



ORIGINAL ARTICLE

Studies on Faunestic Diversity and Distribution of Cestode Parasites of Certain Vertebrates from Marathwada Region**Dhanraj Balbhim Bhure, Sanjay Shamrao Nanware, M.U.Barshe and V.S.Deshmukh**

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Email: drajbhure82@gmail.com, snanware@rediffmail.comReceived: 25th Jan. 2016, Revised: 14th Feb. 2016, Accepted: 26th Feb. 2016**ABSTRACT**

The Study was carried out to determine Faunestic diversity and distribution of Piscean, Avian and mammalian cestodes of genus *Lytocestus* (Cohn, 1908), *Senga* (Dollfus, 1934), *Gangesia* (Woodland, 1924), *Proteocephalus* (Weinland, 1858), *Cotugnia* (Diamare, 1893), *Davainea* (Blanchard, et.al, Railliet 1891), *Raillietina* (Fuhrmann, 1908), *Moniezia* (Blanchard, 1891) and *Stilesia* (Railliet, 1893) from Marathwada Region (M.S.) India. Diversity of Piscean Cestodes includes Thirteen species of four genera. Three species of genus *Lytocestus*; Seven species of genus *Senga*, two species of genus *Gangesia* and one Species of *Proteocephalus* were reported. Ten species of three genera viz. *Cotugnia* (Four sp.), *Daivenia* (2 sp.) and *Raillietina* (Four sp.) were reported from avian host *Gallus gallus domesticus*. Whereas Nine species of two genera were reported from mammalian hosts. Five species of genus *Moniezia* and Four species of *Stilesia* were collected from *Capra hircus* L. and *Ovis bharal*. The study represents diversity and distribution pattern of Piscean, Avian and Mammalian cestodes and made detailed survey of cestode parasites from Marathwada Region (M.S.) India. This survey provides baseline data for the future monitoring of these potentially important parasitic infections in this region.

Keywords: Diversity and Distribution of Cestodes, Marathwada Region, Vertebrate Hosts

INDRODUCTION

The helminth parasites of vertebrates are a remarkably diverse group. Helminth diversity includes cestode, trematode and nematode. Study of helminthic diversity is very important in medical point of view because parasites cause some diseases to animals and humans health. Various factors are responsible for determination of biodiversity of parasites in nature i.e. varied climate of area, introducing new species in a particular area, habitat loss, industrialization, pollution and availability of particular host. Geographical distribution is functionally preferred area of activity by the organism. By survey of literature it was found that parasites enjoy some restricted range on a earth. Thus, an attempt is being made to study of certain Piscean, Avian and mammalian host infected with Cestodes and geographical distribution from various places of Marathwada Region M.S., India.

MATERIAL AND METHODS

During survey, cestodes were collected from freshwater fishes, Birds and mammals from different localities of Marathwada Region, (M.S.) India. Collected Cestodes were preserved in 4% formalin. stained with Harri's Haematoxylene, dehydrated in ascending grades of alcohol, cleared in xylene, mounted in Canada Balsm. Camera lucida drawings were prepared and photomicrographs were taken by trinocular computerized research microscope. All the measurements are recorded in millimeter. These Cestodes were prepared for identification by (Yamaguti, S., 1959; Wardle, R.A., Mcleod, J.A. and Radinovsky, 1974; Khalil, Jones and Bray, 1994).

RESULTS

Occurrences of Piscean, avian and mammalian tapeworms in relation with its geographical area and host species from Marathwada Region Maharashtra State India are as follows.

Table 1: Diversity and Distribution pattern of Piscean, Avian and Mammalian tapeworms from Marathwada Region Maharashtra State, India

S.N.	Cestode Parasites	Host	Site of infection	Locality
Piscean Cestodes				
1.	<i>Lytocestus punensis</i>	<i>Clarias batrachus</i>	Intestine	Nanded, Osmanabad
2.	<i>Lytocestus osmanabadensis</i>	<i>Clarias batrachus</i>	Intestine	Osmanabad, Hingoli
3.	<i>Lytocestus follicularae</i>	<i>Clarias batrachus</i>	Intestine	Latur, Nanded, Beed
4.	<i>Senga gachuae</i>	<i>Mastacembelus armatus</i>	Intestine	Aurangabad, Jalna, Beed
5.	<i>Senga maharashtrii</i>	<i>Mastacembelus armatus</i>	Intestine	Jalna, Nanded, Parbhani
6.	<i>Senga jadhavae</i>	<i>Mastacembelus armatus</i>	Intestine	Osmanabad, Aurangabad
7.	<i>Senga madhavae</i>	<i>Mastacembelus armatus</i>	Intestine	Nanded, Latur, Aurangabad
8.	<i>Senga satarensis</i>	<i>Mastacembelus armatus</i>	Intestine	Aurangabad, Latur
9.	<i>Senga mangalbaiae</i>	<i>Mastacembelus armatus</i>	Intestine	Nanded, Osmanabad
10.	<i>Senga microrostellata</i>	<i>Mastacembelus armatus</i>	Intestine	Parbhani, Hingoli, Jalna
11.	<i>Gangesia pandeyae</i>	<i>Wallago attu</i>	Intestine	Nanded, Aurangabad, Beed
12.	<i>Gangesia striatusii</i>	<i>Channa striatus</i>	Intestine	Osmanabad, Nanded, Hingoli, Parbhani, Jalna
13.	<i>Proteocephalus raosahebae</i>	<i>Wallago attu</i>	Intestine	Jalna, Aurangabad, Nanded
Avian Cestodes				
14.	<i>Cotugnia hafezzi</i>	<i>Gallus gallus domesticus</i>	Intestine	Nanded, Latur, Beed
15.	<i>Cotugnia indiana</i>	<i>Gallus gallus domesticus</i>	Intestine	Nanded, Hingoli, Jalna, Aurangabad, Osmanabad
16.	<i>Cotugnia tetragona</i>	<i>Gallus gallus domesticus</i>	Intestine	Parbhani, Nanded, Jalna
17.	<i>Cotugnia orientalis</i>	<i>Gallus gallus domesticus</i>	Intestine	Osmanabad, Latur, Nanded
18.	<i>Davainea gunjotinesis</i>	<i>Gallus gallus domesticus</i>	Intestine	Osmanabad, Beed, Latur
19.	<i>Davainea yamagutii</i>	<i>Gallus gallus domesticus</i>	Intestine	Nanded, Beed, Jalna
20.	<i>Raillietina (R.) friedbergeri</i>	<i>Gallus gallus domesticus</i>	Intestine	Nanded, Jalna, Aurangabad
21.	<i>Raillietina (R.) microscolecina</i>	<i>Gallus gallus domesticus</i>	Intestine	Nanded, Beed, Jalna, Hingoli, Aurangabad
22.	<i>Raillietina (R.) rostellata</i>	<i>Gallus gallus domesticus</i>	Intestine	Latur, Nanded, Parbhani
23.	<i>Raillietina (R.) domestica</i>	<i>Gallus gallus domesticus</i>	Intestine	Nanded, Osmanabad
Mammalian Cestodes				
24.	<i>Moniezia (B.) maharashtrae</i>	<i>Capra hircus</i>	Intestine	Parbhani, Osmanabad, Aurangabad
25.	<i>Moniezia (B.) kalawati</i>	<i>Capra hircus</i>	Intestine	Aurangabad, Nanded
26.	<i>Moniezia (B.) mansurae</i>	<i>Ovis bharal</i>	Intestine	Aurangabad, Jalna, Beed
27.	<i>Moniezia (B.) elongate</i>	<i>Capra hircus</i>	Intestine	Nanded, Parbhani, Hingoli
28.	<i>Moniezia (B.) interproglottina</i>	<i>Ovis bharal</i>	Intestine	Nanded, Hingoli, Jalna, Latur, Osmanabad
29.	<i>Stilesia pandae</i>	<i>Capra hircus</i>	Intestine	Nanded, Latur, Beed
30.	<i>Stilesia jadhavae</i>	<i>Capra hircus</i>	Intestine	Hingoli, Nanded, Jalna, Aurangabad, Parbhani
31.	<i>Stilesia intestinalis</i>	<i>Ovis bharal</i>	Intestine	Osmanabad, Latur, Beed, Nanded
32.	<i>Stilesia paruterina</i>	<i>Ovis bharal</i>	Intestine	Nanded, Beed, Jalna

From this survey, Faunistic Diversity of Piscean Cestodes includes thirteen species of four genera (Table.1). Three species of genus *Lytocestus*; Seven species of genus *Senga*, two species of genus *Gangesia* and one Species of *Proteocephalus* were reported. Ten species of three genera viz. *Cotugnia* (Four sp.), *Daivenia* (2 sp.) and *Raillietina* (Four sp.) were reported from avian host *Gallus*

gallus domesticus (Table 1). Whereas nine species of two genera were reported from mammalian hosts. Five species of genus *Moniezia* and Four species of *Stilesia* were recorded from *Capra hircus* L. and *Ovis bharal* (Table 1).

DISCUSSION

In the present work, a total of thirteen genera comprising thirty two species of Cestodes associated with certain vertebrate hosts are listed. Information on hosts, habitat, distribution, and records is included; these data come from eight district of Marathwada Region of Maharashtra State. Study represents diversity and distribution pattern of Piscean, Avian and Mammalian cestode parasites from Marathwada Region (M.S.) India. All these species differs from each other in general topography of organs. The parasites belonging to the genus *Senga* and *Moniezia* are highly diversified.

The present findings are more or less similar to observations made by (Nanware, 1996, Bhure, 2008). Monruedee Chaiyapo et al., (2007) reported diversity of seven species of helminthes in Channid fishes from Bung Boraphe. Bhure et al., (2010) recorded 85 different species of tapeworms belonging to 08 genera of freshwater fishes. Luis García-Prieto et al., (2012) described 339 taxa of helminths of wild mammals from Mexico. Bhure and Nanware, 2015 reported twenty five species of nine genera of cestode parasites of Piscean, avian and mammalian hosts from Nanded Region.

Kennedy C.R. (1971, 1976) explained the ecological factors i.e. distribution and environment of host, the diet and mode of feeding of host and parasites are influence the parasitic development. Marathwada Region is temperate region in Maharashtra. Water becomes warm which is suitable for the growing of Zooplankton, some aquatic invertebrates, these aquatic animals serve as food of freshwater fishes as well as the intermediate host of many parasites. Availability of food and feeding activity of the host also may be one of the reasons for occurrence of parasitic diversity. The maximum infections occurred in *Mastacembelus armatus*, *Gallus gallus domesticus*, *Capra hircus* and *Ovis bharal*. Infections are hosted specific as morphological, physiological and ecological factors affect the host specificity. The morphological factors are those which like a parasite with its host at the site of attachment. The ecological factors are such as, distribution, and environment of host, the diet and mode of feeding. These adaptations often provide important role for limiting a parasite to a particular host sp., particular season.

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