



<http://dx.doi.org/10.11646/zootaxa.3904.4.5>

<http://zoobank.org/urn:lsid:zoobank.org:pub:3999945E-A42C-4963-A479-CA56B27C3950>

## A new species of the rare nematode genus *Paramicrolaimus* Wieser, 1954 (Chromadorida: Paramicrolaimidae) from the south eastern Arabian Sea

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### Abstract

A new paramicrolaimid nematode, *Paramicrolaimus damodarani* sp. nov., is described based on specimens from the continental shelf (95 m) of the south eastern Arabian Sea. *Paramicrolaimus damodarani* sp. nov. differs from other known species of the genus in having a smaller body size, form of the spicular apparatus, presence of 7 cuticularised protruding precloacal supplements and a strongly cuticularised terminal spinneret. This is the first record of the genus *Paramicrolaimus* from the northern Indian Ocean. A pictorial key to the four species of *Paramicrolaimus* is also provided, supplemented with comparative characters, based on published information.

**Key words:** Nematode, Arabian Sea, Indian Ocean, *Paramicrolaimus*, morphology, taxonomy, Identification key

### Introduction

The genus *Paramicrolaimus* Wieser, 1954 is the type and sole genus in Paramicrolaimidae, a rare family of free living nematodes whose species are known from a few individual specimens (Holovachov 2014). There are few reports on the species of *Paramicrolaimus*, despite the volume of work carried out on diversity and systematics of marine free living nematodes across the world's oceans. Given its general body shape, circular amphid, rounded blunt head with crowns of cephalic setae, the typical shape and teeth of the sclerotised buccal cavity and the preanal papillae, the genus was originally placed under family Microlaimidae by Wieser, 1954. However, it differed from the other genera of Microlaimidae in having the two circles (6+4) of cephalic setae of more or less equal size, transversely oval shaped amphids with a small dorsal limb, oesophageal bulb almost absent or weakly developed and females with two antidromously reflexed ovaries.

While revising the Microlaimidae, Jensen (1978) discussed the obscurity of the systematic position of *Paramicrolaimus*. The slender and similar setae of the second and third crowns of cephalic sense organs, reduced buccal cavity and male gonads with one anteriorly directed outstretched testis suggest affinity of this genus with the Stilbonematinae (Spiriniidae); prompting Jensen (1978) to assign the genus to this family. Jensen (1978) also mentioned that *Paramicrolaimus* resembles the genus *Coninckia* in the arrangement of the cephalic sense organs, the shape of the male amphids, the structure of the oesophagus and the shape of the tail, but regarded these features as additional characters for distinguishing species. Lorenzen (1981) in classifying free living nematode species, contributed significant new interpretations and clarified the ambiguities in the systematics of *Paramicrolaimus* by erecting a new family Paramicrolaimidae. Since this revision, only one species, *Paramicrolaimus mirus* Tchesunov, 1988 has been described. In all, only 3 species of *Paramicrolaimus* are currently known.

A new species of *Paramicrolaimus* is described here, based on specimens collected off the southwest coast of India, in the south eastern Arabian Sea. This is the first record of *Paramicrolaimus* in the northern Indian Ocean.

**TABLE 2.** Morphometry of valid *Paramicrolaimus* species.

Species	<i>P. primus</i> Wieser, 1954*	<i>P. spirulifer</i> Weiser, 1959	<i>P. spirulifer</i> Weiser, 1959	<i>P. mirus</i> Tchesunov, 1988	<i>P. mirus</i> Tchesunov, 1988	<i>P. damodarani</i> sp. nov.
Source	Original description	Original description	Redescription Jensen, 1978	Original description	Redescription Huang and Zhang, 2005	
L (µm)	2340	4180–4430	5170	3500–4060	3052–3600	1225–1310
mbd (µm)	52.3	30	38	33.3–38.3	38–40.2	24–25
a	44.7	139.3–147.7	136	105–106	76.3–89.5	51–52.4
b	16.8	22.1–29.3	23.5	21.7–21.8	15.9–19.8	8.8–9.14
c	22.3	52.2–55.4	30.6	28–40.5	30.5–36.7	18.8–20.32
Anterior cs (µm)	9	9–12	16	6	7–8	13
Posterior cs (µm)	10	10–16	18	8	9–10	14–15
aw (µm)	12	13–14	16	12	11–13	11–12
Oesophagus length (µm)	139.3	142.7–200.5	220	160.6–187.1	172–192	140–145
S (µm)	–	25	39	23	45–50	28–29
No. of supplements	–	6	10	9	10	7
t (µm)	104.9	80	169	100.2–125	98–105	63–65

\* measurements of female.

## Acknowledgement

This work was carried out under the Marine Living Resources Programme of the Ministry of Earth Sciences, Govt. of India. The support and encouragement of Dr. V. N. Sanjeevan (Former Director, CMLRE), Dr. R. Damodaran, Dr. Rosamma Philip (CUSAT), Dr. A. Shivaji, Dr. G. V. M. Gupta (CMLRE) are gratefully acknowledged. The authors wish to thank Ms. Usha V. Parameswaran, Ms. Aiswarya Gopal and Mr. Kevin P. V. for constant support and motivation in the laboratory. The authors acknowledge the efforts of Ms. Shruthi Venugopal and support staff on FORV *Sagar Sampada* (FORVSS 295) during sampling. The authors also wish to thank Dr. Alexei V. Tchesunov (Lomonosov Moscow State University, Russia) and Dr. Oleksandr Holovachov (Swedish Museum of Natural History, Sweden) for the references they have sent.

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