

RRST-Zoology

Report of a New Mammalian Tapeworm *Moniezia govindae*

Nitin Padwal^{1*}, M. N. Kadam²

¹Department of Zoology, Shankarrao Patil College, Bhoom, Osmanabad (M.S.), India

²Head of Department, Department of Zoology, R. P. College Osmanabad (M.S.), India

Article Info	Abstract
<p>Article History</p> <p>Received : 11-03-2011 Revised : 23-03-2011 Accepted : 23-03-2011</p> <p>*Corresponding Author</p> <p>Tel : +91-9422051222 Fax : +91-9422051222</p> <p>Email: ni3_padwal@yahoo.co.in</p> <p>©Scholar Journals, SSR</p>	<p>The present communication deals with the report of a new mammalian tapeworm <i>Moniezia</i> (B) <i>govindae</i> n.sp. from <i>Capra hircus</i> (L) from Gangapur Dist. Aurangabad (M.S.). It comes closer to all the known species of the genus <i>Moniezia</i> [2] but differs from some characters like globular scolex, long neck, mature proglottids broader than long, testes 100-140 in numbers, cirrus pouch oval in shape. Ovary nut shaped, vagina posterior to cirrus pouch and vitelline gland post ovarian.</p> <p>Key Words: Mammalian tapeworm, <i>Moniezia</i> (B)<i>govindae</i> n.sp. <i>Capra hircus</i>, Gangapur</p>

Introduction

The genus *Moniezia* was established by Blanchard [2] Skrjabin and Schulz [13] divided this genus in to three subgenera as follows:

Inter proglottid glands grouped in rosettes- - - - - *Moniezia*.

Inter proglottid glands arranged linearly- - - - - *Blanchariezia*.
 (Some times absent)

Inter proglottid glands absent- - - - - *Baeriezia*.

The present worm agrees in all characters with subgenus *Blanchariezia*. [14] having two species as *M. (B.) benedeni* [13] and *M. (B.) pallida*. Later on two more species were added [12] from the host *Ovis bharal* as *M. (B.) aurangabadensis* and *M. (B.) bharalae* at Aurangabad, M.S. India. Later on Patil added *M. (B.) warananagarensis* from *Capra hircus* L. in [8] Nanware erected *M. (B.) kalawati* from *Capra hircus* L. Added [6] *M. (B.) murhari* from the same host, Pokale, [11] added *M. (B.) caprai* from *Capra hircus* (L.) Pawar [10] added *M. (B.) shindei* from *Capra hircus*. Lastly *M. (B.) hircusae* is added [14]. Later on species is added to this genus.

Materials and Methods

Cestode parasites were collected from the intestine of *Capra hircus* at Gangapur Dist. Aurangabad (M.S.) India, preserved in hot 4% formalin, stained with Harris haematoxylin and Borax carmine, passed through various alcoholic grades, cleared in xylene, mounted in D.P.X. and drawings are made with the aid of camera lucida. All measurements are given in millimeters.

Results

(Description based on nine specimens)

All the cestodes are long consisting scolex, immature, mature and gravid proglottids. The scolex is large, oval, globular, well marked off from strobila, measures 0.64 (0.57-0.72) in length and 0.68 (0.59-0.78) in width, suckers are large,

oval to rounded, overlapping to each other, measures 0.25 (0.21-0.28) in length and 0.23 (0.20-0.25) in width, neck long, measures 0.62 (0.60-0.65) in length and 0.43 (0.35-0.50) in width. The mature proglottids are four times broader than long, with double set of reproductive organs, measures 1.32 (1.19-1.44) in length and 4.85 (4.63-5.08) in width, testes small, oval to rounded, 100 to 140 in numbers, measures 0.05 (0.04 - 0.06) in length and 0.07 (0.06-0.08) in width, cirrus pouch small oval, elongated, measures 0.27 (0.26-0.28) in length and 0.13 (0.09-0.17) in width, cirrus is thin tube, curved, present within the cirrus pouch, measures 0.24 (0.23-0.25) in length and 0.02 (0.01-0.03) in width, vas deferens is thin tube, slightly curved, measure 0.18 (0.17-0.20) in length and 0.01 (0.01-0.02) in width. Vagina and cirrus pouch open into a common pore known as genital pore, which is small in size, oval in shape, marginal, measures 0.07 (0.06-0.08) in length and 0.003 (0.002-0.03) in width, vagina is thin, coiled tube, slightly curved, arise from posterior to cirrus pouch, forms receptaculum seminis, measures 0.87 (0.83-0.90) in length and 0.03 (0.01-0.04) in width, receptaculum seminis is coiled tube, open into ootype, measures 0.26 (0.24-0.28) in length and 0.02 (0.01-0.03) in width, ootype is oval, medium in size, measures 0.13 in diameter, from the ootype, ovarian lobe are started, ovary is compact, nut shaped, measures 0.28 (0.27-0.30) in length and 0.78 (0.45-1.12) in width, vitelline gland is oval, compact, measures 0.15 (0.13-0.16) in length and 0.11 (0.10-0.12) in width. The inter-proglottid glands are oval to rounded, arranged in pairs, 21 in each pair.

Discussion

The genus *Moniezia* was erected by Blanchard. The worm under discussion is having the scolex globular, elongated, mature proglottids broader than long, testes

medium in size, oval scattered posterior to segment, 100-140 in numbers, cirrus pouch oval, ovary compact, vitelline gland post ovarian.

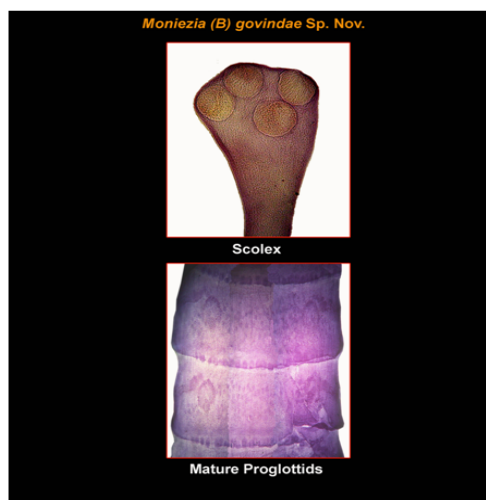
The present worm differs from *Moniezia (B) benedeni* [13] which is having numerous proglottids broader than long, posterior proglottids fleshy, testes 500 in numbers, arranged in two groups, cirrus pouch short and wide, vas deferens with 2-3 coils, ovary compact, in the center of the segments, eggs well developed, inter proglottidal glands liner and close to the posterior margin of the segments, arranged transversely and reported from the Calves and Lambs; from *Moniezia (B) pallida* [8] which is having the uterus internal, dorsal and ventrally over excretory canals, the inter proglottidal glands varies in size and reported from horse in South Africa; from *Moniezia (B) aurangabadensis* [12], which is having the scolex quadrangular, testes small, 1100-1200 in numbers, vas deferens coiled, cirrus pouch cylindrical, oval with some rounded acini, gravid proglottids broader than long, uterus reticulate, inter proglottidal glands 12-15 in numbers and reported from *Ovis bharal*; from *Moniezia (B) bharalae* [12] which is having testes rounded, 190-200 in numbers, vas deferens short, elongated, fusiform, genital pores bilateral, sub marginal, ovary compact, inter proglottidal glands arranged in two rows, small in size, 38-44 in number and reported from *Ovis bharal*; from *Moniezia (B) warnagarenensis*, [9] which is having scolex large, testes 300-320 in number, distributed throughout the proglottids, in single field, ovary indistinctly lobed with 13-15 short, blunt acini, transversely elongated, inter proglottidal glands, 56 in numbers, oval, medium in size, cirrus pouch medium, oval, transversely elongated, slightly obliquely placed and extend beyond longitudinal excretory canal; from *Moniezia (B) kalawati* [8] which is having squarish scolex, oval shaped cirrus pouch, testes small, oval distributed throughout the segment, 172 in number, ovary medium, short, blunt acini, and 54 inter proglottidal glands in the inter segmental region, medium, oval either single or paired, irregularly arranged in the central width of the segments and leaving space on each lateral side; from *Moniezia (B) murhari*, [7] in having the scolex squarish, testes 405-415 in

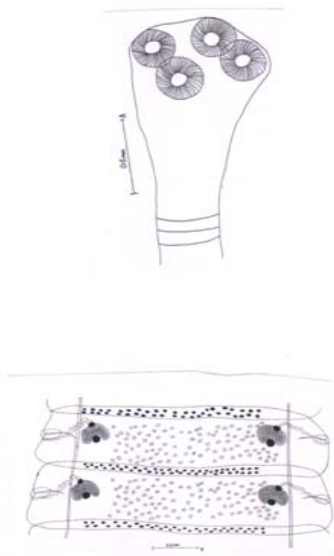
number, cirrus pouch elongated in the anterior region of the segments, ovary inverted horse shoe shaped, indistinctly bilobed each with numerous short, blunt, round, acini and inter proglottidal glands 63 in numbers; from *Moniezia (B) caprai* [11], which is having the scolex is medium, squarish, with large four suckers, without rostellum, testes oval in shape, 255-260 in numbers, cirrus pouch is medium in size and ovary medium in size, kidney shaped from *Moniezia (B) shindei* [10] in having scolex large, mature segments craspedote, testes 190-200 (195) in number, scattered all over segment and ovary a single mass, large, oval and internal to ovary; from *Moniezia (B) hircusae* [6] which is having scolex large, mature segments big, craspedote, testes 168 in number, medium, small, scattered in a single field, ovary large, oval, a single mass, in anterior half of the segment, inter proglottidal glands 14-15 in number, large, oval and cirrus pouch in anterior 1/3rd region of the segment

The above differentiating characters are valid enough to erect a new species for these cestodes and hence the name *Moniezia (B) govindae* Sp. Nov. named in honour of Prof. G.B. Shinde, who is well known Helminthologist in India.

Taxonomic Summary

Genus	-	<i>Moniezia</i> Blanchard, 1891
Species	-	<i>Moniezia (B) govindae</i> Sp. Nov.
Type host	-	<i>Capra hircus</i> (L.)
Habitat (Site)	-	Intestine
Type locality	-	India, Maharashtra Aurangabad (Gangapur)
Accession Number	-	HRL/2005-07/1a/1-9
Holotype and	-	Deposited in the Helminthology Research Lab.,
Paratype	-	Department of Zoology, Dr. B.A.M. University, Aurangabad, (M.S.) India.
Date of collection	-	June, 2005-May, 2007.
Etymology	-	Named in honour of Prof. G.B. Shinde





A Key to the Species of the genus *Moniezia* Blanchard, 1891.

- Mature segments broader than long - 1
- Mature segments Squarish - *M.(B.) pallida* [7]
- Mature segments medium in size- *M.(B.)caprai* [11]
- Mature segments Craspedote - 2
- 1) Scolex globular - 3
- Scolex quadrangular - *M.(B.) aurangabadensis* [12]
- Scolex squarish - 4
- 2) Inter proglottidal glands below - *M.(B.) hircusae*
- [14] 50 in number
- Inter proglottidal glands above - *M.(B.) shindei*[10]
- 50 in number
- 3) Testes below 150 in numbers - *M.(B.) govindae*
- Sp.Nov.**
- Testes between 150-200 in - *M.(B.)bharalae* [12]
- Numbers
- Testes above 300-350 in - *(B.)warnanagarenisis* [9]
- numbers
- Testes more than 350 in - *M.(B.)benedeni* [13]
- numbers
- 4) Vitelline gland rounded - *M.(B.) murhari* [6]
- Vitellaria follicular - *M.(B.)kalawati* [8]

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