located at middle of tail length; and three pairs (lateral, subventral and subdorsal) near tail terminus; there is a midventral papilla on anterior cloacal lip. Rectum medium-length (~1.5 times longer than anal body diameter). Phasmids located at level of anterior part of tail in females, at around the mid-tail in males. **Female tail conoid or elongate-conoid to filliform**, straight, tail terminus acute or finely rounded; male tail conoid, arcuate ventrad, tail terminus with long spike-like or short ragged mucro. *D. desenderi* has a pronounced dimorphism in tail shape, where female tail is very long filiform, and male tail is short conoid with ragged mucro.

**Biology:** Amphimictic. Distributed in Central and South America.

**Taxonomy:** Type species: *Deficephalobus desenderi* De Ley & Coomans, 1990. Three valid species.

1. Holovachov O., Esquivel A. & Bongers T. (2005). The genus *Deficephalobus* De Ley & Coomans, 1990 (Cephalobina, Ostellidae) from nature reserves in Costa Rica. *Nematology* 12: 115-130.



*Drilocephalobus moldavicus* Lisetskaya, 1978

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## Genus *Drilocephalobus* Coomans & Goodey, 1965

1965 *Drilocephalobus* – Coomans & Goodey, *Nematologica* 11: 116-120.

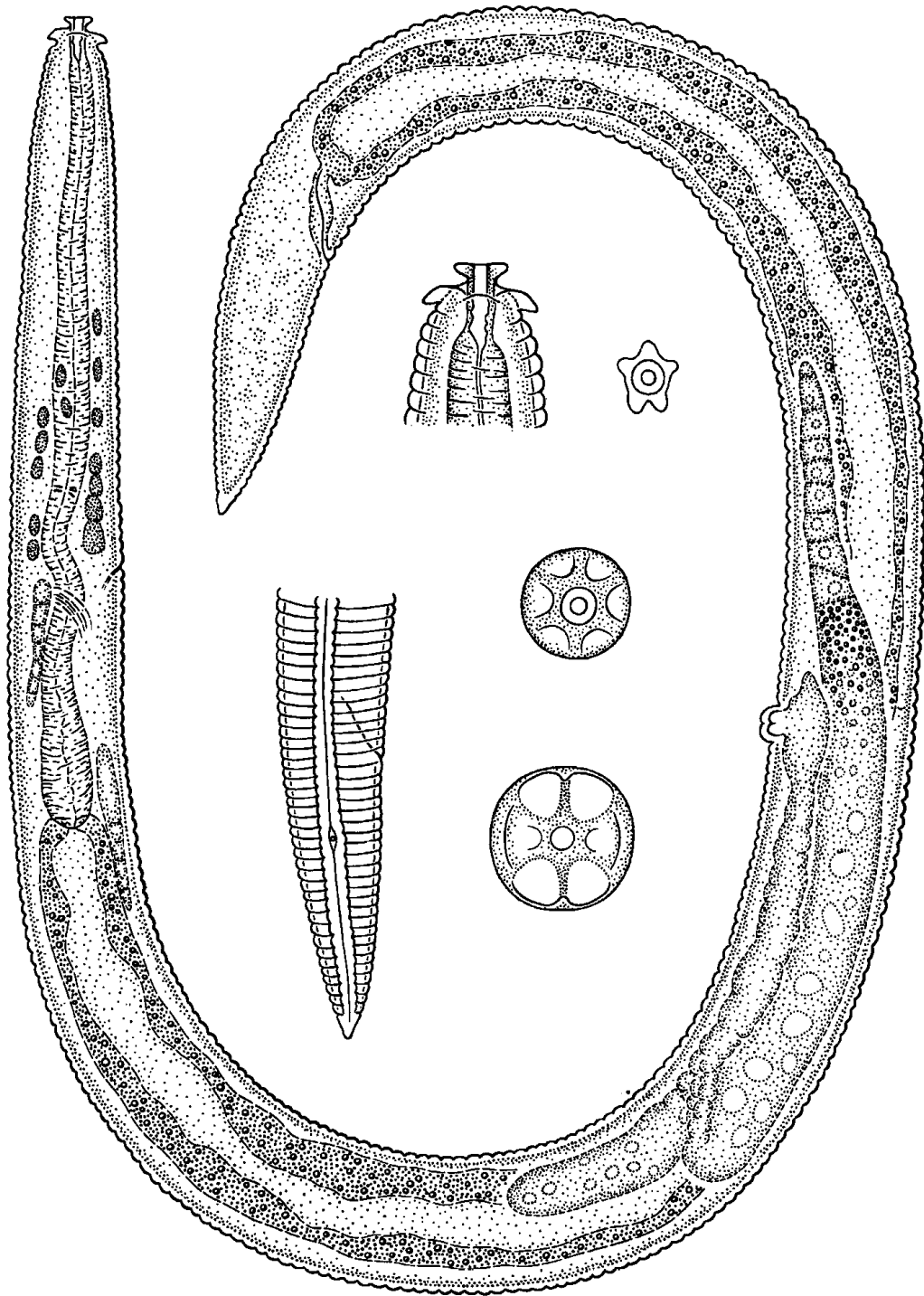
1990 *Drilocephalobus* – De Ley & Coomans, *Revue de Nématologie* 13: 37-43.

**Morphology:** Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two-four wings (three-five incisures); ending at tail terminus in females and in males. Lip region not offset, rounded, **lips fused. Cephalic and labial probolae absent.** Six outer labial and four cephalic papilliform sensilla arranged in a cephaloboid manner. **Amphidial aperture wide and slit-like**, covered with *corpus gelatum*, extending across lateral sides of the head. **Stoma small, undifferentiated:** cheilostom small pore-shaped without distinct cheilorhabdia; gymnostom and stegostom undeveloped. Pharynx cephaloboid but not distinctly subdivided into sections: pharyngeal procorpus cylindrical; metacarpus slightly fusiform; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; **basal pharyngeal bulb elongate-ovoid, weakly developed, valvular apparatus absent.** Nerve ring encircling isthmus. Excretory pore opens at level of nerve ring, at around the level of isthmus. Deirids present or absent. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva flat; vagina straight. Male reproductive system cephaloboid; spicules cephaloboid with manubrium and corpus of approximately equal width; gubernaculum plate-like; *cornua crurum* absent. Male genital papillae: one ventrosublateral pair located anterior to cloaca; two pairs located at middle of tail length; and three pairs near tail terminus (in *D. moldavicus*, in other species data is not complete). Rectum short (~1-1.5 times longer than anal body diameter). Phasmids located at around mid-tail in both sexes. **Female tail conoid or elongate-conoid**, straight, tail terminus bluntly or finely rounded; male tail conoid, straight, tail terminus bluntly or finely rounded.

**Biology:** Amphimictic, food sources are uncertain as the diameter of the mouth opening is as small as many bacteria. Distributed worldwide except Antarctica.

**Taxonomy:** Type species: *Drilocephalobus congoensis* Coomans & Goodey, 1965. Ten valid species.

1. De Ley, P. & Coomans, A. (1990). *Drilocephalobus moldavicus* Lisetskaya, 1968 from Senegal: an odd nematode adds to its reputation under scanning electron microscope (Nematoda: Rhabditida). *Revue de Nématologie* 13: 37-43.
2. Siddiqi, M.R. (2001). Six new species of the genus *Drilocephalobus* (Nematoda: Cephaloidea). *International Journal of Nematology* 11: 260-269.



*Osstella hamata* Heyns, 1962

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## Genus *Osstella* Heyns, 1962

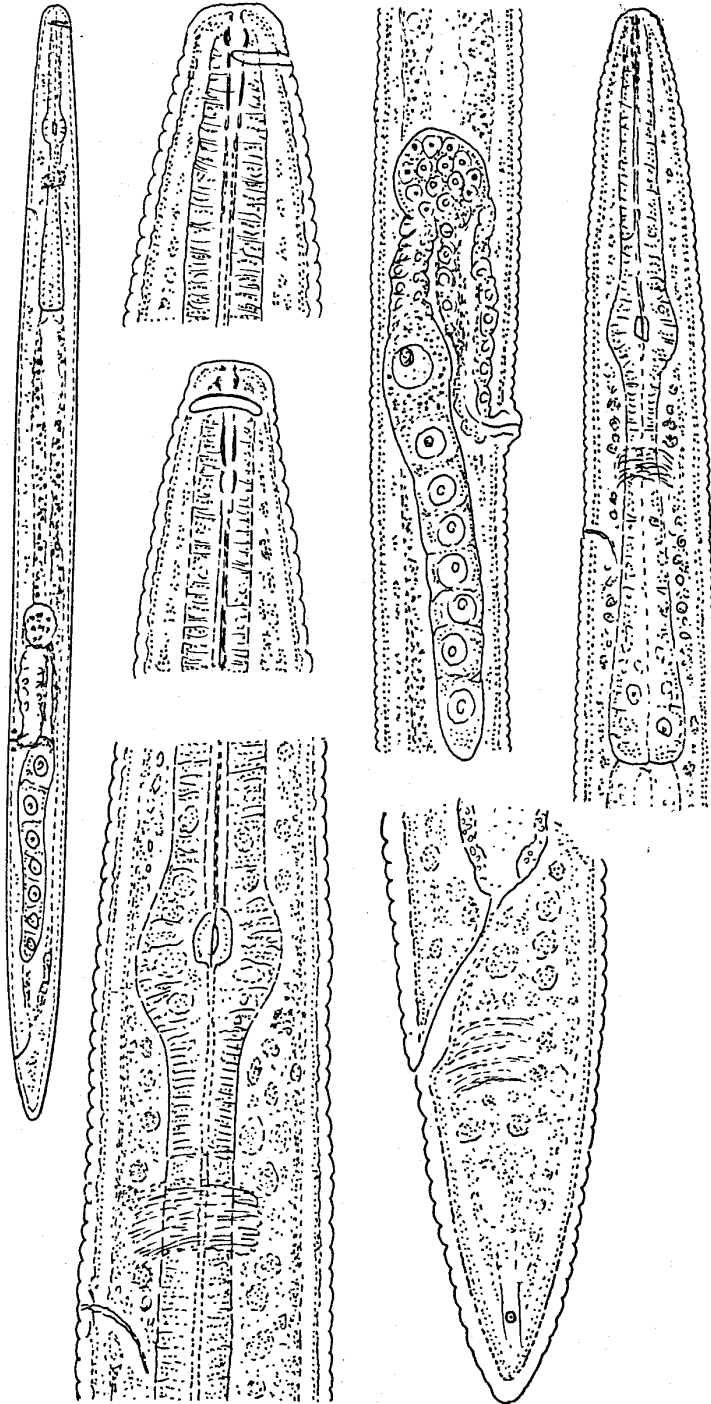
1962 *Osstella* – Heyns, *Nematologica* 84: 301.

*Morphology*: Cuticle annulated, without distinctly annulated internal layerannuli smooth. Lateral field with two wings (three incisures); ending at tail terminus in females. **Lip region strongly offset, with two pairs of lobes located dorsally and ventrally**, probably representing very modified subdorsal and subventral lip pairs. “True” **cephalic and labial probolae absent**. Outer labial and cephalic probolae and amphids not described. **Stoma cylindrical**, its morphology is not known. Oral opening protruding anteriorly in the shape of cylinder with five-lobed terminal disc. **Oral disc and labial region are supported by strongly sclerotized framework**. Pharynx cephaloboid but not distinctly subdivided into sections: pharyngeal procorpus cylindrical; metacarpus slightly fusiform; lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; **basal pharyngeal bulb elongate-ovoid, weakly developed, valvular apparatus absent**. Pharynx cephaloboid: pharyngeal procorpus cylindrical; metacarpus slightly fusiform, lining of procorpus and metacarpus are of same thickness; isthmus narrower than metacarpus; basal pharyngeal bulb oval, with strongly developed valves. Nerve ring encircling isthmus. Excretory pore opens at level of nerve ring, at around the level of isthmus. Deirid absent. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac present; vulva protruding; vagina straight. Male unknown. Rectum short (as long as anal body diameter). Phasmids located at at around the mid-tail in females. **Female tail conoid**, straight, tail terminus finely rounded.

*Biology*: Only two females are known, from South Africa.

*Taxonomy*: Type species: *Osstella hamata* Heyns, 1962. Single valid species.

1. Heyns, J. (1962). *Osstella hamata* n. gen., n. sp., *Zeldia serrata* n. sp. and *Acrobeles thornei* n. sp., three new nematodes from South Africa (Rhabditida: Cephalobidae). *Nematologica* 8: 301-306.



*Medibulla megamphida* Siddiqi, 1993

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### Genus *Medibulla* Siddiqi, 1993

1993 *Medibulla* – Siddiqi, Afro-Asian Journal of Nematology 3: 224.

*Morphology*: Cuticle annulated, without distinctly annulated internal layer; annuli smooth. Lateral field with two wings (three incisures); ending at level of phasmids or just posterior to it in females. Lip region not offset, rounded, **lips fused**. **Cephalic and labial probolae absent**. Outer labial and cephalic sensilla indistinct. **Amphidial aperture wide and slit-like**, extending over the lateral sides of the head. **Stoma divided into cheilo-, gymno- and stegostom**: cheilostom with small sclerotized cheilorhabdia; gymnostom tubular, as wide as cheilostom, with weakly sclerotized plate-like gymnorhabdia; stegostom tubular, with weakly sclerotized pro-, meso-, meta- and telostomatal parts. Metastomatal denticle absent. Pharynx diplogastroid: pharyngeal procorpus cylindrical; **metacarpus bulb-like (median bulb), lumen of median bulb is sclerotized (valve)**; isthmus narrower than metacarpus; **basal pharyngeal bulb elongate-ovoid, weakly developed, valvular apparatus absent**. Nerve ring encircling isthmus. Excretory pore opens posterior to nerve ring, at around the level of isthmus. Deirids present. Female reproductive system cephaloboid; posterior part of ovary straight; spermatheca present; postvulval uterine sac absent; vulva protruding; vagina straight. Male unknown. Rectum short (as longer as anal body diameter). Phasmids located at level of posterior part of the tail in females. **Female tail conoid**, straight, tail terminus bluntly rounded.

*Biology*: Parthenogenetic.

*Taxonomy*: Type species: *Medibulla megamphida* Siddiqi, 1993. Two valid species.

1. Siddiqi, M.R. (1993). Nematodes of tropical rainforests: 2. Five new genera and eight new species of cephalobids. *Afro-Asian Journal of Nematology* 3: 212-225.

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