Free-living Marine Nematodes from Biscayne Bay, Florida, III. Eurystominidae: *Pareurystomina bissonettei* sp. n. from Biscayne Bay and Other Locations

BRUCE E. HOPPER

Entomology Research Institute, Department of Agriculture, Ottawa, Canada

**ABSTRACT:** *Pareurystomina bissonettei* sp. n. is described from sandy localities in Biscayne Bay, Florida, Bailey's Bay, Bermuda and Woods Hole, Massachusetts. It is distinguished from other species in the genus by the shape and shorter length of its tail. The tail is obliquely conoid in the anterior half, then abruptly tapered and spicate posteriorly. The number of transverse rows of stomatal denticles is variable between specimens. Flattened cervical setae are regarded as characteristic of the genus *Pareurystomina* Micoletzky, 1930.

Specimens of an undescribed species of *Pareurystomina* Micoletzky, 1930 were encountered in collections from Bermuda, Florida and Massachusetts submitted to the Nematology Section, Entomology Research Institute, Ottawa, for identification. A discussion on the occurrence of flattened cervical setae within this genus and the related genus *Eurystomina* Filipjev, 1918 is based on comparative observations of the new species, herein named *P. bissonettei* sp. n., with specimens of *Pareurystomina* and *Eurystomina* in the Canadian National Collection of Nematodes and on information derived from the literature. All measurements given in the following description are in microns unless otherwise indicated.

*Pareurystomina bissonettei* sp. n.¹

(Figs. 1–7)

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Body elongate, filiform, tapering little at extremities. Cuticle smooth, without either external and internal striations or punctuations. Subcuticular vesiculation (Trabekula-Struktur in German literature) present, arranged in four paired rows along edges of lateral and medial chords. Eight longitudinal rows of hypodermal pore complexes present; pore apertures minute, circular in outline, about 1–1.5 in diameter; widely spaced along edges of lateral and medial chords, 45–85 apart. Hypodermal gland cells 10–14 in diameter; interspersed within the rows of vesiculated cells. Body with numerous small, 5–6 circular to oval cells (nuclei?). Much larger, 25–30 long, circular to longitudinally elliptical gland-like cells occur along the entire body length.

Maximum width in male 60 (55–65), in female 77 (63–85). Head 41 (36–47) wide, with six labial papillae and 10 cephalic setae 21.3 (18–23) + 4.2 (3–5) in length. Cervical setae 5–9 long, flattened, and with lense-shaped bases, 2.2 wide by 1 long; superficially arranged in three transverse circles, especially noted on dorsal and ventral surfaces; those on lateral surface not so clearly in line, or with additional setae present. Cervical setae extend 80–100 from anterior extremity. Flattened setae appear again on tail, especially noted on male. Somatic setae sparse, very fine, 3–6 long.

Amphid aperture transversely elongated, reniform, 18–20 by 5–6 in male, 12–15 by 4 in female, 11 by 3.5 in young females (4.12–4.19 mm long) and 9 by 3.5 in juveniles (3.44–3.62 mm long).

Vestibule with numerous, short (5) longitudinal striations. Stoma 37.7 (30–47) deep, divided into two portions by a transverse band of cuticle at base of anterior chamber. Posterior region of anterior chamber with one complete circle of denticles plus one to four, progressively shorter, partial segments. Fewest rows of denticles (one) on stomatal wall in vicinity

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¹ Named in honor of my former technician, Mr. Raymond Bissonette, in recognition of the time he devoted to the initial phases of this study.

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of subventral tooth, greatest number (up to five) at point opposite tooth. Right subventral wall of posterior stomatal chamber with large tooth; tooth projecting anterior to rows of denticles, base of tooth wide. Excretory system not detected. Esophagus elongate-conoid, 1.02–1.50 mm long (1.02–1.21 mm Massachusetts; 1.19–1.41 mm Florida; 1.35–1.50 mm Bermuda). Eight somato-esophageal muscle bands extend from anterior portion of esophagus to body wall at base of cephalic extremity. Tail 81–144 long (1.5–2.5 anal body diameters); obtrusely conoid in anterior half; abruptly tapered and spicate in posterior extremity. Spicate portion of male tail with transverse rows of papillloid projections; these not occurring on females or juveniles. Anal body diameter 56.6 (51–67). Spinneret system lacking.

Male 4.82–5.76 mm long; diorchic, gonads outstretched. Spicules 93 (89–95) (chord 73 (70–77)), proximal extremity somewhat narrowed, distal extremity with hook-like processes. Gubernaculum with paired, dorsally directed apophyses, 20.5 (16–24) long. Two characteristic preanal supplements located approximately 165 and 300 preanally, respectively. Each supplement composed of central, cup-shaped portion surrounding distal extremity of prominent gland duct. Apophyses associated anteriorly and posteriorly with each central portion; anterior members reduced in size, 15 long, posterior members well developed, 34–40 and 41–42 long for anterior tail and posterior supplement, respectively. Two pairs of stout, 5 long, setae occur immediately in front of cloacal aperture. In addition to setae and preanal supplements, two subventral pairs of papillae (or innervated processes) occur, one at level of proximal extremity of spicules, the other midway between first pair of papillae and posteriormost preanal supplement.


**Holotype specimen:** Male; in Canadian National Collection of Nematodes, Entomology Research Institute, Ottawa, Collection No. 5039, Type slide No. 203.

**Allotype specimen:** Female on Type slide No. 203. Other data as for holotype.

**Paratype specimens:** Six males, four females, two young females and two juveniles on Type slides Nos. 203a to 203h. Canadian National Collection of Nematodes, Collection Nos. 4823, 5039, 5990, 5991, and 5992.

**Type locality and collection data:** Two males and three females extracted from sediment washed from the calcareous alga, *Haliotis spinulosa*, located offshore from the northwest shore of Key Biscayne. Collected 24 February 1965, by B. E. Hopper. Type locality, Biscayne Bay, Miami, Florida, USA.

**Other localities:** Beach on the grounds of the Institute of Marine Sciences, Virginia Key, Miami (one male and two juveniles collected by S. P. Meyers, 8 October 1965); sandy sediment within a bed of turtle grass, *Thalassia testudinum* König, located offshore from the beach at Virginia Key (Site A of Hopper and Meyers, 1967) (two young females collected by B. E. Hopper, 22 January 1965); coarse and fine sand in vicinity of *Thalassia* beds, Baileys Bay, Bermuda (one male and one female collected by Bruce Coull, June and September 1967, respectively); sand and gravel, Nobska Beach, Woods Hole, Massachusetts (three males and one female collected by D. J. Zinn, 1 August 1967).

**Differential diagnosis:** *Pareurystomina*
bissonettei sp. n. differs from other species in the genus by the shape and length of its tail. The tail is obtusely conoid in the anterior portion, then abruptly tapered and spicate posteriorly. The spicate portion of the male tail bears numerous transverse rows of papilloid projections. The longitudinal rows of vesiculated cells are also considered unique for this species. The pronounced asymmetry of the winglike apophyses associated with the preanal supplements further serves to distinguish the new species from those species in which males are known.

Remarks

On the occurrence of “Flattened Cervical Setae.” Wieser (1959), in describing *Eurystomina repanda* and *Pareurystomina pugetensis* was the first to recognize the existence of cervical setae which were enlarged “so as to form flaplike appendages.” Chitwood (1960) regarded flattened cervical setae to be unique and in his key used their presence to separate *P. pugetensis* from the remaining species. Unfortunately, Chitwood failed to notice that his own species, *P. atypica* Chitwood, 1960, likewise possessed flattened cervical setae. Their presence on *P. atypica* was determined by an examination of a paratype female loaned to the author from the Nematology Department, University of California at Davis, California. Furthermore, all species of *Pareurystomina* that I have examined to date have flattened cervical setae. Thus, this feature can no longer be regarded as specific in nature but must be considered at least on the generic level. That *E. repanda* also possesses this characteristic would cause one to consider the feature more at a family level. However, all species of *Eurystomina* do not possess flattened cervical setae, at least not as prominently flattened as in *Pareurystomina* spp. and *E. repanda*. *E. americana* and *E. minutisculac* may have a tendency towards flatness but they are not comparable to the better known examples.

Acknowledgments

I wish to express my appreciation to Drs. S. P. Meyers, Louisiana State University, Bruce Coull, Duke University Marine Laboratory, and D. J. Zinn, University of Rhode Island, for their efforts in procuring specimen materials used in this study. A special token of appreciation is given to my former technician, Mr. Raymond Bissonette, to acknowledge the time and effort he devoted to the initial phases of this study above and beyond that required of his normal duties. Thanks are also due to Fr. R. W. Timm, University of California, for making available for study the paratype specimen of *P. atypica* Chitwood, 1960.

Literature Cited


