SOME CEPHALOBIDAE (NEMATODA: RHABDITIDA)
FROM SAND ON THE ISLAND OF SAMOS, GREECE

BY

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Samples of sand from Samos, Greece, yielded some species of the family Cephalobidae (Rhabditida). A second species of Heterocephalobellus, H. potamienis n. sp., is described. It is distinguished from the type species of the genus by a longer body in both sexes, a more posterior position of excretory pore, a longer post-uterine branch, longer spicules and gubernaculum, and male tail shorter and differently shaped from female tail. The female of Ypsylonellus devimucronatus was found and because of its cephalic organisation it is transferred back to the genus Cervidellus. Other species recorded are Cervidellus neftasiensis and Acrobeles singulus.

Keywords: Acrobeles, Cervidellus, Heterocephalobellus, Ypsylonellus, morphology, taxonomy, SEM.

Samples taken from a beach on the island of Samos, Greece in 1989, were found to contain a new species of the genus Heterocephalobellus Rashid, Geraert & Sharma, 1985, one species of Ypsylonellus Andrassy, 1984, one species of Cervidellus Thorne, 1937 and one species of Acrobeles von Linstow, 1877, which are all described below.

Some other rhabditids have previously been described from Samos by Boström (1989b, 1991).

MATERIALS AND METHODS

Samples were taken on the 3 October 1989 on Potami Beach, Samos, Greece from a sandy patch covered with grasses and juniper bushes (Juniperus oxycedrus L.). The soil was dry and contained some organic material like roots.

Nematodes were extracted by a wet funnel method (Sohlenius, 1979), killed by heat, fixed in cold TAF and transferred to anhydrous glycerine by a slow evaporation method (Hooper, 1970). For light microscopy (LM), nematodes were mounted in glycerine on microscope slides as described in Boström & Gydemo (1983). One male of Heterocephalobellus, one female of Ypsylonellus and ten females of Acrobeles to be studied by scanning electron microscope (SEM) were processed as described by Boström (1989a).

The nematodes were identified to species level using LM. Measurements and ratios are given as: mean ± S.E. (range).
DESCRIPTIONS

_Heterocephalobellus potamiensis_ n. sp.

(Figs. 1 A-D, 2 A-C)

_Holotype_ (female): _L = 850 \( \mu \text{m}; \) width = 31 \( \mu \text{m}; \) a = 27; pharynx = 231 \( \mu \text{m}; \) b = 3.7; tail = 45 \( \mu \text{m}; \) c = 19; c’ = 2.4; V = 64\%; V-A/T = 6.1.

_Paratype_ (males, n = 3): _L = 767 ± 13 (742-784) \( \mu \text{m}; \) width = 28 ± 2 (25-32) \( \mu \text{m}; \) a = 28 ± 2 (25-30); pharynx = 219 ± 2 (215-221) \( \mu \text{m}; \) b = 3.5 ± 0.1 (3.4-3.6); tail = 35 ± 1 (33-36) \( \mu \text{m}; \) c = 22; c’ = 1.7 ± 0.03 (1.6-1.7); T = 53 ± 3 (49-58)\%; spicules = 25 ± 1.5 (22-27) \( \mu \text{m}; \) gubernaculum = 14 ± 1 (12-16) \( \mu \text{m}. \)

_Adults:_ Body more or less ventrally arcuate when relaxed by heat. Cuticle annulated, annules about 2 \( \mu \text{m} \) wide at midbody. Lateral field broad, about 1/3 of body width, with three incisures to phasmid; termination on female tail obscure; on male tail extending almost to tail tip. Three rounded lips; subventral lips bear two anterior (labial) and one posterior (cephalic) papillae, dorsal lip bears two anterior and two posterior papillae; oval amphid apertures laterally at base of subventral lips. Stoma 7-8 \( \mu \text{m} \) long. Cheilostome broad; cheilorhabdions small, bacilliform; rest of stoma narrow, rhabdions obscure. Pharynx with cylindrical corpus, somewhat fusiform posteriorly. Isthmus, narrow, looped, longer in males than in holotype female. Bulb ovoid with valves; 18-19 \( \mu \text{m} \) long, 12-13 \( \mu \text{m} \) broad. Cardia less prominent, enveloped by intestinal cells. Nerve ring surrounds corpus at about 2/3 of its length. Excretory pore at 133 \( \mu \text{m} \) from anterior end in holotype female, at 125 \( \mu \text{m} \) from anterior end in males. Hemizonid just posterior to excretory pore. Deirid at level of metacorpus.

_Females:_ Monodelphic, prodelphic; ovary reflexed at oviduct, directed posteriorly without flexures posterior to vulva. Spermatheca 67 \( \mu \text{m} \) long, 10 \( \mu \text{m} \) broad; empty (?). Post-uterine branch (PUB) 185 \( \mu \text{m} \) long, about 70\% of distance vulva-anus. Vulval lips protruding. Rectum 26 \( \mu \text{m} \) in holotype. Anus a transverse slit. Tail ventrally arcuate, conoid-elongate with minutely rounded terminus. Phasmids at 20\% of tail length.

_Males:_ Monorchic; testis reflexed anteriorly. Spicules cephaloboid, ventrally arcuate. Gubernaculum wedge-shaped. Papillae: two (maybe three) pairs preanal subventral; a single median just anterior to cloaca; two pairs caudal lateral, two pairs caudal subventral, one pair caudal subdorsal. Tail ventrally arcuate, conoid with minutely rounded terminus, shorter than in female. Cloaca with protruding posterior lip. Phasmids at 33-38\% of tail length.

_Differential diagnosis:_ _Heterocephalobellus potamiensis_ n. sp. is separated from the only described and type species of the genus, _H. brasiliensis_ Rashid, Geraert & Sharma, 1985, mainly by the following characters: 1) longer body in both sexes; 2) a more posterior position of excretory pore; 3) a longer PUB; 4) longer spicules and gubernaculum; and 5) male tail shorter and differently shaped than female tail. The generic diagnosis by Rashid _et al._ (1985) "similar