

NEW RECORD OF A CARYOPHYLLID TAPEWORM FROM *CLARIAS BATRACHUS* FROM BUNDELKHAND, INDIA***V. K. SAHU,**REETESH KUMAR KHARE AND ***C. L. BAGHEL***Department of Zoology,
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Email: viveksahu6@rediffmail.com**Received : 07.09.16; Accepted : 05.11.16****ABSTRACT**

Four fresh water cat fishes, *Clarias batrachus* were purchased from Khajuraho, tehsil Rajnagar, district Chhatarpur (M.P.) India. One fish was found infected with two alike worms imbedded in its gut wall. Usual techniques were applied for preservation and fixation. Morphological studies of the worms revealed them to belong to the genus, *Hunterella*⁴, family Caryophyllaeidae⁶ order Caryophyllidea¹.

Figures : 01 (A-C)

References : 14

Table : 01

KEY WORDS : Caryophyllaeidae, Caryophyllidea, Cestode, *Hunterella*, Khajuraho.**Introduction**

Bundelkhand is comprised of 14 districts of Madhya Pradesh and Uttar Pradesh. Betwa, Ken, Pahuj, Chambal, Yamuna, Dhasan are major rivers along with many tributary rivers. Due to uncertainty of Monsoon, Chandel ruler of Bundelkhand make a chain of perennial and seasonal ponds to meet out the need of water for drinking, irrigation etc. These rivers and ponds are lifeline of this region because not only provide water but also generate employment through fisheries practices and hold very good Ichthyofaunal diversity. Fishes are well known for its nutritive, appetizing value but on the other hand harbor ecto and endoparasite i.e. Trematodes, Nematodes, Acanthocephala, Cestodes etc. Parasites deteriorate health and

market value of host and also increase human health risk. To know the piscine cestodes diversity and health risk management various researchers are engaged and identified many caryophylidean genera and species in this region viz *Pseudoadenoscolex*⁵, *Pseudobilobulata*¹², *Heeradovina*⁸, *Pseudobatrachus*⁷, *Pseudobeanata*¹³, *Pseudounevenata*⁹, *Monofemaloides*¹⁴ and *Pseudoauricularia*³ mostly belong to family capingentidae². In continuation a survey was conducted in Khajuraho, famous World Heritage site known globally for its stone carving, tehsil Rajnagar, District Chhatarpur, Madhya Pradesh, India. Four cat fishes, *Clarias batrachus* were collected from local fisherman. Two specimens were procured from intestine of a host.

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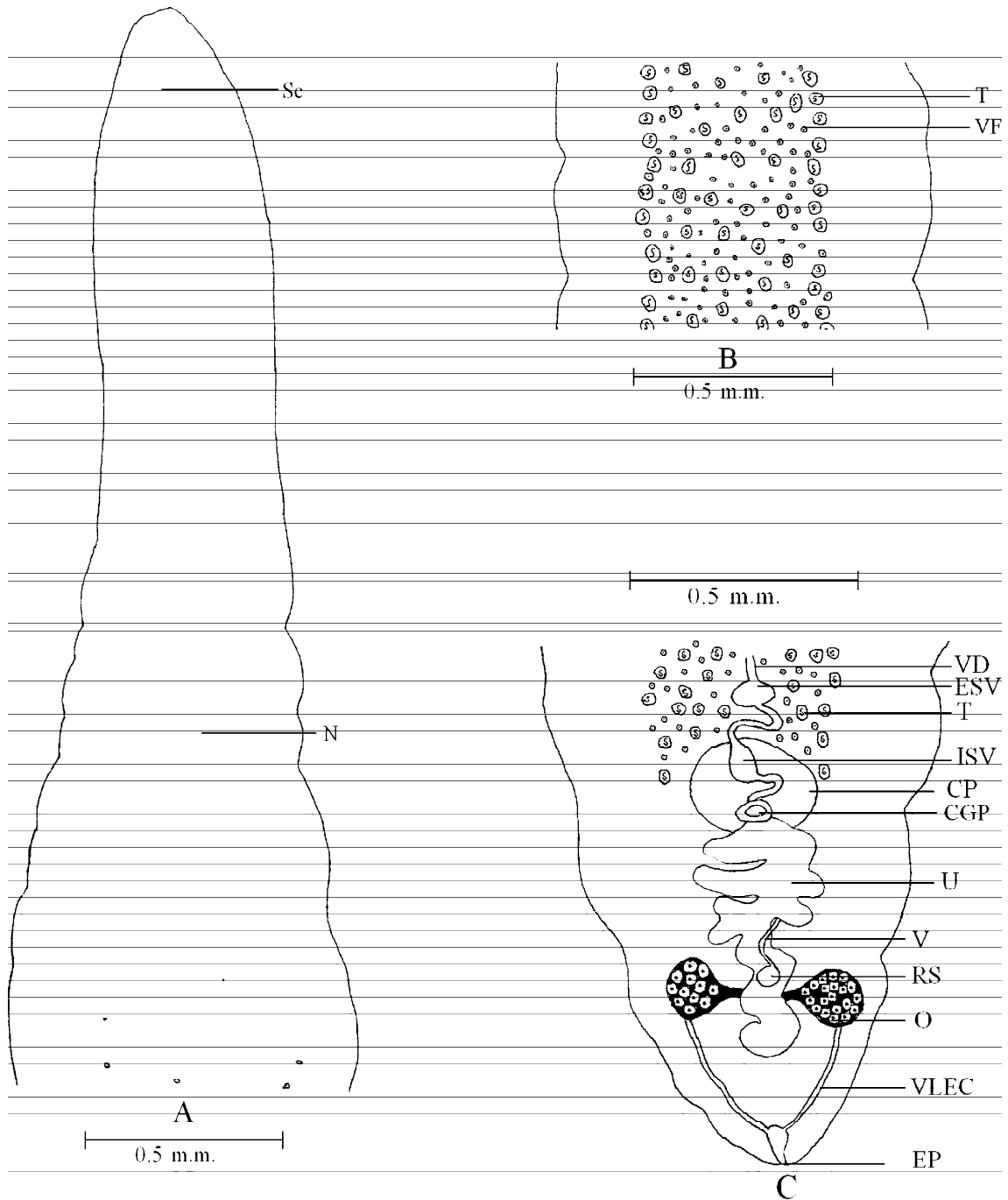


Fig. 1 : *Hunterella matangeshwarai* n.sp., A - Scolex (50X), B - Middle region of body (50X), C - Posterior region of the body (50X)

Abbreviations: CP-Cirrus Pouch, CGP- Common Genital Pore, E-Egg, ESV- External Seminal Vesicle, ISV- Internal Seminal Vesicle, N- Neck, O- Ovary, RS- Receptaculum Seminalis, SC- Scolex, T-Testes, U- Uterus, V- Vagina, VD- Vas Deferens, VF- Vitelline follicle, VLEC Ventral Longitudinal Excretory Canal.

TABLE -1: Comparison of the characters of the species closer to *Hunterella n. sp.*

S.No.	Characters		<i>Hunterella nodulosa</i> ⁴	<i>Hunterella matangeshwarain. sp.</i>
1	Scolex	Shape	Rounded	Elongated
		Position	Not set off from body	Set off from body
2	Neck		Absent	Present
3	Internal seminalvesicle		Absent	Present
4	Ovary		'H' shaped	'Dumb-bell' shaped
5	Receptaculum seminis		Absent	Present
6	Post-ovarian vitelline follicles		Present	Absent
7	Genital pore		Separate	Common
8	Host		Catostomid fishes of North- America	Siluroid fishes of India
9	Distribution		Nearctic region	Oriental region

On careful examination and taxonomical studies they were identified as a new species, *Hunterella matangeshwarai* n.sp.

Materials and Methods

The intestines were removed from hosts and cut open into normal saline water. It was lightly shaken and contents decanted several times and thoroughly examined under the simple microscope. The parasites were found attached in the mucosa by its scolex. Worms were stretched in the lukewarm water with help of fine brush and later on fixed in 5% formalin. Whole mounts were stained in Mayer's Haemalum and cleared in xylol. Camera lucida drawings were made. All the measurements are in millimeters.

Result

Hunterella matangeshwarai n.sp. (Fig. 01/ A-C)

Medium sized worms, measure 5.1- 7.2 X

0.90 - 1.00 (6.15 X 0.96). Scolex set off from body, smooth, unspecialized, elongated measures 0.67 - 0.87 X 0.37 - 0.45 (0.77 X 0.41). Neck small measures 0.75 - 1.56 X 0.31 - 0.61 (1.15 X 0.46). Testes, numerous, measure 0.031 - 0.052 X 0.031 - 0.052 (0.042 X 0.042), spherical in shape, scattered only in medullary parenchyma, anterior to cirrus pouch. Cirrus pouch oval to round well developed, median, measures 0.18 - 0.22 X 0.24 - 0.29 (0.20 X 0.27). Internal and external seminal vesicles measure 0.075 - 0.095 X 0.040 - 0.049 (0.085 - 0.045) and 0.047 - 0.062 X 0.065 - 0.085 (0.054 x 0.075) respectively. Female genitalia posteriorly located. Ovary 'Dumb-bell' shaped, measure 0.068 - 0.077 X 0.38 - 0.44 (0.071 x 0.40). Ovarian lobes cortical as well as in medullary region. Receptaculum seminis spherical, measure 0.046 - 0.059 (0.052) in diameter. Vitelline follicles, medullary, spherical, numerous, measure 0.015 - 0.018 X 0.015 - 0.018 (0.016 X 0.016), scattered

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only in medullary parenchyma, reaches up to the level of cirrus pouch. Post-ovarian vitellaria absent. Uterus long, coiled and non-glandular, measure 0.46 - 0.55 (0.51) in length and 0.20 – 0.28 (0.23) in width.

Discussion

The present form comes closer to only reported species *Hunterella nodulosa*⁴ from Nearctic region (Table - 01).

The present form differs from *Hunterella nodulosa*⁴ in having elongated scolex set off from body, smaller neck, internal seminal vesicles, dumb bell shape ovary, presence of receptaculum seminis and absence of post-ovarian vitelline follicles.

Thus the proposed new species differs from reported species *Hunterella nodulosa*⁴ of the genus *Hunterella*⁴.

In the light of above discussion the present form may be provisionally accommodated in the proposed new species *Hunterella matangeshwarai* n.sp. The name of the species is after the famous religious temple of Matangeshwar (Shiv) of Khajuraho.

Remark

Hunterella matangeshwarai n. sp. is the first record in family Caryophyllaeidae⁶ order Caryophyllidea² from Oriental region.

Taxonomic summary

- a. **Type species** : *Hunterella matangeshwarai* n.sp.
- b. **Type Host** : *Clarias batrachus*
- c. **Type Locality** : Khajuraho, Tehsil Rajnagar, District – Chhatarpur, (M.P.) India
- d. **Site of infection** : Intestine
- e. **Type Specimen** : Syntypes no. BBCZD/HC/1008-1009; deposited in Parasitological Laboratory, Department of Zoology, B.B. (P.G.) College Jhansi, U.P., India.
- f. **Etymology** : The species is named after the religious temple of Matangeshwar (Shiv) of Khajuraho from where the host was collected.

REVISED KEY TO THE SPECIES OF THE GENUS, *HUNTERELLA*⁴

- 1a. Post Ovarian Vitellaria present _____
_____—*H. nodulosa*⁴
- 1b. Post Ovarian Vitellaria absent _____
_____—*H. matangeshwarai* n.sp.

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