

## “Helminth Parasites of Fresh Water Fishes”

### VIII. On Two Species of the Genus *Rhabdochona*

#### Railliet, 1916 from Lucknow

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#### Introduction

Railliet (1916) created the genus *Rhabdochona* for Dujardins worm *Dispharagus denudata* as its type. Saidov (1954) divided the genus *Rhabdochona* into two subgenera, *Rhabdochona* in which eggs are without polar filaments and *Filochona* in which eggs are with polar filaments. Janiszewaka (1956) created another genus *Rhabdochonoides* for *R. barbi* under a new subfamily Rhabdochonoidinae and transferred *R. filamentosa*, *R. ovifilamentosa* and *R. sulaki* from the genus *Rhabdochona* under the genus *Rhabdochonoides*. Campana-Rouget (1961) suppressed the subgenus *Fliochona* Saidov, 1954 and also the genus *Rhabdochonoides* Janiszewaka, 1956. Yamaguti (1961) did not agree with Campana-Rouget and raised the subgenus *Filochona* to generic status and synonymised the subgenus *Rhabdochonoides* with it under a new subfamily Filochoninae for Rhabdochonidinae Janiszewska, 1956. Rasheed (1964) did not agree with Yamaguti in considering the presence or absence of polar filaments or plugs in the eggs as a character of generic value and synonymised the genus *Filochona* (Saidov, 1954) Yamaguti, 1961 with *Rhabdochona* and also suppressed the subfamily Filochoninae Yamaguti, 1961.

The author is in agreement with Campana-Rouget and Rasheed in synonymy of

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The holotype and paratype specimens of the forms described in this paper will be deposited in Dr. G.S. Thapar's Helminthological collection, Lucknow.

*Filochona* with *Rhabdochona* as the presence or absence of polar filaments in the eggs is not a character of subgeneric or generic importance but a character of specific variation and also in the suppression of the subfamily Filochoninae by Rasheed.

Family: Rhabdochonidae Skrajabin, 1946

*Rhabdochona yarrelli* n. sp.

(Plate. 1, Figs. 1-4)

Only one male and one female specimens were collected from the intestine of a fresh water fish, *Bagarius yarrellii* (Ham.) from river Gomati at Lucknow.

Description: Body elongated, cylindrical and attenuated at both ends. Mouth provided with two lips. Head truncated, somewhat rounded and smooth. Prostome funnel shaped, supported by short longitudinal ridges projecting anteriorly as sharp teeth. Mesostome long, narrow and of uniform diameter. Oesophagus long consisting of a shorter narrow muscular portion and a longer wide glandular posterior portion. Intestine simple without any diverticula. Cuticle thin, smooth and non-striated. Eggs non-filamentous.

Male: Body 9.32 mm. long, 0.11 mm. wide. Head 0.05 mm. in diameter. Prostome 0.03 mm. long, 0.02 mm. wide. Mesostome 0.1 mm. long, 0.01 mm. wide. Anterior muscular oesophagus 0.40 mm. long, 0.029 mm. wide; posterior glandular oesophagus 2.19 mm. long, 0.07 mm. wide; Nerve ring at 0.17 mm. and excretory pore 0.25 mm. from anterior end. Caudal alae absent. Tail conical, 0.193 mm.

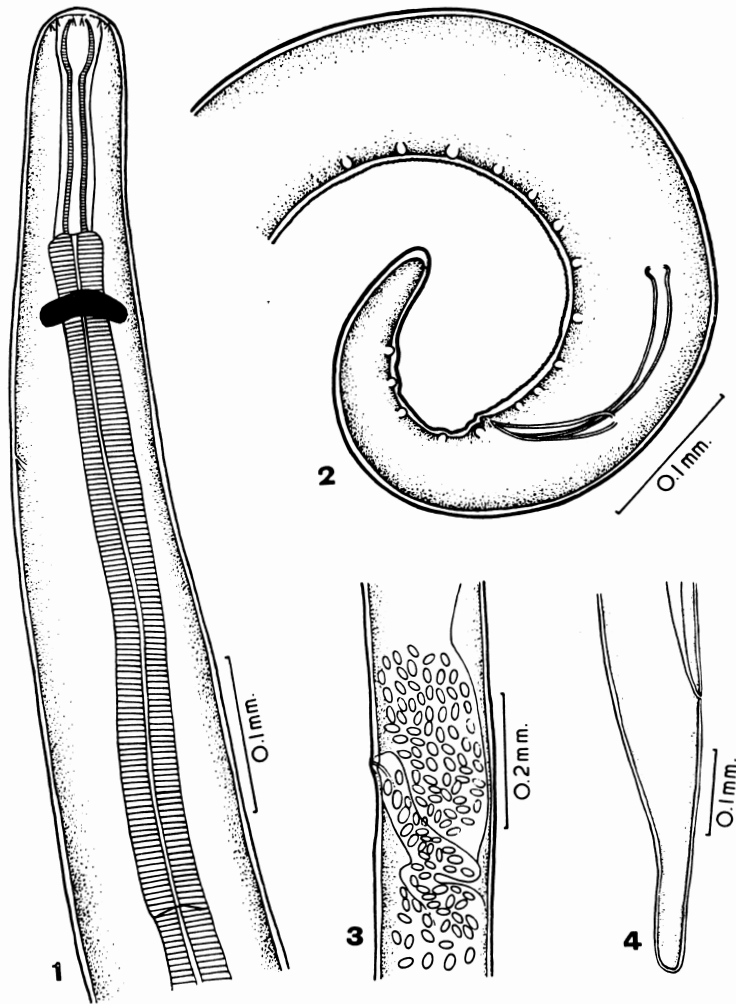


Plate. 1 Figs. 1-4 *Rhabdochona yarrelli* n.sp.

Fig. 1 Anterior region of female. Lateral view.

Fig. 2 Male tail. Lateral view.

Fig. 3 Vulvar region.

Fig. 4 Female tail. Lateral view.

long curved ventrad. Sixteen pairs of anal papillae of which 11 pairs preanal, 5 pairs postanal. Spicules tubular, funnel shaped, dissimilar and very unequal in size. Larger spicule 0.167 mm. long and smaller spicule 0.078 mm. long thus having length ratio of 1 : 2. Gubernaculum absent.

Female : Body 13.20 mm. long, 0.14 mm. wide. Head 0.051 mm. in diameter. Prostome 0.035 mm. long, 0.025 mm. wide. Mesostome 0.11 mm. long, 0.015 mm. wide. Anterior

muscular oesophagus 0.45 mm. long, 0.03 mm. wide ; posterior oesophagus 2.4 mm. long, 0.08 mm. wide. Entire oesophagus 2.85 mm. long. Nerve ring at 0.19 mm. and excretory pore at 0.29 mm. from anterior end. Tail short, 0.331 mm. long. Vulva postequatorial 5.7 mm. from posterior end. Vagina short, muscular, connected to a posteriorly directed ovejector. Uterine branches opposed. Eggs thick shelled, non-filamentous, 0.01 to 0.03 mm. long, 0.01 to 0.028 mm. wide.

Host : *Bagarius yarrellii* (ham.)

Location : Intestine

Locality : Lucknow.

Discussion : Thirteen species of the genus *Rhabdochona* Railliet, 1916 have been described so far from Indian hosts namely *R. uca* Pearse, 1932 ; *R. kashmirensis* Thapar, 1950 ; *R. hospiti* Thapar, 1950 ; *R. glyptothoracis* Karve et Naik, 1951 ; *R. barbi* Karve et Naik, 1951 ; *R. sarana* Karve et Naik, 1951 ; *R. singhi* Ali, 1956 ; *R. smythi* Agrawal, 1965 ; *R. garuai* Agrawal, 1965 ; *R. mazeedi* Prasad et Sahay, 1965 ; *R. dasi* Sahay et Prasad, 1965 ; *R. bosei* Sahay, 1966 and *R. baylisi* Rai, 1969.

The new form differs from all the above mentioned species of the genus *Rhabdochona* except *R. sarana*, *R. garuai*, *R. dasi* and *R. bosei* and *R. baylisi* in the non possession of polar filaments in the eggs. The new form differs from *R. bosei* in having non-bifurcated spicules. The new form differs from *R. sarana* in the non- possession of spiny projection with 3 blunt processes at the rounded end of female tail. The male of *R. sarana* is unknown. The new form differs from *R. mazeedi* in having vulva postequatorial instead of pre-equatorial and in having 16 pairs of anal papillae instead of 17 pairs. The new form differs from *R. baylisi* in having spicule ratio 1 : 2 instead of 1 : 5, in having left spicule simple instead of digitate and in having vulva postequatorial instead of equatorial. The new form has a close resemblance with *R. dasi* and *R. garuai* in having vulva postequatorial but differs from both the species in the number of anal papillae. In *R. dasi* there are 15 pairs of anal papillae, in *R. garuai* 18 pairs of anal papillae and in the new form there are 16 pairs of anal papillae. The new form further differs from *R. garuai* in having spicule ratio 1 : 2 instead of 1 : 3. Accordingly it is regarded as new with the specific name *R. yarrelli* n.sp.

*Rhabdochona bosei* Sahay, 1966  
(Plate. 2. Figs. 1-3)

Two male and two female specimens were

collected from the intestine of a fresh water fish, *Wallagonia attu* (Bl. & Schn.) from river Gomati at Lucknow.

Description : Body elongated, cylindrical and attenuated at both ends. Mouth provided with two lips. Head truncated somewhat rounded and smooth. Prostome funnel shaped, supported by short longitudinal ridges projecting anteriorly as sharp teeth. Mesostome long, narrow and of uniform diameter. Oesophagus long, consisting of a shorter muscular portion and a longer glandular posterior portion. Intestine simple without any diverticula. Cuticle thin, smooth and non- striated.

Male : Body 11.17 to 12.11 mm. long, 0.20 to 0.22 mm. wide. Head 0.024 mm. in diameter. Prostome 0.022 to 0.023 mm. long, 0.015 mm. wide. Mesostome 0.14 to 0.152 mm. long, 0.01 mm. wide. Anterior muscular oesophagus 0.354 to 0.38 mm. long, 0.03 to 0.05 mm. wide ; posterior glandular oesophagus 3.56 to 3.70 mm. long, 0.11 to 0.12 mm. wide. Entire oesophagus 3.94 to 4.054 mm. long. Nerve ring at 0.21 to 0.213 mm. and excretory pore 0.27 to 0.29 mm. from anterior end. Tail conical 0.36 to 0.445 mm. long, curved ventrad. Caudal alae narrow extending upto tip of tail. 14 pairs of anal papillae of which 9 pairs preanal and 5 pairs postanal. Spicules unequal, bifurcated and dissimilar. Smaller spicule, scoop shaped, 0.12 to 0.13 mm. long. Larger spicule tubular, broad proximally and bifurcated at distal end, 0.61 to 0.65 mm. long. Spicule length ratio 1 : 5. Gubernaculum absent.

Female : Body 19.45 to 26.0 mm. long, 0.30 to 0.31 mm. wide. Head 0.04 to 0.05 mm. in diameter. Prostome 0.03 to 0.031 mm. long, 0.02 to 0.025 mm. wide. Mesostome 0.14 to 0.16 mm. long, 0.06 to 0.07 mm. wide. Anterior muscular oesophagus 0.37 to 0.45 mm. long, 0.05 to 0.06 mm. wide ; posterior glandular oesophagus 4.60 to 5.37 mm. long, 0.16 to 0.21 mm. wide. Entire oesophagus 4.97 to 5.82 mm. long. Nerve ring at 0.21 to 0.30 mm. and excretory pore 0.38 mm. from anterior extremity. Tail straight, 0.28 to 0.33 mm. long. Vulva post-

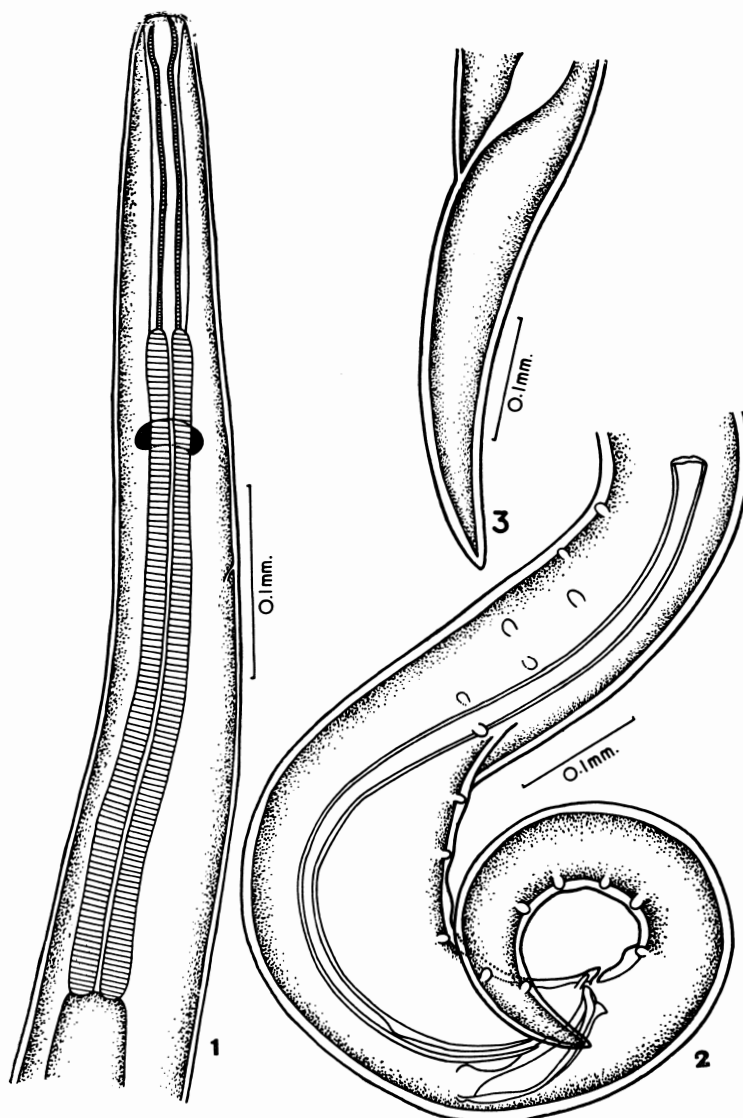


Plate. 2. Figs. 1-3 *Rhabdochona bosei* Saonay, 1966.

Fig. 1 Anterior region of male. Lateral view.

Fig. 2 Male tail. Lateral view.

Fig. 3 Female tail. Lateral view.

equatorial at 0.28 to 0.33 mm. from anterior end. Vagina short muscular, connected to a posteriorly directed ovijector. Uterine branches opposed. Eggs thick shelled, non-filamentous, 0.11 to 0.028 mm. long, 0.12 to 0.15 mm. wide.

Host: *Wallagonia attu* (Bl. & Schn.)

Location: Intestine

Locality: Lucknow

Discussion: The present form belongs to *Rhabdochona bosei* Sahay, 1966 but however differs from it in having 14 pairs of anal papillae instead of 15 pairs, in having spicule ratio 1 : 5 instead of 1 : 3, in having both the spicules of larger size, in the relative size of various organs and in having a new host.

These differences are considered as individual variations.

Key to the Indian species of the genus  
*Rhabdochona* Railliet, 1916.

1. Eggs with polar filaments .....7  
Eggs without polar filaments .....2
2. Female tail rounded with a spiny projection with three blunt spines ....  
*R. sarana* Karve et Naik, 1951.  
Femal tail elongated without projections and spines .....3
3. Vulva equatorial ·· *R. baylisi* Rai, 1969.  
Vulva pre-equatorial ······ *R. mazeedi* Prasad et Sahay, 1965.  
Vulva postequatorial ········4
4. Spicules bifurcated ········ *R. bosei* Sahay, 1966.  
Spicules non-bifurcated ········5
5. Spicule ratio 1 : 3 ········ *R. garuai* Agrawal, 1965.  
Spicule ratio less than 1 : 3 ········6
6. Caudal papillae 16 pairs ···· *R. yarrelli* n.sp.  
Caudal papillae 15 pairs ······ *R. dasi* Sahay et Prasad, 1965.
7. Spicules bifurcated ··········8  
Spicules non-bifurcated, ··········9
8. Spicule ratio 1 : 2 ; Caudal papillae 15 pairs ···· *R. kashmirensis* Thapar, 1950.  
Spicule ratio 1 : 4 ; Caudal papillae 17 pairs ······ *R. snythi* Agrawal, 1965.
9. Eggs with three cuticular projections ·········· *R. singhi* Ali, 1956.  
Eggs without cuticular projections ··10
10. Eggs with thick bundle of filament at each pole ···· *R. barbi* Karve et Naik, 1951.  
Eggs with fine filaments at each pole ············11
11. Vulva pre-equatorial ········ *R. hospeti* Thapar, 1950.  
Vulva postequatorial ·· *R. glyptothoracis* Karve et Naik, 1951.

#### Abstract

*Rhabdochona yarrelli* n.sp. from *Bagarius yarrellii* (Ham.) has been described. In addition *Rhabdochona bosei* Sahay, 1966 from *Wallagonia attu* (Bl. & Schn.) has been

redescribed. A key to the species of the genus *Rhabdochona* is given.

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“淡水産魚類における蠕虫”

VIII Lucknow で得られた *Rhabdochona* 属の2種について

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淡水魚 *Bagarius yarrellii* から採取された *Rhabdochona* 属の1新種 *Rhabdochona yarrelli* について記載し, *Wallagonia attu* から得られた *Rhabdochona*

*bosei Sahay*, 1966 についての再記載をおこなった. また *Rhabdochona* 属の種の検索表を示した.