

REDESCRIPTION OF *CHRONOGASTER BOETTGERI* KISCHKE, 1956 (NEMATODA: LEPTOLAIMIDAE)

GRAŻYNA WINISZEWSKA

Muzeum i Instytut Zoologii PAN, Wilcza 64, 00-679 Warszawa, Poland,
e-mail: nicien@robal.miz.waw.pl

Abstract.— Redescription of *Chronogaster boettgeri* Kischke, 1956 is provided. The male of this species was found for the first time, and herein is described and illustrated. *Chronogaster boettgeri* Kischke, 1956 is distinguished by its amphids circular at the surface and forming a single spiral with a dorsal break, presence of 3 caudal glands arranged in tandem, absence of lateral longitudinal lines, lack of vacuolated lateral glandular bodies, tail tip of female with single, almost ventral and straight mucro; male is distinguished by tail terminus devoid of mucro and absence of tuboid preanal supplements.



Key words. — taxonomy, redescription, Nematoda, Leptolaimidae, *Chronogaster*.

INTRODUCTION

Chronogaster boettgeri Kischke, 1956 was originally described from Germany (Kischke 1956). It was subsequently reported from The Netherlands (Loof and Jairajpuri 1965), Slovakia (Šály 1978) and Poland (Brzeski and Winiszewska-Ślipińska 1996). Kischke's original description gives the measurements and the illustrations based on 13 females. Some morphological observations on this species are given by Heyns and Coomans (1980) discussing morphology of the genus.

This paper presents the first morphometric data since the original description and gives the description of the unknown male of *C. boettgeri* based on specimens collected in Poland. The material, comprising of 26 females and a single male comes from wet terrestrial habitats (peatbogs and water meadows), mainly from the Białowieża primeval forest.

The nematodes were extracted using decantation and sieving method with final separation on extraction sieves with filters. From part of samples the specimens were separated from the organic mater by sugar flotation-centrifugation. The nematodes were killed by heating in water, preserved in 4% formaldehyde and stored for varying periods of time. They were processed to glycerine by slow method and mounted on permanent slides.

DESCRIPTION

Chronogaster boettgeri Kischke, 1956
(Figs 1–12)

Measurements. Female (n = 6) (Ciemiętniki I, DB-2-2a): L = 1.25 ± 0.04 (1.20–1.31) mm; a = 73 ± 9.4 (63–86); b = 4.9 ± 0.1 (4.8–5.0); c = 11.1 ± 0.3 (10.7–11.6); c' = 8.4 ± 0.6 (7.8–9.3); V = 54 ± 0.5 (53–54); V' = 59 ± 0.6 (58–60); pharynx = 258 ± 11.7 (240–273) μm; tail = 113 ± 6.1 (106–121) μm;

Female (n = 2) (Ciemiętniki II, DB-2-2a): L = 1.22, 1.31 mm; a = 72, 78; b = 5.0, 4.7; c = 11.7, 10.9; c' = 7.6, 9.4; V = 53, 55; V' = 58, 60; pharynx = 244, 280 μm; tail = 104, 120 μm;

Female (n = 5) (Ostrowo, CF-1-3b): L = 1.26 ± 0.1 (1.21–1.35) mm; a = 75 ± 5.2 (66–79); b = 5.0 ± 0.2 (4.8–5.2); c = 11.2 ± 0.6 (10.2–11.9); c' = 8.3 ± 0.8 (6.9–8.8); V = 53 ± 1.3 (51–55); V' = 58 ± 1.2 (57–60); pharynx = 250 ± 10.4 (237–260) μm; tail = 113 ± 8.7 (102–122) μm;

Female (n = 5) (Puszcza Białowieńska, div. 662, I, FD-4-3b): L = 1.30 ± 0.1 (1.14–1.39) mm; a = 68 ± 8.0 (55–76); b = 5.0 ± 0.2 (4.8–5.3); c = 10.8 ± 1.1 (9.3–12.1); c' = 8.1 ± 1.4 (6.2–10.0); V = 53 ± 1.5 (50–54); V' = 58 ± 1.2 (56–59); pharynx = 261 ± 20.7 (234–280) μm; tail = 121 ± 13.6 (108–140) μm;

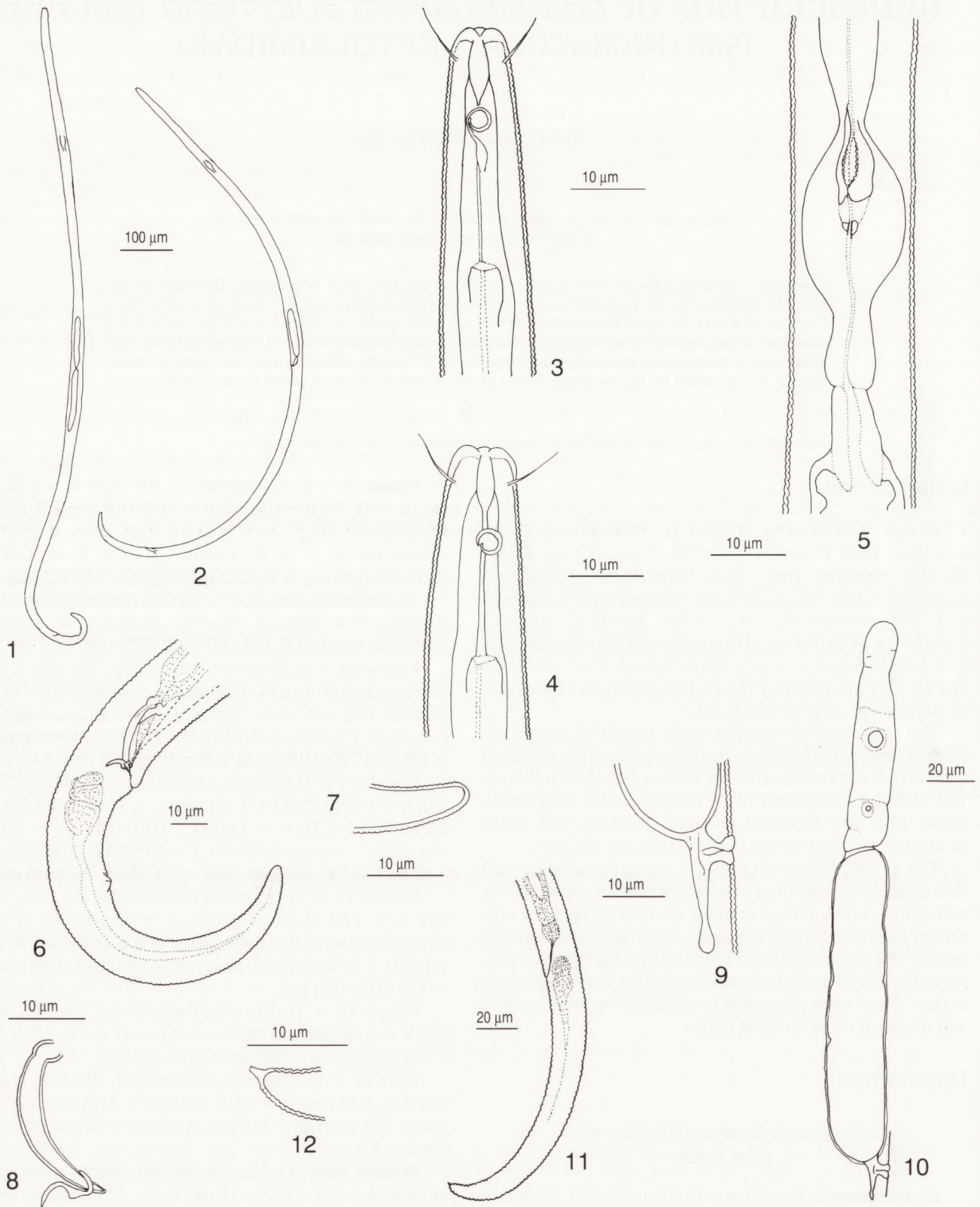
Female (n = 4) (Puszcza Białowieńska, div. 662, II, FD-4-3b): L = 1.30 ± 0.2 (1.01–1.43) mm; a = 71 ± 2.1 (70–74); b = 5.2 ± 0.7 (4.1–5.7); c = 11.0 ± 1.2 (10.0–12.1); c' = 7.9 ± 1.0 (7.1–9.2); V = 53 ± 2.6 (52–57); V' = 59 ± 2.4 (57–62); pharynx = 250 ± 7.0 (244–259) μm; tail = 121 ± 26.6 (85–146) μm;

Female (n = 3) (Puszcza Białowieńska, div. 541, FD-4-3b): L = 1.30 (1.24–1.38) mm; a = 82 (69–90); b = 4.9 (4.7–5.0); c = 10.9 (10.4–11.3); c' = 8.6 (6.7–9.7); V = 53 (51–53); V' = 58 (56–59); pharynx = 266 (260–276) μm; tail = 119 (116–122) μm;

Female (n = 1) (Puszcza Białowieńska, div. 485, FD-4-3b): L = 1.38 mm; a = 60; b = 5.2; c = 11.4; c' = 7.2; V = 52; V' = 57; pharynx = 266 μm; tail = 122 μm;

Male (n = 1) (Puszcza Białowieńska, div. 662, I, FD-4-3b): L = 1.30 mm; a = 65; b = 4.7; c = 11.6; c' = 5.9; pharynx = 275 μm; tail = 112 μm; spicules = 24 μm; gubernaculum = 7.0 μm.

Female. Body of relaxed nematode arcuate, more curved in posterior end. Cuticle 0.8 μm thick, with shallow annuli, width of annules 1.0–1.3 μm at middle of body. Lateral fields apparently not marked externally. No vacuolated lateral glandular bodies or crystalloids. Cephalic sensilla slender, 8.9 ± 0.7 (8.0–10.4) μm long. Amphid circular at the surface,



Figures 1–12. *Chronogaster boettgeri* Kischke. (1) entire male; (2) entire female; (3) female, anterior end; (4) male, anterior end; (5) male, base of pharynx; (6) male, posterior part of body; (7) male, tail terminus; (8) spicule and gubernaculum; (9) vulval region with posterior uterine branch and part of uterine egg; (10) female sexual system; (11) female tail; (12) female, tail terminus.

forming a single spiral with a dorsal break, 3.2 ± 0.2 (3.0–4.0) μm in diameter; 11.0 ± 0.7 (10.0–13.0) μm from anterior end. Lip region rounded, unstriated, 7.0 ± 0.6 (6.0–8.0) μm wide and 2.1 ± 0.4 (1.6–3.0) μm high. Anterior part of stoma cylindrical, 2.4 ± 0.3 (1.6–3.0) μm wide and 6.7 ± 0.8 (5.6–9.0) μm long. Total length of mouth cavity 30 ± 4.3 (26–39) μm . Radial tubules extending posteriorly, part of the pharynx surrounding them is slightly swollen. Nerve ring 119 ± 6.5 (105–132) μm from anterior end, encircling pharynx at 46 ± 2.1 (41–50) % of the neck length from anterior extremity. Excretory pore seen in 6 females, 144 ± 11.4 (127–158) μm from anterior end, it is 56 ± 1.3 (54–57) % of pharynx length. Subterminal bulb 23 ± 2.2 (21–28) \times 14 ± 1.3 (10–17) μm . Denticulate chamber with distinctly thickened walls, located in the anterior half of the bulb; denticles arranged in longitudinal rows of 8–11 each. Posterior to the denticulate dilation, in the lumen of the bulb, there is another small dilation with thickened walls. Post-bulbar extension 12 ± 1.4 (9–14) μm long; cardia 13 ± 2.0 (7–16) μm long, connection between them distinctly marked. Rectum slender; ventrally arcuated, 22 ± 2.0 (19–24) μm or 1.5 ± 0.2 (1.2–2.0) times the anal body diameter long. Tail elongate-conoid, tapers gradually, bent ventrad, with 3 caudal glands in tandem. Tail terminus rounded, with single, almost ventral and straight mucro (1–2 μm long).

Vulva a short 2–3 μm long transverse slit, situated on the slight protuberance of the ventral body surface. Vagina straight with thickened walls, 7 ± 0.9 (6–9) μm or 0.3 body width long. Anterior genital branch lying to the right of the intestine, in one female situated on the left side. Ovary reflexed back almost as far as the vulva. Posterior uterine branch rudimentary, in shape of very narrow sac with more or less swollen terminus, 16 ± 4.0 (8–24) μm long or 0.9 ± 0.3 (0.4–1.4) vulval body diameters in length. Intrauterine egg measuring $108 \times 18 \mu\text{m}$.

Male. Similar to female except for sexual characters. Testes two, outstretched and opposed. Spicules arcuate

with rounded heads, narrowing to pointed distal end. Gubernaculum with hook-shaped, very refractive proximal corpus connected with less refractive distal part. No tuboid preanal supplements. Single, large post-anal ventral papilla 32 μm from cloacal opening. Tail strongly bent ventrad with 3 caudal glands in tandem. Tail terminus rounded, devoid of mucro.

Remarks. The specimens examined agree with Kischke (1956) description, except for slightly bigger size (1.01–1.43 mm compared to 0.88–1.08 mm) and the presence of a posterior uterine sac. In the original description is said that posterior genital branch is totally absent. The same information is given by Heyns and Coomans (1980). In the specimens from Poland the posterior uterine branch could be seen after using Nomarski differential interference contrast.

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