**Rhabdochona catostomi** sp. n. (Nematoda: Rhabdochonidae) from the Intestine of *Catostomus* spp. (Catostomidae)¹

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**ABSTRACT:** *Rhabdochona catostomi* sp. n. is described from *Catostomus catostomus* (Forster) collected from the Nose River, Alberta. It is also reported from *C. ardens* Jordan and Gilbert and *C. sp.* from Idaho and Colorado, respectively. *Rhabdochona catostomi* is characterized by having a terminal ventral barb on the left spicule, bifurcate deirids, eggs with polar filaments, eight or nine caudal papillae, and a terminal cuticular spike on the caudal tip. Moravec's (1972) subgeneric definitions of *R. (Rhabdochona), R. (Filochona),* and *R. (Globochona)* which were based primarily on egg morphology are considered of little value in determining specific relationships within the genus.

While investigating the helminth parasites of the Upper Snake River in Idaho during 1976, a new species, *Rhabdochona catostomi,* was recovered from the intestine of the Utah sucker, *Catostomus ardens* Jordan and Gilbert. This constituted the third time we recovered this worm from *Catostomus* spp. in North America. It was first found (spring 1974) in *Catostomus* sp. from the North Platte River, Colorado, and subsequently (fall 1974) in *C. catostomus* (Forster) in Nose River, Calgary, Alberta.

The nematodes were fixed alive in hot AFA or 70% ethanol and cleared in glycerin by infiltration. Several specimens were dissected to remove the spicules and eggs which were permanently mounted on slides in Grey and Wess’ media (Humason, 1967) (slides deposited in USNM Helm. Coll. No. 74896). *En face* views were prepared by decapitation and subsequent mounting in glycerin. Specimens for scanning electron microscopy were dehydrated to 100% ethanol, passed through a graded series of ethanol and acetone, critical-point dried, and gold coated. Drawings were made with the aid of a camera lucida and microprojector. Measurements are in micrometers unless otherwise stated.

**Rhabdochona catostomi** sp. n.  
(Figs. 1–9)

**TYPE HOST AND LOCALITY:** *Catostomus catostomus* (Forster), Nose River, Calgary, Alberta.


**LOCATION:** Intestine.

**TYPE SPECIMENS:** 2 males, 5 females (all from Alberta); holotype (male), USNM Helm. Coll. No. 74893; allotype (female), No. 74894; paratypes, No. 74895.

**DESCRIPTION:** Body filiform; males smaller than females. Cuticle with incon-
spicuous transverse annulations (visible only in SEM preparations). Caudal end conical, with terminal spike. Mouth with 2 bilateral rudimentary pseudolabia; 2 large bilateral amphids, cephalic papillae arranged in outer circle of 4 (Fig. 8); inner circle apparently absent. Prostome funnel shaped, lacking basal teeth; interior wall of prostome with 10 longitudinal cuticular ridges; ridges terminating in anterior teeth, lateral ridges (4) bifurcate anteriorly forming 2 teeth each (Fig. 8). Mesostome elongate, smooth. Cuticle lining entire vestibule (=prostome + mesostome). Esophagus with anterior muscular and wider posterior glandular regions. Deirids small, bifurcate (Fig. 9), lying slightly anterior to midvestibule. Nerve ring at level of anterior ¼ of muscular esophagus.

**MALE:** Body 8.9 to 14.3 mm long; maximum width 173 to 211 at level of junction of esophagus and intestine. Prostome 22 to 34 long; vestibule 134 to 174 long. Muscular portion of esophagus 336 to 372 long, 25 to 28 wide at its posterior end. Glandular esophagus 3.5 to 4.8 mm long, 59 to 62 wide near junction with intestine. Nerve ring 204 to 238, deirids 76 to 85, excretory pore 484 (all) from cephalic tip. Tail 336 to 392 long, curled ventrally. Caudal alae absent. Subventral preanal and postanal papillae variable in number; with 8 or 9 preanal and 5 postanal pairs; second postanal pair (from cloaca) slightly more lateral. Ventral surface of caudal end with several preanal cuticular ridges (6 in cross section of one specimen collected in Idaho) oriented slightly diagonal to the longitudinal body axis. Spicules enclosed within sheath; right spicule 151 to 154 long, with reflected distal barb. Left spicule 546 to 562 long, slender, with ventral groove; spicule tip with ventral barb.

**FEMALE:** Body 15.3 to 16.7 mm long; maximum width 248 to 292 near junction of esophagus and intestine. Prostome 28 to 31 long; vestibule 154 to 176 long. Muscular esophagus 375 to 417 long; 25 to 34 wide at posterior end. Glandular esophagus 4.97 to 6.10 mm long; 56 to 73 wide near junction with intestine. Nerve ring 227 to 284, deirids 90 to 97 (both) from cephalic tip. Tail 227 to 280 long; usually straight. Vulva ventral, postequatorial, comprising a transverse slit surrounded by elevated labia. Mature eggs ellipsoidal, embryonated; poles usually with complex elongate filaments. Eggs 31 to 36 by 20 to 24; surface smooth.
Discussion

The closest relative of Rhabdochona catostomi sp. n. is apparently R. denudata (Dujardin, 1845). Rhabdochona catostomi differs from this species by having a more prominent ventral barb on the left spicule and by possessing filamented eggs (filaments lacking in R. denudata). Rhabdochona catostomi was recovered from at least two species of Catostomus; the specific name indicates this host-parasite relationship.

Three other Rhabdochona spp. have been reported from suckers of the Catostomidae: R. ovifilamenta Weller, 1938, from Catostomus commersoni (Lacépède) and C. platyrhynchus (Cope); R. cascadilla Wigdor, 1918, from C. commersoni; and R. milleri Choquette, 1951, from Moxostoma macroplepidotum (LeSueur). Rhabdochona ovifilamenta differs from R. catostomi by having short polar filaments on the eggs, shorter spicules of a different shape, conspicuously large deirids on the female, and more prostomial teeth. Rhabdochona catostomi is distinguished from R. milleri by possessing larger spicules, smaller deirids, an overall larger body size, and by lacking basal prostomial teeth. Rhabdochona catostomi differs from R. cascadilla by being much larger, and by having a ventral barb on the left spicule (absent in R. cascadilla) and filamented eggs (filaments lacking in R. cascadilla).

Moravec (1972) divided Rhabdochona, s. l., into three subgenera, R. (Rhabdochona), R. (Filochona), R. (Globochona), based primarily on the presence or absence of filaments or floats on the eggs. These subgeneric taxa were considered to be artificial by Margolis et al. (1975) primarily because species assigned to one subgenus were often most similar (except in egg morphology) to a member of another. They indicated that confusion has resulted because of the past utilization of only these criteria for separation of subgenera, and proposed that more features be incorporated. Also, Moravec and Arai (1971) found that during manipulation of the eggs, polar filaments were easily lost; and, in the present study, both filamented and nonfilamented mature eggs were observed in the same specimen. Thus, our assignment of R. catostomi to a subgenus pends clearer subgeneric definitions.

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Literature Cited