

REDESCRIPTION OF *RHABDOCHONA (RHABDOCHONA) ACUMINATA* (NEMATODA: RHABDOCHONIDAE) FROM FRESHWATER FISHES FROM PATAGONIA (ARGENTINA), THE GEOGRAPHICAL IMPLICATIONS

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ABSTRACT: *Rhabdochona (Rhabdochona) acuminata* is redescribed from specimens parasitizing *Diplomystes mesembrinus* (Siluriformes: Diplomystidae) and *Percichthys trucha* (Perciformes: Percichthyidae) from the Chubut River, Patagonia, Argentina. The present report is the first record of this nematode in *D. mesembrinus*; it also confirms *P. trucha* as host and Patagonia as a region of distribution for *R. (R.) acuminata*. Morphological features of the species were described using light and scanning electron microscopy. When compared with previous descriptions from Brazil, very similar morphology is observed. But large morphometric variability is found, mainly in body size, spicule ratio, and number and arrangement of pre- and postcloacal papillae.

Rhabdochona Railliet, 1916 (Nematoda: Rhabdochonidae) consists of more than 60 species worldwide, 7 of which have been recorded from freshwater fishes in the Neotropical Region (Moravec, 1998; Caspeta-Mandujano et al., 2000, 2001). Moravec (1972) reviewed South American species and considered only 2 as valid, *Rhabdochona (Rhabdochona) acuminata* (Molin, 1860) and *R. (R.) uruyeni* Díaz-Ungria, 1968. *Rhabdochona (Rhabdochona) acuminata* was first described from *Brycon falcatus* Müller and Troschel (Osteichthyes: Characiformes: Characidae) in Mato Grosso, Brazil (Moravec, 1998). This nematode was also recorded in characid, anostomid, and pimelodid fishes in the Paraná River drainage system, Brazil, and in Ecuador (Travassos et al., 1928; Vaz and Pereira, 1934; Kloss, 1966; Petter, 1987). The southernmost record of *R. (R.) acuminata* is that done by Szidat (1956), who reported 1 male and 1 female from *Percichthys trucha* Cuvier and Valenciennes (Osteichthyes: Perciformes: Percichthyidae) from Limay River, Patagonia, Argentina. But Moravec (1998) stated that it is highly probable that another congeneric species was mistaken for *R. (R.) acuminata*.

The aim of the present article is to redescribe *R. (R.) acuminata* from *Diplomystes mesembrinus* Ringuelet (Osteichthyes: Siluriformes: Diplomystidae) and *P. trucha* in Patagonia. In addition, the fourth larval stage is described. The geographical implications are also considered.

MATERIALS AND METHODS

During a biological survey conducted from February 1990 to October 1998, 73 specimens of *D. mesembrinus* and 72 of *P. trucha* were collected in 3 localities along the Chubut River (province of Chubut, Argentina) as follows: Boca Toma (43°39'S, 66°22'W) (9 *D. mesembrinus* and 67 *P. trucha*), Cañadón Carbón (43°50'S, 67°49'W) (50 *D. mesembrinus* and 5 *P. trucha*), and Campo Tames (43°53'S, 68°24'W) (14 *D. mesembrinus*). The fishes were fixed in 10% formalin. The nematodes recovered were stored in 70% alcohol and cleared in alcohol-glycerol for light microscopic investigation. En face study was carried out according to Anderson's (1958) method. The drawings were made with the aid of a camera lucida. Some specimens from both hosts were dried by critical point method for study under a scanning electron microscope

(SEM) (Jeol/SET100) and photographed. Drawings of the apical view and the distal extremity of the left spicule are based on light microscopy and SEM. The 2 specimens collected and identified by Szidat (1956) as *R. acuminata*, and deposited in the Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" (Invertebrates Collection MACN number 37), were reexamined and measured. Average measurements of 10 males and 10 females (from each host), and 10 fourth-stage larvae (from *P. trucha*) are given in micrometers, except when indicated otherwise, with the range in parentheses. Measurements of *D. mesembrinus* are followed by those of *P. trucha*. Parasitological indices were used according to Bush et al. (1997).

REDESCRIPTION

Rhabdochona (Rhabdochona) acuminata (Molin, 1860)

(Figs. 1–21)

General: Medium-sized nematodes. Cuticle with light transverse striations (Figs. 12, 13). Mouth opening rectangular oblong (Figs. 10, 11); 4 internal papilla-like structures (Figs. 10), 4 cephalic papillae (Figs. 2, 10, 11). Large amphids with 1 cuticular adjournment close to each amphid (Figs. 2, 10, 11). Prostomium funnel-shaped with distinct basal teeth (Fig. 3). Anterior margin of prostomium armed with 14 conical teeth (3 dorsal, 3 ventral, 4 lateral [2 + 2]) (Figs. 2, 10, 11). Deirids stylet shaped, simple, asymmetrically disposed, situated near the end of the prostomium (Figs. 3, 12, 13). Tail of both sexes conical (Figs. 4, 7, 14). Phasmids near tip of tail (Fig. 18).

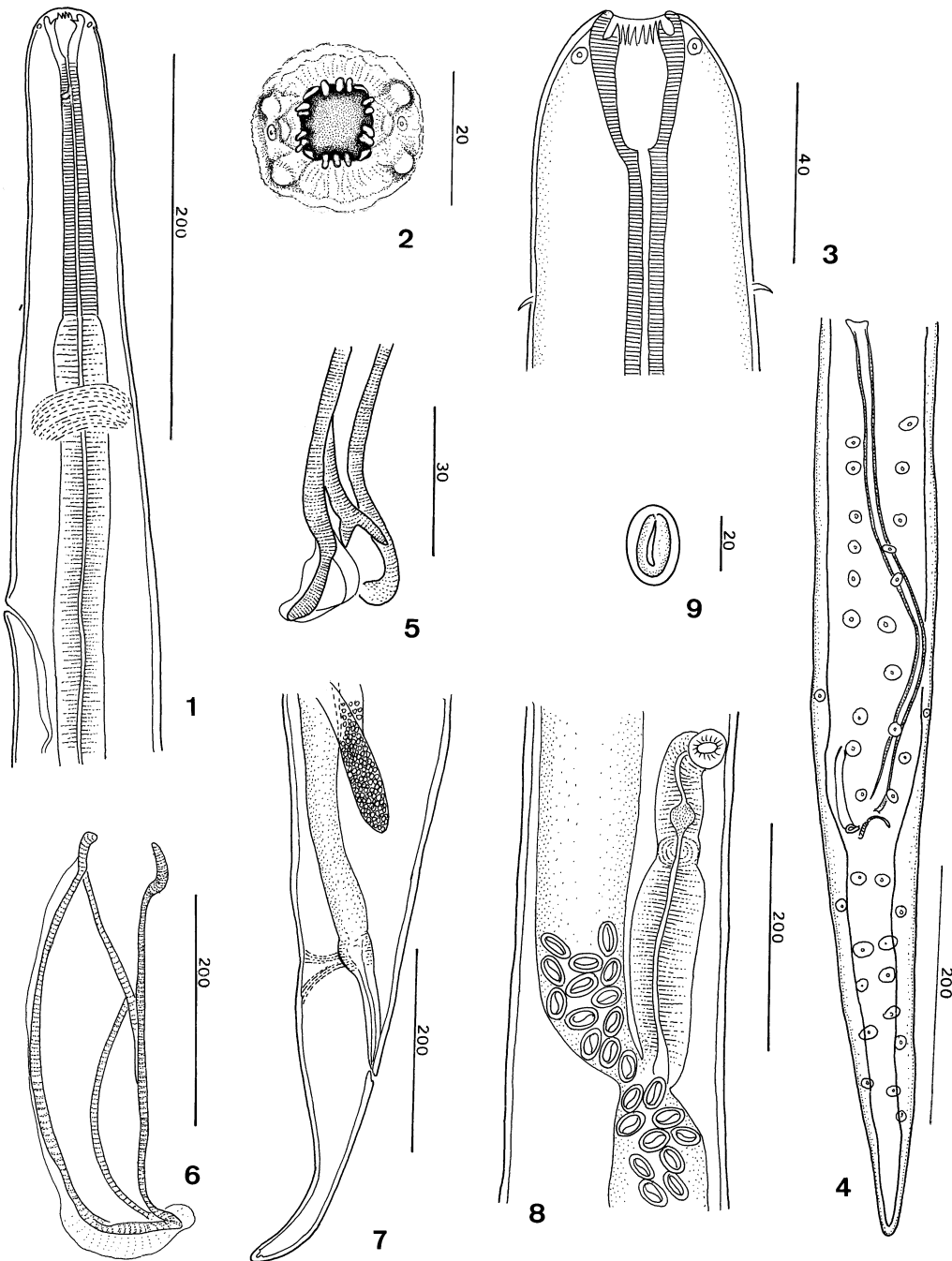
Male: Body 8.24 (6.72–9.19) (5.68 [4.18–7.11]) mm long; 120 (111–133) (84 [69–110]) wide at midbody. Prostomium 21 (18–24) (25 [20–33]) long, 14 (12–15) (16 [13–19]) wide. Vestibule including prostomium 147 (126–162) (106 [81–131]) long; muscular esophagus 327 (273–375) (239 [200–281]) long, glandular esophagus 1.59 (1.35–1.83) (977 [850–1.28]) mm long. Right deirid 54 (48–63) (44 [28–53]), left deirid 58 (53–65) (50 [32–60]), nerve ring 181 (152–201) (162 [136–183]), excretory pore 284 (222–309) (226 [170–263]) from anterior end. Subventral precloacal papillae in combinations of 8 + 10 and 9 + 10; additional lateral pair of papillae between third and fourth subventral pair (counting from cloacal opening). Postcloacal papillae in combinations of 6 + 7, 7 + 7, 6 + 8, and 7 + 8; second lateral pair, others subventral (Figs. 4, 14). Area rugosa absent. Spicules dissimilar, unequal. Right spicule 73 (63–88) (92 [84–101]) long, with dorsal membranous ala on distal end (Fig. 6). Left spicule 455 (439–479) (462 [422–487]) long; distal part with ventral membranous heel, dorsal hook with tip folded (Figs. 5, 15–17); shaft 221 (199–240) (220 [206–232]) long, representing 49% (44–53%) (48% [46–50%]) of total spicule length. Anterior end of testis near the end of esophagus, posterior end of testis near rectum. Tail conical, 311 (269–386) (305 [251–370]) long. Caudal extremity ventrally curved, sometimes straight.

Female: Body 14.57 (12.50–16.55) (9.47 [7.45–10.84]) mm long; 171 (149–198) (126 [99–148]) wide at vulva level. Prostomium 29 (27–32) (27 [24–32]) long, 17 (15–18) (18 [16–21]) wide. Vestibule including prostomium 161 (132–192) (116 [100–126]) long; muscular esophagus 394 (315–444) (308 [220–390]) long, glandular esophagus 1.55 (1.15–

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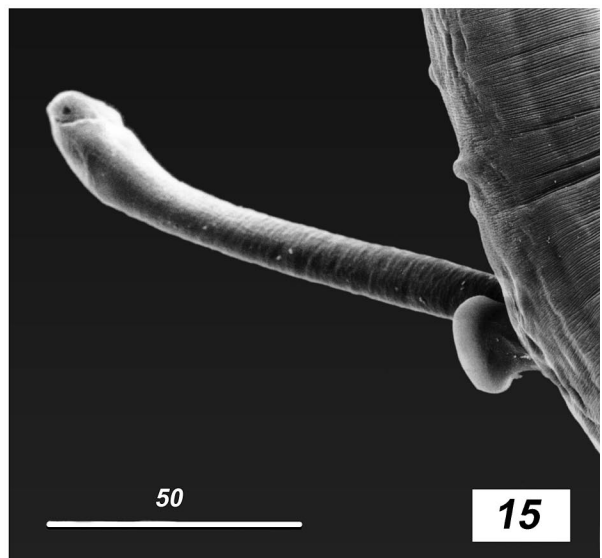
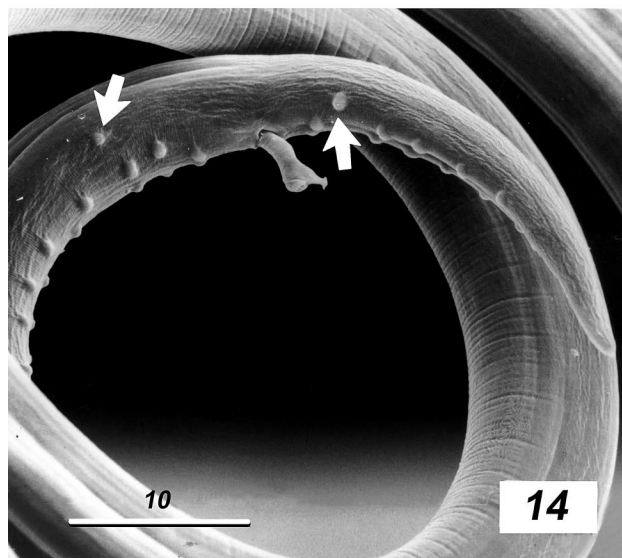
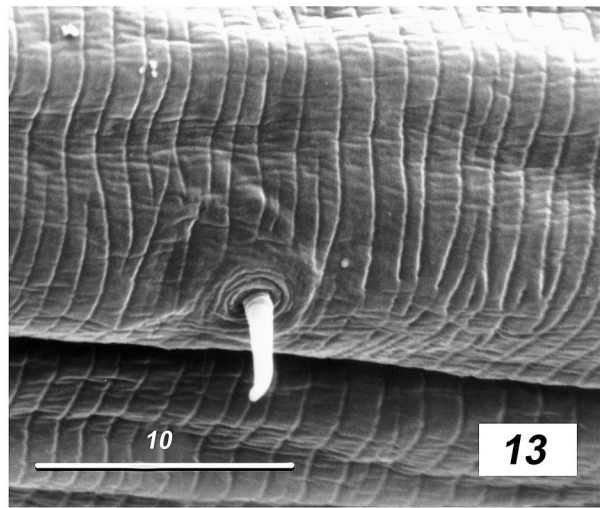
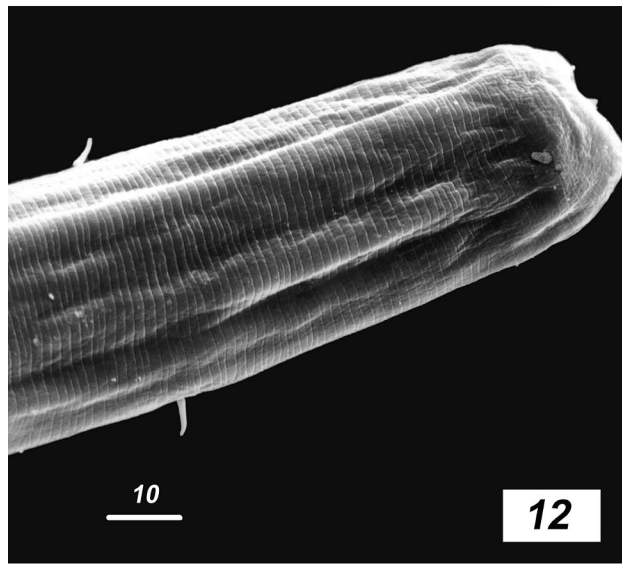
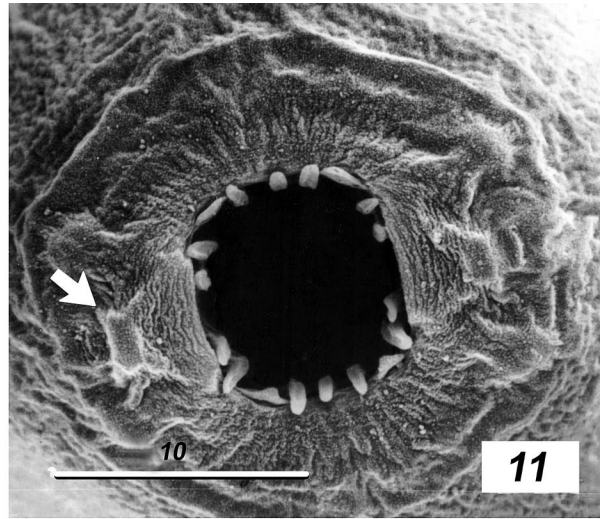
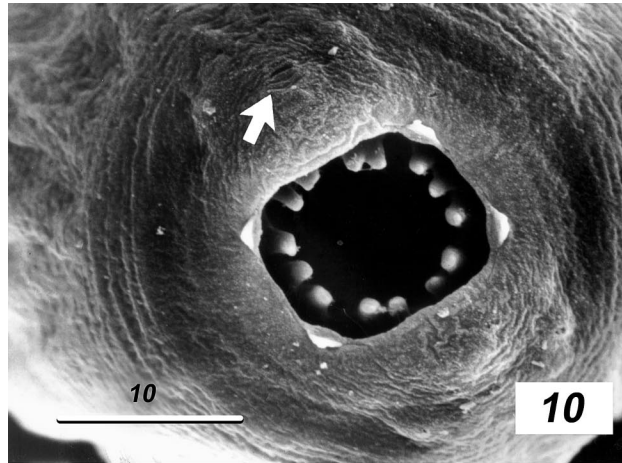


FIGURES 1–9. *Rhabdochona (Rhabdochona) acuminata*. 1. Anterior extremity of male, lateral view. 2. Apical view of anterior end of female. 3. Anterior extremity of male, ventral view. 4. Posterior extremity of male, ventral view. 5. Distal end of left spicule, lateral view. 6. Right spicule, left lateral view. 7. Tail of female, lateral view. 8. Region of vulva, ventrolateral view. 9. Larvated egg.

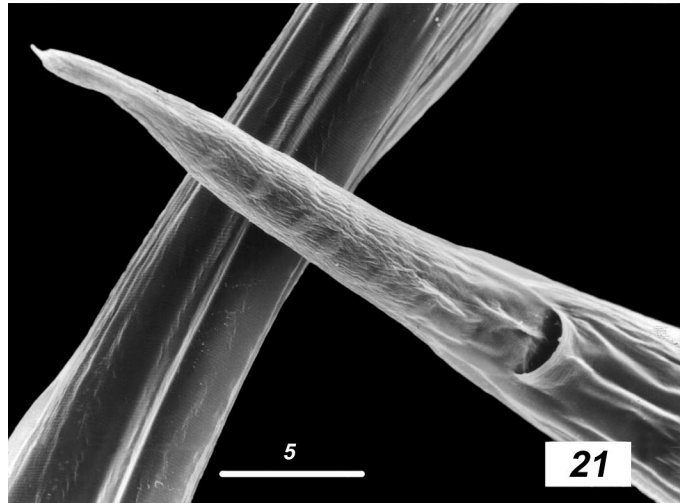
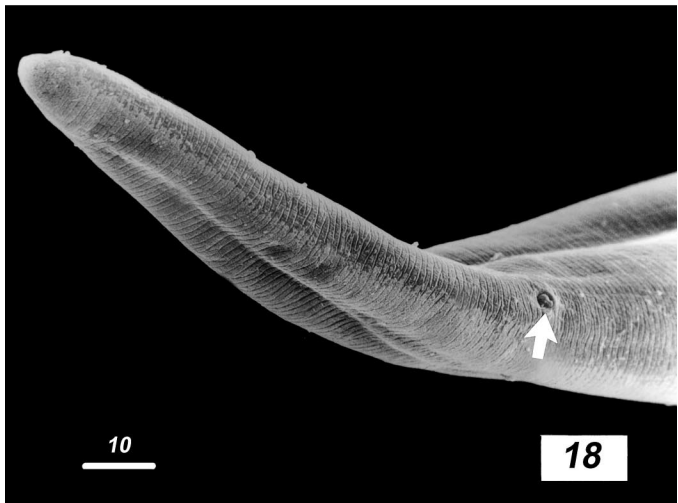
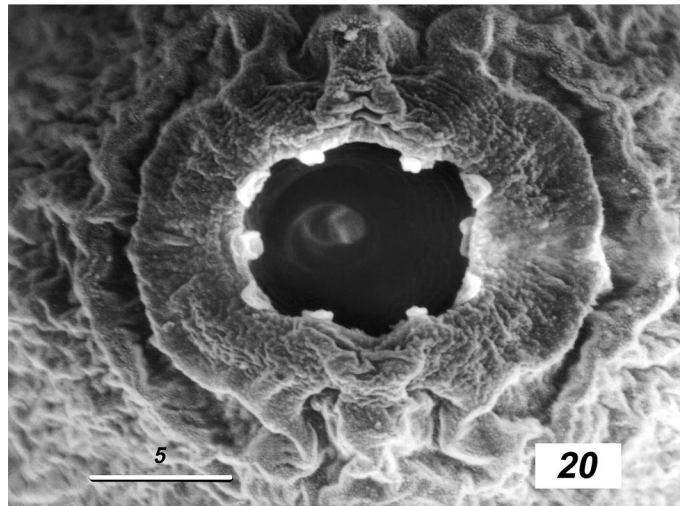
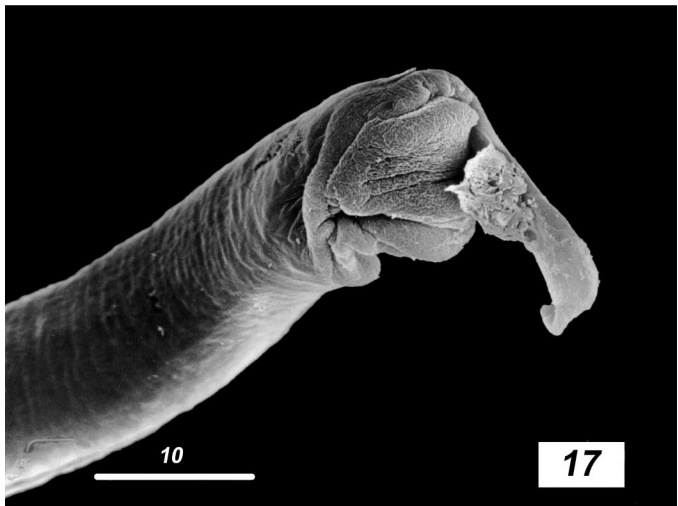
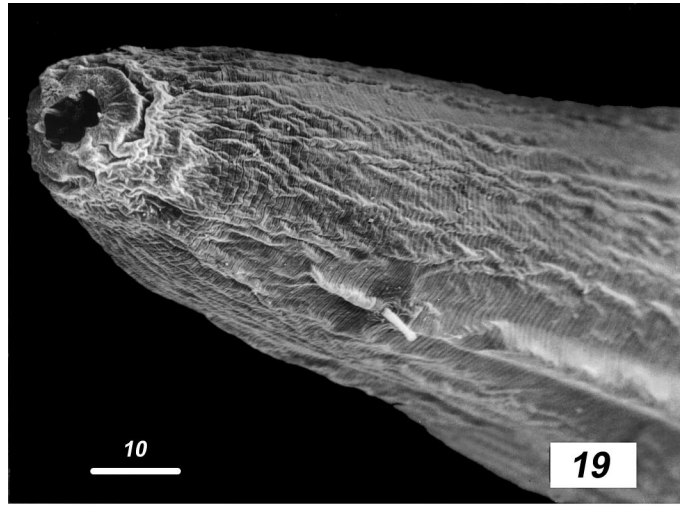
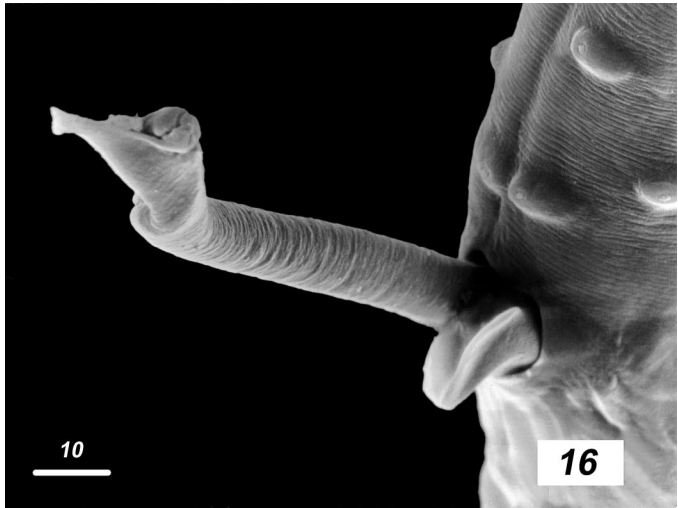
1.91 (1.21 [1.05–1.50]) mm long. Right deirid 55 (48–63) (49 [41–60]), left deirid 60 (57–67) (55 [39–66]), nerve ring 205 (183–228) (153 [127–174]), excretory pore 321 (297–400) (222 [172–290]) from anterior end. Vulva conspicuous, postequatorial 6.05 (5.08–7.70) (4.32 [3.35–5.16]) mm from tip of tail. Ovejector directed posteriorly from vulva, 309 (234–350) (320 [248–358]) long, divided into 3 portions: muscular vagina 99 (76–120) (111 [92–122]) long; muscular sphincter 29 (24–42) (32 [23–38]) long, preceded by widening, acting as sperm store; tromp 176 (120–213) (171 [120–208]) long (Fig. 8). Anterior ovary near the end of esophagus, posterior ovary near rectum. Uterus amphidelphic. Eggs larvated, oval, smooth, nonfilamented, 28 (24–31)

(28 [26–29]) long, 16 (15–18) (17 [16–18]) wide (Fig. 9). Tail conical, 230 (201–249) (204 [176–228]) long.

Fourth larval stage: Body 3.68 (2.79–4.39) mm long, 61 (53–74) wide at midbody. Prostom 17 (12–20) long, 13 (11–15) wide, with 6 conical anterior teeth (1 dorsal, 1 ventral, 4 lateral [2 + 2]) (Fig. 20). Vestibule including prostom 86 (68–110) long; muscular esophagus 190 (151–227) long, glandular esophagus 652 (540–840) mm long. Right deirid 38 (28–50), left deirid 42 (33–52), nerve ring 126 (94–153), excretory pore 171 (141–218) from anterior end. Genital primordium tubular; sexes could not be determined. Tail 193 (161–213) long, with sharp terminal cuticular spike (Fig. 21).



FIGURES 10–15. *Rhabdochona (Rhabdochona) acuminata*, SEM micrographs. **10.** Apical view of female; see amphids (arrow), cephalic papillae, internal papilla-like structures, and teeth. **11.** Apical view of male; see cuticular adjournments (arrow). **12.** Anterior extremity of male, ventral view with deirids. **13.** Detail of deirid. **14.** Posterior extremity of male, with protruded left spicule, and lateral precloacal and postcloacal papillae (arrows), ventrolateral view. **15.** Left spicule and tip of right spicule, dorsal view. Figures 11, 14, and 15 show specimens from *P. trucha*, the others from *D. mesembrinus*.



FIGURES 16–18. *Rhabdochona* (*Rhabdochona*) *acuminata*, SEM micrographs. **16.** Left spicule, left lateral view. **17.** Left spicule, ventral view. **18.** Tip of conical tail, phasmid (arrow). Figures 17 and 19 show specimens from *P. trucha*, the others from *D. mesembrinus*.

FIGURES 19–21. Fourth larvae of *R. (R.) acuminata* from *P. trucha*, SEM micrographs. **19.** Anterior end with deirid, lateral view. **20.** Apical view of cephalic end with teeth, internal papilla-like structures, cephalic papillae, and cuticular adjournments. **21.** Caudal end with cloaca and sharp cuticular spike, ventral view.

TABLE I. Values of prevalence (P), mean intensity (Im), and intensity range (Range) for *Rhabdochona* (*R.*) *acuminata* in 2 freshwater fish species in 3 localities of the Chubut River, Argentina. N = number of fishes examined.

| Locality | <i>Diplomystes mesembrinus</i> | | | | <i>Percichthys trucha</i> | | | |
|----------------|--------------------------------|-------|-------|-------|---------------------------|-------|------|-------|
| | N | P (%) | Im | Range | N | P (%) | Im | Range |
| Boca Toma | 9 | 44.44 | 8 | 1–25 | 67 | 19.40 | 5.15 | 1–28 |
| Cañadón Carbón | 50 | 75.55 | 16.26 | 1–100 | 5 | 60 | 2.33 | 1–3 |
| Campo Tames | 14 | 85.71 | 13 | 1–22 | — | — | — | — |
| Total | 73 | 73.97 | 14.93 | 1–100 | 72 | 19.44 | 5.93 | 1–28 |

Taxonomic summary

Hosts: *Diplomystes mesembrinus* Ringuet (Osteichthyes: Siluriformes: Diplomystidae); *Percichthys trucha* Cuvier and Valenciennes (Osteichthyes: Perciformes: Percichthyidae).

Site of infection: Intestine.

Locality: Chubut River (43°39'–43°53'S, 66°22'–68°24'W), province of Chubut, Patagonia, Argentina.

Prevalence and mean intensity: See data in Table I.

Specimens deposited: Voucher specimens from both hosts in the Helminthological Collection of Museo de La Plata (CHMLP nos. 4937, 4938), La Plata, Argentina.

DISCUSSION

According to Moravec et al. (1991), *R. acuminata* can be included in the subgenus *Rhabdochona* Railliet, 1916 because of the smooth surface of its mature eggs. Previous descriptions of this nematode (Travassos et al., 1928; Vaz and Pereira, 1934; Kloss, 1966; Moravec, 1972) fully agree with the morphology of specimens from *D. mesembrinus* and *P. trucha*. Although *R. (R.) acuminata* was widely reported, some morphological features that were not previously observed are described. Some were seen by light microscopy, and these included cephalic papillae, ovejector divided in vagina, sphincter and trompa, and distal tip of left spicule complexity. The other morphological features, observed only by SEM, were internal papilla-like structures, cuticular adjournments located close to amphids, and phasmids. Light transverse striations of the cuticle were previously reported only by Travassos et al. (1928). Fourth-stage larvae were found to have only 6 teeth in the prostom, differing from adults in the number of lateral, dorsal, and ventral teeth. The fact that larvae have less teeth than adults have seems to be a common feature in the species of *Rhabdochona* (see Moravec, 1972).

The morphology of the left spicule tip as described here seems to be different when compared with drawings by Kloss (1966, figs. 55, 61, 69) and by Moravec (1972, fig. e). But the authors mentioned earlier made different drawings from the same specimens. Yet, Kloss (1966) drew different spicules for *R. australis* and for *R. fasciata*, which are presently considered synonyms of *R. (R.) acuminata* (see Moravec, 1972). The present observations of the tip of the left spicule agree with the drawing by Travassos et al. (1928, fig. 80), who noticed the protruded left spicule. These differences may be due to the observer, the angle of observation of the spicule (Figs. 15–17), or perhaps both. In agreement with Moravec (1972), spicular tips can be studied more accurately when they are protruded.

According to the present description and those of previous authors (Travassos et al., 1928; Vaz and Pereira, 1934; Kloss, 1966; Moravec, 1972), there is a large intraspecific variation in

the number and arrangement of both pre- and postcloacal papillae. Only lateral papillae (the pair located between the third and fourth subventral precloacal papillae counting from the cloaca and the second postcloacal pair) do not seem to vary.

A tail with a sharp terminal cuticular spike was reported in *R. (R.) acuminata* by Moravec (1972). It agrees with the present observations of larvae and preadult specimens but not of adults, in which the tail tip is nearly rounded. On the other hand, Boomker and Petter (1993) reported the presence of a pair of some sort of cuticular adjournments found close to each amphid in *R. (R.) versterae* Boomker and Petter, 1993. In the present case similar but unpaired structures were found (Fig. 11).

Although the apical end of Szidat's (1965) specimens could not be seen, general morphology and measurements agree with those of *R. (R.) acuminata* from other hosts and localities, especially with specimens from *P. trucha* in the Chubut River (Tables II, III). Thus, *P. trucha* was confirmed as a host of *R. acuminata*.

Measurements reported in the present study agree with those given by other authors (Travassos et al., 1928; Vaz and Pereira, 1934; Kloss, 1966; Moravec, 1972). Main ranges of variations are observed in the body size of both sexes (ranging from 5.68 to 13 mm in males and from 8.58 to 28 mm in females), in the length of glandular esophagus (ranging from 850 to 5.2 mm), and in the spicule ratio (1:2.43–1:6.97) (Tables II, III).

Morphological and morphometric variability discussed here could be explained by geographical and host influences, or there could be more than 1 species involved. But there are no clear morphological or morphometrical differences, which could allow separation of different species. All previously mentioned reports (Travassos et al., 1928; Vaz and Pereira, 1934; Kloss, 1966; Moravec, 1972; Petter, 1987) are based on few specimens (3 or less; Tables II, III). To clarify the taxonomy of *R. (R.) acuminata*, further studies should be carried out using new specimens from previously known hosts and localities.

Moravec (1972) stated that species of *Rhabdochona* seem to be more host specific than is generally believed; the adults and larvae may be found in atypical hosts, in which the adult nematodes can only survive, but their larvae cannot mature. In the present study, comparing fish samples of the same size and locality, prevalence and mean intensity (Table I) were found to be higher in *D. mesembrinus* (74% and 14.93%, respectively) than in *P. trucha* (19% and 5.93%, respectively). Moreover, both male and female specimens of *D. mesembrinus* were larger than those of *P. trucha*, and in the latter host, most of the females had immature eggs. It was observed, though not quantified, that there were more larvae and preadult specimens in

TABLE II. Comparison of measurements of male specimens of *Rhabdochona (R.) acuminata*. References: (n) = number of specimens measured; † Data reproduced from Drasche; ‡ Moravec data from *R. australis* Kloss, 1966; (dfae) = distance from anterior end; * = not clarified whether it belongs to male or female; ** = it agrees from Figs. 1 and 2 but seems shorter in Fig. 3 (Vaz and Pereira, 1934).

| | Travassos et al. (1928)† | Vaz and Pereira (1934) | Kloss (1966) | Moravec (1972) | Present study |
|--------------------------|---|-------------------------|-------------------------|-------------------------|--------------------------|
| | <i>R. acuminata</i> (1) | | <i>R. fasciata</i> (2) | <i>R. acuminata</i> (?) | <i>R. acuminata</i> (10) |
| Reported as (n): | <i>R. elegans</i> (?) | <i>R. acuminata</i> (1) | <i>R. australis</i> (3) | <i>R. acuminata</i> (?) | <i>R. acuminata</i> (10) |
| | <i>Brycon falcatus</i> and <i>Barbus</i> sp. | | | | |
| | <i>Tetragono-pterius</i> sp. | | | | |
| | <i>Pimelodella laterstriga</i> | | | | |
| | <i>Asryanax fasciatus</i> , and <i>A. schubarti</i> | | | | |
| | <i>Asryanax bimaculatus</i> | | | | |
| | <i>Asryanax spp.</i> | | | | |
| | <i>Diplomystes mesembrinus</i> | | | | |
| | <i>Percichthys trucha</i> | | | | |
| | <i>Percichthys trucha</i> | | | | |
| Body length (mm) | 8-13 | 12-13 | 6.04, 4.54 | 6.30-10.22 | 8.24 (6.72-9.19) |
| Body width (mm) | 100-200 | 200 | 82, 62 | 81-122 | 120 (111-133) |
| Prostom | — | — | — | 15-27 × 9-15 | 21 (18-24) × 14 (12-15) |
| Vestibule length | — | 57 × 37** | 128, 110 | 123-150 | 147 (126-162) |
| Muscular esophagus | — | 100-150* | 233, 240 | 270-360 | 327 (273-375) |
| Glandular esophagus (mm) | — | 440-470* | 1.24, 1.10 | 1.18-1.96 | 1.86 (1.35-1.83) |
| Deirids (dfae) | — | 4.8-5.2* | — | 15-51 | 56 (51-64) |
| Nerve ring (dfae) | — | — | 101, 130 | 156-207 | 181 (152-201) |
| Excretory pore (dfae) | — | 250* | —, 260 | 237 | 285 (222-309) |
| Right spicule length | — | 138-146 | 71, 68 | 81-120 | 73 (63-88) |
| Left spicule length | — | 423-446 | —, 383 | 576-591 | 455 (439-479) |
| Spicule ratio | 1:3 | 1:2.64 | 1:5.47 | 1:5.78 (4:93-7:11) | 1:6.23 (5:44-6:97) |
| Tail length | — | 350-400 | 264, 210 | 243-375 | 311 (269-386) |
| | | | | | 47 (30-57) |
| | | | | | 162 (136-183) |
| | | | | | 226 (170-263) |
| | | | | | 92 (84-101) |
| | | | | | 462 (422-487) |
| | | | | | 1:5.02 (4:47-4:82) |
| | | | | | 305 (251-370) |

TABLE III. Comparison of measurements of female specimens of *Rhabdochona (R.) acuminata*. References: (n) = number of specimens measured; † Data reproduced from Drasche; ‡ Moravec data from *R. australis* Kloss, 1966; (dfae) = distance from anterior end; (dfpe) = distance from posterior end; * = not clarified whether it belongs to male or female; ** = it agrees from Figs. 1 and 2 but seems shorter in Fig. 3 (Vaz and Pereira, 1934); § = this specimen lacks the tip of tail.

| Sources: | Vaz and Pereira (1934) | | Kloss (1966) | | Moravec (1972)‡ | | Present study | |
|--------------------------|------------------------------|-------------------------|---|-------------------------|-----------------------------|-------------------------|--------------------------------|---------------------------|
| | Travassos et al. (1928)† | Pereira (1934) | Kloss (1966) | Kloss (1966) | Moravec (1972)‡ | Moravec (1972)‡ | <i>R. acuminata</i> (10) | <i>R. acuminata</i> (10) |
| Reported as (n): | <i>R. elegans</i> (?) | <i>R. acuminata</i> (?) | <i>R. fasciata</i> (3) | <i>R. australis</i> (3) | <i>R. acuminata</i> (?) | <i>R. acuminata</i> (?) | <i>R. acuminata</i> (10) | <i>R. acuminata</i> (10) |
| Hosts: | <i>Tetragono- pterus</i> sp. | <i>Glanidium neivai</i> | <i>Asryanax fasciatus</i> , and <i>A. schubarti</i> | | <i>Asryanax bimaculatus</i> | <i>Asryanax</i> spp. | <i>Diplomystes mesembrinus</i> | <i>Percichthys trucha</i> |
| Body length (mm) | 22-28 | 18 | 20.62 (18.80-22.30) | 14 (12.61-15) | 10.69-20.45 | 14.57 (12.50-16.55) | 8.58 | 9.47 (7.45-10.84) |
| Body width (mm) | 300 | 280 | 261 (247-288) | 151 (124-165) | 95-272 | 171 (149-198) | 105 | 126 (99-148) |
| Prostom | — | 57 × 37** | — | — | 21-36 × 12-30 | 29 (27-32) × 17 (15-18) | 27 × 17 | 27 (24-32) × 18 (16-21) |
| Vestibule length | 100-150 | 136 | 143 (139-148) | 151 (124-165) | 144-156 | 161 (132-192) | 138 | 116 (100-126) |
| Deirids (dfa) | — | — | — | — | 60 | 57 (52-65) | Not seen | 52 (40-63) |
| Nerve ring (dfa) | — | 240* | 258 (210-296) | 293 (242-374) | 204-270 | 205 (183-228) | 165 | 153 (127-174) |
| Excretory pore (dfa) | 250* | 410* | 338 (278-407) | 341 | — | 321 (297-400) | 237 | 222 (172-290) |
| Muscular esophagus | 440-470* | 600 | 509 (451-540) | 432 (395-484) | 321-476 | 394 (315-444) | 276 | 308 (220-390) |
| Glandular esophagus (mm) | 4.8-5.2* | 2.60 | 4.40 (3.95-5.14) | 1.90 (1.72-2.07) | 1.44-4.41 | 1.55 (1.15-1.92) | 1.13 | 1.21 (1.05-1.50) |
| Vulva (dfpe) (mm) | — | 9.25 | 9.88 (8.90-11.10) | 6.01 (5.06-6.43) | 4.27-8.19 | 6.04 (5.08-7.70) | 5.30 | 4.32 (3.35-5.16) |
| Eggs | 42 × 18 | — | 24 × 18 | 23 (21-24) × 16 (13-18) | 30 × 21 | 28 (24-31) × 16 (15-18) | 24 × 15 | 28 (26-29) × 17 (15-18) |
| Tail length | 380 | 360 | 258 (210-296) | 261 (247-288) | 225-240 | 230 (201-249) | — | 204 (176-228) |

P. trucha than in *D. mesembrinus*. Thus, *P. trucha* cannot be considered as an atypical host because larvae can mature in this host. It seems as if *D. mesembrinus* is the preferred host of *R. (R.) acuminata* in the Chubut River.

Taking into account the presence of *R. (R.) acuminata* in Patagonia, about 3,000 km from the nearest previous record, this nematode is considered a widespread species, encompassing almost all of South America. According to Moravec et al. (1991), parasites can change their preferred host near the border of their distribution area, e.g., the widespread palearctic species *R. denudata* (Dujardin, 1845). It could be the same situation for *R. (R.) acuminata*, which mainly uses characiform fishes in Brazil and siluriform fishes in Argentinean Patagonia.

The other species described in South America is *R. (R.) uruyeni* Díaz-Ungría, 1968, which was reported from *Piabucina* sp. (Characiformes: Characidae) from Venezuela (Díaz-Ungría, 1968; Moravec, 1972). Morphological features of *R. (R.) uruyeni* are very similar to those of *R. (R.) acuminata*; the differences are found only in the size of the deirids and in the shape of the tail (Moravec, 1972). But deirids may be lost when specimens are rolled under coverslip, leaving the small structure to which they were attached, and the shape of the tail of this species is similar to that reported for the present specimens. Moreover, the description of *R. (R.) uruyeni* is based on only a few specimens. Considering the above features, and the wide distribution of *R. (R.) acuminata*, a redescription of *R. (R.) uruyeni* based on new material is necessary to clarify its status.

Finally, Ortubay et al. (1994) mentioned the presence of *Rhabdochona* sp. in several freshwater fishes from Patagonia, Argentina (*Oncorhynchus mykiss* Walbaum [Salmoniformes: Salmonidae], *Galaxias platei* Steindachner [Osmeriformes: Galaxiidae], *Odontesthes hatcheri* Eigenmann [Atheriniformes: Atherinopsidae], and *P. trucha*). It would be interesting to determine the identity of this *Rhabdochona* species for a better understanding of its host specificity.

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