Polkepsilonema mombasae gen. et sp.n. and Pternepsilonema servaesae gen. et sp.n. (Nematoda, Epsilonematidae) from East African coasts

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Received 12 March 1992; in revised form 13 October 1992; accepted 27 October 1992

Key words: Epsilonematidae, two new genera

Abstract

Two new genera and species from Kenyan tidal areas, Polkepsilonema mombasae gen. et sp.n. and Pternepsilonema servaesae gen. et sp.n., are described. Both are characterized by the presence of at least fourteen subcephalic setae and by thick thorns on the ventral body region of males. In the first genus, eight to ten subcephalic setae are situated anterior to the amphid, and the ambulatory setae are bisinuous. In the second, the subcephalic setae are situated at the posterior edge of the rostrum, and the ambulatory setae are straight.

A key to the 13 genera of the Epsilonematidae is presented.

Abbreviations: a: body length divided by maximum body diameter; abd: body diameter at level of anus; amph %: diameter of amphid as a percent of head diameter; Asl: length of anteriormost ambulatory seta of external subventral row; b: body length divided by pharyngeal length; c: body length divided by tail length; cs: length of cephalic setae; dcs: distance from rostrum edge to cephalic setae; gub: length of gubernaculum; L: body length; lct: length of copulatory thorns; lpt: length of precloacal thorns; mbd: maximum body diameter of posterior body region; (mdb): minimum body diameter; mbd/(mbd): maximum body diameter divided by minimum body diameter; mbd ph: body diameter at level of pharyngeal bulb; N: number of body rings; ph: length of pharynx; spic: length of spicule measured along the arc; SSph: length of subdorsal somatic setae in pharyngeal region; t: tail length; tmr: length of non-annulated tail region; V: position of vulva as a percentage of total body length from anterior.

Holotypes are deposited in the collection of the ‘koninklijk Belgisch Instituut voor Natuurwetenschappen’ (KBIN) in Brussels. Paratypes are deposited in the Collection of the Zoology Institute, University of Gent (ZIUG).

Introduction


This paper presents the description of two new

Material and methods

Benthic samples were taken using a core of 3.5 cm diameter pushed into the sediment down to 20 cm depth. Samples were fixed with warm (70 °C) 4% formalin-seawater. Nematodes were transferred to pure glycerine by the method of Seinhorst (1959).

Drawings were made with a camera lucida on a Leitz dialux 20EB.

SEM pictures were taken from formalin fixed animals, transferred in OsO₄, dehydrated, dried and coated with 20–25 nm of gold. (SEM: JEOL JSM 840).

Familia EPSILONEMATIDAE Steiner, 1927

Genera are defined by the number of subcephalic setae and their location in relation to the amphid and by the shape, number and location of ambulatory setae.


The key to the genera of Epsilonematidae in Lorenzen (1973) is revised as follows:

1. – Body with large, heavy dorsal thorns on first fifteen annules posterior to rostrum; long, heavy ambulatory setae. Keratonematinae, Glochinematinae ……………… 10

2. – Body without dorsal thorns posterior to the rostrum Epsilonematinae …………… 2

3. – No ambulatory setae ………. Perepsilonema

4. – Ambulatory setae in four longitudinal rows …………………………… 3

5. – Ambulatory setae in more than four rows …………………………… 5

6. – Ambulatory setae situated posterior to vulva; four subcephalic setae … Arche epsilonema

7. – Ambulatory setae situated anterior to vulva …………………………… 4

8. – Two subcephalic setae ……………………………. Met epsilonema

9. – Six or eight subcephalic setae …………………………… Epsilonema

10. – Tail with three separate tailtips (i.e. three separate spinnerets) ………. Tri epsilonema

11. – One tailtip …………………………… 6

12. – Eight subcephalic setae …………………………… 7

13. – Fourteen to eighteen subcephalic setae …………………………… 9

14. – Large medio-dorsal thorns located just in front of ventral curvature of body …………………………… Akanth epsilonema

15. – No large medio-dorsal thorns located just in front of ventral curvature of body …………………………… Bathypepsilonema

16. – Eight to ten out of fourteen (to eighteen) subcephalic setae situated on anterior half of rostrum in front of fovea amphidialis; ambulatory setae bent twice …………………………… Polkepsilonema