

TREMATODE PARASITES OF ECONOMICALLY IMPORTANT FISHES OF WEST BENGAL, INDIA

Shuvajit Chakrabarti, Anindita Ghosh and Venkataraman, K
Zoological Survey of India, M-Block, New Alipore, Kolkata –53, India.

ABSTRACT

West Bengal is recognized to somewhat extent for its high yielding capacity of economically important fishes which are directly related to the economic status of the state. Geographically Bay of Bengal is bordering it in a considerable zone, thus marine fishes are being explored from certain coastal zone, viz. Digha, Sankarpur, etc. side by side brackish water fishes are harboured from Diamond Harbour, Bakkhali, Kakdwip etc. Vast areas of ponds, bills, lakes are the exploration site of fresh water fishes which nourish the people of the state and the Country as well. Present study deals with the parasitic trematodes of some of the economically important fishes of West Bengal, infecting their internal organisms, reduces their growth, egg laying capacity, causing less amount of production which directly reflects on the economy of the state. Aim of the present study is to laid down the foundation stone for studying the future course of study.

KEY WORDS: Trematodes, economically important fishes, W.B, India

INTRODUCTION

Most of the people of West Bengal are habituated with fish as their major meal and it produces the main protein and Vitamin B12 requirements in the diet. 100 gms of fish provides about 18-22 gms. of protein. Marine fishes also produce Omega-3, fatty acid which is helpful to the cardiac patient. Commercially important fishes harbor a good number of trematode parasites in their internal organisms. Those classical groups of helminth parasites mutually reside with their host with symbiotic effect without creating any harm to their host. The present study is to reveal the biodiversity of the parasitic form and as well as the host is concerned.

HISTORICAL REVIEW

Almost all fishes whether it is marine, estuarine or fresh water are infected with at least one species of digenetic trematodes. Thus in West Bengal a large number of trematodes have been known. Zhukov (1972, 1977) reported some species of digenetic trematodes from Hooghly Estuary. Vasantha Kumari and Srivastava (1976) reported twelve species of digenetic trematode from the marine fishes from Digha Coast and four species from the fresh water fishes of Kolkata and its surrounded areas. Hafeezulah and Datta (1998) reported a considerable number of species of digenetic trematodes from, Digha Cost. Medinipore. South 24 pgs. and Kolkata.

MATERIALS AND METHODS

Collected trematode specimens from different internal organisms of different commercially important fishes from different places of West Bengal are stored in 4% normal saline solution as well as narcotized in 70% alcohol and stained in Borax Carmine. Preserved trematodes were mounted on slide by Canada Balsum.

DESCRIPTION

Table 1. List of some commercially important fishes of West Bengal and their Trematode Infection

Sl. No	Fish Host with common name	Scientific name with family	Trematode Parasite	Location of the parasite	Family
01.	Black Pomfret	<i>Apolectus niger</i> (Bloch); Apolectidae	01. <i>Genelopa bychowskii</i> Zuhkov , 1977 02. <i>Opechon</i> sp Zuhkov,1977 03. <i>Lecithocladium excisum</i> (Rud.1819) Luhe,1901 04. <i>Aponurus breviformis</i> Srivastava,1930	Intestine Intestine Stomach Intestine	Monorchhiidae Odhner,1911 Lepocreadiidae (Odhner,1905) Nicoll,1935 Hemiuridae Looss, 1899 Lecithasteridae Odhner,1905
02.	Indian Mackerel	<i>Rastrelliger kanagurta</i> (Cuvier) Scombridae	05. <i>Pseudopocoeoloides tenuoides</i> Martin, 1960	Intestine	Opecoelidae Ozaki, 1925
03	Phasa	<i>Engraulis telera</i> Hamilton-Buchanon) Engraulidae	06. <i>Paradactylostomum tetenuoides</i> Martin,1960 07. <i>Aphanurus stossichi</i> (Monticelli,1819) Looss, 1907	Intestine Intestine	-do- Bunocotyliidae Dollfus,1950
04.	Tongue sole	<i>Cynoglossus macrolepidotus</i> (Bleeker) Cynoglossidae	08. <i>Lepocredioides indicum</i> Srivastava, 1941	Intestine	Lepocrediidae (Odhner,1905) Nicoll, 1935

Table 1. Continued...

05.	Silver Pomfret	<i>Pampus argentus</i> (Euphrasen) Stromatidae	09. <i>Opechona sp.</i> Zhukov, 1977 10. <i>Monascus chauhani</i> Vasanthakumari, 1975 11. <i>Lecithcladium excisum</i> (Rud.1819) Luhe,1901 12. <i>lecithocladium harpodontis</i> Srivastava, 1937	Intestine Intestine Intestine Intestine	Lepocreadiidae (Odhner,1905) Nicoll,1935 Fellodistomidae Nicoll,1913 Hemiuridae Looss,1899 -do-
06.	Chinese Pomfret	<i>Pampus chinensis</i> (Euphrasen) Stromatidae	13. <i>Monascus chauhani</i> Vasanthakumari, 1975	Intestine	Fellodistomidae Nicoll, 1913
07.	Toli shad	<i>Hilsha toli</i> (Valenciennes) Clupeidae	14. <i>Fastula gangetica</i> (Srivastva, 1935 Yamaguti, 1958 15. <i>Aphanurus stossichi</i> (Monticelli,1891 Looss, 1907)	Intestine Intestine	-do- Bunocotylidae Dollfus,1950
08.	Ilish	<i>Hilsha ilisha</i> (Hamilton-Buchanon) Clupeidae	16. <i>Fastula gangetica</i> (Srivastava,1935) Yamaguti, 1958 17. <i>Fastula brevichrus</i> (Srivastava, 1935) Yamaguti, 1958 18. <i>Aphanurus stossichi</i> (Monticelli,1891) Looss 1907 19. <i>Aponurus breviformis</i> Srivastava, 1930 20. <i>Lecithocladium piscicola</i> (Srivastava,1935) Manter et Pritchard, 1960 21. <i>Bengalotrema straitum</i> Malhotra et. al. 1989	Intestine Intestine Stomach Intestine Intestine Intestine	Fellodistomidae Nicoll,1913 -do- Bunocotylidae Dollfus, 1950 Lecithasteridae Odhner,1905 Hemiuridae Looss,1899 Biperidae Malhotra et al.1989
09.	Kholisha	<i>Colisha fasciata</i> (Schneider) Belontidae	22. <i>Allocreadium chilkaei</i> (Chatterjee,1956) Madhavi, 1978	Intestine	Allocreadiidae (Looss,1902) Stossich, 1903
10.	Stinging Catfish	<i>Heteropneustes fossilis</i> (Bloch) Heteropneustidae	23. <i>Allocreadium Heteropneustusius</i> Agrwal, 1964 24. <i>Orientocreadium batrachoides</i> Tubangui, 1931	Intestine Intestine	Allocreadiidae (Looss,1902) Stossich,1903 -do-
11.	Dwarf Catfish	<i>Mystus cavasius</i> Hamilton Bagridae	25. <i>Allocreadium kosia</i> (Pande, 1938) 26. <i>Astiotrema reniferum</i> (Looss,1898)Stossich, 1904	Stomach Intestine	Allocreadiidae (Looss,1902) Stossich,1903 Plagiorchiidae (Luhe, 1901) Ward,1917
12.	Tangra	<i>Mystus vittatus</i> (Bloch) Bagridae	27. <i>Haplorchoides piscicola</i> (Srivastava,1935) Chen, 1949	Intestine	Heterophidae Leiper,1909
13.	Aar	<i>Aorichthys aor</i> (Hamilton) Bagridae	28. <i>Haplorchoides attenuates</i> (Srivastava,1935) Chen, 1945	Intestine	-do-
14.	Spotted snake headfish	<i>Channa punctatus</i> (Bloch) Channidae	29. <i>Azygia(A.) angusticauda</i> (Stafford, 1904)Manter, 1926 30. <i>Genarchopsis dasus</i> Gupta, 1951 31. <i>Opegaster beliyai</i> Pande,1937	Intestine Stomach Intestine	Azygidae Odhner, 1911 Deronidae Nicoll,1901 Opecoelidae Ozaki, 1925
15.	Bar eyed gobi	<i>Glossogobius giuris</i> (Hamilton) Gobidae	32. <i>Opegaster beliyai</i> Pande, 1937 33. <i>Allocreadium mehrai</i> Gupta,1956	Gall bladder Intestine	Opecoelidae Ozaki, 1925 Allocreadiidae Stossich,1903
16.	Punti	<i>Puntius sophore</i> (Hamilton) Cyprinidae	34. <i>Aphyllodora kedarai</i> Srivastava, 1951 35. <i>Macrolecithus indicus</i> Gupta et Agrwal, 1967	Intestine Intestine	Monorchidae Odhner, 1911 Macroderidae McMullen,1937
17.	Chanda fish	<i>Chanda nama</i> (Hamilton) Chandidae	36. <i>Opegaster beliyai</i> Pande,1937 37. <i>Birendrlebes krishnakantai</i> Srivastava et Ghosh,1972 38. <i>Azygia(A.)angusticauda</i> (Stafford,1904) Manter,1926	Intestine Intestine Intestine	Opecoelidae Ozaki,1925 Opistholebetidae Fukui,1929 Azygidae Odhner,1911

Table 1. Continued...

18.	Chanda	<i>Chada ranga</i> (Hamilton) Chandidae	39. <i>Opegaster beliyai</i> Pande, 1937 40. <i>Birendrolebes krishnakantai</i> Srivastava et Ghosh, 1972	Intestine Intestine	Opcoelidae Ozaki, 1925 Opistholebetidae Fukui, 1929
19.	Butter Catfish	<i>Ompok bimaculatus</i> (Bloch) Siluridae	41. <i>Pleurogenoides pabdai</i> (Pande, 1937) Kaw, 1944	Intestine	Lecithodendriidae (Luhe, 1901) Odhner, 1901
20.	Swamp eel	<i>Aphiopnus cuchia</i> (Bloch) Synbranchidae	42. <i>Genarchopsis cuchia</i> Kakaji, 1969	Intestine	Derogenidae Nicoll, 1910
21.	Boal	<i>Wallago attu</i> (Schneider) Siluridae	43. <i>Isoparorchis hypselobagri</i> (Billet, 1898) Ejmont, 1932	Intestine	Isoparorchidae (Travassos, 1922) Poche, 1926
22.	Magur	<i>Clarius batrachus</i> (Linnaeus) Clariidae	44. <i>Allocreadium handiai</i> Pande, 1937 45. <i>Orientocreadium Batrachoides</i> Tubangui, 1931 46. <i>Astiotrema reniferum</i> (Looss, 1896) Looss, 1901 47. <i>Orintocreadium Pseudobagri</i> Yamaguti, 1934	Intestine Intestine Intestine Intestine	Allocreadiidae (Looss, 1902) Stossich, 1903 -do- Plagiorchiidae Luhe, 1901 Allocreadiidae (Looss, 1902) Stossich, 1903
23.	Bombay Duck	<i>Harpodon neherius</i> (Hamilton-Buchanon) Harpodontidae	48. <i>Lecithocladium polynemi</i> Chauhan, 1945	Intestine	Hemiuridae Looss, 1899
24.	Spiny eel	<i>Mastacembellus armatus</i> Scopoli, 1777 Mastacembellidae	49. <i>Azygia angusticauda</i> (Stafford, 1904) Manter, 1926 50. <i>Isoparorchis hypselobagri</i> (Billet, 1898) Ejmont, 1913	Intestine Intestine	Azygiidae Odhner, 1911 Isoparorchidae (Travassos, 1922) Poche, 1926

SUMMARY

Twenty four commercially important fishes of West Bengal have been taken into account in this study and listed with their trematodes infection, yielded thirty six species fewer than twenty five genera of sixteen families may lead to the future course of study regarding the host-parasite relationship as well.

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