

OCCASIONAL PAPER NO. 193

**RECORDS OF THE
ZOOLOGICAL SURVEY OF INDIA**

**Index-catalogue and Bibliography of Protozoan
Parasites from Indian Fishes : Supplement-I**

**N. C. NANDI
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A. K. MANDAL**

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N. C. NANDI

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A. K. MANDAL

Zoological Survey of India, M-Block, New Alipore, Kolkata-700 053.

Edited by the Director, Zoological Survey of India, Kolkata



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Kolkata**

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FOREWORD

Interest on Indian fish protozoa was initiated by Lingard (1904) when he gave a short account of the various Trypanosomata found in the blood of some of the lower animals and fish. Subsequently, several papers have been published and Nandi *et al.* (1983) in their initial attempt made a list of 143 references. Afterwards, over 300 articles have appeared in print. It would seem appropriate, therefore, a volume should appear that summarizes the species of hosts and parasites that occur in the Indian fishes.

The compiling of host parasite catalogues as well as bibliography from Indian fishes is a daunting task. This present work, a supplement of the earlier publication, which summarizes more than double the articles of the main catalogue, will save many man-hours of labour for student and researchers of ichthyoparasitology of India. It clearly indicates what has been done in the last two decades and gives the sources of such studies. Researchers of ichthyoparasitology will find this volume as a stepping stone for new and exciting researches along well-defined lines avoiding duplication of the past.

I am happy that the authors have continued updating this catalogue over the years. This compilation is worth publishing as an important baseline taxonomic record of Indian fish protozoa.

Kolkata
September 14, 2001

Prof. Amallesh Choudhury
Ex-Professor & Head
Department of Marine Science
Calcutta University

NOT FOR ISSUE

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INTRODUCTION

Nandi *et al.* (1983) published an index – catalogue and bibliography of protozoan parasites from Indian fishes as an Occasional Paper of the Records of the Zoological Survey of India summarizing all the records pertaining to Indian fish parasites that they could assemble from the available literatures *viz.*, Zoological Records (up to 1974) and Biological Abstracts (up to 1979). Since then there appeared appreciable number of publications on taxonomy and eco–patho–physiology of protozoan fish parasites from Indian region. The present work is intended to compile these publications as a “Supplement” of the previous catalogue. Thus all these references will be found in the Bibliography part of this paper.

The classification of protozoan parasites is based on the classification scheme made by the Committee on Systematics and Evolution of the Society of Protozoologists (Levine *et al.*, 1980; Lee *et al.*, 1985) as well as Lom and Noble (1984). Some references cited in this catalogue could not be consulted in original, while some references cited unspecified host names even when consulted the respective journals in original. As a result, depending on the standard abstracting publications, namely, the Zoological Records, Biological Abstracts etc., there is a gap in the “Species Catalogue” This gap is indicated by putting a ‘?’ mark in the appropriate place so that this may attract the attention of the readers / researchers.

While compiling this ‘Supplement’ personal contacts with authors have been made to gather necessary information from them. Several authors have supplied their reprints and immensely helped in completion of this study. Like the earlier study (Nandi *et al.*, 1983), this supplement is dealt in three parts *viz.*, Species Catalogue, Host Catalogue and Bibliography. We would request the readers to consult these two publications to get an idea of the ‘State of the art’ on this subject. However, for errors and omissions readers are requested to inform us for necessary correction in the subsequent publication.

Part 1. SPECIES CATALOGUE

This catalogue is presented in Table 1 as follows :

Table 1. Catalogue of protozoan parasites from Indian fishes

Species	Host	Reference
Kingdom	PROTISTA	
Subkingdom	PROTOZOA	
Phylum	SARCOMASTIGOPHORA	
Subphylum	MASTIGOPHORA	
Class	ZOOMASTIGOPHOREA	
Order	KINETOPLASTIDA	
Suborder	BODONINA	
Family	BODONIDAE	
Genus	<i>Ichthyobodo</i> Pinto, 1928	
<i>I. necator</i> (Henneguy, 1883) (Syn. <i>Costia necatrix</i> (Henneguy))	<i>Schizothorax plagiosomus</i>	Lal (1980); Mishra and Lal (1980)
<i>I. sp.</i> (Syn. <i>Costia sp.</i>)	<i>Channa striatus</i> <i>Puntius sophore</i>	Mandal <i>et al.</i> (1990) Srivastava (1978)
Family	CRYPTOBIDAE	
Genus	<i>Cryptobia</i> Leidy, 1846	
Subgenus	<i>Trypanoplasma</i> Lavern and Mesnil, 1901	
<i>C. (T.) atti</i> Joshi, 1982	<i>Wallago attu</i>	Joshi (1982c)
<i>C. (T.) catli</i> Gupta <i>et al.</i> , 1999	<i>Catla catla</i>	Gupta <i>et al.</i> (1999)
<i>C. (T.) cavacii</i> Wahul, 1985	<i>Mystus cavacius</i>	Wahul (1985)
<i>C. (T.) cyprinoides</i> Gupta <i>et al.</i> , 1988	<i>Puntius ticto</i>	Gupta <i>et al.</i> (1988)
<i>C. (T.) guptii</i> Gupta and Gupta, 1987	<i>Mystus vittatus</i>	Gupta and Gupta (1987b)
<i>C. (T.) indica</i> Mandal, 1979	<i>Mystus vittatus</i>	Mandal (1979, 1984, 1988)
<i>C. (T.) jayasriparvateesami</i> nov. comb. (Syn. <i>Cryptobia indica</i> Jayasri and Parvateesam, 1982)	<i>Puntius sarana</i>	Jayasri and Parvateesam (1982)
<i>C. (T.) krishnamurthyi</i> Wahul, 1985	<i>Mystus cavacius</i>	Wahul (1985)
<i>C. (T.) lomi</i> Wahul, 1986	<i>Puntius hexastichus</i>	Wahul (1986a)

Table 1 Contd.

Species	Host	Reference
<i>C. (T.) maguri</i> Gupta and Gupta, 1987	<i>Clarias batrachus</i>	Gupta and Gupta (1987a); Gupta <i>et al.</i> (1990)
<i>C. (T.) mysti</i> Joshi, 1982	<i>Mystus aor</i>	Joshi (1982c)
<i>C. (T.) ompoki</i> Shavanas <i>et al.</i> , 1989	<i>Ompok bimaculatus</i>	Shavanas <i>et al.</i> (1989)
<i>C. (T.) parastomataei</i> Narasimhamurti <i>et al.</i> , 1990	<i>Parastomateus niger</i>	Narasimhamurti <i>et al.</i> (1990)
<i>C. (T.) qadrii</i> Krishnamurthy and Wahul, 1986	<i>Labeo calbasu</i>	Krishnamurthy and Wahul (1986)
	<i>Labeo dyocheilus</i>	Krishnamurthy and Wahul (1986)
<i>C. (T.) saranae</i> Wahul, 1986	<i>Puntius sarana</i>	Wahul (1986a)
<i>C. (T.) seenghali</i> Wahul, 1985	<i>Mystus seenghala</i>	Wahul (1985)
<i>C. (T.) solapurensis</i> Wahul, 1986	<i>Puntius jerdoni</i>	Wahul (1986a)
<i>C. (T.) tengari</i> Gupta <i>et al.</i> , 1988	<i>Mystus vittatus</i>	Gupta <i>et al.</i> (1988); Gupta <i>et al.</i> (1990); Gupta and Gupta (1990b, 1996)
<i>C. (T.) vidyai</i> Wahul, 1985	<i>Mystus seenghala</i>	Wahul (1985)
<i>C. (T.) wallagoi</i> Wahul, 198	<i>Wallago attu</i>	Wahul (1986c)
<i>C. (T.) sp.</i>	<i>Helobdella nociva</i> (Leech vector)	Ray (1992)

Note: Cryptobid biflagellates occurring in the blood of freshwater fish and marine fish belong to the genus *Trypanoplasma*, whereas those inhabiting gills and skin of freshwater fish and digestive tract of marine fish belong to the genus *Cryptobia* as reviewed by Becker (1977). But these two hematozoic and nonhematozoic genera are recognized herein as subgenera under the genus *Cryptobia* as reviewed by Woo (1994).

Family TRYPANOSOMATIDAE

Genus *Trypanosoma* Gruby, 1843

<i>T. aligaricus</i> Gupta and Jayarajpuri, 1982	<i>Channa punctatus</i> (= <i>Ophicephalus punctatus</i>)	Gupta and Jairajpuri (1982a); Gupta <i>et al.</i> (1983); Gupta and Gupta (1985, 1988, 1989, 1990, 1993)
<i>T. anabasi</i> Mandal, 1978	<i>Anabas testudineus</i>	Tiwari and Ray (1981)
<i>T. aori</i> Joshi, 1982	<i>Mystus aor</i>	Joshi (1982c)
<i>T. armeti</i> Mandal, 1975	<i>Mastacembelus armatus</i>	Tiwari and Ray (1981)
<i>T. attii</i> Gupta and Jairajpuri, 1982	<i>Wallago attu</i>	Gupta and Jairajpuri (1982b); Gupta and Gupta (1986, 1988, 1990c)
<i>T. aurangabadensis</i> Wahul, 1987	<i>Mastacembelus armatus</i>	Wahul (1987)

Table 1 Contd.		
Species	Host	Reference
<i>T. bagroides</i> Gupta and Gupta, 1996	<i>Mystus vittatus</i>	Gupta and Gupta (1996)
<i>T. baigulensis</i> Pandey and Pandey, 1974	<i>Osteobrama cotio</i> <i>Cirrhina reba</i>	Pandey and Pandey (1974) Pandey and Pandey (1974)
<i>T. barbi</i> Gupta et al., 1987	<i>Barbus barbuis</i>	Gupta et al. (1987)
<i>T. bareiliana</i> Gupta et al., 1987	<i>Channa punctatus</i>	Gupta et al. (1987)
<i>T. batai</i> Joshi, 1978	<i>Labeo rohita</i>	Gupta and Gupta (1988)
<i>T. batrachi</i> Qadri, 1962	<i>Clarias batrachus</i>	Rao (1980); Tiwari and Ray (1981); Gupta et al. (1983); Gupta and Jairajpuri (1983); Mandal (1984); Gupta and Gupta (1985, 1988, 1990a)
<i>T. channai</i> Narasimhamurti and Saratchandra, 1980	<i>Channa punctatus</i>	Narasimhamurti and Saratchandra (1980)
<i>T. choudhuryi</i> Mandal, 1976	<i>Sartherodon mossambicus</i>	Ray (1987)
<i>T. clariae</i> Montel, 1905	<i>Clarias batrachus</i>	Sinha (1993)
<i>T. colisi</i> Gupta, 1986	<i>Colisa fasciata</i>	Gupta (1986a); Gupta and Gupta (1990, 1993)
<i>T. danilewskyi saccobranchi</i> Qadri, 1962	<i>Heteropneustes fossilis</i>	Tiwari and Ray (1981); Mandal (1984)
<i>T. elongatus</i> Ray Chaudhuri and Misra, 1973	<i>Channa punctatus</i>	Gupta et al. (1987)
<i>T. gachuii</i> Misra et al., 1973	<i>Channa gachua</i>	Nandi and Raut (1987)
<i>T. gobida</i> Mandal, 1984	<i>Glossogobius giuris</i>	Mandal (1984)
<i>T. godavariensis</i> Saratchandra and Jayaramaraju, 1981	<i>Channa punctata</i>	Saratchandra and Jayaramaraju (1981)
<i>T. granulosum</i> Lavern and Mesnil, 1902	<i>Amphiopnus</i> sp.	Mandal (1984)
<i>T. joshii</i> Wahul, 1986	<i>Mastacembelus armatus</i>	Wahul (1986b)
<i>T. kargenensis</i> Gupta and Gupta, 1994	<i>Heteropneustes fossilis</i>	Gupta and Gupta (1994); Gupta et al. (1998b)
<i>T. maguri</i> Tandon and Joshi, 1973	<i>Clarias batrachus</i> (Expt.)	Gupta et al. (1998b)
	<i>Heteropneustes fossilis</i>	Joshi (1981); Joshi and Dabral (1981)
<i>T. mandali</i> Wahul, 1986	<i>Clarias batrachus</i>	Mandal (1984)
	<i>Mystus seenghala</i>	Wahul (1986)
<i>T. marathwadensis</i> Wahul, 1986	<i>Puntius hexastichus</i>	Wahul (1986)
<i>T. mastacembeli</i> Wahul, 1987	<i>Mastacembelus armatus</i>	Wahul (1987)
<i>T. monomorpha</i> Gupta and Jairajpuri, 1985	<i>Catla catla</i>	Gupta and Jairajpuri (1985); Gupta and Gupta (1988)
	<i>Tilapia mossambica</i>	Sinha (1986)
<i>T. mukasai</i> Hoare, 1932	<i>Tilapia mossambica</i>	Sinha (1986)
<i>T. murtii</i> Wahul, 1987	<i>Mastacembelus armatus</i>	Wahul (1987)

Table 1 Contd.

Species	Host	Reference
<i>T. nandi</i> Mukherjee and Haldar 1982	<i>Nandus nandus</i>	Mukherjee and Haldar (1982)
<i>T. notopteri</i> Gupta and Jairajpuri, 1985	<i>Notopterus notopterus</i>	Gupta and Jairajpuri (1985); Gupta and Gupta (1988)
<i>T. pancali</i> Mandal, 1975	<i>Mastacembelus pancalus</i>	Tiwari and Ray (1988)
<i>T. parastromataei</i> Narasimhamurti <i>et al.</i> , 1990	<i>Parastromateus niger</i>	Narasimhamurti <i>et al.</i> (1990)
<i>T. punctati</i> Hasan and Qasim, 1962	<i>Ophicephalus punctatus</i> (= <i>Channa punctatus</i>)	Tiwari and Ray (1981); Shavanas (1991)
<i>T. puntii</i> Wahul, 1986	<i>Puntius kolus</i>	Wahul (1986d)
<i>T. purensis</i> Wahul, 1986	<i>Mystus seenghala</i>	Wahul (1986 b)
<i>T. qadrii</i> Narasimhamurti and Saratchandra, 1980	<i>Clarias batrachus</i>	Narasimhamurti and Saratchandra (1980); Gupta and Saraswat (1993)
<i>T. rayi</i> Wahul, 1986	<i>Puntius sarana</i>	Wahul (1986d)
<i>T. ritae</i> Gupta and Yadav, 1989	<i>Rita rita</i>	Gupta and Yadav (1989)
<i>T. rohilkhandae</i> Gupta and Saraswat, 1991	<i>Channa</i> (= <i>Ophicephalus</i>) <i>punctatus</i>	Gupta and Saraswat (1991)
<i>T. rupicola</i> Joshi, 1983	<i>Nemacheilus rupicola</i>	Joshi (1983, 1985)
<i>T. saccobranchi</i> Qadri, 1962	<i>Saccobranchus fossilis</i>	Rao (1980)
<i>T. seenghali</i> Joshi, 1976	<i>Mystus seenghala</i>	Mandal (1984)
<i>T. seenghali</i> var <i>sophorae</i> Yatindra and Mathur, 1980	<i>Puntius sophorae</i>	Yatindra and Mathur (1980)
<i>T. singhii</i> Gupta and Jairajpuri, 1981	<i>Heteropneustes fossilis</i>	Gupta and Jairajpuri (1981b); Gupta and Gupta (1986, 1989, 1990a)
<i>T. striati</i> Qadri, 1955	<i>Ophicephalus punctatus</i>	Rao (1980); Tiwari and Ray (1981); Mandal (1984)
<i>T. ticti</i> Gupta <i>et al.</i> , 1988	<i>Puntius ticto</i>	Gupta <i>et al.</i> (1998)
<i>T. trichogasteri</i> Gupta and Jairajpuri, 1981	<i>Trichogaster fasciata</i> (= <i>Colisa fasciatus</i>)	Gupta and Jaiajpuri (1981a); Gupta <i>et al.</i> (1983, 1987); Gupta and Gupta (1988)
<i>T. trichogasteri</i> var. <i>fasciatae</i> Gupta <i>et al.</i> , 1998	<i>Colisa fasciatus</i>	Gupta <i>et al.</i> (1998a)
<i>T. vittati</i> Tandon and Joshi, 1973	<i>Mystus vittatus</i>	Tiwari and Ray (1981); 'Gupta and Gupta (1990b); Reddy <i>et al.</i> (1990)
<i>T. xenentodoni</i> Das <i>et al.</i> , 1986	<i>Xenentodon cancila</i>	Das <i>et al.</i> (1986)
<i>T. sp.</i>	<i>Nandus nandus</i> <i>Aorichthys aor</i> <i>Puntius ticto</i>	Tiwari and Ray (1981) Mandal (1984, 1988) Gupta and Jairajpuri (1984); Joshi (1985); Gupta (1986)

Table 1 Contd.		
Species	Host	Reference
	<i>Channa gachua</i>	Gupta and Jairajpuri (1984); Joshi (1985)
	<i>Gara gotyla</i>	Joshi (1985)
	<i>Nemacheilus rupicola</i>	Joshi (1985)
	<i>Anabas testudineus</i>	Tiwari and Ray (1981); Gupta (1986b); Roy and Haldar (1997);
	<i>Heteropneustes fossilis</i>	Tiwari and Ray (1981); Gupta and Jairajpuri (1984); Gupta (1986b); Roy and Haldar (1997); Rao <i>et al.</i> (1984)
	<i>Clarias batrachus</i>	Tiwari and Ray (1981); Gupta and Jairajpuri (1984); Gupta (1986b); Roy and Haldar (1997); Joshi (1981b, 1982a,b, 1989a)
	<i>Channa punctatus</i>	Tiwari and Ray (1981); Gupta and Jairajpuri (1984); Gupta (1986b); Roy and Haldar (1997); Joshi (1979a)
	<i>Trichogaster fasciata</i> (= <i>Colisa fasciatus</i>)	Gupta and Jairajpuri (1984); Gupta (1986b)
	<i>Notopterus notopterus</i>	Gupta and Jairajpuri (1984); Gupta (1986b); Kundu and Haldar (1981)
	<i>Catla catla</i>	Gupta and Jairajpuri (1984); Gupta (1986b)
	<i>Cyprinus carpio</i>	Gupta and Jairajpuri (1984); Gupta (1986b)
	<i>Labeo rohita</i>	Gupta and Jairajpuri (1984); Gupta (1986b)
	<i>Wallago attu</i>	Gupta and Jairajpuri (1984); Gupta (1986b)
	<i>Mystus cavasius</i>	Mandal (1981)
	<i>Mystus tengara</i>	Gupta and Jairajpuri (1984); Gupta (1986b)
	<i>Mystus vittatus</i>	Gupta and Jairajpuri (1984); Gupta (1986b)
	<i>Xenentodon cancila</i>	Gupta and Jairajpuri (1984); Gupta (1986b)

Table 1 Contd.		
Species	Host	Reference
	<i>Channa striatus</i>	Gupta and Jairajpuri (1984); Gupta (1986b)
	<i>Labeo calbasu</i>	Gupta (1986b)
	<i>Puntius sophore</i>	Gupta (1986b)
	<i>Rita rita</i>	Gupta (1986b)
	<i>Bagarius bagarius</i>	Gupta (1986b)
	<i>Cirrhinus mrigala</i>	Gupta (1986b)
	<i>Lepidocephalus guntea</i>	Sinha (1980)
	<i>Treochromis mossambicus</i>	Chakraborty <i>et al.</i> (2000)
	<i>Tor putitora</i>	Joshi and Sharma (1992)
Phylum	APICOMPLEXA	
Class	SPOROZOEA	
Subclass	COCCIDIA	
Order	COCCIDA	
Suborder	ADELINA	
Family	HAEMOGREGARINIDAE	
Genus	<i>Haemogregarina</i> Danilewsky, 1885	
<i>H. colisa</i> Mandal <i>et al.</i> , 1984	<i>Colisa fasciatus</i>	Mandal <i>et al.</i> (1982, 1984)
<i>H. sp.</i>	<i>Colisa fasciatus</i>	Mandal <i>et al.</i> (1982, 1981)
Suborder	EIMERIINA	
Family	EIMERIIDAE	
Genus	<i>Eimeria</i> Schneider, 1875	
<i>E. glossogobi</i> Mukherjee and Haldar, 1980	<i>Glossogobius giuris</i>	Mukherjee and Haldar (1980a)
Suborder	HAEMOSPORINA	
Family	HAEMOPROTEIDAE	
Genus	<i>Haemoproteus</i> Kruse, 1890	
<i>H. rupicola</i> Mandal <i>et al.</i> , 1985	<i>Nemacheilus rupicola rupicola</i>	Mandal <i>et al.</i> (1985)
Subclass	PIROPLASMIA	
Order	PIROPLASMIDA	
Family	HAEMOHORMIDAE	

Table 1 Contd.		
Species	Host	Reference
Genus <i>Haemohormidium</i> Henry, 1910		
<i>H. batrachi</i> (Ray Chaudhuri and Choudhury, 1983) (Syn = <i>Babesiosoma batrachi</i> Ray Chaudhuri and Choudhury, 1983)	<i>Clarias batrachus</i>	Ray Chaudhuri and Choudhury (1983)
<i>H. sp.</i> (Syn. = <i>Babesiosoma sp.</i>)	<i>Muraenesox sp.</i> <i>Clarias batrachus</i> Mackerel	Mandal (1984) Ray Chaudhuri and Chaudhuri (1981) Mandal (1985)
Family DACTYLOSOMATIDAE		
Genus <i>Dactylosoma</i> Labbe, 1894		
<i>D. notopteri</i> Kundu and Haldar, 1984	<i>Notopterus notopterus</i>	Kundu and Haldar (1980,1984)
<i>D. striata</i> Sarkar and Haldar, 1979	<i>Ophicephalus striatus</i>	Sarkar and Haldar (1979)
Phylum MICROSPORA		
Class MICROSPOREA		
Order MICROSPORIDA		
Suborder APANSPOROBLASTINA		
Family GLUGEIDAE		
Genus <i>Glugea</i> Thelohan, 1891		
<i>G. malabaracii</i> Narasimhamruti et al., 1985	<i>Carangoides malabaricus</i>	Narasimhamurti et al. (1985); Kalavati et al. (1985)
<i>G. nemipteri</i> Weiser et al., 1981	<i>Nemipterus japonicus</i>	Weiser et al. (1981)
<i>G. sp.</i>	<i>Carangoides malabaricus</i>	Kalavati and Narasimhamurti (1982)
Family NOSEMATIDAE		
Genus <i>Nosema</i> Nageli, 1857		
<i>N. bengalis</i> Weiser et al., 1981	<i>Nemipterus japonicus</i>	Weiser et al. (1981)
<i>N. pariacanthi</i> Sandeep and Kalavati, 1985	<i>Priacanthus boops</i>	Sandeep and Kalavati (1985a)
<i>N. valamugili</i> Kalavati and Lakshminarayana (1982)	<i>Valamugil sp.</i>	Kalavati and Lakshminarayana, 1982
<i>N. sp.</i>	<i>Priacanthus boops</i>	Sandeep (1981)

Table 1 Contd.		
Species	Host	Reference
Genus <i>Loma</i> Morrison and Sprague, 1981		
<i>Loma trichiuri</i> Sandeep and Kalavati, 1985	<i>Trichiurus savala</i>	Sandeep and Kalavati, (1985b)
<i>L. sp. I</i>	<i>Trichopterus sp.</i>	Narasimhamurti <i>et al.</i> (1990)
<i>L. sp. II</i>	Sciaenid fish (unidentified)	Narasimhamurti <i>et al.</i> (1990)
Genus <i>Burenella</i> Jouvanaz and Hazard, 1978		
<i>B. sp.</i>	<i>Saurida tumbil</i>	Kalavati and Sandeep (1985)
Phylum MYXOZOA		
Class MYXOSPOREA		
Order BIVALVULIDA		
Suborder SPHAEROMYXINA		
Family SPHAEROMYXIDAE		
Genus <i>Sphaeromyxa</i> Thelohan, 1892		
<i>S. corsulae</i> Sarkar and Ghosh, 1991	<i>Rhinomugil corsula</i>	Sarkar and Ghosh (1991)
<i>S. dighae</i> Sarkar and Mazumder, 1983	<i>Hilsa ilisha</i>	Sarkar and Mazumder (1983a)
<i>S. ganapati</i> Kalavati and Vaidehi, 1991	<i>Theropon jarbua</i>	Kalavati and Vaidehi (1991b)
<i>S. hareni</i> Sarkar, 1984	<i>Tachysurus platystomus</i>	Sarkar (1984b)
Family MYXIDIIDAE		
Genus <i>Myxidium</i> Butschli, 1882		
<i>M. apocryptae</i> Bajpai and Haldar, 1982	<i>Apocryptes bato</i>	Bajpai and Haldar (1982b)
<i>M. fasciatum</i> Sarkar, 1985	<i>Trichogaster fasciatus</i>	Sarkar (1985)
<i>M. islumpurium</i> Sarkar <i>et al.</i> , 1985	<i>Channa marulius</i>	Sarkar <i>et al.</i> (1985)
<i>M. labeonis</i> Gupta and Khera, 1988	<i>Labeo dero</i>	Gupta and Khera (1988d)
	<i>Labeo dyocheilus</i>	Gupta and Khera (1988d)
<i>M. leptocephalicichthysum</i> Sarkar and Ray Chaudhury (1997)	<i>Lepidocephalicichthys thermalis</i>	Sarkar and Ray Chaudhury, 1997
	<i>Cirrhina reba</i>	Yatindra and Mathur (1988)
<i>M. molnari</i> Yatindra and Mathur, 1988		
<i>M. mukundae</i> Sarkar, 1985 (Syn. <i>Myxidium lieberkuhni</i> of Chakravarty (1943) emend Sarkar (1985)	<i>Anabas testudineus</i>	Sarkar (1985c); Chakravarty (1943)

<i>Table 1 Contd.</i>		
Species	Host	Reference
<i>M. mystusium</i> Sarkar and Ray Chaudhury, 1986	<i>Mystus vittatus</i>	Sarkar and Ray Chaudhury (1986)
<i>M. notopterum</i> Sarkar, 1996	<i>Notopterus notopterus</i>	Sarkar (1996b)
<i>M. papernae</i> Dorothy and Kalavati, 1992	<i>Liza macrolepis</i>	Dorothy and Kalavati (1992b)
<i>M. sciaenae</i> Sarkar, 1986	<i>Sciaena bleekeri</i>	Sarkar (1986c)
<i>M. striatusi</i> Sarkar, 1982	<i>Ophicephalus striatus</i>	Sarkar (1982)
<i>M. sp.</i>	<i>Ophicephalus punctatus</i>	Mukherjee <i>et al.</i> (1981)
Genus <i>Zschokkella</i> Auerbach, 1910		
<i>Z. cascasiensis</i> Sarkar, 1995	<i>Sicamugil cascasia</i>	Sarkar (1995)
<i>Z. ganapati</i> Dorothy and Kalavati,	<i>Liza macrolepis</i>	Dorothy and Kalavati (1992b)
<i>Z. glossogobi</i> Kalavati and Vaidehi,	<i>Glossogobius giuris</i>	Kalavati and Vaidehi (1991b)
<i>Z. gobiensis</i> Sarkar and Ghosh, 1991	<i>Gobius giuris</i>	Sarkar and Ghosh (1991)
<i>Z. platystomusi</i> Sarkar, 1987	<i>Tachysurus platystomus</i>	Sarkar (1987a)
<i>Z. pseudosciaena</i> Sarkar, 1996	<i>Pseudosciaena coibor</i>	Sarkar (1996a)
Genus <i>Coccomyxa</i> Leger and Hesse, 1907		
<i>C. balaswarensis</i> Sarkar, 1984	<i>Hilsa ilisha</i>	Sarkar (1984c)
Family ORTHOLINEIDAE Genus <i>Ortholinea</i> Schulman, 1962		
<i>O. indica</i> Sarkar, 1999	<i>Microspinispora cuja</i>	Sarkar (1999)
Family SINUOLINEIDAE Genus <i>Sinuolinea</i> Davis, 1917		
<i>S. indica</i> Sarkar, 1997	<i>Pseudosciaena coibor</i>	Sarkar (1997)
Genus <i>Davisia</i> Laird, 1953		
<i>D. cynoglossi</i> Narasimhamurti <i>et al.</i> , 1990	<i>Cynoglossus</i> sp.	Narasimhamurti <i>et al.</i> (1990)
<i>D. filiformis</i> Dorothy <i>et al.</i> , 1998	<i>Thrissocles setirostris</i>	Dorothy <i>et al.</i> (1998)
<i>D. sauridae</i> Narasimhamurti <i>et al.</i> , 1990	<i>Saurida tambil</i>	Narasimhamurti <i>et al.</i> (1990)
Genus <i>Myxoproteus</i> Doflein, 1898		
<i>M. cujaeus</i> Sarkar, 1996	<i>Macrospinosa cuja</i>	Sarkar (1996a)

Table 1 Contd.		
Species	Host	Reference
Genus <i>Bipteria</i> Kovaleva <i>et al.</i> , 1983		
<i>B. indica</i> Kalavati and Anuradha, 1995	<i>Mugil cephalus</i>	Kalavati and Anuradha(1995)
Genus <i>Neobipteria</i> Kovaleva <i>et al.</i> , 1986		
<i>N. coromandelensis</i> Narasimhamurti <i>et al.</i> , 1990	<i>Nemipterus mesoprion</i>	Narasimhamurti <i>et al.</i> (1990)
Family CERATOMYXIDAE		
Genus <i>Leptotheca</i> Thelohan, 1895		
<i>L. apogoni</i> Narasimhamurti <i>et al.</i> , 1990	<i>Apogon aureus</i> <i>Nemipterus japonicus</i>	Narasimhamurti <i>et al.</i> (1990) Narasimhamurti <i>et al.</i> (1990)
Genus <i>Ceratomyxa</i> Thelohan, 1892		
<i>C. cynoglossi</i> Das <i>et al.</i> , 1988	<i>Cynoglossus lingua</i>	Das <i>et al.</i> (1988)
<i>C. daysciaena</i> Sarkar, 1994	<i>Daysciaena albida</i>	Sarkar and Pramanik (1994a)
<i>C. dissimilaris</i> Narasimhamurti <i>et al.</i> , 1990	<i>Nemipterus mesoprion</i>	Narasimhamurti <i>et al.</i> (1990)
<i>C. eitroplusi</i> Rajendran and Janardanan, 1992	<i>Eitroplus maculatus</i>	Rajendran and Janardanan (1992)
<i>C. fruticulosa</i> var. <i>paroides</i> Alb. & Schw.	?	Rawla <i>et al.</i> (1985)
<i>C. kudoii</i> Kalavati and Anuradha, 1993	<i>Valamugil cunnesius</i>	Kalavati and Anuradha (1993)
<i>C. sagarsampadae</i> Narasimhamurti <i>et al.</i> , 1990	<i>Cynoglossus</i> sp.	Narasimhamurti <i>et al.</i> (1990)
<i>C. tenulosae</i> Sarkar and Pramanik, 1994	<i>Tenulosa toli</i>	Sarkar and Pramanik (1994b)
<i>C. tatoori</i> Sarkar, 1986	<i>Opisthopterus tatoor</i>	Sarkar (1986b)
<i>C. thrissoclesi</i> Dorothy <i>et al.</i> , 1998	<i>Thrissocles muystase</i>	Dorothy <i>et al.</i> (1998)
Family SPHAEROSPORIDAE		
Genus <i>Sphaerospora</i> Thelohan, 1892		
<i>S. corsulae</i> Sarkar and Ghosh, 1991	<i>Rhinomugil corsula</i>	Sarkar and Ghosh (1991)
Genus <i>Palliatius</i> Schulman <i>et al.</i> , 1979		
<i>P. indicus</i> Dorothy and Kalavati, 1998	<i>Liza macrolepis</i>	Dorothy and Kalavati (1998)

Table 1 Contd.		
Species	Host	Reference
Genus <i>Myxobilatus</i> Davis, 1944		
<i>M. fossilis</i> Susha and Janardanan, 1994	<i>Heteropneustes fossilis</i>	Susha and Janardanan (1994)
<i>M. notopterus</i> Kalavati and Vaidehi, 1996	<i>Notopterus notopterus</i>	Kalavati and Vaidehi (1996)
<i>M. sp.</i>	<i>Clarias batrachus</i>	Anuradha and Kalavat(1987)
Family CHLOROMYXIDAE		
Genus <i>Chloromyxum</i> Mingazzini, 1890		
<i>C. clariasum</i> Sarkar, 1994	<i>Clarias batrachus</i>	Sarkar (1994)
<i>C. meglitschi</i> Sarkar, 1982	<i>Ophicephalus punctatus</i>	Sarkar (1982)
<i>C. mitchelli</i> Kalavati and Narasimhamurti, 1984	<i>Therapon jarbua</i>	Kalavati and Narasimhamurti (1984a)
<i>C. tripathii</i> Kalavati and Narasimhamurti, 1984	<i>Therapon jarbua</i>	Kalavati and Narasimhamurti (1984a)
Family AUERBACHIIDAE		
Genus <i>Auerbachia</i> Meglitsch, 1960		
<i>A. chakravartyi</i> Narasimhamurti et al., 1990	<i>Megalaspis cordyla</i>	Narasimhamurti et al. (1990)
<i>A. chorinemusi</i> Dorothy et al., 1998	<i>Chorinemus tol</i>	Dorothy et al. (1998)
Family PARVICAPSULIDAE		
Genus <i>Parvicapsula</i> Schulman, 1953		
<i>P. hoffmani</i> Dorothy and Kalavati, 1993	<i>Liza macrolepis</i>	Dorothy and Kalavati (1993)
Genus <i>Neoparvicapsula</i> Gaeskaya et al., 1982		
<i>N. monoalata</i> Sarkar, 1999	<i>Microspinispora cuja</i>	Sarkar (1999)
Suborder PLATYSPORINA		
Family MYXOBOLIDAE		
Genus <i>Myxobolus</i> Butschli, 1882		
<i>M. aligarhensis</i> Bhatt and Siddiqui, 1964	<i>Channa punctatus</i>	Gupta and Khera (1988c)

Table 1 Contd.

Species	Host	Reference
<i>M. anili</i> Sarkar, 1989	<i>Rhinomugil corsula</i> <i>Liza macrolepis</i>	Sarkar (1989) Dorothy and Kalavati (1992a)
<i>M. attui</i> Sarkar, 1985	<i>Wallago attu</i>	Sarkar (1985a)
<i>M. bankimi</i> Sarkar, 1999	<i>Sicamugil cascasia</i>	Sarkar (1999)
<i>M. batae</i> Sarkar and Ghosh, 1991	<i>Labeo bata</i>	Sarkar and Ghosh (1991)
<i>M. bengalensis</i> Chakravarty and Basu, 1948	<i>Catla catla</i>	Das et al. (1989)
<i>M. bhadrensis</i> Seenappa and Monohar 1981	<i>Labeo rohita</i>	Seenappa and Monohar (1981a)
<i>M. bhaduria</i> (Sarkar, 1985)*	<i>Wallago attu</i>	Sarkar (1985a)
<i>M. bivacuolatus</i> Narasimhamurti and Kalavati, 1986	<i>Clarias batrachus</i>	Narasimhamurti and Kalavati (1986)
<i>M. carnaticus</i> Seenappa and Monohar 1980	<i>Cirrhina mrigala</i>	Seenappa and Monohar (1980a)
<i>M. cartilaginis</i> , Hoffman et al., 1965	Major carps/Minor carps/ Murrels	Ram et al. (1994)
<i>M. catlae</i> Chakravarty, 1943	<i>Catla catla</i> <i>Cirrhina mrigala</i>	Haldar et al. (1989) Das et al. (1989)
<i>M. cerebralis</i> , (Huffer, 1903)*	Major carps/Minor carps/ Murrels <i>Cirrhina mrigala</i>	Ram et al. (1994) Maheshwari (1986)
<i>M. chakravartyi</i> Haldar et al., 1983	<i>Catla catla</i> <i>Cirrhina mrigala</i>	Haldar et al. (1983); Das et al. (1989)
<i>M. channai</i> (Kalavati et al., 1981)*	<i>Channa punctata</i>	Kalavati et al. (1981)
<i>M. coelii</i> Haldar et al., 1996	<i>Chanos chanos</i>	Haldar et al. (1996)
<i>M. curmucae</i> Seenappa and Monohar, 1980	<i>Puntius curmaca</i> <i>Labeo calbasu</i>	Seenappa and Monohar (1980a) Seenappa and Monohar (1980b)
<i>M. cuttacki</i> Haldar et al., 1996	<i>Cyprinus carpio</i>	Haldar et al. (1996)
<i>M. cylindrica</i> (Sarkar et al., 1985)*	<i>Channa gachua</i>	Sarkar et al. (1985)
<i>M. dasgupti</i> Haldar et al., 1996	<i>Mugil tade</i>	Haldar et al. (1996)
<i>M. dermatitis</i> (Haldar et al., 1981)*	<i>Labeo rohita</i>	Haldar et al. (1981)
<i>M. edellae</i> Sarkar, 1999	<i>Ctenopharyngodon idella</i>	Sarkar (1999)
<i>M. encephalicus</i> (Muslow, 191)**	<i>Labeo bata</i>	Das et al. (1988)
<i>M. filamentosa</i> (Haldar et al., 1988)*	<i>Puntius filamentosus</i>	Haldar et al. (1981)
<i>M. gangulyi</i> (Sarkar et al., 1982)*	<i>Sillago maculata</i>	Sarkar et al. (1982)
<i>M. haldari</i> Gupta and Khera, 1989	<i>Labeo dyocheilus</i> <i>Labeo bata</i> <i>Labeo rohita</i> <i>Cirrihinus mrigala</i>	Gupta and Khera (1989b) Gupta and Khera (1989b) Gupta and Khera (1989b) Gupta and Khera (1989b)
<i>M. hosadurgensis</i> Seenappa and Monohar, 1980	<i>Cirrhina mrigala</i>	Seenappa and Monohar (1981a)
<i>M. indicum</i> Tripathi, 1952	<i>Cirrhina mrigala</i>	Das et al. (1989)

Table 1 Contd.

Species	Host	Reference
<i>M. indirae</i> (Kundu, 1985)*	<i>Cirrhina mrigala</i>	Kundu (1985)
<i>M. labeosus</i> Sarkar, 1995	<i>Labeo fimbriatus</i>	Sarkar (1995)
<i>M. lalithae</i> Gupta and Khera, 1988	<i>Labeo calbasu</i>	Gupta and Khera (1988c)
<i>M. karnataki</i> (Hagargi and Amoji, 1981)*	<i>Puntius chola</i>	Hagargi and Amoji (1981)
<i>M. macrolepis</i> Dorothy and Kalavati, 1992	<i>Liza macrolepis</i>	Dorothy and Kalavati (1992a)
<i>M. magauddi</i> (Bajpai et al., 1981)*	<i>Trichogaster fasciatus</i>	Bajpai et al. (1981)
<i>M. maguri</i> Sarkar, 1993	<i>Clarias magur (batrachus)</i>	Sarkar (1993)
<i>M. mahendrai</i> Sarkar, 1986	<i>Catla catla</i>	Sarkar (1986a); Gupta and Khera (1988, 1990)
<i>M. maruliensis</i> (Sarkar et al., 1985)*	<i>Channa marulius</i>	Sarkar et al. (1985)
<i>M. mathuri</i> (Jayasri et al., 1981)*	<i>Puntius sarana</i>	Jayasri et al. (1982)
<i>M. meglitschus</i> Sarkar, 1996	<i>Notopterus notopterus</i>	Sarkar (1996b)
<i>M. microspora</i> (Narasimhamurti et al., 1980)* (= <i>M. mugcephalus</i> (Narasimhamurti et al., 1980) Landsberg and Lom, 1991)	<i>Mugil cephalus</i>	Narasimhamurti et al. (1980)
<i>M. mola</i> Sarkar, 1993	<i>Amblypharyngodon mola</i>	Sarkar (1993)
<i>M. mrigalae</i> Chakravarty, 1939	<i>Cirrhina mrigala</i> Mrigal × Rohu	Basu and Haldar (1998) Basu and Haldar (1998)
<i>M. mugilii</i> Haldar et al., 1996	<i>Mugil cephalus</i>	Haldar et al. (1996)
<i>M. multivaderis</i> Mukhopadhyay and Haldar, 1988	<i>Catla catla</i>	Mukhopadhyay and Haldar (1998)
<i>M. mystusius</i> Sarkar, 1986	<i>Mystus vittatus</i>	Sarkar (1986a)
<i>M. noblei</i> (Sarkar, 1982)*	<i>Ophicephalus striatus</i>	Sarkar (1982)
<i>M. nodularis</i> Southwell and Prashad, 1918	<i>Rasbora daniconius</i>	Rajendran and Janardanan (1989)
<i>M. orissae</i> Haldar et al., 1996	<i>Cirrhina mrigala</i>	Haldar et al. (1996)
<i>M. punctatus</i> Chaudhuri and Chakravarty, 1970	<i>Ophicephalus punctatus</i>	Haldar and Bajpai (1980); Bajpai and Haldar (1982b); Mukherjee and (1981); Haldar (1981); Mukherjee et al. (1981)
<i>M. punjabensis</i> Gupta and Khera, 1988	<i>Labeo dyocheilus</i>	Gupta and Khera (1989a)
<i>M. rewansis</i> Srivastava, 1979	<i>Cirrhinus mrigala</i>	Srivastava (1979)
<i>M. rigida</i> Sarkar, 1999	<i>Amblypharyngodon mola</i>	Sarkar (1999)
<i>M. rohita</i> Haldar et al., 1983	<i>Labeo rohita</i>	Haldar et al. (1983, 1996); Narasimhamurti and Kalavati (1981)
	<i>Puntius sarana</i>	Gupta and Khera (1990)
	<i>Labeo bata</i>	Gupta and Khera (1990)

Table 1 Contd.

Species	Host	Reference
	<i>Labeo calbasu</i>	Gupta and Khera (1990)
	<i>Labeo dyocheilus</i>	Gupta and Khera (1990)
<i>M. saranae</i> Gupta and Khera, 1990	<i>Puntius sarana</i>	Gupta and Khera (1990)
	<i>Labeo calbasu</i>	Gupta and Khera (1990)
<i>M. saraswatii</i> (Gupta and Saraswat, 1993)* n. comb.	<i>Clarias batrachus</i>	Gupta and Saraswat (1993)
<i>M. scatophagi</i> Haldar et al., 1996	<i>Scatophagus argus</i>	Haldar et al. (1996)
<i>M. serrata</i> Pagarkar and Das, 1993	<i>Cyprinus carpio</i>	Pagarkar and Das (1993)
<i>M. shetti</i> Senappa and Monohar, 1981	<i>Cirrhina mrigala</i>	Seenappa and Monohar (1981a)
<i>M. sphaeralis</i> Dorothy and Kalavati, 1992	<i>Liza macrolepis</i>	Dorothy and Kalavati (1992a)
	<i>Catla catla</i>	Mukhopadhyay and Haldar (1998)
<i>M. sphaericum</i> Tripathi, 1952	<i>Cirrhina mrigala</i>	Das et al. (1989)
<i>M. sophorae</i> Jayasri, 1982	<i>Puntius sophore</i>	Jayasri (1982)
<i>M. trichogasteri</i> (Sarkar, 1985)*	<i>Trichogaster fasciatus</i>	Sarkar (1985c)
<i>M. tripathi</i> Kalavati et al., 1981	<i>Clarias</i> sp.	Kalavati et al. (1981)
<i>M. undasuturiae</i> Sarkar, 1994	<i>Amblypharyngodon mola</i>	Sarkar (1994)
<i>M. vanivilasae</i> Seenappa and Monohar, 1981	<i>Cirrhina mrigala</i>	Seenappa and Monohar (1980b,c, 1981a)
<i>M. variabilis</i> Haldar et al., 1996	<i>Mystus gulio</i>	Haldar et al. (1996)
<i>M. vedavatiensis</i> Seenappa and Monohar, 1981	<i>Cirrhina mrigala</i>	Seenappa and Monohar (1981a)
<i>M. venkateshi</i> Seenappa and Monohar, 1981	<i>Cirrhina mrigala</i>	Seenappa and Monohar (1981a)
<i>M. sp.</i> (= <i>Myxosoma</i> sp.)	<i>Liza macrolepis</i>	Dorothy and Kalavati (1992a)
	<i>Puntius puntius</i>	Bajpai and Haldar (1980)
	<i>Puntius sophore</i>	Srivastava (1978)
	<i>Labeo rohita</i>	Radheyshyam et al. (1993)
	<i>Catla catla</i>	Radheyshyam et al. (1993)
		Halder (1983); Chakraborty et al. (2000)
	<i>Cirrhina mrigala</i>	Radheyshyam et al. (1993)
		Chakraborty et al. (2000)
	<i>Clarias magur</i>	Banerji and Das (1989)
<i>M. sp.</i> (1)	<i>Labeo rohita</i>	Basu and Haldar (1998)
<i>M. sp.</i> (2)	<i>Catla catla</i>	Basu and Haldar (1998)
	<i>Labeo rohita</i>	Basu and Haldar (1998)
	<i>Catla</i> × <i>Rohu</i>	Basu and Haldar (1998)

Note: The species marked with single asterisks (*) are transferred from the genus *Myxosoma* to the genus *Myxobolus* and double asterisks (**) from the genus *Lentospora* to the genus *Myxobolus*. Mukherjee and Haldar (1981) described *Myxobolus punctatus* but it is treated as a synonym of *Myxobolus aligarhensis* by Gupta and Khera (1988) and Das et al. (1993).

Table 1 Contd.		
Species	Host	Reference
Genus <i>Henneguya</i> Thelohan, 1892		
<i>H. bleekeri</i> Haldar and Mukherjee, 1985	<i>Mystus bleekeri</i>	Haldar and Mukherjee (1985)
<i>H. ganapati</i> Qadri, 1975	<i>Notopterus notopterus</i>	Qadri (1970)
<i>H. mystasi</i> Haldar <i>et al.</i> , 1997	<i>Mystus gulio</i>	Haldar <i>et al.</i> (1997)
<i>H. mystasia</i> Sarkar, 1985	<i>Mystus</i> sp.	Sarkar (1985b)
<i>H. namae</i> Haldar <i>et al.</i> , 1983	<i>Ambassis nama</i>	Haldar <i>et al.</i> (1983)
<i>H. nandi</i> Gupta and Khera, 1987	<i>Nandus nandus</i>	Gupta and Khera (1987)
<i>H. renalis</i> Sarkar <i>et al.</i> , 1985	<i>Channa marulius</i>	Sarkar <i>et al.</i> (1985)
<i>H. rubicundi</i> Haldar and Mukherjee, 1985	<i>Gobioides rubicundus</i>	Haldar and Mukherjee (1981)
<i>H. singhi</i> Lalitha Kumari, 1969	<i>Notopterus notopterus</i>	Gupta and Khera (1987)
<i>H. tachysuri</i> Menon, 1979	<i>Tachysurus thalassinus</i>	Menon (1979)
<i>H. thermalis</i> Seenappa <i>et al.</i> , 1981	<i>Lepidocephalichthys thermalis</i>	Seenappa <i>et al.</i> (1981)
<i>H. waltirensis</i> Narasimhamurti and Kalavati 1981	<i>Channa punctatus</i>	Kalavati (1981); Kalavati and Narasimhamurti (1981, 1984a, 1985); Halder <i>et al.</i> (1983); Narasimhamurti and Kalavati (1981)
<i>H. sp.</i>	<i>Mystus bleekeri</i>	Mukherjee <i>et al.</i> (1981)
Genus <i>Thelohanellus</i> Kudo, 1933		
<i>T. auerbachii</i> Sarkar, 1987	<i>Tachysurus platystomus</i>	Sarkar (1987)
<i>T. bengalensis</i> Sarkar and Ray Chaudhuri, 1986	<i>Catla catla</i>	Sarkar and Ray Chaudhuri (1986)
<i>T. bifurcata</i> , Basu and Haldar, 1999	<i>Labeo rohita</i> × <i>Catla catla</i>	Basu and Haldar, (1999)
<i>T. catlae</i> Chakravarty and Basu, 1948	<i>Catla catla</i>	Das <i>et al.</i> (1989)
<i>T. caudatus</i> Pagarkar and Das, 1993	<i>Labeo rohita</i>	Pagarkar and Das (1993)
<i>T. chilkinsis</i> Kalavati and Vaidehi, 1991	<i>Labeo rohita</i>	Kalavati and Vaidehi (1991a)
<i>T. coeli</i> Sarkar and Mazumder, 1983	<i>Tachysurus tenuispinis</i>	Sarkar and Mazumder (1983b)
<i>T. jiroveci</i> Kundu and Haldar, 1981	<i>Labeo bata</i>	Kundu Haldar (1981)
<i>T. ophthalmicus</i> Haldar <i>et al.</i> , 1983	<i>Catla catla</i>	Haldar <i>et al.</i> (1983); Gupta and Khera (1992)
<i>T. orissae</i> Haldar <i>et al.</i> , 1997	<i>Cirrhinus mrigala</i>	Haldar <i>et al.</i> (1997)
<i>T. narasimhamurtius</i> Sarkar, 1994	<i>Amblypharyngodon mola</i>	Sarkar (1994)

Table 1 Contd.		
Species	Host	Reference
<i>T. parastromataei</i> Narasimhamurti <i>et al.</i> , 1990	<i>Parastromateus niger</i>	Narasimhamurti <i>et al.</i> (1990)
<i>T. pyriformis</i> Thelohan, 1892	Major carps/Minor carps/Murrels	Ram <i>et al.</i> (1994)
<i>T. rohita</i> (Southwell and Prasad, 1918)	<i>Labeo rohita</i>	Das <i>et al.</i> (1989)
<i>T. sanjibi</i> Sarkar and Ghosh, 1990	<i>Mystus guleo</i>	Sarkar and Ghosh (1990)
<i>T. sudevi</i> Sarkar and Ghosh, 1990	<i>Amblypharyngodon mola</i>	Sarkar and Ghosh (1990)
<i>T. wallagoi</i> Sarkar, 1985	<i>Wallago attu</i>	Sarkar (1985a)
<i>T. sp.</i>	<i>Labeo rohita</i>	Mukherjee <i>et al.</i> (1981); Basu and Haldar (1998)
	<i>Catla catla</i>	Basu and Haldar (1998); Haldar (1983)
	Catla × Rohu	Basu and Haldar (1998)
Genus <i>Neothelohanellus</i> Das and Haldar, 1986		
<i>N. catlae</i> Das and Haldar, 1986	<i>Catla catla</i>	Das and Haldar (1986); Das <i>et al.</i> (1989)
<i>N. krishnagarensis</i> Das and Haldar, 1986	<i>Labeo calbasu</i>	Das and Haldar (1986)
Note: <i>N.krishnagaransis</i> has been transferred to the genus <i>Lonosporus</i> by Sarkar and Misra (1996).		
Genus <i>Lomosporus</i>		
<i>L. indicus</i> Gupta and Khera, 1988	<i>Labeo calbasu</i>	Gupta and Khera (1988b)
Genus <i>Unicauda</i> Davis 1944		
<i>U. andhrae</i> Kalavati and Narasimhamurti, (1981)	<i>Ophicephalus gachua</i>	Kalavati and Narasimhamurti (1981)
<i>U. armati</i> Gupta and Khera, 1987	<i>Mastacembelus armatus</i>	Gupta and Khera (1987)
<i>U. chaudhuryi</i> Bajpai and Haldar, 1982*	<i>Ophicephalus punctatus</i>	Bajpai and Haldar (1982c)
<i>U. irregularis</i> Haldar <i>et al.</i> , 1997	<i>Mystus vittatus</i>	Haldar <i>et al.</i> (1997)
<i>U. minuta</i> Haldar <i>et al.</i> , 1997	<i>Etroplus suratensis</i>	Haldar <i>et al.</i> (1997)
<i>U. ritae</i> Bajpai and Haldar, 1982*	<i>Rita rita</i>	Bajpai and Haldar (1982a)
<i>U. theraponi</i> Haldar <i>et al.</i> , 1997	<i>Therapon jarbua</i>	Haldar <i>et al.</i> (1997)
<i>U. sp.</i>	<i>Rita rita</i>	Haldar <i>et al.</i> (1981)
Note : The species of <i>Unicauda</i> marked with single asterisks (*) are transferred to the genus <i>Henneguya</i> by Gupta and Khera (1988).		

<i>Table 1 Contd.</i>		
Species	Host	Reference
Genus <i>Rudicapsula</i> Kalavati and Narasimhamurti, 1984		
<i>R. esomi</i> Kalavati and Narasimhamurti, 1984	<i>Esomus</i> sp.	Kalavati and Narasimhamurti (1984b)
Genus <i>Phlogospora</i> Qadri, 1962		
<i>P. oculatus</i> Susa and Janardanan, 1995	<i>Mystus oculatus</i>	Susa and Janardanan (1995)
Order MULTIVALVULIDA		
Family TRILOSPORIDAE		
Genus <i>Unicapsula</i> Davis, 1942		
<i>U. chirocentrusi</i> Sarkar, 1984	<i>Chirocentrus dorab</i>	Sarkar (1984a)
<i>U. maxima</i> Sarkar, 1999	<i>Pseudosciaena coibor</i>	Sarkar (1999)
Family KUDOIDAE		
Genus <i>Kudou</i> Meglitsch, 1947		
<i>K. atropi</i> Sandeep <i>et al.</i> , 1986	<i>Atropus atropus</i>	Sandeep <i>et al.</i> (1986)
<i>K. bengalensis</i> Sarkar and Mazumder, 1983	<i>Tachysurus platystomus</i>	Sarkar and Mazumder (1983b)
<i>K. cascasia</i> Sarkar and Ray Chaudhury, 1996	<i>Sicamugil cascasia</i>	Sarkar and Ray Chaudhury (1996)
<i>K. coibori</i> Sarkar, 1999	<i>Pseudosciaena coibor</i>	Sarkar (1999)
<i>K. haridasae</i> Sarkar and Ghosh, 1991	<i>Mugil parsia</i>	Sarkar and Ghosh (1991)
<i>K. tachysurae</i> Sarkar and Mazumder, 1983	<i>Tachysurus tenuispinis</i>	Sarkar and Mazumder (1983b)
<i>K. valamugil</i> Kalavati and Anuradha, 1993	<i>Valamugil cunnesius</i>	Kalavati and Anuradha (1993)
Phylum CILIOPHORA		
Subphylum POSTCILIODESMATOPHORA		
Class SPIROTRICHEA		
Subclass HETEROTRICHIDA		
Order CLEVELANDELLIDA		
Family NYCTOTHERIDAE		
Genus <i>Nyctotherus</i> Leidy, 1849		
N. sp.	<i>Pangasius pangasius</i>	Mukherjee (1987)
Subphylum RHABDOPHORA		
Class LITOSTOMATEA		

Table 1 Contd.			
Species		Host	Reference
	Subclass	TRICHOSTOMATIA	
	Order	VESTIBULIFERIDA	
	Suborder	TRICHOSTOMATINA	
	Family	BALANTIDIIDAE	
	Genus	<i>Balantidium</i> Claparede and Lachmann, 1858	
<i>B. mrigalae</i>	Mukherjee and Haldar, 1986	<i>Cirrhina mrigala</i>	Mukherjee and Haldar (1982c)
<i>B. pangasi</i>	Mukherjee and Haldar, 1986	<i>Pangasius pangasius</i>	Mukherjee and Haldar (1982c)
<i>B. sp.</i>		<i>Pangasius pangasius</i>	Mukherjee and Haldar (1980b)
	Subphylum	CYRTOPHORA	
	Class	PHYLLOPHARYNGEA	
	Subclass	PHYLLOPHARYNGIA	
	Order	CYRTOPHORIDA	
	Suborder	CHLAMYDODONTINA	
	Family	CHLAMYDODONTIDAE	
	Genus	<i>Chilodonella</i> Strand, 1926	
<i>C. cyprini</i>	(Moroff)	<i>Catla catla</i> <i>Labeo rohita</i> <i>Ictalurus punctatus</i>	Singhal <i>et al.</i> (1984) Singhal <i>et al.</i> (1984) Singhal <i>et al.</i> (1984)
	Order	APOSTOMATIDA	
	Suborder	APOSTOMATINA	
	Family	ANOPLOPHRYIDAE	
	Genus	<i>Kofoidella</i> Cepede, 1910	
<i>K. aplocheilusi</i>	Rao <i>et al.</i> , 1979	<i>Aplocheilus melastigma</i>	Rao (1979)
	Class	OLIGOHYMENOPHOREA	
	Subclass	HYMENOSTOMATIA	
	Order	HYMENOSTOMATIDA	
	Suborder	OPHRYOGLENINA	
	Family	OPHRYOGLENIDAE	
	Genus	<i>Ichthyophthirius</i> Fouquet, 1876	
<i>I. multifilis</i>	Fouquet	<i>Channa striatus</i> <i>Cyprinus carpio</i> <i>Carassius auratus</i>	Lipton and Lakshmanan (1985) Singhal <i>et al.</i> (1984) Mohán (1986)
<i>I. sp.</i>		<i>Schizothorax plagiostomus</i>	Lal (1981)

<i>Table 1 Contd.</i>		
Species	Host	Reference
	<i>Accrossocheilus hexagonolepis</i>	Nasar and Dasgupta (1979)
	<i>Schizothorax richardsoni</i>	Mishra and Lal (1980, 1981)
	Carps	Chakraborty <i>et al.</i> (2000)
	Ornamental fishes	Chakraborty <i>et al.</i> (2000)
	Genus <i>Cryptocaryon</i> Brown, 1951	
<i>C. irritans</i> Brown, 1951	Marine ornamental fish	Lipton (1993)
	Subclass PERITRICHIA	
	Order PERITRICHIDA	
	Suborder MOBILINA	
	Family URCEOLARIIDAE	
	Genus <i>Trichodina</i> Ehrenberg, 1830	
<i>T. indica</i> Tripathi, 1954	<i>Labeo rohita</i>	Ghosh <i>et al.</i> (1988)
	<i>Hypophthalmichthys molitrix</i>	Singhal <i>et al.</i> (1984)
<i>T. mutabilis</i> Kazubski and Migala 1968	<i>Puntius sophore</i>	Saha <i>et al.</i> (1995)
	<i>Xenentodon cancila</i>	Saha <i>et al.</i> (1995)
<i>T. mystusi</i> Asmat and Halder, 1998	<i>Mystus gulio</i>	Asmat and Haldar (1998)
<i>T. nigra</i> Lom, 1960	<i>Anabas testudineus</i>	Saha <i>et al.</i> (1995a, b)
	<i>Trichogaster fasciata</i>	Saha <i>et al.</i> (1995a, b)
	<i>Chanda nama</i>	Saha <i>et al.</i> (1995b)
	<i>Channa punctatus</i>	Saha <i>et al.</i> (1995b)
	Major carp fry	Maiti <i>et al.</i> (1987)
	<i>Nandus nandus</i>	Mukherjee and Haldar (1982a); Haldar and Mukherjee (1981); Saha <i>et al.</i> (1995b)
	<i>Notopterus notopterus</i>	Saha <i>et al.</i> (1995a, b) Halдар and Mukherjee (1981)
	<i>Tilapia mossambica</i>	Halдар and Mukherjee (1982a) Mukherjee and
Halдар (1982a)		
<i>T. pediculus</i> Ehrenberg, 1838	<i>Barbus chola</i>	Hagargi and Amoji (1979)
	<i>Barbus sarana</i>	Hagargi and Amoji (1979)
	<i>Barbus stigma</i>	Hagargi and Amoji (1979)
<i>T. reticulata</i> Hirschman and Partsch, 1935	<i>Catla catla</i>	Mishra and Das (1993)
<i>T. sp.</i>	<i>Labeo rohita</i>	Radheyshyam <i>et al.</i> (1993)
	<i>Labeo bata</i>	Saha <i>et al.</i> (1995b)

Table 1 Contd.		
Species	Host	Reference
	<i>Cyprinus carpio</i>	Banerjee et al. (1977)
	<i>Puntius sophore</i>	Srivastava (1978)
	<i>Catla catla</i>	Radheyshyam et al. (1993)
	<i>Cirrhina mrigala</i>	Radheyshyam et al. (1993)
	<i>Liza parsia</i>	Das et al. (1987)
	<i>Lates calcarifer</i>	Das et al. (1987)
	<i>Mystus gulio</i>	Das et al. (1987)
	<i>Glossogobius giuris</i>	Das et al. (1987)
	<i>Oreochromis mossambicus</i>	Chakraborty et al. (2000)
	Genus <i>Tripurtiella</i> Lom, 1959	
<i>T. bulbosa</i> (Davis, 1947)	<i>Cirrhinus mrigala</i>	Mukherjee and Haldar (1982a) Das and Haldar (1987); Das et al. (1989); Saha et al. (1995 a, b); Basu and Haldar (1998)
	<i>Labeo rohita</i>	Saha et al. (1995 a, b); Das (1985); Mukherjee and Haldar (1982a)
	<i>Labeo bata</i>	Mukherjee and Haldar (1982a)
	<i>Mystus bleekeri</i>	Mukherjee and Haldar (1982a)
	<i>Ambassis nama</i>	Mukherjee and Haldar (1982a)
	<i>Catla catla</i>	Das and Haldar (1987); Das et al. (1989); Saha et al. (1995 a, b); Das (1985)
	<i>Puntius sophore</i>	Saha et al. (1995 b)
	<i>Mystus vittatus</i>	Saha et al. (1995 b)
	<i>Amblypharyngodon mola</i>	Saha et al. (1995 b)
	<i>Ctenopharyngodon idella</i>	Das (1985)
	<i>Hypophthalmichthys molitrix</i>	Das (1985)
	<i>Cyprinus carpio</i>	Das (1985)
	Mrigal × Rohu	Basu and Haldar (1998)
<i>T. bursiformis</i> (Davis, 1947)	<i>Xenentodon cancila</i>	Saha et al. (1995); Saha and Haldar (1996b)
<i>T. copiosa</i> (Lom, 1959)	<i>Catla catla</i>	Basu and Haldar (1998)
	<i>Labeo rohita</i>	Das and Haldar (1987); Das et al. (1989); Saha et al. (1995a, b); Basu and Haldar (1998)
	<i>Labeo bata</i>	Saha et al. (1995 a, b)

Table 1 Contd.		
Species	Host	Reference
	<i>Cyprinus carpio</i>	Das and Haldar (1987); Das <i>et al.</i> (1989); Saha <i>et al.</i> (1995 a, b)
	Catla × Rohu	Basu and Haldar (1995 a, b, 1998)
<i>T. kashkovskiy</i> (Lom and Haldar, 1977)	<i>Pangasius pangasius</i>	Saha <i>et al.</i> (1995b)
<i>T. obtusa</i> (Ergens and Lom, 1970) (Syn. <i>Tripartiella obtusa</i>)	<i>Ctenophayngodon idella</i>	Das and Haldar (1987); Das <i>et al.</i> (1989)
<i>T. sp.</i>	<i>Gadusia chapra</i>	Saha <i>et al.</i> (1995 a, b)
	<i>Hypothalamichthys molitrix</i>	Das <i>et al.</i> (1989)
Genus <i>Parutrichodina</i> Lom, 1963		
<i>P. notopteriae</i> Saha <i>et al.</i> , 1995	<i>Notopterus notopterus</i>	Saha <i>et al.</i> (1995c)
<i>P. indica</i> Saha and Haldar, 1996	<i>Heteropneustes fossilis</i>	Saha and haldar (1996a)
<i>P. sp. 1</i>	<i>Gadusia chapra</i>	Saha <i>et al.</i> (1995b)
<i>P. sp. 2</i>	<i>Notopterus notopterus</i>	Saha <i>et al.</i> (1995b)
<i>P. sp. 3</i>	<i>Heteropneustes fossilis</i>	Saha <i>et al.</i> (1995b)
Genus <i>Trichodinella</i>		
<i>T. sp.</i>	<i>Cirrhina mrigala</i>	Mukherjee and Haldar (1980)
<i>Incertae sedis</i>		
Genus <i>Haematractidium</i> Henry, 1910		
<i>H. sp.</i>	<i>Arius sona</i> <i>Bagarius bagarius</i>	Mandal <i>et al.</i> (1984); Mandal <i>et al.</i> (1984)
Remarks :		
A number of species appear to be inappropriately coined from host names, title etc., by the author (s) at the time of description of these species without satisfying the provisions of the Articles 26–32 of the International Code of Zoological Nomenclature. But no attempt is made to correct these names. However, Gupta and Khera (1988a) while reviewing the genus <i>Myxobolus</i> made such corrections of the incorrect original spellings and also transferred eighteen species of the genus <i>Myxosoma</i> to the genus <i>Myxobolus</i> .		

Part 2. HOST CATALOGUE

This catalogue is presented in Table 2 as follows

Table 2. Catalogue of host fishes for protozoan parasites.

Host	Parasite	Reference
Class OSTEICHTHYES Subclass ACTINOPTERIGII Infraclass TELEOSTEI Order ANGUILLIFORMES Family MURAENOSOSCIDAE		
<i>Muraenesox</i> sp.	<i>Haemohormidium</i> sp.	Mandal (1984)
Order CLUPEIFORMES Family CLUPEIDAE		
<i>Gadusia chapra</i> (Hamilton)	<i>Tripartiella obtusa</i>	Saha <i>et al.</i> , (1995a, b)
	<i>Paratrichodina</i> sp. 1	Saha <i>et al.</i> (1995)
<i>Hilsa ilisha</i> (Hamilton)	<i>Sphaeromyxa dighae</i>	Sarkar and Mazumder (1983a)
	<i>Coccomyxa balaswarensis</i>	Sarkar (1984 c)
<i>Opisthopterus tator</i> (Valenciennes)	<i>Ceratomyxa tatoori</i>	Sarkar (1986b)
<i>Temulosa toli</i> (Valenciennes)	<i>Ceratomyxa tenulosae</i>	Sarkar and Pramanik (1994b)
Family ENGRAULIDAE		
<i>Thrissocles muystax</i> (Schneider)	<i>Ceratomyxa thrissoclesi</i>	Dorothy <i>et al.</i> (1998)
<i>Thrissocles setirostris</i> (Broussonet)	<i>Davisia filiformes</i>	Dorothy <i>et al.</i> (1998)
Family CHIROCENTRIDAE		
<i>Chirocentrus dorab</i> (Forsskal)	<i>Unicapsula chirocentrusi</i>	Sarkar (1984a)
Order OSTEOGLOSSIFORMES Family NOTOPTERIDAE		
<i>Notopterus notopterus</i> (Pallas)	<i>Trypanosoma notopteri</i>	Gupta and Jairajpuri (1985); Gupta and Gupta (1988)
	<i>Trypanosoma</i> sp.	Gupta and Jairajpuri (1984); Gupta (1986b); Kundu and Halder (1981)
	<i>Dactylosoma notopteri</i>	Kundu and Halder (1980, 1984)
	<i>Myxidium notopterum</i>	Sarkar (1996b)
	<i>Myxobilatus notopterus</i>	Kalavati and Vaidehi (1996)
	<i>Myxobolus meglitschus</i>	Sarkar (1996b)
	<i>Henneguya ganapatii</i>	Qadri (1970)

Table 2 Contd.		
Host	Parasite	Reference
	<i>Henneguya singhi</i>	Gupta and Khera (1987)
	<i>Trichodina nigra</i>	Saha <i>et al.</i> (1995 a, b); Haldar and Mukherjee (1981)
	<i>Paratrichodina notopteriae</i>	Saha <i>et al.</i> (1995c)
	<i>Paratrichodina</i> sp. 2	Saha <i>et al.</i> (1995)
Order GONORHYNCHIFORMES Family CHANIDAE		
<i>Chanos chanos</i> Forsskal	<i>Myxobolus coeli</i>	Haldar <i>et al.</i> (1986)
Order CYPRINIFORMES Family CYPRINIDAE		
<i>Accrossocheilus hexagonolepis</i> (McClelland)	<i>Ichthyophthirius</i> sp.	Nasar and Dasgupta (1979)
<i>Amblypharyngodon mola</i> (Hamilton)	<i>Myxobolus mola</i>	Sarkar (1993)
	<i>Myxobolus undasuturiae</i>	Sarkar (1994)
	<i>Myxobolus rigida</i>	Sarkar (1999)
	<i>Thelohanellus narasimhamurtius</i>	Sarkar (1994)
	<i>Thelohanellus sudevi</i>	Sarkar and Ghosh (1990)
	<i>Tripartiella bulbosa</i>	Saha <i>et al.</i> (1995)
<i>Barbus barbus</i> ?	<i>Trypanosoma barbi</i>	Gupta <i>et al.</i> (1987)
<i>Barbus chola</i> (Hamilton) (= <i>Puntius chola</i>)	<i>Myxobolus karnataki</i> (Syn. <i>Myxosoma karnataki</i>)	Hagargi and Amoji (1981)
	<i>Trichodina pediculus</i>	Hagargi and Amoji (1979)
<i>Barbus sarana</i> (Hamilton) (= <i>Puntius sarana</i>)	<i>Trichodina pediculus</i>	Hagargi and Amoji (1979)
<i>Barbus stigma</i> (Valenciennes) (= <i>Puntius sophore</i>)	<i>Trichodina pediculus</i>	Hagargi and Amoji (1979)
<i>Carassius aureus</i> (= <i>Carassius auratus</i> Linn.)	<i>Ichthyophthirus multifilis</i>	Mohan (1986)
<i>Catla catla</i> (Hamilton)	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>catli</i>	Gupta <i>et al.</i> (1999)
	<i>Trypanosoma monomorpha</i>	Gupta and Jairajpuri (1985); Gupta and Gupta (1988)
	<i>Trypanosoma</i> sp.	Gupta and Jairajpuri (1984); Gupta (1986b)

Table 2 Contd.		
Host	Parasite	Reference
	<i>Myxobolus catlae</i>	Haldar <i>et al.</i> (1989); Das <i>et al.</i> (1988)
	<i>Myxobolus bengalensis</i>	Das <i>et al.</i> (1989)
	<i>Myxobolus chakravartyi</i>	Haldar <i>et al.</i> (1983); Das <i>et al.</i> (1989)
	<i>Myxobolus mahendrai</i>	Sarkar (1986 a); Gupta and Khera (1988)
	<i>Myxobolus multivaderis</i>	Mukhopadhyay and Haldar (1998)
	<i>Myxobolus sphaeralis</i>	Dorothy and Kalavati (1992); Mukhopadhyay and Haldar (1998)
	<i>Myxobolus</i> sp. 2	Basu and Haldar (1998)
	<i>Thelohanellus bengalensis</i>	Sarkar and Ray Chaudhuri (1986)
	<i>Thelohanellus catlae</i>	Das <i>et al.</i> (1989)
	<i>Thelohanellus ophthalmicus</i>	Haldar <i>et al.</i> (1983); Gupta and Khera (1992)
	<i>Thelohanellus</i> sp.	Basu and Haldar (1998)
	<i>Neothelohanellus catlae</i>	Das and Haldar (1986); Das <i>et al.</i> (1989)
	<i>Chilodonella cyprini</i>	Singhal <i>et al.</i> (1984)
	<i>Ichthyophthirius multifiliis</i> (Expt.)	Mohan (1986)
	<i>Tripartiella bulbosa</i>	Das and Haldar (1986); Das <i>et al.</i> (1989); Saha <i>et al.</i> (1995a,b)
	<i>Tripartiella copiosa</i>	Basu and Haldar (1998)
	<i>Trichodina reticulata</i>	Mishra and Das (1993)
	<i>Trichodina</i> sp.	Radheyshyam <i>et al.</i> (1993)
Catla × Rohu	<i>Myxobolus</i> sp. 2	Basu and Haldar (1998)
	<i>Thelohanellus</i> sp.	Basu and Haldar (1998)
	<i>Tripartiella copiosa</i>	Basu and Haldar (1995a, b)
<i>Cirrhinus mrigala</i> (Hamilton) (Syn. <i>Cirrhina mrigala</i>)	<i>Trypanosoma</i> sp.	Gupta and Jairajpuri (1984)
	<i>Myxobolus carnaticus</i>	Seenappa and Monohar (1980a)
	<i>Myxobolus cerebralis</i>	Maheshwari (1986)
	<i>Myxobolus haldari</i>	Gupta and Khera (1989b)
	<i>Myxobolus hosadurgensis</i>	Seenappa Monohar (1981a)

Table 2 Contd.		
Host	Parasite	Reference
	<i>Myxobolus indicum</i>	Das <i>et al.</i> (1989)
	<i>Myxobolus indirae</i>	Kundu (1985)
	<i>Myxobolus mrigalae</i>	Basu and Haldar (1998)
	<i>Myxobolus orissae</i>	Haldar <i>et al.</i> (1996)
	<i>Myxobolus rewansis</i>	Srivastava (1979)
	<i>Myxobolus shetti</i>	Seenappa and Monohar (1981a)
	<i>Myxobolus sphaericum</i>	Das <i>et al.</i> (1989)
	<i>Myxobolus vanivilasae</i>	Seenappa and Monohar (1980b,c, 1981b)
	<i>Myxobolus vedavatiensis</i>	Seenappa and Monohar (1981a)
	<i>Myxobolus venkateshi</i>	Seenappa and Monohar (1981a)
	<i>Myxobolus</i> sp. (Syn. <i>Myxosoma</i> sp.)	Radheyshyam <i>et al.</i> (1993) Sarkar (1987b)
	<i>Thelohanellus orissae</i>	Haldar <i>et al.</i> (1997)
	<i>Balantidium mrigalae</i>	Mukherjee and Haldar (1986)
	<i>Tripartiella bulbosa</i>	Mukherjee and Haldar (1982a)
	<i>Trichodina</i> sp.	Radheyshyam <i>et al.</i> (1993)
	<i>Trichodinella</i> sp.	Mukherjee and Haldar (1980c)
<i>Cirrhinus reba</i> (Hamilton)	<i>Trypanosoma baigulensis</i>	Pandey and Pandey (1974)
	<i>Myxidium molnari</i>	Yatindra and Mathur (1988)
<i>Ctenopharyngodon idella</i> (Valenciennes)	<i>Myxobolus idellae</i>	Sarkar (1999)
	<i>Tripartiella obtusa</i>	Das and Haldar (1987); Das <i>et al.</i> (1989)
<i>Cyprinus carpio</i> Linnaeus	<i>Trypanosoma</i> sp.	Gupta and Jairajpuri (1984); Gupta (1986)
	<i>Myxobolus cuttacki</i>	Haldar <i>et al.</i> (1996)
	<i>Myxobolus serrata</i>	Pagarkar and Das (1993)
	<i>Tripartiella copiosa</i>	Das and Haldar (1987); Das <i>et al.</i> (1989); Saha <i>et al.</i> (1995a, b)
	<i>Trichodina</i> sp.	Banerjee <i>et al.</i> (1977)
<i>Esomus</i> sp.	<i>Rudicapsula esomi</i>	Kalavati and Narasimhamurti (1984b)
<i>Garra gotyla</i> (Gray)	<i>Trypanosoma</i> sp.	Joshi (1985); Sharma and Joshi (1991)
<i>Hyphthalamichthys molitrix</i> (Valenciennes)	<i>Tripartiella</i> sp.	Das <i>et al.</i> (1989)

Table 2 Contd.		
Host	Parasite	Reference
<i>Labeo bata</i> (Haamilton)	<i>Myxobolus batae</i>	Sarkar and Ghosh (1991)
	<i>Myxobolus encephalicus</i>	Das <i>et al.</i> (1988)
	<i>Myxobolus haldari</i>	Gupta and Khera (1989b)
	<i>Myxobolus rohita</i>	Gupta and Khera (1990)
	<i>Thelohanellus jiroveci</i>	Kundu and Haldar (1981)
	<i>Tripartiella bulbosa</i>	Mukherjee and Haldar (1982)
	<i>Tripartiella copiosa</i>	Saha <i>et al.</i> (1995a, b)
<i>Labeo calbasu</i> (Hamilton)	<i>Cryptobia (Trypanoplasma) qadri</i>	Krishnamurthy and Wahul (1986)
	<i>Trypanosoma</i> sp.	Gupta (1986b)
	<i>Myxobolus curmucae</i>	Seenappa and Monohar (1981a)
	<i>Myxobolus lalithae</i>	Gupta and Khera (1988b)
	<i>Myxobolus rohita</i>	Gupta and Khera (1990)
	<i>Myxobolus saranae</i>	Gupta and Khera (1990)
	<i>Neothelohanellus krishnagarensis</i>	Das and Haldar (1986)
	<i>Lomosporus indicus</i>	Gupta and Khera (1988b)
<i>Labeo dero</i> (Heckel)	<i>Myxidium labeonis</i>	Gupta and Khera (1988d)
<i>Labeo dyocheilus</i> McClelland	<i>Cryptobia (Trypanoplasma) qadrii</i>	Krishnamurthy and Wahul (1986)
	<i>Myxobolus haldari</i>	Gupta and Khera (1989b)
	<i>Myxidium labeonis</i>	Gupta and Khera (1988d)
	<i>Myxobolus punjabensis</i>	Gupta and Khera (1989a)
	<i>Myxobolus rohita</i>	Gupta and Khera (1990)
<i>Labeo fimbriata</i> (Bloch)	<i>Myxobolus labeosus</i>	Sakar (1995)
<i>Labeo rohita</i> (Hamilton)	<i>Trypanosoma batai</i>	Joshi (1978); Gupta and Gupta (1988)
	<i>Trypanosoma</i> sp.	Gupta and Jairajpuri (1984); Gupta (1986a)
	<i>Myxobolus bhadrensis</i>	Seenappa and Monohar (1981a)
	<i>Myxobolus dermitis</i>	Haldar <i>et al.</i> (1981)
	<i>Myxobolus haldari</i>	Gupta and Khera (1989b)
	<i>Myxobolus rohita</i>	Haldar <i>et al.</i> (1996)
	<i>Myxobolus</i> sp. 1	Basu and Haldar (1998)
	<i>Myxobolus</i> sp 2	Basu and Haldar (1998)
<i>Thelohanellus caudatus</i>	Pagarkar and Das (1993)	

Table 2 Contd.		
Host	Parasite	Reference
	<i>Thelohanellus chilkensis</i>	Kalavati and Vaidehi (1991a)
	<i>Thelohanellus</i> sp.	Mukherjee <i>et al.</i> (1981); Basu and Haldar (1998)
	Myxozoan cysts	Srivastava and Mukherjee (1994)
	<i>Chilodonella cyprini</i>	Singhal <i>et al.</i> (1984)
	<i>Tripartiella bulbosa</i>	Saha <i>et al.</i> (1995a, b); Mukherjee and Haldar (1982a)
	<i>Tripartiella copiosa</i>	Das and Haldar (1987); Das <i>et al.</i> (1989); Saha <i>et al.</i> (1995a, b); Basu and Haldar (1998)
	<i>Trichodina indica</i>	Ghosh <i>et al.</i> (1988); Singhal <i>et al.</i> (1984)
	<i>Trichodina</i> sp.	Saha <i>et al.</i> (1995)
<i>Labeo rohita</i> × <i>Catla catla</i>	<i>Thelohanellus bifurcata</i>	Basu and Haldar (1999)
Major carp fry	<i>Trichodina nigra</i>	Maiti <i>et al.</i> (1987)
Major carps / Minor carps	<i>Myxobolus cartilaginis</i>	Ram <i>et al.</i> (1994)
	<i>Myxobolus cerebralis</i>	Ram <i>et al.</i> (1994)
	<i>Thelohanellus pyriformis</i>	Ram <i>et al.</i> (1994)
Mrigal × Rohu	<i>Myxobolus mrigalae</i>	Basu and Haldar (1998)
	<i>Tripartiella bursiformis</i>	Basu and Haldar (1998)
<i>Osteobrama cotio</i> (Hamilton)	<i>Trypanosoma baigulensis</i>	Pandey and Pandey (1974)
<i>Puntius chola</i> (Hamilton) (= <i>Barbus chola</i>)	<i>Myxobolus karnatakae</i> (Syn. <i>Myxosoma karnatakae</i>)	Hagargi and Amoji (1981)
<i>Puntius curmaca</i> (Hamilton)	<i>Myxobolus curmucae</i>	Seenappa and Monohar (1980a)
<i>Puntius filamentosus</i> (Valenciennes)	<i>Myxobolus filamentosa</i>	Haldar <i>et al.</i> (1981)
<i>Puntius hexastichus</i> (McClelland)	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>lomi</i>	Wahul (1986a)
	<i>Trypanosoma marathwadensis</i>	Wahul (1986d)
<i>Puntius jerdoni</i> (Day)	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>solapurensis</i>	Wahul (1986a)
<i>Puntius kolus</i> (Sykes)	<i>Trypanosoma puntii</i>	Wahul (1986d)
<i>Puntius puntius</i> (Hamilton)	<i>Myxobolus</i> sp.	Bajpai and Haldar (1980)
<i>Puntius sarana</i> (Hamilton)	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>jayasriparvateesami</i>	Jayasri and Parvateesam (1982)

Table 2 Contd.		
Host	Parasite	Reference
	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>saranae</i>	Wahul (1986a)
	<i>Trypanosoma rayi</i>	Wahul (1986d)
	<i>Myxobolus mathuri</i> (Syn. <i>Myxosoma mathuri</i>)	Jayasri et al. (1982)
	<i>Myxobolus saranae</i>	Gupta and Khera (1990)
<i>Puntius sophore</i> (Hamilton)	<i>Ichthyobodo</i> sp.	Srivastava (1978)
	<i>Trypanosoma seenghali</i> var. <i>sophorae</i>	Yatindra and Mathur (1980)
	<i>Trypanosoma</i> sp.	Gupta (1986b)
	<i>Myxobolus sophorae</i>	Jayasri (1982)
	<i>Myxobolus</i> (= <i>Myxosoma</i>) sp.	Srivastava (1978)
	<i>Tripartiella bulbosa</i>	Saha et al. (1995)
	<i>Trichodina mutabilis</i>	Saha et al. (1995)
<i>Puntius ticto</i> (Hamilton)	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>cyprinoides</i>	Gupta et al. (1998)
	<i>Trypanosoma ticti</i>	Gupta et al. (1998)
	<i>Trypanosoma</i> sp.	Gupta and Jairajpuri (1984); Joshi (1985); Gupta (1986b)
<i>Rasbora daniconius</i> (Hamilton)	<i>Myxobolus nodularis</i>	Rajendran and Janardanan (1989)
<i>Schizothorax plagiostmus</i> (Hamilton)	<i>Ichthyobodo necator</i> (Syn. <i>Costia necatrix</i>)	Lal (1980); Mishra and Lal (1980)
	<i>Ichthyothirius</i> sp.	Lal (1981)
<i>Schizothorax richardsonii</i> (Gray)	<i>Ichthyophthirius</i> sp.	Mishra and Lal (1980, 1981)
	<i>Costia necatrix</i>	Mishra and Lal (1980)
<i>Tor putitora</i> (Hamilton)	<i>Trypanosoma</i> sp.	Joshi and Sharma (1992)
Family COBITIDAE		
<i>Lepidocephalichthys thermalis</i> (Valenciennes)	<i>Myxidium</i> <i>lepdocephalichthysum</i>	Sarkar and Ray Chaudhury (1997)
	<i>Henneguya thermalis</i>	Seenappa et al. (1981)
<i>Lepidocephalusgunte</i> (Hamilton)	<i>Trypanosoma</i> sp.	Sinha (1980)
<i>Nemacheilus rupicola</i> (McClelland)	<i>Haemoproteus rupicola</i>	Mandal et al. (1985)
	<i>Trypanosoma rupicola</i>	Joshi (1983, 1985)
	<i>Trypanosoma</i> sp.	Joshi (1985)

Table 2 Contd.		
Host	Parasite	Reference
Order SILURIFORMES Family BAGRIDAE		
<i>Aorichthys aor</i> (Hamilton) (Syn. <i>Mystus aor</i>)	<i>Trypanosoma</i> sp.	Mandal (1984)
	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>mysti</i>	Joshi (1982c)
	<i>Trypanosoma aori</i>	Joshi (1982c)
<i>Mystus bleekeri</i> (Day)	<i>Henneguya bleekeri</i>	Haldar and Mukherjee (1985)
	<i>Henneguya</i> sp.	Mukherjee <i>et al.</i> (1981)
	<i>Tripartiella bulbosa</i>	Mukherjee and Haldar (1982a)
<i>Mystus cavasius</i> (Hamilton)	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>cavacii</i>	Wahul (1985)
	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>krishnamurthyi</i>	Wahul (1985)
	<i>Trypanosoma joshii</i>	Wahul (1986b)
<i>Mystus gulio</i> (Hamilton)	<i>Myxobolus variabilis</i>	Haldar <i>et al.</i> (1996)
	<i>Henneguya mystasi</i>	Haldar <i>et al.</i> (1997)
	<i>Thelohanellus sanjbi</i>	Sarkar and Ghosh (1990)
	<i>Trichodina mystusi</i>	Asmat and Haldar (1998)
<i>Mystus occulatus</i> (Valenciennes)	<i>Phlogospora occulatus</i>	Susha and Janardanan (1995)
<i>Mystus seenghala</i> Sykes	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>seenghali</i>	Wahul (1985)
	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>vidyai</i>	Wahul (1985)
	<i>Trypanosoma mandali</i>	Wahul (1986b)
	<i>Trypanosoma purensis</i>	Wahul (1986b)
	<i>Trypanosoma seenghali</i>	Mandal (1984)
<i>Mystus tengara</i> (Hamilton)	<i>Trypanosoma</i> sp.	Gupta and Jairajpuri (1984); Gupta (1986b)
<i>Mystus vittatus</i> (Hamilton)	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>guptii</i>	Gupta and Gupta (1987b)
	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>indica</i>	Mandal (1979, 1984)
	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>tengari</i>	Gupta <i>et al.</i> (1988, 1990); Gupta and Gupta (1990b, 1996)
	<i>Trypanosoma bagroides</i>	Gupta and Gupta (1996)
	<i>Trypanosoma vittati</i>	Tiwari and Ray (1981); Gupta

Table 2 Contd.		
Host	Parasite	Reference
		and Gupta (1990b); Reddy <i>et al.</i> (1990)
	<i>Trypanosoma</i> sp.	Gupta and Jairajpuri (1984); Gupta (1986b)
	<i>Myxidium mystusium</i>	Sarkar and Ray Chaudhur (1986)
	<i>Myxobolus mystusius</i>	Sarkar (1986a)
	<i>Unicauda irregularis</i>	Haldar <i>et al.</i> (1997)
	<i>Trichodina bulbosa</i>	Saha <i>et al.</i> (1995b)
<i>Mystus</i> sp.	<i>Henneguya mystasia</i>	Sarkar (1985b)
<i>Rita rita</i> (Hamilton)	<i>Trypanosoma ritae</i>	Gupta and Yadav (1989)
	<i>Trypanosoma</i> sp.	Gupta (1986)
	<i>Unicauda ritae</i>	Bajpai and Haldar (1982a)
Family SILURIDAE		
<i>Ompak bimaculatus</i> (Hamilton)	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>ompaki</i>	Shavanas <i>et al.</i> (1989)
<i>Wallago attu</i> (Bloch)	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>atti</i>	Joshi (1982c)
	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>wallagoi</i>	Wahul (1986c); Gupta and Jairajpuri (1982b);
	<i>Trypanosoma atti</i>	Gupta and Gupta (1986, 1988, 1990c)
	<i>Trypanosoma</i> sp.	Gupta and Jairajpuri (1984); Gupta (1986b)
	<i>Myxobolus attui</i>	Sarkar (1985a)
	<i>Myxobolus bhaduria</i>	Sarkar (1985a)
	<i>Thelohanellus wallagoi</i>	Sarkar (1985a)
Family PANGASIIDAE		
<i>Pangasius pangasius</i> (Hamilton)	<i>Balantidium pangasi</i>	Mukherjee and Haldar (1986)
	<i>Balantidium</i> sp.	Mukherjee and Haldar (1980b)
	<i>Tripartiella kashkovskiyi</i>	Saha <i>et al.</i> (1995)
	<i>Nyctotherus</i> sp.	Mukherjee (1987)
Family SISORIDAE		
<i>Bagarius bagarius</i> (Hamilton)	<i>Trypanosoma</i> sp.	Gupta (1986)
	<i>Haematractidium</i> sp.	Mandal <i>et al.</i> (1981)
Family CLARIIDAE		
<i>Clarias batrachus</i> (Linnaeus)	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>maguri</i>	Gupta and Gupta (1987)

Table 2 Contd.		
Host	Parasite	Reference
	<i>Trypanosoma batrachi</i>	Rao (1980); Tiwari and Ray (1981); Gupta and Jairajpuri (1983); Mandal (1987); Gupta and Gupta (1985, 1988, 1990); Gupta <i>et al.</i> (1983)
	<i>Trypanosoma clariae</i>	Sinha (1993)
	<i>Trypanosoma kargenensis</i> (Expt.)	Gupta <i>et al.</i> (1998)
	<i>Trypanosoma maguri</i>	Mandal (1984); Gupta <i>et al.</i> (1990)
	<i>Trypanosoma qadrii</i>	Narasimhamurti and Saratchandra (1980); Gupta and Saraswa (1993)
	<i>Trypanosoma</i> sp.	Tiwari and Ray (1981); Gupta and Jairajpuri (1984); Gupta (1986b); Roy and Haldar (1997)
	<i>Haemohormidium batrachi</i>	Ray Chaudhuri and Choudhury (1983)
	<i>Myxobilatus</i> sp.	Anuradha and Kalavati (1987)
	<i>Chloromyxum clariasum</i>	Sarkar (1994)
	<i>Myxobolus bivacuolatus</i>	Narasimhamurti and Kalavati (1986)
	<i>Myxobolus saraswatii</i>	Gupta and Saraswat (1993)
<i>Clarias magur</i> (= <i>batrachus</i>)	<i>Myxobolus maguri</i>	Sarkar (1993)
	<i>Myxobolus</i> sp.	Banerji and Das (1989)
<i>Clarias</i> sp.	<i>Myxobolus tripathi</i>	Kalavati <i>et al.</i> (1981)
Family HETEROPNEUSTIDAE		
<i>Heteropneustes fossilis</i> (Bloch) (= <i>Saccobranchus fossilis</i>)	<i>Trypanosoma danilewskyi saccobranchi</i>	Tiwari and Ray (1981); Mandal (1984)
	<i>Trypanosoma kargenensis</i>	Gupta and Gupta (1994); Gupta <i>et al.</i> (1998)
	<i>Trypanosoma maguri</i>	Joshi (1981); Joshi and Dabral (1981)
	<i>Trypanosoma saccobranchi</i>	Rao (1980)
	<i>Trypanosoma singhii</i>	Gupta and Jairajpuri (1981b); Gupta and Gupta (1986, 1989, 1990)
	<i>Trypanosoma</i> sp.	Tiwari and Ray (1981); Gupta and Jairajpuri (1984); Gupta (1986); Roy and Haldar (1997); Rao <i>et al.</i> (1984)

Table 2 Contd.		
Host	Parasite	Reference
	<i>Myxobilatus fossilis</i>	Susha and Janardanan (1994)
	<i>Paratrichodina indica</i>	Saha and Haldar (1996a)
	<i>Paratrichodina</i> sp.3	Saha <i>et al.</i> (1995)
Family ARIIDAE		
<i>Arius sona</i> (Hamilton)	<i>Haematractidium</i> sp.	Mandal <i>et al.</i> (1984); Mandal (1984)
<i>Tachysurus platystomus</i> (Day)	<i>Sphaeromyxa hareni</i>	Sarkar (1984b)
	<i>Zschokella platystomusi</i>	Sarkar (1987a)
	<i>Thelohanellus auerbachii</i>	Sarkar (1987a)
	<i>Kudoa bengalensis</i>	Sarkar and Mazumder (1983b)
<i>Tachysurus thalassinus</i> (Ruppell)	<i>Henneguya tachysuri</i>	Menon (1979)
<i>Tachysurus tenuispinis</i> (Day)	<i>Thelohanellus coeli</i>	Sarkar and Mazumder (1983b)
	<i>Kudoa tachysurae</i>	Sarkar and Mazumder (1983b)
Family ICTALURIDAE		
<i>Ictalurus punctatus</i>	<i>Chidonella cyprini</i>	Singhal <i>et al.</i> (1984)
Order MYCTOPHIFORMES Family SYNODONTIDAE		
<i>Saurida tumbil</i> (Bloch)	<i>Davisia sauridae</i>	Narasimhamurti <i>et al.</i> (1990)
	<i>Burenella</i> sp.	Kalavati and Sandeep (1985)
Order ATHERINIFORMES Family BELONIDAE		
<i>Xenentodon cancila</i> (Hamilton)	<i>Trypanosoma xenentodoni</i>	Das <i>et al.</i> (1986)
	<i>Trypanosoma</i> sp.	Gupta and Jairajpuri (1984); Gupta (1986b)
	<i>Tripartiella bursiformis</i>	Saha <i>et al.</i> (1995b); Saha and Haldar (1996b)
	<i>Trichodina mutabilis</i>	Saha <i>et al.</i> (1995b)
Family CYPRINODONTIDAE		
<i>Aplocheilus melastigma</i> McClelland	<i>Kofoidella aplocheilusi</i>	Rao (1979)
Order CHANNIFORMES Family CHANNIDAE		
<i>Channa gachua</i> (Hamilton) (Syn. <i>Ophicephalus gachua</i>)	<i>Trypanosoma gachuii</i>	Nandi and Raut (1987)
	<i>Trypanosoma</i> sp.	Gupta (1986b)
	<i>Myxobolus cylindrica</i> (Syn. <i>Myxosoma cylindrica</i>)	Sarkar <i>et al.</i> (1985)

Table 2 Contd.		
Host	Parasite	Reference
	<i>Unicauda andhrae</i>	Kalavati and Narasimhamurti (1981)
<i>Channa marulius</i> (Hamilton)	<i>Myxidium islampurium</i>	Sarkar <i>et al.</i> (1985)
	<i>Myxobolus maruliensis</i> (Syn. <i>Myxosoma maruliensis</i>)	Sarkar <i>et al.</i> (1985)
	<i>Henneguya renalis</i>	Sarkar <i>et al.</i> (1985)
<i>Channa punctatus</i> (Bloch) (Syn. <i>Ophicephalus punctatus</i>)	<i>Trypanosoma aligaricus</i>	Gupta and Jairajpuri (1982a); Gupta <i>et al.</i> (1983); Gupta and Gupta (1985, 1988, 1989, 1990, 1993)
	<i>Trypanosoma bareiliana</i>	Gupta <i>et al.</i> (1987)
	<i>Trypanosoma channai</i>	Narasimhamurti and Saratchandra (1980)
	<i>Trypanosoma elongatus</i>	Gupta <i>et al.</i> (1987)
	<i>Trypanosoma godavariensis</i>	Saratchandra and Jayaramaraju (1981)
	<i>Trypanosoma punctati</i>	Tiwari and Ray (1981); Shavanas (1991)
	<i>Trypanosoma rohilkhandae</i>	Gupta and Saraswat (1991)
	<i>Trypanosoma striati</i>	Rao (1980); Tiwari and Ray (1981); Mandal (1984)
	<i>Trypanosoma</i> sp.	Tiwari and Ray (1981); Gupta and Jairajpuri (1984); Gupta (1986b); Roy and Haldar (1997)
	<i>Myxidium</i> sp.	Mukherjee <i>et al.</i> (1981)
	<i>Chloromyxum meglitschi</i>	Sarkar (1982)
	<i>Myxobolus aligarhensis</i>	Gupta and Khera (1988)
	<i>Myxobolus channai</i> (Syn. <i>Myxosoma channai</i>)	Kalavati <i>et al.</i> (1981)
	<i>Myxobolus punctatus</i>	Haldar and Bajpai (1980); Bajpai and Haldar (1982b); Mukherjee and Haldar (1981); Mukherjee <i>et al.</i> (1981)
	<i>Henneguya waltairensis</i>	Kalavati (1981); Kalavati and Narasimhamurti (1981, 1984a, 1985); Narasimhamurti and Kalavati (1981, 1984); Haldar <i>et al.</i> (1983)

Table 2 Contd.		
Host	Parasite	Reference
	<i>Unicauda chaudhuryi</i>	Bajpai and Haldar (1982c)
	<i>Trichodina nigra</i>	Saha <i>et al.</i> (1995b)
<i>Channa striatus</i> (Bloch) (Syn. <i>Ophicephalus striatus</i>)	<i>Ichthyobodo necator</i> (Syn. <i>Costia necatrix</i>)	Mandal <i>et al.</i> (1990)
	<i>Trypanosoma striati</i>	Rao (1980)
	<i>Trypanosoma</i> sp.	Gupta and Jairajpuri (1986); Gupta (1986b)
	<i>Dactylosoma striata</i>	Sarkar and Haldar (1979)
	<i>Myxidium striatusi</i>	Sarkar (1982)
	<i>Myxobolus noblei</i> (Syn. <i>Myxosoma noblei</i>)	Sarkar (1982)
	<i>Ichthyophthirius multifiliis</i>	Lipton and Lakshmanan (1985)
Murrels	<i>Myxobolus cartilaginis</i>	Ram <i>et al.</i> (1994)
	<i>Myxobolus cerebralis</i>	Ram <i>et al.</i> (1994)
	<i>Thlohanellus pyriformis</i>	Ram <i>et al.</i> (1994)
Order SYMBRANCHIFORMES Family SYMBRANCHIDAE		
<i>Amphiphipnous</i> sp.	<i>Trypanosoma granulosum</i>	Mandal (1984)
Order PERCIFORMES Family CHANDIDAE		
<i>Chanda nama</i> (Hamilton) (Syn. <i>Ambassis nama</i>)	<i>Henneguya namae</i>	Haldar <i>et al.</i> (1983)
	<i>Tripartiella bulbosa</i>	Mukherjee and Haldar (1982a)
	<i>Trichodina nigra</i>	Saha <i>et al.</i> (1995b)
Family SCIAENIDAE		
<i>Macrospinosa cuja</i> (Hamilton) (= <i>Microspinosa cuja</i>)	<i>Myxoproteus cujaeus</i>	Sarkar (1996a)
	<i>Ortholinea indica</i>	Sarkar (1999)
	<i>Neoparvicapsula monoalata</i>	Sarkar (1999)
<i>Pseudosciaena coibor</i> (Hamilton) (= <i>Daysciaena albida</i>)	<i>Zschokkella pseudosciaena</i>	Sarkar (1996a)
	<i>Ceratomyxa daysciaena</i>	Sarkar (1994a)
	<i>Sinuolinea indica</i>	Sarkar (1997)
	<i>Unicapsula maxima</i>	Sarkar (1999)
	<i>Kudoa coibori</i>	Sarkar (1999)
<i>Sciaena bleekeri</i> Day	<i>Myxidium sciaenae</i>	Sarkar (1986c)
Sciaenid fish (Unidentified) (Family TERAPONIDAE)	<i>Loma</i> sp. II	Narasimhamurti <i>et al.</i> (1990)

Table 2 Contd.		
Host	Parasite	Reference
<i>Terapon jarbua</i> (Forsskal) (= <i>Therapon jarbua</i>)	<i>Sphaeromyxa ganapatii</i>	Kalavati and Vaidehi (1991b)
	<i>Chloromyxum mitchelli</i>	Kalavati and Narasimhamurti (1984a)
	<i>Chloromyxum tripathi</i>	Kalavati and Narasimhamurti (1984a)
	<i>Unicauda theraponi</i>	Haldar <i>et al.</i> (1997)
Family CARANGIDAE		
<i>Atropus atropus</i> (Bloch)	<i>Kudoa atropi</i>	Sandeep <i>et al.</i> (1986)
<i>Carangoides malabaricus</i> (Bloch)	<i>Glugea malabaracii</i>	Narasimhamurti <i>et al.</i> (1985); Kalavati <i>et al.</i> (1985)
	<i>Glugea</i> sp.	Kalavati and Narasimhamurti (1982)
<i>Chorinemus tol</i> (= <i>tala</i>) Cuvier	<i>Auerbachia chorinemusi</i>	Dorothy <i>et al.</i> (1998)
<i>Megalaspis cordyla</i> (Linnaeus)	<i>Auerbachia chakravartyi</i>	Narasimhamurti <i>et al.</i> (1990)
Family TRICHIURIDAE		
<i>Trichiurus savala</i> Cuvier	<i>Loma trichiuri</i>	Sandeep and Kalavati (1985a)
Family TRACHIPTERIDAE		
<i>Tricropterus</i> sp. ? (= <i>Trachipterus</i> sp.)	<i>Loma</i> sp. I	Narasimhamurti <i>et al.</i> (1990)
Family SILAGINIDAE		
<i>Sillago maculata</i> Quoy & Gaimard	<i>Myxobolus gangulyi</i> (Syn. <i>Myxosoma gangulyi</i>)	Sarkar <i>et al.</i> (1982)
Family APOGONIDAE		
<i>Apogon aureus</i> ?	<i>Leptotheca apogoni</i>	Narasimhamurti <i>et al.</i> (1990)
Family NEMIPTERIDAE		
<i>Nemipterus japonicus</i> (Bloch)	<i>Glugea nemipteri</i>	Weiser <i>et al.</i> (1981)
	<i>Nosema bengalis</i>	Weiser <i>et al.</i> (1981)
	<i>Leptotheca apogoni</i>	Narasimhamurti <i>et al.</i> (1990)
<i>Nemipterus mesoprion</i> (Bleeker)	<i>Neobipteria coromandensis</i>	Narasimhamurti <i>et al.</i> (1990)
	<i>Ceratomyxa dissimilaris</i>	Narasimhamurti <i>et al.</i> (1990)
Family SCATOPHAGIDAE		
<i>Scatophagus argus</i> (Linnaeus)	<i>Myxobolus scatophagi</i>	Haldar <i>et al.</i> (1996)
Family NANDIDAE		
<i>Nandus nandus</i> (Hamilton)	<i>Trypanosoma nandi</i>	Mukherjee and Haldar (1982b)
	<i>Trypanosoma</i> sp.	Tiwari and Ray (1981)
	<i>Henneguya nandi</i>	Gupta and Khera (1987)

Table 2 Contd.		
Host	Parasite	Reference
	<i>Trichodina nigra</i>	Haldar and Mukherjee (1981); Mukherjee and Haldar (1982); Saha <i>et al.</i> (1995b);
Family CICHLIDAE		
<i>Tilapia mossambica</i> (Peters) (= <i>Sarotherodon mossambicus</i>)	<i>Trypanosoma choudhuryi</i>	Ray (1987)
	<i>Trypanosoma mukasai</i>	Sinha (1986)
	<i>Trichodina nigra</i>	Haldar and Mukherjee (1981); Mukherjee and Haldar (1982a)
<i>Etroplus maculatus</i> (Bloch)	<i>Ceratomyxa etroplusi</i>	Rajendran and Janardanan (1992)
<i>Etroplus suratensis</i> (Bloch)	<i>Unicauda minuta</i>	Haldar <i>et al.</i> (1997)
Family MUGILIDAE		
<i>Mugil cephalus</i> Linnaeus	<i>Bipteria indica</i>	Kalavati and Anuradha (1995)
	<i>Myxobolus microspora</i> (Syn. <i>Myxosoma microspora</i>)	Narasimhamurti <i>et al.</i> (1980)
	<i>Myxobolus mugilii</i>	Haldar <i>et al.</i> (1996)
<i>Mugil parsia</i> Hamilton	<i>Kudoa haridasae</i>	Sarkar and Ghosh (1991)
<i>Mugil tade</i> Forskal	<i>Myxobolus dasgupti</i>	Haldar <i>et al.</i> (1996)
<i>Rhinomugil corsula</i> (Hamilton)	<i>Sphaeromyxa corsulae</i>	Sarkar and Ghosh (1991)
	<i>Myxobolus anili</i>	Sarkar (1989)
<i>Sicamugil cascasia</i> (Hamilton)	<i>Kudoa cascasia</i>	Sarkar and Ray Chaudhuri (1986)
	<i>Zschokkella cascasiensis</i>	Sarkar (1995)
	<i>Myxobolus bankimi</i>	Sarkar (1999)
<i>Valamugil cunnesius</i> (Valenciennes)	<i>Ceratomyxa kudoii</i>	Kalavati and Anuradha (1993)
	<i>Kudoa valamugil</i>	Kalavati and Anuradha (1993)
<i>Valamugil</i> sp.	<i>Nosema valamugili</i>	Kalavati and Lakshminarayana (1982)
<i>Liza macrolepis</i> (Smith)	<i>Myxidium papernae</i>	Dorothy and Kalavati (1992b)
	<i>Zschokkella ganapati</i>	Dorothy and Kalavati (1992b)
	<i>Palliatius indicus</i>	Dorothy and Kalavati (1998)
	<i>Parvicapsula hoffmani</i>	Dorothy and Kalavati (1993)
	<i>Myxobolus anili</i>	Dorothy and Kalavati (1992a)
	<i>Myxobolus macrolepis</i>	Dorothy and Kalavati (1992a)
	<i>Myxobolus</i> sp.	Dorothy and Kalavati (1992a)

Table 2 Contd.		
Host	Parasite	Reference
Family PRIACANTHIDAE		
<i>Priacanthus boops</i> (Schneider) (= <i>Pariacanthus boops</i>)	<i>Nosema priacanthi</i>	Sandeep and Kalavati (1985a)
Family ANABANTIDAE		
<i>Anabas testudineus</i> (Bloch)	<i>Trypanosoma anabasi</i>	Tiwari and Ray (1981)
	<i>Trypanosoma</i> sp.	Tiwari and Ray (1981); Gupta (1986b); Roy and Haldar (1997)
	<i>Myxidium mukundae</i> (Syn. <i>Myxidium lieberkuhni</i>)	Sarkar (1985c); Chakravart (1943)
	<i>Trichodina nigra</i>	Saha <i>et al.</i> (1995a, b)
<i>Trichogaster fasciatus</i> Schneider (= <i>Colisa fasciata</i>)	<i>Trypanosoma colisi</i>	Gupta (1986a); Gupta and Gupta (1990, 1993)
	<i>Trypanosoma trichogasteri</i>	Gupta and Jairajpuri (1981a); Gupta <i>et al.</i> (1983, 1987); Gupta and Gupta (1988)
	<i>Trypanosoma trichogasteri</i> var. <i>fasciatae</i>	Gupta <i>et al.</i> (1998)
	<i>Trypanosoma</i> sp.	Gupta and Jairajpuri (1984); Gupta (1986b)
	<i>Haemogregarina colisa</i>	Mandal <i>et al.</i> (1982, 1984)
	<i>Myxidium fasciatum</i>	Sarkar (1985c)
	<i>Myxobolus magauddi</i>	Bajpai <i>et al.</i> (1981)
	<i>Myxobolus trichogasteri</i> (Syn. <i>Myxosoma trichogasteri</i>)	Sarkar (1985c)
	<i>Trichodina nigra</i>	Saha <i>et al.</i> (1995a, b)
(Family GOBIIDAE)		
<i>Apocryptes bato</i> (Hamilton)	<i>Myxidium apocryptae</i>	Bajpai and Haldar (1982b)
<i>Glossogobius giuris</i> (Hamilton) (Syn. <i>Gobius giuris</i>)	<i>Trypanosoma gobida</i>	Mandal (1984)
	<i>Eimeria glossogobi</i>	Mukherjee and Haldar (1980a)
	<i>Zschokkella glossogobi</i>	Kalavati and Vaidehi (1991b)
	<i>Zschokkella gobiensis</i>	Sarkar and Ghosh (1991)
Family GOBIOIDIDAE		
<i>Gobioides rubicundus</i> Hamilton	<i>Henneguya rubicundi</i>	Haldar and Mukherjee (1981)
Family STROMATEIDAE		
<i>Parastromateus niger</i> (Bloch)	<i>Cryptobia</i> (<i>Trypanoplasma</i>) <i>parastromataei</i>	Narasimhamurti <i>et al.</i> (1990)

Table 2 Contd.		
Host	Parasite	Reference
	<i>Trypanosoma parastromataei</i>	Narasimhamurti <i>et al.</i> (1990)
	<i>Thelohanellus parastromataei</i>	Narasimhamurti <i>et al.</i> (1990)
Order PLEURONECTIFORMES		
Family CYNOGLOSSIDAE		
<i>Cynoglossus lingua</i> (Hamilton)	<i>Ceratomyxa cynoglossi</i>	Das <i>et al.</i> (1988)
<i>Cynoglossus</i> sp.	<i>Davisia cynoglossi</i>	Narasimhamurti <i>et al.</i> (1990)
	<i>Ceratomyxa sagarsampadae</i>	Narasimhamurti <i>et al.</i> (1990)
Order MASTACEMELIFORMES		
Family MASTACEMBELIDAE		
<i>Mastacembelus armatus</i> (Lacepede)	<i>Trypanosoma armeti</i>	Tiwari and Ray (1981)
	<i>Trypanosoma aurangabadensis</i>	Wahul (1987)
	<i>Trypanosoma mastacembeli</i>	Wahul (1987)
	<i>Trypanosoma murtii</i>	Wahul (1987)
	<i>Unicauda armati</i>	Gupta and Khera (1987)
<i>Mastacembelus pancalus</i> (Hamilton)	<i>Trypanosoma pancali</i>	Tiwari and Ray (1981)

GENERAL REMARKS

The present supplement of the initial Index-catalogue and bibliography of protozoan parasites from Indian fishes by Nandi *et al.* (1983) represents 301 protozoan parasites belonging to 5 phyla distributed under 28 families and 51 genera inhabiting in 115 piscine hosts (Table 3), while the initial 1983 edition of the catalogue comprised of 150 parasite species belonging to 39 genera and 26 families representing 5 phyla. In this supplement, in all, 271 protozoan species, 24 genera and 8 families have been added as new records along with 67 new host records (Table 3, Fig. 1). Thus, when the present supplement is compared with the initial catalogue, it is evident that there has been tremendous surge of ichthyoparasitological investigations in the last two decades. Furthermore, in the initial bibliography part, Nandi *et al.* (1983) made a list of 143 references, present one includes 310 references. This shows that more than double articles have appeared in print in about twenty-year interval.

The proportional of protozoan parasite species, genera and families in numerical value and in percentage (Table 3, Figs. 1 and 2) suggests the highest representation of the phylum Myxozoa followed by Sarcomastigophora and Ciliophora, and the least representation of the phylum Apicomplexa. The similar proportional parasitization of host fishes has been noted for 5 different protozoan phyla. Out of 127 species of host fishes, 57 species were reported to be infected/infested with a single species of parasite and the rest 70 species harboured multiple parasites, maximum of 21 parasites in two major carp species *viz.*, *Catla catla* and *Cirrhinus mrigala*. It is worth-mentioning that 7 host fish species studied by a number of protozoologists in India harboured 10 or more parasite species. Amongst them three host fish species belong to Cypriniformes (*viz.*, *Catla catla*, *Cirrhinus mrigala* and *Labeo rohita*), two hosts of Siluriformes (*viz.*, *Mystus vittatus* and *Clarias batrachus*) and one each of Osteoglossiformes (*viz.*, *Notopterus notopeterus*) and Channiformes (*viz.*, *Channa punctatus*).

The mass of data compiled in the initial attempt (Nandi *et al.*, 1983) and in the present supplement indicate that many species of piscine protozoan are expected to be recorded from fishes in which a single species of parasite is reported so far, if various organs and tissues of these hosts are autopsied/examined thoroughly. The number of protozoan parasites from fish hosts will, however, increase to a greater extent in India, if uncommon and uninvestigated fish species are examined/explored for this purpose.

Table 3. Distribution of protozoan families, genera and species as well as host species of 5 different phyla (new records in parentheses).

Phylum	Numerical distribution of			
	Families	Genera	Species	Host
Sarcomastigophora	3 (-)	3 (-)	77 (61)	43 (23)
Apicomplexa	5 (1)	5 (1)	8 (7)	9 (4)
Microspora	2 (1)	4 (3)	11 (10)	8 (6)
Myxozoa	12 (3)	29 (15)	178 (169)	83 (49)
Ciliophora	6 (1)	10 (5)	27 (24)	37 (24)
Total	28 (8)	51 (24)	301 (271)	115 (67)*

Note : (*) indicates that the total number of hosts is less than the actual total since several host species are reported with parasites of different phyla.

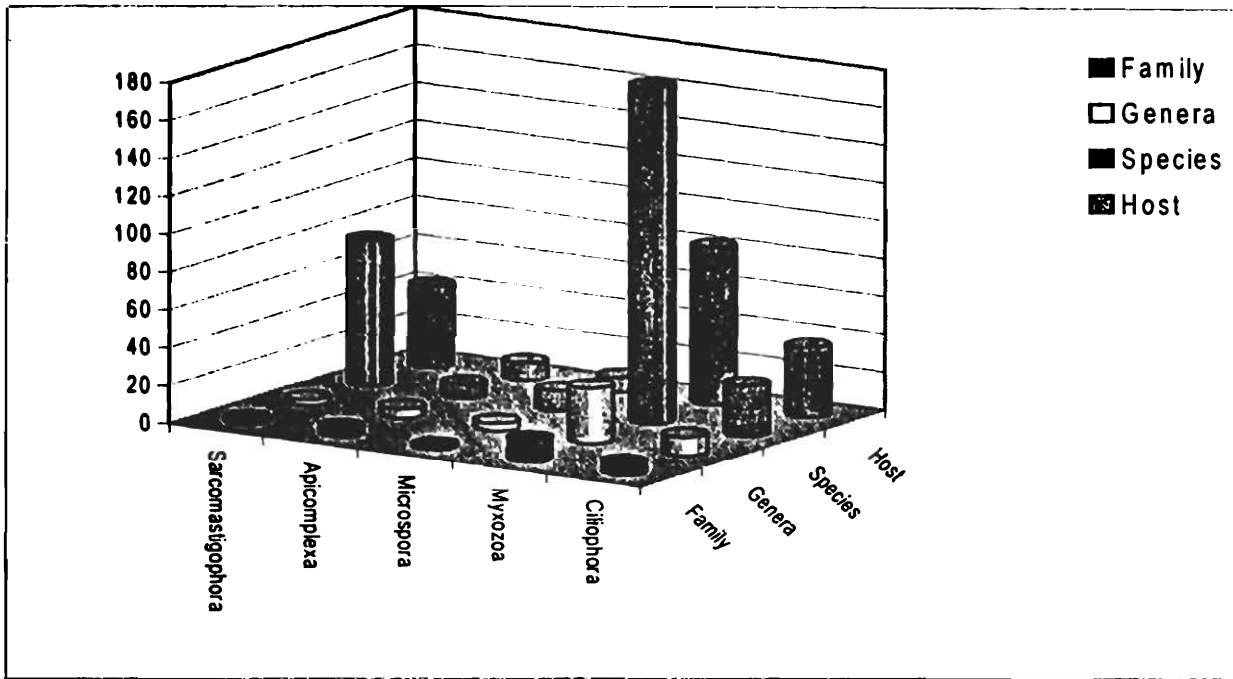


Fig. 1. Bar diagram showing numerical representation of protozoan families, genera and species as well as hosts of five different phyla.

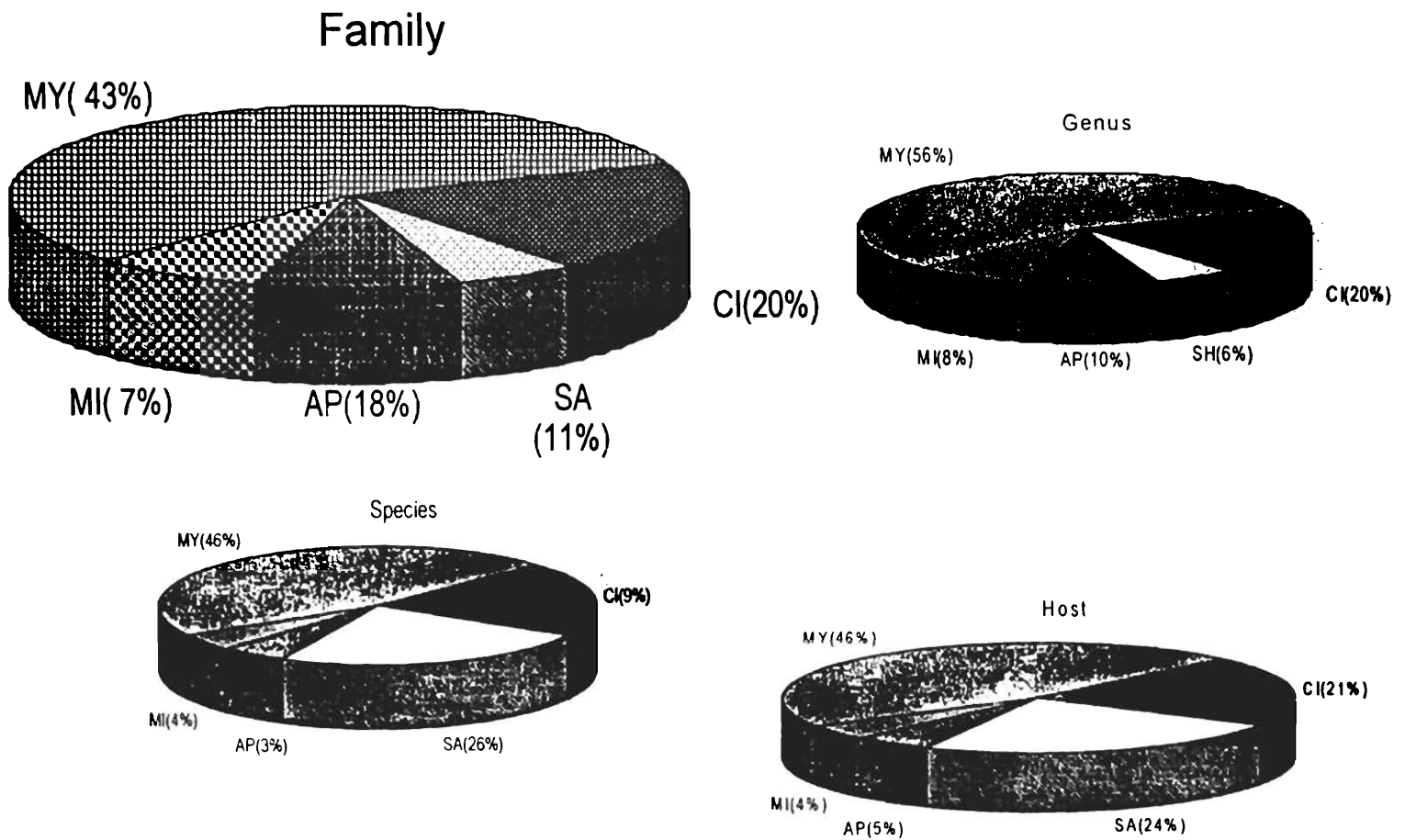


Fig. 2. Proportional representation of protozoan families, genera and species as well as hosts of five different phyla, viz, Apicomplexa (AP), Ciliophora (CI), Microspora (MI, Myxozoa (MY) and Sarcocystidophora (SA).

SUMMARY

- 1 The species catalogue includes 301 species belonging to 5 phyla, 8 classes, 11 orders, 28 families and 51 genera.
2. The host catalogue comprises of 115 species of freshwater and marine fishes belonging to class Osteichthyes under 12 orders, 38 families and 72 genera.
3. The bibliography contains 310 references.

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